

WEST FALLOWFIELD TOWNSHIP

Crawford County, Pennsylvania

Ordinance No. 2011 - 1

AN ORDINANCE TO ADOPT STORMWATER MANAGEMENT REGULATIONS PURSUANT TO THE PENNSYLVANIA STORM WATER MANAGEMENT ACT AND TO IMPLEMENT THE CRAWFORD COUNTY ACT 167 COUNTY-WIDE WATERSHEDS STORMWATER MANAGEMENT PLAN TO BE KNOWN AS THE WEST FALLOWFIELD TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

BE IT ORDAINED AND ENACTED by the Board of Supervisors of West Fallowfield Township and it is hereby ordained and enacted by and with the authority of the same as follows:

1. Adoption of Stormwater Management Ordinance. The Stormwater Management Ordinance attached hereto, which is incorporated herein by reference, is hereby adopted and enacted as the West Fallowfield Township Stormwater Management Ordinance.
2. Effective Date. This Ordinance and the Stormwater Management Ordinance hereby adopted shall be effective five (5) days after enactment.

ORDAINED AND ENACTED at a regular meeting of the Board of Supervisors of West Fallowfield Township on this 1th day of April, 2011.

WEST FALLOWFIELD TOWNSHIP

By: Marquerite Scullin
Chairman

By: Cecil Courtney
Supervisor

By: Raymond Peterson
Supervisor

ATTEST:

Brenda Williams 4-7-2011
Secretary

**W E S T
FALLOWFIELD
T O W N S H I P**

Crawford County, Pennsylvania

**STORMWATER
MANAGEMENT
ORDINANCE**

2011-1

I do hereby certify that the foregoing Ordinance was advertised in the Meadville Tribune on March 28, 2011, a newspaper of general circulation in West Fallowfield Township and was duly enacted and approved as set forth at a regular meeting of the Board of Supervisors of West Fallowfield Township held on April 7, 2011.

Brenda Z. Williams

Secretary

4-7-11

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ARTICLE I – GENERAL PROVISIONS

Section 101. Short Title

This Ordinance shall be known and may be cited as the “West Fallowfield Township Stormwater Management Ordinance.”

Section 102. Statement of Findings

The governing body of West Fallowfield Township finds that:

- A. Inadequate management of accelerated stormwater runoff resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of existing streams and storm sewers, greatly increases the cost of public facilities to convey and manage stormwater, undermines floodplain management and flood reduction efforts in upstream and downstream communities, reduces groundwater recharge, threatens public health and safety, and increases non-point source pollution of water resources.
- B. A comprehensive program of stormwater management, including reasonable regulation of development and activities causing accelerated runoff, is fundamental to the public health, safety, welfare and the protection of the people of West Fallowfield Township and all the people of the Commonwealth, their resources, and the environment.
- C. Inadequate planning and management of stormwater runoff resulting from land development and redevelopment throughout a watershed can also harm surface water resources by changing the natural hydrologic patterns; accelerating stream flows (which increase scour and erosion of streambeds and stream banks thereby elevating sedimentation); destroying aquatic habitat; and elevating aquatic pollutant concentrations and loadings such as sediments, nutrients, heavy metals, and pathogens. Groundwater resources are also impacted through loss of recharge.
- D. Stormwater is an important water resource which provides groundwater recharge for water supplies and base flow of streams, which also protects and maintains surface water quality.
- E. Public education on the control of pollution from stormwater is an essential component in successfully addressing stormwater issues.
- F. Federal and state regulations require certain municipalities to implement a program of stormwater controls. These municipalities are required to obtain a permit for stormwater discharges from their separate storm sewer systems under the National Pollutant Discharge Elimination System (NPDES).

Section 103. Purpose

The purpose of this Ordinance is to promote health, safety, and welfare within West Fallowfield Township, Crawford County, by minimizing the harms and maximizing the benefits described in Section 102 of this Ordinance through provisions intended to:

- A. Meet legal water quality requirements under state law, including regulations at 25 PA Code Chapter 93 to protect, maintain, reclaim and restore the existing and designated uses of the Waters of the Commonwealth.
- B. Manage accelerated runoff and erosion and sedimentation problems close to their source, by regulating activities that cause these problems.
- C. Preserve the natural drainage systems as much as possible.
- D. Maintain groundwater recharge, to prevent degradation of surface and groundwater quality, and to otherwise protect water resources.
- E. Maintain existing flows and quality of streams and watercourses.
- F. Preserve and restore the flood-carrying capacity of streams and prevent scour and erosion of stream banks and streambeds.
- G. Manage stormwater impacts close to the runoff source, with a minimum of structures and a maximum of natural processes.
- H. Provide procedures, performance standards, and design criteria for stormwater planning and management.
- I. Provide proper operations and maintenance of all temporary and permanent stormwater management facilities and Best Management Practices (BMPs) that are constructed and implemented.
- J. Provide standards to meet the NPDES permit requirements.

Section 104. Statutory Authority

This Ordinance is adopted pursuant to the authority of the Act of October 4, 1978, 32 P.S., P.L. 864 (Act 167), 32 P.S. § 680.1, *et seq.*, as amended, the “Storm Water Management Act,” and Sections 67701 through 67704 of the Second Class Township Code, 53 P.S. § 65101, *et seq.*, and the Act of July 31, 1968, P.L. 805, No. 247, the Pennsylvania Municipalities Planning Code, 53 P.S. § 10101, *et seq.*, as amended.

Section 105. Applicability

Except as set forth in Section 302 below, all “Regulated Activities” as defined below are subject to regulation by this Ordinance.

"Regulated Activities" are any earth disturbance activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff. "Regulated Activities" include, but are not limited to, the following listed items:

- A. Earth Disturbance Activities
- B. Land Development
- C. Subdivision where earth disturbance activities are proposed
- D. Construction of new or additional impervious or semi-pervious surfaces
- E. Construction of new buildings or additions to existing buildings
- F. Alteration of any natural or man-made watercourse
- G. Installation of stormwater management facilities or appurtenances thereto
- H. Installation of stormwater BMPs

Section 106. Severability

The provisions of this Ordinance shall be severable, and if any of these provisions shall be held or declared illegal, invalid, or unconstitutional by any court of competent jurisdiction, the validity of the remaining provision of this Ordinance shall not be affected. It is hereby declared as the legislative intention that this Ordinance would have been adopted had such unconstitutional provisions not been included herein.

Section 107. Repealer

All ordinances or parts of ordinances inconsistent herewith are hereby repealed. In particular, any provisions of the Municipality's Subdivision and Land Development Ordinance, if any, are repealed to the extent they conflict with the provisions of this Ordinance.

Section 108. Compatibility with Other Ordinance Requirements

Approvals issued and actions taken pursuant to this Ordinance do not relieve the Applicant of the responsibility to comply with or to secure required permits or approvals for activities regulated by any other applicable codes, laws, rules, statutes or ordinances. To the extent that this Ordinance imposes more rigorous or stringent requirements for stormwater management, the specific requirements contained in this Ordinance shall be followed.

Earth disturbance activities and associated stormwater management controls are also regulated under existing state law and implementing regulations. This Ordinance shall be applied in a manner consistent with the state requirements, and the requirements of this Ordinance shall be no less restrictive than state law.

Section 109. [Reserved]

Section 110. Municipal Liability Disclaimer

Neither the granting of any approval under this Ordinance, nor the compliance with the provisions of this Ordinance, or with any condition imposed by a municipal official hereunder, shall relieve any person from any responsibility for damage to persons or property resulting there

from, or as otherwise imposed by law nor impose any liability upon the Municipality for damages to persons or property.

The granting of a permit which includes any stormwater management facilities shall not constitute a representation, guarantee or warranty of any kind by the Municipality, or by an official or employee thereof, of the practicability or safety of any structure, use or other plan proposed, and shall create no liability upon or cause of action against such public body, official or employee for any damage that may result pursuant thereto.

ARTICLE II – DEFINITIONS

Section 201. General Rules of Interpretation

For the purpose of this Ordinance, certain terms and words used herein shall be interpreted as follows:

Words used in the present tense include the future tense; the singular number includes the plural; and the plural number includes the singular; words of masculine gender include feminine gender; and words of feminine gender include masculine gender.

The word “includes” or “including” shall not limit the term to the specific example but is intended to extend its meaning to all other instances of like kind and character.

The word “person” includes an individual, firm, association, organization, partnership, trust, company, corporation or any other similar entity.

The words “shall” and “must” are mandatory; the words “may” and “should” are permissive.

The words “used or occupied” include the words “intended, designed, maintained, or arranged to be used, occupied or maintained.”

Whenever reference is made to legislative, statutory or regulatory codes or provisions, the reference shall include amendments to such codes or provisions as well.

Section 202. Specific Definitions

Accelerated Erosion – The removal of the surface of the land through the combined action of human activity and natural processes at a rate greater than would occur because of the natural process alone.

Agricultural Activities - Activities associated with agriculture such as agricultural cultivation, agricultural operation, and animal heavy use areas. This includes the work of producing crops, tillage, land clearing, plowing, disking, harrowing, planting, harvesting crops, or pasturing and raising of livestock and installation of conservation measures. Construction of new buildings or impervious area is not considered an Agricultural Activity.

Alteration – As applied to land, a change in topography as a result of the moving of soil and rock from one location or position to another; changing of surface conditions by causing the surface to be more or less impervious; land disturbance.

Applicant - A landowner, developer, or other person who has filed an application for approval to engage in any Regulated Activities at a project site within the Municipality.

Best Management Practices (BMPs) - Activities, facilities, designs, measures or procedures used to manage stormwater impacts from Regulated Activities, to meet State Water Quality Requirements, to promote groundwater recharge and to otherwise meet the purposes of this

Ordinance. Stormwater BMPs are commonly grouped into one of two broad categories or measures: "non-structural" or "structural". "Non-structural" BMPs are measures referred to as operational and/or behavior-related practices that attempt to minimize the contact of pollutants with stormwater runoff whereas "structural" BMPs are measures that consist of a physical device or practice that is installed to capture and treat stormwater runoff. "Structural" BMPs include, but are not limited to, a wide variety of practices and devices, from large-scale retention ponds and constructed wetlands, to small-scale underground treatment systems, infiltration facilities, filter strips, low impact design, bioretention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. "Structural" stormwater BMPs are permanent appurtenances to the project site.

Channel Erosion - The widening, deepening, and headward cutting of small channels and waterways, due to erosion caused by moderate to large floods.

Cistern - An underground reservoir or tank used for storing rainwater.

Conservation District - The Crawford County Conservation District. The Crawford County Conservation District has the authority under a delegation agreement executed with the Department of Environmental Protection to administer and enforce all or a portion of the regulations promulgated under 25 PA Code Chapter 102.

Culvert - A structure with appurtenant works that carries a stream and/or stormwater runoff under or through an embankment or fill.

Dam - An artificial barrier, together with its appurtenant works, constructed for the purpose of impounding or storing water or another fluid or semifluid, or a refuse bank, fill or structure for highway, railroad or other purposes which does or may impound water or another fluid or semifluid.

Design Storm - The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g., a 25-year storm) and duration (e.g., 24-hours), used in the design and evaluation of stormwater management systems. Also see Return Period.

Designee - The agent of this Municipality and/or agent of the governing body involved with the administration, review or enforcement of any provisions of this Ordinance by contract or memorandum of understanding.

Detention Basin - An impoundment structure designed to manage stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate.

Detention Volume - The volume of runoff that is captured and released into Waters of the Commonwealth at a controlled rate.

Developer - A person, partnership, association, corporation, or other entity, or any responsible person therein or agent thereof, that undertakes any Regulated Activity as regulated under this Ordinance.

Development Site - (Site) - The specific tract of land for which a Regulated Activity is proposed. Also see Project Site.

Disturbed Area – An unstabilized land area where an Earth Disturbance Activity is occurring or has occurred.

Downslope Property Line – That portion of the property line of the lot, tract, or parcels of land being developed located such that all overland or pipe flow from the site would be directed toward it.

Drainage Conveyance Facility – A stormwater management facility designed to convey stormwater runoff and shall include streams, channels, swales, pipes, conduits, culverts, storm sewers, etc.

Drainage Easement – A right granted by a landowner to a grantee, allowing the use of private land for stormwater management, drainage, or conveyance purposes.

Drainageway – Any natural or artificial watercourse, trench, ditch, pipe, swale, channel, or similar depression into which surface water flows.

Earth Disturbance Activity – A construction or other human activity which disturbs the surface of the land, including, but not limited to, clearing and grubbing, grading, excavations, embankments, land development, agricultural plowing or tilling, timber harvesting activities, road maintenance activities, mineral extraction, and the moving, depositing, stockpiling, or storing of soil, rock or earth materials.

Erosion – The movement of soil particles by the action of water, wind, ice, or other natural forces.

Erosion and Sediment Pollution Control Plan – A plan which is designed to minimize accelerated erosion and sedimentation.

Exceptional Value Waters – Surface waters of high quality, which satisfies PA Code Title 25 Environmental Protection, Chapter 93 Water Quality Standards 93.4b.(b) (relating to anti-degradation).

Existing Conditions – The initial condition of a project site prior to the proposed construction. If the initial condition of the site is undeveloped land and not forested, the land use shall be considered as “meadow” unless the natural land cover is documented to generate lower Curve Numbers or Rational “C” Coefficient.

FEMA – The Federal Emergency Management Agency.

Flood – A general but temporary condition of partial or complete inundation of normally dry land areas from the overflow of streams, rivers, and other Waters of the Commonwealth.

Flood Fringe – The remaining portions of the 100-year floodplain outside of the floodway boundary.

Floodplain – Any land area susceptible to inundation by water from any natural source or delineated by applicable Department of Housing and Urban Development, Federal Insurance Administration Flood Hazard Boundary – mapped as being a special flood hazard area. Included are lands adjoining a river or stream that have been or may be inundated by a 100-year flood. Also included are areas that comprise Group 13 Soils, as listed in Appendix A of the Pennsylvania Department of Environmental Protection (PADEP) Technical Manual for Sewage Enforcement Officers (as amended or replaced from time to time by PADEP).

Floodway – The channel of the watercourse and those portions of the adjoining floodplains that are reasonably required to carry and discharge the 100-year frequency flood. Unless otherwise specified, the boundary of the floodway is as indicated on maps and flood insurance studies provided by FEMA. In an area where no FEMA maps or studies have defined the boundary of the 100-year frequency floodway, it is assumed – absent evidence to the contrary – that the floodway extends from the stream to 50 feet landward from the top of the bank of the stream.

Forest Management/Timber Operations – Planning and activities necessary for the management of forestland. These include timber inventory and preparation of forest management plans, silvicultural treatment, cutting budgets, logging road design and construction, timber harvesting, site preparation and reforestation.

Freeboard – A vertical distance between the elevation of the design high water and the top of a dam, levee, tank, basin, or diversion ridge. The space is required as a safety margin in a pond or basin.

Grade – A slope, usually of a road, channel or natural ground specified in percent and shown on plans as specified herein.

(To) Grade – To finish the surface of a roadbed, top of embankment or bottom of excavation.

Groundwater Recharge – Replenishment of existing natural underground water supplies.

HEC-HMS Model Calibrated – (Hydrologic Engineering Center Hydrologic Modeling System) A computer-based hydrologic modeling technique adapted to the watershed(s) in Crawford County for the Act 167 Plan. The model has been calibrated by adjusting key model input parameters.

High Quality Waters – Surface water having quality, which exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water by satisfying PA Code Title 25 Environmental Protection, Chapter 93 Water Quality Standards 93.4b(a).

Hydrologic Soil Group (HSG) – Infiltration rates of soils vary widely and are affected by subsurface permeability as well as surface intake rates. Soils are classified into one of four HSG (A, B, C, and D) according to their minimum infiltration rate, which is obtained for bare soil after prolonged wetting. The Natural Resource Conservation Service (NRCS) of the U.S. Department of Agriculture defines the four groups and provides a list of most of the soils in the United States and their group classification. The soils in the area of interest may be identified from a soil survey report from the local NRCS office or the County Conservation District.

Impervious Surface (Impervious Area) – A surface that prevents the infiltration of water into the ground. Impervious surface (or areas) include, but is not limited to: roofs, additional indoor living spaces, patios, garages, storage sheds and similar structures, parking or driveway areas, and any new streets and sidewalks. Any surface areas proposed to initially be gravel or crushed stone shall be assumed to be impervious surfaces.

Impoundment – A retention or detention basin designed to retain stormwater runoff and release it at a controlled rate.

Infiltration Structures – A structure designed to direct runoff into the ground (e.g., french drains, seepage pits, seepage trench, etc.).

Inlet – A surface connection to a closed drain. A structure at the diversion end of a conduit. The upstream end of any structure through which water may flow.

Intermittent Stream – A body of water flowing in a channel or bed composed primarily of substrates associated with flowing water, which, during periods of the year, is below the local water table and obtains its flow from both surface runoff and groundwater discharges.

Land Development (Development) – (i) The improvement of one lot or two or more contiguous lots, tracts or parcels of land for any purpose involving (a) a group of two or more buildings, or (b) the division or allocation of land or space between or among two or more existing or prospective occupants by means of, or for the purpose of streets, common areas, leaseholds, condominiums, building groups, or other features; (ii) Any subdivision of land; (iii) Development in accordance with Section 503(1.1) of the Pennsylvania Municipalities Planning Code.

Low Impact Development (LID) – An approach to land development that uses various land planning and design practices and technologies to simultaneously conserve and protect natural resource systems and reduce infrastructure costs. LID still allows land to be developed, but in a cost-effective manner that helps mitigate potential environmental impacts.

Landowner – The legal or beneficial owner or owners of land including the holder of an option or contract to purchase (whether or not such option or contract is subject to any condition), a lessee if he is authorized under the lease to exercise the rights of the landowner, or other person having a proprietary interest in land.

Main Stem (Main Channel) – Any stream segment or other runoff conveyance facility used as a reach in the Crawford County Act 167 watershed hydrologic model(s).

Manning Equation (Manning Formula) – A method for calculation of velocity of flow (e.g., feet per second) and flow rate (e.g., cubic feet per second) in open channels based upon channel shape, roughness, depth of flow and slope. “Open channels” may include closed conduits so long as the flow is not under pressure.

Municipality – West Fallowfield Township, Crawford County, Pennsylvania, and its governing body.

Municipalities Planning Code (MPC) – Act 247 of 1968 as reenacted and amended by Act 170 of 1988, as amended, 53 P.S. § 10101, *et seq.*

National Pollutant Discharge Elimination System (NPDES) – The federal government's system for issuance of permits under the Clean Water Act, which is delegated to PADEP in Pennsylvania.

NOAA Atlas 14 – Precipitation-Frequency Atlas of the United States, Atlas 14, Volume 2, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service, Hydrometeorological Design Studies Center, Silver Spring, Maryland (2004). NOAA's Atlas 14 can be accessed at internet address <http://hdsc.nws.noaa.gov/hdsc/pfds/>.

Non-point Source Pollution – Pollution that enters a water body from diffuse origins in the watershed and does not result from discernible, confined, or discrete conveyances.

NRCS – Natural Resources Conservation Services (previously Soil Conservation Service (SCS)).

Open Channel – A drainage element in which stormwater flows with an open surface. Open channels include, but shall not be limited to, natural and man-made drainageways, swales, streams, ditches, canals, and pipes not under pressure.

Outfall – (i) Point where water flows from a conduit, stream, or drain; (ii) "Point Source" as described in 40 CFR § 122.2 at the point where the Municipality's storm sewer system discharges to surface Waters of the Commonwealth.

Outlet – Points of water disposal from a stream, river, lake, tidewater, or artificial drain.

Owner – As related to stormwater management facilities, shall mean the person(s) with title to, proprietary or possessory interest in, or control of, or legal responsibility for the stormwater management facility(s) and their maintenance.

PADEP – The Pennsylvania Department of Environmental Protection or its successor.

Parking Lot Storage – Involves the use of impervious parking areas as temporary impoundments with controlled release rates during rainstorms.

Peak Discharge – The maximum rate of stormwater runoff from a specific storm event.

Perennial Stream – A body of water flowing in a channel or bed composed primarily of substrates associated with flowing waters and capable, in the absence of pollution or other man-made stream disturbances, of supporting a benthic macro-invertebrate community which is composed of two or more recognizable taxonomic groups of organisms which are large enough to be seen by the unaided eye and can be retained by a United States Standard No. 30 sieve (28 meshes per inch, 0.595 mm openings) and live at least part of their life cycles within or upon available substrates in a body of water or water transport system.

Person – An individual, partnership, public or private association or corporation, or a governmental unit, public utility or any other legal entity whatsoever which is recognized by law as the subject of rights and duties.

Pervious Area – Any area not defined as impervious.

Pipe – A culvert, closed conduit, or similar structure (including appurtenances) that conveys stormwater.

Point Source – Any discernible, confined, or discrete conveyance, including, but not limited to: any pipe, ditch, channel, tunnel or conduit from which stormwater is or may be discharged, as defined in State regulations at 25 PA Code § 92.1.

Probable Maximum Flood (PMF) – The flood that may be expected from the most severe combination of critical meteorological and hydrologic conditions that are reasonably possible in any area. The PMF is derived from the probable maximum precipitation (PMP) as determined on the basis of data obtained from the National Oceanographic and Atmospheric Administration (NOAA).

Project Site – The specific area of land where any Regulated Activities in the Municipality are planned, conducted or maintained.

Qualified Professional – Any person licensed by the Pennsylvania Department of State or otherwise qualified by law to perform the work required by the Ordinance.

Rational Formula – A rainfall-runoff relation used to estimate peak flow.

Redevelopment – Earth disturbance activities on land, which has previously been developed.

Regulated Activities – Any earth disturbance activities or any activities that involve the alteration or development of land in a manner that may affect stormwater runoff. (See Section 105)

Regulated Earth Disturbance Activity – Activity involving Earth Disturbance subject to regulation under 25 PA Code Chapter 92, Chapter 102, or the Clean Streams Law.

Release Rate – The percentage of pre-development peak rate of runoff from a site or subwatershed area to which the post-development peak rate of runoff must be reduced to protect downstream areas.

Release Rate District – Those subwatershed areas in which post-development flows must be reduced to a certain percentage of pre-development flows as required to meet the plan requirements and the goals of Act 167.

Responsible Person or Person Responsible – An owner, renter, tenant, lessor, lessee, manager, agent or any fiduciary person with power of attorney or other person who is occupying or having charge of, possession or control of the premises or has the authority and ability to act on behalf of, or in the interest of, the owner.

Retention Basin – An impoundment in which stormwater is stored and not released during the storm event. Stored water may be released from the basin at some time after the end of the storm.

Retention Volume/Removed Runoff – The volume of runoff that is captured and not released directly into the surface Waters of this Commonwealth during or after a storm event.

Return Period – The average interval, in years, within which a storm event of a given magnitude can be expected to recur. For example, the 25-year return period rainfall would be expected to recur on the average once every twenty-five years; or stated in another way, the probability of a 25-year storm occurring in any one given year is 0.04 (i.e. a 4% chance).

Riparian Buffer – A vegetated area bordering perennial and intermittent streams and wetlands, that serves as a protective filter to help protect streams and wetlands from the impacts of adjacent land uses.

Riser – A vertical pipe extending from the bottom of a pond that is used to control the discharge rate from the pond for a specified design storm.

Road Maintenance – Earth disturbance activities within the existing road right-of-way, such as grading and repairing existing unpaved road surfaces, cutting road banks, cleaning or clearing drainage ditches, and other similar activities. Road maintenance activities that do not disturb the subbase of a paved road (such as milling and overlays) are not considered earth disturbance activities.

Rooftop Detention – Temporary ponding and gradual release of stormwater falling directly onto flat roof surfaces by incorporating controlled-flow roof drains into building designs.

Runoff – Any part of precipitation that flows over the land surface.

Runoff Capture Volume – The volume of runoff that is captured (retained) and not released into surface Waters of the Commonwealth during or after a storm event.

Sediment – Soils or other materials transported by surface water as a product of erosion.

Sediment Basin – A barrier, dam, retention or detention basin located and designed to retain rock, sand, gravel, silt, or other materials transported by stormwater runoff.

Sediment Pollution – The placement, discharge, or any other introduction of sediment into Waters of the Commonwealth occurring from the failure to properly design, construct, implement or maintain control measures and control facilities in accordance with the requirements of this Ordinance.

Sedimentation – The process by which mineral or organic matter is accumulated or deposited by the movement of water.

Seepage Pit/Seepage Trench – An area of excavated earth filled with loose stone or similar coarse material, into which surface water is directed for infiltration into the ground.

Separate Storm Sewer System – A conveyance or system of conveyances (including roads with drainage systems, Municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) primarily used for collecting and conveying stormwater runoff.

Sheet Flow – Runoff that flows over the ground surface as a thin, even layer, not concentrated in a channel.

Soil Cover Complex Method – A method of runoff computation developed by the NRCS that is based on relating soil type and land use/cover to a runoff parameter called Curve Number (CN).

Spillway (Emergency) – A depression in the embankment of a pond or basin, or other overflow structure, that is used to pass peak discharges greater than the maximum design storm controlled by the pond or basin.

State Water Quality Requirements – The regulatory requirements to protect, maintain, reclaim, and restore water quality under Title 25 of the Pennsylvania Code and the Clean Streams Law.

Storage Indication Method – A reservoir routing procedure based on solution of the continuity equation (inflow minus outflow equals the change in storage) with outflow defined as a function of storage volume and depth.

Storm Frequency – The number of times that a given storm “event” occurs or is exceeded on the average in a stated period of years. See also Return Period.

Storm Sewer – A system of pipes and/or open channels that convey intercepted runoff and stormwater from other sources, but excludes domestic sewage and industrial wastes.

Stormwater – Drainage runoff from the surface of the land resulting from precipitation, snow or ice melt.

Stormwater Hotspot – A land use or activity that generates higher pollutants than are found in typical stormwater runoff and have a high potential to endanger local water quality, and could potentially threaten ground water reservoirs.

Stormwater Management Facilities – Any structure, natural or man-made, that, due to its condition, design, or construction, conveys, stores, or otherwise affects stormwater runoff. Typical stormwater management facilities include, but are not limited to: detention and retention basins, open channels, storm sewers, pipes and infiltration facilities.

Stormwater Management Plan – The Crawford County Stormwater Management Plan for managing stormwater runoff in Crawford County as required by the Act of October 4, 1978, P.L. 864, (Act 167) and known as the “Storm Water Management Act.”

Stormwater Management Site Plan (SWM Site Plan) – The plan prepared by the Applicant or his representative indicating how stormwater runoff will be managed at the project site in accordance with this Ordinance.

Stream Enclosure – A bridge, culvert, or other structure in excess of 100 feet in length upstream to downstream which encloses a regulated Waters of the Commonwealth.

Subwatershed Area – The smallest drainage unit of a watershed for which stormwater management criteria has been established in the Stormwater Management Plan.

Subdivision – The division or re-division of a lot, tract, or parcel of land by any means, into two or more lots, tracts, parcels or other divisions of land including changes in existing lot lines for the purpose, whether immediate or future, or lease, transfer of ownership, or building or lot development, provided; however, that the subdivision by lease of land for agricultural purposes into parcels of more than ten acres, not involving any new street or easement of access or any residential dwellings, shall be exempt (Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247).

Swale – A low-lying stretch of land that gathers or carries surface water runoff.

Timber Operations – See “Forest Management.”

Time of Concentration (T_c) – The time for surface runoff to travel from the hydraulically most distant point of the watershed to a point of interest within the watershed. This time is the combined total of overland flow time and flow time in pipes or channels, if any.

USDA – The United States Department of Agriculture.

Watercourse – A channel or conveyance of surface water, such as a stream or creek, having defined bed and banks, whether natural or artificial, with perennial or intermittent flow.

Waters of the Commonwealth – Rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs and other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of the Commonwealth of Pennsylvania.

Watershed – Area drained by a river, watercourse, or other surface water, whether natural or artificial.

Wetland – Those areas that are inundated or saturated by surface 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, including swamps, marshes, bogs and similar areas. (The term includes but is not limited to wetland areas listed in the State Water Plan, the United States Forest Service Wetlands Inventory of Pennsylvania, the Pennsylvania Coastal Zone Management Plan and a wetland area designated by a river basin commission. This definition is used by the United States Environmental Protection Agency and the United States Army Corps of Engineers.)

ARTICLE III – STORMWATER MANAGEMENT STANDARDS

Section 301. General Requirements

- A. For all Regulated Activities, unless specifically exempted in Section 302:
1. Preparation and implementation of an approved SWM Site Plan and Report is required.
 2. No Regulated Activities shall commence until the Municipality issues written approval of a SWM Site Plan and Report, which demonstrates compliance with the requirements of this Ordinance.
 3. The SWM Site Plan and Report shall demonstrate that adequate capacity will be provided to meet the Volume and Rate Control Requirements, as described under Sections 304 and 305 of this Ordinance.
- B. For all Regulated Activities, stormwater BMPs shall be designed, installed, implemented, operated, and maintained to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code and the Clean Streams Law, conform to the State Water Quality Requirements, meet all requirements under the Storm Water Management Act and any more stringent requirements as determined by the Municipality.
- C. For all Regulated Earth Disturbance Activities, erosion and sediment control BMPs shall be designed, implemented, operated, and maintained during the Regulated Earth Disturbance Activities (e.g., during construction) to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the PA Code (including, but not limited to Chapter 102 Erosion and Sediment Control) and the Clean Streams Law. Various BMPs and their design standards are listed in the *Erosion and Sediment Pollution Control Program Manual (E&S Manual)*, No. 363-2134-008 (April 15, 2000), as amended and updated.
- D. All Regulated Activities shall include, to the maximum extent practicable, measures to:
1. Protect health, safety, and property.
 2. Meet the water quality goals of this Ordinance by implementing measures to:
 - a. Minimize disturbance to floodplains, wetlands, natural slopes, existing native vegetation and woodlands.
 - b. Create, maintain, or extend riparian buffers and protect existing forested buffers.
 - c. Provide trees and woodlands adjacent to impervious areas whenever feasible.
 - d. Minimize the creation of impervious surfaces and the degradation of Waters of the Commonwealth and promote groundwater recharge.
 - e. Protect natural systems and processes (drainageways, vegetation, soils, and sensitive areas) and maintain, as much as possible, the natural hydrologic regime.

- f. Incorporate natural site elements (wetlands, stream corridors, mature forests) as design elements.

E. Impervious Areas:

1. The measurement of impervious areas shall include all of the impervious areas in the total proposed development, even if development is to take place in stages.
2. For developments taking place in stages, the entire development plan must be used in determining conformance with this Ordinance.

F. If diffused flow is proposed to be concentrated and discharged onto adjacent property, the Applicant must document that adequate downstream conveyance facilities exist to safely transport the concentrated discharge, or otherwise prove that no erosion, sedimentation, flooding, or other harm will result from the concentrated discharge.

1. Applicant must provide an easement for proposed concentrated flow across adjacent properties to a drainage way or public right-of-way.
2. Such stormwater flows shall be subject to the requirements of this Ordinance.

G. Stormwater drainage systems shall be provided in order to permit unimpeded flow along natural watercourses, except as modified by stormwater management facilities or open channels consistent with this Ordinance.

H. Where watercourses traverse a development site, drainage easements (to encompass the 100-year flood elevation with a minimum width of twenty (20) feet) shall be provided conforming to the line of such watercourses. The terms of the easement shall prohibit excavation, the placing of fill or structures, and any alterations that may adversely affect the flow of stormwater within any portion of the easement. Maintenance, including mowing of vegetation within the easement may be required.

I. All Regulated Activities subject to the requirements of 25 PA Code Chapter 105 (regarding dam safety and water management), including but not limited to wetland encroachments, shall be approved by PADEP by issuance of a permit by PADEP. When there is a question whether wetlands may be involved, it is the responsibility of the Applicant or his agent to show that the land in question cannot be classified as wetlands; otherwise approval to work in the area must be obtained from PADEP.

J. Any stormwater management facilities regulated by this Ordinance that will be located on, or discharged onto State highway rights-of-ways shall be subject to approval by the Pennsylvania Department of Transportation (PENNDOT).

K. Minimization of impervious surfaces and infiltration of runoff through seepage beds, infiltration trenches, etc., are encouraged, where soil conditions and geology permit, to reduce the size or eliminate the need for detention facilities.

L. Infiltration BMPs should be dispensed throughout the site, made as shallow as practicable, and located to maximize use of natural on-site infiltration features while still meeting the other requirements of this Ordinance.

- M. Roof drains shall not be connected to streets, sanitary or storm sewers, or roadside ditches in order to promote overland flow and infiltration/percolation of stormwater where it is advantageous to do so. When it is more advantageous to connect directly to streets or storm sewers, then the Municipality may permit it on advice of its engineer.
- N. Low Impact Development Practices to comply with the requirements of this Ordinance and State Water Quality Requirements is encouraged.
- O. When stormwater management facilities are proposed within 1,000 feet of a downstream municipality, the Developer shall notify the downstream municipality and, upon request, provide the SWM Site Plan to the downstream municipality's engineer for review and comment.

Section 302. Exemptions

- A. 1,000 Square Feet Exemption. Regulated Activities that create new impervious areas smaller than 1,000 square feet are exempt from Stormwater Management Planning, Rate Control and Volume Control requirements.
- B. 2,500 Square Feet Exemption. Regulated Activities that create new impervious areas greater than 1,000 square feet and smaller than 2,500 square feet, are exempt from Stormwater Management Planning, Rate Control and Volume Control requirements if:
 - 1. The developer submits a Small Project Application and demonstrates to the satisfaction of the Enforcement Officer that the new impervious area is less than 2,500 square feet.
 - 2. Upon review of information reasonably available, by the Enforcement Officer in consultation with the Municipal Engineer as needed, there is sufficient reason to conclude that the Regulated Activity will meet the requirements of Sections 302 D., 302 E. and 302 F., below.
- C. 5,000 Square Feet and Single-Family Home Exemption. Regulated Activities that create new impervious areas smaller than 5,000 square feet but larger than 2,500 square feet, or that are undertaken in conjunction with construction of a new single-family home, are not exempt from the Volume Control requirements of this Ordinance, but are exempt from Stormwater Management Planning and Rate Control requirements if:
 - 1. The developer submits a Small Project Application and demonstrates to the satisfaction of the Enforcement Officer that the new impervious area is less than 5,000 square feet or that the project is construction of one new single-family dwelling.
 - 2. Upon review by the Enforcement Officer in consultation with the Municipal Engineer as needed, there is sufficient reason to conclude that the Regulated Activities will meet the requirements of Sections 302 D., 302 E. and 302 F., below.

D. All Exempt Regulated Activities shall:

1. Meet applicable State Water Quality Standards and Requirements.
2. Meet special requirements for High Quality (HQ) and Exceptional Value (EV) watersheds as applicable.
3. Protect health, safety and property.

E. All Exempt Regulated Activities shall, to the maximum extent practicable:

1. Limit disturbance of Floodplains, Wetlands, Natural Slopes over fifteen-percent (15%), existing native vegetation, and other sensitive and special value features.
2. Maintain riparian and forested buffers.
3. Limit grading and maintain non-erosive flow conditions in natural flow paths.
4. Maintain existing tree canopies near impervious areas.
5. Minimize soil disturbance and reclaim disturbed areas with topsoil and vegetation.
6. Direct runoff to pervious areas.

F. No Exempt Regulated Activity shall cause a substantial adverse impact on the following:

1. Capacities of existing drainageways and storm sewer systems.
2. Velocities and erosion.
3. Quality of runoff if direct discharge is proposed.
4. Existing known problem areas.
5. Safe conveyance of the additional runoff.
6. Downstream property owners.

G. Impervious Areas. For purposes of application of these exemptions, a calculation of new impervious areas shall include all areas of a parcel on which impervious areas have been created by Regulated Activities since the adoption of this Ordinance, and any graveled surfaces created after the effective date of this Ordinance shall be considered impervious. For subdivisions and phased developments, the impervious area calculation shall include the entire tract being developed or subdivided.

H. Agricultural activity is exempt from the rate control and SWM Site Plan preparation requirements of this Ordinance provided the activities are performed according to the requirements of 25 PA Code Chapter 102.