CITY OF WOOSTER

SITE DEVELOPMENT AND IMPROVEMENT MANUAL

2021

DIVISION OF ENGINEERING
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CITY OF WOOSTER
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SECTION 1

REGULATIONS OVERVIEW

101 PURPOSE AND OBJECTIVES

A. The purpose of this Manual is to minimize property damage and promote and maintain protection for the health, safety, and general well-being of all inhabitants of the City of Wooster. The City shall accomplish this by regulating non-stormwater discharges and stormwater runoff to the municipal separate storm sewer system (MS4) to the extent practicable and required by federal and state law.

B. This Manual establishes technically feasible and economically reasonable standards, specifications, methods, and guidelines for land used, being developed or redeveloped for non-farm commercial, industrial, residential or other non-farm purposes to:

1. Control stormwater runoff and ensure that all stormwater control measures are appropriately designed, constructed, and maintained.
2. Reduce water quality impacts to receiving waters resources that may be caused by new development or redevelopment activities.
3. Control the volume, rate, and quality of stormwater runoff originating from sites, so that surface water and groundwater are protected and flooding and erosion potential are not increased.
4. Minimize the need to construct, repair, and replace subsurface storm drain systems.
5. Preserve natural infiltration and groundwater recharge, and maintain a subsurface flow that replenishes water resources, except in slippage-prone soils.
6. Incorporate stormwater quality and quantity controls into site planning and design at the earliest possible stage in the development process.
7. Reduce the expense of remedial projects needed to address problems caused by inadequate stormwater management.
8. Maximize the use of stormwater management practices that serve multiple purposes, including, but not limited to, flood control erosion control, water quality protection, recreation, and habitat preservation.
9. Maintain, promote and re-establish conditions necessary for naturally occurring stream processes that assimilate pollutants, attenuate flood flows, and provide a healthy water resource.

C. The Manual shall apply to all parcels used or being developed, either wholly or partially, for new or relocated projects involving highways and roads; subdivisions or larger common plans of development; industrial, commercial, or residential projects; building activities on farms; redevelopment activities; earthwork; and all other uses that are not explicitly exempted in Section 101 of this Manual.

D. Public entities, including the State of Ohio, Wayne County, and the City of Wooster, shall comply with this Manual for roadway projects initiated after April 21, 2003, and, when practicable, for projects undertaken before that time.

E. This Manual does not apply to activities regulated by and in compliance with the Ohio Agricultural Sediment Pollution Abatement Rules.

F. This Manual does not require a stormwater management plan for linear construction projects, such as pipeline or utility line installation, that does not result in installation impervious surface as determined by the City Engineer. Such projects must be designed to minimize the number of stream crossings and the width of disturbance. Linear construction projects still must comply with the requirements of Section 7, Construction.

G. The objectives of this Manual are:

1. To comply with requirements of the NPDES permit process;
2. To establish legal authority to ensure compliance with this Manual;
3. To protect watercourses and habitat quality from degradation;
4. To regulate the contribution of pollutants to the MS4 by stormwater discharges by any user;
5. To prohibit illicit connections and discharges to the MS4;
6. To control materials and debris in the MS4;
7. To minimize non-point source pollution from earth-disturbing activity;
8. To minimize soil erosion and sedimentation;
9. To reduce the amount and rapidity of surface water runoff;
10. To ensure future access to stormwater control measures; and
11. To ensure that controls are appropriately maintained and pose no threat to public safety.

102 FORMAT OF DOCUMENT

A. This Manual is organized into Fourteen (14) sections:

1. Section One: Regulations Overview
2. Section Two: Definitions
3. Section Three: General Provisions
4. Section Four: Permitting
5. Section Five: Drainage Plan
6. Section Six: Stormwater Management Plan (SMP)
7. Section Seven: Construction
8. Section Eight: Post-Construction
9. Section Nine: Operation and Maintenance of Stormwater Controls
10. Section Ten: Protection of Watercourses and Wetlands
11. Section Eleven: Prohibited Discharges
12. Section Twelve: Illicit Discharge
13. Section Thirteen: Inspection, Enforcement Action, and Penalties
14. Section Fourteen: Fees, Bonding and Estimated Stormwater Units (ESU)

B. This manual contains multiple appendices, which are included at the end of this Manual.

1. Appendix A: Engineering Division Development Permit Application – Online
2. Appendix B: General Stormwater Management Permit Application – Online
3. Appendix C: Stormwater Inspection and Maintenance Plan Template – Online
4. Appendix D: Stormwater Inspection and Maintenance Agreement – Online
5. Appendix E: SMP Self Check List
6. Appendix F: I-D-F Rainfall Intensity Table and Curve

C. Source and other outside reference documents are referenced throughout this Manual. Such references are not included as appendices to avoid any confusion over current and superseded versions.

SECTION 2

DEFINITIONS

201 INTERPRETATION

For this Manual, specific rules or word usage apply to the text as follows:

A. Words used in the present tense include the future tense, and the singular includes the plural unless the context indicates the contrary.

B. The term "shall" is always mandatory and not discretionary. The word "may" is permissive. The term "should" is permissive but indicates strong suggestions.

C. The word or term not interpreted or defined by this Article shall be construed according to grammar and standard usage rules to give these rules their most practical application.

202 WORDS AND TERMS DEFINED

The following definitions shall apply to this Manual:

100-year Flood: A flood that has the probability of occurring once every one-hundred (100) years or having a one (1) percent chance of occurring each year.

100-year Flood Plain: The area adjoining a watercourse that could be inundated by a flood with a one (1) percent chance of being equaled or exceeded in any given year.

Architect: A person duly registered or authorized to practice architecture in the State of Ohio.

Best Management Practice(s) (BMP) or Stormwater Control Measures (SCM): Schedules of activities, prohibitions of practices and maintenance procedures, treatment requirements, and other control measures and techniques (both structural and non-structural) to prevent or reduce the pollution of water resources and to control stormwater volume, and rate. BMP/SCM includes practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Channel: Natural or artificial watercourse of perceptible extent, with a definite bed and banks to confine and conduct continuously or periodically flowing water. Channel flow thus is that water that flows by gravity and is characterized by a free water surface within the banks of a defined channel.

City: The City of Wooster.

City Engineer: The City of Wooster City Engineer.

Clean Water Act (CWA): formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. § 1251 et seq.) and any subsequent amendments.

Clearing: Any activity which removes the vegetative surface cover

Concentrated Stormwater Runoff: Any stormwater runoff flows through a drainage pipe, ditch, diversion, or other discrete conveyance channels.

Construction Activity: All clearing, grading, excavating, grubbing and/or fill activities.

Critical Storm: A storm that is determined by calculating the percentage increase in the volume of runoff by a proposed development area for the one-year, 24-hour event. The critical storm is used to calculate the maximum allowable stormwater discharge rate from a developed site.

Developer: Any person, firm, corporation, sole proprietorship, partnership, a state agency, or political subdivision thereof who acts on his behalf or as the agent or an owner of a property and engages in alteration of land or vegetation in preparation for construction activity.

Development Area: A parcel or contiguous parcels owned by one person or persons, or operated as one development unit, and used or being developed for commercial, industrial, residential, institutional, or other construction or alteration that changes runoff characteristics.

Development Drainage Area: A combination of each hydraulically unique watershed with individual outlet points on the development area.

Discharge: Any substance introduced to the Waters of the State or surface runoff collected or channeled by the MS4 does not lead to treatment works and/or the addition of any pollutant to the Waters of the State a point source.

Discharger: Any person, who causes, allows, permits, or is otherwise responsible for a discharge, including, without limitation, any owner or operator of a construction site or industrial facility

Disturbance or Disturbed Area: Earth surface subject to erosion due to the removal of vegetative cover and/or earthmoving activities.

Ditch: An open channel, either dug or natural, for drainage or irrigation with intermittent flow.

Drainage: A general term applied to the removal of surface or subsurface water from a given area, either by gravity or by pumping, commonly applied herein to surface water.

Drainage Plan: A site-specific plan outlining the development of drainage systems about the conveyance of surface water to an adequate outlet capable of carrying the flow. The drainage system shall comply with design standards and specifications about surface water and drainage handling.

Drainage System or Drainageway: The surface and subsurface system for the removal of water from the land, including both the natural elements of streams, marshes, swales and ponds, whether of an intermittent or continuous nature, and man-made elements which include culverts, ditches, channels, stormwater control measures and the storm sewer system.

Earth-disturbing Activity: Any clearing, grubbing, grading, excavating, filling or other alteration of the earth's surface where natural or man-made ground cover is destroyed, which may result in or contribute to erosion and sediment pollution or changes in runoff.

Easement: Property titled to the city for the operation and maintenance of stormwater drainage and management systems.

Engineer: A Professional Engineer registered in Ohio as required by Chapter 4733 of the Ohio Revised Code.

Engineering Development Permit: The permit issued by the City Engineer for the construction, development, or alteration of ground improvements and structures indicating that earth-disturbing activity may commence

Engineering Development Permit Application: The application required by the City of Wooster to be submitted by the operator/owner to the City Engineer for any proposed earth-disturbing activity

Environmental Protection Agency (EPA): The U.S. Environmental Protection Agency or, where appropriate, a designation for the Administrator or other duly authorized official of such Agency.

Erosion: The general process whereby the land surface is moved by flowing surface or subsurface water or is worn away by the action of wind, water, ice, or gravity.

Erosion control: Measures that prevent erosion.

Extended Detention Facility: A stormwater control measure replaces and/or enhances traditional detention control measures by releasing the runoff collected during a stormwater quality event over at least 24 to 48 hours, retarding flow, and allowing pollutants to settle within the facility.

Facility: Any operation, including construction sites, required by the Federal Clean Water Act to have a permit to discharge stormwater associated with activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b) (14).

Farm: Land or water devoted to agriculture as defined by Section 303.01 of the Ohio Revised Code.

Final Stabilization: means that either

A. All soil-disturbing activities at the site are complete and a uniform perennial vegetative cover (e.g., evenly distributed, without large bare areas) with a density of at least 70 percent cover for the area has been established on all unpaved areas and areas not covered by permanent structures or equivalent stabilization measures (such as the use of mulches, rip-rap, gabions or geotextiles) have been employed. In addition, all temporary erosion and sediment control practices are removed and disposed of, and all trapped sediment is permanently stabilized to prevent further erosion; or

B. For individual lots in residential construction by either:

1. The homebuilder completing final stabilization as specified in A. above; or
2. The homebuilder is establishing temporary stabilization, including perimeter controls for an individual lot before the occupation of the home by the homeowner. The homebuilder shall inform the homeowner of the need for and benefits of final stabilization. (Homeowners typically have an incentive to put in the landscaping functionally

equivalent to final stabilization as quick as possible to keep mud out of their homes and off sidewalks and driveways.); or

C. For construction projects on land used for agricultural purposes (e.g., pipelines across crop or rangeland), final stabilization may be accomplished by returning the disturbed land to its pre-construction agrarian use. Areas disturbed that were previously used for agricultural activities, such as buffer strips immediately adjacent to Waters of the State and not being returned to their pre-construction agricultural use, shall meet the final stabilization criteria in A. or B. above.

Flood Plain: The land adjacent to a body of water that has been or may be covered by floodwater, including the one-hundred (100) year flood.

Floodway: The channel of a watercourse and the adjacent land areas must be reserved to discharge the base flood without cumulatively increasing the water surface elevation.

Grading: The Process in which the topography of the land is altered to a new slope.

Hazardous Material: The materials are defined in 40 CFR 302.4 and 40 CFR 216.3.A

Hydrologic Soil Group: One of four classifications of soil based on the minimum infiltration for bare soil after prolong wetting as used by the United States Department of Agriculture Natural Resources Conservation Service Technical Release No. 55 *Urban Hydrology for Small Watersheds*.

Illicit Connection:

A. Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the municipal separate storm sewer system ("MS4"), including but not limited to any conveyance which allows any non-stormwater discharge including sewage, process wastewater, and wash water to enter the MS4 and any connections to the MS4 from indoor drains and sinks, regardless of whether the drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or,

B. Any drain or conveyance connected from commercial or industrial land use to the MS4 has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Illicit Discharge: Any direct or indirect discharge to the MS4 that is not composed entirely of stormwater, except as allowed by this Manual.

Impervious Surface: Any paved, hardened, or structural surface regardless of its components, including but not limited to buildings, roads, driveways, parking lots, loading/unloading areas, decks, patios, and swimming pools.

Infectious Materials: The materials defined in Ohio Administrative Code 3745-27-01.

Infiltration Control Measure: A stormwater control measure designed to facilitate the percolation of runoff through the soil to ground water and, thereby, reduce stormwater runoff quantity and reduced

mobilization of pollutants. Examples include infiltration basins/trenches, dry wells, and porous pavement.

Landscape: To mow, seed, sod, and do other landscape activities which are not earth changes.

Larger Common Plan of Development or Sale: is a contiguous area where multiple separate and distinct construction activities may occur at different times on different schedules under one plan.

Lot: A part of a subdivision plat recorded by the County Recorder or a parcel described by Metes and bounds, the description, instrument, or conveyance of which has been so recorded.

Municipal Separate Storm System (MS4): A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that are:

A. Owned or operated by the City that discharges into Waters of the State;

B. Designed or used for collecting or conveying solely stormwater;

C. Which is not a combined sewer; and

D. Which is not part of a Publicly Owned Treatment Works, as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES): A regulatory program in the Federal Clean Water Act that prohibits the discharge of pollutants into the Waters of the State without a permit.

NPDES Permit: A permit issued by the EPA (or by a State under authority delegated according to 33 USC § 1342(b)) that authorizes the discharge of pollutants to Waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-stormwater Discharge: Any discharge that is not composed entirely of stormwater.

Non-structural Stormwater Control Measure (SCM): Any technique that promotes improved water quality through sound planning procedures that help guide the growth of a community away from sensitive areas to areas that can support it without compromising water quality. Site-based non-structural SCMs use natural processes and features to prevent or reduce the discharge of pollutants to water resources and control stormwater volume and rate. These can include buffer strip and riparian zone preservation, minimization of disturbance and imperviousness, and maximization of open space.

Notice of Intent (NOI): Mechanism used to register for coverage under the general NPDES permit.

Notice of Termination (NOT): Mechanism used to terminate coverage under the general NPDES permit once an NOI has been issued.

Ohio EPA: The Ohio Environmental Protection Agency.

Operate: To drive, conduct, work, run, manage, or control.

Operator: The party or parties that either individually or taken together meet the following criteria:

A. They have operational control over the site specifications (including the ability to make modifications in specifications) or;

B. They have the day-to-day operational control of those activities at the site necessary to ensure compliance with the Engineering Development Permit (e.g., authorized to direct workers at a site to carry out activities required by the Stormwater Construction Permit or comply with other permit conditions); or

C. Any person who acts in his own behalf or as the agent or an owner of property and engages in alteration of land or vegetation in preparation for construction activity.

Ordinary High Water Mark: The point of the bank or shore to which the presence and action of surface water is so continuous as to leave a district marked by erosion, destruction, or prevention of woody terrestrial vegetation, the predominance of aquatic vegetation, or other easily recognized characteristics.

Owner: Any person with a legal or equitable interest in the land.

Part Per Million (PPM): A unit of concentration commonly used when measuring levels of pollutants in the air, water, etc. One (1) ppm is 1 part in 1,000,000 parts. One (1) ppm is equivalent to one mg/liter.

Percent Imperviousness: The impervious area divided by the total area of the project site.

Permanent Stabilization: The establishment of permanent vegetation, decorative landscape mulching, matting, sod, rip rap, and landscaping techniques to provide permanent erosion control on areas where construction operations are complete or where no further disturbance is expected for at least one year.

Permittee: The applicant in whose name a valid permit is duly issued.

Person: Any individual, owner, operator, association, organization, partnership, firm, corporation, municipal corporation, joint venture, agency, County or State agency, unincorporated associate, party, the federal government, any combination thereof or other entity recognized by law.

Point Source: Any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or the floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollution: As defined in Revised Code 6111.01.

Post-Construction Certification: Report required by the City to be submitted by the operator/owner to the City Engineer upon final stabilization of a development site with coverage under the Engineering Development Permit and with an approved SMP.

Post-Development: The conditions that exist following the completion of soil-disturbing activity in terms of topology, vegetation, land use, and the rate, volume, quantity, or directions of stormwater runoff.

Pre-Construction Meeting: Meeting before construction between all parties associated with the project's construction, including government agencies, contractors, and owners, to review agency requirements and plans as submitted and approved.

Pre-Development: The conditions that exist before the initiation of soil-disturbing activity in terms of topology, vegetation, land use, and rate, volume, quantity, or direction of stormwater runoff.

Radioactive Materials: All materials containing radioactive nuclides that are not under the exclusive jurisdiction of the U.S. Nuclear Regulatory Commission, including naturally occurring radioactive material (NORM) and technologically enhanced naturally occurring radioactive material (TENORM).

Rainwater and Land Development Manual: This manual defines Ohio's standards and specifications for stormwater practices implemented during land development. The compilation of technical standards and design specifications controls construction-related surface runoff, erosion, and sedimentation. A copy of the manual may be obtained by contacting the Ohio EPA

Redevelopment: A construction project on land that has been previously developed and where the new land use will not increase the runoff coefficient used to calculate the water quality volume. If the new land-use increases the runoff coefficient, then the project is considered a new development project rather than a redevelopment project.

Retention Storage: Stormwater runoff collected and stored for a significant period and released after the storm runoff has ended. Retention storage is often associated with "wet reservoirs," which have particular recreational or aesthetic uses centered around a minimum pool.

Release: Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into ground-water, subsurface soils, surface soils, the municipal separate storm sewer system, the Water of the State, the Waters of the United States.

Riparian Area: An area of trees, shrubs, and surrounding vegetation located adjacent to streams, lakes, ponds, and wetlands that serve to stabilize erodible soil, improve both surface and ground water quality, increase stream shading and enhance wildlife habitat.

Riparian Setback: The real property adjacent to a designated watercourse located in the area defined by the criteria outlined in this Manual.

Runoff: The portion of rainfall, melted snow, or irrigation water flows across the ground surface and is eventually returned to water resources.

Runoff Coefficient: The fraction of total rainfall that shall appear at the conveyance as runoff.

Sediment: Soils or other surface materials (including, but not limited to rock, sand, gravel, and organic material or residue associated with or attached to the solid) that can be transported or deposited by the action of wind, water, ice, or gravity as a product of erosion.

Sediment and Erosion Control: Conservation measures are used to prevent eroded sediment from leaving the site and control sediment pollution, including but not limited to structural practices, vegetative practices, and management techniques.

Sediment Settling Pond: A sediment trap, sediment basin, or permanent basin that has been temporarily modified for sediment control, as described in the latest edition of the *Rainwater and Land Development Manual.*

Sedimentation: The deposition of sediment in water resources.

Site: The entire area of land surrounding the discharge activity.

Site Map: A plan or set of plans showing the details of any land-disturbing activity of a site.

Soil Erosion: The movement of soils that occurs as a result of human activities and development.

Soil Restoration: A technique of enhancing compacted soils to improve their porosity via mechanical aeration, mechanical loosening (tilling), and soil amendments to a sufficient depth.

Special Flood Hazard Area: Also known as "Areas of Special Flood Hazard" or "100-year Floodplain," the land in the floodplain subject to one percent or greater chance of flooding in any given year. The Federal Emergency Management Agency designates special flood hazard areas on Flood Insurance Rate Maps, Flood Insurance Studies, Flood Boundary and Floodway Maps, and Flood Hazard Boundary Maps as Zones A, AE, AH, AO, A1-30, and A99. Special flood hazard areas may also refer to areas that are flood prone and designated from other federal state or local sources of data including but not limited to historical flood information reflecting high water marks, previous flood inundation areas, and flood prone soils associated with a watercourse. Special Flood Hazardous Areas are divided into two areas based on water velocity: the Floodway and the Flood Fringe.

Stabilization: The use of control measures that reduces or prevents soil erosion by stormwater runoff, trench, trench dewatering, wind ice, gravity, or a combination thereof.

State: The State of Ohio.

Stop Work Order: A notice issued by the City Engineer or by an agent of the City Engineer as authorized by the City Engineer to a permittee to cease earth-disturbing activities.

Storm Drainage System: All control measures, channels, and areas that serve to convey, filter, collect and/or receive stormwater, either on a temporary or permanent basis.

Stormwater or Storm Water: Defined as 40 CFR 122.26(b)(13) and means stormwater runoff, snow melt runoff, and surface runoff and drainage.

Stormwater Control Measures (SCM) or Best Management Practice (BMP): Schedules of activities, prohibitions of practices and maintenance procedures, treatment requirements, and other control measures and techniques (both structural and non-structural) to prevent or reduce the pollution of water resources and to control stormwater volume, and rate. SCM includes practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Stormwater Conveyance System: All storm sewers, channels, streams, ponds, lakes, etc. used for conveying concentrated stormwater runoff or storing stormwater runoff and filtering pollutants

Stormwater Management Plan (SMP) or Stormwater Pollution Prevention Plan (SMP3): A set of plans and specifications, prepared and approved following the specific requirements of the City Engineer and the provisions of these regulations and certified by an Engineer, indicating the stormwater management strategy, including the specific measures and sequencing to be used to manage stormwater on a development site before, during and after construction and shows the details of any earth-disturbing activity on the site.

Stormwater Retention/Detention Control Measure: Retention or detention control measures that control stormwater by gathering runoff in wet ponds, dry basins, or multi-chamber catch basins and slowly releasing it to receiving waters or drainage systems. These practices can be designed to both control stormwater volume and settle out particulates for pollutant removal.

Stormwater Runoff: Surface convergent water runoff flows primarily through water conveyance features such as swales, gullies, waterways, channels, or storm sewers.

Stream: Any naturally occurring perennial or intermittent stream, river, or creek flowing within a defined bed and banks. Streams may appear on Soil Surveys, Aerial Photographs, or a USGS resource, whether or not flow may be seasonally intermittent.

Structural Control Measure: Any constructed facility, structure, or device that prevents or reduces the discharge pollutants to water resources and controls stormwater volume and rate.

Structure: Anything manufactured, constructed, or erected which is typically attached to or positioned on the land, including but not limited to buildings, portable structures, earthen structures, roads, parking lots, and paved storage areas.

Surveyor: Any person duly registered to practice land surveying in the State of Ohio.

Temporary Stabilization: The establishment of temporary vegetation, mulching, geotextiles, sod, preservation of existing vegetation, and other techniques can quickly establish cover over disturbed areas to provide erosion control between construction operations.

Total Maximum Daily Load: The sum of the existing and/or projected point source, nonpoint source, and background loads for a pollutant to a specified watershed, waterbody, or waterbody segment. A TMDL sets and allocates the maximum amount of a pollutant that may be introduced into the water and still ensure attainment and maintenance of water quality standards.

Vegetative Control Measure: Vegetative control measures are landscaping features that, with optimal design and good soil conditions, remove pollutants, and facilitate percolation of runoff, thereby maintaining natural site hydrology, promoting healthier habitats, and increasing aesthetic appeal. Examples include grassy swales, filter strips, artificial wetlands, and rain gardens.

Water Quality Volume (WQv): The volume of stormwater runoff shall be captured and treated before discharge from the developed site after construction is complete. WQv is based on the expected runoff generated by the mean storm precipitation volume from post-construction site conditions, at which point rapidly diminishing returns in the number of runoff events captured begin to occur.

Watercourse: any natural or improved body of water including, but not limited to lake, pond, stream, river, creek, ditch, channel, canal, conduit, gutter, culvert, drain, gully, swale, or wash in which water flows either continuously or intermittently which are delineated by the City of Wooster.

Waters of the State: All waters as defined in Revised Code 6111.01.

Waters of the United States: All waters defined in 40 CFR § 122.2 and shall be given the same meaning in this Manual.

Watershed: The total drainage area contributing stormwater runoff to a single point.

Wetland: All waters defined in Ohio Admin. Code 3745-1-02

SECTION 3

GENERAL PROVISIONS

301 APPLICABILITY

This Manual shall apply to all water entering the municipal separate storm sewer system (MS4) generated on any developed and undeveloped lands and all construction activity on any developed and undeveloped lands, except for those discharges generated by the activities detailed in Section 1202(B) of this Manual, or explicitly exempted by the City Engineer.

302 ADMINISTRATION

The City Engineer is authorized to administer, implement and enforce the provisions of this Manual. The staff of the City Engineer may determine compliance with this Manual and issue notices and orders through the City Engineer, as may be necessary.

303 DISCLAIMER OF LIABILITY

A. Compliance with this Manual shall not relieve any person from responsibility for damage to any person or property otherwise imposed by law; nor shall it create a duty by the City to those damaged by stormwater management. The provisions of this Manual are promulgated to promote the public's health, safety, and welfare and are not designed to benefit any individual or any particular parcel of property.

B. By providing a Stormwater Management Plan under this Manual, the City of Wooster does not accept responsibility for the design, installation, and operation of stormwater control measures.

304 ENVIRONMENTAL LAWS

Approvals issued following this Manual do not relieve the applicant of responsibility for obtaining all other necessary permits and/or approvals from other federal, state, and/or county agencies. These permits may include but are not limited to those listed below. If requirements vary, the most restrictive shall prevail. Applicants must comply with these regulations before the City of Wooster shall issue a development, building, or zoning permit.

A. Ohio Environmental Protection Agency (Ohio EPA) National Pollutant Discharge Elimination System (NPDES) Permits authorizing stormwater discharges associated with construction activity or the most current version thereof: Proof of compliance with these requirements shall be the applicant's Notice of Intent (NOI) number from Ohio EPA, a copy of the Ohio EPA Director's Authorization Letter for the NPDES Permit, or a letter from the site owner certifying and explaining why the NPDES Permit is not applicable.

B. Section 401 of the Clean Water Act: Proof of compliance shall be a copy of the Ohio EPA Water Quality Certification application tracking number, public notice, project approval, or a letter from the site owner certifying that a qualified professional has surveyed the site and determined that Section 401 of the Clean Water Act is not applicable. Wetlands, and other waters of the United States, shall be delineated by protocols accepted by the U.S. Army Corps of Engineers at the time of application of this regulation.

C. Ohio EPA Isolated Wetland Permit: Proof of compliance shall be a copy of Ohio EPA's Isolated Wetland Permit application tracking number, public notice, project approval, or a letter from the site owner certifying that a qualified professional has surveyed the site and determined that Ohio EPA's Isolated Wetlands Permit is not applicable. Isolated wetlands shall be delineated by protocols accepted by the U.S. Army Corps of Engineers at the time of application of this regulation.

D. Section 404 of the Clean Water Act: Proof of compliance shall be a copy of the U.S. Army Corps of Engineers Individual Permit application, public notice, or project approval if an Individual Permit is required for the development project. If an Individual Permit is not required, the site owner shall submit proof of compliance with the U.S. Army Corps of Engineer's Nationwide Permit Program. This shall include one of the following:

1. A letter from the site owner certifying that a qualified professional has surveyed the site and determined that Section 404 of the Clean Water Act is not applicable.
2. A site plan showing that any proposed fill of waters of the United States conforms to the general and special conditions specified in the applicable Nationwide Permit. Wetlands, and other waters of the United States, shall be delineated by protocols accepted by the U.S. Army Corps of Engineers at the time of application of this regulation.

E. No conditions of this Manual shall release a person from any responsibilities, requirements, liabilities, or penalties to which a person may be subject to under the City of Wooster Codified Ordnances Chapter 923 Sewerage, Chapter 925 Storm Drainage, Chapter 1365 Floodplain, or any other City of Wooster Codified Ordnances.

305 SEVERABILITY

If any clause, section, or provision of this Manual is declared invalid or unconstitutional by a court of competent jurisdiction, the validity of the remainder shall not be affected thereby.

306 CONFLICT

In cases of conflict with any other City regulation, the provisions of this Manual shall prevail for stormwater management.

307 PROPERTY RIGHTS

This Manual does not convey any property rights of any sort, nor any exclusive privileges, nor does it authorize any injury to private property, any invasion of personal rights, or any infringement of federal, state, or local laws or regulations.

308 RESPONSIBILITY

Failure of the City to observe or recognize hazardous or unacceptable conditions or recommend corrective measures shall not relieve a person from the responsibility for the condition or damage resulting from and shall not result in the City, or its employees or agents, being responsible for any conditions or damage.

309 DUTY TO MITIGATE

A person shall take all reasonable steps to minimize or prevent any discharge in violation of this Manual which has a reasonable likelihood of adversely affecting human health or the environment.

310 INFORMATION

When any person becomes aware that any relevant facts or information associated with the provisions of this Manual were incorrectly submitted, the City Engineer shall promptly be notified of such facts or information.

311 VARIANCE

A. The City Engineer may grant a variance to one or several provisions of this Manual when a person, owner or operator, or his appointed representative, can show evidence that a hardship exists, whereby compliance with this Manual is not appropriate, based upon the following:

1. That exceptional and/or unusual topographic or other physical conditions exist that are peculiar to the particular parcel of land to which variance is requested;
2. That the peculiar condition in Part 1. did not result from previous actions by the person, operator, or owner; and
3. Such a literal interpretation of this Manual would deprive a property owner of rights enjoyed by other property owners.

B. Adverse economic conditions shall not be considered valid reasons or hardship for a variance request to be granted.

C. No variance shall be granted where activities occur that may defeat the purposes of this Manual.

D. Request for a variance shall be initiated through the City Engineer and shall state the specific variances being sought and include sufficient data to justify granting of the variance. The City Engineer may grant or deny any request for a variance.

312 CERTIFICATION

Any person signing documents under this Manual shall make the following certification: *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision following a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage this system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations."*

313 DUTY TO COMPLY

A. All persons shall comply with this Manual within the City of Wooster. Any noncompliance constitutes a violation and may be subject to enforcement action and penalties according to this Manual.

B. It shall not be a defense for any person in an enforcement action that it would have been necessary to halt or reduce activity to maintain compliance with this Manual.

SECTION 4

PERMITTING

401 GENERAL REQUIREMENTS

No person shall cause or allow earth-disturbing activities except in compliance with the requirements outlined in this Manual and the criteria established by the following documents, including but not limited to:

A. City of Wooster Subdivision Regulations;

B. City of Wooster Planning and Zoning Regulations;

C. City of Wooster Property Maintenance Code;

D. City of Wooster Building Code; and

E. City of Wooster Floodplain Administration Regulations

402 GENERAL STORMWATER MANAGEMENT PERMIT APPLICABILITY

A. A General Stormwater Management Permit/Application is required for any earth-disturbing that does not meet the requirements of a needing a Development Permit or residential construction that meets the following criteria:

1. Less than one acre disturbed area;
2. Impervious surface is less than or equal to the maximum allowable lot coverage as follows:

    a. Zoning areas R-1 & R-2, 40%;
    b. Zoning area R-3 & R-T, 45%; or
    c. Zoning area R-4, 60%

3. The building is constructed exclusively for residential use and does not exceed a single, two-family unit.

B. A Residential lot that meets the above criteria and is also part of a subdivision or larger common plan of development is further required to submit an Individual Lot Notice of Intent (NOI) to the Ohio EPA and obtain coverage under the NPDES general permit except when all of the following conditions are met:

1. The lot is owned by the contractor/developer who holds the original Facility General Permit Number and coverage under the NPDES general permit; and
2. This contractor/developer maintains ownership of the lot for the entire duration of the construction and the site is fully stabilized; and
3. This contractor/developer shall be performing the primary construction work for the project.

C. All other earth-disturbing or residential construction not meeting Section 402(A) requirements must obtain an Engineering Development Permit as described in Section 405.

403 ENGINEERING DEVELOPMENT PERMIT APPLICABILITY

A. An Engineering Development Permit and Stormwater Management Plan (SMP) is required for any earth-disturbing or construction activity that shall disturb:

1. One (1) or more acres of land; or
2. Less than (1) acre of land, but is part of a larger common plan of development or sale which shall disturb one (1) or more acres of land.
3. All commercial and industrial construction activities

B. An Engineering Development Permit is required for any earth-disturbing or construction activity on commercial property, as defined by the Ohio Administrative Code, regardless of disturbed surface area, unless covered by other City permits.

C. An Engineering Development Permit shall also be required for residential construction that does not meet the requirements outlined in Section 402(A).

404 PERMIT EXEMPTIONS

No general stormwater or development permit is required for the following activities:

A. Any emergency activity which is immediately necessary for the protection of life, property, or natural resources (the authorized agency shall notify the City Engineer of any such earth-disturbance which is more extensive than routine maintenance);

B. Existing nursery and agricultural operations conducted as a permitted primary or accessory use;

C. Cemetery graves; and

D. Linear projects that do not increase impervious surface area and are less than 600 SF in a disturbed area, such as sidewalk replacement, residential water/gas service replacement, driveway repair and/or replacement, or other activities approved by the City Engineer. However, other City issued permits may be required for such projects.

405 PERMIT REQUIREMENTS

A. For any earth-disturbing activity requiring an Engineering Development Permit, the owner or operator shall submit a permit application for an Engineering Development Permit to the City Engineer.

B. No earth-disturbing activities shall commence before the issuance of an Engineering Development Permit by the City Engineer.

C. Any runoff or water generated from any land-disturbing and/or post-construction activity shall be considered an illicit discharge and a violation of this Manual, subject to enforcement measures and penalties according to this Manual unless permitted by the Engineering Development Permit.

D. No person shall be granted an Engineering Development Permit for land-disturbing activity without the approval of an SMP by the City Engineer as outlined in this Manual.

E. Conditional approval may be given through written authorization by the City Engineer to begin phased construction after an initial review of the Permit application. (e.g., City Engineer may authorize

that grading work may begin provided that perimeter and primary sediment controls are in place and the owner has obtained coverage under the Ohio EPA General Stormwater Permit.)

406 PERMIT APPLICATION AND PRELIMINARY PLANS

A. Permits shall be submitted through the City ViewPoint system online at the following link: https://woosteroh.viewpointcloud.com.

B. One (1) hard copy of the preliminary Civil Construction Plan, Drainage Plan, Stormwater Management Plan (SMP), and supporting documentation shall be submitted with the application along with an electronic copy in PDF or TIFF format for markup and review.

C. For applications requiring an SMP, the applicant shall also complete and submit a completed copy of the SMP Self Checklist included as an Appendix to this Manual indicating the inclusion of required information and location within the SMP.

D. If this Manual does not require an SMP, the Permit applicant shall obtain a City-issued general stormwater permit.

407 PRELIMINARY PLAN REVIEW AND APPROVAL

A. Within ten (10) business days of receipt of the Permit application, including any/all plans and supporting documentation, by the City Engineer, unless special approvals are needed, a notification shall be sent to the applicant that the Permit application:

1. Is approved;
2. Must be resubmitted with additional information and/or modifications; or
3. Is denied.

B. If the applicant resubmits a Permit application required to be resubmitted, it is subject to another ten (10) business day review and approval process. Failure to provide the additional information and/or modifications that were required shall result in permit denial.

408 FINAL PLAN REVIEW

Once preliminary approved, four (4) copies of the civil construction plans, SMP, other documents or plans required by the Permit, and a final electronic copy in PDF or TIFF format shall be provided to the Division or Engineering.

A. Two (2) sets of the final plans shall be retained by the Engineering Division (one for office reference and one for inspector use)

B. Two (2) sets of the final plans shall be returned (one shall be kept at the permitted site for reference)

409 APPROVAL NECESSARY

Land clearing and soil-disturbing activities shall not begin, and zoning and/or building permits shall not be issued without an approved Engineering Development permit.

410 NOTIFICATION

For all earth-disturbing activity with an approved Drainage Plan or SMP, the permittee must notify the City Engineer:

A. Forty-eight (48) hours before commencement of earth-disturbing activities;

B. Within forty-eight (48) hours of project completion; and

C. Once the permitted site has achieved final stabilization, if applicable.

411 AVAILABILITY

The permittee shall furnish upon request to the City Engineer or the City Engineer's authorized representative:

A. Any information which the City Engineer may request to determine compliance with the Permit;

B. Copies of records required to be kept by this Manual; and

C. Permits are required to be kept by other legal entities, including but not limited to the Ohio EPA and the US Army Corps of Engineers. General information on nationwide permits for various earth-disturbing activities is published in the *Federal Register*.

412 SIGNATORY REQUIREMENTS

A. All reports, certifications, or information required by the Permit to be maintained by the permittee and other information requested by the City Engineer shall be signed by the owner of the record indicated on the Engineering Development Permit or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing;
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of contractor/agent, manager, operator of a well or well field, superintendent, position of equivalent responsibility, or an individual or position has overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
3. The written authorization is submitted to the City Engineer.

B. Suppose authorization is no longer accurate because a different individual or position has responsibility for the overall operation of a permitted activity. A new authorization satisfying the signatory requirements of this Manual shall be submitted to the City Engineer with any reports, information, or applications to be signed by an authorized representative.

413 PLAN REVISIONS

A. Minor revisions to the project shall be addressed and documented on the plans and logs accordingly with the design/stormwater engineer's written/email documentation and submitted to the City Engineer for approval.

B. Significant revisions to the project plans, such as a change in type, size, or location of control measures, drainage, utility modifications, etc. shall be submitted by the design engineer to the City Engineer for review and approval before implementing in the field.

C. Substantial revisions, such as extending the project limits, adding additional permanent control measures, increasing impervious area, realignment plat changes, utility relocation or conflicts, etc., shall require submitting a new Engineering Development permit application as a new project and will require related permitting fees for approval.

414 AS-BUILT DATA

A. All permittees are required to submit as-built data for any roadways, underground utilities, drainage, and stormwater management practices located on-site within 90 days of completing construction and achieving final stabilization, whichever occurs last.

B. The as-built plans must show the final design specifications for all underground utilities, drainage, and stormwater control measures must be certified according to the provision of this Manual and must be stamped by a professional engineer.

C. A final inspection by the City Engineer shall be conducted after as-built data is submitted and before filing a Notice of Termination (NOT) according to the post-construction certification requirements of this Manual

D. For sites without SMP requirements, the City Engineer shall conduct a final inspection within 90 days of completing construction and achieving final stabilization, whichever occurs last.

415 PERMIT MAINTENANCE

A. In addition to other enforcement measures and penalties outlined in this Manual:

1. Failure to obtain permits and approvals before construction shall result in doubling of fees; and
2. Failure to obtain inspections during construction may result in penalties and/or require removal and reconstruction of improvements.

B. Work shall not proceed until the inspector has approved the various stages of construction.

C. The engineering development permit shall remain valid for two (2) years from the date of approval, except the permit shall become null and void if;

1. Construction is not started within 180 days.
2. Work is suspended for 180 days.

416 OHIO EPA GENERAL PERMIT EXPIRATION

Should the current Ohio General Stormwater Permit expire during a project, the permit holder shall have 180 days to apply to the Ohio EPA for continued coverage under the new permit.

1. Projects that will be completed within the 180 day window do not need to renew their coverage provided; all work is completed on the site, the site is fully stabilized, obligations of the permit coverage are met, requirements of this manual are addressed and a Notice of Termination (NOT) is filed with the Ohio EPA before the 180 day window expires.

2. A copy of a new NOI and plans to address feasible, new permit requirements shall be provided to the City within 180 days for review and approval.

3. Currently, the City and Ohio EPA shall not charge for continued coverage under a new general permit when the permit is less than five (5) years old.

4. Failure to apply for continued coverage under the Ohio General Stormwater Permit within the 180 days shall require a new stormwater management plan to be provided for a review meeting the new permit requirements. Applicable Ohio, EPA, and City fees shall apply, and the City shall issue a stop-work order until all requirements are fulfilled.

417 PHASED CONSTRUCTION

Development projects constructed in multiple phases shall be required to meet the current Stormwater Associated with Construction Activities (CGP) requirements at the time of construction for each subsequent phase. When additional requirements need to be addressed, modifications can be undertaken to the original primary stormwater control measures, or secondary stormwater control measures can be added to each subsequent phase. Sites can be grandfathered from phased construction requirements to meet current CGP requirements if all of the following requirements are met.

1. The development initially obtained coverage under a previous generation of the CGP and has maintained continuous coverage, meaning that the Operator has submitted a timely renewal Notice of Intent (NOI) to continue coverage under each subsequent permit and,

2. The phase was depicted in the Storm Water Pollution Prevention Plan (SWP3) developed at the time the original NOI was initially submitted for coverage under the CGP and,

3. Post-construction water quality controls were accounted for in the SWP3 developed at the time the original NOI was initially submitted and compliant with the CGP in effect at that time and,

4. There are no changes between the as-built conditions and design calculation affecting the impervious area, volumetric runoff coefficient, i.e., Rv, (or in previous generation permits, C) affecting the Detention or Water Quality Volume (WQv) calculations. The stormwater engineer shall verify as-built conditions to design calculations to ensure complacence.

SECTION 5

DRAINAGE PLAN

501 OVERVIEW

Drainage design standards and specifications shall serve as minimum requirements for the handling of surface water and drainage. These procedures and regulations, coordinated with the construction and post-construction stormwater management criteria of this Manual, shall govern the development of all new and/or modified drainage systems. The development of such drainage systems shall include the conveyance of surface water to an adequate outlet capable of carrying the flow.

The stormwater system, including stormwater management practices for storage, treatment, and control, and conveyance, shall be designed to prevent structure flooding during the 100-year, 24-hour storm event; to maintain predevelopment runoff patterns, flows, and volumes; and to meet the requirements of this section:

502 PERFORMANCE STANDARDS

A. Integrated Practices: The stormwater management practices shall function as an integrated system that controls flooding and minimizes the degradation of the water resources' physical, biological, and chemical integrity receiving stormwater discharges from a site. Acceptable practices shall:

1. Not disturb riparian areas unless the disturbances are intended to support a watercourse restoration project and comply with Section 10 of this Manual.
2. Maintain predevelopment hydrology and groundwater recharge on as much of the site as practical.
3. Only install new impervious surfaces and compact soils where necessary to support future land use.
4. Compensate for increased runoff volumes caused by impervious surfaces and soil compaction by reducing stormwater peak flows to less than predevelopment levels.
5. Be designed according to the methodology included in the most current edition of the ODNR *Rainwater and Land Development* manual.

B. Stormwater Management for All Lots: Areas developed for a subdivision shall provide stormwater management and water quality controls to develop all subdivided lots. The development plan shall include provisions for lot grading and drainage that prevent structure flooding during the 100-year, 24-hour storm; and maintain, to the extent practicable, the pre-development runoff patterns, volumes, and peaks from each lot.

C. Stormwater Control Measures in Water Resources: Stormwater management practices and related activities shall not be constructed in water resources unless the applicant shows proof of compliance with all appropriate permits from the Ohio EPA, the U.S. Army Corps, and any other applicable federal, state, and local agencies, and the activity complies with this Manual.

D. Stormwater Basins and Surface Conveyance Channels: All stormwater basins and surface conveyance designs must provide a minimum of one (1) foot freeboard above the projected peak stage within the facility during the 100-year, 24-hour storm.

E. Maintenance: All stormwater practices shall be maintained following the Inspection and Maintenance Plan and Agreements approved by the City as detailed in Sections 613 and 614 of this Manual.

F. Ownership: Unless otherwise required by the City, stormwater management practices serving multiple lots in a subdivision shall be on a separate lot held and maintained by an entity of joint ownership. Stormwater management practices serving single lots shall be placed on these lots, protected within an easement, and maintained by the property owner.

G. Preservation of Existing Natural Drainage: Practices that preserve and/or improve the existing drainage shall be used to the maximum extent practicable. Such practices may include; minimizing site grading and compaction, protecting and/or restoring water resources, riparian areas, and existing vegetation and vegetative buffers strips; phasing of construction operations to minimize the amount of land at any one time; and designation of tree preservation areas or other protective clearing and grubbing practices; and maintaining un-concentrated stormwater runoff the and through these areas. Post-construction stormwater practices shall provide perpetual management of runoff quality and quantity so that receiving stream's physical, chemical, and biological characteristics are protected and ecological functions are maintained.

H. Preservation of Wetland Hydrogeology: Concentrated stormwater runoff from stormwater control measures directed into wetlands shall diffuse flow before the runoff enters the wetlands to protect natural hydrology, hydroperiod, and wetland flora. The flow shall be released such that no erosion occurs down-slope. Practices such as spreaders, vegetative buffers, infiltration basins, conversion of forest covers, and the preservation of the intermittent streams, depressions, and drainage corridors may be used to maintain the wetland hydrology.

503 STORMWATER CONVEYANCE DESIGN CRITERIA

All stormwater management practices shall be designed to convey stormwater to allow for the maximum removal of pollutants and reduce flow velocities. This shall include but not be limited to:

A. Surface water protection: The City Engineer may allow modification to streams, rivers, lakes, wetlands, or other surface waters enclosure or relocation of water resources only if the applicant shows proof of compliance with all appropriate permits from the Ohio EPA, the U.S. Army Corps, and other applicable federal, state, and local agencies, and the activity complies with Section 10 of this Manual, all as determined by the City Engineer. At a minimum, stream relocation designs must show how the project minimizes changes to the vertical stability, floodplain form, channel form, and habitat of upstream and downstream channels on and off the property.

B. Off-site stormwater discharges: Off-site stormwater runoff that discharges to or across the applicant's development site shall be conveyed through the stormwater conveyance system planned for the development site at its current peak flow rates during each design storm. Off-site flows shall be diverted around stormwater quality control measures, or, if this is not possible, the stormwater quality control facility shall be sized to treat the off-site flow. Drainage Plans shall not be approved until it is

demonstrated to the satisfaction of the City Engineer that off-site runoff shall be adequately conveyed through the development site in a manner that does not exacerbate upstream or downstream flooding and erosion.

C. Sheet flow: The site shall be graded in a manner that maintains sheet flow over as large an area as possible. The maximum area of sheet flow shall be determined based on the slope, the uniformity of site grading, and the use of easements or other legally binding mechanisms that prohibit re-grading and/or the placement of structures within sheet flow areas. In no case shall the sheet flow length be longer than 300 feet, nor shall a sheet flow area exceed 1.5 acres. Flow shall be directed into an open channel, storm sewer, or other (SCMs) stormwater control measures from areas too long and/or too large to maintain sheet flow.

504 DRAINAGE PLAN REQUIREMENTS

A. A preliminary Drainage Plan for any earth-disturbing or construction activity that requires an Engineering Development Permit shall be submitted for review and preliminary approval by the City Engineer.

1. The preliminary Plan shall show the general surface water drainage pattern of the area to be improved and show the drainage patterns of adjacent areas that affect or may be affected by the proposed improved area.
2. Sufficient data shall be supplied for the City Engineer to check the feasibility of the drainage systems for surface water runoff.
3. The preliminary Drainage Plan shall be submitted for subdivisions before a request for preliminary approval from the Planning Commission.

B. A final Drainage Plan showing the entire drainage system with utility improvements, certified (according to the provision of this Manual) and stamped by a professional engineer, shall be submitted to the City Engineer as part of the engineering development permit application and according to the criteria set forth by this Manual.

1. The final Drainage Plan shall conform to this Manual and any special conditions required by the Planning Commission in approving a required preliminary parcel plat.
2. The final Drainage Plan shall include engineering calculations used to determine the drainage courses' design and the drainage structures.

C. Drainage Plans shall be reviewed and approved by the City Engineer before issuing an Engineering Development Permit before constructing any portion of the drainage system.

D. The following shall serve as a minimum requirement for plans and engineering calculations for the on-site drainage:

1. The total tributary drainage areas entering the site
2. Times of concentration, intensity, and runoff coefficients used for determining runoff
3. Discharge volume in cubic feet per second, velocity, and additional data are needed to establish that the drainage system shall convey the flow to the approved adequate outlet
4. The plan and profile of all drainage courses to where the system discharges into the adequate outlet

5. Size and type of all drainage improvements, including all drainage structures.
6. Sufficient contours and grading details to show that the proposed improvements will function adequately. Minimum spacing of contours shall be in two (2) feet intervals.

505 ADEQUATE DRAINAGE OUTLET

A. Surface water runoff shall be drained off-site following this Manual to an adequate outlet.

B. The City Engineer shall approve the location of the adequate outlet.

C. The adequate outlet may consist of a ditch, stream, storm sewer, or approved retention basin having sufficient capacity to accommodate the surface water runoff reasonably.

D. At a minimum, a stormwater outlet shall be deemed inadequate if it exceeds its reasonable share of the maximum capacity of the downstream watercourse or closed conduit, as determined by the City Engineer's sole reasonable discretion.

E. The downstream watercourse or closed conduit must be adequate to convey the surface water runoff to the Waters of the State.

1. Suppose the City Engineer determines that a proposed drainage system does not include an adequate drainage outlet. In that case, the applicant may be required to design and construct improvements to the downstream drain, watercourse, or closed conduit.
2. The City Engineer shall determine the extent to which downstream improvements may be required to provide for an adequate drainage outlet.

506 DRAINAGE EASEMENTS AND RIGHT-OF-WAYS

A. An adequate drainage easement shall be required along any drainage way, ditch, watercourse, stream or storm sewer which is not already within the public right-of-way. The easement shall be of sufficient width to allow cleaning, widening, deepening, replacement, or otherwise general maintenance of such drainage course.

B. When it is required of the permittee to convey surface water outside the limits of the permitted site to discharge into an approved adequate outlet, it shall be the permittee's responsibility to obtain easements and/or right-of-way for construction and/or maintenance of such drainage course.

C. All drainage easements and right-of-ways shall be shown on any/all plans and recorded for public use. The maintenance of such drainage courses shall be the responsibility of the property owners receiving direct benefit.

D. When a drainage structure within the public right-of-way extends beyond the limits of the standard public right-of-way, it shall be the permittee's responsibility to provide additional right-of-way around the structure to allow for adequate maintenance.

E. The minimum drainage easement for storm sewers outside of the right-of-way shall be twenty (20) feet wide. This easement shall be shown on all plans and labeled "Public Drainage Easement."

507 STORM SEWERS

A. The City Engineer may require a storm sewer system wherever an open ditch may present future problems such as flooding, erosion, or endangers the health and safety of the residents of the City or wherever the pavement classification dictates a storm sewer system should be used.

B. Storm sewers shall be designed such that they do not surcharge from runoff caused by the 5-year, 24-hour storm and that the hydraulic grade line of the storm sewer stays below the gutter flow line of the overlying roadway or the top of drainage structures outside the roadway during a 10-year, 24-hour storm. The system shall be designed to meet these requirements when conveying the flows from the contributing drainage area within the proposed development and existing flows from offsite areas upstream from the development.

C. The minimum inside diameter of the pipe to be used in public storm sewer systems is 12 inches. Smaller pipe sizes may be used in private systems, subject to the approval of the City Engineer.

D. All storm sewer systems shall be designed considering the tailwater of the receiving facility or water resource. The tailwater elevation used shall be based on the design storm frequency. The hydraulic grade line for the storm sewer system shall be computed considering the energy losses associated with entrance into and exit from the system, friction through the system, and turbulence in the individual manholes, catch basins, and junctions within the system.

E. The inverts of all curb inlets, manholes, yard inlets, and other structures shall be formed and channelized to minimize the incidence of quiescent standing water where mosquitoes may breed.

F. Headwalls shall be required at all storm sewer inlets or outlets to and from open channels or lakes.

508 CULVERTS

A. Culverts shall be used to convey water through a roadway embankment and shall be designed to not impose a hazard to the roadway or the immediate surrounding area. Attention shall be given to alignment, grade and sizing so hazards shall not exist.

B. Culvert design requirements:

1. All culverts shall be installed, bedded, and backfilled according to the State of Ohio Department of Transportation, Construction, and Materials Specifications.
2. The type of conduit used shall be determined by the alkalinity of the water course and the amount of fill in the embankment following Ohio Department of Transportation, L&D Manual – Volume 2.
3. Where concrete pipe is used, headwalls or end walls shall be required.
4. Where corrugated metal pipe is used as the culvert, it shall be at least of the minimum gauge required by the City Engineer.
5. Any special treatment, such as catch basins, improved inlets, headwalls, stilling basins, energy dissipaters, downstream channel improvements, erosion control, shall be considered by the design engineer.

6. All culverts draining areas larger than 200 acres shall be designated as major culverts and designed to convey a 25-year frequency storm.
7. All culverts draining areas 200 acres and less shall be designated as minor culverts and shall be designed to convey a 10-year frequency storm.

509 BRIDGE AND SPECIAL STRUCTURES

The design and construction of bridges or any other unique drainage structure shall be reviewed and approved by the City Engineer.

510 SUBSURFACE DRAINAGE

A. Subsurface drainage shall be used as required to control the flow of ground water. Subsurface drainage is to be used as a measure to maintain firm, stable subgrades and foundations, eliminating wet cuts and preventing frost heave, preventing sloughing and saturation of cut and fill slopes.

B. A roadway consists of a total aggregate build-up with a chip and seal surface. It may be determined that an aggregate underdrain shall provide sufficient subdrainage so long as the roadside ditch remains open and provides an adequate outlet for the aggregate underdrain.

C. Where a roadway pavement is being used over an aggregate base or where the ditches are closed in, pipe underdrains shall be used. For roadway structures and slope stabilization, pipe underdrains are to be used as required.

D. In the pipe underdrain system design, consideration shall be given to the type of pipe used, the filter material, and the surrounding soils that are to be drained to avoid clogging and achieve adequate hydraulic capacity.

511 DOWNSPOUT DRAIN LINES

A. Downspout drain lines shall be (if possible) installed into the storm sewer drainage system. The downspout drain lines should empty into the nearest storm sewer catch basin or manhole to prevent excessive pipe sizes for the downspout collector lines.

B. A six (6) inch pipe shall be the minimum size for the drain collector line.

C. Roof drains shall be:

1. Tied into private collectors or drains, back of the curb, and connected to the storm system. Under no circumstance shall downspout drains be tied into roadway underdrains or underdrain collectors;
2. Directed onto splash pads adjacent to the house and at least ten (10) feet from adjacent property lines; or
3. If (1) or (2) is impractical, where the lot slopes to the rear and a drainage swale, storm sewer, or other outlet method is provided, it may be used if approved.

D. All connections into existing storm sewers must be inspected and approved by the Engineering Division.

E. Under no circumstances shall any storm drainage system, spouting drain, or footer drain be allowed to empty into a sanitary sewer.

512 HYDROLOGIC DESIGN OF DRAINAGE STRUCTURES

A. All calculations for the design rate of runoff (Q) shall be submitted as part of a Drainage Plan.

B. The rational method shall generally be an acceptable method for computing the design rate of runoff for tributary drainage areas of less than 200 acres. The rational method shall NOT be accepted for the calculations required in Section 8 – POST-CONSTRUCTION. Please see Section 8 for more information on acceptable methods.

C. The rational method is defined as Q = CIA where:

1. Q - Runoff in cubic feet per second;
2. C - Runoff coefficient;
3. I - Intensity of rainfall (inches per hour); and
4. A - Tributary area (drainage area).

D. The ASCE Manual 37 - "Design and Construction of Sanitary and Storm Sewers" shall serve as a guideline for runoff coefficients used with the rational method.

E. The storm frequency and time of concentration shall be used to determine the intensity of rainfall. The City of Wooster, Engineering Division I-D-F Rainfall Intensities Table and I-D-F Curve are included in this Manual for use with the Rational Method.

F. For tributary drainage areas equal to or greater than 200 acres, the "Floods in Ohio - Magnitude and Frequency" bulletin by the Ohio Department of Natural Resources or the Soil Conservation Service Method shall be used for computing the design rate of runoff.

513 DESIGN FREQUENCY – STRUCTURES

A. Minimum design frequencies to be considered for drainage structures are as follows:

Structure	Frequency
Storm Sewers	5 years
Open Ditch	10 years
Culvert (minor)	10 years
Culvert (major)	25 years
Bridges	50 years
Flood Plain Structure	100 years

B. The design frequency considered for an individual structure may be altered by the City Engineer where there is a flood hazard or where the inundation of stormwater would endanger the health and safety of the residents of the City.

514 OPEN DITCHES

A. The minimum slope of open ditches is to be one percent (1%). All ditches, slopes, and areas distributed by construction are to be seeded and mulched.

B. Ditch linings shall be installed as follows:

Type of Cover	Allowable Velocity
Seeded lining	0 - 3 feet per second
Sodded lining	3 - 5 feet per second
Ditch lining to be approved by City	over 5 feet per second

C. The minimum dimensional requirements for open ditches shall be a two (2) foot bottom width, one and one half (1½) feet deep, with back slopes graded at a 4 to 1 slope, unless otherwise approved by the City Engineer.

D. All open ditches outside the typical right-of-way shall be protected with a minimum twenty (20) feet drainage easement. This easement shall be shown on all plans and labeled "Public Drainage Easement."

E. All ditches, right-of-way areas, and areas disturbed during construction are seeded and mulched following approved seeding methods.

F. Seeding shall be made within two (2) days after final grading or following seed-bed preparation with a disk or other suitable equipment. On sloping land, the final operation shall be done on the contour.

G. Mulch shall be applied immediately after seeding and spread evenly over the entire seeding area.

H. Seed shall be applied uniformly with a cyclone seeder, drill, or hydro-seeder.

515 STORM SEWER DESIGN

A. Where a storm sewer system is being constructed within a roadway where curbs are installed, catch basins with curb inlets shall be required following the City's design specifications and standard drawings.

B. Where a storm sewer system is being constructed, no curbs are being installed, or the storm sewer system is being installed away from the roadway, there shall be a drainage swale over the storm sewer system draining inlet basin. All such inlet basins shall be spaced and of the type specified in City regulations unless otherwise approved.

516 COMPUTATION OF CONDUIT DESIGN PROFILE

A. The computation of storm sewer lines shall be based either on Manning's or Kutter's formula:

1. Manning's Formula: $V = \left(\frac{1.486}{n}\right) * r^{2/3} * s^{1/2}$

2. Kutter's Formula: $$\frac{\frac{1.811}{n} + 41.67 + \frac{0.00281}{s}}{1 + \frac{n}{\sqrt{r}} * 41.67 * \frac{0.00281}{s} * \sqrt{r * s}}$$

3. With: $Q = A * V$

4. Where: s = slope (ft/ft)
n = friction factor
Q = discharge (cfs)
r = hydraulic radius (ft)
V = velocity (fps)
A = area (ft^2)

B. All storm sewers shall be designed with hydraulic slopes sufficient to give a mean velocity, when flowing full, of not less than three (3) feet per second, using an appropriate n-value based on the type of pipe material. The minimum n-value to be used shall be 0.010.

C. All catch basins and manholes shall be precast or cast-in-place concrete and constructed according to the City's design specifications and requirements.

D. In the case of sewers where velocities exceed fifteen (15) feet per second, special provisions shall be made to protect against erosion and displacement.

E. No storm sewer shall be less than twelve (12) inches in diameter.

F. Single-family house spouting and footer drain connections shall not be less than four (4) inches in diameter. Service connections from other sources shall be of adequate capacity as designed by the engineer. The minimum grade for all such connections shall be one percent (1%).

G. When storm sewers are increased in size or smaller sewers join larger ones, the invert of the larger should be lowered to maintain the same energy gradient, i.e., by placing the crown of both sewers at the same elevation.

H. In no case shall a larger pipe discharge into a smaller pipe, even though the capacity of the smaller pipe may be greater, unless the City Engineer gives prior approval.

517 APPURTENANCES TO STORM DRAINAGE DESIGN

A. Storm sewers constructed within five (5) feet, center-to-center, of sanitary sewers shall have premium joints, i.e., meeting ASTM C443 or C425. This criterion shall apply to mains as well as connections.

B. Storm manhole joints shall be of the same type as its incoming sewer, i.e., premium joint sewer, ASTM C443 or C425, hence premium joint manhole ASTM C443.

C. Manholes or catch basins shall be installed at all changes in grade, size and/or alignment. Radius pipe may be considered for use in changes of alignment.

D. Maximum spacing for manholes and catch basins shall be three hundred (300) feet as measured horizontally along the centerline of the pipe.

E. The minimum cover for drainage pipes under pavement shall be twelve (12) inches from the bottom of the pavement build-up to the crown of the pipe.

F. The minimum internal diameter of manholes shall be forty-eight (48) inches.

G. Inlet catch basins shall be placed at all low points and/or required by the City Engineer. The maximum spacing between inlets shall be three hundred (300) feet.

H. All trench loading calculations shall be submitted to the City Engineer. The type of pipe selected shall be of the class, material, construction, and structure required to withstand the loads imposed.

I. A professional engineer shall design headwalls and end walls. The architectural treatment of headwalls and end walls may be required.

J. The City Engineer shall be consulted for design criteria on special manholes, non-circular sewers, or unique structures.

K. The City Engineer may require a unique material for a pipe to be used for conditions such as alkalinity of water, excessive depth, polluted water, or flat slopes.

L. All drainage pipes shall be laid and maintained to the required lines and grades as shown on the plans. Manholes shall be installed with the main line unless otherwise approved in writing by the City Engineer.

M. All drainage pipes laid under pavement or within two (2) feet of the edge of the pavement shall be bedded, backfilled with suitable granular material, and mechanically tamped. Drainage pipes through driveways shall be backfilled as above where drive construction is before settlement of one year, or backfill is unsuitable.

N. The City Engineer reserves the right to waive any specified tests or accept a Certificate of Conformance in place of such tests.

SECTION 6

STORMWATER MANAGEMENT PLAN (SMP)

601 OVERVIEW

The construction and post-construction stormwater management program establishes the basis to control stormwater runoff from construction sites, and stormwater runoff after construction is completed. Earth-disturbing activities within the City of Wooster are subject to the construction and post-construction stormwater management requirements of this Manual. This Manual was developed to protect and preserve the streams and rivers as stormwater runoff from areas undergoing new development or re-development can significantly affect water bodies during and after construction. Changes in volumes and rates of flow can scour and erode the natural stream beds, exceed the capacity of the systems, and deposit pollutants in the waterways. This Manual shall address control of earth-disturbing activities and establish procedures for approval, administration, and enforcement of the stormwater management provisions of the Engineering Development Permit through the requirement of a Stormwater Management Plan (SMP).

602 SMP APPLICABILITY & REQUIREMENTS

A. A comprehensive SMP for stormwater management during construction and post-construction provides the City with the information needed to evaluate the impacts of proposed earth-disturbing activities during construction and post-construction.

B. An SMP is required for any earth-disturbing or construction activity that requires an Engineering Development Permit and involves:

1. The disturbance of one (1) or more acres of land;
2. The disturbance of less than one (1) acre of land that shall be part of a larger common plan of development or sale which shall disturb one (1) or more acres of land;
3. A subdivision of lots totaling more than 1 acre; or
4. A subdivision with the construction of a street.

C. Development, expansion, or redevelopment of any size lot or lots requires submission of an SMP to protect adjacent properties from erosion and runoff, for review if:

1. Land disturbance takes place in a developed area;
2. Site contains drainage ways or extreme slopes;
3. An area of the site shall be used as a parking area for more than five (5) vehicles;
4. Impervious surface is increased by 25%, as determined by the City Engineer; or
5. More than 25% of the existing lot is impervious for commercial sites, as determined by the City Engineer.
6. Maximum allowable lot coverage is exceeded for residential construction in zoning areas R-1, R-2, R-T, R-3, or R-4.

D. The operator/owner shall develop and submit the SMP, certified (according to the provision of this Manual) and stamped by an Engineer, as part of the Permit application.

E. An SMP shall consist of the following provisions according to the requirements of this Manual:

1. Site description (Section 609);
2. Typical subdivision lot erosion and sediment control drawing, if applicable (Section 611);
3. Description of construction stormwater management including erosion, runoff, and sediment control practices and methods (Section 7);
4. Post-construction stormwater management (Section 8); and
5. A description of maintenance procedures needed to ensure the continued performance of control practices (Section 9).

603 EXEMPTIONS

An SMP is not required for activities, including but not limited to paving and landscaping, that disturb less than 600 square feet of surface area. However, a general plan needs to be submitted that details how runoff shall be managed, including protections for adjacent properties.

604 DUTY TO INFORM

The permittee shall inform all contractors and subcontractors of the terms and conditions of the SMP.

A. The permittee shall maintain a written document containing the signatures of all the contractors and subcontractors as proof acknowledging that they reviewed and understand the conditions and responsibilities of the SMP.

B. The written document shall be created, and signatures shall be obtained before the commencement of any earth-disturbing activity.

605 SMP COVERAGE

A. With an approved SMP, the permit shall cover requirements for new and existing discharges, composed entirely of stormwater and associated with a land-disturbing activity that enters Waters of the State or a conveyance leading to Waters of the State.

B. With an approved SMP, the permit authorizes stormwater discharges from support activities including, but not limited to, equipment staging yards, material storage areas, and excavated material areas provided:

1. The support activity is directly related to a construction site that is required to have coverage by the permit for discharges of stormwater associated with construction activity;
2. The support activity is not a commercial operation serving multiple unrelated construction projects and does not operate beyond the completion of the construction activity at the site it supports;
3. Appropriate controls and measures are identified in the SMP, if applicable, covering the discharges from the support activity; and
4. The support activity is on or contiguous with the property defined in the Permit application.

C. The following stormwater discharges associated with construction activity are not covered by the permit, even with an approved SMP:

1. Stormwater discharges that originate from the site after construction activities have been completed, including any temporary support activity, and the site has achieved final stabilization;
2. Stormwater discharges associated with construction activity that the City Engineer has shown to be or may reasonably expect to be contributing to a violation of a water quality standard; and
3. Spills and releases containing a hazardous substance equal to or in excess of reportable quantities.

606 ACCEPTABLE CONTROL PRACTICES FOR APPROVAL

A. The SMP shall be prepared with sound engineering and/or conservation practices by an engineer experienced in designing and implementing standard erosion and sediment controls, stormwater management practices, and pollution prevention addressing all construction phases.

B. The SMP shall describe and ensure the implementation of Stormwater Control Measures (SCMs) or Best Management Practices (BMPs) that reduce the pollutants in stormwater discharges during construction and pollutants associated with post-construction activities to ensure compliance with this Manual.

C. The SMP shall identify potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction and/or post-construction activities. Stormwater discharges from land use or higher potential pollutant loading may require specific structural stormwater management controls and pollution prevention practices.

D. Stormwater discharges to critical areas with sensitive resources may be subject to additional performance criteria or may need to utilize or restrict certain stormwater management practices.

E. All stormwater runoff generated from new development shall not discharge untreated stormwater directly into a jurisdictional wetland or local water body without adequate treatment. Where such discharges are proposed, the proposal's impact on wetland functional values shall be assessed using a method acceptable to the City Engineer.

607 EXCEPTIONS

A. Suppose specific site conditions prohibit implementing any of the controls and management practices outlined in this Manual or site-specific conditions. Implementation of any management practices outlined in this Manual shall result in no environmental benefit. In that case, the SMP shall justify rejecting each practice based on site conditions.

B. Exceptions from implementing management practices outlined in this Manual shall be approved or denied by the City Engineer on a case-by-case basis.

608 STORMWATER MANAGEMENT PLAN AMENDMENTS

A. The permittee shall amend the SMP whenever there is a change in the design, construction, operation or maintenance, which has an effect on the potential for the discharge of pollutants to Waters of the State or if the SMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with an earth-disturbing activity.

B. The City Engineer may approve field modifications of a minor nature by written/email authorization to the permittee.

C. The City Engineer or authorized representative may notify the permittee at any time that the SMP does not meet one or more of the minimum requirements of this Manual.

1. The permittee shall bring such requirement(s) into conformance with the provisions of this Manual in the time frame specified by the City Engineer.
2. Failure of the permittee to comply constitutes a violation of this Manual.

D. All modifications, plan changes, and amendments shall be submitted and approved following Section 413 of this Manual

609 SITE DESCRIPTION

The SMP shall include a site description, consistent with the Permit application and any other plans, providing:

A. A description of the nature and type of the construction activity (e.g., low-density residential, shopping mall, highway, etc.);

B. The total area of the site and the area of the site that is expected to be disturbed (i.e., grubbing, clearing, excavation, filling, or grading, including off-site borrow areas);

C. A description of prior land uses at the site;

D. An estimate of the impervious area both before and after the project;

E. Selection (source and justification) and/or calculations of the runoff coefficients for water quality volume determination, peak discharge control (curve number/critical storm method), and rational method for both the pre-construction and post-construction site conditions;

F. Existing data describing the soils throughout the site, including soil map units including series, complexes, and association, hydrologic soil group, porosity, infiltration characteristic, depth to ground water, depth to bedrock, and impermeable layers;

G. If available, the quality of any know pollutant discharge from the site such as that which may result from previous contamination caused by prior land uses;

H. The name and/or location of the immediate receiving stream or surface water(s) and the first subsequent named receiving water(s);

I. The aerial extent (plan view) and description of water resources at or near the site which shall be disturbed or which shall receive discharges from the project;

J. If applicable, identify the point of discharge to a municipal separate sewer system. The location where that municipal separate storm sewer system ultimately discharges to a stream, lake, or wetland. The location and name of the immediate receiving stream or surface water(s) and the first subsequent receiving water(s), and the aerial extent and description of wetlands or other particular aquatic sites at or near the site which shall receive discharges from the undisturbed area of the project;

K. TMDLs applicable for the site; demonstrate that appropriate (SCMs) have been selected to address these TMDLs. Note: The City of Wooster, associated waterways and watersheds within the City MS4 currently do not have TMDL requirements;

L. For each SCM, identify the drainage area, percent impervious cover within the drainage area, runoff coefficient for water quality volume, peak discharge, and concentration-time for each sub-watershed per Appendix 1 of Ohio's stormwater manual, *Rainwater and Land Development Manual*. Pervious and impervious areas should be treated as separate sub-watersheds unless allowed at the discretion of the community engineer. Identify the SCM surface area, discharge and dewatering time, outlet type, and dimensions. Each SCM shall be designated with an individual identification number;

M. An implementation schedule which describes the sequence of significant construction operations (i.e., grubbing, excavating, grading, utilities, and infrastructure installation) and the implementation of erosion, sediment, and stormwater control measures to be employed during each operation of the sequence; and

N. Describe the current condition of water resources, including the vertical stability of stream channels and indications of channel incision that may be responsible for current or future sources of high sediment loading or loss of channel stability.

610 SITE MAP

A. The site map shall show the following:

1. A maximum scale of 1"=200';
2. Limits of earth-disturbing activity of the site including associated off-site borrow or spoil areas that are not addressed by a separate Engineering Development Permit and associated SMP;
3. Soil map units for all areas of the site, including locations of unstable or highly erodible soils;
4. Existing and proposed one-foot (1') contours. Contours must include a delineation of drainage watersheds expected before, during, and after major grading activities. Water resource locations including springs, wetlands, streams, lakes, water wells, etc. on or within 200 feet of the site, including the boundaries of wetlands or stream channels and first subsequent named receiving water(s) the permittee intends to fill or relocate for which the permittee is seeking approval from the Army Corps of Engineers and/or Ohio EPA;
5. Riparian setbacks for waterways and wetlands shall be identified, and related buffer areas indicated
6. Existing and planned locations of buildings, roads, parking facilities, and utilities;
7. The location of any in-stream activities, including stream crossings;
8. The location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during site development;
9. Location and description of any stormwater discharges associated with dedicated asphalt and dedicated concrete plants, concrete washout areas, and the BMPs to address pollutants in these stormwater discharges;
10. Sediment and stormwater management basins noting their sediment settling volume and contributing drainage area;
11. Permanent stormwater management practices to be used to control pollutants in stormwater after construction operations have been completed;
12. Areas designated for the storage or disposal of solid, sanitary, and toxic wastes, including dumpster areas, areas designated for cement truck washout, and vehicle fueling; and
13. The location of designated construction entrances where the vehicles shall access the construction site.

611 SITE PLAT

A plat shall be provided to and recorded following Wayne County Recorder's office requirements. Additionally, the plat shall also contain the following information where applicable.

B. Stormwater and maintenance easements applicable to the site(s);

C. Permanent stormwater control measures and responsible entity; and

D. Reference to a recorded Inspection and Maintenance Agreement per Section 614 of this Manual;

612 LIST OF OWNER, CONTRACTOR, AND SUBCONTRACTOR CONTACT INFORMATION

Contact information shall be provided at the Pre-Construction meeting about who is responsible for implementing, managing, and inspecting the SMP.

A. Contact information shall be comprised of the following:

1. Company name and address;
2. Contact person(s) about the SMP, including
    a. Address if different than the company address
    b. Office and cell phone number
    c. Email address

B. Contact Information shall be provided for the following entities:

1. In the SMP:
    a. Project owner;
    b. Project engineer or architect;
    c. SMP engineer, if different than above;
2. At the Pre-Construction Meeting:
    a. General contractor, project manager;
    b. General contractor, site supervisor;
    c. Certified inspector performing weekly and post-storm inspections;
    d. Sub-contractors listed as NOI co-permittees could impact the SMP, such as excavators, underground utility contractors, masons, concrete contractors, etc.

613 INSPECTION AND MAINTENANCE PLAN

As part of the SMP, the SMP developer shall develop a stand-alone document to be reviewed by the City Engineer. Once the Inspection and Maintenance Plan is approved, the SMP engineer shall review this document with the Owner and convey the physical and financial requirements of the inspection and maintenance plan to the owner's understanding. A final copy of the inspection and maintenance plan shall be provided with the Post-Construction Engineering Certification (Section 615) and a recorded copy of the Owner Inspection and Maintenance Agreement (Section 614). A sample and recommended Inspection and Maintenance Plan template is provided as an Appendix to this Manual. The plan shall include at a minimum:

A. Stormwater Management Overview - The SMP developer shall identify and discuss the stormwater management system that shall be utilized to manage the stormwater for the project site as outlined in the approved Stormwater Management Plan (SMP). A written narrative explaining the purpose and function of the measures utilized for the site and how they function as a whole shall be provided. The narrative shall be written for the layperson - unfamiliar with the function, purpose, operation, and maintenance of a stormwater management system. This section shall also include:

1. Glossary of standard terms;
2. Site Location Map, depicting an identifier, location and type of each control measure, stormwater outfall(s), and easements;
3. General Diagrams, depicting the components of each control measure; and
4. (Optional) Pollutants to be addressed by the measures to meet TMDL loads.

B. Inspection Procedures and Forms - The SMP developer shall discuss the frequency that the stormwater management system shall be inspected, areas to be inspected, and reporting procedures. Inspections shall be performed, at a minimum, on an annual basis unless a more frequent schedule is recommended, such as for proprietary systems. The plan shall identify the person responsible for conducting the site inspection for each measure. The owner or agent may undertake the inspection responsibility; however, each measure must be inspected by a professional engineer familiar with stormwater management design once every five (5). The plan shall also provide:

1. Overview plan for each control measure;
2. Structural details for pertinent substructures;
3. Inspection forms for each control measure; and
4. Annual inspection reporting requirements to the City

C. Maintenance Schedule and Activities - Maintenance guidance shall be developed for each measure that provides the maintenance activity, instructions, and suggested frequency. The SMP developer shall provide maintenance logs or similar documentation to document all maintenance activities and record the date performed, by whom, and any issues noted.

1. Maintenance guide and checklists
2. Maintenance logs
3. Annual maintenance reporting requirements to the City

D. Good Housekeeping Practices - The SMP developer shall include recommended global good housekeeping practices applicable to the measures utilized for the project.

E. Method of Funding – The SMP developer shall include estimated costs associated with the long-term inspection and maintenance of the control measures implemented. The owner shall be made aware of these obligations and commit to obtaining a funding source to implement the needed inspection and maintenance of the control measures.

F. Engineering as-built certification – A copy of the engineering as-built certification letter shall be included with the final inspection and maintenance plan.

G. Inspection and maintenance agreement – A copy of the executed and recorded inspection and maintenance agreement shall be submitted with the final maintenance and inspection plan.

614 INSPECTION AND MAINTENANCE AGREEMENT

A stormwater inspection and maintenance agreement is required between the Owner and the City of Wooster. The agreement shall be a stand-alone document recorded with the Wayne County Recorder once supporting documentation is received, reviewed, and approved by the City Engineer. The document contained in the Appendix of this Manual shall be utilized without revision by the applicant.

615 POST-CONSTRUCTION ENGINEERING CERTIFICATION

A. Upon completion of work and within ninety (90) days after final stabilization of the site, a certification letter and/or a report shall be submitted to the City Engineer certifying that all post-

construction stormwater control measures have been completed, installed and/or constructed following the approved SMP.

B. The certification letter and/or report shall be prepared by a professional engineer and submitted with accompanying as-built data.

C. The certification letter and/or report shall include a specific listing of all approved changes and modifications to the original SMP.

D. The post-construction certification shall be accompanied by a copy of the legally binding inspection and maintenance agreement, including deed and final plat requirements, following this manual's provisions.

E. Enforcement actions may be taken following this Manual if a permittee does not submit the post-construction certification within the time prescribed in part (A) above or submits the certification without meeting the conditions of this Manual.

F. Post-construction certification is subject to site inspection and approval by the City.

616 POST-CONSTRUCTION MEETING

A post-construction meeting shall be held for all projects holding a NOI or post-construction stormwater control measures. The meeting shall be held within 90 days of completing construction and reaching 80% final stabilization. The following will be provided during the meeting.

A. Final Inspection and Maintenance Plan and related documentation

B. Executed and Recorded Inspection and Maintenance Agreement

C. Post-Construction Engineering Certification

D. Bond release or conditions of bond release pending final inspection, punch lists or percentage completion requirements for developments.

617 SUBDIVIDED DEVELOPMENTS

A. For subdivided developments where the SMP does not call for a centralized sediment control capable of controlling multiple individual lots, a detailed drawing of a typical individual lot showing standard individual lot erosion and sediment control practices shall be required. Individual controls shall not remove the responsibility to designate specific erosion and sediment control practices in the SMP for critical areas such as steep slopes, stream banks, drainage ways, and riparian zones.

B. Subdivided developments that have centralized stormwater controls shall convey responsibility of long-term maintenance obligations to each owner via plat notes, deed restrictions, covenants, recorded maintenance agreements, homeowners' association agreements or placement of centralized stormwater controls on common ownership parcels.

C. In addition to the requirements outlined in this Manual, subdivided developments shall comply with the City of Wooster Subdivision Regulations.

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SECTION 7

CONSTRUCTION

701 OVERVIEW

Construction stormwater management is the control of stormwater runoff leaving a site during earth-disturbing activity. Stormwater runoff from construction sites polluted with sediment, fuels, and other construction-related substances can quickly erode the quality of rivers and streams. The purpose of construction stormwater management practices is to provide for the continual control of discharges that may adversely impact the watercourse and/or adjacent properties. Adverse impacts that target this effort include erosion, runoff, sedimentation from soil movement and the deposition of roadway materials, and pollution from construction activity.

702 CONSTRUCTION STORMWATER MANAGEMENT REQUIREMENTS

A. The SMP or SWP3 shall contain a description of the practices and controls appropriate for each construction operation covered by the Engineering Development Permit. The owner/operator shall implement such controls.

B. For each significant construction activity identified in the implementation schedule, the SMP shall clearly describe:

1. Appropriate control measures and the general timing (or sequence) during the construction process that the measures shall be implemented; and
2. Which contractor is responsible for implementation (e.g., contractor A shall clear land and install perimeter controls, and contractor B shall maintain perimeter controls until final stabilization).

C. The erosion, sediment, and stormwater control measures and methods used to satisfy the requirements of the SMP during construction shall meet the standards and specifications in the current edition of Ohio's *Rainwater and Land Development Manual* published by the Ohio Department of Natural Resources (ODNR) Division of Soil and Water Conservation or other technical references as approved by the City Engineer.

D. Design and use of construction controls and practices must be practical and provide for optimal operation of the system. Implementing controls and practices that meet this manual's criteria but that are not practical and/or do not adequately function as intended do not satisfy this manual's requirements and shall not be approved as part of an SMP.

703 NON-STRUCTURAL PRESERVATION SCMs

A. The SMP shall include and use practices that preserve the existing natural condition as much as feasible.

B. Such non-structural preservation stormwater control measures may include:

1. Preserving riparian areas adjacent to Waters of the State;

2. Preserving existing vegetation and vegetative buffer strips;
3. Phasing of construction operations to minimize the amount of disturbed land at any one time; and
4. Designation of tree preservation areas or other protective clearing or grubbing practices.

C. A permanent buffer for ephemeral, intermittent, and permanent waterways shall be left undisturbed along the waterway, as defined in Section 10 of this manual about riparian setbacks. Such permanent buffers shall be recorded as setbacks in major subdivisions plats and legal documents.

704 EROSION CONTROL PRACTICES

A. The SMP shall make use of erosion control measures that are capable of providing cover over disturbed soils.

1. A description of control practices designed to stabilize disturbed areas after grading or construction shall be included in the SMP.
2. The SMP shall provide specifications for stabilization of all disturbed areas of the site and guide which stabilization method shall be employed for any time of the year.
3. Such practices may include but are not limited to temporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing of construction operations, use of construction entrances, and use of alternative ground cover.
4. Areas that do not have 70% established vegetative growth before November 1st shall be required to be stabilized using alternate methods suitable for winter stabilization. The methods shall be limited to the use of pinned erosion control matting, placing mulch and pinning to the ground via crimping, chemical binder or netting, and hydro seeding or hydro mulching on relatively flat areas.

B. Disturbed areas shall be stabilized as specified in Table 7.1 and Table 7.2.

Table 7.1 Permanent Stabilization

Area requiring permanent stabilization	Time frame to apply erosion controls
Any areas that shall lie dormant for one year or more	Within seven (7) days of the most recent disturbance
Any areas within 50 feet of a stream and at final grade	Within two (2) days of reaching final grade
Any other areas at final grade	Within seven (7) days of reaching the final grade within that area

Table 7.2 Temporary Stabilization

Areas requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed areas within 50 feet of a stream and not at final grade	Within two (2) days of the most recent disturbance, if the area shall remain idle for more than fourteen (14) days
For all construction activities, any disturbed areas that shall be dormant for more than fourteen (14) days but less than one year and not within 50 feet of a stream	Within seven (7) days of the most recent disturbance within the area For residential subdivisions, disturbed areas shall be stabilized at least seven (7) days before the transfer of permit coverage for the individual lot(s).
Disturbed areas that shall be idle over winter	Before the onset of winter weather

C. Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques shall be employed.

D. Special measures shall be undertaken to stabilize channels and outfalls and prevent erosive flows permanently. Measures may include seeding, dormant seeding (as defined in the most current edition of the *Rainwater and Land Development Manual*), mulching, erosion control matting, sodding, rip-rap, natural channel design with bioengineering techniques, or rock check dams.

705 RUNOFF CONTROL PRACTICES

A. The SMP shall incorporate measures that control runoff flow from disturbed areas to prevent erosion from occurring.

B. Such practices may include rock check dams, pipe slope drains, diversions to direct flow away from exposed soils, and protective grading practices. These practices shall divert runoff away from disturbed areas and steep slopes where practicable.

706 SEDIMENT CONTROL PRACTICES

A. The SMP shall include a description of structural practices that store runoff, allowing sediments to settle and/or divert flows away from exposed soils or otherwise limit runoff from exposed areas.

1. Structural practices shall be used to control erosion and trap sediment from a site remaining disturbed for more than fourteen (14) days.
2. Such practices may include sediment settling ponds, silt fences, earth diversion dikes or channels that direct runoff to a sediment settling pond, and storm drain inlet protection.
3. All sediment control practices shall be capable of ponding runoff to be considered functional. Earth diversion dikes or channels alone shall not be considered a sediment control practice unless used in conjunction with a sediment settling pond.

B. The SMP shall contain detailed drawings for all structural practices.

C. Sediment control structures shall be functional throughout earth disturbing activity.

1. Sediment basins and perimeter sediment barriers shall be implemented before grading and within seven (7) days from the start of grubbing and shall continue to function until the up slope development area is restabilized.
2. As construction progresses and the topography is altered, appropriate controls shall be constructed, or existing controls shall be altered to address changing drainage patterns.
3. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee shall replace or modify the control for site conditions.

D. The City Engineer may require discharges from control structures to be monitored to ensure compliance with this Manual.

707 SEDIMENT SETTLING PONDS

A. A sediment settling pond (sediment trap, sediment basin, or permanent basin that has been temporarily modified for sediment control) is required for any one of the following conditions

1. Concentrated or collected stormwater runoff;
2. Runoff from drainage areas, which exceed the design capacity of silt fence or other sediment barriers; or
3. Runoff from drainage areas that exceed the design capacity of inlet protection

B. Sediment settling pond design requirements:

1. The sediment settling pond shall be sized to provide a dewatering zone of at least 1800 cubic feet of storage per acre of the total contributing drainage area. When determining the total contributing drainage area, off-site areas and areas that remain undisturbed by construction activity shall be included unless the runoff from these areas is diverted away from the sediment settling pond and is not co-mingled sediment-laden runoff.
2. The volume of the sediment storage zone shall be 1000 cubic feet per acre of the disturbed area within the watershed.
3. A skimmer or equivalent device shall be utilized to dewater sediment settling ponds.
4. The depth of the sediment settling pond shall be less than or equal to five (5) feet.
5. The configuration between inlets and the outlet of the basin shall provide at least two (2) units of length for each one (1) unit of width (> 2:1 length: width ratio).
6. Sediment shall be removed from the sediment settling pond when the design capacity has been reduced by forty (40) percent. (This is typically reached when sediment occupies one-half (1/2) of the basin depth.)
7. When designing sediment settling ponds, the permittee shall consider public safety, especially as it relates to children, as a design factor for the sediment basin.
8. Sediment settling ponds shall have a side slope not to exceed 1:2 (rise: run).

C. Alternative sediment controls shall be used where site limitations preclude a safe design.

D. The combination of sediment and erosion control measures may be used to achieve maximum pollutant removal.

708 SILT FENCE

A. Sheet flow runoff from denuded areas shall be intercepted by silt fence or diversions to protect adjacent properties and water resources from sediment transported via sheet flow. Where intended to provide sediment control, a silt fence shall be placed on a level contour downslope of the disturbed area.

B. This Manual does not preclude the use of other sediment barriers designed to control sheet flow runoff.

C. The relationship between the maximum drainage areas to silt fence for a particular slope range is shown in Table 7.3.

Table 7.3 Silt Fence (Max Drainage Area Based on Slope)

Maximum drainage area (in acres) to 100 linear feet of silt fence	Range of slope for a particular drainage area (in percent)
0.5	< 2%
0.25	> 2% but < 20%
0.125	> 20% but < 50%

709 FILTER SOCK

A. Filter sock is a viable alternative for silt fence, especially for hard surface areas and restricted-access sites. Typically, a filter sock can handle the same water flow or slightly more than a silt fence. Standard silt fence can typically be replaced with a 12" diameter compost filter sock when properly installed.

B. Only compost socks may be utilized. Wood, straw, and other filter sock materials are not acceptable alternatives.

C. A minimum of 12" compost sock shall be utilized unless a smaller diameter is specified by the SMP design engineer.

D. Generally filter socks are limited to ¼ to ½ acre drainage area per 100 foot of the sediment barrier based upon slope as shown in Table 7.4

Table 7.4 Compost Filter Sock
Maximum Slope Length above Filter Sock and Recommended Diameter

Slope	Ratio (H:V)	8"	12"	18"	24"
0% - 2%	<50:1	125	250	300	350
2% - 10%	50:1 – 10:1	100	125	200	250
10% - 20%	10:1 – 5:1	75	100	150	200
20% - 50%	5:1 – 2:1	--	50	75	100
>50%	>2:1	--	25	50	75

710 DIVERSIONS

A. Stormwater diversion practices shall be used to keep runoff away from disturbed areas and steep slopes where practicable. Such devices, including swales, dikes, or berms, may receive stormwater runoff from areas up to ten (10) acres.

B. Diversions shall be installed as early as possible during project construction and protected using an approved erosion matting. Erosion matting shall be installed with the flow direction.

C. Rock channel protection shall be installed at the outfall of the diversion for a minimum length of 10' and equal to the width of the diversion.

D. One rock check dam shall be installed for each two (2) feet of fall along the length of the diversion. Rock checks shall be placed such that the top of a check is no lower than the base of the previous upstream check dam. Under no circumstances is silt fence or straw bales to be utilized as diversion checks.

711 INLET PROTECTION

A. Other erosion and sediment control practices shall minimize sediment-laden water entering active storm drain systems unless the storm drain system drains to a sediment settling pond.

B. Inlet protection within the active construction area and unstabilized areas shall be comprised of a wood frame structure with geotextile over wire mesh per common standards. As an alternative, products such as SedCatch® or equal can be included in the SMP for onsite inlet protection.

C. Manufactured inlet protection such a Dandy Bags® or equal can be utilized in fully stabilized areas and paved surfaces. Such products shall not be utilized as a primary sediment control measure.

D. All roadway inlets in the vicinity of the project site shall be protected before initiating any construction activities.

712 WATERCOURSE PROTECTION

A. Watercourse protection shall be implemented following Section 10 of this manual.

B. Any permanent buffers shall be recorded as setbacks in major subdivisions, plats, and deeds.

C. Where impacts within this setback area are unavoidable due to the nature of the construction activity (e.g., stream crossings for roads or utilities), the project shall be designed such that the number of stream crossings and the width of the disturbance within the setback area is minimized.

713 OFF-SITE TRAFFIC

A. Off-site vehicle tracking of sediments and dust generation shall be minimized.

B. As specified in the City of Wooster Engineering Construction standards, construction site entrances shall be used at all points of ingress and egress to the construction site.

C. The contractor shall have onsite a broom/sweeper or be under contract with a street cleaning contractor to maintain the roadway at a minimum daily or at any time tack out occurs outside the construction area or onto private or public roadways.

D. Active paved areas within a construction site shall also be swept at a minimum of daily to eliminate any accumulated materials.

714 NON-SEDIMENT POLLUTANT CONTROLS

A. No solid (other than sediment) or liquid waste, including building materials, shall be discharged in stormwater runoff.

B. All necessary stormwater control measures shall be implemented to prevent the discharge of non-sediment pollutants to the site's drainage system or Waters of the State.

C. Waste materials shall not be exposed to stormwater.

D. Onsite dumpsters shall be covered at the end of each day and during precipitation events of any magnitude. Covers shall be comprised of a single tarp or fixed cover supported to shed water.

715 CONCRETE WASHOUT AREA

A. A concrete washout area shall be installed and maintained for all construction sites utilizing concrete or masonry products.

B. The concrete washout shall be constructed by excavating an appropriately sized area that is readily accessible and identified. An earthen berm shall be constructed with a minimum of 16” above grade and the area lined with heavy mil plastic.

C. As an alternative, straw bales can be utilized, pinned in place, and lined with heavy mil plastic. Small projects may consider commercially available disposable concrete washouts.

D. Regular maintenance shall be performed on concrete washout areas as materials accumulate or plastic liner is damaged.

E. Under no circumstance shall concrete trucks wash out directly onto a construction site, into a drainage channel, storm sewer, or Waters of the State.

716 TRENCH AND GROUND WATER CONTROL

A. There shall be no turbid discharges to Waters of the State resulting from dewatering activities.

B. If trench or ground water contains sediment, it shall pass through a sediment settling pond or other equally effective sediment control device before being discharged from the construction site.

C. Alternatively, sediment may be removed by dewatering utilizing an approved dewatering bag.

D. Ground water dewatering shall be treated before discharge.

E. Care shall be taken when discharging ground water to ensure that it does not become pollutant-laden by traversing over disturbed soils or other pollutant sources.

717 OTHER METHODS OF CONTROL

Methods of control are not limited to those included in this section of this Manual. Proposals shall be considered on individual location merits subject to the approval of the City Engineer.

SECTION 8

POST-CONSTRUCTION

801 OVERVIEW

Post-construction stormwater management is the control of stormwater runoff leaving a site after construction is completed. The purpose of stormwater management practices is to provide for the continual control of discharges that may adversely impact the watercourse and/or adjacent properties. Adverse impacts that target this effort include erosion from increased speed and quantity of water, sedimentation from soil movement or the deposition of roadway materials, and pollution such as oil and grease. Examples of post-construction stormwater controls include but are not limited to retention basins, detention basins, and diversion swales.

802 POST-CONSTRUCTION STORMWATER MANAGEMENT REQUIREMENTS

A. Permanent stormwater control measures are required for post-construction stormwater management as part of the SMP.

B. Post-construction stormwater control measures shall provide perpetual management of runoff quality and quantity so that receiving stream's physical, chemical, and biological characteristics are protected, and stream functions are maintained.

C. The practices should seek to utilize pervious surface areas for stormwater treatment and infiltrate stormwater runoff from driveways, sidewalks, rooftops, parking lots, and landscaped areas to the maximum extent practical to provide treatment for both water quality and quantity.

D. The design of post-construction controls must be practical and provide for the long-term operation of the system. Controls sized to meet the design criteria set of this Manual but that does not allow for long-term operation do not satisfy the requirements of this Manual and shall not be approved as part of an SMP.

E. No stormwater management practices shall be acceptable that increase either the peak flow rate or the volume of runoff leaving a site.

F. The SMP shall contain a description of the post-construction control measures that shall be installed during construction for the site and the rationale for their selection to meet the post-construction requirements of this Manual. The rationale shall address the anticipated impacts on the channel and floodplain morphology, hydrology, water quality, and adjacent and downstream properties.

G. Detail drawings and maintenance plans shall be developed for all post-construction stormwater control measures as part of the SMP.

1. The design of post-construction stormwater control measures shall consider public safety as a design factor.
2. The SMP shall contain sufficient detailed information, drawings, and explanations to describe the method of stormwater management after development.

3. Maintenance plans shall ensure that pollutants collected within structural post-construction stormwater control measures are disposed of following local, state, and federal regulations.

H. The post-construction stormwater management control practices and methods used to satisfy the requirements of the SMP shall incorporate measures as recommended by the most current edition of the Ohio *Rainwater and Land Development Manual* published by the Ohio Department of Natural Resources (ODNR), Division of Soil and Water Conservation and the ASCE Manual and Report on Engineering Practice No. 87 (or more current version), or other technical references approved by the City Engineer.

803 POST-CONSTRUCTION STORMWATER MANAGEMENT APPLICABILITY

A. Stormwater detention and water quality requirements, outlined in Sections 806 and 807 of this Manual, are required for project post-construction stormwater management as part of the SMP following methods approved and listed by the Ohio EPA.

B. Earth-disturbing activity that is less than two (2) acres shall be considered a small construction activity. Post-construction stormwater management requirements for small construction activities shall be required to meet the exact requirements in Sections 806 and 807; however, alternative methods than those listed by the Ohio EPA may be approved by the City or deferred to the Ohio EPA for approval.

C. Linear construction projects (e.g., pipeline or utility line installation), which do not result in installing impervious surfaces, are not required to include post-construction stormwater control measures as part of the SMP. However, linear construction projects shall be designed to minimize the number of stream crossings and the width of disturbance.

804 IMPERVIOUS AREA DETERMINATION

A. Impervious areas utilized in design calculations shall conform to the following City requirements.

1. Industrial, commercial, condominiums, high density, and multi-family residential areas shall be determined from the actual designed impervious areas at a CN of 98. The remaining area(s) shall utilize an appropriate CN from the Natural Resource Conservation Service TR-55.

2. Residential developments shall utilize a CN of 98 for all impervious areas (roadways, drive approaches, sidewalk, etc.) and a CN of open space, poor for pervious areas within private and public right-of-way. Residential lots shall utilize the following CN values based upon the allowable impervious area for a given zoning district. Common open space can utilize an appropriate CN from the Natural Resource Conservation Service TR-55, provided they shall never be further developed and are not cut/fill areas.

Zoning Classification	Max Percent Impervious Area	Curve numbers for hydrologic soils group			
		A	B	C	D
R-1 & R-2	40	63	76	84	88
R-3 & RT	45	66	78	85	89
R-4	60	75	84	89	91

805 STORMWATER INFILTRATION

A. Infiltration control measures should be designed to meet all criteria in the ODNR *Rainwater and Land Development Manual*.

B. All runoff directed into infiltration control measures must first flow through a pretreatment practice such as a grass channel or filter strip to remove coarser sediments that could cause a loss of infiltration capacity.

C. During construction, all runoff from disturbed areas of the site shall be diverted away from the proposed infiltration control measure site. No construction equipment shall be allowed within the infiltration control measure site to avoid soil compaction.

806 STORMWATER DETENTION

A. All site designs shall establish post-construction stormwater management practices to control peak flow rates of stormwater discharges associated with specific design storms and reduce the generation of stormwater.

B. When a proposed earth-disturbing activity is subject to Section 803 of this Manual, increased peak rates and volumes of runoffs shall be controlled such that:

1. The peak discharge rate of runoff from the critical storm and all more frequent storms occurring under post-development conditions shall not exceed the peak discharge rate of runoff from a one (1) year, 24-hour frequency storm occurring on the same development drainage area under pre-development conditions.
2. Storms of less frequent occurrence (more extended return periods) than the critical storms up to the 100-year, 24-hour storm have peak runoff discharge rates no more significant than the peak runoff rates from equivalent size storms under pre-development conditions. Consideration of the one (1), two (2), five (5), ten (10), twenty-five (25), fifty (50), and one-hundred (100) year storms shall be considered adequate in designing and developing the stormwater control measures to meet these standards.
3. The Critical Storm for each specific development drainage area shall be determined as follows:

    a. Using the Natural Resources Conservation Service (NRCS) TR-55 “Urban Hydrology for Small Watersheds” or TR-20 “Computer Program for project formulation hydrology”, or other appropriate and approved hydrologic simulation model along with rainfall data obtained from Huff & Angel “Rainfall Frequency Atlas of the Midwest”, to determine the total volume (acre-feet) of runoff from a one (1) year, 24-hour storm occurring on the development drainage area before and after development.

        1) Calculations shall include the lot coverage assumptions used for the full build-out of the proposed condition.
        2) Curve numbers for the pre-development condition must reflect the average type of land use over the past ten (10) years and not only the current land use.

3) Curve numbers for the post-development conditions shall be determined using the hydrologic soil group one level more severe than the pre-development hydrologic soil group using Natural Resource Conservation Service TR-55 as noted in Section 804.
4) An assumption of an impervious surface such as asphalt or concrete must be utilized for all parking areas or driveways, even if stone/gravel is to be utilized in construction.

b. From the volumes determined in a. above, the percent increase in the volume of runoff due to development shall be determined, and the twenty-four-hour critical storm shall be selected from Table 8.1:

Table 8.1 Critical Storm Selection

If the percentage of increase in volume of runoff is:		The critical storm will be:
Equal to or greater than:	Less than:	
--	10	1 year
10	20	2 year
20	50	5 year
50	100	10 year
100	250	25 year
250	500	50 year
500	--	100 year

C. It shall be strongly encouraged that off-site runoff from upstream areas is conveyed through the site in an underground sewer system.

1. The City Engineer must approve other methods of conveying off-site flows around the site.
2. If off-site runoff must be conveyed through a detention structure, measures must be taken to ensure that the structure shall discharge at the same rate in the future if off-site flows are diverted away from the site.

D. Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., no significant changes in the hydrological regime of the receiving water).

E. The calculated water quality volume shall apply towards the calculated detention volume; however, this shall be exclusive of reserve sediment accumulation capacities for water quality per section 806 and detention reserve capacity when the detention basin also functions as a sediment basin during construction.

807 WATER QUALITY REQUIREMENTS

A. When a proposed earth-disturbing activity is subject to Section 803 of this Manual, structural post-construction stormwater control measures shall be capable of capturing the Water Quality Volume (WQv) and draining over a prescribed number of hours.

B. Post-construction stormwater control measures chosen shall be able to detain stormwater runoff to protect the stream channels, stream erosion control, and improve water quality.

C. Structural post-construction stormwater treatment practices shall be incorporated into the permanent drainage system for the site.

D. Stormwater control measures shall be designed according to the methodology included in the ODNR *Rainwater and Land Development Manual* or standards accepted by the City Engineer.

E. Methods for controlling increases in the rate and volume of stormwater runoff may include, but are not limited to, the following:

1. Retarding flow velocities by increasing friction. (For example, using grass-lined road ditches, rather than paved street gutters where practical, and discharging roof water to vegetated areas or grass and rock-lined drainage channels.)
2. Grading and construction of terraces or diversions to slow runoff by diffusion, or use of grade control structures, such as check dams, provide a level of control in flow paths and/or existing drainage systems.
3. Induced infiltration of increased stormwater runoff into the soil where practical. (For example, constructing special infiltration areas where soils are suitable, retaining topsoil for all areas to be revegetated, or providing good infiltration areas with proper emergency overflow facilities.)
4. Provisions for detention and retention of stormwater pond designs must provide a minimum of one foot of freeboard.
5. Use of Low Impact Design methods such as Bioretention areas, bio-swales, and infiltration trenches.

F. The control measures chosen shall be sized to treat the WQv and ensure compliance with Ohio's Water Quality Standards in OAC Chapter 3745-1.

G. The WQv shall be equivalent to the volume of runoff from a 0.90-inch rainfall and shall be determined according to the following method:

1. Using the equation: $WQv = Rv * P * A/12$, where

   WQv = channel protection and water quality volume in acre-feet;
   Rv = the volumetric runoff coefficient calculated using the equation below
   P = 0.90 inch precipitation depth; and
   A = area draining into the control measure in acres.

2. Rv shall be calculated as: $Rv = 0.05 + 0.9i$, where

   i = the fraction of post-construction impervious surface

H. An additional volume equal to twenty (20) percent of the WQv shall be incorporated into the control measures for sediment storage and/or reduced infiltration capacity. This volume shall be incorporated into the sections of the stormwater control measure where pollutants shall accumulate.

I. Each SCM must be sized to treat the WQv associated with its entire contributing drainage area.

J. Control measures shall be designed such that the drain time is long enough to provide treatment but short enough to provide storage available for successive rainfall events as described by the Ohio EPA General Stormwater Permit.

K. Where the water quality orifice is calculated to be less than 2", other structural post-construction stormwater control measures should be considered for maintenance concerns. Water quality outlets shall not be less than 2" in diameter unless the long-term maintenance plan calls for frequent physical inspection and the orifice is physically accessible.

L. A permanent pool and an extended detention volume above the permanent pool, each sized equal to the WQv, shall be provided for wet extended detention basins.

M. Dry basins must include a forebay and a micropool, each sized at a minimum of 10% of the WQv.

N. Underground storage must have pretreatment for the removal of suspended sediments. This pretreatment shall concentrate the sediment at a location where it can be easily removed. Non-infiltrating, underground, extended detention systems pretreatment systems shall be 50% effective at capturing suspended solids. Pretreatment for infiltrating underground systems shall be 80% effective.

O. Construction activities shall be exempt from this condition if it can be demonstrated that the WQv is provided within an existing structural post-construction control measure that is part of a larger common plan of development or if structural post-construction control measures are addressed in a regional or local stormwater management plan.

808 STORMWATER MANAGEMENT ON REDEVELOPMENT PROJECTS

A. Stormwater Management Plans for redevelopment projects shall reduce the existing site's volumetric runoff coefficient (Rv) by at least 20 percent through impervious area reduction, and soil restoration or stormwater control measures shall be implemented to treat at least 20 percent of the WQv.

B. When a combination of reduction of Rv via impervious area reduction with soil restoration and WQv are used in combination, ensure a 20 percent net reduction.

C. Where projects are a combination of new development and redevelopment, the total water quality volume required to be treated shall be calculated using the following equation:

$$WQv = P * A * [(Rv * 0.2) + (Rv2 - Rv1)] / 12$$, where

P = 0.90 inches
A = area draining into the stormwater control in acres
Rv = volumetric runoff coefficient for redevelopment area conditions
Rv1 = volumetric runoff coefficient for existing conditions
Rv2 = volumetric runoff coefficient for proposed conditions

809 ALTERNATIVE ACTIONS

A. For sites two (2) acres or more, Ohio EPA approval shall be required for alternative methods. Ohio EPA approval shall be provided to the City before plan review and approval.

B. For sites less than two (2) acres, the City Engineer shall review alternative methods proposed for consideration. However, the City Engineer may defer such approval to the Ohio EPA.

C. When the City Engineer determines that site constraints compromise the intent of this regulation, off-site alternatives may be used that result in an improvement of water quality and a reduction of stormwater quantity. Such alternatives shall meet the following standards:

1. Obtain prior written approval from Ohio EPA.
2. Shall achieve the same level of stormwater quantity and quality control achieved by the on-site controls required under this regulation.
3. It is implemented in the same Hydrologic Unit Code (HUC) 12 watershed unit as the proposed development project.
4. The mitigation ratio of the water quality volume is 1.5 to 1 or the water quality volume at the point of retrofit, whichever is greater.
5. An inspection and maintenance agreement as described in Section 614 is established to ensure operations and treatment in perpetuity.

810 PRETREATMENT REQUIREMENTS

Following the most current edition of the *ODNR Rainwater and Land Development Manual* and Ohio EPA Guidance on water quality controls, pretreatment shall be required. As the City also requires stormwater detention, pretreatment requirements have been extended as noted in the following:

A. Wet Detention and Wet-Extended Detention

1. Forebays are recommended but shall be required for wet detention and wet-extended detention;

    a. at all inlets, if the ratio of the drainage area to static pool surface area is less than 6:1 and provided there is sufficient recharge to maintain the static water pool or
    b. at individual inlets, if the ratio of the flow path length to the pond width is less than 3:1 for a given inlet. However, the cumulative flow path to pond width ratio for all inlets must still be greater than 3:1

2. Micropools shall be required for wet-extended detention when the water quality orifice is less than four (4) square inches in area. The micropool shall be 4-6 feet deep and equal to 10% of the WQV. The inlet berm to the micropool shall be constructed to be 6 to 12 inches below the static pool elevation.

B. Dry Detention and Dry-Extended Detention

1. Forebays are required or alternative pretreatment methods approved by the Ohio EPA.

2. Micropools shall be required for dry-extended detention when the water quality orifice is less than four (4) square inches in area. The micropool shall be equal to 10% of the WQV.

C. Underground Stormwater Management System (USMS)

1. All catch basins connected to an underground detention basin shall have deep sumps according to Ohio EPA Deep Sump Trap or Catch Basin guidance. It is recommended that sumps equipped with weeps be utilized for draining accumulated post-storm event water.

2. All USMSs shall require pretreatment of varying levels as outlined below.

   a. Infiltrating USMS providing water quality shall utilize an Ohio EPA-approved pretreatment system certified to achieve 80% TSS removal.
   b. Extended Detention/Closed USMS providing water quality shall utilize an Ohio EPA approved pretreatment system certified to achieve 50% TSS removal.
   c. USMSs providing only detention shall be serviced by a stormwater separator device to capture and retain stormwater sediment, trash, and floatables before the USMS and facilitate maintenance. As an alternative, the pretreatment device may be eliminated, provided the entire underground system is designed to be accessible to personnel and equipment to remove accumulated debris and perform regular maintenance.

D. Bioretention

1. Sheet flows from paved areas shall use a gravel verge (a shallow stone-filled trench) at the edge of the pavement to dissipate energy and spread flow onto a grassed filter at least 10 feet long with 4:1 or flatter side slopes.
2. For concentrated flows into a bioretention, the discharge must pass through either a grass swale or a pretreatment forebay. The grass swale must be at least 20 ft in length with a discharge of 1 fps or less for the 1-year 24-hour storm event. The forebay(s) must be sized to capture at least 20% of the WQv. Concentrated flows into the grass swale or forebay shall have an apron stabilized with appropriately sized riprap/stone.

E. Other permanent stormwater control pretreatment requirements shall be addressed on a case-by-case basis. Please reference the most recent Ohio EPA guidance about the design requirements for the various permanent stormwater management systems and pretreatment methods.

811 RUNOFF REDUCTION PRACTICES

A. The size of structural post-construction practices used to capture and treat WQv can be reduced by utilizing runoff-reducing practices. The approach to calculating and document the runoff reduction is detailed in the *ODNR Rainwater and Land Development Manual* for the following practices:

- Impervious surface disconnection
- Rainwater harvesting
- Bioretention
- Infiltration basin/trench
- Permeable pavement with infiltration

- Underground storage with infiltration
- Grass swale
- Sheet flow to filter strip or conservation area

812 POST-CONSTRUCTION REQUIREMENTS FOR SMALL CONSTRUCTION ACTIVITIES

B. When a proposed earth-disturbing activity is subject to Section 803 of these regulations, the SMP shall describe the measures installed during the construction process to control pollutants in stormwater discharges that shall occur after construction operations have been completed.

C. Structural measures should be placed on upland soils to the highest degree attainable.

D. Such practices may include, but are not limited to, stormwater detention structures (including wet basins), stormwater retention structures, flow attenuation by use of open vegetated swales and natural depressions, infiltration of runoff onsite and sequential systems (which combine several practices).

E. The SMP shall explain the technical basis used to select the practices to control pollution where flows exceed pre-development levels.

F. A permittee is required to prove that a detention/retention structure is either infeasible or ineffective before the City Engineer shall approve an alternative stormwater control measure.

G. Design methods for stormwater detention and water quality requirements shall be consistent with large construction activities.

H. Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel to provide non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., no significant changes in the hydrological regime of the receiving water).

813 MAINTENANCE

A. The SMP shall be designed to minimize maintenance requirements.

B. A description of maintenance procedures needed to ensure the continued performance of control practices shall be provided as part of the SMP, complying with this manual's provisions.

814 STORMWATER MANAGEMENT EASEMENTS

A. Access shall be ensured to all permanent stormwater control measures at a site for free flow of stormwater and future administration, inspection, maintenance, repair, and replacement by securing all the permanent stormwater easements needed as required by this Manual.

B. Stormwater management easements shall be provided by the operator/owner for all waterways and stormwater control measures, outside dedicated public road right-of-ways, as required for:

1. Access for facility inspections and maintenance
2. Future repair and replacement, or

3. Preservation of stormwater control measures, conveyance, infiltration, and detention areas, including flood routes for the 100-year storm event.

C. Those lots crossed by an easement shall be restricted against the planting within said easement of trees, shrubbery, or plantings with woody growth characteristics, and against the construction therein of buildings, accessories buildings, fences, walls, or any other obstructions to the free flow of stormwater and the movement of inspectors and maintenance equipment and shall also be restricted against the changing of final grade from that described by the grading plan.

D. Construction of such plantings, structures, or changes of grade constitutes a violation of this Manual and is subject to the enforcement actions and penalties of this Manual.

E. Removal of such plantings, structures, or grade changes by the City shall be at the property owner's expense.

F. The purpose and physical characteristics of an easement shall be specified by the owner/operator as part of the SMP and approved by the City Engineer. The easements shall be recorded with all plans in the name of the City and shall remain in effect even with transfer of title through an operation and maintenance agreement, according to this Manual.

815 COMPLIANCE WITH OTHER REQUIREMENTS

The SMP shall be consistent with applicable State and/or local waste disposal, sanitary sewer or septic system regulations, including provisions prohibiting waste disposal by open burning and shall provide for the proper disposal of contaminated soils to the extent these are located within the permitted area.

SECTION 9

OPERATION AND MAINTENANCE OF STORMWATER CONTROL MEASURES

901 PROPER OPERATION AND MAINTENANCE

A. All temporary and permanent control practices shall be maintained and repaired as needed to ensure continued performance of their intended function, according to this Manual.

B. All sediment control practices shall be maintained in a functional condition until all up-slope areas they control are permanently stabilized.

C. The permittee shall at all times properly operate and maintain all control measures and systems of stormwater management (and related appurtenances) installed or used by the permittee to comply with the SMP conditions.

D. Proper operation and maintenance are required to operate control measures or similar systems installed by a permittee to comply with the SMP conditions.

E. An SMP should be designed to minimize maintenance requirements.

F. Failure to maintain temporary and/or permanent improvements may result in enforcement action and penalties according to this Manual.

G. As part of an SMP, the applicant shall describe maintenance procedures needed to ensure the continued performance of control practices outlined in the SMP.

902 CONTROL PRACTICE INSPECTION DURING CONSTRUCTION

A. Inspections by the City Engineer or his authorized agents may be conducted to ensure that the control practices are functional, evaluate whether the SMP is adequate and properly implemented according to the schedule proposed, determine the plan's overall effectiveness, and determine the need for additional control measures.

1. Erosion and sediment control measures identified in the SMP may be observed to ensure they are operating correctly.
2. Disturbed areas and areas used to store materials exposed to precipitation may be inspected for evidence of or the potential for pollutants entering the storm drainage system.
3. Discharge locations may be inspected to ascertain whether erosion and sediment control measures effectively prevent significant impacts to the receiving waters.
4. Locations, where vehicles enter or exit the site shall be inspected for evidence of off-site vehicle tracking.

B. If an inspection reveals that a control practice requires repair or maintenance, it must be repaired or maintained by the date specified by the City Engineer.

C. Suppose inspection reveals that a control practice fails to perform its intended function and that another, more appropriate control practice is required. In that case, the SMP must be amended

according to this Manual, and the new control practice must be installed by the date specified by the City Engineer.

D. Suppose inspection reveals that a control measure has not been implemented in accordance with the schedule contained in the SMP. In that case, the control practice must be implemented by the date specified by the City Engineer. Suppose the inspection reveals that the planned control practice is not needed. In that case, the permittee must submit to the City Engineer a statement of explanation as to why the control practice is not needed within ten (10) days from the inspection date.

903 POST-CONSTRUCTION INSPECTION AND MAINTENANCE

A. Post-construction inspection and maintenance are required for all stormwater management practices to ensure the system functions as designed.

B. An agreement shall be recorded with the deed of the property and any subsequent split(s) of the property.

C. When a facility is not operating as designed or altered from its original design, it is the property owner of record responsible for bringing the facility into conformance with its design standards.

D. Such inspection and maintenance is required as follows:

1. The person or entity (e.g., property owner, homeowner's association) responsible for long-term maintenance, including repairs as necessary for the control measures, is the property owner of record.
2. Periodic and routine owner maintenance is required to maintain the performance of each practice and easement.
3. Annual owner inspections to ensure proper performance of each practice between scheduled maintenance is required. Inspections are required to be submitted to the City Engineer by January 31st of each year.
4. A periodic professional inspection by a professional engineer familiar with stormwater control measures and practices once every five (5) years
5. The person or entity responsible for the operation and maintenance of a stormwater management facility shall record the installation, all maintenance, and repairs. Records shall be maintained for at least ten (10) years. Each year's logs shall be included with the owner's annual inspection report to the City Engineer.
6. Unauthorized alteration to any control measure, easement, drainage system, or watercourse is prohibited without prior written approval from the City Engineer.
7. The City Engineer or authorized agent shall be granted access to all stormwater control measures at reasonable times for inspections to document the control measures condition and ensure its originally designed function according to the provisions of this Manual.

E. Stormwater control measures must undergo, at the minimum;

1. Regular maintenance removal of silt, litter, and other debris from all catch basins, inlets, and drainage pipes, grass cutting and vegetation removal, and necessary replacement of landscape vegetation, etc., per the designed maintenance plan.
2. An annual owner inspection to document maintenance and repair needs and ensure compliance with this manual's requirements and its purposes.
3. A professional inspection once every five years by an engineer familiar with stormwater control measures and practices shall certify the control measure is in good repair and functioning as designed.

F. Any maintenance needs found must be addressed promptly, and the inspection and maintenance requirements should be increased as necessary to ensure the proper functioning of the stormwater management facility.

G. Operation and maintenance records shall be made available to the City during inspection of the facility and at other reasonable times upon request.

H. The City may, at any time in writing, require a time frame in which to address any maintenance needs of a stormwater management facility and/or an increase to inspection and maintenance requirements.

904 MAINTENANCE WITHIN PUBLIC RIGHT-OF-WAY

The City may accept responsibility of a permanent stormwater management practice for maintenance, if requested by an owner or operator of a site, provided such facility:

A. It is located within a public right-of-way;

B. The control is exclusively Public

C. Meets all the requirements of this Manual; and

D. Includes adequate and perpetual access and sufficient area for inspection and regular maintenance

905 SHARED AND REGIONAL CONTROLS

Permeant stormwater controls that are shared or provide functionality to regional areas shall be required to meet the following requirements:

A. The City shall only be considered a Stakeholder when the control(s) and conveyances are exclusively public.

B. When possible, the control shall be maintained on a lot owned by the group or association whom will be responsible for the long-term maintenance, inspection and reporting for the control and related stormwater system.

C. An operating and reciprocal easement agreement shall be provided by the owners that includes the minimum of the following;

1. The agreement defines the owners and provides a legal description of the properties and controls,

2. Grants each Owner an easement upon, under, over, above and across the parcels for the discharge, drainage, conveyance, use, detention and retention of stormwater from the site,

3. Provides the right to construct, connect to, maintain, repair, and replace stormwater collection, retention, detention, and distribution lines, conduits, pipes, and other apparatus,

4. Defines each Owner's responsibility in the maintenance and inspection of the stormwater system and its components including a primary contact,

5. Establishes how costs related to the inspection, maintenance, and repair shall be disseminated between the owners,

6. The agreement shall run with the land transferring upon sale or further subdivision.

D. For existing shared or regional controls that do not have an operating and reciprocal easement agreement in place between the owners;

1. The parcel owner(s) on which the permanent stormwater control(s) are located shall be the primary responsible party to ensure maintenance, inspection and repairs are undertaken on the permeant control(s).

2. Other than the shared permeant stormwater control(s), each property owner shall be responsible individually for the inspection, maintenance and repair of the stormwater pipes, inlets, outlets and other stormwater structures located on their property.

3. The costs related to the maintenance, inspection and repairs of the permeant stormwater control(s) shall be prorated between the contributing parcel owners based upon each parcels acreage.

4. Parcels that have installed their own stormwater controls that address both detention and water quality can be exempted from a shared or regional control on a case by case basis as determined by the City Engineer.

5. An operating and reciprocal easement agreement is strongly recommended between the owners.

SECTION 10

PROTECTION OF WATERCOURSES AND WETLANDS

1001 GENERAL

A. The following practices shall be implemented to protect the system of rivers, streams, and other natural watercourses within the City of Wooster contributes to the health, safety, and general welfare of the residents of the City of Wooster. The specific purpose and intent of this section are to regulate uses and developments within riparian setbacks that would impair the ability of riparian areas to:

1. Reduce flood impacts by absorbing peak flows, slowing the velocity of floodwaters, and regulating base flow.
2. Assist in stabilizing the banks of watercourses to reduce woody debris from fallen or damaged trees, streambank erosion, and the downstream transport of sediments eroded from watercourse banks.
3. Reduce pollutants in watercourses during high flows by filtering, settling, and transforming pollutants already present in watercourses.
4. Reduce pollutants in watercourses by filtering, settling, and transforming pollutants in runoff before they enter watercourses.
5. Provide watercourse habitats with shade and food.
6. Reduce the presence of aquatic nuisance species to maintain a diverse aquatic system.
7. Provide habitat to a wide array of wildlife by maintaining diverse and connected riparian vegetation.
8. Benefit the City of Wooster by minimizing encroachment on watercourse channels and the need for costly engineering solutions such as gabion baskets and rip rap to protect structures and reduce property damage and threats to the safety of watershed residents; and by contributing to the scenic beauty and environment of the City of Wooster, and thereby preserving the character of the City of Wooster, the quality of life of the residents of the City of Wooster, and corresponding property values.

1002 APPLICABILITY & COMPLIANCE

A. This section shall apply to all zoning districts.

B. This section shall apply to all structures and uses on lands containing a designated watercourse as defined in this manual, except as provided herein.

1003 DESIGNATED WATERCOURSES AND RIPARIAN SETBACKS

A. Designated watercourses shall include those ephemeral, intermittent and perennial watercourses meeting any one of the following criteria as determined by the City Engineer:

1. All watercourses having a defined FEMA floodway or floodplain, or
2. All watercourses having a defined drainage way or channel bed and bank

B. Riparian setbacks on designated watercourses shall combine two overlapping areas, one a streamway and the other based on a minimum distance from the channel bank.

1. The streamway size appropriate to accommodate the meander belt is:

   Streamway width (in feet) = 147 (Upstream Drainage Area in square miles) $^{0.38}$

2. At no point shall the distance between the setback boundary and the ordinary high water mark be less than:

   Minimum distance (in feet) = 14.7 (Upstream Drainage Area in square miles) $^{0.38}$

C. An additional 10 feet shall be included on both sides of the buffer outer limits.

D. Section 1003(A) and 1003(B) shall be evaluated by the City Engineer on a per-project basis when reviewing a permit application involving earth-disturbing activities.

E. The following conditions shall apply in riparian setbacks:

1. Riparian setbacks shall be measured in a horizontal direction outward from the channel's centerline for the streamway and the ordinary high water mark for the minimum setback distance of each designated watercourse.
2. Except as otherwise provided in this Manual, riparian setbacks shall be preserved in their natural state.
3. FEMA shall define the floodway. Where the floodway is more expansive than a minimum riparian setback on either or both sides of a designated watercourse, the minimum riparian setback shall be extended to the outer edge of the floodway. Suppose a FEMA-defined floodway does not exist for a designated watercourse. In that case, the City of Wooster may require a site-specific floodplain delineation in conformance with standard engineering practices and approved by the City of Wooster.
4. Where a wetland is identified within a minimum riparian setback, the minimum riparian setback width shall be extended to the outermost boundary of the wetland. In addition, wetlands within riparian setbacks shall be protected to the extent detailed in Section 1004.

1004 DESIGNATED WETLANDS AND RIPARIAN SETBACKS

A. Wetlands shall be delineated through a site survey prepared by a qualified wetlands professional using delineation protocols accepted by the U.S. Army Corps of Engineers when an application is made under this Manual.

B. Riparian setbacks for wetlands shall be established based upon the Ohio EPA wetland category as follows:

1. A minimum of 120 feet surrounding all Ohio EPA Category 3 wetlands.
2. A minimum of 75 feet surrounding all Ohio EPA Category 2 wetlands.
3. A minimum of 25 feet surrounding all Ohio EPA Category 1 wetlands.

1005 APPLICATIONS AND SITE PLANS

A. The applicant shall be responsible for delineating riparian setbacks, as required by this Manual, and shall identify such setbacks on a site plan included with all subdivision plans, land development plans, and/or zoning permit applications submitted to the City of Wooster.

B. Suppose soil disturbing activities will occur within 50 feet of the boundary of the applicable riparian setback as specified in this Manual. In that case, the riparian setback shall be identified by the applicant on-site with construction fencing as shown on the site plan. Such identification shall be completed before initiating any soil-disturbing activities and shall be maintained throughout soil-disturbing activities.

C. Any project that has delineated wetlands onsite or located on adjoining property for which the site's watershed contributes shall include in the stormwater maintenance plan regular inspection by a qualified individual to ensure the continuation of the wetlands and compliance with the Ohio EPA Antidegradation Rule.

1006 USES PERMITTED IN RIPARIAN SETBACKS

A. By Right Uses Without a Permit. Open space uses that are passive shall be permitted in riparian setbacks, including, but not limited to, those listed in this Manual. No use permitted under this Manual shall be construed as allowing trespass on privately held lands.

1. Recreational activity, hiking, fishing, hunting, picnicking, and similar passive recreational uses, as permitted by federal, state, and local laws;
2. Removal of damaged or diseased trees; and
3. Revegetation and/or reforestation with native, non-invasive plant species.

B. By Conditional Use Permit Granted by the City of Wooster: When granting Conditional Use Permits for the following uses, the City of Wooster may, for a good cause, attach such conditions as it deems appropriate. Permits issued under this regulation are issued to the applicant only, shall not be transferred, and shall be void if not implemented within one (1) year of issuance.

1. Crossings: Crossings of designated watercourses through riparian setbacks with roads, driveways, easements, bridges, culverts, utility service lines, or other means may be permitted, provided such crossings minimize disturbance in riparian setbacks and mitigate any necessary disturbances. Such crossings shall only be undertaken upon approval of a Crossing Plan by the City Engineer.
2. Streambank Stabilization Projects: Streambank stabilization projects along designated watercourses may be allowed, provided that such measures are ecologically compatible and substantially utilize natural materials and native plant species to the maximum extent practicable. Such streambank stabilization measures shall only be undertaken upon approval of a Streambank Stabilization Plan by the City Engineer.
3. Landscaping: The removal of natural vegetation within a riparian setback and the subsequent cultivation of lawns, landscaping, shrubbery, or trees may be allowed provided that such cultivation is done in conformance with a Professional Landscaping Plan approved by the Planning and Zoning. Landscaping Plans shall meet the following criteria:

a. Maintain trees in the riparian setback larger than nine (9) inches in caliper (diameter) as measured fifty-four inches above the ground to the maximum extent practicable.
b. Maintain trees, shrubbery, and other non-lawn, woody vegetation in the riparian setback to the maximum extent practicable.
c. Native, noninvasive plant species are selected that are conducive to the natural riparian area.
d. The landscaping plans are developed by a qualified professional knowledgeable of riparian or wetland restoration and preservation.

C. If work occurs below the ordinary high water mark of the designated watercourse, proof of compliance with the applicable conditions of a US Army Corps of Engineers Section 404 Permit (either a Nationwide Permit, including the Ohio State Certification Special Conditions and Limitations, or an Individual Permit, including Ohio 401 water quality certification), shall also be provided to the City Engineer.

1007 USES PROHIBITED IN RIPARIAN SETBACKS

Any use not authorized under this Manual shall be prohibited in riparian setbacks. By way of example, the following uses are expressly prohibited; however, prohibited uses are not limited to those examples listed here:

A. Construction. There shall be no buildings or structures of any kind.

B. Dredging or Dumping. There shall be no drilling, filling, dredging, or dumping of soil, spoils, liquid, or solid materials, except for noncommercial composting of uncontaminated natural materials except as permitted under this Manual.

C. Staging: There shall be no staging or stockpiling of natural or man-made materials.

D. Fences and Walls: There shall be no fences or walls, except as permitted under this Manual.

E. Roads or Driveways. There shall be no roads or driveways, except as permitted under this Manual.

F. Disturbance of Natural Vegetation: There shall be no disturbance of natural vegetation within riparian setbacks except for the following:

1. Maintenance of lawns, landscaping, shrubbery, or trees existing at the time of passage of this Manual;
2. Cultivation of lawns, landscaping, shrubbery, or trees following an approved Landscaping Plan submitted in conformance with this Manual; and
3. Conservation measures designed to remove damaged or diseased trees or to control noxious weeds or invasive species.

G. Parking Spaces or Lots and Loading/Unloading Spaces for Vehicles: There shall be no parking spaces, parking lots, or loading/unloading spaces.

H. New Surface and/or Subsurface Sewage Disposal or Treatment Areas. Riparian setbacks shall not be used to dispose or treat sewage, except as necessary to repair or replace an existing home sewage disposal system and following recommendations of the Wayne County Health Department.

1008 NON-CONFORMING STRUCTURES OR USES IN RIPARIAN SETBACKS

A. A non-conforming use, existing at the time of adopting this Manual and within a riparian setback, that is not permitted under this regulation may be continued but shall not be changed or enlarged unless changed to use permitted under this regulation.

B. A nonconforming structure, existing at the time of adopting this Manual and within a riparian setback, that is not permitted under this Manual may be continued but shall not have the existing building footprint or roofline expanded or enlarged.

C. A nonconforming structure or use, existing when adopting this Manual and within a riparian setback, has substantial damage and is discontinued, terminated, or abandoned for six (6) months or more may not be revived, restored, or re-established.

1009 PROCEDURES FOR RIPARIAN SETBACKS VARIANCES & APPEALS

Any applicant seeking a variance to the conditions imposed under this regulation or an appeal to an administrative decision made under this Manual may apply to or appeal to the Board of Planning and Zoning Appeals according to their standard procedures.

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SECTION 11

PROHIBITED DISCHARGES

1101 PROHIBITED DISCHARGES

A. The following practices shall be implemented to control discharges prohibited by Chapter 925.07 of the City of Wooster Codified Ordinances:

1. An appropriately sized and covered dumpster shall be made available at construction sites to dispose of construction site waste materials adequately, garbage, plaster, drywall, grout, gypsum, etc.
2. The washing of excess concrete material into a street, catch basin, or another public facility or natural resource is prohibited.
3. All fuel tanks and drums shall be stored in a marked storage area.
4. A dike shall be constructed around a fuel storage area with a minimum capacity equal to 110% of the most significant container volume in the storage area. As an alternative, double-walled tanks can be utilized.
5. If the fuel tanks have a self-contained "dike," the plug shall be kept in the "dike" tank at all times.
6. Any toxic, hazardous, infectious, or radioactive materials shall be disposed of properly.
7. Runoff from sites storing or processing toxic material, hazardous substance, hazardous waste, infectious waste, radioactive waste, or contaminated soils shall not leave the site.
8. Proper permits shall be obtained from the governing agency for earth-disturbing activity on solid waste landfill sites.
9. Measures shall be taken to prevent soil transport onto public roads or surfaces where sediment controls do not check runoff. Gravel construction entrance(s) shall be implemented as required by the City engineering construction standards.
10. At construction sites, where the soil is transported onto a public road surface, the roads shall be cleaned thoroughly at the end of each day or more frequently to ensure public safety.
11. Soil shall be removed from paved surfaces by shoveling and/or sweeping.
12. Street washing shall be allowed only after shoveling or sweeping has removed most of the sediment.
13. Practices shall be adopted to minimize the exposure of hazardous, infectious, or radioactive materials to stormwater runoff by locating these materials inside or protecting them in storm-resistant covering. When material containers are located within the flood plain, the containers shall be watertight, floodproofed, and firmly anchored.
14. Practices shall also be adopted to prevent runoff from sites by using grading, berming, or curbing. When located within the 100-year floodplain, a certification by a registered professional engineer shall be obtained that the hazardous, infectious, or radioactive materials shall be protected from coming into contact with a 100-year flood by dikes, earthen berms, or other comparable structures.

B. Every person owning property through which a watercourse passes shall maintain that part of the watercourse within their property per Chapter 925.07 of the City of Wooster Codified Ordinances. The final interpretation is at the discretion of the City Engineer.

C. Natural riparian vegetation associated with ephemeral, intermittent, or perennial streams is not eliminated or reduced.

D. Altering and/or filling a watercourse is prohibited without obtaining an Engineering Development Permit according to the provisions of this Manual.

E. A person, owner, lessees and/or designated agent shall maintain existing privately owned structures within or adjacent to a watercourse so that such structures shall not become a hazard to the watercourse's use, function, or physical integrity.

F. Vehicles shall avoid watercourses, including but not limited to wetlands, riparian areas, and their setbacks including, but is not limited to, construction vehicles and recreational vehicles. Written approval is required by the City Engineer if vehicles must enter and/or cross these areas repeatedly. And, in such cases, all efforts should be taken to minimize the impact of the vehicle on the resource.

G. No soil, rock, or debris shall be dumped, placed, or disposed of in or upon the banks of a watercourse or into such proximity that it may slough, slip, or erode into a water resource.

1. Such dumping or placing is allowable only if authorized by the City Engineer and, when applicable, the US Army Corps of Engineers and Ohio EPA.
2. The use/reuse of material (including, but not limited to rock, crushed and/or broken concrete and/or limestone) may be used for protection/stabilization of the Water of the State when approved by the City Engineer and designed and installed following the most current edition of ODNR *Rainwater and Land Development Manual*, current ODOT construction and material specification, US Army Corps of Engineers 404 permit requirements or other manual or specification approved by the City Engineer.

1102 ENFORCEMENT

Failure to comply with any requirement of Subsection 1101 of this Manual shall be subject to enforcement under Section 13 of this Manual and Section 925.10 of the City of Wooster Codified Ordinances.

SECTION 12

ILLICIT DISCHARGE

1201 OVERVIEW

The Illicit Discharge Elimination (IDE) Program aims to develop, implement, and enforce a policy to detect and eliminate illicit discharges into the Waters of the State. Illicit discharges are any releases of water that are not entirely composed of stormwater. Sources of illicit discharges include but are not limited to sanitary wastewater, septic tank effluent, car wash, and laundry wastewaters, spills from roadway accidents, and improper disposal of auto and household toxins.

1202 ILLICIT DISCHARGES

A. Discharging material(s) other than stormwater into the MS4 is prohibited by Chapter 925.06 - Prohibited Discharges of the City of Wooster Codified Ordinances, except as described by the following:

1. Discharges specified in writing by the City Engineer as being necessary to protect public health and safety are allowable;
2. Dye testing is an allowable discharge but requires a verbal notification to the City Engineer before the time of the test;
3. Discharges from off-lot discharging home sewage treatment systems permitted by the Wayne County Health Department to discharge treated sewage effluent following Ohio Administrative Code 3701-29-12(6) until the Ohio Environmental Protection Agency issues an NPDES permitting mechanism for residential 1, 2, or 3 family dwellings, unless such discharges are deemed to be creating a public health nuisance by the Wayne County Health Department or the City Engineer.
4. The prohibition shall not apply to any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the City or the Ohio EPA. The discharger shall comply with all permits, waivers, orders, and other applicable laws and regulations.

B. The following discharges are exempt from discharge prohibitions established by this Manual unless the City Engineer identifies them as being significant contributors of pollutants to the MS4:

1. water line flushing or other potable water discharges
2. landscape irrigation or lawn watering
3. diverted stream flows
4. rising groundwater
5. uncontaminated groundwater infiltration as defined at 40 CFR §35.2005(20)
6. uncontaminated pumped groundwater (exclusive of dewatering activities)
7. foundation or footing drains
8. water from crawl space pumps
9. air conditioning condensation
10. natural springs
11. non-commercial washing of vehicles

12. natural riparian habitat or wet-land flows
13. swimming pools dechlorinated to less than one PPM chlorine
14. Flows from firefighting activities

C. Although the above discharges are not classified as illicit, the impact of such discharges may be considered nuisances if they adversely affect open watercourses and/or adjacent properties. According to this Manual, the City Engineer has the authority to implement enforcement actions and penalties against such nuisances.

1203 ILLICIT CONNECTIONS

Illicit connections to the MS4 are prohibited by Chapter 925.06 - Prohibited Discharges of the City of Wooster Codified Ordinances.

1204 REPORTING ILLICIT DISCHARGES

A. Reporting illicit discharge or suspected illicit discharge is required by Chapter 925.07 - Prohibited Discharges of the City of Wooster Codified Ordinances.

B. Reports may be made anonymously.

C. Reports of suspected illicit discharges shall be directed to the City Engineer in person, by phone, or by facsimile as soon as possible. Reports can be mailed or faxed to Engineering at:

City of Wooster
Engineering Division
538 N. Market Street
Wooster, Ohio 44691
Phone: 330-263-5251
Fax: (330) 263-5283

D. The Wayne County, Emergency Management Agency, is the responsible authority for responding to hazardous material discharges. Reports of suspected hazardous waste discharges should be directed to:

Wayne County Emergency Management Agency
201 West North Street
Wooster, Ohio 44691
Phone: 330-262-9817
24-hour: 330-287-5700

1205 FACILITY OR OPERATION SPILLS

A. Reporting facility or operation spills as required by Chapter 925.09 - Facility or Operation Spills of the City of Wooster Codified Ordinances.

B. Notifications to the City Engineer must be in person or by phone or facsimile no later than the next business day if a release of non-hazardous materials is released. Notifications in person or by phone

shall be confirmed by written notice addressed and mailed to the City Engineer within three (3) business days of the phone notice. Written notice shall include:

1. name of facility or operation
2. the facility's owner or operator name and contact information
3. the nature of the discharge
4. details of the discovery, containment, and cleanup of the release
5. actions are taken to prevent a recurrence
6. a signature according to the signatory requirements of this Manual

C. If an on-site written record is required by Chapter 925.09 - Facility or Operation Spills of the City of Wooster Codified Ordinances, such records shall be retained for at least three (3) years.

1206 Illicit Discharge Detection and Elimination (IDDE) PLAN

The City shall implement an IDDE plan as part of its stormwater management strategy to address six (6) different areas:

A. Review: the City MS4 shall be continually reviewed for potential sources of illicit connections and discharge. The review process shall focus on areas including but not limited to:

1. GIS information and survey data review to accurately update and represent the MS4 system
2. HSTS mapping and inspection (inspection fall under the responsibility of Wayne County Environmental Health Department)
3. Outfall inventory and dry-weather screenings
4. Permeant stormwater control measure (SCM) inventory and inspections
5. Smoke testing and follow-up of stormwater and sanitary systems
6. Inlet inspections and cleaning noting possible illicit discharge

B. Inspection: critical features of the MS4 system shall be inspected

C. Detection: identify potential issues and impacts on the MS4

D. Analysis: a review of the findings to establish illicit connections

E. Enforcement: take action to remove the potential source and resolve the issue

F. Evaluation: annually review the IDDE plan and make changes to optimize IDDE efforts.

1207 ENFORCEMENT

An actual or threatened illicit discharge to the MS4 or other Waters of the State through illicit connection or otherwise that violates or would violate this Manual shall be subject to the enforcement actions and penalties according to this Manual.

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SECTION 13

INSPECTION, ENFORCEMENT ACTION AND PENALTIES

1301 GENERAL

A. If a violation of any part of this Manual exists, enforcement actions and penalties may be initiated by the City following the previsions of this Manual.

B. All permitted earth-disturbing activities may be subject to site inspection and monitoring by the City Engineer or his designated agents to determine and record compliance with this Manual.

C. All improvements shall be constructed in conformity with the approved permit and/or SMP.

1302 POWERS AND AUTHORITY OF INSPECTORS

A. The City Engineer and other duly authorized employees of the City bearing proper credentials and identification shall be permitted to enter all properties for inspection, observation, measurement, sampling, testing, reviewing, and copying records following the provisions of this Manual.

B. While performing the necessary work on private properties as referred to in Part A., the City Engineer or duly authorized employees of the City shall observe all safety rules applicable to the premises established by the company and the company shall be held harmless for injury or death to the City employees and the City shall indemnify the company against loss or damage to its property by City employees and against liability claims and demands for personal injury or property damage asserted against the company and growing out of the gauging and sampling operation, except as such may be caused by negligence or failure of the company to maintain safe conditions.

C. The City Engineer and other duly authorized employees of the City bearing proper credentials and identification shall be permitted to enter all private properties through which the City holds an easement for, but not limited to, inspection, observation, measurement and sampling of any portion of a drainage or stormwater management facility lying within such easement.

1303 ACCESS AND INSPECTION

A. The City shall have the right to set up at sites and/or facilities subject to this Manual such devices as the City determines necessary to conduct monitoring and/or sampling of a site and/or facility's stormwater discharge.

B. The City shall have the right to require a site and/or facility owner or operator to install stormwater discharge monitoring equipment as necessary. This sampling and monitoring equipments shall be maintained at all times in safe and proper operating condition by the site and/or facility owner or operator at the owner or operator's expense. All devices used to measure stormwater flow, and quality shall be calibrated to ensure their accuracy.

C. Any temporary or permanent obstruction to safe and reasonable access to the facility to be inspected and/or sampled shall be promptly removed by the site and/or the facility's owner or operator

at the written or oral request of the City and shall not be replaced. The costs of clearing such access shall be borne by the site and/or facility owner or operator.

D. Unreasonable delays in allowing the City access to a site and/or facility subject to this Manual are subject to enforcement actions and penalties of this Manual.

1304 NOTICE OF NON-COMPLIANCE

A. Whenever the City Engineer finds that a person has violated a prohibition or failed to meet a requirement of this Manual, the City Engineer may serve or cause to be served upon such person, a written Notice of Non-Compliance either personally or by email, certified or registered mail, return receipt requested, stating the nature of the alleged violation.

B. Such Notice may order compliance to this Manual within the time established by the City Engineer in the Notice, by requiring without limitation:

1. The performance of monitoring, analyses, and reporting;
2. The elimination of illicit connections or discharges;
3. That violating discharges, practices, or operations shall desist;
4. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property; or
5. The implementation of source control or treatment control measures.

1305 NOTICE OF VIOLATION

A. Whenever the City Engineer finds that a person is resulting in a direct discharge, has failed to comply with a Notice of Non-Compliance, or has repeatedly been issued a Notice of Non-Compliance for the same issue, a Notice of Violation shall be issued.

B. Such Notice may order compliance to this Manual within the time established by the City Engineer in the Notice, by requiring without limitation:

1. Immediate elimination of illicit connections or discharges
2. Resolution of open items of Non-Compliance

C. Within three (3) business days of the date of receipt of the Notice, the violator shall respond personally or in writing to the City, advising of its position concerning the allegations and any compliance requirements.

D. Thereafter, the parties shall meet at an Administrative Adjustment to ascertain the veracity of the allegations and where necessary, establish a plan for the satisfactory correction thereof.

E. A Notice of Violation shall include a $250.00 administrative fee and may also be issued in conjunction with a Stop Work Order and punitive fines following is Manual.

1306 STOP WORK ORDER

A. The City Engineer may issue an immediate Stop Work Order if the violator failed to obtain any federal, state, or local permit necessary for sediment and erosion control, earth movement, clearing, or cut and fill activity.

B. The City Engineer may issue a Stop Work Order when issuing a Notice of Violation if the violator

1. Is resulting in a discharge or illicit connection;
2. Has failed to respond to a Notice of Non-Compliance; or
3. Repeatedly has been issued a Notice of Non-Compliance for a violation.

C. No Stop Work Order shall be issued under this Manual against any public highway, transportation, or drainage improvement or maintenance project undertaken by a government agency or political subdivision following a statement of its standard sediment control policies that the City Engineer approves.

1307 EMERGENCY STORMWATER SUSPENSION

A. The City may, without prior notice, suspend Municipal Separate Stormwater System (MS4) access to a person when it appears to the City that such suspension is necessary to stop an actual or threatened discharge that presents or threatens an imminent or substantial danger to the environment, or the health or welfare of persons, or to the Municipal Stormwater System or Waters of the State.

B. Any person notified of the suspension of the MS4 access shall, within a reasonable period, as determined by the City, cease all discharges.

C. In the event of failure of the discharger to comply voluntarily with the suspension order, the City shall commence judicial proceedings immediately after that to compel the discharger's compliance with such order.

D. The City shall reinstate MS4 access and terminate the aforementioned judicial proceedings pending proof by the discharger of eliminating the noncomplying discharge or conditions creating the threat of imminent or substantial danger.

E. The City reserves the right to require pretreatment of a discharge.

1308 SHOW CAUSE HEARING

A. The City may order any person who causes or allows conduct prohibited by the Notice to show cause before the City or its duly authorized representative, why the proposed MS4 access termination should not be taken, when:

1. A person fails to respond to the City within fourteen (14) days of the date of receipt of a Notice of Violation;
2. A plan cannot be established for correction at an Administrative Adjustment; or
3. The violation is not corrected by timely compliance with the plan established at the Administrative Adjustment.

B. A written notice shall be served on the violator by personal service, certified or registered mail, return receipt requested specifying:

1. The time and place of the hearing to be held by the City or its designee regarding the violation;
2. The reason why the enforcement action is to be taken;
3. The proposed enforcement action; and
4. Directing such person to show cause before the City or its designee why the proposed enforcement action should not be taken.

C. The notice of the hearing shall be served no less than ten (10) days before the hearing.

D. Service may be made on any agent, officer, or authorized representative of the violator.

E. The proceedings at the hearing shall be considered by the City, which shall then enter appropriate orders concerning the alleged improper activities of the violator.

F. The violator may take appeal of such orders following O.R.C. Chapter 2506.

1309 JUDICIAL PROCEEDINGS

Following the entry of any order by the City concerning the conduct of a person contrary to the provisions of this Manual, the Director of Administration for the City may, following the authorization of such action by the City, commence an action for appropriate legal and/or equitable relief in the Court of Common Pleas.

1310 RIGHT OF APPEAL

A. Any person in violation of this Manual or any interested party shall have the right to request in writing an interpretation or ruling by the City on any matter covered by this Manual and shall be entitled to a prompt written reply.

B. Suppose such inquiry is by a violator and deals with performance or compliance with this manual. In that case, receipt of a violator's request shall stay all enforcement proceedings pending receipt of the aforesaid written reply.

C. Appeal to any final judicial order issued according to this Manual may be taken following O.R.C. Chapter 2506.

1311 RECOVERY OF COSTS INCURRED BY THE CITY

A. Any person violating any of the provisions of this Manual or who discharges or causes a non-stormwater discharge or obstruction or causes damage to or impairs the City's MS4 shall be liable to the City for any expense, loss, or damage caused by such violation or discharge.

B. The City shall bill such person for the costs incurred by the City for any cleaning, repair, or replacement work caused by the violation or discharge.

C. The City may seek to recover all attorneys' fees, court costs, and other expenses associated with the enforcement of this Manual, including but not limited to sampling and monitoring expenses.

D. Refusal to pay the assessed costs shall constitute a violation of this Manual, enforceable under the provisions of the Manual.

1312 ADMINISTRATIVE PENALTIES

A. The City may assess penalties ranging in the amount of one hundred dollars ($100) to three hundred dollars ($300) per day upon MS4 users who fail to comply with the permits issued by the City or other regulatory agencies.

B. The City Engineer shall determine such administrative penalties based on the severity of the violation and the enforcement category assigned to the violator.

C. The City may issue administrative compliance schedules to persons who fail to comply with permits issued by the City or other regulatory agencies.

1313 COMPENSATORY ACTION

In addition to the enforcement proceedings, penalties, and remedies authorized by this Manual, the City may seek an alternative compensatory action against a violator, including but not limited to storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.

1314 PUNITIVE PENALTY

A. Whoever fails to perform any act required under this Manual or whoever performs an act forbidden by this Manual shall be fined not more than one thousand dollars ($1,000) for each violation. Each day of any such violations shall constitute a separate offense.

B. No unauthorized person shall maliciously, willfully, or negligently break, damage, destroy, uncover, deface or tamper with any structure appurtenance or equipment part of the drainage or stormwater management system. Whoever violates this provision shall be subject to immediate arrest under charge of disorderly conduct.

C. In addition to the criminal penalties provided herein, whoever violates any provision of this Manual shall be liable to the City for any fines, expenses, losses, or abnormal costs incurred by the City and caused by such violation.

1315 LITIGATION

A. Any person who violates an order of the City or fails to comply with any provision of this Manual shall be penalized in the manner outlined in Section 1312, 1313, and 1314.

B. Discharges that interfere with the proper operation of or cause damage to the MS4 may be liable under State and/or Federal law, which provides penalties up to one hundred thousand dollars ($100,000) per day and six (6) years in jail for a repeat knowing criminal violation.

1316 ESCALATION

The City Engineer shal implement the following escalation polisy reguarfing violations:

A. Notice of Non-Compliance

1. The engineering inspector shall issue a Notice of Non-Compliance as part of the inspection process and included it in the written inspection report.
2. The violator shall have ten (10) business days to implement corrective measures to the satisfaction of the inspector and/or City Engineer and following the prepared SMP, this Manual, and other applicable standards and permits.
3. The Notice of Non-Compliance shall serve as the assessment date for punitive fines if the violator fails to resolve the issues.

B. Notice of Violation

1. A Notice of Violation shall be issued by the engineering inspector or City Engineer, in written letter form, and either hand-delivered to the violator's representative or sent via certified mail. Electronic copies shall be sent to the owner, contractor, and other parties applicable.
2. The violator shall have five (5) business days to implement corrective measures to the satisfaction of the inspector and/or City Engineer and following the prepared SMP, this Manual, and other applicable standards and permits.
3. $250.00 Administrative fee shall be assessed for each Notice of Violation Issued
4. Failure to respond to a Notice of Violation may result in punitive fines from the date of the initial notifications a second notice of Violation and /or Stop Work Notice being issued.

C. Engineering Meeting and Second Notice of Violation (Optional)

1. At the discretion of the City Engineer, a notice of a meeting shall be sent to the violator and set an immediate meeting date and time with the owner, contractor and/or their representative to resolve any open violation issues.
2. The City Engineer may grant an additional five (5) business days to implement corrective measures before issuing a Stop Work Notice and/or assessing Administrative Penalties according to subsection 1312 of this manual. In this situation, the Second Notice of Violation shall be issued by the City Engineer.
3. $250.00 Administrative fee shall be assessed for each Notice of Violation Issued.

D. Stop Work Notice and Punitive Penalties

1. Should the violator continue to fail to resolve the open issues or refuse to attend an engineering meeting, the City Engineer or City Director of Administrator shall issue a Stop Work Notice. The Stop Work Notice shall be delivered to the job site by the local police authority.
2. If not already assessed, Administrative Penalties shall be levied against the violator and continue to accrue since the date of the original Notice of Non-Compliance.

E. Litigation and Compensatory Action

1. The issue shall be forwarded to the City Law Director for legal action.

1317 REMEDIES NOT EXCLUSIVE

A. The remedies listed in this Manual are not exclusive of any other remedies available under any applicable federal, state, or local law.

B. It is within the discretion of the City Engineer to seek cumulative remedies.

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SECTION 14

FEES, BONDING AND ESTIMATED STORM UNITS (ESU)

1401 FEES

The City Engineer shall establish a fee schedule for the review, filing, and inspection of development permits, stormwater management plans, and permanent stormwater control measures. The fee schedule shall be available from the engineering division and based on the actual estimated cost for providing the needed services.

1402 BOND

A. Sites requiring an Ohio EPA Notice of Intent (NOI) or engineering development permit is issued, soil-disturbing activities shall not be permitted until a stormwater performance bond or irrevocable letter of credit has been issued to the City of Wooster by the Owner. The bond amount shall be $1,500 plus $1,500 per disturbed acre or portion thereof. This bond shall be posted for the City Engineer to perform the obligations otherwise to be performed by the owner of the development area or their representative as stated in this Manual and allow all work to be performed as needed if the applicant fails to comply provisions of this Manual. Administrative fees and penalties shall also be charged against the bond should the owner fail to pay. The stormwater bond shall be released when the following criteria are met:

1. For residential/commercial developments, after 80% of the lots of the project have been completed or 100% of the total project has been permanently stabilized for three (3) years.
2. An as-built final inspection and certification of all stormwater control measures described in Section 4 of this Manual is received and approved by the City Engineer.
3. An Inspection and Maintenance Plan has been received and approved by the City Engineer
4. Inspection and Maintenance Agreement has been signed and recorded by the party responsible for the long-term responsibility for all permanent stormwater control measures is received and accepted by the City Engineer.
5. The City has received a copy of the Ohio EPA Notice of Termination (NOT) for projects covered by an Ohio EPA General Stormwater Permit.

B. Once these criteria are met, the applicant bond shall be released. Suppose all of these criteria are not met. In that case, the City of Wooster may use the bond monies to fix any outstanding issues with all stormwater management structures on the site, achieve final stabilization, and complete outstanding inspection and documentation.

1403 ESTIMATED STORMWATER UNIT (ESU)

Following chapter 925.03(d) of the City of Wooster Codified Ordinances, properties shall be furnished with stormwater service in proportion to the amount of the property's impervious surface and a minimum basic unit of service.

1. The basic unit of service is 3,050 square feet of impervious surface.

2. Single, one or two-family residential properties in zoning districts R-1 and AG shall be assessed a minimum of 100% of a basic unit of service.

3. Single, one or two-family residential properties in zoning districts R-2, R-3, R-4, R-5, RT, and in nonresidential zoning districts shall be assessed a minimum of 60% of a basic unit of service.

4. All other properties shall be furnished service equivalent to multiples of basic service units of impervious surface as calculated for individual properties by the City Engineer's office. Individually calculated service equivalent shall be a minimum of 100% of a basic unit of service.

5. Other properties shall include but are not limited to:

    1. All Commercial facilities
    2. All Industrial facilities
    3. Apartment complexes
    4. Condominium complexes
    5. Office complexes
    6. Private developments
    7. Private roadways
    8. Residential properties that have been granted a variance for maximum impervious area
    9. Residential properties with three family units or larger
    10. Residential properties with multiple one or two-family units per parcel

6. Fees associated with basic service units for other properties shall be paid by the owner or prorated amongst multiple owners and/or tenants when coordinated with the City of Wooster Finance department and approved by the City Engineer.

7. The cost per ESU shall be assigned by the City Administrator and posted on the City Fee Schedule.

1404 ESTIMATED STORMWATER UNIT (ESU) CREDIT

Per Chapter 925.03(f) of the City of Wooster Codified Ordinances, property other than conventionally developed single and two-family residential properties, which have a permanent managed stormwater control measure installed, may be eligible for an estimated stormwater unit (ESU) credit. The ESU credit can be up to 50 percent of the site calculated ESU based upon the following requirements established by the City Engineer. The Owner is responsible for applying for the credit, and at no time shall credit be retroactive.

A. All of the following conditions must be met to be eligible:

1. All permanent stormwater control measure(s) constructed or upgraded following a previously submitted and approved design
2. The Stormwater control must address the entire site's impervious areas of the permitted stormwater detention and water quality requirements.
3. An approved stormwater management plan or plans (SMP) must be on file with the City Engineer meeting the requirements outlined in Section 6 for each control measure.

4. A recorded stormwater maintenance agreement must be in place between the owner and the City of Wooster per Section 614 and recorded with the Wayne County Recorder.
5. All permanent stormwater control measures noted on the SMP(s) must be constructed and maintained by the Owner and following the approved plan, specifications, and City maintenance requirements. An annual Owner inspection and maintenance logs for each permanent stormwater control measure must be provided to the City Engineering Division by January 31st of each year. The owner or their appointed representative can complete these inspections.
6. An inspection and inspection report must be provided from a professional engineer every five (5) years after construction. The engineering inspection report shall be prepared by a professional engineer familiar with stormwater management practices.
7. Any deficiencies noted in owner, professional, or City inspections shall be addressed within 90 days, to the satisfaction of the City Engineer.

B. Failure to meet the requirements noted above shall result in the loss of the discount for a minimum of one (1) year and until any deficiencies are resolved.

1405 STORMWATER MANAGEMENT FACILITY FUND

A. The City may, at any time, require a stormwater management facility fund to be established to inspect, operate, maintain, repair and/or replace a stormwater facility outside of the public right-of-way.

B. The fund shall be subsidized by and accumulated through an annual assessment levied against all benefiting property owners of lots within the development drainage area of the facility.

C. The City Engineer shall determine the total annual amount deposited into the fund. It may be based on the maintenance plan developed for the facility as part of the SMP and/or may reflect the size and type of facility and the expected cost of routine and periodic maintenance. The assessment amount may be reviewed and updated yearly by the City Engineer.

D. The annual amount assessed to property owners shall be calculated as the total annual amount of the fund divided by the number of benefiting properties.

E. The City may draw upon the maintenance fund of a stormwater facility at any time for inspection, operation, maintenance, repair and/or replacement. Work shall be performed by or under the supervision of the City Engineer.

APPENDIX A

Engineering Department Development Permit Application

Permits may now be obtained through the City OpenGov website. Please use this link to access that system, to create an account, and to request and track your permits.

https://woosteroh.viewpointcloud.com/

APPENDIX B

General Stormwater Management Permit/Application

Permits may now be obtained through the City OpenGov website. Please use this link to access that system, to create an account, and to request and track your permits.

https://woosteroh.viewpointcloud.com/

APPENDIX C

Stormwater Inspection and Maintenance Agreement

A draft of the most recent version of the Stormwater Inspection and Maintenance Agreement may be obtained through the City website site.

The City shall prepare the Stormwater Inspection and Maintenance Agreement and present it to the contractor, developer or owner to be executed

Sample Stormwater Inspection and Maintenance Agreement

APPENDIX D

Stormwater Management Plan Self Checklist

To be completed by the stormwater management plan designer. Shall include comment noting location for each applicable item within the submitted plan to facilitate plan review by the City

Stormwater Management Plan Self Checklist

APPENDIX E

Stormwater Operation and Maintenance Plan Self Checklist

The most recent version of the Stormwater Operation and Maintenance Plan Self Checklist may be obtained through the City website site.

APPENDIX E

Stormwater Engineering Certification

The most recent version of the Stormwater Engineering Certification may be obtained through the City website.

APPENDIX F

I-D-F Rainfall Intensity Table and Curve

The most recent version of the I-D-F Rainfall Intensity Table and Curve may be obtained from the ODOT Location and Design Manual - Volume 2

I-D-F Rainfall Intensity Tables and Curve