

Chapter 17

Stormwater Management

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A. Drainage Requirements.**Part 1****General Provisions****§17-101. Statement of Findings.**

Baldwin Township finds that:

A. Inadequate management of accelerated runoff of stormwater resulting from new development throughout a watershed increases flood flow volumes and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities to carry and control stormwater, undermines floodplain management and flood control efforts in downstream communities, reduces groundwater recharge, deteriorates the water quality of receiving waters, and threatens public safety.

B. A comprehensive program of stormwater management, including reasonable regulation of development and activities causing accelerated erosion, is fundamental to public health, safety, and welfare and the protection of the people of Baldwin Township and all the people of the Commonwealth, their resources and the environment.

C. Upon an overall stormwater management study being conducted in the Sawmill Run Watershed in accordance to Act 167 the necessary modifications and additional provisions will be amended into this Subchapter.

(Ord. 373, 5/7/1996, Art. 1, §101)

§17-102. Purpose.

1. The purpose of this Subchapter is to promote the public health, safety, and welfare within Baldwin Township and the Sawmill Run Watershed by minimizing the damages described in §17-101.A of this Part. To accomplish this, this Subchapter establishes a comprehensive stormwater management program designed to:

A. Control accelerated runoff and erosion and sedimentation problems at their source by regulating activities which cause such problems.

B. Utilize and preserve the desirable existing natural drainage systems.

C. Encourage recharge of ground waters.

D. Maintain the existing flows and quality of streams and water courses in Baldwin Township and the Commonwealth.

E. Preserve and restore the flood carrying capacities of streams.

F. Provide for proper design, installation, and maintenance of permanent stormwater management structures which are constructed in Baldwin Township.

(Ord. 373, 5/7/1996, Art. 1, §102)

§17-103. Statutory Authority.

Baldwin Township is empowered to regulate these activities by authority of the

Municipal Planning Code (Act 247) and the First Class Township Code.
(*Ord. 373, 5/7/1996, Art. 1, §103*)

§17-104. Applicability.

1. This Subchapter shall apply to all areas of the Township as shown on the Township official map available for examination at the Township office.

2. This Subchapter contains only those stormwater runoff control criteria and standards which are necessary or desirable from a total watershed perspective. Additional design standards for stormwater management facilities (i.e., inlet spacing, inlet type, collection systems details, etc.) may be listed in Baldwin Township standards or may be instituted by the Township Engineer.

3. The following land disturbance activities are defined as regulated activities and shall be regulated by this Subchapter, except those individual land disturbance activities which meet the criteria to qualify for exemption, as described in §17-402:

- A. General land disturbance activities, including clearing and excavation.
- B. Land development.
- C. Subdivision.
- D. Construction of new or additional impervious or semi-pervious surface (driveways, parking lots, etc.).
- E. Construction of new buildings or additions to existing buildings.
- F. Diversion of piping of any natural or manmade drainage channel.
- G. Installation of stormwater systems or appurtenances thereto.

(*Ord. 373, 5/7/1996, Art. 1, §104*)

Part 2

Definitions

§17-201. Definitions.

Unless otherwise stated, the following words shall, for the purpose of this Subchapter, have the meaning herein indicated. Words in the present tense include the future tense, words in the singular include the plural and words in the plural include the singular. The word “shall” is mandatory and not discretionary. The word “may” is permissive. Words not defined herein shall be construed to have the meaning given by common and ordinary use:

Act - the Pennsylvania Storm Water Management Act of October 4, 1978 (P.L. 864, No. 167).

Agricultural operations - all activities connected with farming including dairying, pasturage, agriculture, apiaries, horticulture, floriculture, forest management, viticulture, and animal and poultry husbandry, except for construction of new buildings and impervious areas.

Best management practice (BMP) - a non-profit source pollution control practice that is developed by a process that considers water quality impacts, as well as political, social economic, and technical feasibility.

Conservation District - a public organization created under State enabling 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, usually a subdivision of State government with a local governing body and always with limited authorities. Often called a soil conservation district or a soil and water conservation district. For this Subchapter Conservation District applies to the Allegheny County Conservation District.

Critical area - an area defined by this Subchapter to require more stringent control of post-development runoff flow rates and/or pollutant loads than those specified for the general watershed area.

Dam - an artificial barrier, together with its apparent 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 other fluid or semifluid.

Developer - a person or persons, partnership, association, corporation, or other entity, or any responsible person therein or agent thereof, that undertakes any regulated activities covered by this Subchapter.

Development site - the specific tract of land for which a regulated activity is proposed.

Drainage - the flow of water or wastewater and the methods of directing such flow, whether natural or artificial.

Drainage plan - the documentation of the proposed stormwater management controls, if any, to be used for a given development site, the contents of which are established in §17-403.

Enforcement officer - an individual designated by Baldwin Township to execute the regulations set forth in this Subchapter. The enforcement officer must either (1) be a registered professional engineer in the Commonwealth of Pennsylvania, or (2) work under the supervision of a registered professional engineer.

Engineer - a professional engineer licensed as such in the Commonwealth of Pennsylvania, duly appointed as the engineer for the Township.

Erosion - the removal of soil particles or rock fragments of the land surface by the action of running water, wind, ice, or other geological agents.

FHWA - Federal Highway Administration, United States Department of Transportation (USDOT).

Forest management operations - all activities connected with growing and harvesting of forest products including the site preparation, cultivation and logging of trees, and the construction and maintenance of roads. Refer to “agricultural operations.”

Impervious area - a surface which prevents the infiltration and percolation of water into the ground. Any areas which may be designed to initially be semi-pervious (e.g., gravel, crushed stone, porous pavement, compacted earth, etc.) shall be considered impervious areas for the purpose of waiver evaluations.

Land development - any of the following activities:

(1) 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 residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure.

(b) The division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of, or for the purpose of streets, common areas, leaseholds, condominiums, buildings groups, or other features.

(2) A subdivision of land.

Land disturbance activity - any activity that changes existing cover or contours of the land. This includes grading, tilling, excavating, filling of ground; removal or destruction of topsoil, trees, or other vegetative cover; or any other activity which causes land to be exposed to the danger of erosion.

Memorandum of understanding (MOU) - an agreement initiated by the Township and outside agency(s) to document the responsibilities and liabilities of concerned parties for specific task(s). The document may also include provisions for enacting a fee schedule for work performed.

Non-point source pollution - pollution that enters a water body from diffuse origins in the watershed and does not result from discernable, confined, or discrete conveyances.

Nursery - a tract of land on which trees and plants are raised or stored for transporting and sale.

Obstruction - any structure or assembly of materials which might impede, retard, or change channel flows, including fill above or below land or water

surfaces.

Owner - any person, partnership, corporation, company, or other legal entity holding a current legal title.

PA DEP - Pennsylvania Department of Environmental Protection or its successor agency.

PA DOT - Pennsylvania Department of Transportation.

Regulated activity - action or proposed action which impacts upon proper management of stormwater runoff and which is governed by this Subchapter as specified in §17-104.

Runoff - that part of precipitation which does not enter the soil but flows over the surface of the land.

SCS - Soil Conservation Service, U.S. Department of Agriculture (USDA).

Semi-pervious surface - a surface such as stone, rock, concrete, or other materials which permits some vertical transmission of water into the ground.

Stormwater - runoff and drainage from land surfaces resulting from precipitation including snow or ice melt.

Stormwater management - a program of controls and measures designed to regulate the quantity and quality of stormwater from a development and/or land disturbance while promoting the protection and conservation of ground waters and groundwater recharge.

Stormwater management plan - the plan for managing stormwater runoff adopted by the Township as required by the Act.

Stormwater structures - the basins, pipes, swales, terraces, etc., designed and installed to collect, transport, detain, and/or retain stormwater.

Subdivision - the division or redivision 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, of lease, partition by the court for distribution to heirs, or devisees, transfer of ownership or building or lot development; provided, however, that the subdivision by lease of land for agriculture purposes into parcels of more than 10 acres, not involving any new street or easement of access or any residential dwelling, shall be exempted.

Subwatershed - the smallest breakdown unit of watershed for hydrologic modeling purposes for which the runoff control criteria have been established in the Stormwater Management Plan. These areas are identified in §17-302.

Township - the Township of Baldwin, Allegheny County, Pennsylvania, a first class township and a political subdivision under the laws of the state of Pennsylvania.

USDA - United States Department of Agriculture.

USDI - United States Department of Interior.

USDOT - United States Department of Transportation.

USEPA - United States Environmental Protection Agency.

USFWS - United States Fish and Wildlife Service.

Watershed - the entire region or area drained by a river or other body of water,

whether natural or manmade.

(Ord. 373, 5/7/1996, Art. 2)

Part 3**Stormwater Management Requirements****§17-301. General Requirements.**

1. Where applicable, stormwater management facilities or programs shall comply with requirements of the Pennsylvania Clean Water Act (NPDES) permitting for construction activities, Chapter 102 (Erosion Control) Chapter 105 (Dam Safety and Waterway Management) and Chapter 106 (Flood Plain Management) of Title 25, Rules and Chapter of the PA DEP.

2. Stormwater management facilities which involve a State highway shall be subject to the approval of PA DOT.

3. Stormwater management facilities located within or affecting the floodplain of any watercourse shall also be subject to the requirements of Baldwin Township and Allegheny County ordinance which regulates construction and development within areas which are subject to flooding.

4. Stormwater management facilities must be designed so that the post development runoff rates for the mean annual, 2-year, 10-year, 25-year, and 200-year storm return frequencies are no greater than the pre-development rates of runoff. Exception to this rule are defined in §17-402. The pre-development and post-development runoff rates and volumes shall be calculated for the appropriate design storm events presented in §17-302.2.

5. It is the responsibility of the developer to provide adequate drainage. Adequate drainage must have the hydraulic characteristics to accommodate the maximum expected flow of stormwaters for the watershed or portion thereof, for the required design year storm. Adequate drainage is to be designed to:

A. Honor natural drainage divides.

B. Convey stormwater to a natural outfall.

C. Not adversely affect the adjacent or neighboring properties including the concentration of runoff at property boundaries.

D. It is the responsibility of the developer to provide adequate drainage for the proposed development and upstream watershed along or through his property natural outfall. Staged construction will be considered for perimeter and off site improvements where the developer's engineer can show that it is feasible. Off-site drainage improvements will be required to prevent the proposed development from having significant detrimental effect on the downstream facilities to the point of a natural outfall.

E. If the developer concentrates dispersed (sheet) flow or redirects flow to exit at another location on the property, the developer is responsible for constructing an adequate channel on the adjacent property and on all downstream properties until a natural outfall is reached.

6. A natural outfall shall have sufficient capacity to receive the design storm peak runoff from the watershed without deterioration of the facility and without adversely affecting property in the watershed. The natural outfall may be a river, creek, or other

drainage facility so designated by Baldwin Township for the proposed system.

7. Detention is the provision of acceptable storage area for stormwater with the use of a control structure providing a significant reduction in peak discharge of stormwater. Baldwin Township reserves the right to waive the requirement for detention of stormwater where Baldwin Township determines that alternatives may apply provided that the land developer/land owner demonstrate that no harm will be caused to down stream/down slope properties.

8. Innovative stormwater management systems may be used when approved by Baldwin Township. Various combinations of stormwater management systems should be developed to suit the particular, unique requirements of the development and topographic features of the development site. Approval of a proposed stormwater management control facility using these innovate methods shall depend on the effectiveness of the facility in controlling the impacts of post-development runoff rates and volumes. The following is a partial listing of control methods which can be used in stormwater management facilities where appropriate.

- A. Impervious area runoff diffused over pervious area.
- B. Infiltration pits, trenches, and dry wells.
- C. Porous asphalt.
- D. Grass waterways.
- E. Detention basins.
- F. Oversized conveyance systems.
- G. Parking lot storage.
- H. Rooftop detention.
- I. Gravel parking lots and driveways.

General description, including applicability, advantages, disadvantages, and maintenance of these stormwater management facilities, are provided in this Subchapter.

9. Access to facilities shall be provided for maintenance and operation. This access shall be a cleared access that is, when possible approximately 20 feet wide. Proximity of facilities to public rights-of-way shall be encouraged in order to minimize the length of access-ways. Multiple accesses shall be encouraged for major facilities.

10. All control facility designs shall conform to applicable standards and specifications of the following governmental agencies:

- A. American Society of Testing Materials (ASTM).
- B. Asphalt Institute (AI).
- C. Conservation District.
- D. Federal Highway Administration (FHWA).
- E. National Crushed Stone Association (NCSA).
- F. Nation Sand and Gravel Association (NSGA).
- G. Pennsylvania Department of environmental Protection (PA DEP).
- H. Pennsylvania Department of Transportation (PA DOT).
- I. U.S. Department of Agriculture, Soil Conservation Service, Pennsylvania

(USDA, SCS, PA).

11. Control facilities which receive stormwater from areas which are a potential source of oil and grease contamination shall include a baffle, skimmer, grease trap or other mechanism suitable for preventing oil and grease from leaving the facility in concentrations that would cause or contribute to the degradation of the water quality in the receiving in the receiving waters.

(Ord. 373, 5/7/1996, Art. 3, §301)

§17-302. Methods of Calculation of Runoff Flow Parameters.

1. The methods of computation used to determine peak discharge and volume of runoff shall be one of the following methods or any other method approved of runoff shall be one of the following methods or any other method approved by Baldwin Township in advance:

A. The USDA SCS Soil-Cover Complex Method as set forth in the latest edition of “Urban Hydrology for Small Watersheds,” Technical Release No. 55.

B. The USDA SCS Soil-Cover Complex Method as set forth in the “TR-20 Computer Program for Project Formulation Hydrology,” Technical Release No. 20.

C. The Penn State Runoff Model (PSRM) as set forth in the “Penn State Runoff Users Manual,” January 1987 Version.

D. The “Rational Method” of $Q=CIA$, where Q is the peak discharge from the watershed in cubic feet per second (cfs, C is the coefficient of runoff, I is the intensity of rainfall in inches per hour and A is the area of the watershed in acres. The Rational Method shall be limited to land development of 20 acres or less.

2. Rainfall frequency data to be used depends on the method of computation selected.

A. When the SCS Soil-Cover Complex Method is used for basin-wide modeling storm runoff shall be based on the following storm events using the SCS Type II 24 hour rainfall distribution.

Storm Event	Inches of Rainfall
2 Year	2.5
10 Year	3.6
25 Year	4.3
100 Year	5.7

B. Rainfall data shall be obtained from rainfall maps published by the PA DEP, PA DOT, or available U.S. Department of Commerce, National Weather Service Information to obtain figures for specific sites.

C. When the Rational Method is use, Rainfall Intensity-Duration-Frequency chart shown in the PA DOT “Field Manual,” May 1986 shall be used to determine the rainfall intensity in inches per hour.

3. Runoff curve numbers (CN’s) to be used in the Soil-Cover Complex Method shall be based upon the matrix presented in the most recent edition of the SCS TR-55

manual.

4. Time of travel (Tt) estimates for overland flows shall be based on the average velocities determined using the chart presented in the most recent edition of the SCD TR-55 manual.

5. All runoff calculations shall include both a hydrologic and hydraulic analysis indicating:

A. Rate and velocities of flow.

B. Grades, dimensions and capacities of water carrying structures and impoundment structures.

C. Sufficient design information to construct such stormwater management facilities.

Runoff calculations shall include both pre-development and post-development rates of peak discharge and volumes of storm runoff from the project development site. Runoff calculations for the site's condition during development shall be used to size temporary control measures. The time of concentration for flows up to 300 feet should be calculated using Manning's Kinematic Solutions.

(Ord. 373, 5/7/1996, Art. 3, §303)

Part 4**Drainage Plan Requirements****§17-401. General Requirements.**

Prior to final approval of subdivision and/or land development plans, the issuance of any permit, or the commencement of any land disturbance activity involving any of the regulated activities of this Subchapter, the owner, subdivider, developer, or his agent shall submit a drainage plan to Baldwin for approval. The plan shall meet the requirements set forth herein, and shall also meet all requirements of Title 25, Rules and Regulations, of the PA DEP - Chapter 102 (Erosion Control), Chapter 105 (Dam Safety and Waterway Management), and Chapter 106 (Flood Plain Management).

(Ord. 373, 5/7/1996, Art. 4, §401)

§17-402. Exemption.

This Section includes activities which are exempt from the plan preparation provisions of this Subchapter. Exemptions will be considered and granted by Baldwin Township on a case-by-case basis. However, activities granted exemption from plan preparation provisions must still manage stormwater in the manner specified in the other provisions of this Subchapter.

A. Any regulated activity that creates less than 10,000 square feet of impervious surface is exempt from the drainage plan preparation provisions of this Subchapter. This criteria shall apply to the total development even if development is to take place in phases. Exemption shall not relieve the applicant from providing adequate stormwater management to meet the purpose of the Chapter and does not relieve the applicant from any other State or County requirements.

(Ord. 373, 5/7/1996, Art. 4, §402)

§17-403. Plan Contents.

1. The following items, where appropriate, shall be included in the drainage plan:
 - A. Written report, including the following information:
 - (1) General description of project.
 - (2) General description of proposed stormwater controls (temporary and permanent) both during and after development including the stormwater runoff calculations, assumptions, and factors considered, and criteria used for both pre-development and post-development conditions.
 - (3) General description of the erosion and sediment pollution control plan that conforms to the requirements of Chapter 102 (Erosion Control) Title 25, Rules and Regulations, of the PA DEP.
 - (4) General description of an ownership maintenance program that clearly sets forth the ownership and the maintenance responsibility of all temporary and permanent stormwater management facilities and erosion and sediment pollution control facilities, including:
 - (a) Description of temporary and permanent maintenance require-

ments.

(b) Identification of a responsible individual, corporation, association, or other entity for ownership and maintenance of both temporary and permanent stormwater management and erosion and sediment pollution control facilities.

(c) Establishment of suitable easements for access to all facilities.

(d) The intent of these regulations is to provide private ownership and maintenance of stormwater management and erosion and sedimentation control facilities. Where the drainage plan proposes that Baldwin Township own or maintain the facilities, a description of the methods, procedures, and extent to which any facilities shall be turned over to Baldwin Township shall be incorporated as an integral part of the drainage plan.

(e) Where private development is involved, deed covenants, and restrictions must be submitted to provide for maintenance of stormwater facilities by property owner or owner's association.

(5) Expected project time schedule, including anticipated start and completion date.

(6) Training and experience of person(s) preparing the plan.

B. Plans, showing the following information:

(1) *General.*

(a) All plans shall be on sheet sizes consistent with Baldwin Township and shall be a minimum of 24 inches by 36 inches.

(b) Proposed name or identifying title of project.

(c) Name and address of the landowner and developer of the project site.

(d) Plan date and date of latest revision to the plan, north point, graphic scale and written scale. All plans shall be at a scale of 50 feet to the inch minimum.

(e) Total acreage and boundary lines of the project site and the tract of land on which the project site is located.

(f) A location map.

(g) Certificate for approval by Baldwin Township Board of Commissioners.

(h) Certificate for review by the Baldwin Township Planning Commission.

(i) Certificate for review by the Baldwin Township Engineer, if requested by Baldwin Township Board of Commissioners.

(2) *Existing Features.*

(a) Tract boundaries showing distances, bearings, and curve data, as located by field survey or by deed plotting.

(b) Existing contours at intervals of 2 feet for land with an average natural slope of 15 percent or less and at vertical intervals of 5 feet for

more steeply sloping land.

(c) The names of the owners of all immediately adjacent unplatted land, the names of all proposed or existing developments immediately adjacent, and the locations and dimensions of any street or easements shown thereon.

(d) The names, locations, and dimensions of all existing highways, streets, railroads, watercourses, and bodies of water, drainage facilities, floodplains and other significant features within 200 feet of any part of the tract proposed to be developed and the location of all buildings and approximate location of all tree masses within the tract.

(e) Locations and dimensions of overhead and underground utilities, sewers, and water lines.

(f) Soil types as designated by the USDA SCS "Soil Survey of Allegheny County."

(3) *Proposed Features.*

(a) The proposed land use, the number of lots and dwelling units and the extent of commercial, industrial, or other nonresidential uses.

(b) The locations and dimensions of all proposed streets, parks, playgrounds, and other public areas; overhead and underground utilities and sewer and water facilities; lot lines and building locations and parking components and other impervious and semi-pervious surfaces.

(c) The proposed changes to land surface and vegetative cover.

(d) Areas of cuts or fills.

(e) Final contours as required by Baldwin Township.

(f) A 25-foot right-of-way around all stormwater management structures and from such structures to a public right-of-way.

(4) *Stormwater Management Facilities.*

(a) All storm sewers along with any proposed connections to existing facilities.

(b) Other control devices or methods such as rooftop storage, grass swales, parking lot ponding, vegetative strips, and detention retention basins.

(c) Plans and profiles of all proposed stormwater management facilities including vertical and horizontal alignment, size, and type of material. This information shall be of the quality required for the construction of all facilities.

(d) A certificate, signed and sealed by an engineer registered in the Commonwealth of Pennsylvania and qualified under all applicable local and State laws to form such duties, indicating the compliance of the design of the stormwater management facilities with the provisions of this Subchapter.

(5) *Erosion and Sediment Pollution Controls.*

(a) The type, location, and extent of all erosion and sediment

pollution control measures shall be shown on an erosion and sediment pollution control plan that conforms to the requirements of Chapter 102 (Erosion Control) of Title 25, Rules and Regulations, of the PA DEP.

C. Financial security for the completion of stormwater management facilities as set forth in Part 7 of this Subchapter.

D. Maintenance guarantees, as set forth in Part 7 of this Subchapter.

(Ord. 373, 5/7/1996, Art. 4, §403)

§17-404. Plan Submission.

1. For regulated activities specified in §17-104 of this Subchapter, except those individual land disturbance activities which meet the criteria to qualify for exemption as described in §17-402:

A. The drainage plan shall be submitted by the developer to the Township Manager/Secretary. Submittal may be part of the building permit application where appropriate.

B. Seven copies of the drainage plan shall be submitted.

2. The drainage plan shall be accompanied by the requisite fee, as set forth in Part 7 of this Subchapter.

(Ord. 373, 5/7/1996, Art. 4, §404)

§17-405. Plan Review and Approval.

1. Plan review and approval by agencies outside Baldwin Township are required by State and County regulations, codes, and laws.

2. The plan review shall be coordinated to coincide with Pennsylvania State and Allegheny County reviews of the drainage plans.

A. *Baldwin Township Review.* The Township Engineer shall review the drainage plan for consistency with any other additional storm drainage provisions contained in Baldwin Township applicable codes, regulations, and ordinances. The Township Engineer shall provide written comment of his review to Baldwin Township.

B. *Baldwin Township Planning Commission Review.* The Township Planning Commission shall review the drainage plan for consistency and coordination with the PA DEP permit application process the Pennsylvania Clean Water Act (NPDES permitting for construction activities) under Chapter 102 (Erosion Control), Chapter 105 (Dam Safety and Waterway Management), or Chapter 106 (Flood Plain Management) of Title 25 of PA DEP's Rules and Regulations. The Planning Commission shall notify the regional office of the PA DEP whether the drainage plan is consistent with the stormwater management plan and forward a copy of the review letter to the Township and the developer.

C. *Public Hearing.* The Township may require a public hearing if the Township Engineer and/or the Township Planning Commission request one and the Township deems it appropriate. Provisions for a public hearing shall be consistent with requirements of the Municipal Planning Code (Act 147), and shall include at a minimum:

(1) A minimum of 2 week public notice in a local newspaper or in a mailed newsletter.

(2) The notice shall contain a brief summary of the drainage plan and a reference to the places where copies may be examined or purchased at cost.

D. *Notification of Decision.* The decision of the Township shall be in writing and shall be communicated to the developer personally or mailed to him at his last known address no later than 90 days from receipt of a completed drainage plan submission.

E. *Disapproval Stipulations.* When the drainage plan is not approved in terms as stipulated, the decision shall specify the defects found in the drainage plan and describe the requirements which have not been met and shall, in each case, cite to the provisions of the ordinance relied upon.

F. *Approval Time Limitations.* Failure of the Township to render a decision and communicate it to the developer within the time and in the manner required herein shall be deemed an approval of the drainage plan in terms as presented unless the developer has agreed in writing to an extension of time or change in the prescribed manner of presentation of communication of the decision, in which case, failure to meet the extended time or change in manner of presentation of communication shall have like effect.

G. *Approval Agency.* The agency who prepares the plan should not be the agency who approves the plan.

H. *Records.* The Township shall record the approved plan and all accompanying documentation at the Township office.

(Ord. 373, 5/7/1996, Art. 4, §405)

§17-406. Modification of Plans.

A modification to an approved drainage plan which involves a change in control methods or techniques, or which involves the relocation or redesign of controls measures, or which is necessary because soil or other conditions are not as stated on the approved plan application as determined by the Township Engineer shall require a re-submission of the modified drainage plan consistent with §17-404 and subject to review per §17-405 of this Part.

(Ord. 373, 5/7/1996, Art. 4, §406)

Part 5**Inspections****§17-501. General Requirements.**

Prior to approval of the constructed stormwater management facilities of the approved drainage plan, the developer must provide a schedule of inspections along with a final inspection and submission of “as built” drawings to the Township Engineer. These inspection provisions pertain only to construction activities regulated by the plan preparation provisions of Part 4. However, any activities granted exemption from plan preparation provisions as described in §17-402 and therefore exemption from the inspection provisions must manage stormwater in the manner specified in the other provisions of this Subchapter.

(Ord. 373, 5/7/1996, Art. 5, §501)

§17-502. Schedule of Inspections.

1. The developer must submit a certification by a Pennsylvania registered professional engineer which certifies that all elements of the approved drainage plan have been constructed as designed and approved.

2. The Township Engineer shall inspect all phases of development of the site including, but not limited to:

A. Completion of preliminary site preparation including stripping of vegetation, stockpiling of topsoil, and construction of temporary stormwater management and erosion control facilities.

B. Completion of rough grading, prior to placing top soil, permanent drainage or other site development improvements and ground covers.

C. During construction and installation of permanent stormwater facilities at such times to be specified by the engineer.

D. Upon completion of permanent stormwater management facilities, including establishing ground covers and plantings.

E. Upon completion of any final grading, vegetative control measures or other site restoration work done in accordance with the approved drainage plan.

3. No work shall be on a subsequent stage until the proceeding stage has been inspected and approved by the Township Engineer.

4. It is the responsibility of the developer to notify the Township Engineer 48 hours in advance of the completion of each identified phase of development.

5. In the event the Township Engineer discovers that the work does not comply with the approved drainage plan or any applicable laws or ordinances, the Township shall stop work until corrections are made. Any portion of the work that does not comply with the approved plan must be corrected by the developer within 10 days. No work may proceed on any subsequent phase of the drainage plan, the subdivision or land development, or building construction until the required corrections have been made.

6. If at any stage of the work the Township Engineer determines that the soil or

other conditions are not as stated or shown in the approved drainage plan, he may refuse to approve further work and the Township may revoke approvals until a revised drainage plan is submitted and approved, as required by §17-406 of this Subchapter. If the revised drainage plan cannot remedy the situation then the Township reserves the right to cancel the Township approval and halt all work except for that work required to “close out” the activity and return the site to pre-activity conditions as much as is reasonably possible.

7. If the Township Engineer discovers that the facilities or measures installed may be in violation of Chapter 102 (Erosion Control) of the Clean Streams Law provisions, the Engineer will refer these violations to the appropriate conservation district.

(Ord. 373, 5/7/1996, Art. 5, §502)

§17-503. Final Inspection.

When the developer has completed all the required facilities, he shall notify the Township in writing by certified or registered mail, and send a copy of such notice to the Township Engineer. The Township shall, within 10 days after receipt of such notice authorize the Township Engineer to inspect the required facilities. Following this final inspection, the Township Engineer shall promptly file a report, in writing, with the Township and shall mail a copy of the report to the developer by certified or registered mail. The report shall be made and mailed within 30 days after receipt by the Township Engineer of the aforesaid authorization by the Township.

(Ord. 373, 5/7/1996, Art. 5, §503)

§17-504. As-Builts.

Following final inspection, the developer shall submit drawings bearing the seal of a Pennsylvania registered professional engineer indicating the “as-built” improvements called for in the approved plan.

(Ord. 373, 5/7/1996, Art. 5, §504)

Part 6**Fees and Expenses****§17-601. General.**

A fee covering costs to the Township for drainage plan review and inspections shall be established by resolution of the Township Board of Commissioners. No approval of the drainage plan shall be issued until the requisite fee has been paid.

(Ord. 373, 5/7/1996, Art. 6, §601)

§17-602. Modification of Plans.

If it is determined that a modification to the existing drainage plan is required under §17-406 of this Subchapter, a revised plan shall not be approved until the additional fee has been paid by the applicant.

(Ord. 373, 5/7/1996, Art. 6, §602)

Part 7**Financial Guarantees and Maintenance****§17-701. Performance Guarantees.**

1. When requested by the developer, in order to facilitate financing, the Township if designated, shall furnish the developer with a signed copy of a resolution indicating approval of the drainage plan contingent upon the developer obtaining a satisfactory financial security. The drainage plan shall not be approved until the financial improvements agreement is executed. The resolution or letter of contingent approval shall expire and be deemed to be revoked if the financial security agreement is not executed within 90 days unless a written extension is granted by the Township; such extension shall not be unreasonably withheld and shall be placed in writing at the request of the developer.

2. The developer shall provide the Township financial security as a performance guarantee in a form to be approved by the Township Solicitor. Documentation of the financial security is to be provided in the drainage plan submission as per §17-403.C of this Subchapter.

3. Without limitation as to the other types of financial security which the Township may approve, which approval shall not be unreasonably withheld, Federal or Commonwealth chartered lending institutions irrevocable letters of credit and restrictive or escrow accounts in such leading institutions shall be deemed acceptable financial security for the purpose of this Section.

4. Such financial security shall be posted with a bonding company or Federal or Commonwealth chartered lending institution chosen by the party posting the financial security, provided said bonding company or leading institution is authorized to conduct such business within the Commonwealth.

5. Such bond, or other security shall provide for, and secure to the public, completion of the installation of all stormwater management facilities on or before the date fixed on the approved drainage plan for the completion of such facilities.

6. The amount of financial security to be posted shall be equal to 110 percent of the cost to install the required facilities estimated as of 90 days following the date scheduled for completion by the developer. Annually, the Township may adjust the amount of the financial security by comparing the actual cost for the completion of the remaining facilities which have been installed and the estimated cost for the completion of the remaining facilities as of the expiration of the 90th day after either the original date scheduled for completion or the rescheduled date of completion. Subsequent to said adjustment, the Township may require the developer to post additional security in order to assure that the financial security equals said 110 percent. Any additional security shall be posted by the developer in accordance with this subsection.

7. The amount of financial security required shall be based upon an estimate of the cost of completion of the required facilities, submitted by the applicant or developer and prepared by a professional engineer licensed as such in this Commonwealth and certified by such engineer to be fair and reasonable estimate of such cost. The Township, upon the recommendation of the Township Engineer, may refuse to accept

such estimate for good cause shown. If the applicant or developer and the Township are unable to agree upon an estimate, then the estimate shall be recalculated and re-certified by another professional engineer licensed as such in this Commonwealth and chosen mutually by the Township and the applicant or developer. The estimate certified by the third engineer shall be presumed fair and reasonable and shall be the final estimate. In the event that the third engineer is chosen, fees for the services of said engineer shall be paid equally by the Township and the applicant or developer.

8. If the developer requires more than 1 year from the date of posting of the financial security to complete the required facilities, the amount of financial security may be increased by an additional 10 percent for each 1-year period beyond the first anniversary date from posting of financial security or to an amount not exceeding 110 percent of the cost of completing the required facilities as re-established on or about the expiration of the preceding 1-year period by using the above bidding procedure.

9. *Financial Security for Staged Development.* In the case where development is projected over a period of years, the Township may authorize submission of drainage plan applications by sections or stages of development so as to require or guarantee that stormwater management facilities in both current and future stages of development will provide protection of the finally approved stage of the development.

10. *Release of Financial Security.* As the work of installing the required stormwater management facilities proceeds, the developer posting the financial security may request the Township to release or authorize the release, from time to time, such portions of the financial security necessary for payment to the contractor or contractors performing the work. Any such requests shall be in writing addressed to the Township who shall have 45 days from receipt of such request within which to allow the Township Engineer to certify, in writing, to the Township that said portion of the work upon the facilities has been completed in accordance with the approved plan. Upon such certification, the Township shall authorize release by the bonding company or lending institution of an amount as estimated by the Engineer fairly representing the value of the facilities completed or, if the Township fails to act within said 45-day period, the Township shall be deemed to have approved the release of funds as requested. The Township may, prior to final release, require retention of 10 percent of the estimated cost of aforesaid facilities. The final release of the financial security provisions shall be permitted only after receipt by the Township of certification and “as-builts” as required in §§17-502 and 17-503.

11. Where the Township accepts dedication of all or some of the required facilities following completion, the Township may require the posting of financial security to secure structural integrity of said facilities as well as the functioning of said facilities in accordance with the design and specifications as depicted on the drainage plan for a term not to exceed 60 months from the date of acceptance of dedication. Said financial security shall be of the same type as otherwise required in this Section with regard to installation of such facilities, and the amount of the financial security shall not exceed 100 percent of the actual cost of installation of said facilities.

12. Based on the report of the Township Engineer, the Township shall indicate approval or rejection of the stormwater management facilities either in whole or in part, and if not approved, state reasons for the rejection. The Township shall notify the developer, within 15 days of receipt of the engineer’s report, in writing by certified or

registered mail, of its actions.

13. If the Township or Township Engineer fails to comply with the time limitation provisions contained herein, all stormwater management facilities will be deemed to have been approved, and the developer shall be released from all liability, pursuant to its performance guaranty bond, or other security agreement.

14. If any portion of said improvements are not approved or are rejected by, the Township, the developer shall proceed to complete the same and, upon completion, the same procedure of notification, as outlined herein, shall be followed.

15. Nothing herein, however, shall be construed in limitation of developer's right to contest or question by legal proceedings or otherwise, any determination of the Township or the Township Engineer.

16. Where herein reference is made to the Township Engineer, he shall be a consultant thereto.

17. *Remedies to Effect Completion of Facilities.* In event that any stormwater management facilities shall be determined based upon the type of ownership of the property and/or facilities. The following priority process was established for facility ownership and maintenance responsibility:

A. As first priority, the property and facilities are owned by a private entity which shall be defined as an association, public or private corporation, partnership firm, trust, estate, or any other legal entity empowered to own real estate exclusive of an individual lot owner.

B. As second priority, the facilities shall be dedicated to the Township which shall be responsible for maintenance which requires the establishment of maintenance guarantees as described in §17-702. For certain types of facilities the Township may benefit by transferring the maintenance responsibility to an individual or group of individuals residing within the controlled area. These individuals may have the permanent stormwater control facilities adjacent to their lots or otherwise have an interest in the proper maintenance of the facilities. In these instances, the Township and the individual(s) may enter into a formal agreement for the maintenance of the facilities and be responsible for periodic inspections.

C. As third priority, the property and facilities are owned by an individual lot owner who shall be responsible for maintenance.

18. The failure of any person, individual lot owner, or private entity to properly maintain any stormwater management facility shall be construed to be a violation of this Part and is declared to be a public nuisance, subject to Part 8, "Enforcement and Penalties."

(Ord. 373, 5/7/1996, Art. 7, §701)

§17-702. Maintenance Guarantees.

Upon approval of any stormwater management facilities by the Township, the developer shall provide a financial security, in a form approved by the Township Solicitor for maintenance guarantees, as follows:

A. *Construction Maintenance Bond.* The Township may require the posting of a maintenance bond to secure the structure integrity of said facilities as well as

the functioning of said facility in accordance with the design and specifications as depicted on the approved drainage plan for a term not to exceed 60 months from the date of acceptance of dedication. Said financial security shall be the same type as required in §17-701 with regard to installation of such facilities, and the amount of the financial security shall be 100 percent of the actual replacement cost of said facility or 15 percent of the total project construction costs, whichever is greater.

(Ord. 373, 5/7/1996, Art. 7, §703)

§17-703. Maintenance by Private Entity.

When a private entity retains ownership of any stormwater management facility, such entity shall be responsible for maintenance of the facility. The stated responsibilities of the entity in terms of owning and maintaining the facilities shall be submitted with the drainage plan for determination of their adequacy. Approval of the drainage plan shall be conditioned upon the approval of these terms. These terms shall be in writing, shall be in recordable form, and shall, in addition to any other terms deemed necessary by the Township, contain a provision permitting inspection at any reasonable time by the Township or its designee of all such facilities deemed critical in the public welfare.

(Ord. 373, 5/7/1996, Art. 7, §704)

§17-704. Maintenance by Individual Lot Owners.

When any stormwater management facility is located on an individual lot, and when maintenance thereof is the responsibility of that land owner, a description of the facility or systems and the terms of the required maintenance shall be incorporated as a part of the deed to the property. The deed shall be recorded with the County Recorder of Deeds within 90 days following the Township approval. In addition, the Township may require as a condition of approval that a deed conveying any interest in such lot contain language indicating that the conveyance is subject to an express covenant by the grantee that the grantee will maintain the stormwater management facility.

(Ord. 373, 5/7/1996, Art. 7, §705)

Part 8**Enforcement and Penalties****§17-801. Enforcement.**

1. The Township shall designate by resolution a qualified individual, agency, or combination thereof to act as the enforcement officer. Said enforcement officer will execute the regulations set forth in this Subchapter.

2. In the event that the enforcement officer is unable to perform the duties, or in the event of a conflict of interest, the Township may appoint an alternate to fulfill his responsibilities.

(Ord. 373, 5/7/1996, Art. 8, §801)

§17-802. Right-of-Entry.

Upon presentation of proper credentials, duly authorized representatives of the Township may enter at reasonable times upon any property within the Township to investigate or ascertain the condition of the subject property in regard to any aspect regulated by this Subchapter. This includes property housing stormwater management facilities for which the Township is not directly responsible for maintenance as provided in §§17-702 and 17-703.

(Ord. 373, 5/7/1996, Art. 8, §802)

§17-803. Violations.

Any activity conducted in violation of this Subchapter is declared to be a public nuisance.

A. *Notice.* In the event that an owner, applicant, developer, property manager, or his agent fails to comply with this Subchapter, the enforcement officer shall provide a written notice of the violation to be served upon the person. Such notice shall set forth the nature of the violation(s) and direct the person to whom it is served to comply with all the terms of this Subchapter within 7 days, or such additional period, not to exceed 30 days, as the enforcement officer shall deem reasonable.

B. *Service of Notice.* Such notice may be delivered by the United States mail, first class, postage prepaid, or by certified or registered mail; or by personal service; or if the property is occupied, by posting the notice at a conspicuous place upon the subject property.

(Ord. 373, 5/7/1996, Art. 8, §803)

§17-804. Penalties.

1. Any owner, applicant, developer, property manager, or his agent violating the provisions of this Subchapter shall, upon being found liable therefore in a civil enforcement proceeding commenced by the Township, pay a judgment of not more than \$500 plus all court costs, including reasonable attorney fees incurred by the Township as a result thereof. No judgment shall commence or be imposed, levied, or payable until

the date of the determination of a violation by the magisterial district judge, if the defendant neither pays nor timely appeals the judgment, the Township may enforce pursuant to the applicable rules of civil procedure. Each day that a violation continues shall constitute a separate violation, unless the magisterial district judge determines and finds that the defendant truly believed that no violation occurred then only one violation shall be deemed to have occurred. [*Ord. 427*]

2. The court of common pleas, upon petition, may grant an order of stay, upon cause shown, tolling the per diem judgment pending a final adjudication of the violation and judgment.

(*Ord. 373, 5/7/1996, Art. 8, §804; as amended by Ord. 427, 4/4/2006*)

Part 9**Appeals****§17-901. Appeal to Baldwin Township Board of Commissioners.**

Any person, partnership, corporation, or organization aggrieved by any action of the Township or its designee may appeal to the Township Board of Commissioners within 30 days of that action.

(Ord. 373, 5/7/1996, Art. 9, §901)

§17-902. Appeals to Court.

Any person, partnership, corporation, or organization aggrieved by any decision of the Township governing body may appeal to the Allegheny County Court of Common Pleas within 30 days of that decision.

(Ord. 373, 5/7/1996, Art. 9, §902)

Part 10**Miscellaneous****§17-1001. Compatibility with Other Permit and Ordinance Requirements.**

Approvals issued pursuant to this Subchapter do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. If more stringent requirements concerning regulations of stormwater or erosion and sedimentation controlled are contained in the other code, rule, act, or ordinance, the more stringent regulation shall apply.

(*Ord. 373, 5/7/1996, Art. 10, §1003*)

§17-1002. Municipality Liability.

The making of an administrative decision shall not constitute a representation, guarantee or warranty of any kind by the Township or by any official, employee, or assigned representative thereof, of the practicability or safety of any proposed structure or use with respect to damage from erosion, sedimentation pollution, stormwater runoff, or floods and shall create no liability upon, or cause of action against its officers or employees.

(*Ord. 373, 5/7/1996, Art. 10, §1003*)

B. Water Quality Requirements.**Part 11****General Provisions****§17-1101. Short Title.**

This Subchapter shall be known and may be cited as the “Baldwin Township Stormwater Management Ordinance; Water Quality Requirements.”

(*Ord. 415, 5/4/2004, §101; as amended by Ord. 427, 4/4/2006*)

§17-1102. Statement of Findings.

The Board of Commissioners finds that:

A. Stormwater runoff from lands modified by human activities threatens public health and safety by causing decreased infiltration of rainwater and increased runoff flows and velocities, which overtax the carrying capacity of existing streams and storm sewers, and greatly increases the cost to the public to manage stormwater.

B. 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 stream-beds 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.

C. A program of stormwater management, including reasonable regulation of land development and redevelopment causing loss of natural infiltration, is fundamental to the public health, safety, welfare, and the protection of the people of the Township and all the people of the Commonwealth, their resources, and the environment.

D. Stormwater can be an important water resource by providing 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.

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).

G. Non-stormwater discharges to municipal separate storm sewer systems can contribute to pollution of waters of the Commonwealth by the Township.

(*Ord. 415, 5/4/2004, §102*)

§17-1103. Purpose.

The purpose of this Subchapter is to promote health, safety, and welfare within the Township and its watershed by minimizing the harms and maximizing the benefits described in §17-1102 of this Subchapter, through provisions designed to:

A. Manage stormwater runoff impacts at their source by regulating activities that cause the problems.

B. Provide review procedures and performance standards for stormwater planning and management.

C. Utilize and preserve the existing natural drainage systems as much as possible.

D. Manage stormwater impacts close to the runoff source, which requires a minimum of structures and relies on natural processes.

E. Focus on infiltration of stormwater, to maintain groundwater recharge, to prevent degradation of surface and groundwater quality and to otherwise protect water resources.

F. Maintain existing flows and quality of streams and watercourses.

G. Meet legal water quality requirements under State law, including regulations at 25 Pa.Code, Chapter 93.4a, to protect and maintain “existing uses” and maintain the level of water quality to support those uses in all streams, and to protect and maintain water quality in “special protection” streams.

H. Prevent scour and erosion of streambanks and streambeds.

I. Provide for proper operations and maintenance of all permanent stormwater management BMPs that are implemented in the Township.

J. Provide a mechanism to identify controls necessary to meet the NPDES permit requirements.

K. Implement an illegal discharge detection and elimination program to address non-stormwater discharges into the Township’s separate storm sewer system.

(*Ord. 415, 5/4/2004, §103*)

§17-1104. Statutory Authority.

The Township is empowered to regulate land use activities that affect stormwater impacts by the authority of the First Class Township Code, 53 P.S. §55101 *et seq.*, and/or the Municipalities Planning Code, 53 P.S. §10101 *et seq.*

(*Ord. 415, 5/4/2004, §104*)

§17-1105. Applicability.

1. This Subchapter applies to any regulated earth disturbance activities within the Township, and all stormwater runoff entering into the Township’s separate storm sewer system from lands within the boundaries of the Township.

2. Earth disturbance activities and associated stormwater management controls are also regulated under existing State law and implementing regulations. This

Subchapter shall operate in coordination with those parallel requirements; the requirements of this Subchapter shall be no less restrictive in meeting the purposes of this Subchapter than State law.

(Ord. 415, 5/4/2004, §105)

§17-1106. Compatibility With Other Requirements.

1. Approvals issued and actions taken under this Subchapter do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other code, law, regulation or ordinance. To the extent that this Subchapter imposes more rigorous or stringent requirements for stormwater management, the specific requirements contained in this Subchapter shall be followed.

2. Nothing in this Subchapter shall be construed to affect any of the Township's requirements regarding stormwater matters which do not conflict with the provisions of this Subchapter, such as local stormwater management design criteria (e.g. inlet spacing, inlet type, collection system design and details, outlet structure design, etc.). Conflicting provisions in other municipal ordinances or regulations shall be construed to retain the requirements of this Subchapter addressing State water quality requirements.

(Ord. 415, 5/4/2004, §108)

Part 12**Definitions****§17-1201. Definitions.**

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

A. 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.

B. 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.

C. The words "shall" and "must" are mandatory; the words "may" and "should" are permissive.

Accelerated erosion - the removal of the surface of the land through the combined action of human activities and the natural processes, at a rate greater than would occur because of the natural process alone.

Applicant - a landowner, developer or other person who has filed an application for approval to engage in any regulated earth disturbance activity at a project site in the Township.

BMP (Best Management Practice) - activities, facilities, designs, measures or procedures used to manage stormwater impacts from regulated earth disturbance activities, to meet State water quality requirements, to promote groundwater recharge and to otherwise meet the purposes of this Subchapter. BMPs include but are not limited to infiltration, filter strips, low impact design, bioretention, wet ponds, permeable paving, grassed swales, forested buffers, sand filters and detention basins.

Conservation District - the Allegheny County Conservation District.

DEP - the Pennsylvania Department of Environmental Protection.

Developer - a person that seeks to undertake any regulated earth disturbance activities at a project site in the Township.

Development - see "earth disturbance activity." The term includes redevelopment.

Development site - the specific tract of land where any Earth Disturbance activities in the Township are planned, conducted or maintained.

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, road maintenance, building construction and the moving, depositing, stockpiling, or storing of soil, rock or earth materials.

Erosion - the process by which the surface of the land, including channels, is worn away by water, wind, or chemical action.

Erosion and sediment control plan - a plan for a project site which identifies BMPs to minimize accelerated erosion and sedimentation.

Groundwater recharge - replenishment of existing natural underground water supplies.

Impervious surface - a surface that prevents the infiltration of water into the ground. Impervious surface includes, but is not limited to, any roof, parking or driveway areas, and any new streets and sidewalks. Any surface areas designed to initially be gravel or crushed stone shall be assumed to be impervious surfaces.

Municipality - Baldwin Township, Allegheny County, Pennsylvania.

NPDES - National Pollutant Discharge Elimination System, the Federal government's system for issuance of permits under the Clean Water Act, which is delegated to DEP in Pennsylvania.

Outfall - "point source" as described in 40 CFR §122.2 at the point where the Township's storm sewer system discharges to surface waters of the Commonwealth.

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.

Point source - any discernible, confined and 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.

Project site - the specific area of land where any regulated earth disturbance activities in the Township are planned, conducted or maintained.

Redevelopment - earth disturbance activities on land which has previously been disturbed or developed.

Regulated earth disturbance activity - earth disturbance activity 1 acre or more with a point source discharge to surface waters or the Township's storm sewer system, or 5 acres or more regardless of the planned runoff. This includes earth disturbance on any portion of, part, or during any stage of, a larger common plan of development. This only includes road maintenance activities involving 25 acres or more or earth disturbance.

Road maintenance - earth disturbance activities within the existing road cross-section, such as grading and repairing existing unpaved road surfaces, cutting road banks, cleaning or clearing drainage ditches and other similar activities.

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.

State water quality requirements - as defined under State regulations -- protection of designated and existing uses (See 25 Pa.Code, Chapters 93 and 96) including:

- (1) Each stream segment in Pennsylvania has a "designated use," such as

“cold water fishery” or “potable water supply,” which are listed in Chapter 93. These uses must be protected and maintained, under state regulations.

(2) “Existing uses” are those attained as of November 1975, regardless whether they have been designated in Chapter 93. Regulated earth disturbance activities must be designed to protect and maintain existing uses and maintain the level of water quality necessary to protect those uses in all streams, and to protect and maintain water quality in special protection streams.

(3) Water quality involves the chemical, biological and physical characteristics of surface water bodies. After Regulated Earth Disturbance activities are complete, these characteristics can be impacted by addition of pollutants such as sediment, and changes in habitat through increased flow volumes and/or rates as a result of changes in land surface area from those activities. Therefore, permanent discharges to surface waters must be managed to protect the stream bank, streambed and structural integrity of the waterway, to prevent these impacts.

Stormwater - the surface runoff generated by precipitation reaching the ground surface.

Surface waters of the Commonwealth - any and all rivers, streams, creeks, rivulets, impoundments, ditches, watercourses, storm sewers, lakes, dammed water, wetlands, ponds, springs, and all other bodies or channels of conveyance of surface water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth.

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.

Watershed - region or area drained by a river, watercourse or other body of water, whether natural or artificial.

(Ord. 415, 5/4/2004, §201)

Part 13**Stormwater Management for Water Quality****§17-1301. General Requirements for Stormwater Management.**

1. All regulated earth disturbance activities within the Township shall be designed, implemented, operated and maintained to meet the purposes of this Subchapter, through these two elements:

A. Erosion and Sediment control during the earth disturbance activities (e.g., during construction).

B. Water quality protection measures after completion of earth disturbance activities (e.g., after construction), including operations and maintenance.

2. No regulated earth disturbance activities within the Township shall commence until the requirements of this Subchapter are met.

3. Erosion and sediment control during regulated earth disturbance activities shall be addressed as required by §17-1303.

4. Post-construction water quality protection shall be addressed as required by §17-1304. Operations and maintenance of permanent stormwater BMPs shall be addressed as required by Part 14.

5. All best management practices (BMPs) used to meet the requirements of this Subchapter shall conform to the State water quality requirements, and any more stringent requirements as determined by the Township.

6. Techniques described in Appendix A (Low Impact Development) of this Subchapter are encouraged, because they reduce the costs of complying with the requirements of this Subchapter and the State water quality requirements.

(Ord. 415, 5/4/2004, §301)

§17-1302. Permit Requirements by Other Government Entities.

The following permit requirements may apply to certain regulated earth disturbance activities, and must be met prior to commencement of regulated earth disturbance activities, as applicable:

A. All regulated earth disturbance activities subject to permit requirements by DEP under regulations at 25 Pa.Code, Chapter 102.

B. Work within natural drainageways subject to permit by DEP under 25 Pa.Code, Chapter 105.

C. Any stormwater management facility that would be located in or adjacent to surface waters of the Commonwealth, including wetlands, subject to permit by DEP under 25 Pa.Code, Chapter 105.

D. Any stormwater management facility that would be located on a State highway right-of-way, or require access from a State highway, shall be subject to approval by the Pennsylvania Department of Transportation (PA DOT).

E. Culverts, bridges, storm sewers or any other facilities which must pass or

convey flows from the tributary area and any facility which may constitute a dam subject to permit by DEP under 25 Pa.Code, Chapter 105.

(Ord. 415, 5/4/2004, §302)

§17-1303. Erosion and Sediment Control During Regulated Earth Disturbance Activities.

1. No regulated earth disturbance activities within the Township shall commence until approval by the Township of an erosion and sediment control plan for construction activities.

2. DEP has regulations that require an erosion and sediment control plan for any earth disturbance activity of 5,000 square feet or more, under 25 Pa.Code §102.4(b).

3. In addition, under 25 Pa.Code, Chapter 92, a DEP “NPDES construction activities” permit is required for regulated earth disturbance activities.

4. Evidence of any necessary permit(s) for regulated earth disturbance activities from the appropriate DEP regional office or County Conservation District must be provided to the Township. The issuance of an NPDES Construction Permit (or permit coverage under the statewide General Permit (PAG-2) satisfies the requirements subsection .1.

5. A copy of the erosion and sediment control plan and any required permit, as required by DEP regulations, shall be available at the project site at all times.

(Ord. 415, 5/4/2004, §303)

§17-1304. Water Quality Requirements after Regulated Earth Disturbance Activities Are Complete.

1. No regulated earth disturbance activities within the Township shall commence until approval by the Township of a plan which demonstrates compliance with State water quality requirements after construction is complete.

2. The BMPs must be designed, implemented and maintained to meet State water quality requirements, and any other more stringent requirements as determined by the Township.

3. To control post-construction stormwater impacts from regulated earth disturbance activities, State water quality requirements can be met by BMPs, including site design, which provide for replication of pre-construction stormwater infiltration and runoff conditions, so that postconstruction stormwater discharges do not degrade the physical, chemical or biological characteristics of the receiving waters. As described in the DEP Comprehensive Stormwater Management Policy (#392-0300-002, September 28, 2002), this may be achieved by the following:

A. Infiltration - replication of pre-construction stormwater infiltration conditions.

B. Treatment - use of water quality treatment BMPs to ensure filtering out of the chemical and physical pollutants from the stormwater runoff.

C. Streambank and Streambed Protection - management of volume and rate of postconstruction stormwater discharges to prevent physical degradation of

receiving waters (e.g., from scouring).

4. DEP has regulations that require municipalities to ensure design, implementation and maintenance of best management practices (“BMPs”) that control runoff from new development and redevelopment after regulated earth disturbance activities are complete. These requirements include the need to implement post-construction stormwater BMPs with assurance of long-term operations and maintenance of those BMPs.

5. Evidence of any necessary permit(s) for regulated earth disturbance activities from the appropriate DEP regional office must be provided to the Township. The issuance of an NPDES construction permit (or permit coverage under the statewide General Permit (PAG-2)) satisfies the requirements of §17-1304.1.

6. BMP operations and maintenance requirements are described in Part 14 of this Subchapter.

(Ord. 415, 5/4/2004, §304)

Part 14**Stormwater BMP Operations and Maintenance Plan Requirements****§17-1401. General Requirements.**

1. No regulated earth disturbance activities within the Township shall commence until approval by the Township of BMP operations and maintenance plan which describes how the permanent (e.g., post-construction) stormwater BMPs will be properly operated and maintained.

2. The following items shall be included in the BMP operations and maintenance plan:

A. Map(s) of the project area, in a form that meets the requirements for recording at the offices of the Recorder of Deeds of Allegheny County, and shall be submitted on 24-inch x 36-inch or 30-inch x 42-inch sheets. The contents of the maps(s) shall include, but not be limited to:

(1) Clear identification of the location and nature of permanent stormwater BMPs.

(2) The location of the project site relative to highways, municipal boundaries or other identifiable landmarks.

(3) Existing and final contours at intervals of 2 feet, or others as appropriate.

(4) Existing streams, lakes, ponds, or other bodies of water within the project site area.

(5) Other physical features including flood hazard boundaries, sinkholes, streams, existing drainage courses, and areas of natural vegetation to be preserved.

(6) The locations of all existing and proposed utilities, sanitary sewers, and water lines within 50 feet of property lines of the project site.

(7) Proposed final changes to the land surface and vegetative cover, including the type and amount of impervious area that would be added.

(8) Proposed final structures, roads, paved areas, and buildings.

(9) A 15-foot wide access easement around all stormwater BMPs that would provide ingress to and egress from a public right-of-way.

B. A description of how each permanent stormwater BMP will be operated and maintained, and the identity of the person(s) responsible for operations and maintenance.

C. The name of the project site, the name and address of the owner of the property, and the name of the individual or firm preparing the plan.

D. A statement, signed by the landowner, acknowledging that the stormwater BMPs are fixtures that can be altered or removed only after approval by the Township.

(Ord. 415, 5/4/2004, §401)

§17-1402. Responsibilities for Operation and Maintenance of BMPs.

1. The BMP operations and maintenance plan for the project site shall establish responsibilities for the continuing operation and maintenance of all permanent stormwater BMPs, as follows:

A. If a plan includes structures or lots which are to be separately owned and in which streets, sewers and other public improvements are to be dedicated to the Township, stormwater BMPs may also be dedicated to and maintained by the Township.

B. If a plan includes operations and maintenance by a single ownership, or if sewers and other public improvements are to be privately owned and maintained, then the operation and maintenance of stormwater BMPs shall be the responsibility of the owner or private management entity.

2. The Township shall make the final determination on the continuing operations and maintenance responsibilities. The Township reserves the right to accept or reject the operations and maintenance responsibility for any or all of the stormwater BMPs.

(Ord. 415, 5/4/2004, §402)

§17-1403. Township Review of BMP Operations and Maintenance Plan.

1. The Township shall review the BMP operations and maintenance plan for consistency with the purposes and requirements of this Subchapter, and any permits issued by DEP.

2. The Township shall notify the applicant in writing whether the BMP operations and maintenance plan is approved.

3. The Township may require an "as-built survey" of all stormwater BMPs, and an explanation of any discrepancies with the operations and maintenance plan.

(Ord. 415, 5/4/2004, §403)

§17-1404. Adherence to Approved BMP Operations and Maintenance Plan.

It shall be unlawful to alter or remove any permanent stormwater BMP required by an approved BMP operations and maintenance plan, or to allow the property to remain in a condition which does not conform to an approved BMP operations and maintenance plan, unless an exception is granted in writing by the Township.

(Ord. 415, 5/4/2004, §404)

§17-1405. Operations and Maintenance Agreement for Privately Owned Stormwater BMPs.

1. The property owner shall sign an operations and maintenance agreement with the Township covering all stormwater BMPs that are to be privately owned. The agreement shall be substantially the same as the agreement in Appendix B of this Subchapter.

2. Other items may be included in the agreement where determined necessary to guarantee the satisfactory operation and maintenance of all permanent stormwater BMPs. The agreement shall be subject to the review and approval of the Township.

(Ord. 415, 5/4/2004, §405)

§17-1406. Stormwater Management Easements.

1. Stormwater management easements are required for all areas used for off-site stormwater control, unless a waiver is granted by the Municipal Engineer.

2. Stormwater management easements shall be provided by the property owner if necessary for (A) access for inspections and maintenance, or (B) preservation of stormwater runoff conveyance, infiltration, and detention areas and other BMPs, by persons other than the property owner. The purpose of the easement shall be specified in any agreement under §17-1405.

(Ord. 415, 5/4/2004, §406)

§17-1407. Recording of Approved BMP Operations and Maintenance Plan and Related Agreements.

1. The owner of any land upon which permanent BMPs will be placed, constructed or implemented, as described in the BMP operations and maintenance plan, shall record the following documents in the Office of the Recorder of Deeds for Allegheny County, within 15 days of approval of the BMP Operations Plan by the Township:

- A. The operations and maintenance plan, or a summary thereof.
- B. Operations and maintenance agreements under §17-1405.
- C. Easements under §17-1406.

2. The Township may suspend or revoke any approvals granted for the project site upon discovery of the failure of the owner to comply with this Section.

(Ord. 415, 5/4/2004, §407)

§17-1408. Municipal Stormwater BMP Operation and Maintenance Fund.

1. If stormwater BMPs are accepted by the Township for dedication, the Township may require persons installing stormwater BMPs to pay a specified amount to the Municipal Stormwater BMP Operation and Maintenance Fund, to help defray costs of operations and maintenance activities. The amount may be determined as follows:

A. If the BMP is to be owned and maintained by the Township, the amount shall cover the estimated costs for operations and maintenance for 10 years, as determined by the Township.

B. The amount shall then be converted to present worth of the annual series values.

2. If a BMP is proposed that also serves as a recreation facility (e.g., ball field, lake), the Township may adjust the amount due accordingly.

(Ord. 415, 5/4/2004, §408)

Part 15**Inspections and Right of Entry****§17-1501. Inspections.**

1. DEP or its designees (e.g., County Conservation Districts) normally ensure compliance with any permits issued, including those for stormwater management. In addition to DEP compliance programs, the Township or its designee may inspect all phases of the construction, operations, maintenance and any other implementation of stormwater BMPs.

2. During any stage of the regulated earth disturbance activities, if the Township or its designee determines that any BMPs are not being implemented in accordance with this Subchapter, the Township may suspend or revoke any existing permits or other approvals until the deficiencies are corrected.

(Ord. 415, 5/4/2004, §501)

§17-1502. Right of Entry.

1. Upon presentation of proper credentials, duly authorized representatives of the Township may enter at reasonable times upon any property within the Township to inspect the implementation, condition, or operation and maintenance of the stormwater BMPs in regard to any aspect governed by this Subchapter.

2. BMP owners and operators shall allow persons working on behalf of the Township ready access to all parts of the premises for the purposes of determining compliance with this Subchapter.

3. Persons working on behalf of the Township shall have the right to temporarily locate on any BMP in the Township such devices as are necessary to conduct monitoring and/or sampling of the discharges from such BMP.

4. Unreasonable delays in allowing the Township access to a BMP is a violation of this Part.

(Ord. 415, 5/4/2004, §502)

Part 16**Fees and Expenses****§17-1601. General.**

The Township may charge a reasonable fee for review of BMP operations and maintenance plans to defray review costs incurred by the Township. The applicant shall pay all such fees.

(Ord. 415, 5/4/2004, §601)

§17-1602. Expenses Covered by Fees.

The fees required by this Subchapter may cover:

- A. Administrative/clerical costs.
- B. The review of the BMP operations and maintenance plan by the Township Engineer.
- C. The site inspections including, but not limited to, pre-construction meetings, inspections during construction of stormwater BMPs, and final inspection upon completion of the stormwater BMPs.
- D. Any additional work required to monitor and enforce any provisions of this Subchapter, correct violations, and assure proper completion of stipulated remedial actions.

(Ord. 415, 5/4/2004, §602)

Part 17**Prohibitions****§17-1701. Prohibited Discharges.**

1. No person in the Township shall allow, or cause to allow, stormwater discharges into the Township's separate storm sewer system which are not composed entirely of stormwater, except (A) as provided in subsection .2 below, and (B) discharges allowed under a State or Federal permit.

2. Discharges which may be allowed, based on a finding by the Township that the discharge(s) do not significantly contribute to pollution to surface waters of the Commonwealth, are:

- A. Discharges from firefighting activities.
- B. Uncontaminated water from foundation or from footing drains.
- C. Potable water sources including dechlorinated water line and fire hydrant flushings.
- D. Flows from riparian habitats and wetlands.
- E. Lawn watering.
- F. Irrigation drainage.
- G. Pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spill material has been removed) and where detergents are not used.
- H. Routine external building washdown (which does not use detergents or other compounds)
- I. Air conditioning condensate.
- J. Water from individual residential car washing.
- K. Dechlorinated swimming pool discharges.
- L. Springs.
- M. Uncontaminated groundwater.
- N. Water from crawl space pumps.

3. In the event that the Township determines that any of the discharges identified in subsection .2 significantly contribute to pollution of waters of the Commonwealth, or is so notified by DEP, the Township will notify the responsible person to cease the discharge.

4. Upon notice provided by the Township under subsection .3, the discharger will have a reasonable time, as determined by the Township, to cease the discharge consistent with the degree of pollution caused by the discharge.

5. Nothing in this Section shall affect a discharger's responsibilities under State law.

(Ord. 415, 5/4/2004, §701)

§17-1702. Prohibited Connections.

The following connections are prohibited, except as provided in §17-1701.2 above:

A. Any drain or conveyance, whether on the surface or subsurface, which allows any nonstorm water discharge including sewage, process wastewater, and wash water, to enter the separate storm sewer system, and any connections to the storm drain system from indoor drains and sinks.

B. Any drain or conveyance connected from a commercial or industrial land use to the separate storm sewer system which has not been documented in plans, maps, or equivalent records, and approved by the Township.

(Ord. 415, 5/4/2004, §702)

§17-1703. Roof Drains.

1. Roof drains shall not be connected to streets, sanitary or storm sewers or roadside ditches, except as provided in §17-1703.2.

2. When it is more advantageous to connect directly to streets or storm sewers, connections of roof drains to streets or roadside ditches may be permitted by the Township.

3. Roof drains shall discharge to infiltration areas or vegetative BMPs to the maximum extent practicable.

(Ord. 415, 5/4/2004, §703)

§17-1704. Alteration of BMPs.

1. No person shall modify, remove, fill, landscape or alter any existing stormwater BMP, unless it is part of an approved maintenance program, without the written approval of the Township.

2. No person shall place any structure, fill, landscaping or vegetation into a stormwater BMP or within a drainage easement, which would limit or alter the functioning of the BMP, without the written approval of the Township.

(Ord. 415, 5/4/2004, §704)

Part 18**Enforcement and Penalties****§17-1801. Public Nuisance.**

1. The violation of any provision of this Subchapter is hereby deemed a public nuisance.

2. Each day that a violation continues shall constitute a separate violation.

(*Ord. 415, 5/4/2004, §801*)

§17-1802. Enforcement Generally.

1. Whenever the Township finds that a person has violated a prohibition or failed to meet a requirement of this Subchapter, the Township may order compliance by written notice to the responsible person. Such notice may require without limitation:

A. The performance of monitoring, analyses, and reporting.

B. The elimination of prohibited connections or discharges.

C. Cessation of any violating discharges, practices, or operations.

D. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property.

E. Payment of a fine to cover administrative and remediation costs.

F. The implementation of stormwater BMPs.

G. Operation and maintenance of stormwater BMPs.

2. Such notification shall set forth the nature of the violation(s) and establish a time limit for correction of these violations(s). Said notice may further advise that, if applicable, should the violator fail to take the required action within the established deadline, the work will be done by the Township or designee and the expense thereof shall be charged to the violator.

3. Failure to comply within the time specified shall also subject such person to the penalty provisions of this Subchapter. All such penalties shall be deemed cumulative and shall not prevent the Township from pursuing any and all other remedies available in law or equity.

(*Ord. 415, 5/4/2004, §802*)

§17-1803. Suspension and Revocation of Permits and Approvals.

1. Any building, land development or other permit or approval issued by the Township may be suspended or revoked by the Township for:

A. Noncompliance with or failure to implement any provision of the permit.

B. A violation of any provision of this Subchapter.

C. The creation of any condition or the commission of any act during construction or development which constitutes or creates a hazard or nuisance,

pollution or which endangers the life or property of others.

2. A suspended permit or approval shall be reinstated by the Township when:

A. The Municipal Engineer or designee has inspected and approved the corrections to the stormwater BMPs, or the elimination of the hazard or nuisance.

B. The Township is satisfied that the violation of the Ordinance, law, or rule and regulation has been corrected.

3. A permit or approval which has been revoked by the Township cannot be reinstated. The applicant may apply for a new permit under the procedures outlined in this Subchapter.

(Ord. 415, 5/4/2004, §803)

§17-1804. Penalties.

1. Any person, firm or corporation who shall violate any provision of this Part, upon conviction thereof, shall be sentenced to pay a fine of not more than \$1,000 plus costs and, in default of payment of said fine and costs, to a term of imprisonment not to exceed 30 days. Each day that a violation of this Part continues shall constitute a separate offense. [*Ord. 427*]

2. In addition, the Township, through its Solicitor, may institute injunctive, mandamus or any other appropriate action or proceeding at law or in equity for the enforcement of this Subchapter. Any court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent injunctions, mandamus or other appropriate forms of remedy or relief.

(Ord. 415, 5/4/2004, §804; as amended by Ord. 427, 4/4/2006)

§17-1805. Appeals.

Any person aggrieved by any action of the Township or its designee, relevant the provisions of this Subchapter, may appeal to the relevant judicial or administrative body according to law, within the time period allowed.

(Ord. 415, 5/4/2004, §805)

APPENDIX A

LOW IMPACT DEVELOPMENT PRACTICES ALTERNATIVE APPROACH FOR MANAGING STORMWATER RUNOFF

Natural hydrologic conditions may be altered radically by poorly planned development practices, such as introducing unneeded impervious surfaces, destroying existing drainage swales, constructing unnecessary storm sewers, and changing local topography. A traditional drainage approach of development has been to remove runoff from a site as quickly as possible and capture it in a detention basin. This approach leads ultimately to the degradation of water quality as well as expenditure of additional resources for detaining and managing concentrated runoff at some downstream location.

The recommended alternative approach is to promote practices that will minimize post-development runoff rates and volumes, which will minimize needs for artificial conveyance and storage facilities. To simulate pre-development hydrologic conditions, forced infiltration is often necessary to offset the loss of infiltration by creation of impervious surfaces. The ability of the ground to infiltrate depends upon the soil types and its conditions.

Preserving natural hydrologic conditions requires careful alternative site design considerations. Site design practices include preserving natural drainage features, minimizing impervious surface area, reducing the hydraulic connectivity of impervious surfaces, and protecting natural depression storage. A well-designed site will contain a mix of all those features.

The following describes various techniques to achieve the alternative approach:

- **Preserving Natural Drainage Features.** Protecting natural drainage features, particularly vegetated drainage swales and channels, is desirable because of their ability to infiltrate and attenuate flows and to filter pollutants. However, this objective is often not accomplished in land development. In fact, commonly held drainage philosophy encourages just the opposite pattern -- streets and adjacent storm sewers typically are located in the natural headwater valleys and swales, thereby replacing natural drainage functions with a completely impervious system.

As a result, runoff and pollutants generated from impervious surfaces flow directly into storm sewers with no opportunity for attenuation, infiltration, or filtration. Developments designed to fit site topography also minimizes the amount of grading on site.

- **Protecting Natural Depression Storage Areas.** Depressional storage areas have no surface outlet, or drain very slowly following a storm event. They can be commonly seen as ponded areas in farm fields during the wet season or after large runoff events. Traditional development practices eliminate these depressions by filling or draining, thereby obliterating their ability to reduce surface runoff

volumes and trap pollutants. The volume and release-rate characteristics of depressions should be protected in the design of the development site. The depressions can be protected by simply avoiding the depression or by incorporating its storage as additional capacity in required detention facilities.

- **Avoiding introduction of impervious areas.** Careful site planning should consider reducing impervious coverage to the maximum extent possible. Building footprints, sidewalks, driveways and other features producing impervious surfaces should be evaluated to minimize impacts on runoff.

- **Reducing the Hydraulic Connectivity of Impervious Surfaces.** Impervious surfaces are significantly less of a problem if they are not directly connected to an impervious conveyance system (such as storm sewer). Two basic ways to reduce hydraulic connectivity are routing of roof runoff over lawns and reducing the use of storm sewers. Site grading should promote increasing travel time of stormwater runoff, and should help reduce concentration of runoff to a single point in the development.

- **Routing Roof Runoff Over Lawns.** Roof runoff can be easily routed over lawns in most site designs. The practice discourages direct connections of downspouts to storm sewers or parking lots. The practice also discourages sloping driveways and parking lots to the street. By routing roof drains and crowning the driveway to run off to the lawn, the lawn is essentially used as a filter strip.

- **Reducing the Use of Storm Sewers.** By reducing use of storm sewers for draining streets, parking lots, and back yards, the potential for accelerating runoff from the development can be greatly reduced. The practice requires greater use of swales and may not be practical for some development sites, especially if there are concerns for areas that do not drain in a “reasonable” time. The practice requires educating local citizens and public works officials, who expect runoff to disappear shortly after a rainfall event.

- **Reducing Street Widths.** Street widths can be reduced by either eliminating on-street parking or by reducing roadway widths. Municipal planners and traffic designers should encourage narrower neighborhood streets which ultimately could lower maintenance.

- **Limiting Sidewalks to One Side of the Street.** A sidewalk on one side of the street may suffice in low-traffic neighborhoods. The lost sidewalk could be replaced with bicycle/recreational trails that follow back-of-lot lines. Where appropriate, backyard trails should be constructed using pervious materials.

- **Using Permeable Paving Materials.** These materials include permeable interlocking concrete paving blocks or porous bituminous concrete. Such materials should be considered as alternatives to conventional pavement surfaces, especially for low use surfaces such as driveways, overflow parking lots, and emergency access roads.

- **Reducing Building Setbacks.** Reducing building setbacks reduces driveway and entry walks and is most readily accomplished along low-traffic streets where traffic noise is not a problem.

- **Constructing Cluster Developments.** Cluster developments can also reduce the amount of impervious area for a given number of lots. The biggest savings is in street length, which also will reduce costs of the development. Cluster development clusters the construction activity onto less-sensitive areas without substantially affecting the gross density of development.

In summary, a careful consideration of the existing topography and implementation of a combination of the above mentioned techniques may avoid construction of costly stormwater control measures. Other benefits include reduced potential of downstream flooding, water quality degradation of receiving streams/water bodies and enhancement of aesthetics and reduction of development costs. Beneficial results include more stable baseflows in receiving streams, improved groundwater recharge, reduced flood flows, reduced pollutant loads, and reduced costs for conveyance and storage.

APPENDIX B

**STORMWATER BEST MANAGEMENT PRACTICES
OPERATIONS AND MAINTENANCE AGREEMENT**

THIS AGREEMENT, made and entered into this _____ day of _____, 200__, by and between _____, (hereinafter the “Landowner”), and Baldwin Township, Allegheny County, Pennsylvania, (hereinafter “Municipality”);

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property as recorded by deed in the land records of Allegheny County, Pennsylvania, Deed Book Volume _____, at Page _____, (hereinafter “Property”).

WHEREAS, the Landowner is proceeding to build and develop the Property; and

WHEREAS, the stormwater management BMP Operations and Maintenance Plan approved by the Municipality (hereinafter referred to as the “Plan”) for the property identified herein, which is attached hereto as Appendix A and made part hereof, as approved by the Municipality, provides for management of stormwater within the confines of the Property through the use of Best Management Practices (BMP’s); and

WHEREAS, the Municipality, and the Landowner, his successors and assigns, agree that the health, safety, and welfare of the residents of the Municipality and the protection and maintenance of water quality require that on-site stormwater Best Management Practices be constructed and maintained on the Property; and

WHEREAS, for the purposes of this agreement, the following definitions shall apply:

- BMP – “Best Management Practice;” activities, facilities, designs, measures or procedures used to manage stormwater impacts from land development, to protect and maintain water quality and groundwater recharge and to otherwise meet the purposes of the Municipal Stormwater Management Ordinance, including but not limited to infiltration trenches, seepage pits, filter strips, bioretention, wet ponds, permeable paving, rain gardens, grassed swales, forested buffers, sand filters and detention basins.

- Infiltration Trench – A BMP surface structure designed, constructed, and maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or groundwater aquifer,

- Seepage Pit – An underground BMP structure designed, constructed, and

maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or groundwater aquifer,

- Rain Garden – A BMP overlain with appropriate mulch and suitable vegetation designed, constructed, and maintained for the purpose of providing infiltration or recharge of stormwater into the soil and/or underground aquifer, and

WHEREAS, the Municipality requires, through the implementation of the Plan, that stormwater management BMP's as required by said Plan and the Municipal Stormwater Management Ordinance be constructed and adequately operated and maintained by the Landowner, his successors and assigns, and

NOW, THEREFORE, in consideration of the foregoing promises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

1. The BMPs shall be constructed by the Landowner in accordance with the plans and specifications identified in the Plan.

2. The Landowner shall operate and maintain the BMP(s) as shown on the Plan in good working order acceptable to the Municipality and in accordance with the specific maintenance requirements noted on the Plan.

3. The Landowner hereby grants permission to the Municipality, its authorized agents and employees, to enter upon the property, at reasonable times and upon presentation of proper identification, to inspect the BMP(s) whenever it deems necessary. Whenever possible, the Municipality shall notify the Landowner prior to entering the property.

4. In the event the Landowner fails to operate and maintain the BMP(s) as shown on the Plan in good working order acceptable to the Municipality, the Municipality or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMP(s). This provision shall not be construed to allow the Municipality to erect any permanent structure on the land of the Landowner. It is expressly understood and agreed that the Municipality is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Municipality.

5. In the event the Municipality, pursuant to this Agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Municipality for all expenses (direct and indirect) incurred within 10 days of receipt of invoice from the Municipality.

6. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMP(s) by the Landowner; provided, however, that this Agreement shall not be deemed to create or effect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.

7. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the Municipality's employees and designated representatives from all damages, accidents, casualties, occurrences or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMP(s) by the Landowner or Municipality. In the event that a claim is asserted against the Municipality, its designated representatives or employees, the Municipality shall promptly notify the Landowner and the Landowner shall defend, at his own expense, any suit based on the claim. If any judgment or claims against the Municipality's employees or designated representatives shall be allowed, the Landowner shall pay all costs and expenses regarding said judgment or claim.

8. The Municipality shall inspect the BMP(s) at a minimum of once every three years to ensure their continued functioning.

This Agreement shall be recorded at the Office of the Recorder of Deeds of Allegheny County, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, and shall be binding on the Landowner, his administrators, executors, assigns, heirs and any other successors in interests, in perpetuity.

WITNESS the following signatures and seals:

(SEAL)

For the Municipality:

(SEAL)

For the Landowner:

ATTEST:

Township of Baldwin
County of Allegheny, Pennsylvania

I, _____, a Notary Public in and for the County and State aforesaid, whose commission expires on the ____ day of _____, 20__, do hereby certify that _____ whose name(s) is/are signed to the foregoing Agreement bearing date of the _____ day of _____, 20__, has acknowledged the same before me in my said County and State.

GIVEN UNDER MY HAND THIS ____ day of _____, 200__.

NOTARY PUBLIC

(SEAL)