

SECTION 5 – Storm Water Requirements

This section is premised on the intent that land uses and developments that increase the runoff rate or volume shall be required to control the discharge prior to its release to off-site property. The purposes of these standards are to:

- Permit development without increasing the flooding of other lands.
- To protect the storm sewer system and the receiving streams from impairment of their capacity and quality, which may be caused by increases in the quantity and rate of runoff discharged.
- Establish a basis for design of a storm drainage system on lands below undeveloped areas that will preserve the rights of property owners and assure the long-term adequacy of storm drainage systems.

These runoff control standards apply to all land developments not specifically exempt in the authorizing legislation of City Ordinance 29358-97.

The Standards are intended to establish guidelines for the protection of existing and proposed developments from damage and/or inundation resulting from an overflowing watercourse. Provisions must be made to convey storm waters (both those originating outside, as well as, inside the tract) through the development with facilities of sufficient capacity to permit the ultimate development of the upstream tributary area.

It is also the responsibility of the owner/developer to discharge storm waters (originating within the developed area or conveyed through the developed area) to as near pre-development conditions as possible. This does not imply that the owner/developer be required to make extensive or unreasonable downstream improvements to existing inadequate drainage facilities. It does, however, require the owner/developer to investigate the effect of said proposed improvements on the downstream drainage system.

Section 5.1 Design of Drainage Facilities:

A. Hydrologic Design. All drainage ways shall be designed in accordance with the following criteria:

- 1) Major Waterways: Major waterways are defined as those with a tributary area in excess of 4 square miles. Such major waterways shall be designed for an average recurrence interval of 100 years.
- 2) Secondary Waterways: Secondary waterways are defined as those with a tributary area of between 1 and 4 square miles. Such secondary waterways shall be designed for an average recurrence interval of 50 years.
- 3) Minor Waterways: Minor waterways are defined as those with 1 square mile or less of tributary area. Such minor waterways shall be designed for an average recurrence interval of 25 years for open channels.

- 4) Closed Systems: For all developments, the design storm shall have an average recurrence interval of 10 years and pipe design shall be based on full flow. In the central business district (CBD) the average recurrence interval shall be 20 years. Lot grading, site drainage, and street improvements for all improved areas should be designed so that floods having an average recurrence interval of 100 years or less will not cause inundation or damage to any occupied structures. A grading plan for each improved area will be required to define the site drainage.

Publicly maintained conduits and other structures located outside the public right-of-way should be contained in suitable public easements.

Design flows for secondary and minor drainage facilities shall be computed by a licensed professional engineer within the State of Ohio using the U.S. Geological Survey (U.S.G.S.) Report 89-4126, "Techniques for Estimating Flood-Peak Discharges of Rural, Unregulated Streams in Ohio," U.S.G.S. Report 86-4197, "Estimating Peak Discharges, Flood Volumes, and Hydrograph Shapes of Small Ungaged Urban Streams in Ohio", TR-20, or TR-55 methodologies.

B. Hydraulic Design. The hydraulic design of the development shall be such that after accumulating all energy losses, such as pipe friction, manhole losses, losses at bends, etc., along the various drainage transmission lines within the development, the hydraulic grade line shall not exceed grate or rim elevations for a storm with a 10-year recurrence interval (except in the CBD where the average recurrence interval shall be 20 years). The depth of flow or ponding for a 100-year average recurrence interval storm shall not exceed a level, which would cause inundation or damage to any existing structure or any proposed structure, constructed within the improved area.

The hydraulic grade line for culverts shall be 12" below pavement elevation for a 25-year storm and shall not exceed the pavement elevation for a 100-year storm. Appropriate culvert hydraulic calculations should be supplied (as specified within HY-8 or other approved methodologies).

The hydraulic grade line for the storm sewer system shall not exceed grate or rim elevations throughout the system.

C. Drainage Facilities. Catch basins, manholes, inlet structures, etc., placed within the improvement area shall conform to standard plans and specifications maintained by the City of Dayton, Department of Water. Drainage facilities shall be subject to the approval of the Department of Water.

- 1) Each channel constructed within the improvement area shall have side slopes of 3:1 or flatter. Bank stabilization and streambed stabilization, along constructed or natural channels, will be required if the channel velocities are sufficient to cause bank or invert erosion. The top of bank shall be so graded that side drainage will enter channels only at points where structures are provided to prevent bank erosion.
- 2) Closed Conduits: The minimum conduit size for a storm mainline shall be 15 inches in diameter. The minimum lateral size shall be 12 inches in diameter.

Minimum clearance between top of pipe and top of surface shall be 2 feet. The alignment of closed conduits shall be as nearly straight as practicable without undue bends and angle points; manholes shall be provided at all angle points and at intervals not to exceed 400 feet. Inverted siphons shall not be permitted.

All pipes part of the Public Storm Sewer System shall be reinforced concrete pipe (C-76) class 4 (unless otherwise noted).

- 3) Open drainage ditches with improved cross-sections are permitted where the physical conditions are such that the open ditches will not result in health hazards and where proper safety measures are taken.

D. Storm Water Runoff Control Criteria. Where land uses and developments increase the runoff rate and volume, structures are required to control the discharge prior to its release off-site. The following procedures shall be considered:

- 1) Any increase in the volume of site surface drainage water resulting from accelerated runoff caused by site development shall be controlled so that the post-development peak rate of runoff does not exceed that of the pre-development stage, for all 24-hour storms between a one-year frequency and the critical storm as determined below. For all storms less frequent than the critical storm, the post-development peak rate of runoff shall not exceed the pre-development peak rate of runoff. The method by which an applicant shall determine changes in rates and volumes of runoff is presented in the U.S. Department of Agriculture, Engineering Division of the Soil Conservation Service, Urban Hydrology for Small Watersheds, Technical Release No. 55, June 1986 or most current edition.

To find the critical storm frequency, for which additional control will be needed, the applicant shall:

- a. Determine the percent increase in runoff volume for a one-year frequency, 24-hour storm occurring on the development area.
- b. Determine the critical storm frequency for which additional control is needed by using the percent increase in runoff volume.
- c. Control the post-development storms of a frequency between one-year and the critical storm determined in (b), so as to be equal to, or less than, the pre-development peak runoff rate for a 24-hour, 1-year frequency storm.
- d. Control the post-developed storms less frequent than the critical year storm to be equal to, or less than, the pre-developed peak runoff rates for a 24-hour storm.
- e. Alternate methods for calculating detention volumes and allowable peak discharges may be approved by the Director of Water on a case-by-case basis.

Critical Year Storm Table

Percent increase in runoff volume from a 1-Year Frequency 24-hour storm		Critical Year Storm (Years)
Equal or Greater Than (Percent)	Less Than (Percent)	
--	10	1
10	20	2
20	50	5
50	100	10
100	250	25
250	500	50
500	--	100

Section 5.2 Drainage Plans:

A drainage map and supporting calculations shall include sufficient data for the Department of Water to verify the feasibility of the drainage system as proposed by the owner/developer. The following data shall be provided:

A. Hydrologic Calculations

- 1) Drainage areas delineated on a map (pre- and post-developed)
- 2) Times of concentration (include flow path for both pre- and post-developed)
- 3) Rainfall information
- 4) Runoff Curve Numbers
- 5) Allowable Peak Discharges (APD)
- 6) Pipe/Channel capacity, hydraulic grade, and velocity calculations
- 7) Detention Routing calculations
- 8) A table should be included for each drainage basin or sub area (as applicable) for each storm event which defines:

Event (YR)	Pre- developed Discharge (CFS)	Post- Developed Discharge (CFS)	Allowable Peak Discharge (CFS)	Pond Discharge (CFS)	Pond Elevation (FT)	Pond Volume (AC-FT)
1						
2						
5						
10			EXAMPLE			
25						
50						
100						

B. Hydraulic Calculations

- 1) Sufficient documentation to indicate the results of the investigation into the adequacy of the downstream drainage system to handle the runoff from the proposed developed conditions is necessary. This may determine the maximum allowable release rate for the proposed development as opposed to the method described in SECTION 6.1(d) and, in turn, the amount of storm water storage that will be required.
- 2) Sizes and types of drainage improvements, including special structures, typical sections, right-of-way width.
- 3) Supporting calculations for upstream and downstream channel capacities as they affect overflow, erosion, or backwater within the subdivision. Such calculations shall be substantiated by such additional information as is required to determine profile and cross-section of the upstream and downstream channel reaches under consideration.
- 4) Sufficient contours and grading details to indicate proposed grades and elevations throughout the proposed development.

Section 5.3 Construction Plans:

The final construction plans for drainage within the area to be developed shall conform to the above provisions and to any special conditions as required by the Department of Water. Such construction plans for drainage shall be approved by the Department of Water prior to construction of any drainage facility within the development. A grading plan shall be submitted along with the construction plans to identify the site grading and site drainage planned for the development. All work within the ROW requires approval of the City Engineer, with all appropriate permits being acquired. All permits can be applied for at the public works business office.

Section 5.4 Detention/Retention Basins:

As urban development continues to transform pervious watersheds into highly impervious urban areas, the problem of handling the ever-increasing storm water runoff on these watersheds is becoming more pronounced. In recent years, much attention has been focused on detention and retention basins as a means of controlling the storm water runoff by detaining and retaining the storm water in the basin and releasing it at a rate compatible with downstream conditions.

The detention and/or retention basin can be designed so as to obtain the maximum aesthetic benefits for the surrounding community while serving as an effective flood control mechanism.

A. Planning Guidelines

- 1) Detention basins serve to capture and temporarily store the surface water runoff that results from urban development. This temporary storage allows for the release of the storm runoff at discharge rates that are acceptable to the receiving waterway.
- 2) On-site provision for detention storage should follow these approaches:
 - a. Post development peak runoff rate, for on-site drainage, shall not exceed the one-year pre-developed runoff rate, for all 24-hour storms between a one-year frequency and the critical storm frequency. All storms less frequent than the critical year storm shall not exceed pre-developed runoff rates.
 - b. For commercial/industrial sites, the pond will detain only on-site runoff; i.e., the runoff upstream from the development should bypass the detention pond.
 - c. Overflow and emergency spillway are required. The emergency spillway discharge is to be routed safely downstream to an existing defined watercourse or drainage system.
 - d. The basin, inlet structures, and lines shall be the property of the owner/developer and shall be maintained by the same and reflected by notes on the record plan unless specified otherwise.
- 3) A State of Ohio Construction Permit for construction of a detention/retention basin is not required for:
 - a. A dam, which is or will be less than ten feet in height and which has or will have a storage capacity of not more than fifty acre-feet at the elevation of the top of the dam.
 - b. A dam, regardless of height, which has or will have a storage capacity of not more than fifteen acre-feet at the elevation of the top of the dam.
 - c. A dam, regardless of storage capacity, which is or will be six or less feet in height.
- 4) Detention and/or retention basins are to be privately maintained.

- 5) A release structure is required in all retention/detention basins. A primary spillway system must be provided with every retention/detention basin to provide for passage of storm water overflow in the event of plugging or partial plugging of the openings in the side of the release structure with debris. An emergency spillway is required with every retention basin to provide for passage of storm water overflow in the event of plugging or partial plugging of the openings in the release structure.
- 6) The pond/basin must be accessible for sediment cleanout after the rest of the site has been stabilized.
- 7) A permanent maintenance width around the perimeter of the basin/pond is recommended.
- 8) The phasing of operations must permit the pond to be constructed and operational prior to disturbance of the site area contributing runoff to the pond.

B. Recommendations for Dry Detention Basins

- 1) Dry detention basins should be designed to minimize ponding so that water does not remain standing in the bottom; thereby harboring insects and limiting the potential use of the basin. This could be accomplished by means of a concrete low flow channel along the bottom of the basin. Minimum slope shall be no less than 0.50%. An acceptable alternative to a concrete low flow channel will be an underdrain system. In this case, a minimum 0.50% slope shall exist along the bottom of the basin, and the surface above the underdrain shall be grass reinforced by a fabric mesh. If an underdrain system is proposed, an appropriate soil investigation is necessary. If a low flow channel or underdrain system is not used the basin should be designed so that the slope along the bottom of the basin is at a minimum of 2.00%.
- 2) The detention basin may be designed to have a multi-purpose function.
- 3) Side slopes shall be 3(Horizontal) to 1(Vertical) or flatter.
- 4) There shall be a minimum of a 10-foot berm at 2 percent slope between right-of-way and top of basin.

C. Recommendations for Basins Containing Permanent Water

- 1) In order to provide better management for water quality, retention basins containing permanent lakes should have a water area of at least one-half acre. The lake area should be an average depth of at least approximately 4 feet to inhibit weed and insect growth, and should have no extensive shallow areas. A system to augment storm flows into the lake with water from other sources should be provided to enhance the water quality, if necessary.
- 2) In excavated lakes, the underwater side slopes in the lakes should be stable.
- 3) A safety ledge 5 feet in width is recommended and should be installed in all lakes approximately 30 to 36 inches below the permanent water level to provide a footing in emergency situations. In addition, there shall be a minimum of a 5-foot berm at

2.00% slope beginning at least 1 foot above normal pond elevation. The slope between two ledges should be stable and of a material which will prevent erosion due to wave action. Walkways consisting of a non-erosive material should be provided. One area in particular would be along the shoreline of a heavily fished lake. Side slopes above the berm shall be 3 to 1 or flatter.

- 4) Side slopes below normal pool elevation shall be 2 to 1 or flatter (per geotechnical engineer's recommendation).
- 5) To obtain maximum recreational benefits from developed water areas and provide for insect control, ponds should be stocked with fish. For best results, stocking should follow recommendations for warm water sport fishing by the Ohio Department of Conservation, Division of Fisheries, or similar organizations.
- 6) Periodic maintenance will be required in lakes to control weed and larval growth. The basin should also be designed to provide for the easy removal of sediment that will accumulate in the lake during periods of basin operation. A means of maintaining the designed water level of the lake during prolonged periods of dry weather is also recommended.
- 7) Water budget calculations are required for all permanent pond facilities and should consider performance for average annual conditions. The water budget should consider all significant inflows and outflows including, but not limited to, rainfall, runoff, infiltration, exfiltration, evaporation, and outflow.
- 8) Aeration devices such as fountains are recommended to reduce or prevent water stagnation.
- 9) A valve shall be provided to drain the permanent pool volume for removal of accumulated sediment.

D. Recommendations Common to Either Dry Detention Basins or Retention Basins with Permanent Water

- 1) All basins shall have an emergency overflow.
- 2) When conduits are used for the outlet of the reservoir, they shall be protected by bar screens or other suitable provision so that debris or similar trash will not interfere with the operation of the basin.
- 3) Safety screens should also be provided for any pipe or opening to prevent children or large animals from crawling into the structures. For safety, a suggested maximum opening is 6 inches.
- 4) Danger signs should be mounted at appropriate locations to warn of deep water, possible flood conditions during storm periods, and other dangers that exist. Life preservers should also be placed at appropriate locations. Fencing as a security device may be used, but experience has shown that its ease in being scaled or underpassed tends to invalidate its purpose. Also, it may block operations when immediate access to the basin is necessary.

- 5) Grass or other suitable vegetative cover should be maintained throughout the entire reservoir area. Grass should be cut regularly.
- 6) Debris and trash removal and other necessary maintenance should be performed after each storm to assure continued operation in conformance to the design.
- 7) The discharge pipe shall be extended from the release structure to the toe of slope and terminate with a headwall.
- 8) Rock channel protection or other type of energy dissipaters are to be placed at the outlet ends as required
- 9) Watertight pipe joints and anti-seep collars should be considered where applicable.

E. Inspection of Basins

- 1) "As-built drawings will be required for all basins to assure compliance with all applicable requirements.
- 2) Water Department personnel will inspect all drainage facilities.

Section 5.5 Storm Sewer Requirements:

All proposed storm water collection system projects (including modifications to the existing system) require Water Department review/approval and signature. All storm sewer installation shall be consistent with the current City of Dayton Storm Master Plan.

The Department of Water requires that hydrologic & hydraulic calculations within new plats (or as Department of Water deems necessary) be submitted by the Developer/Engineer to determine if existing and proposed facilities have adequate capacity for particular development uses.

The following requirements should be used when designing storm sewers within the City of Dayton:

- Storm Sewer calculations shall be based on the modified rational formula ($Q=CIA$) where:

Q=peak discharge, cfs

I=intensity, in/hr

C=runoff coefficient

A=drainage area, acres

- The rainfall intensity should be based on the intensity-duration-frequency curves for Montgomery County (see attached). A 10 year-10 minute intensity should be used to begin storm sewer calculations in new subdivisions and plats.
- Runoff Coefficients should be based on a "weighted" value calculated from individual drainage areas. The following coefficients are recommended:

Runoff Coefficients

TYPE OF AREA	RUNOFF COEFFICIENT
Impervious	0.98
Pervious	0.35

Note: The coefficients listed are recommended values and may be revised as necessary depending on individual site characteristics.

- Provide calculations for storm sewer sizing and Hydraulic Grade Line (HGL) calculations.
- Storm sewers should be designed to maintain a minimum “full flow” cleanout velocity of 2.50 ft/sec.
- The type of pipe and numbers must appear on the plans and profiles. Also, the pipes shall be stamped prior to shipment for field activities.
- Catch basins shall be located upstream of all crosswalks and roadway intersections and shall be located at roadway low sag areas and at all low point cul-de-sacs. Catch basins will be spaced at intervals of 300 feet.
- Maximum velocity in storm sewer pipe shall not be more than 16 feet per second when flowing full for the ten (10) year design storm, except that the velocity in the last section of storm sewer pipe at the outlet end shall not exceed 12 feet per second based on the hydraulic gradient slope for the 10 year design storm. Rock channel protection at the inlet and outlet ends must be provided for erosion control. Storm sewer pipe slopes greater than 15% will require special pipe and/or key blocking to protect the pipe against erosion and displacement.
- Main line extensions shall be a minimum of 15-inches in diameter.
- Storm sewer laterals shall be a minimum of 12-inches in diameter.
- Maximum distance between manholes shall be 400-ft.
- Manholes shall be located at all mainline intersections and changes in line or grade.
- All main line sewers shall be located within the public Right-of-Way where practical. Otherwise, main line sewers shall be located within a *minimum* 20-ft wide easement. The storm sewer main must be centered in the easement. Wider easements may be necessary on storm sewer mains exceeding 10-ft in depth. See Appendix A for example Deed of Easement.
- Storm sewer mains shall be installed across the entire frontage of properties within areas that have potential for future public storm sewer service.
- Dry wells, in general, shall not be permitted. However, in certain circumstances within the City of Dayton limits, the Department of Water will approve the use of dry wells if the following requirements are met.

- a. Economic hardship (to construct public facilities) is agreed upon by the Director of Water. The owner/developer shall prepare documentation and submit detailed information to the Director of Water.
 - b. A professional engineer licensed in the State of Ohio shall complete runoff calculations. Calculations should include peak rates of runoff and volume for the 10-year storm event for the critical duration based on modified rational methodologies. Maximum ponding depths should be calculated within each lot and shown on the plans for the critical duration determined by the engineer and approved by the Department of Water.
 - c. A qualified geotechnical engineer shall complete a soil investigation so the findings may be incorporated into the design calculations for the dry wells. The geotechnical engineer should determine/recommend if dry wells are suitable for the project in question.
 - d. The property owner shall acknowledge that the dry wells will be “privately maintained” and periodic maintenance is typically required of dry wells. Any damage to adjacent property (both private and/or public) from the dry wells will be the property owner’s sole responsibility.
- Stringing more than 2 catch basins is not permitted.

Section 5.6 Post Construction Design Requirements

The Post Construction Storm Water Management requirements are included as a subsection under the Storm Water Pollution Prevention Plan (SWP3), Part III of the Ohio EPA Permit No.: OHC000002, “Authorization for Storm Water Discharges Associated with Construction Activity under the National Pollution Discharge Elimination System”, (herein after referred to as the Permit).

A. General Requirements

The purpose of the Post Construction Storm Water Management requirements is to ensure protection of the receiving stream’s physical, chemical, and biological characteristics and to ensure the stream’s functions are maintained.

The SWP3 must include the following:

- A description of post construction BMPs that will be implemented for a construction site.
- The basis for their selection addressing the projected impacts on the channel, floodplain morphology, hydrology and water quality.
- Detail drawings and maintenance plans that ensure pollutants collected from the BMP practice is disposed of in accordance to local, state and federal regulations.
- Erosion Control Requirements from Section 6 of the City of Dayton Engineering Design Standards.

Two copies of an “Operations and Maintenance Manual” shall be submitted for all Post Construction BMP’s. One copy will be approved and provided to the site owner, and one copy will be retained by the City for use in annual inspections. The “Operations and Maintenance Manual” shall include:

- Title sheet identifying the location of the site
- Table of Contents

- Owner's name and contact information
- A site map clearly showing the location of all post construction storm water practices and BMP's.
- Detailed information about the design and operation of all post construction storm water practices and BMP's.
- Detailed information about the required maintenance of all post construction storm water practices and BMP's.
- Detailed information about the required cleaning of all post construction storm water practices and BMP's.
- A Storm Water Control Easement and Restrictive Covenant detailing the responsibility for the storm system owner. (Appendix A)
- Inspection checklist detailing all items required to be maintained, and the required action to maintain them. (Appendix A)
- Inspection and maintenance log (Appendix A)

Operation and Maintenance of post construction practices by the permittee (except for those regulated under the small MS4 program) are required only through the valid expiration date of the Permit.

Construction projects that are linear in nature and do not result in a net increase in impervious surface, such as road resurfacing projects, are excluded from the requirements listed in Part III.G.2 of the Permit, provided the project is designed to minimize stream crossings and disturbance.

See Appendix B for additional information for design of Post Construction Storm Water Requirements.

Section 5.7 Non-Storm Runoff Requirements:

A Non-Storm Water Discharge Application is required for each point of discharge to the storm sewer system that does not originate from storm water. Examples would include: geothermal heating/cooling system, non-contact chiller, foundation drains, decorative water features, and other non-storm sources of flow.

Please be aware that the MS4 is designed specifically to convey surface runoff and that the Non-Storm Water Discharges acknowledged as part of the completed application are considered a special privilege based on individual site characteristics and downstream capacity of the existing MS4. As outlined within the Application Instructions, extreme flooding events less frequent than the design storm may cause capacity limitations within the existing MS4. Under these conditions, the City of Dayton may require that non-storm water discharges to the MS4 be temporarily terminated during the flooding event.

The City of Dayton is required by the Ohio EPA to monitor water quality of the MS4. If at any time the discharge violates City of Dayton ordinance, state, or federal water quality standards, the City of Dayton reserves the right to limit the non-storm water discharge to the MS4.

The following conditions apply to all Non-Storm Discharge Permits

- The Director of Water is authorized to regulate discharge to the MS4 under Section 54.09 of the Revised Code of General Ordinances.
- Future fees may be assessed at the discretion of the Director of Water and in keeping with Section 54.04 of the Revised Code of General Ordinances and other provisions as provided by law. The Owner will also be responsible for any costs of labor and equipment incurred by the City of Dayton for activities associated with maintenance or repairs to the MS4 that are not part of a routine maintenance program as a direct result from the non-storm water discharges approved herein.
- The waters must be discharged to the designated storm sewers approved by the Director of Water. This acceptance is for discharge to the *City of Dayton MS4 Facilities*. No City of Dayton authorization is given to private entities to access public manholes. (*If access to the City of Dayton sewer system is required, it must be coordinated through – or performed by – the Division of Sewer Maintenance, at 937-333-4915*)
- The discharge shall not be in such amounts or rates, or at such times, that the addition of the waters would likely cause or contribute to exceeding the hydraulic capacity of the sewer system.
- Only **CLEAN** pollutant free water is permitted to be discharged to the MS4. Chemicals including, but not limited to cleaners, antifreeze, neutralizing acids or bases added to process water **CANNOT** be discharged to the MS4. Discoloration or suspended solids in the storm sewer discharge are not permitted. Any modifications or changes to the information provided herein shall be reported to the Department of Water *immediately*. Modifications may require re-application.
- All non- storm discharges parameters (including temperature and pH) must meet the Ohio EPA General Permit requirements as determined for each site.
- The discharge must not cause solids build-up or blockage in the MS4.
- Should the actual discharge present unforeseen problems; additional control measures may be required of the Owner. The City of Dayton reserves the right to modify the acceptance

September 2009

of this non-storm water discharge approval if the discharges are ever found to be incompatible with the efficient pollutant free operation of the MS4. This acceptance does not imply that the Owner is freed of liability for any unforeseen consequences of the discharge.

- This acceptance of the discharge does not relieve the Owner of complying with all applicable federal, state, and local laws, ordinances, rules and regulations.
- The Owner shall indemnify, defend and hold free and harmless the City of Dayton, its agents, officers, and employees, from and against any and all actions, claims, liabilities, assertions of liabilities, losses, costs and expenses whatsoever, including but not limited to attorney's fees, which in any manner may arise or be alleged to have arisen or resulted or alleged to have resulted from the discharge or release of any nature whatsoever by the Owner, of hazardous substances or pollutants to the City of Dayton MS4.