

ORDINANCE NO.: 75-2011 (As Amended 12/13/11)
INTRODUCED BY: O'TOOLE

AN ORDINANCE AMENDING IN THEIR ENTIRETY CHAPTER 1190, "DEFINITIONS"; CHAPTER 1192, "DISCLAIMER OF LIABILITY"; CHAPTER 1193, "CONFLICTS, SEVERABILITY, NUISANCE AND RESPONSIBILITY"; CHAPTER 1195, "EROSION AND SEDIMENT CONTROL"; AND CHAPTER 1196, "STORM WATER MANAGEMENT"; OF TITLE SEVEN, "STORM WATER MANAGEMENT", OF PART ELEVEN, "PLANNING AND ZONING CODE", OF THE CODIFIED ORDINANCES OF THE CITY OF RICHMOND HEIGHTS; AND DECLARING AN EMERGENCY.

WHEREAS, soil is most vulnerable to erosion by wind and water during soil disturbing activities and this eroded soil necessitates repairs of sewers and ditches and dredging of rivers, harbors and lakes; accelerates downstream bank erosion and damage to public and private property; damages water resources and wetlands by reducing water quality; and causes the siltation of aquatic habitat; and

WHEREAS, communities throughout the watershed(s) in which the City of Richmond Heights is located have experienced and continue to experience costs associated with inadequate erosion and sediment control and increased State and Federal regulation; and

WHEREAS, flooding and stream bank erosion are significant threats to property and public health and safety and storm water management lessens flood damage and erosion by reducing and holding runoff and releasing it slowly; and

WHEREAS, insufficient control of storm water can result in significant damage to receiving water resources, impairing the capacity of these areas to sustain aquatic systems and their associated aquatic life use designation; and

WHEREAS, land development projects and associated increases in impervious cover alter the hydrologic response of local watersheds and increase storm water runoff rates and volumes, flooding, stream channel erosion, and sediment transport and deposition; and

WHEREAS, storm water runoff contributes to increased quantities of pollutants to water resources; and

WHEREAS, storm water runoff, stream channel erosion, and nonpoint source pollution can be controlled and minimized through the regulation of runoff from land development projects; and

WHEREAS, there are watershed-wide efforts to reduce flooding, erosion, sedimentation and water quality problems in Euclid Creek and to protect and enhance the water resources of Euclid Creek; and

WHEREAS, the City of Richmond Heights finds that the lands and waters within its borders are finite natural resources and that their quality is of primary importance in promoting and maintaining public health and safety within its borders; and

WHEREAS, the City of Richmond Heights desires to establish standards, principles, and procedures for the regulation of soil disturbing activities that may increase flooding and erosion and may cause adverse impacts to water resources, resulting from storm water runoff; and

WHEREAS, the City of Richmond Heights is a member of the Euclid Creek Watershed Council and recognizes its obligations as a part of this organization to reduce sedimentation, to protect water quality by controlling soil disturbing activities within its borders, and to manage storm water within its borders; and

WHEREAS, 40 C.F.R. Parts 9, 122, 123, and 124, and Ohio Administrative Code 3745-39 require designated communities, including the City of Richmond Heights, to develop a Storm Water Management Program to address, among other components, erosion and sediment control during soil disturbing activities and implement standards, principles, and procedures to regulate the quality of storm water runoff during and after soil disturbing activities; and

WHEREAS, Article XVIII, Section 3 of the Ohio Constitution grants municipalities the legal authority to adopt and enforce rules to abate soil erosion and water pollution by soil sediments and to regulate the quality of storm water runoff.

NOW, THEREFORE, Be It Ordained by the Council of the City of Richmond Heights, State of Ohio, that :

Section 1: Chapters 1190, “Definitions”; 1192, “Disclaimer of Liability”; 1193, “Conflicts, Severability, Nuisance and Responsibility”; 1195, “Erosion and Sediment Control”; and 1196, “Storm Water Management”, of Title Seven, “Storm Water Management”, of Part Eleven, “Planning and Zoning Code”, of the Codified Ordinances of the City of Richmond Heights are hereby amended in their entirety as follows:

**“CHAPTER 1190
DEFINITIONS**

1901.01 DEFINITIONS.

For purposes of this title and unless stated otherwise, the following terms shall have the meaning herein indicated:

- (1) “Acre”: A unit of measure equaling forty-three thousand five hundred sixty (43,560) square feet.
- (2) “Approving Authority”: The official responsible for administering the applicable program(s).
- (3) “Best Management Practices” (“BMPs”): Schedule of activities, prohibitions of practices, maintenance procedures, and other management practices (both structural and non-structural) to prevent or reduce the pollution of water resources

and wetlands. BMPs also include treatment requirements, operating procedures, and practices to control facility and/or construction runoff, spillage, or leaks; sludge or waste disposal; or drainage from raw material storage.

- (4) “Certified Professional in Erosion and Sediment Control” (“CPESC”): A person that has subscribed to the Code of Ethics and have met the requirements established by the CPESC Council of Certified Professional In Erosion and Sediment Control, Inc. to be a Certified Professional In Erosion and Sediment Control.
- (5) “Channel”: A natural bed that conveys water or a ditch excavated for the flow of water.
- (6) “City”: Throughout this regulation, this shall refer to the City of Richmond Heights, its designated representatives, including the office of the City Engineer, its duly constituted boards and commission and third party organizations under contract to the City such as Cuyahoga Soil and Water Conservation District.
- (7) “Clean Water Act”: Pub. L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, Pub. L. 97-117, and Pub. L. 100-4, 33 U.S.C. 1251 et seq. Formally referred to as the Federal Water Pollution Control Act or the Federal Water Pollution Control Act Amendments of 1972.
- (8) “Concentrated Storm Water Runoff”: Surface water runoff which converges and flows primarily through water conveyance features such as swales, gullies, waterways, channels or storm sewers, and which exceeds the maximum specified flow rates of filters or perimeter controls intended to control sheet flow.
- (9) “Conservation”: The wise use and management of natural resources.
- (10) “Construction Activity”: Activities subject to NPDES Construction Permits. Currently these include construction projects resulting in land disturbance of five (5) acres or more. Beginning in March 2003, NPDES Storm Water Phase II permits will be required for construction projects resulting in land disturbance of 1 acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.
- (11) “Critical Storm”: A storm that is calculated by means of the percentage increase in volume of runoff by a proposed development area. The critical storm is used to calculate the maximum allowable storm water discharge rate from a developed site.
- (12) “Cut”: An excavation that reduces an existing elevation, as in road or foundation construction.
- (13) “Damaged or Diseased Trees”: Trees that have split trunks; broken tops; heart rot; insect or fungus problems that will lead to imminent death; undercut root systems that put the tree in imminent danger of falling; leaning as a result of root failure that puts the tree in imminent danger of falling, or any other condition that puts the tree in imminent danger of being uprooted or falling.
- (14) “Designated Watercourse”: A watercourse that is contained within, flows through, or borders the City and meets the criteria set forth in these regulations.
- (15) “Deteriorated Structure”: A structure which has sustained substantial damage from any origin whereby the cost of restoring the structure to its before damaged condition would be equal to, or greater than, fifty percent (50%) of the market value of the structure before the damage occurred.

- (16) “Development Area”: A parcel or contiguous area 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.
- (17) “Disturbed Area”: An area of land subject to erosion due to the removal of vegetative cover and/or soil disturbing activities.
- (18) “Ditch”: An open channel, either human made or natural, for the purpose of drainage or irrigation with intermittent flow.
- (19) “Drainage”:
 - (a) The area of land contributing surface water to a specific point.
 - (b) The removal of excess surface water or groundwater from land by surface or subsurface drains.
- (20) “Dumping”: The grading, pushing, piling, throwing, unloading or placing of soil or other material.
- (21) “Earth Disturbing Activity”: Any grading, excavating, filling, drilling or other alteration of the earth’s surface where natural or man-made ground cover is destroyed and which may result in or contribute to erosion and sediment pollution.
- (22) “Earth material”: Any soil, sediment, rock, sand, gravel and organic material or residue associated with or attached to the soil.
- (23) “Earth moving”: Any excavating, cutting or filling, or any stockpiling thereof.
- (24) “Erosion”: The process by which the land surface is worn away by the action of wind, water, ice, gravity, or any combination of these forces.
- (25) “Erosion and Sediment Control”: The control of soil, both mineral and organic, to minimize the removal of soil from the land surface and to prevent its transport from a disturbed area by means of wind, water, ice, gravity, or any combination of those forces.
- (26) “Existing”: The present condition of the land at the time of adoption of this Title.
- (27) “Federal Emergency Management Agency” (“FEMA”): The agency with overall responsibility for administering the National Flood Insurance Program.
- (28) “Fill”: Depositing of soil, rock or other materials by other than natural means.
- (29) “Finish grade”: The final grade or elevation of the ground surface after grading is completed.
- (30) “Grade”: The rise or descent of a sloping surface.
- (31) “Grading”: Earth disturbing activity such as excavation, stripping, cutting, filling, stockpiling, or other combination thereof.
- (32) “Hazardous Materials”: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.
- (33) “Hillside control measures”: All of the planning work and control that is required and specified by this title.
- (34) “Illegal Discharge”: Any direct or indirect non-storm water discharge to the storm drain system, except as exempted in Section 1194.03.

- (35) “Illicit Connection”: An illicit connection is defined as either of the following:
- (1) Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system, and any connection to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or,
 - (2) Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps or equivalent records and approved by the City or any other approving authority.
- (36) “Impervious Cover” or “Impervious Surface”: Any surface that cannot effectively absorb or infiltrate water. This may include roads, streets, parking lots, rooftops, sidewalks, and other areas not covered by vegetation.
- (37) “Industrial Activity”: Activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26(b)(14).
- (38) “Intermittent Stream”: A natural channel that may have some water in pools but where surface flows are non-existent or interstitial (flowing through sand and gravel in stream beds) for periods of one week or more during typical summer months.
- (39) “Landscape Architect”: A Professional Landscape Architect registered in the State of Ohio.
- (40) “Landslide”: The rapid mass movement of soil and rock material downhill under the influence of gravity in which the movement of the soil mass occurs along an interior surface of sliding.
- (41) “Larger Common Plan of Development or Sale”: A contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under one plan.
- (42) “Maximum Extent Practicable”: The level of pollutant reduction that site owners/operators of small municipal separate storm sewer systems regulated by 40 C.F.R. Parts 9, 122, 123, and 124, referred to as NPDES Storm Water Phase II, must meet.
- (43) “National Wetlands Inventory Map”: Wetland maps that were created by the Fish and Wildlife Service, United States Department of Interior.
- (44) “Natural gradient”: The rate of ascent or descent of natural ground surfaces or natural terrains.
- (45) “Natural ground surface” or “natural terrain”: The ground surface in its original state before any grading, excavation or filling.
- (46) “Natural Resources Conservation Service” (“NRCS”): An agency of the United States Department of Agriculture, formerly known as the Soil Conservation Service (SCS).
- (47) “Natural vegetation”: Plant materials and trees which are indigenous to the area and exist on a site prior to any vegetation destruction, construction, earth moving or earth disturbing activity.

- (48) “Non-Storm Water Discharge”: Any discharge to the storm drain system that is not composed entirely of storm water.
- (49) “Nonstructural Storm Water Management Practice”: Storm water runoff control and treatment techniques that use natural measures to control runoff and/or reduce pollution levels, and do not require extensive construction efforts and/or do promote runoff control and/or pollutant reduction by eliminating the runoff and/or pollutant source.
- (50) “Noxious Weed”: Any plant species defined by the Ohio Department of Agriculture as a “noxious weed” and listed as such by the Department. For the purposes of this regulation, the most recent version of this list at the time of application of these regulations shall prevail.
- (51) “National Pollutant Discharge Elimination System” (“NPDES”): a regulatory program in the Federal Clean Water Act that prohibits the discharge of pollutants into surface waters of the United States without a permit.
- (52) “National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit” or “NPDES Permit”: A permit issued by EPA (or by a State under authority delegated pursuant 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 and derived from the Federal Clean Water Act.
- (53) “Ohio EPA”: The Ohio Environmental Protection Agency.
- (54) “Ohio Wetlands Inventory Map”: Wetland maps that were created by the Natural Resources Conservation Service, USDA and the Ohio Department of Natural Resources.
- (55) “One Hundred (100) Year Floodplain”: Any land susceptible to being inundated by water from a base flood. The base flood is the flood that has a one percent (1%) or greater chance of being equaled or exceeded in any given year. For the purposes of this regulation, the one hundred (100) year floodplain shall be defined by FEMA or a site-specific Floodplain Delineation in conformance with standard engineering practices and approved by the City.
- (56) “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, predominance of aquatic vegetation, or other easily recognized characteristic.
- (57) “Outfall”: An area where water flows from a structure such as a conduit, storm sewer, improved channel or drain, and the area immediately beyond the structure which is impacted by the velocity of flow in the structure.
- (58) “Owner”: Any person, as defined herein, holding fee simple title to the property or option to purchase the property proposed for development.
- (59) “Perennial Stream”: A natural channel that contains water throughout the year, except possibly during period of extreme drought.
- (60) “Person”: Any individual, corporation, firm, trust, commission, board, public or private partnership, joint venture, agency, unincorporated association, municipal corporation, county or state agency, the federal government, other legal entity, or an agent thereof.

- (61) “Phasing”: Clearing a parcel of land in distinct sections, with the stabilization of each section before the clearing of the next.
- (62) “Pollutant”: Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objections, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.
- (64) “Post-Development”: The conditions which exist following the completion of soil disturbing activity in terms of topography, vegetation, land use, and the rate, volume, or direction of storm water runoff.
- (65) “Pre-Development”: The conditions which exist prior to the initiation of soil disturbing activity in terms of topography, vegetation, land use, and the rate, volume, or direction of storm water runoff.
- (66) “Premises”: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.
- (67) “Professional Engineer”: A Professional Engineer registered in the State of Ohio.
- (68) “Professional Soil Scientist”: An individual certified by American Registry of Certified Professionals in Agronomy, Crops and Soils or affiliated registries such as the Association of Ohio Pedologists, that meet the educational and practical experience standards, subscribe to the code of ethics, and qualify for identification as professionals.
- (69) “Professional Wetland Consultant” or “Qualified Wetland Professional”: Individuals competent in the areas of botany, hydric soils and wetland hydrology that provide professional services or advice, and meet the education and professional experience requirements as required by the Society of Professional Wetland Scientists.
- (69) “Protected Hillside Zone”: Those areas within the City meeting the criteria set forth in Section 1198.04.
- (70) “Protective Setback”: A designated transition area around a water resource or wetland left in a natural, usually vegetated, state so as to protect the water resource or wetland from runoff pollution. Construction activities in this area are restricted or prohibited as required in these regulations.
- (71) “Qualified Forester”: Any forester employed by the Ohio Department of Natural Resources, Division of Forestry, or any person attaining the credential of Certified Forester as conferred by the Society of American Foresters.
- (72) “Rainwater and Land Development”: Ohio’s standards for storm water management, land development and urban stream protection. The most current edition of these standards shall be used with this regulation.
- (73) “Redevelopment”: The demolition or removal of existing structures or land uses and construction of new ones.
- (74) “Retention Basin”: A storm water management pond that maintains a permanent pool of water. These storm water management ponds include a properly

- engineered/designed volume dedicated to the temporary storage and slow release of runoff waters.
- (75) “Riparian Area”: Naturally vegetated land adjacent to watercourses which, if appropriately sized, helps to limit erosion, reduce flood flows, and/or filter and settle out runoff pollutants, or which performs other functions consistent with the purposes of this title.
 - (76) “Riparian Setback”: Those lands within the City which are alongside streams, and which fall within the area defined by the criteria set forth in this title.
 - (77) “Runoff”: The portion of rainfall, melted snow, or irrigation water that flows across the ground surface and is eventually conveyed to water resources or wetlands.
 - (78) “Sediment”: The soils or other surface materials that are transported or deposited by the action of wind, water, ice, gravity, or any combination of those forces, as a product of erosion.
 - (79) “Sediment Control”: The limiting of sediment being transported, by controlling erosion or detaining sediment-laden water, and allowing the sediment to settle out.
 - (80) “Sediment Pollution”: A failure to use management or conservation practices to control wind or water erosion of the soil and to minimize the degradation of water resources by soil sediment in conjunction with land grading, excavating, filling, or other soil disturbing activities on land used or being developed for commercial, industrial, residential, or other purposes.
 - (81) “Sedimentation”: The deposition or settling of sediment.
 - (82) “Sensitive Area”: An area or water resource that requires special management because of its susceptibility to sediment pollution, or because of its importance to the wellbeing of the surrounding communities, region, or the state and includes, but is not limited to, the following:
 - (1) Ponds, wetlands or small lakes with less than five (5) acres of surface area.
 - (2) Small streams with gradients less than ten (10) feet per mile with average annual flows of less than three and one-half (3.5) feet per second containing sand or gravel bottoms.
 - (3) Drainage areas of a locally designated or an Ohio designated Scenic River.
 - (4) Riparian and wetland areas.
 - (83) “Sheet Flow”: Water runoff in a thin uniform layer or rills and which is of small enough quantity to be treated by sediment barriers.
 - (84) “Siviculture”: The theory and practice of controlling forest establishment, composition and growth.
 - (85) “Slip”: Landslide as defined herein.
 - (86) “Slope”: An inclined ground surface; the inclination is expressed as a ratio of the horizontal distance to the vertical distance.
 - (87) “Sloughing”: A slip or downward movement of an extended layer of soil resulting from the undermining action of water or the earth disturbing activity of man.
 - (88) “Soil”: Unconsolidated erodible earth material consisting of minerals and/or organics.

- (89) “Soil Conservation Service, USDA”: The federal agency now titled the “Natural Resources Conservation Service,” which is an agency of the United States Department of Agriculture.
- (90) “Soil Disturbing Activity”: Clearing, grading, excavating, filling, or other alteration of the earth’s surface where natural or human made ground cover is destroyed and that may result in, or contribute to, increased storm water quantity and/or decreased storm water quality.
- (91) “Soil Erosion and Sediment Control Plan”: A written and/or drawn soil erosion and sediment pollution control plan to minimize erosion and prevent off-site sedimentation throughout all earth disturbing activities on a development area.
- (92) “Soil Erosion and Sediment Control Practices”: Conservation measures used to control sediment pollution and including structural practices, vegetative practices and management techniques.
- (93) “Soil Survey”: The official soil survey produced by the Natural Resources Conservation Service, USDA in cooperation with the Division of Soil and Water Conservation, ODNR and the local Board of County Commissioners.
- (94) “Soil & Water Conservation District”: An entity organized under Chapter 1515 of the Ohio Revised Code referring to either the Soil and Water Conservation District Board or its designated employee(s), hereinafter referred to as Cuyahoga SWCD.
- (95) “Stabilization”: The use of Best Management Practices, such as seeding and mulching, that reduce or prevent soil erosion by water, wind, ice, gravity, or a combination of those forces.
- (96) “Storm Drainage System”: Publicly-owned facilities by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.
- (97) “Storm Water”: Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.
- (98) “Storm Water Conveyance System”: All storm sewers, channels, streams, ponds, lakes, etc., used for conveying concentrated storm water runoff, or for storing storm water runoff.
- (99) “Storm Water Management Plan” (“SWM Plan”): The written document meeting the requirements of Chapter 1196 that sets forth the plans and practices to be used to minimize storm water runoff from a development area and to safely convey or temporarily store and release post-development storm water runoff at an allowable rate to minimize flooding and erosion.
- (100) “Storm Water Pollution Prevention Plan” (“SWP3”): The written document that sets forth the plans and practices to be used to meet the requirements of this regulation.
- (101) “Stream”: A body of water running or flowing on the earth’s surface, or a channel in which such flow occurs. Flow may be seasonally intermittent.

- (102) “Structural Storm Water Management Practice”: Any human made facility, structure, or device that is constructed to provide permanent or temporary conveyance, storage or treatment of storm water runoff.
- (103) “Substantial Damage”: Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would be equal to, or greater than, fifty percent (50%) of the market value of the structure before the damage occurred.
- (104) “U.S. EPA”: The United States Environmental Protection Agency.
- (105) “Unstable Soils”: A portion of land that is identified by the City as prone to slipping, sloughing, or landslides, or is identified by the U.S. Department of Agriculture Natural Resources Conservation Service methodology as having low soil strength.
- (106) “Wastewater”: Any water or other liquid, other than uncontaminated storm water, discharged from a facility.
- (107) “Water Resource”: Any public or private body of water including lakes or ponds, as well as any brook, creek, river, or stream having banks, a defined bed, and a definite direction of flow, either continuously or intermittently flowing.
- (108) “Watercourse”: Any natural, perennial, or intermittent channel, stream, river or brook.
- (109) “Watershed”: The total drainage area contributing storm water runoff to a single point.
- (110) “Wetland”: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation, typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas (40 CFR 232, as amended).
- (111) “Wetland, Ohio EPA Category 2 Wetlands”: Those wetlands classified by the Ohio EPA as Category 2 wetlands under OAC 3745-1-54(C)(2), or current equivalent Ohio EPA classification, in accordance with generally accepted wetland functional assessment methods acceptable to the U.S. Army Corps of Engineers and Ohio EPA at the time of application of this title.
- (112) “Wetland, Ohio EPA Category 3 Wetlands”: Those wetlands classified by the Ohio EPA as Category 3 wetlands under OAC 3745-1-54(C)(3), or current equivalent Ohio EPA classification, in accordance with generally accepted wetland functional assessment methods acceptable to the U.S. Army Corps of Engineers and Ohio EPA at the time of application of this title.
- (113) “Wetland Setback”: Those lands within the City that fall within the area defined by the criteria set forth in this title.
- (114) “Winter”: October 1st to April 1st of each year.

**CHAPTER 1192
DISCLAIMER OF LIABILITY**

1192.01 GENERAL DISCLAIMER.

(a) Compliance with the provisions of this Title Seven shall not relieve any person from responsibility for damage to any person otherwise imposed by law. The provisions of this

Title Seven are promulgated to promote the health, safety, and welfare of the public and are not designed for the benefit of any individual or for the benefit of any particular parcel of property.

(b) By approving any plan under this Title Seven, the City of Richmond Heights does not accept responsibility for the design, installation, and operation and maintenance of erosion and sediment control practices.

**CHAPTER 1193
CONFLICTS, SEVERABILITY, NUISANCE
AND RESPONSIBILITY**

1193.01 CONFLICTS, SEVERABILITY, NUISANCE AND RESPONSIBILITY.

(a) Where a provision of this Title Seven is in conflict with other provisions of law or ordinance, the most restrictive provisions shall prevail.

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

(c) The provisions of this title shall not be construed as authorizing any person to maintain a private or public nuisance on their property, and compliance with the provisions of this title shall not be a defense in any action to abate such a nuisance.

(d) Failure of the City to observe or recognize hazardous or unsightly conditions or to recommend corrective measures shall not relieve the site owner from responsibility for the condition or damage resulting therefrom, and shall not result in the City, its officers, employees, or agents being responsible for any condition or damage resulting therefrom.

**CHAPTER 1195
EROSION AND SEDIMENT CONTROL**

1195.01 PURPOSE AND SCOPE.

(a) The purpose of this chapter is to establish technically feasible and economically reasonable standards to achieve a level of erosion and sediment control that will minimize damage to property and degradation of water resources and wetlands, and will promote and maintain the health and safety of the citizens of the City of Richmond Heights.

(b) This chapter will:

- (1) Allow development while minimizing increases in erosion and sedimentation.
- (2) Reduce water quality impacts to receiving water resources and wetlands that may be caused by new development or redevelopment activities.

(c) This chapter applies to all parcels used or being developed, either wholly or partially, for new or relocated projects involving highways, underground cables, or pipelines;

subdivisions or larger common plans of development; industrial, commercial, institutional, or residential projects; building activities on farms; redevelopment activities; general clearing; and all other uses that are not specifically exempted in Section 1195.01(d).

(d) This chapter does not apply to activities regulated by, and in compliance with, the Ohio Agricultural Sediment Pollution Abatement Rules.

1195.02 DEFINITIONS.

For purpose of this chapter, the following terms shall have the meaning herein indicated:

- (a) **ABBREVIATED STORM WATER POLLUTION PREVENTION PLAN (ABBREVIATED SWP3):** The written document that sets forth the plans and practices to be used to meet the requirements of this chapter.
- (b) **CONSTRUCTION ENTRANCE:** The permitted points of ingress and egress to development areas regulated under this chapter.
- (c) **FINAL STABILIZATION:** All soil disturbing activities at the site have been completed and a uniform perennial vegetative cover with a density of at least 80% coverage for the area has been established or equivalent stabilization measures, such as the use of mulches or geotextiles, have been employed.
- (d) **PARCEL:** Means a tract of land occupied or intended to be occupied by a use, building or group of buildings and their accessory uses and buildings as a unit, together with such open spaces and driveways as are provided and required. A parcel may contain more than one contiguous lot individually identified by a 'Permanent Parcel Number' assigned by Cuyahoga County.
- (e) **QUALIFIED INSPECTION PERSONNEL:** A person knowledgeable in the principles and practice of erosion and sediment controls, who possess the skills and training to assess all conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measure selected to control the quality of storm water discharges from the construction activity. The designated inspection personnel shall be subject to the approval of the City of Richmond Heights.
- (f) **SETBACK:** A designated transition area around water resources or wetlands that is left in a natural, usually vegetated, state so as to protect the water resources or wetlands from runoff pollution. Soil disturbing activities in this area are restricted by this chapter.
- (g) **SURFACE WATERS OF THE STATE:** All streams, lakes, reservoirs, marshes, wetlands, or other waterways situated wholly or partly within the boundaries of the state, except those private waters which do not combine or affect a junction with surface water. Waters defined as sewerage systems, treatment works or disposal systems in Section 6111.01 of the Ohio Revised Code are not included.

1195.03 DEVELOPMENT OF STORM WATER POLLUTION PREVENTION PLANS.

(a) This chapter requires that a Storm Water Pollution Prevention Plan be developed and implemented for all parcels disturbing one (1) acre or more and on which any regulated activity of Section 1195.01(c) is proposed.

(b) The following activities shall submit an Abbreviated Storm Water Pollution Prevention Plan:

- (1) New single-family residential construction regardless of parcel size. If such activities disturb one (1) acre or more, or are part of a larger common plan of development or sale disturbing one (1) acre or more, an Ohio EPA Construction Site General Permit and a Storm Water Pollution Prevention Plan may be required.
- (2) Additions or accessory buildings for single-family residential construction regardless of parcel size. If such activities disturb one (1) acre or more, or are part of a larger common plan of development or sale disturbing one (1) acre or more, an Ohio EPA Construction Site General Permit and a Storm Water Pollution Prevention Plan may be required.
- (3) All non-residential construction on parcels of less than one (1) acre.
- (4) General clearing activities not related to construction and regardless of parcel size. If such activities disturb one (1) acre or more, or are part of a larger common plan of development or sale disturbing one (1) acre or more, an Ohio EPA Construction Site General Permit and a Storm Water Pollution Prevention Plan may be required.

(c) Activities disturbing 1/10th (one tenth) or less of an acre are not required to submit a Storm Water Pollution Prevention Plan or an Abbreviated Storm Water Pollution Prevention Plan, unless required by the City. These activities must comply with all other provisions of this chapter.

1195.04 APPLICATION PROCEDURES.

(a) **SOIL DISTURBING ACTIVITIES SUBMITTING A STORM WATER POLLUTION PREVENTION PLAN:** The applicant shall submit two (2) sets of the SWP3 and the applicable fees to the City, and two (2) sets of the SWP3 and the applicable fees to the Cuyahoga SWCD when so directed by the City, as follows:

- (1) For subdivisions: After the approval of the preliminary plans and with submittal of the improvement plans.
- (2) For other construction projects: Before issuance of a building permit by the Building Commissioner.
- (3) For general clearing projects: Prior to issuance of a building permit by the Building Commissioner.

(b) **SOIL DISTURBING ACTIVITIES SUBMITTING AN ABBREVIATED STORM WATER POLLUTION PREVENTION PLAN:** The applicant shall submit two (2) sets of the Abbreviated SWP3 and the applicable fees to the City as follows:

- (1) For single-family home construction: Before issuance of a building permit by the Building Commissioner.
- (2) For other construction projects: Before issuance of a building permit by the Building Commissioner.
- (3) For general clearing projects: Prior to issuance of a building permit by the Building Commissioner.

(c) The City shall review the plans submitted under 1195.04(a) or (b) for conformance with this chapter and approve, or return for revisions with comments and recommendations for revisions. A plan rejected because of deficiencies shall receive a narrative report stating specific problems and the procedures for filing a revised plan.

(d) Soil disturbing activities shall not begin and building permits shall not be issued without an approved SWP3 or Abbreviated SWP3.

(e) SWP3 for individual sublots in a subdivision will not be approved unless the larger common plan of development or sale containing the subplot is in compliance with this chapter.

(f) Approvals issued in accordance with this chapter shall remain valid for one (1) year from the date of approval.

1195.05 COMPLIANCE WITH STATE AND FEDERAL REGULATIONS.

Approvals issued in accordance with this chapter do not relieve the applicant of responsibility for obtaining all other necessary permits and/or approvals from the Ohio EPA, the US Army Corps of Engineers, and other federal, state, and/or county agencies. If requirements vary, the most restrictive requirement shall prevail. These permits may include, but are not limited to, those listed below. All submittals required to show proof of compliance with these state and federal regulations shall be submitted with Storm Water Pollution Prevention Plans or Abbreviated Storm Water Pollution Prevention Plans.

- (a) Ohio EPA NPDES Permits authorizing storm water 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 an application is made under this chapter.
- (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 an application is made under this chapter.

- (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 an application is made under this chapter.
- (e) Ohio Dam Safety Law: Proof of compliance shall be a copy of the ODNR Division of Water permit application tracking number, a copy of the project approval letter from the ODNR Division of Water, or a letter from the site owner certifying and explaining why the Ohio Dam Safety Law is not applicable.

1195.06 STORM WATER POLLUTION PREVENTION PLAN.

- (a) In order to control sediment pollution of water resources and wetlands, the applicant shall submit a SWP3 in accordance with the requirements of this chapter.
- (b) The SWP3 shall be certified by a professional engineer or a certified professional erosion and sediment control specialist.
- (c) The SWP3 shall incorporate measures as recommended by the most current edition of Rainwater and Land Development as published by the Ohio Department of Natural Resources and shall include the following information:
 - (1) Site description: The SWP3 shall provide:
 - A. A description of the nature and type of the construction activity (e.g. residential, shopping mall, highway, etc.).
 - B. 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. An estimate of the impervious area and percent of imperviousness created by the soil-disturbing activity.
 - D. Existing data describing the soil and, if available, the quality of any known pollutant discharge from the site such as that which may result from previous contamination caused by prior land uses.
 - E. A description of prior land uses at the site.
 - F. An implementation schedule which describes the sequence of major soil-disturbing operations (i.e., grubbing, excavating, grading, utilities and infrastructure installation) and the implementation of erosion and sediment controls to be employed during each operation of the sequence.

- G. The location and name of the immediate receiving stream or surface water(s) and the first subsequent receiving water(s).
- H. The aerial (plan view) extent and description of wetlands or other special aquatic sites at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project.
- I. For subdivided developments where the SWP3 does not call for a centralized sediment control capable of controlling multiple individual lots, a detail drawing of a typical individual lot showing standard individual lot erosion and sediment control practices.
- J. Location and description of any storm water discharges associated with dedicated asphalt and dedicated concrete plants associated with the development area and the best management practices to address pollutants in these storm water discharges.
- K. Site map showing:
 - i. Limits of soil-disturbing activity of the site, including off site spoil and borrow areas.
 - ii. Soils types should be depicted for all areas of the site, including locations of unstable or highly erodible soils.
 - iii. Existing and proposed one-foot (1') contours. This must include a delineation of drainage watersheds expected during and after major grading activities as well as the size of each drainage watershed in acres.
 - iv. Surface water 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 applicant intends to fill or relocate for which the applicant is seeking approval from the Army Corps of Engineers and/or Ohio EPA.
 - v. Existing and planned locations of buildings, roads, parking facilities, and utilities.
 - vi. The location of all erosion and sediment control practices, including the location of areas likely to require temporary stabilization during the course of site development.
 - vii. Sediment ponds, including their sediment settling volume and contributing drainage area.
 - viii. 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.
 - ix. The location of designated stoned construction entrances where the vehicles will ingress and egress the construction site.
 - x. The location of any in-stream activities including stream crossings.

- (1) A soils engineering report. The City may require the SWP3 to include a Soils Engineering Report based upon its determination that the conditions

of the soils are unknown or unclear to the extent that additional information is required to protect against erosion or other hazards. This report shall be based on adequate and necessary test borings, and shall contain all the information listed below. Recommendations included in the report and approved by the City shall be incorporated in the grading plans and/or other specifications for site development.

- A. Data regarding the nature, distribution, strength, and erodibility of existing soils.
- B. If applicable, data regarding the nature, distribution, strength, and erodibility of the soil to be placed on the site.
- C. Conclusions and recommendations for grading procedures.
- D. Conclusions and recommended designs for interim soil stabilization devices and measures, and for permanent soil stabilization after construction is completed.
- E. Design criteria for corrective measures when necessary.
- F. Opinions and recommendations covering the stability of the site.

1195.07 PERFORMANCE STANDARDS.

The SWP3 must contain a description of the controls appropriate for each construction operation and the applicant must implement such controls. The SWP3 must clearly describe for each major construction activity the appropriate control measures; the general sequence during the construction process under which the measures will be implemented; and the contractor responsible for implementation (e.g., contractor A will clear land and install perimeter controls and contractor B will maintain perimeter controls until final stabilization). The SWP3 shall identify all subcontractors engaged in activities that could impact storm water runoff. The SWP3 shall contain signatures from all of the identified subcontractors indicating that they have been informed and understand their roles and responsibilities in complying with the SWP3.

The controls shall include the following minimum components:

- (a) **NON-STRUCTURAL PRESERVATION MEASURES:** The SWP3 must make use of practices that preserve the existing natural condition to the maximum extent practicable. Such practices may include preserving riparian areas, preserving existing vegetation and vegetative buffer strips, phasing of construction operations in order to minimize the amount of disturbed land at any one time, and designation of tree preservation areas or other protective clearing or grubbing practices.
- (b) **EROSION CONTROL PRACTICES:** The SWP3 must make use of erosion controls that are capable of providing cover over disturbed soils. A description of control practices designed to restabilize disturbed areas after grading or construction shall be included in the SWP3. The SWP3 must provide specifications for stabilization of all disturbed areas of the site and provide guidance as to which method of stabilization will be employed for any time of the year. Such practices may include: temporary seeding, permanent seeding, mulching, matting, sod stabilization, vegetative buffer strips, phasing of construction operations, the use of construction entrances, and the use of alternative ground cover.

Erosion control practices must meet the following requirements:

- (1) Stabilization. Disturbed areas must be stabilized as specified in Tables 1 and 2 below.

Table 1: Permanent Stabilization

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

Table 2: Temporary Stabilization

Area requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed area within 50 feet of a stream and not at final grade.	Within 2 days of the most recent disturbance if that area will remain idle for more than 21 days.
For all construction activities, any disturbed area, including soil stockpiles that will be dormant for more than 21 days but less than one year, and not within 50 feet of a stream.	Within 7 days of the most recent disturbance within the area.
Disturbed areas that will be idle over winter.	Prior to November 1.
Note: Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed. These techniques may include mulching or erosion matting.	

- (2) Permanent stabilization of conveyance channels. Applicants shall undertake special measures to stabilize channels and outfalls and prevent erosive flows. Measures may include seeding, dormant seeding, mulching, erosion control matting, sodding, riprap, natural channel design with bioengineering techniques, or rock check dams, all as defined in the most recent edition of Rainwater and Land Development or the Field Office Technical Guide available at www.nrcs.usda.gov/technical/efotg/.
- (c) **RUNOFF CONTROL PRACTICES**. The SWP3 shall incorporate measures that control the flow of runoff from disturbed areas so as to prevent erosion. 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.
- (d) **SEDIMENT CONTROL PRACTICES**. The SWP3 shall include a description of, and detailed drawings for, all structural practices that shall store runoff, allowing sediments to settle and/or divert flows away from exposed soils or otherwise limit runoff from exposed areas. Structural practices shall be used to control erosion and trap sediment from a site remaining disturbed for more than 14 days. Such practices may include, among others: sediment settling ponds, silt fences, storm

drain inlet protection, and earth diversion dikes or channels which direct runoff to a sediment settling pond. All sediment control practices must be capable of ponding runoff in order to be considered functional. Earth diversion dikes or channels alone are not considered a sediment control practice unless used in conjunction with a sediment settling pond.

Sediment control practices must meet the following requirements:

- (1) Timing. Sediment control structures shall be functional throughout the course of earth disturbing activity. Sediment basins and perimeter sediment barriers shall be implemented prior to grading and within seven (7) days from the start of grubbing. They shall continue to function until the up slope development area is restabilized. As construction progresses and the topography is altered, appropriate controls must be constructed or existing controls altered to address the changing drainage patterns.
- (2) Sediment settling ponds. A sediment settling pond, or equivalent best management practice upon approval from the City is required for any one of the following conditions, as determined in Table 3 below:
 - A. Concentrated storm water runoff.
 - B. Runoff from drainage areas that exceeds the design capacity of silt fence or inlet protection.
 - C. 10-acres of disturbed land.

The sediment-settling pond shall provide both a sediment storage zone and a dewatering zone. The volume of the dewatering zone shall be at least 67 cubic yards of storage per acre of total contributing drainage area and have a minimum of 48-hour drain time for sediment basins serving a drainage area over 5 acres.

When post-construction detention/water quality ponds are to be used as temporary sediment trapping BMP, a skimmer discharge device consistent with the Ohio Rainwater Manual shall be utilized during construction phase and until the site is deemed permanently stabilized by the City.

The volume of the sediment storage zone shall be calculated by one of the following methods:

- A. The volume of the sediment storage zone shall be 1000ft³ per disturbed acre within the watershed of the basin.
- B. The volume of the sediment storage zone shall be the volume necessary to store the sediment as calculated with a generally accepted erosion prediction model.

When determining the total contributing drainage area, off-site areas and areas which remain undisturbed by construction activity must be included unless runoff from these areas is diverted away from the sediment settling pond and is not co-mingled with sediment-laden runoff. The depth of the dewatering zone must be less than or equal to five (5) feet. The

configuration between the inlets and the outlet of the basin must provide at least two units of length for each one unit of width (> 2:1 length:width ratio), however a length to width ration of 4:1 is recommended. Sediment must be removed from the sediment-settling pond when the design capacity has been reduced by 40 percent. This limit is typically reached when sediment occupies one-half of the basin depth. When designing sediment settling ponds, the applicant must consider public safety, especially as it relates to children, as a design factor for the sediment basin and alternative sediment controls must be used where site limitations would preclude a safe design. The use of a combination of sediment and erosion control measures in order to achieve maximum pollutant removal is encouraged.

- (3) Silt fence and diversions. Sheet flow runoff from denuded areas shall be intercepted by silt fence or diversions to protect adjacent properties, water resources, and wetlands from sediment transported via sheet flow. Where intended to provide sediment control, silt fence shall be placed on a level contour and shall be capable of temporarily ponding runoff. The relationship between the maximum drainage area to silt fence for a particular slope range is shown in Table 3 below. Storm water diversion practices shall be used to keep runoff away from disturbed areas and steep slopes. Such devices, which include swales, dikes or berms, may receive storm water runoff from areas up to 10 acres. Placing silt fence in parallel does not extend the permissible drainage area to the silt fence.

Table 3: Maximum Drainage Area to Silt Fence

Maximum Drainage Area (acres) to 100 linear feet of silt fence	Range of Slope for a drainage area (%)
0.5	<2%
0.25	≥ 2% but < 20%
0.125	≥ 20% but < 50%

- (4) Inlet protection. Erosion and sediment control practices, such as boxed inlet protection, shall be installed to minimize sediment-laden water entering active storm drain systems. All inlets receiving runoff from drainage areas of one or more acres will require a sediment settling pond. Straw or hay bales are not acceptable forms of inlet protection.
- (5) Off-site tracking of sediment and dust control. Best management practices must be implemented to ensure sediment is not tracked off-site and that dust is controlled. These best management practices must include, but are not limited to, the following:
 - A. Construction entrances shall be built and shall serve as the only permitted points of ingress and egress to the development area. These entrances shall be built of a stabilized pad of aggregate stone or recycled concrete or cement sized greater than 2” in diameter, placed over a geotextile fabric, and constructed in conformance

with specifications in the most recent edition of the Rainwater and Land Development Manual.

- B. Streets directly adjacent to construction entrances and receiving traffic from the development area, shall be cleaned daily to remove sediment tracked off-site. If applicable, the catch basins on these streets nearest to the construction entrances shall also be cleaned weekly.

Based on site conditions, the City may require additional best management practices to control off site tracking and dust. These additional BMPs may include:

- C. Silt fence or construction fence installed around the perimeter of the development area to ensure that all vehicle traffic adheres to designated construction entrances.
- D. Designated wheel-washing areas. Wash water from these areas must be directed to a designated sediment trap, the sediment-settling pond, or to a sump pump for dewatering in conformance with Section 1195.07(g) of this chapter.
- E. Applicants shall take all necessary measures to comply with applicable regulations regarding fugitive dust emissions, including obtaining necessary permits for such emissions. The City may require dust controls including the use of water trucks to wet disturbed areas, tarping stockpiles, temporary stabilization of disturbed areas, and regulation of the speed of vehicles on the site.

(6) Surface Waters of the State protection. Construction vehicles shall avoid water resources and wetlands. If the applicant is permitted to disturb areas within 50 feet of a water resource or wetland, the following conditions shall be addressed in the SWP3:

- A. All BMPs and stream crossings shall be designed as specified in the most recent edition of the Rainwater and Land Development Manual.
- B. Structural practices shall be designated and implemented on site to protect water resources or wetlands from the impacts of sediment runoff.
- C. No structural sediment controls (e.g., the installation of silt fence or a sediment settling pond in-stream) shall be used in a water resource or wetland.
- D. Where stream crossings for roads or utilities are necessary and permitted, the project shall be designed such that the number of stream crossings and the width of the disturbance are minimized.
- E. Temporary stream crossings shall be constructed if water resources or wetlands will be crossed by construction vehicles during construction.
- F. Construction of bridges, culverts, or sediment control structures shall not place soil, debris, or other particulate material into or close to the water resources or wetlands in such a manner that it may slough, slip, or erode.

- (7) Modifying controls. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the applicant shall replace or modify the control for site conditions.
- (e) **NON-SEDIMENT POLLUTANT CONTROLS:** No solid or liquid waste, including building materials, shall be discharged in storm water runoff. The applicant must implement site best management practices to prevent toxic materials, hazardous materials, or other debris from entering water resources or wetlands. These practices shall include but are not limited to the following:
- (1) Waste Materials: A covered dumpster shall be made available for the proper disposal of garbage, plaster, drywall, grout, gypsum, and other waste materials.
 - (2) Concrete Truck Wash Out: The washing of concrete material into a street, catch basin, or other public facility or natural resource is prohibited. A designated area for concrete washout shall be made available.
 - (3) Fuel/Liquid Tank Storage: All fuel/liquid tanks and drums shall be stored in a marked storage area. A dike shall be constructed around this storage area with a minimum capacity equal to 110% of the volume of all containers in the storage area.
 - (4) Toxic or Hazardous Waste Disposal: Any toxic or hazardous waste shall be disposed of properly.
 - (5) Contaminated Soils Disposal and Runoff: Contaminated soils from redevelopment sites shall be disposed of properly. Runoff from contaminated soils shall not be discharged from the site. Proper permits shall be obtained for development projects on solid waste landfill sites or redevelopment sites.
- (f) **COMPLIANCE WITH OTHER REQUIREMENTS.** The SWP3 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 located within the development area.
- (g) **TRENCH AND GROUND WATER CONTROL.** There shall be no sediment-laden or turbid discharges to water resources or wetlands resulting from dewatering activities. If trench or ground water contains sediment, it must pass through a sediment-settling pond or other equally effective sediment control device, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag or comparable practice. Ground water dewatering which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care must be taken when discharging ground water to ensure that it does not become pollutant-laden by traversing over disturbed soils or other pollutant sources.
- (h) **INTERNAL INSPECTIONS.** All controls on the site shall be inspected at least once every seven calendar days and within 24 hours after any storm event greater than one-half inch of rain per 24 hour period. The inspection frequency may be reduced to at least once every month if the entire site is temporarily stabilized or runoff is unlikely due to weather conditions (e.g., site is covered with snow, ice,

or the ground is frozen). A waiver of inspection requirements is available until one month before thawing conditions are expected to result in a discharge if prior written approval has been attained from the City and all of the following conditions are met:

- (1) The project is located in an area where frozen conditions are anticipated to continue for extended periods of time (i.e. more than one (1) month).
- (2) Land disturbance activities have been suspended, and temporary stabilization is achieved.
- (3) The beginning date and ending dates of the waiver period are documented in the SWP3.

The applicant shall assign qualified inspection personnel to conduct these inspections to ensure that the control practices are functional and to evaluate whether the SWP3 is adequate, or whether additional control measures are required.

These inspections shall meet the following requirements:

- (1) Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of or the potential for, pollutants entering the drainage system.
- (2) Erosion and sediment control measures identified in the SWP3 shall be observed to ensure that they are operating correctly. The applicant shall utilize an inspection form provided by the City or an alternate form acceptable to the City. The inspection form shall include:
 - A. The inspection date.
 - B. Names, titles and qualifications of personnel making the inspection.
 - C. Weather information for the period since the last inspection, including a best estimate of the beginning of each storm event, duration of each storm event and approximate amount of rainfall for each storm event in inches, and whether any discharges occurred.
 - D. Weather information and a description of any discharges occurring at the time of inspection.
 - E. Locations of:
 1. Discharges of sediment or other pollutants from site.
 2. BMPs that need to be maintained.
 3. BMPs that failed to operate as designed or proved inadequate for a particular location.
 4. Where additional BMPs are needed that did not exist at the time of inspection.
 - F. Corrective action required including any necessary changes to the SWP3 and implementation dates.
- (3) Discharge locations shall be inspected to determine whether erosion and sediment control measures are effective in preventing significant impacts to the receiving water resource or wetlands.

- (4) Locations where vehicles enter or exit the site shall be inspected for evidence of off-site vehicle tracking.
- (5) The applicant shall maintain for three (3) years following final stabilization the results of these inspections, the names and qualifications of personnel making the inspections, the dates of inspections, major observations relating to the implementation of the SWP3, a certification as to whether the facility is in compliance with the SWP3, and information on any incidents of non-compliance determined by these inspections.
- (i) MAINTENANCE. The SWP3 shall be designed to minimize maintenance requirements. All control practices shall be maintained and repaired as needed to ensure continued performance of their intended function until final stabilization. All sediment control practices must be maintained in a functional condition until all up slope areas they control reach final stabilization. The applicant shall provide a description of maintenance procedures needed to ensure the continued performance of control practices and shall ensure a responsible party and adequate funding to conduct this maintenance, all as determined by the City.

When inspections reveal the need for repair, replacement, or installation of erosion and sediment control BMPs, the following procedures shall be followed:

- (1) When practices require repair or maintenance. If an internal inspection reveals that a control practice is in need of repair or maintenance, with the exception of a sediment-settling pond, it must be repaired or maintained within three (3) days of the inspection. Sediment settling ponds must be repaired or maintained within ten (10) days of the inspection.
- (2) When practices fail to provide their intended function. If an internal inspection reveals that a control practice fails to perform its intended function as detailed in the SWP3 and that another, more appropriate control practice is required, the SWP3 must be amended and the new control practice must be installed within ten (10) days of the inspection.
- (3) When practices depicted on the SWP3 are not installed. If an internal inspection reveals that a control practice has not been implemented in accordance with the schedule, the control practice must be implemented within ten (10) days from the date of the inspection. If the internal inspection reveals that the planned control practice is not needed, the record must contain a statement of explanation as to why the control practice is not needed.
- (j) FINAL STABILIZATION. Final stabilization shall be determined by the City. Once a definable area has achieved final stabilization, the applicant may note this on the SWP3 and no further inspection requirement applies to that portion of the site.

1195.08 ABBREVIATED STORM WATER POLLUTION PREVENTION PLAN.

- (a) In order to control sediment pollution of water resources and wetlands, the applicant shall submit an Abbreviated SWP3 in accordance with the requirements of this chapter.

- (b) The Abbreviated SWP3 shall be certified by a professional engineer, a registered surveyor, certified professional erosion and sediment control specialist, or a registered landscape architect.
- (c) The Abbreviated SWP3 shall include a minimum of the following BMPs. The City may require other BMPs as site conditions warrant.
 - (1) Construction Entrances: Construction entrances shall be built and shall serve as the only permitted points of ingress and egress to the development area. These entrances shall be built of a stabilized pad of aggregate stone or recycled concrete or cement sized greater than 2" in diameter, placed over a geotextile fabric, and constructed in conformance with specifications in the most recent edition of the Rainwater and Land Development Manual.
 - (2) Concrete Truck Wash Out: The washing of concrete material into a street, catch basin, or other public facility or natural resource is prohibited. A designated area for concrete washout shall be made available.
 - (3) Street Sweeping: Streets directly adjacent to construction entrances and receiving traffic from the development area, shall be cleaned daily to remove sediment tracked off-site. If applicable, the catch basins on these streets nearest to the construction entrances shall be cleaned weekly.
 - (4) Stabilization. The development area shall be stabilized as detailed in Table 4.

Table 4: Stabilization

Area requiring stabilization	Time frame to apply erosion controls
Any disturbed area within 50 feet of a stream and not at final grade.	Within 2 days of the most recent disturbance if that area will remain idle for more than 21 days
For all construction activities, any disturbed area, including soil stockpiles, that will be dormant for more than 21 days but less than one year, and not within 50 feet of a stream.	Within 7 days of the most recent disturbance within the area
Disturbed areas that will be idle over winter	Prior to November 1.
Note: Where vegetative stabilization techniques may cause structural instability or are otherwise unobtainable, alternative stabilization techniques must be employed. These techniques may include mulching or erosion matting.	

- (5) Inlet Protection. Erosion and sediment control practices, such as boxed inlet protection, shall be installed to minimize sediment-laden water entering active storm drain systems. Straw or hay bales are not acceptable forms of inlet protection.
- (6) Internal Inspection and Maintenance. All controls on the development area shall be inspected at least once every seven calendar days and within 24 hours after any storm event greater than one-half inch of rain per 24 hour period. Maintenance shall occur as detailed below:
 - A. When practices require repair or maintenance. If the internal inspection reveals that a control practice is in need of repair or maintenance, with the exception of a sediment-settling pond, it

must be repaired or maintained within three (3) days of the inspection. Sediment settling ponds must be repaired or maintained within ten (10) days of the inspection.

- B. When practices fail to provide their intended function. If the internal inspection reveals that a control practice fails to perform its intended function and that another, more appropriate control practice is required, the Abbreviated SWP3 must be amended and the new control practice must be installed within ten (10) days of the inspection.
- C. When practices depicted on the Abbreviated SWP3 are not installed. If the internal inspection reveals that a control practice has not been implemented in accordance with the schedule, the control practice must be implemented within ten (10) days from the date of the inspection. If the inspection reveals that the planned control practice is not needed, the record must contain a statement of explanation as to why the control practice is not needed.

- (7) Final Stabilization: Final stabilization shall be determined by the City.

1195.09 FEES.

The Storm Water Pollution Prevention Plan and Abbreviated Storm Water Pollution Plan review, filing, and inspection fee is part of a complete submittal and is required to be submitted to the City before the review process begins. Please consult with the City for current fee schedule.

1195.10 BOND.

- (a) If a Storm Water Pollution Prevention Plan or Abbreviated Storm Water Pollution Prevention Plan is required by this chapter, soil disturbing activities shall not be permitted until a cash bond has been deposited with the City. The bond amount shall be a \$1,000 minimum with an additional \$500 paid for each acre or fraction thereof over one acre. The bond will be used for the City to perform the obligations otherwise to be performed by the owner of the development area as stated in this chapter and to allow all work to be performed as needed in the event that the applicant fails to comply with the provisions of this chapter. The cash bond shall be returned, less the City's administrative fees, after all work required by this chapter has been completed and final stabilization has been reached, all as determined by the City.
- (b) No project subject to this chapter shall commence without a SWP3 or Abbreviated SWP3 approved by the City.

1195.11 ENFORCEMENT.

- (a) All development areas may be subject to external inspections by the City to ensure compliance with the approved SWP3 or Abbreviated SWP3.
- (b) After each external inspection, the City shall prepare and distribute a status report to the applicant.

- (c) If an external inspection determines that operations are being conducted in violation of the approved SWP3 or Abbreviated SWP3 the City may take action as detailed in Section 1195.12 of this chapter.

1195.12 VIOLATIONS.

- (a) No person shall violate or cause or knowingly permit to be violated any of the provisions of this chapter, or fail to comply with any of such provisions or with any lawful requirements of any public authority made pursuant to this chapter, or knowingly use or cause or permit the use of any lands in violation of this chapter or in violation of any permit granted under this chapter.
- (b) Upon notice, the City may suspend any active soil disturbing activity for a period not to exceed ninety (90) days, and may require immediate erosion and sediment control measures whenever he or she determines that such activity is not meeting the intent of this chapter. Such notice shall be in writing, shall be given to the applicant, and shall state the conditions under which work may be resumed. In instances, however, where the City finds that immediate action is necessary for public safety or the public interest, it may require that work be stopped upon verbal order pending issuance of the written notice.

1195.99 PENALTY.

- (a) Any person, firm, entity or corporation; including but not limited to, the owner of the property, his agents and assigns, occupant, property manager, and any contractor or subcontractor who violates or fails to comply with any provision of this chapter is guilty of a misdemeanor of the third degree and shall be fined no more than five hundred dollars (\$500.00) or imprisoned for no more than sixty (60) days, or both, for each offense. A separate offense shall be deemed committed each day during or on which a violation or noncompliance occurs or continues.
- (b) The imposition of any other penalties provided herein shall not preclude the City instituting an appropriate action or proceeding in a Court of proper jurisdiction to prevent an unlawful development, or to restrain, correct, or abate a violation, or to require compliance with the provisions of this chapter or other applicable laws, ordinances, rules, or regulations, or the orders of the City.

**CHAPTER 1196
STORM WATER MANAGEMENT**

1196.01 PURPOSE AND SCOPE.

- (a) The purpose of this chapter is to establish technically feasible and economically reasonable storm water management standards to achieve a level of storm water quality and quantity control that will minimize damage to property and degradation of water resources and will promote and maintain the health, safety, and welfare of the citizens of the City.
- (b) This regulation requires owners who develop or re-develop their property within the City to:

- (1) Control storm water runoff from their property and ensure that all storm water management practices are properly designed, constructed, and maintained.
 - (2) Reduce water quality impacts to receiving water resources that may be caused by new development or redevelopment activities.
 - (3) Control the volume, rate, and quality of storm water runoff originating from their property so that surface water and ground water 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 ground water recharge, and maintain subsurface flow that replenishes water resources, except in slippage prone soils.
 - (6) Incorporate storm water 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 storm water management.
 - (8) Maximize use of storm water management practices that serve multiple purposes including, but not limited to, flood control, erosion control, fire protection, water quality protection, recreation, and habitat preservation.
 - (9) Design sites to minimize the number of stream crossings and the width of associated disturbance in order to minimize the City future expenses related to the maintenance and repair of stream crossings.
 - (10) 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) This chapter 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, institutional, or residential projects; building activities on farms; redevelopment activities; grading; and all other uses that are not specifically exempted in Section 1196.01.
- (d) Public entities, including the State of Ohio, Cuyahoga County, and the City of Richmond Heights shall comply with this chapter for projects within the public right-of-way.
- (e) This chapter does not apply to activities regulated by, and in compliance with, the Ohio Agricultural Sediment Pollution Abatement Rules.
- (f) This chapter does not require a Comprehensive Storm Water Management Plan for linear construction projects, such as pipeline or utility line installation, that do not result in the installation of impervious surface as determined by the City. Such projects must be designed to minimize the number of stream crossings and the width of disturbance. Linear construction projects must comply with the requirements of Chapter 1195, Erosion and Sediment Control.

1196.02 DEFINITIONS.

For the purpose of this chapter, the following terms shall have the meaning herein indicated:

- (a) **AS-BUILT SURVEY:** A survey shown on a plan or drawing prepared by a Registered Surveyor indicating the actual dimensions, elevations, and locations of any structures, underground utilities, swales, detention facilities, and sewage treatment facilities after construction has been completed.
- (b) **COMPREHENSIVE STORM WATER MANAGEMENT PLAN:** The written document and plans meeting the requirements of this chapter that sets forth the plans and practices to minimize storm water runoff from a development area, to safely convey or temporarily store and release post-development runoff at an allowable rate to minimize flooding and stream bank erosion, and to protect or improve storm water quality and stream channels.
- (c) **DETENTION FACILITY:** A basin, pond, oversized pipe, or other structure that reduces the peak flow rate of storm water leaving the facility by temporarily storing a portion of the storm water entering the facility.
- (d) **DEVELOPMENT DRAINAGE AREA:** A combination of each hydraulically unique watershed with individual outlet points on the development area.
- (e) **EXTENDED CONVEYANCE:** A storm water management practice that replaces and/or enhances traditional open or closed storm drainage conduits by retarding flow, promoting percolation of runoff into the soil, and filtering pollutants during the storm water quality event.
- (f) **EXTENDED DETENTION:** A storm water management practice that replaces and/or enhances traditional detention facilities by releasing the runoff collected during the storm water quality event over at least 24 to 48 hours, retarding flow and allowing pollutants to settle within the facility.
- (g) **FINAL STABILIZATION:** All soil disturbing activities at the site have been completed and a uniform perennial vegetative cover with a density of at least 80% coverage for the area has been established or equivalent stabilization practices, such as the use of mulches or geotextiles, have been employed.
- (h) **GRADING:** The process in which the topography of the land is altered to a new slope.
- (i) **HYDROLOGIC UNIT CODE:** a cataloging system developed by the United States Geological Survey and the Natural Resource Conservation Service to identify watersheds in the United States.
- (j) **INFILTRATION:** A storm water management practice that does not discharge to a water resource during the storm water quality event, requiring collected runoff to either infiltrate into the groundwater and/or be consumed by evapotranspiration, thereby retaining storm water pollutants in the facility.
- (k) **NONSTRUCTURAL STORM WATER MANAGEMENT PRACTICE:** Storm water runoff control and treatment techniques that use natural practices to control runoff and/or reduce pollution levels.
- (l) **PRE-CONSTRUCTION MEETING:** Meeting prior to construction between all parties associated with the construction of the project including government agencies, contractors and owners to review agency requirements and plans as approved and submitted.

- (m) **REDEVELOPMENT:** A construction project on land where impervious cover has previously been developed and where the new land use will not increase the runoff coefficient. If the new land use will increase the runoff coefficient, then the project is considered to be a new development project rather than a redevelopment project. (Refer to Table 1 in Section 1196.07.)
- (n) **RIPARIAN AREA:** Land adjacent to any brook, creek, river, or stream having a defined bed and bank that, if appropriately sized, helps to stabilize streambanks, limit erosion, reduce flood size flows, and/or filter and settle out runoff pollutants, or performs other functions consistent with the purposes of this chapter.
- (o) **RIPARIAN AND WETLAND SETBACK:** The real property adjacent to a water resource on which soil disturbing activities are limited, all as defined by Chapter 1197, Riparian Areas and Wetlands.
- (p) **SITE OWNER/OPERATOR:** Any individual, corporation, firm, trust, commission, board, public or private partnership, joint venture, agency, unincorporated association, municipal corporation, county or state agency, the federal government, other legal entity, or an agent thereof that is responsible for the overall construction site.
- (q) **STRUCTURAL STORM WATER MANAGEMENT PRACTICE:** Any constructed facility, structure, or device that provides storage, conveyance, and/or treatment of storm water runoff.
- (r) **SURFACE WATERS OF THE STATE:** All streams, lakes, reservoirs, marshes, wetlands, or other waterways situated wholly or partly within the boundaries of the state, except those private waters which do not combine or affect a junction with surface water. Waters defined as sewerage systems, treatment works or disposal systems in Section 6111.01 of the Ohio Revised Code are not included.
- (s) **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, water body, or water body segment. A TMDL sets and allocates the maximum amount of a pollutant that may be introduced into the water and still ensures attainment and maintenance of water quality standards.
- (t) **WATER QUALITY VOLUME:** The volume of runoff from a contributing watershed that must be captured and treated, equivalent to the maximized capture volume as defined in the American Society of Civil Engineers (ASCE) Manual and Report on Engineering Practice No. 87 and Water Environment Federation Manual of Practice No. 23 titled Urban Runoff Quality Management.
- (u) **WATER RESOURCE:** Any public or private body of water; including wetlands; the area within the ordinary high water level of lakes and ponds; as well as the area within the ordinary high water level of any brook, creek, river, or stream having a defined bed and bank (either natural or artificial) which confines and conducts continuous or intermittent flow.
- (v) **WATER RESOURCE CROSSING:** Any bridge, box, arch, culvert, truss, or other type of structure intended to convey people, animals, vehicles, or materials from one side of a watercourse to another. This does not include private, non-commercial footbridges or pole mounted aerial electric or telecommunication lines, nor does it include below grade utility lines.

1196.03 DEVELOPMENT OF COMPREHENSIVE STORM WATER MANAGEMENT PLANS.

- (a) This chapter requires that a Comprehensive Storm Water Management Plan be developed and implemented for soil disturbing activities disturbing one (1) or more acres of total land, or less than one (1) acre if part of a larger common plan of development or sale disturbing one (1) or more acres of total land, and on which any regulated activity of Section 1196.01(c) is proposed.
- (b) The City shall administer this chapter, shall be responsible for determination of compliance with this chapter, and shall issue notices and orders as may be necessary. The City may consult with the Cuyahoga SWCD, private engineers, storm water districts, or other technical experts in reviewing the Comprehensive Storm Water Management Plan.

1196.04 APPLICATION PROCEDURES.

- (a) Pre-Application Meeting: The applicant shall attend a Pre-Application Meeting with the City to discuss the proposed project, review the requirements of this chapter, identify unique aspects of the project that must be addressed during the review process, and establish a preliminary review and approval schedule.
- (b) Preliminary Comprehensive Storm Water Management Plan: The applicant shall submit two (2) sets of a Preliminary Comprehensive Storm Water Management Plan (Preliminary Plan) and the applicable fees to the City. The Preliminary Plan shall show the proposed property boundaries, setbacks, dedicated open space, public roads, water resources, storm water control facilities, and easements in sufficient detail and engineering analysis to allow the City to determine if the site is laid out in a manner that meets the intent of this chapter and if the proposed storm water management practices are capable of controlling runoff from the site in compliance with this chapter. The applicant shall submit two (2) sets of the Preliminary Plan and applicable fees as follows:
 - (1) For subdivisions: In conjunction with the submission of the preliminary subdivision plan.
 - (2) For other construction projects: In conjunction with the application for a zoning or building permit.
 - (3) For general clearing projects: In conjunction with the application for a zoning or building permit.
- (c) Final Comprehensive Storm Water Management Plan: The applicant shall submit two (2) sets of a Final Comprehensive Storm Water Management Plan (Final Plan) and the applicable fees to the City in conjunction with the submittal of the final plat, improvement plans, or application for a zoning or building permit for the site. The Final Plan shall meet the requirements of Section 1196.06 and shall be approved by the City prior to approval of the final plat and/or before issuance of a zoning or building permit by the Building Commissioner.
- (d) Review and Comment: The City shall review the Preliminary and Final Plans submitted, and shall approve or return for revisions with comments and recommendations for revisions. A Preliminary or Final Plan rejected because of deficiencies shall receive a narrative report stating specific problems and the procedures for filing a revised Preliminary or Final Plan.

- (e) Approval Necessary: Land clearing and soil-disturbing activities shall not begin and zoning and/or building permits shall not be issued without an approved Comprehensive Storm Water Management Plan.
- (f) Valid for Two Years: Approvals issued in accordance with this chapter shall remain valid for two (2) years from the date of approval.

1196.05 COMPLIANCE WITH STATE AND FEDERAL REGULATIONS.

Approvals issued in accordance with this chapter do not relieve the applicant of responsibility for obtaining all other necessary permits and/or approvals from other federal, state, and/or county agencies. If requirements vary, the most restrictive shall prevail. These permits may include, but are not limited to, those listed below. Applicants are required to show proof of compliance with this chapter before the City will issue a building or zoning/building permit.

- (a) Ohio EPA NPDES Permits authorizing storm water 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 chapter.
- (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 chapter.
- (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 chapter.

- (e) Ohio Dam Safety Law: Proof of compliance shall be a copy of the ODNR Division of Water permit application tracking number, a copy of the project approval letter from the ODNR Division of Water, or a letter from the site owner certifying and explaining why the Ohio Dam Safety Law is not applicable.

1196.06 COMPREHENSIVE STORM WATER MANAGEMENT PLANS.

- (a) Comprehensive Storm Water Management Plan Required: The applicant shall develop a Comprehensive Storm Water Management Plan describing how the quantity and quality of storm water will be managed after construction is complete for every discharge from the site and/or into a water resource. The Plan will illustrate the type, location, and dimensions of every structural and non-structural storm water management practice incorporated into the site design, and the rationale for their selection. The rationale must address how these storm water management practices will address flooding within the site as well as flooding that may be caused by the development upstream and downstream of the site. The rationale will also describe how the storm water management practices minimize impacts to the physical, chemical, and biological characteristics of on-site and downstream water resources and, if necessary, correct current degradation of water resources that is occurring or take measures to prevent predictable degradation of water resources.
- (b) Preparation by Professional Engineer: The Comprehensive Storm Water Management Plan shall be prepared by a registered professional engineer and include supporting calculations, plan sheets, and design details. To the extent necessary, as determined by the City, a site survey shall be performed by a Registered Professional Surveyor to establish boundary lines, measurements, or land surfaces.
- (c) Community Procedures: The City shall prepare and maintain procedures providing specific criteria and guidance to be followed when designing the storm water management system for the site. These procedures may be updated from time to time, at the discretion of the City based on improvements in engineering, science, monitoring, and local maintenance experience. The City shall make the final determination of whether the practices proposed in the Comprehensive Storm Water Management Plan meet the requirements of this chapter. The City may also maintain a list of acceptable Best Management Practices that meet the criteria of this chapter to be used in the City.
- (d) Contents of Comprehensive Storm Water Management Plan: The Comprehensive Storm Water Management Plan shall contain an application, narrative report, construction site plan sheets, a long-term Inspection and Maintenance Agreement, and a site description with the following information provided:
 - (1) Narrative Report:
 - A. A description of the nature and type of the construction activity (e.g. residential, shopping mall, highway, etc.).
 - B. 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 and percent of imperviousness created by the soil-disturbing activity at the beginning and at the conclusion of the project.
- E. Existing data describing the soils throughout the site, including the soil series and association, hydrologic soil group, porosity, infiltration characteristics, depth to groundwater, depth to bedrock, and any impermeable layers.
- F. If available, the quality of any known pollutant discharge from the site such as that which may result from previous contamination caused by prior land uses.
- G. The location and name of the immediate water resource(s) and the first subsequent water resource(s).
- H. The aerial (plan view) extent and description of water resources at or near the site that will be disturbed or will receive discharges from the project.
- I. 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.
- J. The narrative report shall detail the following: drainage sub areas and description of cover; pre- and post- development runoff and allowable runoff rates; stage-storage-discharge relationships for every control structure; a summary table of results, including basin maximum water surface elevation, design calculations, and other supporting information as applicable or as required by the reviewing authority.

(2) Site map showing:

- A. Limits of soil-disturbing activity on the site.
- B. Soils types for the entire site, including locations of unstable or highly erodible soils.
- C. Existing and proposed one-foot (1') contours. This must include a delineation of drainage watersheds expected before, during, and after major grading activities as well as the size of each drainage watershed in acres.
- D. Water resource locations including springs, wetlands, streams, lakes, water wells, and associated setbacks on or within 200 feet of the site, including the boundaries of wetlands or streams and first subsequent named receiving water(s) the applicant intends to fill or relocate for which the applicant is seeking approval from the Army Corps of Engineers and/or Ohio EPA.
- E. Existing and planned locations of buildings, roads, parking facilities, and utilities.
- F. The location of any in-stream activities including stream crossings. Storm water management practices to be employed on the development area both during and after soil disturbing activities,

- including their location and size, including detail drawings, maintenance requirements during and after construction.
- (3) Contact information: Company name and contact information as well as contact name, addresses, and phone numbers for the following:
 - A. The Professional Engineer who prepared the Comprehensive Storm Water Management Plan.
 - B. The site owner.
 - (4) Phase, if applicable, of the overall development plan.
 - (5) List of subplot numbers if project is a subdivision.
 - (6) Ohio EPA NPDES Permit Number and other applicable state and federal permit numbers, if available, or status of various permitting requirements if final approvals have not been received.
 - (7) Location, including complete site address and subplot number if applicable.
 - (8) Location of any easements or other restrictions placed on the use of the property.
 - (9) A site plan sheet showing:
 - A. The location of each proposed post-construction storm water management practice.
 - B. The geographic coordinates of the site AND each proposed practice in North American Datum Ohio State Plan North.

It is preferred that the entire site be shown on one plan sheet to allow a complete view of the site during plan review. If a smaller scale is used to accomplish this, separate sheets providing an enlarged view of areas on individual sheets should also be provided.
 - (10) An Inspection and Maintenance Agreement. The Inspection and Maintenance Agreement required for storm water management practices under this chapter shall be a stand alone document between the City and the applicant and shall contain the following information and provisions:
 - A. The location of each storm water management practice, including those practices permitted to be located in, or within 50 feet of, water resources, and identification of the drainage area served by each storm water management practice.
 - B. A schedule for regular maintenance for each aspect of the storm water management system and description of routine and non-routine maintenance tasks to ensure continued performance of the system as is detailed in the approved Comprehensive Storm Water Management Plan. This schedule may include additional standards, as required by the City Engineer, to ensure continued performance of storm water management practices permitted to be located in, or within 50 feet of, water resources.
 - C. The location and documentation of all access and maintenance easements on the property.
 - D. Identification of the landowner(s), organization, or municipality responsible for long-term maintenance, including repairs, of the storm water management practices.

- E. The landowner(s), organization, or municipality shall maintain storm water management practices in accordance with this chapter.
- F. The City has the authority to enter upon the property to conduct inspections as necessary to verify that the storm water management practices are being maintained and operated in accordance with this chapter.
- G. The City shall maintain public records of the results of site inspections, shall inform the landowner(s), organization, or municipality responsible for maintenance of the inspection results, and shall specifically indicate any corrective actions required to bring the storm water practices into proper working condition.
- H. If the City notifies the landowner(s), organization, or municipality responsible for maintenance of the maintenance problems that require correction, the specific corrective actions shall be taken within a reasonable time frame as determined by the City.
- I. The City is authorized to enter upon the property and to perform the corrective actions identified in the inspection report if the landowner(s), organization, or municipality responsible for maintenance does not make the required corrections in the specified time period. The City shall be reimbursed by the landowner(s), organization, or municipality responsible for maintenance for all expenses incurred within 10 days of receipt of invoice from the City.
- J. The method of funding long-term maintenance and inspections of all storm water management practices.
- K. A release of the City from all damages, accidents, casualties, occurrences, or claims that might arise or be asserted against the City from the construction, presence, existence, or maintenance of the storm water management practices.

Alteration or termination of these stipulations is prohibited. The applicant must provide a draft of this Inspection and Maintenance Agreement as part of the Comprehensive Storm Water Management Plan submittal for review and approval by the City. Once the Agreement has been approved and executed it shall be recorded with Cuyahoga County Recorder's office and a recorded copy of the Agreement must be submitted to the City to receive final inspection approval of the site.

- (11) Calculations required: The applicant shall submit calculations for projected storm water runoff flows, volumes, and timing into and through all storm water management practices for flood control, channel protection, water quality, and the condition of the habitat, stability, and incision of each water resource and its the floodplain, as required in Section 1196.07 of this chapter. These submittals shall be completed for both pre- and post-development land use conditions and shall include the underlying assumptions and hydrologic and hydraulic methods and parameters used for these calculations. The applicant shall also include

critical storm determination and demonstrate that the runoff from upper watershed areas have been considered in the calculations.

- (12) List of all contractors and subcontractors before construction: Prior to construction or before the pre-construction meeting, provide the list of all contractors and subcontractors names, addresses, and phones involved with the implementation of the Comprehensive Storm Water Management Plan including a written document containing signatures of all parties as proof of acknowledgment that they have reviewed and understand the requirements and responsibilities of the Comprehensive Storm Water Management Plan.
- (13) Existing and proposed drainage patterns: The location and description of existing and proposed drainage patterns and storm water management practices, including any related storm water management practices beyond the development area and the larger common development area.
- (14) For each storm water management practice to be employed on the development area, include the following:
 - A. Location and size, including detail drawings, maintenance requirements during and after construction, and design calculations, all where applicable.
 - B. Final site conditions including storm water inlets and permanent nonstructural and structural storm water management practices. Details of storm water management practices shall be drawn to scale and shall show volumes and sizes of contributing drainage areas.
 - C. Any other structural and/or non-structural storm water management practices necessary to meet the design criteria in this regulation and any supplemental information requested by the City.

1196.07 PERFORMANCE STANDARDS.

- (a) General: The storm water system, including storm water management practices for storage, treatment and control, and conveyance facilities, 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 following criteria:
 - (1) Integrated practices that address degradation of water resources. The storm water management practices shall function as an integrated system that controls flooding and minimizes the degradation of the physical, biological, and chemical integrity of the water resources receiving storm water discharges from the site. Acceptable practices shall:
 - A. Not disturb riparian areas, unless the disturbance is intended to support a watercourse restoration project and complies with Chapter 1197, Riparian Areas and Wetlands.
 - B. Maintain predevelopment hydrology and groundwater recharge on as much of the site as practicable.

- C. Only install new impervious surfaces and compact soils where necessary to support the future land use.
- D. Compensate for increased runoff volumes caused by new impervious surfaces and soil compaction by reducing storm water peak flows to less than predevelopment levels.

Storm water management practices that meet the criteria in this chapter, and additional criteria required by the City, shall comply with this chapter.

- (2) Practices designed for final use: Storm water management practices shall be designed to achieve the storm water management objectives of this chapter, to be compatible with the proposed post-construction use of the site, to protect the public health, safety, and welfare, and to function safely with minimal maintenance.
- (3) Storm water management for all lots: Areas developed for a subdivision, as defined in Chapter 1123, shall provide storm water management and water quality controls for the development of all subdivided lots. This 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 the lot.
- (4) Storm water facilities in water resources: Storm water 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 other applicable federal, state, and local agencies as required in Section 1196.05 of this chapter, and the activity is in compliance with Chapter 1195, Erosion and Sediment Control and Chapter 1197 Riparian Areas and Wetlands, all as determined by the City.
- (5) Storm water ponds and surface conveyance channels: All storm water pond 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. When designing storm water ponds and conveyance channels, the applicant shall consider public safety as a design factor and alternative designs must be implemented where site limitations would preclude a safe design.
- (6) Exemption: The site where soil-disturbing activities are conducted shall be exempt from the requirements of Section 1196.07 if it can be shown to the satisfaction of the City that the site is part of a larger common plan of development where the storm water management requirements for the site are provided by an existing storm water management practice, or if the storm water management requirements for the site are provided by practices defined in a regional or local storm water management plan approved by the City.
- (7) Maintenance: All storm water management practices shall be maintained in accordance with Inspection and Maintenance Agreements approved by the City as detailed in Section 1196.06.

- (8) Ownership: Unless otherwise required by the City, storm water management practices serving multiple lots in subdivisions shall be on a separate lot held and maintained by an entity of common ownership or, if compensated by the property owners, by the City. Storm water management practices serving single lots shall be placed on these lots, protected within an easement, and maintained by the property owner.
- (9) Preservation of Existing Natural Drainage. Practices that preserve and/or improve the existing natural 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 maintaining unconcentrated storm water runoff to and through these areas.
- (10) Preservation of Wetland Hydrology: Concentrated storm water runoff from BMPs to wetlands shall be converted to diffuse flow before the runoff enters a wetland in order to protect the natural hydrology, hydroperiod, and wetland flora. The flow shall be released such that no erosion occurs down slope. Practices such as level spreaders, vegetative buffers, infiltration basins, conservation of forest covers, and the preservation of intermittent streams, depressions, and drainage corridors may be used to maintain the wetland hydrology.

If the applicant proposes to discharge to natural wetlands, a hydrological analysis shall be performed to demonstrate that the proposed discharge matches the pre-development hydroperiods and hydrodynamics.

- (b) Storm Water Conveyance Design Criteria: All storm water management practices shall be designed to convey storm water to allow for the maximum removal of pollutants and reduction in flow velocities. This shall include but not be limited to:
 - (1) Stream relocation or enclosure: The City may allow the 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 as required in Section 1196.05 of this chapter, and the activity is in compliance with Chapter 1195, Erosion and Sediment Control and Chapter 1197 Riparian Areas and Wetlands, all as determined by the City. At a minimum, stream relocation designs must show how the project will minimize changes to the vertical stability, floodplain form, channel form, and habitat of upstream and downstream channels on and off the property.
 - (2) Off-site storm water discharges: Off-site storm water runoff that discharges to or across the applicant's development site shall be conveyed through the storm water conveyance system planned for the development site at its existing peak flow rates during each design storm. Off-site flows shall be diverted around storm water quality control facilities or, if this is not possible, the storm water quality control facility shall be sized to treat the off-site flow. Comprehensive Storm Water Management Plans will not be approved until it is demonstrated to the satisfaction of the City that

off-site runoff will be adequately conveyed through the development site in a manner that does not exacerbate upstream or downstream flooding and erosion.

- (3) 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 storm water management practice from areas too long and/or too large to maintain sheet flow, all as determined by the City.
- (4) Open channels: Unless otherwise allowed by the City, drainage tributary to storm water management practices shall be provided by an open channel with landscaped banks and designed to carry the 10-year, 24-hour storm water runoff from upstream contributory areas.
- (5) Open drainage systems: Open drainage systems shall be preferred on all new development sites to convey storm water where feasible. Storm sewer systems shall be allowed only when the site cannot be developed at densities allowed under City zoning or where the use of an open drainage system affects public health or safety, all as determined by the City. The following criteria shall be used to design storm sewer systems when necessary:
 - A. Storm sewers shall be designed such that they do not surcharge from runoff caused by the 10-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 below the top of drainage structures outside the roadway during a 25-year, 24-hour storm. The system shall be designed to meet these requirements when conveying the flows from the contributory area within the proposed development and existing flows from offsite areas that are upstream from the development.
 - B. The minimum inside diameter of 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.
 - C. All storm sewer systems shall be designed taking into consideration 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 with consideration for 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.
 - D. 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.
- E. Headwalls shall be required at all storm sewer inlets or outlets to and from open channels or lakes.
- (6) Water Resource Crossings. The following criteria shall be used to design structures that cross a water resource in the City:
- A. Water resource crossings other than bridges shall be designed to convey the stream's flow for the minimum 25-year, 24-hour storm.
- B. Bridges, open bottom arch or spans are the preferred crossing technique and shall be considered in the planning phase of the development. Bridges and open spans should be considered for all State Scenic Rivers, coldwater habitat, exceptional warmwater habitat, seasonal salmonid habitat streams, and Class III headwater streams. The footers or piers for these bridges and open spans shall not be constructed below the ordinary high water mark.
- C. If a culvert or other closed bottom crossing is used, twenty-five (25) percent of the cross-sectional area or a minimum of 1 foot of box culverts and pipe arches must be embedded below the channel bed.
- D. The minimum inside diameter of pipes to be used for crossings shall be 12 inches.
- E. The maximum slope allowable shall be a slope that produces a 10-fps velocity within the culvert barrel under design flow conditions. Erosion protection and/or energy dissipaters shall be required to properly control entrance and outlet velocities.
- F. All culvert installations shall be designed with consideration for the tailwater of the receiving facility or water resource. The tailwater elevation used shall be based on the design storm frequency.
- G. Headwalls shall be required at all culvert inlets or outlets to and from open channels or lakes.
- H. Streams with a drainage area of 5 square miles or larger shall incorporate floodplain culverts at the bankfull elevation to restrict head loss differences across the crossing so as to cause no rise in the 100-year storm event.
- I. Bridges shall be designed such that the hydraulic profile through a bridge shall be below the bottom chord of the bridge for either the 100-year, 24-hour storm, or the 100-year flood elevation as determined by FEMA, whichever is more restrictive.
- (7) Overland flooding: Overland flood routing paths shall be used to convey storm water runoff from the 100-year, 24-hour storm event to an adequate receiving water resource or storm water management practice such that the runoff is contained within the drainage easement for the flood routing path and does not cause flooding of buildings or related structures. The peak 100-year water surface elevation along flood routing paths shall be at least one foot below the finished grade elevation at the structure. When

designing the flood routing paths, the conveyance capacity of the site's storm sewers shall be taken into consideration.

- (8) Compensatory flood storage mitigation: In order to preserve floodplain storage volumes and thereby avoid increases in water surface elevations, any filling within floodplains approved by the City must be compensated by removing an equivalent volume of material. First consideration for the location(s) of compensatory floodplain volumes should be given to areas where the stream channel will have immediate access to the new floodplain within the limits of the development site. Consideration will also be given to enlarging existing or proposed retention basins to compensate for floodplain fill if justified by a hydraulic analysis of the contributing watershed. Unless otherwise permitted by the City, reductions in volume due to floodplain fills must be mitigated within the legal boundaries of the development. Embankment slopes used in compensatory storage areas must reasonably conform to the natural slopes adjacent to the disturbed area. The use of vertical retaining structures is specifically prohibited.
- (9) Velocity dissipation: Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall to provide non-erosive flow velocity from the structure to a water resource so that the natural physical and biological characteristics and functions of the water resource are maintained and protected.

C. Storm Water Quality Control:

- (1) Direct runoff to a BMP: The site shall be designed to direct runoff to one or more of the following storm water management practices. These practices are listed in Table 2 of this regulation and shall be designed to meet the following general performance standards:
 - A. Extended conveyance facilities that slow the rate of storm water runoff; filter and biodegrade pollutants in storm water; promote infiltration and evapotranspiration of storm water; and discharge the controlled runoff to a water resource.
 - B. Extended detention facilities that detain storm water; settle or filter particulate pollutants; and release the controlled storm water to a water resource.
 - C. Infiltration facilities that retain storm water; promote settling, filtering, and biodegradation of pollutants; and infiltrate captured storm water into the ground. The City may require a soil engineering report to be prepared for the site to demonstrate that any proposed infiltration facilities meet these performance standards.
 - D. For sites less than five (5) acres, but greater than one (1) acre and not part of a common plan of development, where (1) or more acres are disturbed, the City may approve other BMPs if the applicant demonstrates to the City's satisfaction that these BMPs meet the objectives of this regulation as stated in Section 1196.07(c)(6).

- E. For sites greater than five (5) acres, or less than five (5) acres but part of a larger common plan of development or sale which will disturb five (5) or more acres, the City may approve other BMPs if the applicant demonstrates to the City's satisfaction that these BMPs meet the objectives of this regulation as stated in Section 1196.07(c)(6), and has prior written approval from the Ohio EPA.
- F. For the construction of new roads and roadway improvement projects by public entities (i.e. the state, counties, townships, cities, or villages), the City may approve BMPs not included in Table 2 of this regulation, but must show compliance with the current version of the Ohio Departments of Transportations "Location and Design Manual, Volume Two Drainage Design".

(2) Criteria applying to all storm water management practices. Practices chosen must be sized to treat the water quality volume (WQv) and to ensure compliance with Ohio Water Quality Standards (OAC Chapter 3745-1).

A. The WQv shall be equal to the volume of runoff from a 0.75 inch rainfall event and shall be determined according to one of the following methods:

1. Through a site hydrologic study approved by the City that uses continuous hydrologic simulation; site-specific hydrologic parameters, including impervious area, soil infiltration characteristics, slope, and surface routing characteristics; proposed best management practices controlling the amount and/or timing of runoff from the site; and local long-term hourly records, or
2. Using the following equation:

$$WQ_v = C * P * A / 12$$

where terms have the following meanings:

WQ_v = water quality volume in acre-feet

C = runoff coefficient appropriate for storms less than 1 in.

P = 0.75 inch precipitation depth

A = area draining into the storm water practice, in acres.

Runoff coefficients required by the Ohio Environmental Protection Agency (Ohio EPA) for use in determining the water quality volume can be determined using the list in Table 1 or using the following equation to calculate the runoff coefficient, if the applicant can demonstrate that appropriate controls are in place to limit the proposed impervious area of the development:

$$C = 0.858i^3 - 0.78i^2 + 0.774i + 0.04, \text{ where:}$$

i = fraction of the drainage area that is impervious

Table 1: Runoff Coefficients Based on the Type of Land Use

Land Use	Runoff Coefficient
Industrial & Commercial	0.8
High Density Residential (>8 dwellings/acre)	0.5
Medium Density Residential (4 to 8 dwellings/acre)	0.4
Low Density Residential (<4 dwellings/acre)	0.3
Open Space and Recreational Areas	0.2
Where land use will be mixed, the runoff coefficient should be calculated using a weighted average. For example, if 60% of the contributing drainage area to the storm water treatment structure is Low Density Residential, 30% is High Density Residential, and 10% is Open Space, the runoff coefficient is calculated as follows $(0.6)(0.3)+(0.3)(0.5)+(0.1)(0.2) = (0.35)$	

- B. An additional volume equal to 20% of the WQv shall be incorporated into the storm water practice for sediment storage. This volume shall be incorporated into the sections of storm water practices where pollutants will accumulate.
- C. Storm water quality management practices shall be designed such that the drain time is long enough to provide treatment and protect against downstream bank erosion, but short enough to provide storage available for successive rainfall events as defined in Table 2.

Table 2: Draw Down Times for Storm Water Management Practices

Best Management Practice	Drain Time of WQv
Infiltration Facilities*	24 - 48 hours
Extended Conveyance Facilities (Vegetated Swales, Filter Strips) <ul style="list-style-type: none"> ▪ Vegetated Filter Strip with Berm ▪ Enhanced Water Quality Swale ▪ Flow Through Design 	24 hours 24 hours **
Extended Detention Facilities <ul style="list-style-type: none"> ▪ Extended Dry Detention Basins*** ▪ Wet Detention Basins + ▪ Pocket Wetland^ ▪ Constructed Wetlands (above permanent pool) ▪ Bioretention* ▪ Sand and other Media Filtration 	48 hours 24 hours 24 hours 24 hours 40 hours 40 hours

* The WQv shall completely infiltrate within 48 hours so there is no standing or residual water pool.

** Sized to pass a hydrograph with a volume equal to the WQv, a duration of 2 hours, peak rainfall intensity of 1 inch/hour at a depth of no more than 3 inches and have a minimum hydraulic residence time of 5 minutes. The use of this criterion is limited to sites where the total area disturbed is 5 acres or less. Prior approval from the City is necessary to use this practice. For sites greater than five (5) acres or less than five (5) acres but part of a larger common plan of development or sale which will disturb five (5) or more acres, prior written approval is required from the Ohio EPA.

*** The use of a forebay and micropool is required on all extended dry detention basins. Each is to be sized at a minimum 10% of the WQv.

+Provide both a permanent pool and an extended detention volume above the permanent pool, each sized with at least $0.75 \times WQv$.

^Pocket wetland must have a wet pool equal to the WQv, with 25% of the WQv in a pool and 75% in marshes. The EDV above the permanent pool must be equal to the WQv.

- D. Each practice shall be designed to facilitate sediment removal, vegetation management, debris control, and other maintenance activities defined in the Inspection and Maintenance Agreement for the site.
- E. The size of the water quality volume (WQv) orifice shall be limited to 2.5 inches in extended detention ponds when drainage areas are too small to allow a practical WQv orifice size.

(3) Additional criteria applying to infiltration facilities.

- A. Infiltration facilities shall only be allowed if the soils of the facility fall within hydrologic soil groups A or B, if the seasonal high water table is at least three (3) feet below the final grade elevation, and any underlying bedrock is at least six feet below the final grade elevation.
- B. All runoff directed into an infiltration basin 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 basin site. No construction equipment shall be allowed within the infiltration basin site to avoid soil compaction.

(4) Additional criteria applying to extended conveyance facilities.

- A. Facilities shall be lined with fine turf-forming, flood tolerant grasses.
- B. Facilities designed according to the extended conveyance detention design drain time shall:

1. Not be located in areas where the depth to bedrock and/or seasonal high water table is less than 3 feet below the final grade elevation.
 2. Only be allowed where the underlying soil consists of hydrologic soil group (HSG) A or B, unless the underlying soil is replaced by at least a 2.5 foot deep layer of soil amendment with a permeability equivalent to a HSG A or B soil and an underdrain system is provided.
- C. Facilities designed according to the flow through design drain time shall:
1. Only be allowed on sites where:
 - a. The total area disturbed is 5 acres or less
 - b. The discharge rate from the BMP will have negligible hydrologic impacts to received waters as described in Chapter 1196.07(c)(6)B.
 - c. Prior written approval is given by the City; and
 - d. For sites greater than five (5) acres or less than five (5) acres but part of a larger common plan of development or sale which will disturb five (5) or more acres, prior written approval has been given by the Ohio EPA.
 2. Be designed to slow and filter runoff flowing through the turf grasses with a maximum depth of flow no greater than 3 inches.
 3. Be designed to have a minimum hydraulic residence time of 5 minutes.
- D. Concentrated runoff shall be converted to sheet flow, or a diffuse flow using a plunge pool, flow diffuser or level spreader, before entering an extended conveyance facility designed according to the flow through drain time.
- (5) Additional criteria for extended detention facilities:
- A. The outlet shall be designed to not release more than the first half of the water quality volume in less than 1/3rd of the drain time. A valve shall be provided to drain any permanent pool volume for removal of accumulated sediments. The outlet shall be designed to minimize clogging, vandalism, maintenance, and promote the capture of floatable pollutants.
 - B. The basin design shall incorporate the following features to maximize multiple uses, aesthetics, safety, and maintainability:
 1. Basin side slopes above the permanent pool shall have a run to rise ratio of 4:1 or flatter.
 2. The perimeter of all permanent pool areas deeper than 4 feet shall be surrounded by an aquatic bench that extends at least 8 feet and no more than 15 feet outward from the normal water edge. The 8 feet wide portion of the aquatic bench closest to the shoreline shall have an average depth

of 6 inches below the permanent pool to promote the growth of aquatic vegetation. The remainder of the aquatic bench shall be no more than 15 inches below the permanent pool to minimize drowning risk to individuals who accidentally or intentionally enter the basin, and to limit growth of dense vegetation in a manner that allows waves and mosquito predators to pass through the vegetation. The maximum slope of the aquatic bench shall be 10 (H) to 1 (V). The aquatic bench shall be planted with hearty plants comparable to wetland vegetation that are able to withstand prolonged inundation.

3. A forebay designed to allow larger sediment particles to settle shall be placed at basin inlets. The forebay and micropool volume shall be equal to at least 10% of the water quality volume (WQv).
4. When post-construction detention/water quality basin are to be used as temporary sediment trapping BMPs, a skimmer discharge device consistent with the Ohio Rainwater Manual shall be utilized during construction phase and until the site is deemed permanently stabilized by the administrator as required by Chapter 1195, Erosion and Sediment Control.

(6) Criteria for the Acceptance of Alternative post-construction BMPs: The applicant may request approval from the City for the use of alternative structural post-construction BMPs if the applicant shows to the satisfaction of the City that these BMPs are equivalent in pollutant removal and runoff flow/volume reduction effectiveness to those listed in Table 2. If the site is greater than five (5) acres, or less than five (5) acres but part of a larger common plan of development or sale which will disturb five (5) or more acres, prior approval from the Ohio EPA is necessary. To demonstrate the equivalency, the applicant must show:

- A. The alternative BMP has a minimum total suspended solid (TSS) removal efficiency of 80 percent, using the Level II Technology Acceptance Reciprocity Partnership (TARP) testing protocol.
- B. The water quality volume discharge rate from the selected BMP is reduced to prevent stream bed erosion, unless there will be negligible hydrologic impact to the receiving surface water of the State. The discharge rate from the BMP will have negligible impacts if the applicant can demonstrate one of the following conditions:
 1. The entire water quality volume is recharged to groundwater.
 2. The development will create less than one acre of impervious surface.
 3. The development project is a redevelopment project with an ultra-urban setting, such as a downtown area, or on a site

where 100 percent of the project area is already impervious surface and the storm water discharge is directed into an existing storm sewer system.

4. The storm water drainage system of the development discharges directly into a large river of fourth order or greater or to a lake, and where the development area is less than 5 percent of the water area upstream of the development site, unless a Total Maximum Daily Load (TMDL) has identified water quality problems in the receiving surface water of the State.

(d) Storm Water Quantity Control: The Comprehensive Storm Water Management Plan shall describe how the proposed storm water management practices are designed to meet the following requirements for storm water quantity control for each watershed in the development:

- (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 1-year, 24-hour storm occurring on the same development drainage area under pre-development conditions.
- (2) Storms of less frequent occurrence (longer return periods) than the Critical Storm, up to the 100-year, 24-hour storm shall have peak runoff discharge rates no greater than the peak runoff rates from equivalent size storms under pre-development conditions. The 1, 2, 5, 10, 25, 50, and 100-year storms shall be considered in designing a facility to meet this requirement.
- (3) The Critical Storm for each specific development drainage area shall be determined as follows:
 - A. Determine, using a curve number-based hydrologic method that generates hydrographs, or other hydrologic method approved by the City, the total volume (acre-feet) of runoff from a 1-year, 24-hour storm occurring on the development drainage area before and after development. These calculations shall meet the following standards:
 1. Calculations shall include the lot coverage assumptions used for full build out as proposed.
 2. Calculations shall be based on the entire contributing watershed to the development area.
 3. Curve numbers for the pre-development condition must reflect the average type of land use over the past 10 years and not only the current land use.
 4. To account for future post-construction improvements to the site, calculations shall assume an impervious surface such as asphalt or concrete for all parking areas and driveways, regardless of the surface proposed in the site description.
 - B. From the volume determined in Section 1196.07(d)(3)A, determine the percent increase in volume of runoff due to development.

Using the percentage, select the 24-hour Critical Storm from Table 3.

Table 3: 24-Hour Critical Storm

If the Percentage of Increase in Volume of Runoff is:		The Critical Storm will be:
Equal to or Greater Than:	and 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

For example, if the percent increase between the pre- and post-development runoff volume for a 1-year storm is 35%, the Critical Storm is a 5-year storm. The peak discharge rate of runoff for all storms up to this frequency shall be controlled so as not to exceed the peak discharge rate from the 1-year frequency storm under pre-development conditions in the development drainage area. The post-development runoff from all less frequent storms need only be controlled to meet pre-development peak discharge rates for each of those same storms.

- (e) Storm Water Management on Redevelopment Projects: Comprehensive Storm Water Management Plans for redevelopment projects shall reduce existing site impervious areas by at least 20 percent. A one-for-one credit towards the 20 percent net reduction of impervious area can be obtained through the use of pervious pavement and/or green roofs.
- (1) Where site conditions prevent the reduction of impervious area, stormwater management practices shall be implemented to provide storm water quality control facilities for at least 20 percent of the site's impervious area.
 - (2) When a combination of impervious area reduction and storm water quality control facilities are used, the combined area shall equal or exceed 20 percent of the site.
 - (3) Where projects are a combination of new development and redevelopment, the total water quality volume that must be treated shall be calculated by a weighted average based on acreage, with the new development at 100 percent water quality volume and redevelopment at 20 percent.

- (4) Where conditions prevent impervious area reduction or on-site stormwater management for redevelopment projects, practical alternatives as detailed in Section 1196.08 may be approved by the City.

1196.08 ALTERNATIVE ACTIONS.

- (a) When the City determines that site constraints compromise the intent of this chapter, off-site alternatives may be used that result in an improvement of water quality and a reduction of storm water quantity. Such alternatives shall meet the following standards:
 - (1) Shall achieve the same level of storm water quantity and quality control that would be achieved by the on-site controls required under this chapter.
 - (2) Implemented in the same Hydrologic Unit Code (HUC) 14 watershed unit as the proposed development project.
 - (3) 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.
 - (4) An inspection and maintenance agreement as described in Chapter 1196.06(d)(10) is established to ensure operations and treatment in perpetuity.
 - (5) Obtain prior written approval from Ohio EPA.
- (b) Alternative actions may include, but are not limited to the following. All alternative actions shall be approved by the City:
 - (1) Fees, in an amount specified by the City to be applied to community-wide storm water management practices.
 - (2) Implementation of off-site storm water management practices and/or the retrofit of an existing practice to increase quality and quantity control.
 - (3) Stream, floodplain, or wetland restoration.
 - (4) Acquisition or conservation easements on protected open space significantly contributing to storm water control such as wetland complexes.

1196.09 EASEMENTS.

Access to storm water management practices as required by the City for inspections and maintenance shall be secured by easements. The following conditions shall apply to all easements:

- (a) Easements shall be included in the Inspection and Maintenance Agreement submitted with the Comprehensive Storm Water Management Plan.
- (b) Easements shall be approved by the City prior to approval of a final plat and shall be recorded with the Cuyahoga County Recorder's office and on all property deeds, and shall be shown on all plats of minor or major subdivisions.
- (c) Unless otherwise required by the City, access easements between a public right-of-way and all storm water management practices shall be no less than 25-feet wide. The easement shall also incorporate the entire practice plus an additional 25-foot wide band around the perimeter of the storm water management practice.
- (d) The easement shall be graded and/or stabilized as necessary to allow maintenance equipment to access and manipulate around and within each facility, as defined in the Inspection and Maintenance Agreement for the site.

- (e) Easements to structural storm water management practices shall be restricted against the planting of trees and shrubbery and the construction therein of buildings, fences, walls, and other structures that may obstruct the free flow of storm water and the passage of inspectors and maintenance equipment; and against the changing of final grade from that described by the final grading plan approved by the City. Any landscaping, re-grading and/or obstruction placed within a maintenance easement may be removed, after reasonable notification, by the City at the property owners' expense.

1196.10 MAINTENANCE AND FINAL INSPECTION APPROVAL.

To receive final inspection and acceptance of any project, or portion thereof, the following must be completed and provided to the City:

- (a) Final stabilization must be achieved and all permanent storm water management practices must be installed and made functional, as determined by the City and per the approved Comprehensive Storm Water Management Plan.
- (b) An As-Built Certification, including a Survey and Inspection, must be sealed, signed and dated by a Professional Engineer and a Professional Surveyor with a statement certifying that the storm water management practices, as designed and installed, meet the requirements of the Comprehensive Storm Water Management Plan approved by the City. In evaluating this certification, the City may require the submission of a new set of storm water practice calculations if he/she determines that the design was altered significantly from the approved Comprehensive Storm Water Management Plan. The As-Built Survey must provide the location, dimensions, and bearing of such practices and include the entity responsible for long-term maintenance as detailed in the Inspection and Maintenance Agreement.
- (c) A copy of the complete and recorded Inspection and Maintenance Agreement as specified in Section 1196.06 must be provided to the City.

1196.11 ON-GOING INSPECTIONS.

- (a) The City shall inspect storm water management practices periodically. Upon finding a malfunction or other need for maintenance, the City shall provide written notification to the responsible party, as detailed in the Inspection and Maintenance Agreement, of the need for maintenance. Upon notification, the responsible party shall have thirty (30) working days, or other mutually agreed upon time, to make repairs or submit a plan with detailed action items and established timelines. Should repairs not be made within this time, or a plan approved by the City for these repairs not be in place, the City may undertake the necessary repairs and assess the responsible party.
- (b) Storm water management facilities and related BMPs built before the passage of this ordinance and not otherwise subject to an Inspection and Maintenance Agreement shall be subject to applicable provisions of Part Thirteen "Building Code" with regard to property inspection and maintenance.

1196.12 FEES.

The Comprehensive Storm Water Management Plan review, filing, and inspection fee is part of a complete submittal and is required to be submitted to the City before the review process begins. The City shall establish a fee schedule based upon the actual estimated cost for providing these services.

1196.13 BOND.

- (a) If a Comprehensive Storm Water Management Plan is required by this chapter, soil-disturbing activities shall not be permitted until a cash bond of 5% of the total project cost, has been deposited with the City. This bond shall be posted for the City to perform the obligations otherwise to be performed by the owner of the development area as stated in this chapter and to allow all work to be performed as needed in the event that the applicant fails to comply with the provisions of this chapter. The stormwater bond will be returned, less the City's administrative fees, when the following three criteria are met:
 - (1) After 80% of the lots of the project have been complete or 100% of the total project has been permanently stabilized or three (3) years from the time of permanent stabilization have passed.
 - (2) An As Built Inspection of all water quality practices is conducted by the City.
 - (3) A Inspection and Maintenance Agreement signed by the developer, the contractor, the City, and the private owner or homeowners association who will take long term responsibility for these BMPs, is accepted by the City.
- (c) Once these criteria are met, the applicant shall be reimbursed all bond monies that were not used for any part of the project. If all of these criteria are not met after three years of permanent stabilization of the site, the City may use the bond monies to fix any outstanding issues with all storm water management structures on the site and the remainder of the bond shall be given to the private lot owner/homeowners association for the purpose of long term maintenance of the project.

1196.14 INSTALLATION OF WATER QUALITY BEST MANAGEMENT PRACTICES.

The applicant may not direct runoff through any water quality structures or portions thereof that would be degraded by construction site sediment until the entire area tributary to the structure has reached final stabilization as determined by the City. This occurs after the completion of the final grade at the site, after all of the utilities are installed, and the site is subsequently stabilized with vegetation or other appropriate methods. The developer must provide documentation acceptable to the City to demonstrate that the site is completely stabilized. Upon this proof of compliance, the water quality structure(s) may be completed and placed into service. Upon completion of installation of these practices, all disturbed areas and/or exposed soils caused by the installation of these practices must be stabilized within 2 days.

1196.15 VIOLATIONS.

No person shall violate or cause or knowingly permit to be violated any of the provisions of this chapter, or fail to comply with any of such provisions or with any lawful requirements of

any public authority made pursuant to this chapter, or knowingly use or cause or permit the use of any lands in violation of this chapter or in violation of any permit granted under this chapter.

1196.99 PENALTY.

- (a) Any person, firm, entity or corporation; including but not limited to, the owner of the property, his agents and assigns, occupant, property manager, and any contractor or subcontractor who violates or fails to comply with any provision of this chapter is guilty of a misdemeanor of the third degree and shall be fined no more than five hundred dollars (\$500.00) or imprisoned for no more than sixty (60) days, or both, for each offense. A separate offense shall be deemed committed each day during or on which a violation or noncompliance occurs or continues.
- (b) The imposition of any other penalties provided herein shall not preclude the City from instituting an appropriate action or proceeding in a Court of proper jurisdiction to prevent any unlawful development, or to restrain, correct, or abate a violation, or to require compliance with the provisions of this chapter or other applicable laws, ordinances, rules, or regulations, or the orders of the City.”

Section 2: Existing Chapters 1190, “Definitions”; 1192, “Disclaimer of Liability”; 1193, “Conflicts, Severability, Nuisance and Responsibility”; 1195, “Erosion and Sediment Control”; and 1196, “Storm Water Management”, of Title Seven, “Storm Water Management”, of Part Eleven, “Planning and Zoning Code”, of the Codified Ordinances of the City of Richmond Heights be and the same are hereby repealed in their entirety.

Section 3: It is found and determined that all formal actions of this Council concerning and relating to the adoption of this Ordinance were adopted in an open meeting of this Council, and that all deliberations of this Council and any of its committees that resulted in such formal action, were in meetings open to the public, in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

Section 4: This Ordinance is declared to be an emergency measure necessary for the immediate preservation of the public peace, health and safety of this City and for the further reason that this Ordinance is required to be immediately effective so that the City can contribute to the watershed-wide efforts of other member communities of the Euclid Creek Watershed Council to reduce flooding, erosion, sedimentation and water quality problems in the Euclid Creek watershed; wherefore, this Ordinance shall be in full force and effect immediately upon its passage and approval by the Mayor.

PASSED: _____
Daniel J. Ursu, Mayor

APPROVED: _____

ATTEST: _____
Betsy Traben
Clerk of Council
David H. Roche
President of Council