

RESOLUTION NO. R070918
A RESOLUTION TO ADOPT THE STORMWATER MANAGEMENT ORDINANCE
AND AMENDMENTS THERETO AND INCOPRORATE INTO THE STORMWATER
MANAGEMENT RESOLUTION

WHEREAS, the Town Council of the Town of Fishers, which transitioned into the City of Fishers on January 1, 2015, pursuant to Indiana law (“Fishers”), adopted a Stormwater Management Ordinance for the purpose of providing authority and title for stormwater management granted to Fishers pursuant to Indiana law and required based on (i) Phase II of the National Pollution Discharge Elimination System program (FR Doc. 99–29181) authorized by the 1972 amendments to the Clean Water Act, (ii) the Indiana Department of Environmental Management’s Rule 13 (327 IAC 15-13), and (iii) the Indiana Department of Environmental Management’s Rule 5 (327 IAC 15-5) for all stormwater management related projects or properties located within the jurisdiction of Fishers in August 2005 as Ordinance 081505, as amended by Ordinance 081808B, August, 2008 (collectively, the “Ordinance”); and

WHEREAS, pursuant to Indiana Code section 36-9-6-1 *et. seq.* and -----, the Board of Public Works & Safety of the City of Fishers (“Board”) has exclusive control over streets, alleys, sewers, public grounds, and other property of the city, and shall keep them in repair and good condition, has custody of and may maintain all real and personal property of Fishers, and serves as the Utility Board for Fishers; and

WHEREAS, the Board now desires to adopt the Ordinance and amendments thereto, as further defined by “Exhibit A”, attached hereto and incorporated herein, and incorporate it into the Stormwater Management Resolution;

NOW THEREFORE, BE IT RESOLVED by the Board of Public Works and Safety of the City of Fishers meeting in regular session as follows:

Section 1. Incorporation. The Board of Public Works and Safety of the City of Fishers hereby incorporates the Ordinance into the Stormwater Management Resolution attached hereto and incorporated herein as “Exhibit A.”

Section 2. Amendments. The Board of Public Works and Safety of the City of Fishers hereby adopts the proposed amendments attached hereto and incorporated herein as “Exhibit A” to the Stormwater Management Resolution of the City of Fishers.

Section 3. This Resolution shall be effective from and upon its adoption and the amendment shall be added to the Stormwater Management Resolution of the City of Fishers.

ALL OF WHICH IS SO RESOLVED BY THE Board of Public Works & Safety of the City of Fishers, Hamilton County, Indiana this 9th day of July, 2018.

**BOARD OF PUBLIC WORKS & SAFETY, CITY OF FISHERS
HAMILTON COUNTY, INDIANA**

AYE

NAY

	Scott Fadness, Chairman	
	Jeff Lantz, Member	
	Jason Meyer, Member	

ATTEST:  for
Jennifer Kehl, City Clerk

DATE: July 9, 2018

Approved by: Christopher P. Greisl, City Attorney, City of Fishers, Hamilton County, Indiana, 1 Municipal Drive Fishers, Indiana 46038.

Approved by: Christopher P. Greisl, City Attorney, City of Fishers, Hamilton County, Indiana, 1 Municipal Drive
Fishers, Indiana 46038.

Exhibit A

STORMWATER MANAGEMENT RESOLUTION OF CITY OF FISHERS, INDIANA



Developed by **Christopher B. Burke Engineering, LLC**
Amended 2018



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ARTICLE ONE

GENERAL INFORMATION

1.01 AUTHORITY AND TITLE

This Resolution is adopted in accordance with statutory authority granted to the City of Fishers (the “City”) under “Home Rule”, and further is required by Phase II of the National Pollution Discharge Elimination System program (FR Doc. 99–29181) authorized by the 1972 amendments to the Clean Water Act, the Indiana Department of Environmental Management’s Rule 13 (327 IAC 15-13), and the Indiana Department of Environmental Management’s Rule 5 (327 IAC 15-5). Based on this authority and these requirements, this Resolution regulates:

- A. Discharges of prohibited non-stormwater flows into the stormwater drainage system.
- B. Stormwater drainage improvements related to development of lands located within City of Fishers, Indiana.
- C. Drainage control systems installed during new construction and grading of lots and other parcels of land.
- D. Erosion and sediment control systems installed during new construction and grading of lots and other parcels of land.
- E. The design, construction, and maintenance of stormwater drainage facilities and systems.
- F. The design, construction, and maintenance of stormwater quality facilities and systems.
- G. Land-disturbing activities affecting wetlands.

This Resolution shall be known and may be cited as the City of Fishers Stormwater Management Resolution.

1.02 APPLICABILITY AND EXEMPTIONS

This Resolution shall be applicable to all development and redevelopment occurring within City of Fishers, Indiana per the noted acreage limits within each Article below. No permit shall be issued and no land disturbance started for any construction in a development, as defined in Article 8, until the plans required by this Resolution for such construction have been accepted in writing by the City. With the exception of the requirements of Article Two and Article Six – Section 6.04 of this Resolution, single-family dwelling houses in approved subdivisions, new buildings (or cumulative building additions) with less than 500 square feet of area, and land-disturbing activities affecting less than 10,000 square feet of area shall be exempt from the requirements of this Resolution. Also, exempt from this Resolution shall be the agricultural land-disturbing activities.

In addition to the requirements of this Resolution, compliance with all applicable ordinances of the City as well as with applicable Federal, State of Indiana, and other Local statues and regulations shall also be required. Unless otherwise stated, all other specifications referred to in this Resolution shall be the most recent edition available. The City government public works projects shall be exempt from obtaining a permit. If the project site is located within a Hamilton County Regulated Drain Watershed, the applicant will need to check with the Hamilton County Surveyor’s Office to learn if additional Surveyor’s Office requirements specific to that regulated drain would apply to the site.

Any construction project which has had its final drainage plan approved by the City within a 2-year period prior to the effective date of this Resolution shall be exempt from all requirements of this Resolution that are in excess of the requirements of ordinances in effect at the time of approval. Such an exemption is not applicable to the requirements detailed in Article 2 of this Resolution.

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1.03 PURPOSE

The purpose of this Resolution is to provide for the health, safety, and general welfare of the citizens of the City through the regulation of stormwater and non-stormwater discharges to the storm drainage system and to protect, conserve and promote the orderly development of land and water resources within the City. This Resolution establishes methods for managing the quantity and quality of stormwater entering into the stormwater drainage system in order to comply with State and Federal requirements. The objectives of this Resolution are:

- A. To reduce the hazard to public health and safety caused by excessive stormwater runoff.
- B. To regulate the contribution of pollutants to the stormwater drainage system from construction site runoff.
- C. To regulate the contribution of pollutants to the stormwater drainage system from runoff from new development and re-development.
- D. To prohibit illicit discharges into the stormwater drainage system.
- E. To establish legal authority to carry out all inspection, monitoring, and enforcement procedures necessary to ensure compliance with this Resolution.

As required by Rule 13 (327 IAC 15-13), the requirements of this Resolution are formulated in such a way to promote maximization of open space and minimization of land disturbance and surface imperviousness, where practical, in order to minimize the potential for introduction of pollutants to the City's drainage conveyance system. The requirements of this Resolution are meant to guide the development within the City so that such development does not negatively impact the quality of stormwater.

1.04 ABBREVIATIONS AND DEFINITIONS

For the purpose of this Resolution, the abbreviations and definitions provided in Article 8 shall apply.

1.05 RESPONSIBILITY FOR ADMINISTRATION

The City shall administer, implement, and enforce the provisions of this Resolution through the Department of Public Works. Any powers granted or duties imposed upon the authorized enforcement agency may be delegated in writing by the City of Fishers Board of Public Works and Safety to qualified persons or entities acting in the beneficial interest of or in the employ of City of Fishers government.

For unique or special cases where a property owner or customer can unequivocally document and demonstrate through appropriate engineering studies that a variance from this Resolution, the Technical Standards or the Construction Specifications, are available, appropriate, and comply with all state and federal laws and/or regulations, the Director of Public Works or the Director of Engineering, upon recommendation of his/her staff, has the authority to allow a variance from the Resolution, Technical Standards or Construction Specifications. If a property owner or customer is denied a variance by the Director of Public Works or the Director of Engineering, the property owner or customer may, within seven (7) days of the denial, notify the Board of Public Works & Safety of its request for a variance and appeal from the Director's decision. The Board of Public Works & Safety shall place the request on its agenda during a regularly scheduled meeting. At that meeting, the Board may hear the property owner or customer and the Director of Public Works, the Director of Engineering or their designee. The Board's decision shall be final.

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1.06 CONFLICTING ORDINANCES

The provisions of this Resolution shall be deemed as additional requirements to minimum standards required by other City resolutions, ordinances, or standards, and as supplemental requirements to Indiana's Rule 5 regarding Stormwater Discharge Associated with Construction Activity, (327 IAC 15-5), and Indiana's Rule 13 regarding Stormwater Runoff Associated with Municipal Separate Storm Sewer System Conveyances (327 IAC 15-13). In case of conflicting requirements, the most restrictive shall apply.

1.07 INTERPRETATION

Words and phrases in this Resolution shall be construed according to their common and accepted meanings, except that words and phrases defined in Article 8 shall be construed according to the respective definitions given in that section. Technical words and technical phrases that are not defined in this Resolution but which have acquired particular meanings in law or in technical usage shall be construed according to such meanings.

1.08 SEVERABILITY

The provisions of this Resolution are hereby declared severable, and if any court of competent jurisdiction should declare any part or provision of this Resolution invalid or unenforceable, such invalidity or unenforceability shall not affect any other part or provision of the Resolution.

1.09 EFFECTIVE DATE

This Resolution shall become effective after its final passage, approval, and publication as required by law.

1.10 DISCLAIMER OF LIABILITY

The degree of protection required by this Resolution is considered reasonable for regulatory purposes and is based on historical records, engineering, and scientific methods of study. Larger storms may occur or stormwater runoff amounts and/or stormwater quality may be altered by man-made or natural causes. This Resolution does not imply that land uses permitted will be free from stormwater damage. This Resolution shall not create liability on the part of the City of Fishers, the Fishers City Council, Mayor, Director of Public Works, or any officer, representative, or employee thereof, for any damage which may result from reliance on this Resolution or on any administrative decision lawfully made there under.



ARTICLE TWO

PROHIBITED DISCHARGES AND CONNECTIONS

2.01 APPLICABILITY AND EXEMPTIONS

This Article shall apply to all discharges, including illegal dumping, entering the stormwater drainage system regulated by the City, regardless of whether the discharge originates from developed or undeveloped lands, and regardless of whether the discharge is generated from an active construction site or a stabilized site. These discharges include flows from direct connections to the stormwater drainage system, illegal dumping, and contaminated runoff.

Stormwater runoff from agricultural, timber harvesting, and coal mining activities is exempted from the requirements of this Article unless determined to contain pollutants not associated with such activities or in excess of standard practices. Farm residences are *not* included in this exemption.

Any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that IDEM issues written acceptance for the subject discharge to the stormwater drainage system, is also exempted from this Article.

2.02 PROHIBITED DISCHARGES AND CONNECTIONS

No person shall discharge to a MS4 conveyance, watercourse, or waterbody, directly or indirectly, any substance other than stormwater or an exempted discharge. Any person discharging stormwater shall effectively minimize pollutants from also being discharged with the stormwater, through the use of best management practices ("BMP"s).

The City is authorized to require dischargers to implement pollution prevention measures, utilizing BMPs, necessary to prevent or reduce the discharge of pollutants into City stormwater drainage system.

2.03 EXEMPTED DISCHARGES AND CONNECTIONS

Notwithstanding other requirements in this Resolution, the following categories of non-stormwater discharges or flows are exempted from the requirements of this Article:

- A. Water line flushing;
- B. Landscape irrigation;
- C. Diverted streamflows;
- D. Rising ground waters;
- E. Uncontaminated groundwater infiltration;
- F. Uncontaminated pumped ground water;
- G. Discharges from potable water sources;
- H. Foundation drains;
- I. Air conditioning condensation;
- J. Irrigation water;
- K. Springs;
- L. Water from crawl space pumps;
- M. Footing drains;
- N. Lawn watering;
- O. Individual residential car washing;

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- P. Flows from riparian habitats and wetlands;
- Q. Dechlorinated swimming pool discharges;
- R. Street wash water;
- S. Discharges from firefighting activities;
- T. Naturally introduced detritus (e.g. leaves and twigs).

2.04 STORAGE OF HAZARDOUS OR TOXIC MATERIAL

Storage or stockpiling of hazardous or toxic material within any watercourse, or in its associated floodway or floodplain, is strictly prohibited. Storage or stockpiling of hazardous or toxic material, including sewage treatment plant stockpiles, on active construction sites must include adequate protection and/or containment so as to prevent any such materials from entering any temporary or permanent stormwater conveyance or watercourse.

2.05 PRIVATE PROPERTY MAINTENANCE DUTIES

The City shall have no responsibility for the installation, maintenance and repair of private stormwater facilities or private drainage systems and underdrains associated with rear or side yard swales. Private drains and drainage systems are the responsibility of the property owner on which the private drain or drainage system is located. All costs and expenses incident to the installation and maintenance of the private drain or drainage system shall be borne by the property owner. No unauthorized person shall uncover, make any connection with or open into, use, alter or disturb any public sewer or appurtenance thereof without first obtaining permission from the City by permit.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse located within their property boundaries, free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

2.06 SPILL REPORTING

Any discharger who accidentally discharges into a waterbody any substance other than stormwater or an exempted discharge shall immediately inform the Hamilton County Health Department, Hamilton County Emergency Management Agency, or HAZMAT concerning the discharge. A written report concerning the discharge shall be filed with the City and IDEM, by the dischargers, within five (5) days. The written report shall specify:

- A. The composition of the discharge and the cause thereof;
- B. The date, time, and estimated volume of the discharge;
- C. All measures taken to clean up the accidental discharge, and all measures proposed to be taken to prevent any recurrence;
- D. The name and telephone number of the person making the report, and the name and telephone number of a person who may be contacted for additional information on the matter.

A properly reported accidental discharge shall be an affirmative defense to a civil infraction proceeding brought under this Resolution against a discharger for such discharge. It shall not, however, be a defense to a legal action brought to obtain an injunction, to obtain recovery of costs or to obtain other relief because of or arising out of the discharge. A discharge shall be considered properly reported only if the discharger complies with all the requirements of this section. This requirement does not relieve discharger from notifying other entities as required by other Local, State, and Federal regulations.

2.07 INSPECTIONS AND MONITORING

A. Storm Drainage System

The Director of Public Works has the authority to periodically inspect the portion of the storm drainage system under the City's control, in an effort to detect and eliminate illicit connections and discharges into the system. This inspection will include a screening of discharges from outfalls connected to the system in order to determine if prohibited flows are being conveyed into the storm drainage system. It could also include spot testing of waters contained in the storm drainage system itself to detect the introduction of pollutants into the system by means other than a defined outfall, such as dumping or contaminated sheet runoff.

B. Potential Polluters

If, as a result of the storm drainage system inspection, a discharger is suspected of an illicit discharge, the Director of Public Works may inspect and/or obtain stormwater samples from stormwater runoff facilities of the subject discharger, to determine compliance with the requirements of this Resolution. Upon request, the discharger shall allow the Department of Public Works' identified representative to enter upon the premises of the discharger at all hours necessary for the purposes of such inspection or sampling. The Department of Public Works' identified representative may place on the discharger's property the equipment or devices used for such sampling or inspection. Identified illicit connections or discharges shall be subject to enforcement action as set forth in Section 153.99 of the Fishers' Code of Ordinances.

C. New Development and Re-Development

Following the final completion of construction and the receipt of as-built record drawings by the Director of Engineering, the Director of Engineering and Department of Public Works have the authority to inspect new development and re-development sites to verify that all on-site stormwater conveyances and connections to the storm drainage system are in compliance with this Article.



ARTICLE THREE

STORMWATER QUANTITY MANAGEMENT

3.01 APPLICABILITY AND EXEMPTIONS

The storage and controlled release rate of excess stormwater runoff shall be required for all new business, commercial, institutional, and industrial developments, residential subdivisions, planned development, rural estate subdivisions, and any redevelopment or other new construction located within the City. The Director of Public Works or the Director of Engineering, after thorough investigation and evaluation, may waive the requirement of controlled runoff for minor subdivisions and parcelization.

3.02 POLICY ON STORMWATER QUANTITY MANAGEMENT

It is recognized that most streams and drainage channels serving the City do not have sufficient capacity to receive and convey stormwater runoff resulting from continued urbanization. Accordingly, the storage and controlled release of excess stormwater runoff shall be required for all developments and redevelopments (as defined in Article 8) that disturb one (1) acre or more of land within the City. The maximum allowable release rates are in accordance with the City of Fishers Construction Specifications. However, it is recommended to detain water on all sites that disturb one-half (0.5) acre or more of land to provide enhanced assurances that downstream flooding and creek erosion through channel protection methods can be properly controlled.

3.03 CALCULATIONS AND DESIGN STANDARDS AND SPECIFICATIONS

The calculation methods as well as the type, sizing, and placement of all stormwater facilities shall meet the design criteria, standards, and specifications outlined in the Construction Specifications. The methods and procedures in the Construction Specifications are consistent with the policy stated above.

3.04 DRAINAGE EASEMENT REQUIREMENTS

There shall be no trees or shrubs planted, nor any structures or fences erected, nor any modifications to the swale grade in any drainage easement, unless otherwise accepted by the Director of Public Works by a drainage easement permit. Drainage easements are intended for the periodic or occasional use as conductors for the flow of surface water runoff and shall be maintained in an unobstructed condition by the owners of the properties they cross. The Department of Public Works shall have the right to determine if any obstruction exists, and to require such repair and maintenance by the property owner, as shall be necessary to keep the drainage easement unobstructed. In addition, if City owned dedicated storm sewers exist within the easement that become damaged and/or obstructed by tree roots or other vegetation planted within or outside of the easement, the Department of Public Works shall have the right to require removal of trees or vegetation within or outside of the easement to prevent future damage and/or obstruction from occurring within City storm sewers.

Private property swales and ditches shall be maintained by the property owners. Private driveway drainage culverts shall be maintained by the property owners when they become clogged or cause drainage issues due to lack of maintenance, damage, settlement, erosion, etc. Public right-of-way ditches shall be maintained by the City at the discretion of the Director of Public Works. Roadway ditches exist for both drainage conveyance and detention/water quality storage.

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3.05 PLACEMENT OF UTILITIES

No utility company may disturb existing storm management facilities without the consent of the Director of Public Works. All existing drainage facilities shall have senior rights and damage to said facilities shall result in penalties as set forth in Section 153.99 of the Fishers Code of Ordinances.

3.06 INSPECTION, MAINTENANCE, RECORD KEEPING, AND REPORTING

After the approval of the development permit by the Director of Engineering and the commencement of construction activities, the Director of Engineering and the Director of Public Works have the authority to conduct inspections of the work being done to ensure full compliance with the provisions of this Article, the Construction Specifications, and the terms and conditions of the approved permit.

The Department of Public Works also has the authority to perform long-term, post-construction inspection of all public or privately owned stormwater quantity facilities. The inspection will cover physical conditions, available storage capacity, and the operational condition of key facility elements. Stormwater quantity facilities shall be maintained in good condition, in accordance with the terms and conditions of the approved stormwater management permit, and shall not be subsequently altered, revised or replaced except in accordance with the approved stormwater permit, or in accordance with approved amendments or revisions to the permit. If deficiencies are found during the inspection, the owner of the facility will be notified by the Department of Public Works and will be required to take all necessary measures to correct such deficiencies. If the owner fails to correct the deficiencies within the allowed time period, as specified in the notification letter, the Department of Public Works can undertake the work and collect from the owner using lien rights if necessary or subject the owner to the penalties set forth in Section 153.99 of the Fishers Code of Ordinances.



ARTICLE FOUR

**STORMWATER POLLUTION PREVENTION
FOR CONSTRUCTION SITES**

4.01 APPLICABILITY AND EXEMPTIONS

The City requires that a Stormwater Pollution Prevention Plan (SWPPP), which includes erosion and sediment control measures and materials handling procedures, to be submitted as part of the construction plans and specifications. Any project located within the City that includes clearing, grading, excavation, and other land-disturbing activities, resulting in the disturbance of or impact on one (1) acre or more of total land area, is subject to the full requirements of this Article. This includes both new development and re-development. This Article also applies to proposed hotspot developments disturbing less than one (1) acre and to disturbances of less than one (1) acre of land that are part of a larger common plan of development or sale if the larger common plan will ultimately disturb one (1) or more acres of land, within the MS4 area. Section 4.03 of this Article provides guidelines for calculating land disturbance. It is also recommended to comply with the full measures of this article down to a threshold of one-half (0.5) acre to provide enhanced assurances to limit off site sedimentation. For sites between 10,000 square feet and less than one (1) acre of disturbance, only a sediment and erosion control plan is required with the appropriate erosion and sediment control measures. A full SWPPP is not required for this threshold.

The requirements under this Article do not apply to the following activities:

- a. agricultural land-disturbing activities; or
- b. timber harvesting activities.

The requirements under this Article do not apply to the following activities, provided other applicable State permits contain provisions requiring immediate implementation of soil erosion control measures:

- a. Landfills that have been issued a certification of closure under 329 IAC 10.
- b. Coal mining activities permitted under IC 14-34.
- c. Municipal solid waste landfills that are accepting waste pursuant to a permit issued by the Indiana Department of Environmental Management under 329 IAC 10 that contains equivalent stormwater requirements, including the expansion of landfill boundaries and construction of new cells either within or outside the original solid waste permit boundary.

For an individual lot where land disturbance is expected to be one (1) acre or more, the individual lot owner must complete their own notice of intent letter, apply for a stormwater permit from the City of Fishers, and ensure that a sufficient construction and stormwater pollution prevention plan is completed and submitted in accordance with Article 6 of this Resolution; regardless of whether the individual lot is part of a larger permitted project site.

An individual lot with land disturbance or impact less than one (1) acre, located within a larger permitted project site, is considered part of the larger permitted project site, and the individual lot operator must comply with the terms and conditions of the stormwater permit approved for the larger project site. The development application for the larger project site must include detailed erosion and sediment control measures for individual lots. In addition, these individual lots are required to submit Individual Lot Plot Plan Permit applications prior to receiving a building permit. Details of the permitting process are contained in Article 6.

It will be the responsibility of the project site owner to complete a development application and ensure that a sufficient construction plan is completed and submitted to the City in accordance with Article 6 of this Resolution. It will be the responsibility of the project site owner and/or permit holder to ensure compliance with this Resolution during the construction activity and implementation of the construction plan, and in following and implementing all best management practices, and to notify the City with a

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sufficient notice of termination letter upon completion of the project and stabilization of the site. However, all persons engaging in construction and land-disturbing activities on a permitted project site meeting the applicability requirements must comply with the requirements of this Article and this Resolution.

4.02 POLICY ON STORMWATER POLLUTION PREVENTION

Effective stormwater pollution prevention on construction sites is dependent on a combination of preventing movement of soil from its original position (erosion control), intercepting displaced soil prior to entering a waterbody (sediment control), and proper on-site materials handling. The developer must submit to the City, a SWPPP with detailed erosion and sediment control plans as well as a narrative describing materials type and specification, handling and storage, and construction sequencing. See the Construction Specifications for a list of requirements that should be considered in the preparation of a SWPPP within the City.

4.03 POLICY FOR CALCULATING LAND DISTURBANCE AREA

In calculating the total area of land disturbance, for the purposes of determining applicability of this Article to the project, the following guidelines should be used:

- A. Off-site construction activities that provide services (for example, road extensions, sewer, water, and other utilities) to a land-disturbing project site, must be considered as a part of the total land disturbance calculation for the project site, when the activity is under the control of the project site owner.
- B. Strip developments will be considered as one (1) project site and must comply with this Article unless the total combined disturbance on all individual lots is less than one (1) acre and is not part of a larger common plan of development or sale.
- C. To determine if multi-lot project sites are regulated by this rule, the area of land disturbance shall be calculated by adding the total area of land disturbance for improvements, such as, roads, utilities, or common areas, and the expected total disturbance on each individual lot, as determined by the following:
 - i. For a single-family residential project site where the lots are one-half (0.5) acre or more, one-half (0.5) acre of land disturbance must be used as the expected lot disturbance.
 - ii. For a single-family residential project site where the lots are less than one half (0.5) acre in size, the total lot must be calculated as being disturbed.
 - iii. To calculate lot disturbance on all other types of projects sites, such as industrial and commercial projects project sites, a minimum of one (1) acre of land disturbance must be used as the expected lot disturbance, unless the lots are less than one (1) acre in size, in which case the total lot must be calculated as being disturbed.

The calculation methods as well as the type, sizing, and placement of all stormwater pollution prevention measures for construction sites shall meet the design criteria, standards, and specifications outlined in the latest editions of the *Indiana Stormwater Quality Manual* and the Construction Specifications . The methods and procedures included in these two references are in keeping with the above stated policy and meet the requirements of IDEM's Rule 5. A Copy of the *Indiana Stormwater Quality Manual* may be obtained through IDEM.

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4.04 INSPECTION, MAINTENANCE, RECORD KEEPING, AND REPORTING

Following approval of the stormwater management permit, the Department of Public Works has the authority to conduct inspections of the site to ensure full compliance with the provisions of this Article, the latest edition of *the Indiana Stormwater Quality Manual*, and the terms and conditions of the approved permit.

A self-monitoring program must be implemented by the project site owner and/or permit holder to ensure the SWPPP is working effectively. A trained individual, acceptable to the City, shall perform a written evaluation of the project site by the end of the next business day following each measurable storm event. If there are no measurable storm events within a given week, the site should be monitored at least once in that week. Weekly inspections by the trained individual shall continue until the entire site has been stabilized and a Notice of Termination has been issued. The trained individual should look at the maintenance of existing stormwater pollution prevention measures, including erosion and sediment control measures, drainage structures, and construction materials storage/containment facilities, to ensure they are functioning properly. The trained individual should also identify additional measures, beyond those originally identified in the SWPPP, necessary to remain in compliance with all applicable statutes and regulations.

The resulting evaluation reports must include the name of the individual performing the evaluation, the date of the evaluation, problems identified at the project site, and details of maintenance, additional measures, and corrective actions recommended and completed.

The SWPPP shall serve as a guideline for stormwater quality, but should not be interpreted to be the only basis for implementation of stormwater quality measures for a project site. The project site owner and/or permit holder is responsible for implementing, in accordance with this Article, all measures necessary to adequately prevent polluted stormwater runoff. Recommendations by the trained individual for modified stormwater quality measures should be implemented.

Although self-monitoring reports do not need to be submitted to the City, the Department of Public Works has the right to request complete records of maintenance and monitoring activities involving stormwater pollution prevention measures. All evaluation reports for the project site must be made available to Director of Public Works in an organized fashion, within forty-eight (48) hours upon request.



ARTICLE FIVE

STORMWATER QUALITY MANAGEMENT FOR POST-CONSTRUCTION

5.01 APPLICABILITY AND EXEMPTIONS

In addition to the requirements of Article 4, the SWPPP, which is to be submitted to the City as part of the development application, must also include post-construction stormwater quality measures. These measures are incorporated as a permanent feature into the site plan and are left in place following completion of construction activities to continuously treat stormwater runoff from the stabilized site. Any project located within City that includes clearing, grading, excavation, and other land-disturbing activities, resulting in the disturbance of or impact on one (1) acre or more of total land area, is subject to the requirements of this Article. This includes both new development and re-development, and disturbances of less than one (1) acre of land that are part of a larger common plan of development or sale, or master planned area if the larger common plan will ultimately disturb one (1) or more acres of land, within the MS4 area. A master planned area shall be defined as any drainage, zoning, or defined district plan, or any other planned development or redevelopment area likely to have several lots with less than one acre of area being promoted for redevelopment. In addition, regardless of the amount of disturbance, the City reserves the right to require pre-treatment BMPs for proposed hot spot developments in accordance to provisions contained in the Construction Specifications. The City also encourages implementation of the requirements of this article down to a threshold of one-half (0.5) acre or more of disturbed area to provide enhanced water quality treatment for downstream receiving waters.

The requirements under this Article do not apply to the following activities:

- A. agricultural land-disturbing activities; or
- B. timber harvesting activities; or
- C. construction activities associated with a single family residential dwelling disturbing less than 5 acres, when the dwelling is not part of a larger common plan of development or sale; or
- D. single family residential developments consisting of four or less lots; or
- E. a single-family residential strip development where the developer offers for sale or lease without land improvements and the project is not part of a larger common plan of development of sale; or
- F. individual building lots within a larger permitted project.

The requirements under this Article do not apply to the following activities, provided other applicable State permits contain provisions requiring immediate implementation of soil erosion control measures:

- A. Landfills that have been issued a certification of closure under 329 IAC 10.
- B. Coal mining activities permitted under IC 14-34.
- C. Municipal solid waste landfills that are accepting waste pursuant to a permit issued by the Indiana Department of Environmental Management under 329 IAC 10 that contains equivalent stormwater requirements, including the expansion of landfill boundaries and construction of new cells either within or outside the original solid waste permit boundary.

It will be the responsibility of the project site owner to complete a development application and ensure that a sufficient construction plan is completed and submitted to the City in accordance with Article 6 of this Resolution. It will be the responsibility of the project site owner and/or permit holder to ensure proper construction and installation of all stormwater BMPs in compliance with this Resolution and with the approved stormwater management permit, and to notify the City with a sufficient notice of termination letter upon completion of the project and stabilization of the site. However, all eventual property owners of stormwater quality management facilities meeting the applicability requirements must comply with the requirements of this Article and this Resolution.

5.02 POLICY ON STORMWATER QUALITY MANAGEMENT

It is recognized that developed areas, as compared to undeveloped areas, generally have increased imperviousness, decreased infiltration rates, increased runoff rates, and increased concentrations of pollutants such as fertilizers, herbicides, greases, oil, salts and other pollutants. As new development and re-development continues in the City, measures must be taken to intercept and filter pollutants from stormwater runoff prior to reaching regional creeks, streams, and rivers. It is presumed that through the use of Best Management Practices (BMP), stormwater runoff will be filtered and harmful amounts of sediment, nutrients, and contaminants will be removed. City has established a minimum standard that the measurement of the effectiveness of the control of Stormwater quality will be based on the management of Total Suspended Solids (TSS).

It is also recognized that another major source of pollution in many Indiana streams, including those within the corporate boundaries of the City, is the streambank erosion associated with urbanizing watersheds. Stream channels develop their shape in response to the volume and rate of runoff that they receive from their contributing watersheds. Research has shown that in hydrologically stable watersheds, the stream flow responsible for most of the shaping of the channel (called the bankfull flow) occurs between every one to two years. When land is developed, the volume and rate of runoff from that land increases for these comparatively small flooding events that are not normally addressed by the detention practices and the stream channel will adapt by changing its shape. As the stream channel works to reach a new stable shape, excess erosion occurs. As new development and re-development continues within the corporate boundaries of the City, measures should be taken to minimize the impact of such development or re-development on streambank erosion. Through the use of appropriate Best Management Practices (BMP's), the volume and rate of runoff for channel forming flows can be reduced in an attempt to minimize increased streambank erosion in the receiving streams and channels.

The project site owner must submit to the City, a SWPPP that would show placement of appropriate BMP(s) from a pre-approved list of BMPs specified in the Construction Specifications. The noted BMPs must be designed, constructed, and maintained according to guidelines provided or referenced in the Construction Specifications. Practices other than those specified in the pre-approved list may be utilized. However, the burden of proof, as to whether the performance (minimum 80% TSS removal) and ease of maintenance of such practices will be according to guidelines provided in the Construction Specifications, would be placed with the applicant. Details regarding the procedures and criteria for consideration of acceptance of such BMPs are provided in the Construction Specifications.

Gasoline outlets and refueling areas must install appropriate practices to reduce lead, copper, zinc, and hydrocarbons in stormwater runoff in addition to the hot spot requirements indicated in the Construction Specifications. These requirements will apply to all new facilities and existing facilities that replace their tanks.

5.03 CALCULATIONS AND DESIGN STANDARDS AND SPECIFICATIONS

Calculation of land disturbance should follow the guidelines discussed in Article 4, Section 4.03.

The calculation methods as well as the type, sizing, and placement of all stormwater quality management measures, or BMPs shall meet the design criteria, standards, and specifications outlined in the *latest editions of the Indiana Stormwater Quality Manual* and the Construction Specifications. The methods and procedures included in these two references are in keeping with the above stated policy and meet the requirements of IDEM's Rule 13.

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5.04 EASEMENT REQUIREMENTS

All stormwater quality management systems, including detention or retention basins, filter strips, pocket wetlands, in-line filters, infiltration systems, conveyance systems, structures and appurtenances located outside of the right-of-way shall be designated as common areas or incorporated into permanent drainage easements. For the purposes of monitoring, inspection, and general maintenance activities, adequate easement widths, as detailed in the Construction Specifications, beyond the actual footprint of the stormwater quality management facility as well as a 20-foot wide access easement from a public right-of-way to each BMP shall be provided.

5.05 INSPECTION, MAINTENANCE, RECORD KEEPING, AND REPORTING

After the approval of the stormwater management permit, the Department of Public Works has the authority to conduct inspections of the work being done to ensure full compliance with the provisions of this Article, the Construction Specifications, and the terms and conditions of the approved permit.

Stormwater quality management facilities shall be maintained in good condition, in accordance with the Operation and Maintenance procedures and schedules listed in the latest editions of the *Indiana Stormwater Quality Manual* and the Construction Specifications, and the terms and conditions of the approved stormwater permit, and shall not be subsequently altered, revised, or replaced except in accordance with the approved stormwater permit, or in accordance with approved amendments or revisions in the permit. Following construction completion, maintenance of stormwater quality facilities shall be the long-term responsibility of the facility's owner.

The Department of Public Works has the authority to perform long-term, post-construction inspection of all public or privately owned stormwater quality facilities. The inspections will follow the Operation and Maintenance procedures included in the Construction Specifications and/or permit application for each specific BMP. The inspection will cover physical conditions, available water quality storage capacity and the operational condition of key facility elements. Noted deficiencies and recommended corrective action will be included in an inspection report. If deficiencies are found during the inspection, the owner of the facility will be notified by the Department of Public Works and will be required to take all necessary measures to correct such deficiencies. If the owner fails to correct the deficiencies within the allowed time period, as specified in the notification letter or inspection report, the City will start enforcement procedures under Section 153.99 of the Fishers Code of Ordinances or undertake the work and collect from the owner using lien rights if necessary.



ARTICLE SIX

PERMIT REQUIREMENTS AND PROCEDURES

6.01 CONCEPTUAL DRAINAGE PLAN REVIEW

In order to establish that an adequate drainage outlet(s) exists for a proposed development, a developer may apply for a conceptual drainage plan review by the City Engineering and Public Works Offices. Note that any preliminary drainage approval by the Director of Engineering or Director of Public Works as a result of such a review is based on preliminary data and shall not be construed as a final drainage approval or considered binding on either party. The following is a general listing of minimum data requirements for the review of conceptual drainage plans:

- A. Two (2) complete sets of conceptual plans showing general project layout, including existing and proposed drainage systems and proposed outlets (plan sheets must be larger than 11" by 17", but not to exceed 24" by 36").
- B. General description of the existing and proposed drainage systems in narrative form.
- C. Watershed Boundaries on City's 1-foot or 2-foot topographic mapping.
- D. Existing watercourse or regulated drains.
- E. Letter of Intent for obtaining any needed consents, off-site easements, right-of-way, or regulatory permits.

6.02 PERMIT PROCEDURES

This section applies to all development, or re-development of land, that results in land disturbance of one (1) acre or more. Individual lots with land disturbance less than one (1) acre that are developed within a larger permitted project site should refer to Section 6.04 for plan review requirements and procedures.

Figure 6-1 is a flowchart summarizing the plan review/permit approval process and can be found at the end of this Article. Permit requirements should follow the latest development application process established by the City Community Development and Planning Departments. Stormwater management will be reviewed and approved as a part of the overall development permit process. Submittal requirements include but are not limited to a Draft Notice of Intent letter (NOI), construction plan sheets, stormwater drainage technical report, a stormwater pollution prevention plan (SWPPP), and any other necessary support information. Specific information to be included can be found in Section 6.03 below and within the *City of Fishers Drainage and Water Quality Plan Review Requirements* list contained in the Construction Specifications.

After the City's receipt of the application, the applicant will be notified as to whether their application was complete or insufficient. The applicant will be asked for additional information if the application is insufficient. The information provided will be reviewed by the Director of Engineering.

Once a SWPPP has been deemed adequate, the project site owner must file a Notice of Intent to IDEM a minimum of 48 hours prior to the commencement of construction activities. However, the City requires a copy of the official NOI submitted to IDEM prior to issuance of any preliminary grading, improvement location, or subdivision improvement permit. The IDEM submittal must include a proof of publication, verification that the jurisdictional entity approved the plan, and a \$100 fee. For the City, digital copies of the final approved construction plans, stormwater drainage technical report, stormwater pollution prevention plan for construction sites, and post-construction stormwater pollution prevention plan shall also accompany the above-noted written notification and proof of publication. A pre-construction meeting is required to be held with the participation of the City and other entities

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involved prior to any grading activity to ensure that appropriate perimeter control measures have been implemented on the site and the location of any existing tiles has been properly marked.

Once construction starts, the project owner shall monitor construction activities and inspect all stormwater pollution prevention measures in compliance with this Resolution and the terms and conditions of the approved permit. Upon completion of construction activities, as-built plans must be submitted to the City. A Notice of Termination (NOT) shall be sent to the City of Fishers once the construction site has been stabilized and all temporary erosion and sediment control measures have been removed. The Director of Public Works or a representative shall inspect the construction site to verify the requirements for an NOT have been met. The City reserves the right to hold the permit holder responsible for all infrastructure, erosion control, or BMP related aspects of the project until all of these aspects are fully satisfactory to the City, independent of the NOT release. Once the applicant receives a “verified” copy of the NOT, they must forward a copy to IDEM. Permits issued under this scenario will expire 5 years from the date of issuance. If construction is not completed within 5 years, the NOI must be resubmitted at least 90 days prior to expiration.

6.03 INFORMATION REQUIREMENTS

Specific projects or activities may be exempt from all or part of the informational requirements listed below. Exemptions are detailed in the “Applicability and Exemptions” Sections of Articles 2 through 5. If a project or activity is exempt from any or all requirements of this Resolution, an application should be filed listing the exemption criteria met, in lieu of the information requirements listed below. This level of detailed information is not required from individual lots that disturb or impact less than 1 acre of land that are developed within a larger permitted project site. Review and acceptance of such lots is covered under Section 6.04 of this Article.

The different elements of a permit submittal for a Stormwater Plan approval include a Draft Notice of Intent (NOI), construction plans, a stormwater drainage technical report, a stormwater pollution prevention plan for active construction sites, a post-construction stormwater pollution prevention plan, and any other necessary supporting information. In addition, an updated NOI along with proof of publication of a public notice will need to be submitted directly to IDEM, with a copy provided to the City. All plans, reports, calculations, and narratives shall be signed and sealed by a professional engineer or a licensed Engineer, registered in the State of Indiana.

A. Draft Notice of Intent

The NOI is a standard form developed by the Indiana Department of Environmental Management which requires general project information. As part of the City development permit application package, the NOI form should be completed in full based on data and information available at the time of application.

An updated version of this form, accompanied by proof of publication in a newspaper of general circulation in the affected area that notified the public that a construction activity is to commence, will need to be resubmitted later after the stormwater management permit is granted and at least 48 hours prior to commencement of construction. The publication must include the following language:

“(Company name, address) is submitting an NOI letter to notify the City of Fishers and the Indiana Department of Environmental Management of our intent to comply with the requirements of the City of Fishers Stormwater Management Resolution, as well as the requirements of 327 IAC 15-5 and 327 IAC 15-13, to discharge stormwater from construction activities for the following project: (name of the construction project, address of the location of the construction project, and Parcel Identification Number). Runoff

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from the project site will discharge to (stream(s) receiving the discharge(s)).”

B. Construction Plans

Construction plans with a scale of 1 inch = 20 feet, 30 feet, 40 feet, 50 feet, or 60 feet and an accompanying narrative report shall describe and depict the existing and proposed conditions. This must be submitted in digital format acceptable to the City. Note that in order to gain an understanding of and to evaluate the relationship between the proposed improvements for a specific project section/phase and the proposed improvements for an overall multi-section (phased) project, the detailed information requested herein for the first section/phase being permitted must be accompanied by an overall project plan that includes the location, dimensions, and supporting analyses of all detention/retention facilities, primary conveyance facilities, and outlet conditions. Construction plans need to include items listed in the *City of Fishers Drainage and Water Quality Plan Review Requirements* list contained in the Construction Specifications. One final 24”X36” set of construction plans must be submitted in hard copy format once the permit has been approved.

C. Stormwater Drainage Technical Report

A stormwater drainage technical report must contain a discussion of the steps taken in the design of the stormwater drainage system. Note that in order to gain an understanding of and to evaluate the relationship between the proposed improvements for a specific project section/phase and the proposed improvements for an overall multi-section (phased) project, the detailed information requested herein for the first section/phase being permitted must be accompanied by an overall project plan that includes the location, dimensions, and supporting analyses of all detention/retention facilities, primary conveyance facilities, and outlet conditions. The technical report needs to include items listed in the *City of Fishers Drainage and Water Quality Plan Review Requirements* list contained in the Construction Specifications.

D. Stormwater Pollution Prevention Plan for Construction Sites

For sites with total land disturbances of one acre (1) or more, a SWPPP associated with construction activities must be designed to, at least, meet the requirements of this Resolution and must include items listed in the *City of Fishers Drainage and Water Quality Plan Review Requirements* list contained in the Construction Specifications. For land disturbances between 10,000 square feet and less than one (1) acre, appropriate erosion and sediment control measures that are consistent with the Construction Specifications must be designed and shown on the plans.

E. Post-Construction Storm Water Pollution Prevention Plan

For sites with a total disturbance of land of one (1) acre or greater, a post-construction SWPPP must be designed to, at least, meet the requirements of this Resolution and must include items listed in the *City of Fishers Drainage and Water Quality Plan Review Requirements* list contained in the Construction Specifications.

6.04 REVIEW OF INDIVIDUAL LOTS WITHIN A PERMITTED PROJECT

For all individual lots disturbing ground that are developed within a larger permitted project, a formal review and issuance of an Individual Lot Plot Plan Permit including a lot erosion and sediment control plan will be required before a building permit can be issued. All stormwater management measures necessary to comply with this Resolution must be implemented in accordance with the permitted plan for the larger project. See the Construction Specifications for a list of requirements associated with the Individual Lot Plot Plan Permit. The individual lot operator is responsible for installation and maintenance of all erosion and sediment control measures until the site is stabilized.

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6.05 CHANGES TO PLANS

Any changes or deviations in the detailed plans and specifications after approval of the applicable development permit shall be filed with, and accepted by, the Director of Engineering and Director of Public Works prior to land development involving the change. Copies of the changes, if accepted, shall be attached to the original plans and specifications.

6.06 FEE STRUCTURE

A. FEE AMOUNT

As a condition of the submittal and the review of development plans by City, the applicant shall agree to pay the City development fees as set by the Fishers City Council, with respect to the review of all drainage submittals, preliminary plans, final plans, construction plans and accompanying information and data, as well as any applicable pre-paid inspection fees.

B. TIME OF PAYMENT

Before the City's approval of plans, the City will furnish a written statement to the applicant specifying the total amount due the City in connection with the review of the applicant's submittals, plans and accompanying information and data, including the amount required to be paid by applicant for review and pre-paid inspection fees.

As a condition of acceptance of final drainage plans by the City, applicant shall pay to the City the sum set forth in said statement. The City may issue such a billing statement before the project advances to the final acceptance stage, and such payment is due by applicant upon receipt of said billing statement regardless of whether the project is advanced to the final acceptance stage.

The Director of Engineering shall have the right to not accept the drainage improvements or to not accept the advancement of any project for which the applicable fees have not been paid.

C. METHOD OF PAYMENT

Fees shall be paid by one of the following methods:

- Certified Check
- Cashier's Check
- Money Order
- Such other methods as may be agreed in writing by the Director of Engineering

All checks shall be made payable to the: City of Fishers
One Municipal Drive
Fishers, Indiana 46038

D. REFUND OF PAYMENT

Fees are refundable or may be waived **only** if the Director of Engineering determines that compliance by the development to this Resolution is not necessary.

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6.07 REQUIRED ASSURANCES

As a condition of approval and issuance of the permit, the Director of Engineering shall require the applicant to provide assurance in the form of an irrevocable letter of credit, a bond, or such other instrument or method of security acceptable in writing by the Director of Engineering when the stormwater management plan has been accepted, all applicable fees paid, and before construction begins. Said assurance will guarantee a good faith execution of the stormwater drainage plan, the stormwater pollution prevention plan, the stormwater quality management plan, and any permit conditions. The assurance shall be for an amount equal to at least 100 percent of the total costs of all stormwater management measures for the entire project. The abovementioned costs shall be based on an estimate as prepared by a professional engineer or land surveyor registered in the State of Indiana. Said costs shall be for the installation and ongoing monitoring and maintenance of erosion control measures and the construction and ongoing monitoring and maintenance of storm drainage infrastructure, detention/retention facilities, and stormwater quality BMPs, as regulated under this Resolution, until the construction is completed, site is stabilized, and as-built plans are accepted by the Director of Engineering. Assurances shall be for a minimum of \$5,000. Local governmental jurisdictions may require additional performance and/or maintenance assurances. The intent of this assurance is not only to complete the installation of storm drain infrastructure for the project, but also to assure that adequate stormwater pollution prevention measures are properly installed and maintained. If adequate assurances are set aside by the project site owner for the overall project per §Section 7.45 SY01: Surety Standards or as amended by the Unified Development Ordinance, proof of total assurance can be submitted in place of an individual stormwater assurance.

In the absolute discretion of the Director of Engineering the applicant may be allowed to pay a cash amount to the City in lieu thereof equivalent to the amount of the premium which would be paid by said applicant if it were to obtain a performance bond. Conditions governing the exercise of discretion by the Director of Engineering shall include but not be necessarily limited to the following:

- (a) The general credit worthiness of the applicant seeking such alternative form of payment;
- (b) The nature of the proposed improvement;
- (c) The reputation and history involving the applicant seeking such alternative form of payment;
- (d) Such other underwriting standards as may be appropriate under the circumstances.

6.08 TERMS AND CONDITIONS OF PERMITS

In granting a stormwater management permit, the Director of Engineering or Director of Public Works may impose such terms and conditions as are reasonably necessary to meet the purposes of this Resolution. The project site owner shall insure compliance with such terms and conditions. Non-compliance with the terms and conditions of permits will be subject to enforcement as set forth in Section 153.99 of the Fishers Code of Ordinances.

The project site owner shall inform all general contractors, construction management firms, grading or excavating contractors, utility contractors, and the contractors that have primary oversight on individual building lots of the terms and conditions of the stormwater management permit and the schedule for proposed implementation.

It is the intent of this Resolution to direct the community's physical growth away from sensitive areas and towards areas that can support it without compromising water quality. In the event that a project site is determined to impact or discharge to a Sensitive Area or is located in an Impact Drainage Area, the Director of Engineering or Director of Public Works may require more stringent stormwater quantity and quality measures than detailed in this Resolution or in the latest edition of the *Indiana Stormwater Quality Manual*.

A. Determination of Sensitive Areas

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Sensitive Areas include highly erodible soils, wetlands, threatened or endangered species habitat, outstanding waters, impaired waters, recreational waters, and surface drinking water sources. A listing of highly erodible soils, outstanding water, impaired water, recreation water, and surface drinking water sources can be found in the City of Fishers Storm Water Quality Management Plan (SWQMP) - Part B, dated July 2, 2004 and its updates. Any discharge from a stormwater practice that is a Class V injection well shall meet the Indiana groundwater quality standards. If wetlands are suspected on a site, wetland delineation shall be completed in accordance with the methodology established by the U.S. Army Corps of Engineers (COE) and the wetland addressed in accordance to the COE requirements. If the presence of threatened or endangered species habitat is suspected on a site, the site must be evaluated and inspected by a professional experienced in such and the results reported to the Director of Public Works. Special terms and conditions for development determined to impact or discharge to any Sensitive Area shall be included in the stormwater management permit.

B. Determination of Impact Drainage Areas

The following areas shall be designated as Impact Drainage Areas, unless good reason for not including them is presented to the Director of Engineering or Director of Public Works.

- i. A floodway or floodplain as designated by the most updated City of Fishers Unified Development Ordinance sections regulating floodplain..
- ii. Land within 75 feet of each bank of any ditch within the Hamilton County Regulated Drainage System.
- iii. Land within 75 feet of the centerline of any drain tile or enclosed conduit within the Hamilton County Regulated Drainage System.

The City of Fishers City Council or Mayor is authorized, but is not required, to classify certain additional geographical areas as Impact Drainage Areas. In determining Impact Drainage Areas, the City of Fishers City Council or Mayor shall consider such factors as land use, topography, soil type, capacity of existing drains, and distance from adequate drainage facility.

Land that does not have an adequate outlet, taking into consideration the capacity and depth of the outlet, may be designated as an Impact Drainage Area by the City of Fishers City Council or Mayor. Special terms and conditions for development within any Impact Drainage Area shall be included in the stormwater management permit.

6.09 CERTIFICATION OF AS-BUILT PLANS

After completion of construction of the project and before final project acceptance of the stormwater management plan (the issuance of a “verified” NOT), a professionally prepared and certified ‘as-built’ set of plans (record drawings) by a Professional Engineer or licensed Land Surveyor registered in the State of Indiana shall be submitted to the City for review. These as-built plans/record drawings must be prepared and certified by a Professional Engineer and/or licensed Land Surveyor. Additionally, a digital copy of the ‘as-built’ plans (record drawings) as well as finalized digital versions of all analyses, models, manuals, and reports that are consistent with the as-built conditions are required in a format accepted by the Director of Engineering. These plans shall include all pertinent data relevant to the completed storm drainage system and stormwater management facilities, and shall be in accordance with the City of Fishers Digital Record Drawing Submittal Requirements.

The property owner, developer, or contractor shall be required to file a three-year maintenance bond or other acceptable guarantee with the Director of Engineering, prior to final project acceptance (the issuance of a “verified” NOT), in an amount not to exceed twenty percent (20%) of the cost of the

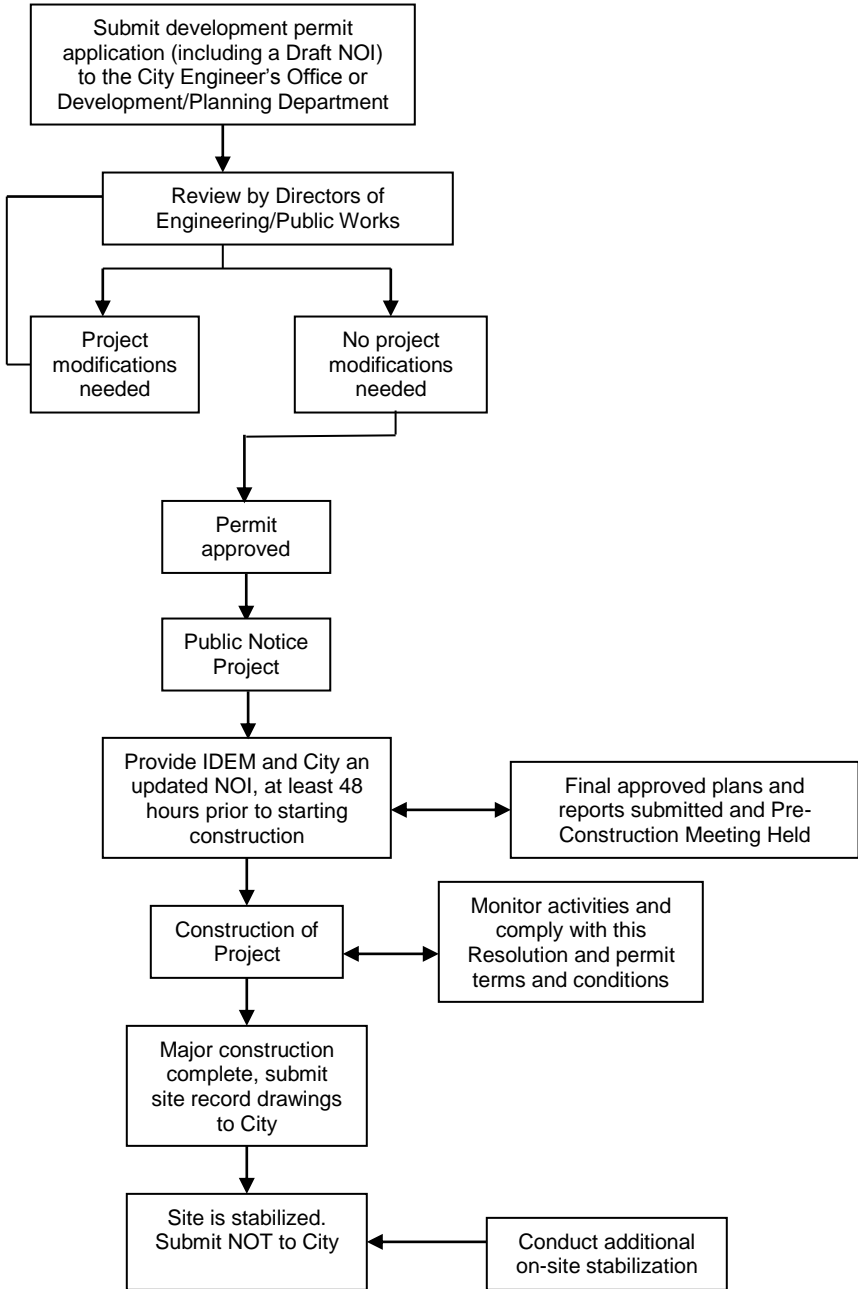
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stormwater drainage system to be dedicated to the City, and in a form satisfactory to the City attorney in order to assure that such stormwater system installation was done according to standards of good workmanship, that the materials used in the construction and installation were of good quality and construction, and that such project was done in accordance with the accepted plans, and this Resolution. The bond or other acceptable guarantee shall be in effect for a period of three years after the date of the final project acceptance by the Director of Engineering.

To verify that all enclosed drains are functioning properly, visual recordings (via closed circuit television) of such tile drains shall be required, once following the completion of installation (including the installation of all utility mains) and the second time before release of maintenance bonds. These visual recordings will be scheduled by the Director of Engineering, and paid for by the developer. Notices shall be provided to the Director of Engineering within 72 hours following the completion of installation and again at least 60 days prior to the expiration date of the maintenance bond so that the noted recordings may be scheduled. Reports summarizing the results of the noted visual recordings shall be reviewed and accepted by the Director of Engineering before the plat is recommended for recording and again before maintenance bond would be recommended to be released.

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Figure 6-1: Permit Approval Process





ARTICLE SEVEN

ENFORCEMENT

7.01 COMPLIANCE WITH THIS RESOLUTION

In addition to the requirements of this Resolution, compliance with all applicable ordinances, resolutions and standards of the City as well as with applicable Federal, State of Indiana, and other Local statues and regulations shall also be required. Unless otherwise stated, all other specifications referred to in this Resolution shall be the most recent edition available. Violations of the requirements of this Resolution are subject to the penalties set forth in Section 153.99 of the Fishers Code of Ordinances.



ARTICLE EIGHT

ABBREVIATIONS AND DEFINITIONS

8.01 ABBREVIATIONS

BMP	Best Management Practice
COE	United States Army Corps of Engineers
CWA	Clean Water Act
EPA	Environmental Protection Agency
GIS	Geographical Information System
IDEM	Indiana Department of Environmental Management
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NOT	Notice of Termination
NRCS	USDA-Natural Resources Conservation Service
NPDES	National Pollution Discharge Elimination System
POTW	Publicly Owned Treatment Works
SWCD	Soil and Water Conservation District
SWPPP	Stormwater Pollution Prevention Plan
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service

8.02 DEFINITIONS

Agricultural land-disturbing activity. Tillage, planting, cultivation, or harvesting operations for the production of agricultural or nursery vegetative crops. The term also includes pasture renovation and establishment, the construction of agricultural conservation practices, and the installation and maintenance of agricultural drainage tile. For purposes of this rule, the term does not include land-disturbing activities for the construction of agricultural related facilities, such as barns, buildings to house livestock, roads associated with infrastructure, agricultural waste lagoons and facilities, lakes and ponds, wetlands; and other infrastructure.

Base Flow. Stream discharge derived from groundwater sources as differentiated from surface runoff. Sometimes considered to include flows from regulated lakes or reservoirs.

Best Management Practices. Design, construction, and maintenance practices and criteria for stormwater facilities that minimize the impact of stormwater runoff rates and volumes, prevent erosion, and capture pollutants.

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Buffer Strip. An existing, variable width strip of vegetated land intended to protect water quality and habitat.

Capacity (of a Storm Drainage Facility). The maximum flow that can be conveyed or stored by a storm drainage facility without causing damage to public or private property.

Catch Basin. A chamber usually built at the curb line of a street for the admission of surface water to a storm drain or subdrain, having at its base a sediment sump designed to retain grit and detritus below the point of overflow.

Channel. A portion of a natural or artificial watercourse which periodically or continuously contains moving water, or which forms a connecting link between two bodies of water. It has a defined bed and banks which serve to confine the water.

Comprehensive Stormwater Management. A comprehensive stormwater program for effective management of stormwater quantity and quality throughout the community.

Constructed Wetland. A manmade shallow pool that creates growing conditions suitable for wetland vegetation and is designed to maximize pollutant removal.

Construction activity. Land-disturbing activities, and land-disturbing activities associated with the construction of infrastructure and structures. This term does not include routine ditch or road maintenance or minor landscaping projects.

Construction site access. A stabilized stone surface at all points of ingress or egress to a project site, for the purpose of capturing and detaining sediment carried by tires of vehicles or other equipment entering or exiting the project site.

Construction Specifications. Refers to the City of Fishers Construction Specifications and Technical Standards.

Contiguous. Adjoining or in actual contact with.

Contour. An imaginary line on the surface of the earth connecting points of the same elevation.

Contour Line. Line on a map which represents a contour or points of equal elevation.

Contractor or subcontractor. An individual or company hired by the project site or individual lot owner, their agent, or the individual lot operator to perform services on the project site.

Conveyance. Any structural method for transferring stormwater between at least two points. The term includes piping, ditches, swales, curbs, gutters, catch basins, channels, storm drains, and roadways.

Cross-Section. A graph or plot of ground elevation across a stream valley or a portion of it, usually along a line perpendicular to the stream or direction of flow.

Culvert. A closed conduit used for the conveyance of surface drainage water under a roadway, railroad, canal or other impediment.

Dechlorinated swimming pool discharge. Chlorinated water that has either sat idle for seven (7) days following chlorination prior to discharge to the MS4 conveyance, or, by analysis, does not contain detectable concentrations (less than five-hundredths (0.05) milligram per liter) of chlorinated residual.

Design Storm. A selected storm event, described in terms of the probability of occurring once within a given number of years, for which drainage or flood control improvements are designed and built.

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Detention. Managing stormwater runoff by temporary holding and controlled release.

Detention Basin. A facility constructed or modified to restrict the flow of storm water to a prescribed maximum rate, and to detain concurrently the excess waters that accumulate behind the outlet.

Detention Storage. The temporary detaining of storage of stormwater in storage facilities, on rooftops, in streets, parking lots, school yards, parks, open spaces or other areas under predetermined and controlled conditions, with the rate of release regulated by appropriately installed devices.

Detention Time. The theoretical time required to displace the contents of a tank or unit at a given rate of discharge (volume divided by rate of discharge).

Detritus. Dead or decaying organic matter; generally contributed to stormwater as fallen leaves and sticks or as dead aquatic organisms.

Developer. Any person financially responsible for construction activity, or an owner of property who sells or leases, or offers for sale or lease, any lots in a subdivision.

Development. Any man-made change to improved or unimproved real estate including but not limited to:

1. Construction, reconstruction, or placement of a building or any addition to a building;
2. Installing a manufactured home on a site, preparing a site for a manufactured home, or installing a recreational vehicle on a site;
3. for more than hundred eighty (180) days;
4. Installing utilities, construction of walls, construction of roads, or similar projects;
5. Construction of flood control structures such as levees, dikes, dams, or channel improvements;
6. Mining, dredging, filling, grading, excavation, clearing, deforestation, or drilling operations;
7. Construction or reconstruction of bridges or culverts;
8. Storage of materials; or
9. Any other activity that might change the direction, height, or velocity of flood or surface waters.

"Development" does not include activities such as the maintenance of existing buildings and facilities such as painting, re-roofing, resurfacing roads, or gardening, plowing and similar agricultural practices that do not involve filling, grading, excavation, or the construction of permanent buildings.

Discharge. Usually the rate of water flow. A volume of fluid passing a point per unit time commonly expressed as cubic feet per second, cubic meters per second, gallons per minute, or millions of gallons per day.

Disposal. The discharge, deposit, injection, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that the solid waste or hazardous waste, or any constituent of the waste, may enter the environment, be emitted into the air, or be discharged into any waters, including ground waters.

Ditch. A man-made, open watercourse in or into which excess surface water or groundwater drained from land, stormwater runoff, or floodwaters flow either continuously or intermittently.

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Drain. A buried slotted or perforated pipe or other conduit (subsurface drain) or a ditch (open drain) for carrying off surplus groundwater or surface water.

Drainage. The removal of excess surface water or groundwater from land by means of ditches or subsurface drains. Also see Natural drainage.

Drainage Area. The area draining into a stream at a given point. It may be of different sizes for surface runoff, subsurface flow and base flow, but generally the surface runoff area is considered as the drainage area.

Dry Well. A type of infiltration practice that allows stormwater runoff to flow directly into the ground via a bored or otherwise excavated opening in the ground surface.

Duration. The time period of a rainfall event.

Environment. The sum total of all the external conditions that may act upon a living organism or community to influence its development or existence.

Erodibility Index (EI). The soil erodibility index (EI) provides a numerical expression of the potential for a soil to erode considering the physical and chemical properties of the soil and the climatic conditions where it is located. The higher the index, the greater the investment needed to maintain the sustainability of the soil resource base if intensively cropped. It is defined to be the maximum of $(R \times K \times LS) / T$ (from the Universal Soil Loss Equation) and $(C \times I) / T$ (from the Wind Erosion Equation), where R is a measure of rainfall and runoff, K is a factor of the susceptibility of the soil to water erosion, LS is a measure of the combined effects of slope length and steepness, C is a climatic characterization of windspeed and surface soil moisture and I is a measure of the susceptibility of the soil to wind erosion. Erodibility Index scores equal to or greater than 8 are considered highly erodible land.

Erosion. The wearing away of the land surface by water, wind, ice, gravity, or other geological agents. The following terms are used to describe different types of water erosion:

- *Accelerated erosion*--Erosion much more rapid than normal or geologic erosion, primarily as a result of the activities of man.
- *Channel erosion* --An erosion process whereby the volume and velocity of flow wears away the bed and/or banks of a well-defined channel.
- *Gully erosion* --An erosion process whereby runoff water accumulates in narrow channels and, over relatively short periods, removes the soil to considerable depths, ranging from 1-2 ft. to as much as 75-100 ft.
- *Rill erosion*--An erosion process in which numerous small channels only several inches deep are formed; occurs mainly on recently disturbed and exposed soils (see Rill).
- *Splash erosion*--The spattering of small soil particles caused by the impact of raindrops on wet soils; the loosened and spattered particles may or may not be subsequently removed by surface runoff.
- *Sheet erosion*--The gradual removal of a fairly uniform layer of soil from the land surface by runoff water.

Erosion and sediment control. A practice, or a combination of practices, to minimize sedimentation by first reducing or eliminating erosion at the source and then as necessary, trapping sediment to prevent it from being discharged from or within a project site.

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Fill Material. Any material used for primary purpose of replacing a wetland area with dry land or of changing the bottom elevation of a wetland or a waterbody. This definition shall be considered to be automatically amended to conform with the definition of fill material established from time to time by the United States of America or United States Army Corps of Engineers.

Filter Strip. Usually a long, relatively narrow area (usually, 20-75 feet wide) of undisturbed or planted vegetation used near disturbed or impervious surfaces to filter stormwater pollutants for the protection of watercourses, reservoirs, or adjacent properties.

Floatable. Any solid waste that will float on the surface of the water.

Flood (or Flood Waters). A general and temporary condition of partial or complete inundation of normally dry land areas from the overflow, the unusual and rapid accumulation, or the runoff of surface waters from any source.

Floodplain. The channel proper and the areas adjoining the channel which have been or hereafter may be covered by the regulatory or 100-year flood. Any normally dry land area that is susceptible to being inundated by water from any natural source. The floodplain includes both the floodway and the floodway fringe districts.

Floodway. The channel of a river or stream and those portions of the floodplains adjoining the channel which are reasonably required to efficiently carry and discharge the peak flow of the regulatory flood of any river or stream.

Floodway Fringe. That portion of the flood plain lying outside the floodway, which is inundated by the regulatory flood.

Footing Drain. A drain pipe installed around the exterior of a basement wall foundation to relieve water pressure caused by high groundwater elevation.

Garbage. All putrescible animal solid, vegetable solid, and semisolid wastes resulting from the processing, handling, preparation, cooking, serving, or consumption of food or food materials.

Gasoline outlet. An operating gasoline or diesel fueling facility whose primary function is the resale of fuels. The term applies to facilities that create five thousand (5,000) or more square feet of impervious surfaces, or generate an average daily traffic count of one hundred (100) vehicles per one thousand (1,000) square feet of land area.

Geographical Information System. A computer system capable of assembling, storing, manipulation, and displaying geographically referenced information. This technology can be used for resource management and development planning.

Grade. (1) The inclination or slope of a channel, canal, conduit, etc., or natural ground surface usually expressed in terms of the percentage the vertical rise (or fall) bears to the corresponding horizontal distance. (2) The finished surface of a canal bed, roadbed, top of embankment, or bottom of excavation; any surface prepared to a design elevation for the support of construction, such as paving or the laying of a conduit. (3) To finish the surface of a canal bed, roadbed, top of embankment, or bottom of excavation, or other land area to a smooth, even condition.

Grading. The cutting and filling of the land surface to a desired slope or elevation.

Grass. A member of the botanical family Graminae, characterized by blade-like leaves that originate as a sheath wrapped around the stem.

Groundwater. Accumulation of underground water, natural or artificial. The term does not include manmade underground storage or conveyance structures.

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Habitat. The environment in which the life needs of a plant or animal are supplied.

Highly Erodible Land (HEL). Land that has an erodibility index of eight or more.

Hydrologic Unit Code. A numeric United States Geologic Survey code that corresponds to a watershed area. Each area also has a text description associated with the numeric code.

Hydrology. The science of the behavior of water in the atmosphere, on the surface of the earth, and underground. A typical hydrologic study is undertaken to compute flow rates associated with specified flood events.

Illicit Discharge. Any discharge to a conveyance that is not composed entirely of stormwater except naturally occurring floatables, such as leaves or tree limbs.

Impaired Waters. Waters that do not or are not expected to meet applicable water quality standards, as included on IDEM's CWA Section 303(d) List of Impaired Waters.

Impervious surface. Surfaces, such as pavement and rooftops, which prevent the infiltration of stormwater into the soil.

Individual building lot. A single parcel of land within a multi-parcel development.

Individual lot operator. A contractor or subcontractor working on an individual lot.

Individual lot owner. A person who has financial control of construction activities for an individual lot.

Infiltration. Passage or movement of water into the soil. Infiltration practices include any structural BMP designed to facilitate the percolation of run-off through the soil to groundwater. Examples include infiltration basins or trenches, dry wells, and porous pavement.

Inlet. An opening into a stormwater drainage system for the entrance of surface storm water runoff, more completely described as a storm drain inlet.

Land-disturbing Activity. Any man-made change of the land surface, including removing vegetative cover that exposes the underlying soil, excavating, filling, transporting and grading.

Land Engineer. A person licensed under the laws of the State of Indiana to practice land surveying.

Larger common plan of development or sale. A plan, undertaken by a single project site owner or a group of project site owners acting in concert, to offer lots for sale or lease; where such land is contiguous, or is known, designated, purchased or advertised as a common unit or by a common name, such land shall be presumed as being offered for sale or lease as part of a larger common plan. The term also includes phased or other construction activity by a single entity for its own use.

Lowest Adjacent Grade. The elevation of the lowest grade adjacent (abutting) to a structure, where the soil meets the foundation around the outside of the structure (including structural members such as basement walkout, patios, decks, porches, support posts or piers, and rim of the window well).

Lowest Floor. Refers to the lowest of the following:

1. The top of the basement floor;
2. The top of the garage floor, if the garage is the lowest level of the building;

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3. The top of the first floor of buildings constructed on a slab or of buildings elevated on pilings or constructed on a crawl space with permanent openings; or
4. The top of the floor level of any enclosure below an elevated building where the walls of the enclosure provide any resistance to the flow of flood waters unless:
 - a] The walls are designed to automatically equalize the hydrostatic flood forces on the walls by allowing for the entry and exit of flood waters, by providing a minimum of two opening (in addition to doorways and windows) having a total area of one (1) square foot for every two (2) square feet of enclosed area subject to flooding. The bottom of all such openings shall be no higher than one (1) foot above grade.
 - b] Such enclosed space shall be usable only for the parking of vehicles or building access.

Manhole. Storm drain structure through which a person may enter to gain access to an underground storm drain or enclosed structure.

Measurable storm event. A precipitation event that results in a total measured precipitation accumulation equal to, or greater than, one-half (0.5) inch of rainfall.

Mulch. A natural or artificial layer of plant residue or other materials covering the land surface which conserves moisture, holds soil in place, aids in establishing plant cover, and minimizes temperature fluctuations.

Municipal Separate Storm Sewer System. An MS4 meets all the following criteria: (1) is a conveyance or system of conveyances owned by the state, county, city, town, or other public entity; (2) discharges to waters of the U.S.; (3) is designed or used for collecting or conveying stormwater; (4) is not a combined sewer; and, (5) is not part of a Publicly Owned Treatment Works (POTW).

Refueling area. An operating gasoline or diesel fueling area whose primary function is to provide fuel to equipment or vehicles.

National Pollution Discharge Elimination System. A permit developed by the U.S. EPA through the Clean Water Act. In Indiana, the permitting process has been delegated to IDEM. This permit covers aspects of municipal stormwater quality.

Natural Drainage. The flow patterns of stormwater run-off over the land in its pre-development state.

Nutrient(s). (1) A substance necessary for the growth and reproduction of organisms. (2) In water, those substances (chiefly nitrates and phosphates) that promote growth of algae and bacteria.

Open Drain. A natural watercourse or constructed open channel that conveys drainage water.

Open Space. Any land area devoid of any disturbed or impervious surfaces created by industrial, commercial, residential, agricultural, or other manmade activities.

Outfall. The point, location, or structure where a pipe or open drain discharges to a receiving body of water.

Outlet. The point of water disposal from a stream, river, lake, tidewater, or artificial drain.

Peak Discharge (or Peak Flow). The maximum instantaneous flow from a given storm condition at a specific location.

Percolation. The movement of water through soil.

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Permanent stabilization. The establishment, at a uniform density of seventy percent (70%) across the disturbed area, of vegetative cover or permanent non-erosive material that will ensure the resistance of the soil to erosion, sliding, or other movement.

Pervious. Allowing movement of water.

Point Source. Any discernible, confined, and discrete conveyance including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or maybe discharged (P.L. 92-500, Section 502[14]).

Porous pavement. A type of infiltration practice to improve the quality and reduce the quantity of storm water run-off via the use of manmade, pervious pavement which allows run-off to percolate through the pavement and into underlying soils

Professional Engineer. A person licensed under the laws of the State of Indiana to practice professional engineering.

Project site. The entire area on which construction activity is to be performed.

Project site owner. The person required to submit a stormwater permit application, and required to comply with the terms of this resolution, including a developer or a person who has financial and operational control of construction activities, and project plans and specifications, including the ability to make modifications to those plans and specifications.

Rain garden. A vegetative practice used to alter impervious surfaces, such as roofs, into pervious surfaces for absorption and treatment of rainfall.

Receiving Stream, Receiving Channel, or Receiving Water. The body of water into which runoff or effluent is discharged. The term does not include private drains, unnamed conveyances, retention and detention basins, or constructed wetlands used as treatment.

Recharge. Replenishment of groundwater reservoirs by infiltration and transmission from the outcrop of an aquifer or from permeable soils.

Redevelopment. Alterations of a property that change a site or building in such a way that there is disturbances of one (1) acre or more of land. The term does not include such activities as exterior remodeling.

Regional Pond. A detention/retention basin sized to detain/retain the runoff from the entire watershed, on-site and off-site, tributary to the pond's outlet.

Regulatory Flood. The discharge or elevation associated with the 100-year flood as calculated by a method and procedure which is acceptable to and accepted by the Indiana Department of Natural Resources and the Federal Emergency Management Agency. The "regulatory flood" is also known as the "base flood".

Regulatory Floodway. See Floodway.

Release Rate - The amount of storm water release from a storm water control facility per unit of time.

Reservoir. A natural or artificially created pond, lake or other space used for storage, regulation or control of water. May be either permanent or temporary. The term is also used in the hydrologic modeling of storage facilities.

Retention. The storage of stormwater to prevent it from leaving the development site. May be temporary or permanent.

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Retention basin. A type of storage practice that has no positive outlet, used to retain storm water run-off for an indefinite amount of time. Runoff from this type of basin is removed only by infiltration through a porous bottom or by evaporation.

Return Period - The average interval of time within which a given rainfall event will be equaled or exceeded once. A flood having a return period of 100 years has a one percent probability of being equaled or exceeded in any one year.

Riparian zone. Of, on, or pertaining to the banks of a stream, river, or pond.

Riparian habitat. A land area adjacent to a waterbody that supports animal and plant life associated with that waterbody.

Runoff. That portion of precipitation that flows from a drainage area on the land surface, in open channels, or in stormwater conveyance systems.

Runoff Coefficient - A decimal fraction relating the amount of rain which appears as runoff and reaches the stormwater drainage system to the total amount of rain falling. A coefficient of 0.5 implies that 50 percent of the rain falling on a given surface appears as storm water runoff.

Sediment. Solid material (both mineral and organic) that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface.

Sedimentation. The process that deposits soils, debris and other unconsolidated materials either on the ground surfaces or in bodies of water or watercourses.

Sensitive Water. A waterbody in need of priority protection or remediation based on its:
providing habitat for threatened or endangered species,
usage as a public water supply intake,
relevant community value,
usage for full body contact recreation,
exceptional use classification as found in 327 IAC 2-1-11(b), outstanding State resource water
classification as found in 327 IAC 2-1-2(3) and 327 IAC 2-1.5-19(b).

Site. The entire area included in the legal description of the land on which land-disturbing activity is to be performed.

Slope. Degree of deviation of a surface from the horizontal, measured as a numerical ratio or percent. Expressed as a ratio, the first number is commonly the horizontal distance (run) and the second is the vertical distance (rise)--e.g., 2:1. However, the preferred method for designation of slopes is to clearly identify the horizontal (H) and vertical (V) components (length (L) and Width (W) components for horizontal angles). Also note that according to international standards (Metric), the slopes are presented as the vertical or width component shown on the numerator--e.g., 1V:2H. Slope expressions in this Resolution follow the common presentation of slopes--e.g., 2:1 with the metric presentation shown in parenthesis--e.g., (1V:2H). Slopes can also be expressed in "percents". Slopes given in percents are always expressed as $(100 \cdot V/H)$ --e.g., a 2:1 (1V:2H) slope is a 50% slope.

Soil. The unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.

Soil and Water Conservation District. A public organization created under State law as a special-purpose district to develop and carry out a program of soil, water, and related resource conservation, use, and development within its boundaries. A subdivision of State government with a local governing body, established under IC 14-32.

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Solid Waste. Any garbage, refuse, debris, or other discarded material.

Spill. The unexpected, unintended, abnormal, or unapproved dumping, leakage, drainage, seepage, discharge, or other loss of petroleum, hazardous substances, extremely hazardous substances, or objectionable substances. The term does not include releases to impervious surfaces when the substance does not migrate off the surface or penetrate the surface and enter the soil.

Storm Duration. The length of time that water may be stored in any stormwater control facility, computed from the time water first begins to be stored.

Storm Event. An estimate of the expected amount of precipitation within a given period of time. For example, a 10-yr. frequency, 24-hr. duration storm event is a storm that has a 10% probability of occurring in any one year. Precipitation is measured over a 24-hr. period.

Storm Sewer. A closed conduit for conveying collected storm water, while excluding sewage and industrial wastes. Also called a storm drain.

Stormwater. Water resulting from rain, melting or melted snow, hail, or sleet.

Stormwater Pollution Prevention Plan or SWPPP. A plan developed to minimize the impact of storm water pollutants resulting from construction activities.

Stormwater Runoff. The water derived from rains falling within a tributary basin, flowing over the surface of the ground or collected in channels or conduits.

Stormwater Quality Management Plan. A comprehensive written document that addresses stormwater runoff quality.

Stormwater Quality Measure. A practice, or a combination of practices, to control or minimize pollutants associated with storm water runoff.

Stormwater Drainage System - All means, natural or man-made, used for conducting storm water to, through or from a drainage area to any of the following: conduits and appurtenant features, canals, channels, ditches, storage facilities, swales, streams, culverts, streets and pumping stations.

Strip development. A multi-lot project where building lots front on an existing road.

Subdivision. Any land that is divided or proposed to be divided into lots, whether contiguous or subject to zoning requirements, for the purpose of sale or lease as part of a larger common plan of development or sale.

Subsurface Drain. A pervious backfield trench, usually containing stone and perforated pipe, for intercepting groundwater or seepage.

Surface Runoff. Precipitation that flows onto the surfaces of roofs, streets, the ground, etc., and is not absorbed or retained by that surface but collects and runs off.

Swale. An elongated depression in the land surface that is at least seasonally wet, is usually heavily vegetated, and is normally without flowing water. Swales conduct stormwater into primary drainage channels and may provide some groundwater recharge.

Temporary Stabilization. The covering of soil to ensure its resistance to erosion, sliding, or other movement. The term includes vegetative cover, anchored mulch, or other non-erosive material applied at a uniform density of seventy percent (70%) across the disturbed area.

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Tile Drain. Pipe made of perforated plastic, burned clay, concrete, or similar material, laid to a designed grade and depth, to collect and carry excess water from the soil.

Timber Harvesting. Cutting tree branches and trunks for commercial purposes without disturbing the root system.

Topographic Map. Graphical portrayal of the topographic features of a land area, showing both the horizontal distances between the features and their elevations above a given datum.

Topography. The representation of a portion of the earth's surface showing natural and man-made features of a give locality such as rivers, streams, ditches, lakes, roads, buildings and most importantly, variations in ground elevations for the terrain of the area.

Trained individual. An individual who is trained and experienced in the principles of storm water quality, including erosion and sediment control as may be demonstrated by state registration, professional certification, experience, or completion of coursework that enable the individual to make judgments regarding storm water control or treatment and monitoring.

Urban Drain. A drain defined as “Urban Drain” in Indiana Drainage Code.

Urbanization The development, change or improvement of any parcel of land consisting of one or more lots for residential, commercial, industrial, institutional, recreational or public utility purposes.

Vegetated swale. A type of vegetative practice used to filter stormwater runoff via a vegetated, shallow-channel conveyance.

Water Quality. A term used to describe the chemical, physical, and biological characteristics of water, usually in respect to its suitability for a particular purpose.

Water Resources. The supply of groundwater and surface water in a given area.

Waterbody. Any accumulation of water, surface, or underground, natural or artificial, excluding water features designed and designated as water pollution control facilities.

Watercourse. Any river, stream, creek, brook, branch, natural or man-made drainageway in or into which stormwater runoff or floodwaters flow either continuously or intermittently.

Watershed. The region drained by or contributing water to a specific point that could be along a stream, lake or other stormwater facilities. Watersheds are often broken down into subareas for the purpose of hydrologic modeling.

Watershed Area. All land and water within the confines of a drainage divide. See also Watershed.

Wetlands. Areas that are inundated or saturated by surface water or groundwater 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. Wetlands generally include swamps, marshes, bogs, and similar areas. This definition shall be considered to be automatically amended to conform with the definition of a wetlands established from time to time by the United States of America or United States Army Corps of Engineers.