EAST GOSHEN TOWNSHIP
PLANNING COMMISSION
Agenda
Wednesday, October 2, 2013
7:00 PM

Workshop Session: 7:00 PM to 7:30PM (Conference Room – Open to the Public)

Formal Meeting: 7:30PM (Board Room if needed – Open to the Public)

A. Call to Order / Pledge of Allegiance and Moment of Silence
B. Chairman will ask if anyone is going to record the meeting
C. Review of Tracking Log / Determine need for Workshop Meeting
D. Public Comment on Non-Agenda Items
E. Approval of Minutes
   1. September 4, 2013
F. Acknowledge Receipt of New Applications
G. Subdivision Plans
   1. 1551 Colonial Ln. – Subdivision and Land Development Plan
H. Land Development Plans
I. Conditional Uses and Variances
J. Ordinance Amendments
   1. **County Wide Act 167, Stormwater Management Ordinance**
K. Comprehensive Plan Update
L. Old Business
   1. Zoning Ordinance Review – Solar energy sample ordinances
M. New Business
N. Any Other Matter
O. Liaison Reports
P. Dates of Importance

Oct 01, 2013	Board of Supervisors	7:00 PM
Oct 02, 2013	Planning Commission	7:00 PM
Oct 03, 2013	Park Commission	7:00 PM
Oct 03, 2013	Farmers Market	3:00 PM
Oct 05, 2013	Township Yard Sale (Rain date – Oct. 6th)	9 AM-1PM
Oct 09, 2013	Conservancy Board	7:00 PM
Oct 10, 2013	Historical Commission	7:00 PM
Oct 10, 2013	Farmers Market	3:00 PM
Oct 14, 2013	Municipal Authority	7:00 PM
Oct 15, 2013	Board of Supervisors	7:00 PM
Oct 17, 2013	Police Commission WEGO Police Dept	5:30 PM
Oct 17, 2013	Openspace & Recreation Plan Task Force Kick off meeting	7:00 PM
Oct 17, 2013	Farmers Market	3:00 PM
Oct 19, 2013	Pumpkin Festival (Rain date – Oct 20)	10 AM-1PM
Oct 21, 2013	Commerce Commission	7:00 PM
Oct 22, 2013	Friends of East Goshen	7:00 PM
Oct 24, 2013	Farmers Market	3:00 PM
Oct 28, 2013	Comp Plan Task Force	7:00 PM
Oct 31, 2013	Farmers Market	3:00 PM

Winter (NEW) Newsletter – Articles to be submitted to Nancy *no later* than Tuesday, October 29th.

Bold Items indicate new information to review.

Planning Commission Application Tracking Log

Application Name	Application (CU,LD,O, SD,V, SE, CA)	Type (Sk, P, F)	Date Filed	Start Date	Date to Yerkes/Consultant	Date to CCPC	Date to Abutting Prop. / ABC's	Extension	PC NLT Action Date	BOS NLT Action Date	Hearing Date	Drop Dead date
1551 Colonial Ln. / Sunny Ridge Farms	SD	P	6/25/2013	7/3/2013	6/26/2013	6/26/2013	6/26/2013	1	11/6/2013	11/19/2013	NA	11/30/2013

Bold = New Application or PC action required

Draft
EAST GOSHEN TOWNSHIP
PLANNING COMMISSION MEETING
September 4, 2013

The East Goshen Township Planning Commission held a regularly scheduled meeting on Wednesday, September 4, 2013 at 7:00 p.m. at the East Goshen Township building. Members present were: Vice Chairman Dan Daley, Adam Knox, Al Zuccarello, George Martynick, Jim McRee, and Nathan Cline. Also present were Mark Gordon, Township Zoning Officer; and Monica Close, Historical Commission.

COMMON ACRONYMS:

BOS – Board of Supervisors
BC – Brandywine Conservancy
CPTF – Comprehensive Plan Task Force
CVS – Community Visioning Session

A. WORKSHOP DISCUSSION – 7:00 TO 7:30 PM

1. August 7, 2013 minutes were reviewed and approved as corrected.
2. 1551 Colonial La – Mark mentioned that Mike Conrad, Township engineer, will meet with the applicant to give final direction for a final revision. Regarding the concern about wells going dry, the Planning Commission can recommend that a hydraulic analysis be done to determine what impact, if any, three additional wells would have. Mr. Woodworth has had no issues even during past years when others in the area had to drill deeper wells.
   Traffic was discussed. It is felt that the stop sign will be more visible when a house is built on the corner.
   Public water/sewer – Mark commented that several homeowners could connect.
3. CPTF – There will be a special meeting next Wednesday, August 11, 2013 at 7:00 pm to discuss the town center concept. Dan will discuss this later in the meeting.
4. Solar Energy – Dan will lead a discussion later in the meeting.

B. FORMAL MEETING – 7:30 PM

Dan called the meeting to order at 7:30 pm and led those present in the Pledge of Allegiance. There was a moment of silence for our troops.
Dan asked if anyone would be recording the meeting. There was no response.

C. PUBLIC COMMENT ON NON-AGENDA ITEMS

None

D. APPROVAL OF MINUTES

1. Dan noted that the minutes for the August 7, 2013 meeting were approved as corrected.

E. TRACKING LOG

1. Dan noted that today is an action date for 1551 Colonial Lane.

F. SUBDIVISION AND LAND DEVELOPMENT PLAN

1. <u>1551 Colonial Lane</u> – John Mullin of Mullin Engineering represented the applicant Sunny Ridge Farms, LLC. He provided a copy of his response to the Yerkes review letter.
John mentioned that since the last meeting he did a site walk with the Conservancy Board. They requested that 3 trees be saved – 48" ash, 30" poplar and 24" oak. John commented that they will be able to save several other trees and will be cutting less that 20%. He included a landscape plan

in the revised plan, which contains street trees. They identified the existing water source at the intersection of Colonial and Rt. 352. Mark thinks it is closer to Paoli Pike.
John feels the soil is well drained so it is highly unlikely there would be an impact on existing wells.
George would like to see the road lined with trees similar to existing trees. Mr. Richard Bunn, owner of Sunny Ridge Farms, commented that there will be significant concentration on landscaping to make the homes beautiful. Mark will provide a copy of the landscape plan to the Conservancy Board. John will attend their meeting next week.
Dan asked about the width of the road. John said they will widen the road to match the first section of Colonial – 20 feet curbed.
Mark mentioned that the applicant can make a recommendation for an additional stop sign but it will have to be added to the ordinance. Police are trying to slow the traffic on Cornwallis. The speed limit is 25 mph but people still go through the existing stop sign. Also, residents can present a petition to the BOS. The school bus picks up on Rt. 352 because there is no room to come in and turn around.
Mark is concerned about level spreaders on two lots and the amount of water going onto the neighbor's property. Nate made suggestions for diverting the water. John commented that there were 4 tests done. Stormwater was discussed. Mark commented that they may want to remove some trees in the front to locate a stormwater basin, so the backyard won't be a problem in the future.
Dan asked Mr. Bunn about the houses. Mr. Bunn verified that he is a developer, the homes will be semi-custom, cost about $700,000, and there will be 2 models. They will build 2 spec houses.

Public Comment:
Dolores Higgins, 904 Vista Drive – commented that public water for this area is always discussed whenever a project is presented for the Perakis property at Paoli Pk and Rt 352.
Also she commented that the school buses use Vista Drive to cut through to Colonial Lane.

The applicant agreed to give a 60 day extension.

G. COMPREHENSIVE PLAN UPDATE

Town Center – Adam commented that East Goshen is heavy residential. More commercial is needed to help with the taxes. He would like to remove the R zoning from the NE corner of the intersection at Paoli Pk. and Rt. 352, the Perakis property. Adam mentioned that some townships say no to plans and tell the applicant what they will accept, but that may not be profitable so the plan dies. Nate recalled the meeting with Dunkin' Donuts and feels this kind of retail is needed to pull the Goshen Village center together. The Township has to be flexible.
Public Comments:
Dolores Higgins commented that she has lived in East Goshen for 35 years and tried to buy the Perakis property but it didn't succeed. She has watched Mr. Perakis come in with mostly commercial ideas but he never does anything. The Township worked a long time on the carriage home plan to make it work, but he never did it. She would like to have the historic home become a part of East Goshen's historic assets. Mark commented that Mr. Perakis wants C2 in the front of the property and residential behind the historic house.
Monica Close suggested a medical office building on that corner. Dan pointed out that the 1450 Boot Road Executive Center is always filled.

Price Property – Dan mentioned that this property is residential, located on Ellis Lane across from East High School. The historic home has its own parcel. The zoning is R2 – SFR 1 acre with the option to reduce lot size and give back open space. They could do cluster housing and put in smaller homes. Mark commented that this option could be added to the R zoning types instead of

changing the zoning. Currently they can go to 20,000 sq ft lots. The option is to go to 10,000 sq ft. Mark commented that this is the last chance to do something for affordable housing. Mark pointed out that the West Chester Area School District purchased 2 lots on the northern side of the Price property for athletic fields. Nate asked if this could have a potential to be part of an open space conservancy. George liked this idea. He feels that if houses are built there, tax rates will have to increase to cover the cost of the infrastructure and additional children in the schools. Al pointed out that the charge of the Commerce Commission is to maintain and increase the commercial retail areas. Rt 3 and Paoli Pike are the two areas in East Goshen that need to be spruced up to make people want to go there to shop. Some of the long term business owners have ideas that should be heard.

H. OLD BUSINESS

1. Zoning Ordinance Review – Solar Energy. Dan reviewed the objectives in Chapter 2 of the 2005 Comprehensive Plan. He feels these goals are good ideas but the action items were difficult. They should be implemental in the new CP.

Al suggested that the Planning Commission and Commerce Commission have a few joint meetings throughout the year to review and discuss ideas. Al mentioned that a developer is coming to meet with the CC and take a ride around East Goshen to see what can be developed. Nate agrees that these discussions are important to plan for the future. He suggested increasing the commercial area on Paoli Pike from Rt. 352 (Perakis) to Reservoir Rd (vacant lot). If you want to include residential make it dense. Change the zoning to allow apartments over top of the retail.

Dan mentioned that the BC wants to meet with the business owners but the BOS won't approve the additional cost to the CP process. Mark commented that this is what the special meeting next Wednesday is for. The BC is willing to fund ½ of the cost through grants.

Dan commented that solar requirements/limitations in the ordinance are important because of the solar fields going up around East Goshen. He feels the PC should plan for this.

Mark mentioned that 2 years ago there was some activity because of the refunds the government was giving but not much now. Residential allows panels on the roof. Dan doesn't want solar fields put in residential as a business to sell back the power. West Bradford limits the amount you can put back into the system. Jim feels in the future residential will be able to generate more than they need so the community could have it as a backup in case of an emergency. Dan feels that solar fields in residential will impact visual, storm water, etc. He wants required screening and limits on sun reflection. The storm water issue is, are the panels considered impervious? Is it the whole panel or just the pole coming out of the ground? Nate commented that the DEP takes into consideration the slope of the ground. He will check on the ordinance for the solar field installed at Longwood. They used special grasses, etc.

Dan will go through the information Mark gave everyone and the West Bradford ordinance and make some recommendations based on what these other townships have done.

ADJOURNMENT

The next meeting will be held on Wednesday, October 2, 2013 at 7:00 pm. There being no further business, a motion to adjourn the meeting was made by Al and seconded by George.

The meeting adjourned at 9:30 pm.

Respectfully submitted,_____

Ruth Kiefer, Recording Secretary

610-692-7171
www.eastgoshen.org

BOARD OF SUPERVISORS

EAST GOSHEN TOWNSHIP
CHESTER COUNTY
1580 PAOLI PIKE, WEST CHESTER, PA 19380-6199

September 27, 2013

East Goshen Township
Authority, Boards and Commissions
1580 Paoli Pike
West Chester, Pa. 19380

Re: Openspace and Recreation Plan task Force
2014 Openspace and Recreation Plan Update

Dear ABC Members:

At their meeting on September 17, 2013 the Board of Supervisors approved the composition and schedule for the Openspace and Recreation Plan Task Force (ORTF). The Task Force will meet monthly over the next eight months or so with our planning consultant, Ann Toole from Toole Recreation Planning, to develop an update to the Township Openspace and Recreation Plan. The Township is funding this project with a budget of $29,870.

Board of Supervisors	1
Planning Commission Member (Chair)	1
Park Board	1
Conservancy Board	1
Historical Commission	1
Commerce Development Commission	1
Toole Recreation Planning	1
Brandywine Conservancy	1
Director of Recreation	1
Zoning Officer	1
Total	10

Additional Stakeholders:

- The Municipal Authority will be consulted on as needed basis.
- A recording secretary will be provided to keep an official record of each meeting.
- **East Goshen Township residents and property owners. The public is welcome to attend all the ORTF meetings.**

Actions for Each ABC:

- Each Board and Commission shall identify a primary and an alternate task force member to serve on the ORTF during their October 2013 Meeting. Only the primary task force

members need to attend the ORTF meetings, however in the event of a conflict there is an identified alternate who can fill in.

- Additional ABC members are welcome to attend the ORTF meetings.
- Each ABC shall add a line item to their agenda titled "Openspace and Recreation Plan Update". This is where the respective ORTF member will update their ABC members on the progress of the project and solicit feedback to bring back to the ORTF for consideration.

Administrative Actions:

- The meetings will be open to the public and advertised as required by the Sunshine Act.

Schedule:

- The openspace and Recreation Plan Update should take approximately 8 months to complete.
- **The meetings will be held on the 3rd Thursday of the month. The Kick-Off Meeting for the Openspace and Recreation Plan Update will be October 17, 2013.**
- **The Kick-Off Meeting will be October 17, 2013 at 7:00 PM; All Primary and Alternate Task Force designees should attend the Kick Off meeting.**

Please designate a primary and alternate member for the task force during your October 2013 meeting and forward the names of your designees to me. The 1993 Comprehensive Plan is available on our website for your information and use. I will have hard copies of the 1993 Plan for each of the designated Task Force Members at your next Meeting.

Sincerely,

Mark A. Gordon
Zoning Officer

Cc: Anne Toole, Toole Recreation Planning
John Theilacker, Brandywine Conservancy (via email)

FYI

Memo

East Goshen Township
1580 Paoli Pike
West Chester, PA 19380

Voice (610) 692-7171
Fax (610) 425-8950
E-mail rsmith@eastgoshen.org

Date: September 27, 2013
To: Board of Supervisors
From: Rick Smith, Township Manager
Re: Stormwater Ordinance

Pennsylvania DEP approved the County Wide Act 167 on July 2, 2013, so pursuant to Act 167 all of the municipalities in the County have to update their stormwater management ordinances to incorporate the new standards by January 2, 2014. In addition East Goshen needs to carry forward some provisions of the stormwater ordinance we adopted in 2003 pursuant to the Chester Creek Stormwater Management Plan.

The end result is that stormwater requirements for East Goshen will be slightly stricter. The new ordinance does have simpler provision for smaller projects, much the same as the 2003 Ordinance.

Attached is a copy of the letter from PADEP, a stormwater matrix that shows the differences between the old and the new requirements, the new ordinance and the simplified approach for small projects.

The majority of the building projects (decks, pools, additions, etc.) in East Goshen are less the 2,000 sq. ft. so they will be able to utilize the simplified approach.

We intend to schedule the hearing to adopt the new ordinance in November and we are in the process of finalizing the wording with Kristin.

However, given the massiveness of the documents, we wanted to provide you with some additional time to review them.

Cc: Planning Commission

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE

July 12, 2013

East Goshen Township
1580 Paoli Pike
West Chester, PA 19380

Re: Implementation of the County-wide Stormwater Management Plan for Chester County

Dear Sir or Madam:

The subject Act 167 Stormwater Management Plan (SWM Plan) was adopted by Chester County on March 27, 2013, and approved by the Department of Environmental Protection (DEP) on July 2, 2013, pursuant to the Pennsylvania Storm Water Management Act, the Act of October 4, 1978, 32 P.S., P.L. 864 (No. 167), Sections 680.1 et seq. ("Act 167"), as amended by Act 63 of May 24, 1984, and the Storm Water Management Guidelines as approved by the General Assembly on May 14, 1985. A copy of DEP's letter of approval of the SWM Plan is enclosed for your records.

Section 11(b) of the Storm Water Management Act requires each municipality within the area covered by the subject SWM Plan to adopt or amend and implement such ordinances and regulations, including zoning, subdivision and development, building code, and erosion and sedimentation ordinances as are necessary to regulate development within the municipality in a manner consistent with the SWM Plan and the provisions of the Storm Water Management Act. A model stormwater management ordinance was prepared by Chester County as part of the SWM Plan and was transmitted by Chester County to the municipalities prior to the County's adoption of the SWM Plan.

The deadline for enacting an ordinance to satisfy these requirements is January 2, 2014. Please provide a copy of this letter to your solicitor regarding your obligation to implement the subject SWM Plan.

Please notify DEP immediately after your municipality enacts or amends ordinances as necessary to meet the requirements of the Storm Water Management Act. The notification should include the SWM Plan name, ordinance number, and the date the ordinance was enacted to meet the requirements of the SWM Plan and the Act.

Thank you for your interest and participation in the Stormwater Management Program. If you have any questions, please contact Mr. David Burke by e-mail at daburke@pa.gov or by telephone at 484.250.5822.

Sincerely,

Domenic Rocco, P.E.
Regional Manager
Waterways and Wetlands

Enclosure

cc: Mr. Furlan, DEP Division of Planning and Permits
Mr. Fitzpatrick, PA Department of Community and Economic Development
Re 30 (GJS13WAW)192b

Stormwater Matrix
9/23/13
Last revised 9/27/13

Current Requirements

New Impervious Coverage – Per 2003 Chester Creek Stormwater Ordinance

< 2,000 sq. ft.	Infiltrate 1 inch of runoff (engineered plan not required)
2,000 sq. ft. or more	Infiltrate 1 inch of runoff (engineered plan required)

Earth Disturbance - Per PADEP Requirements

≥ 1 acre	NPDES permit required from Chester County Conservation District

New Requirements

New Impervious Coverage

< 500 sq. ft.	Exempt – (however, they must infiltrate 1 inch of runoff)
500 to < 2,000 sq. ft.	Simplified Method (sketch plan and agreement)
≥ 2,000 sq. ft. or more	Fully engineered plan and agreement required

Earth Disturbance

<5,000 sq. ft.	Exempt
5,000 to < 10,000 so ft.	Simplified Method (sketch plan and agreement)
10,000 sq. ft. or more	Fully engineered plan and agreement required
≥ 1 acre	Fully engineered plan and agreement required and NPDES permit required from Chester County Conservation District

F:\Data\Shared Data\Admin Dept\Township Code\Stormwater 2013\Matrix 092313.docx

DRAFT

Revised 9/27/13

EAST GOSHEN TOWNSHIP STORMWATER MANAGEMENT ORDINANCE

ORDINANCE NO _____

EAST GOSHEN TOWNSHIP
CHESTER COUNTY,

PENNSYLVANIA

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Appendix F. Riparian Buffer Technical Reference Guide

Appendix G. Reduced Scale copy of Chester Creek Stormwater Management Plan (See Plate 8, Release Rate Map)

ARTICLE I – GENERAL PROVISIONS

Section 101. Short Title

This Ordinance shall be known as the "East Goshen Township Stormwater Management Ordinance."

Section 102. Statement of Findings

The Governing Body of the Municipality finds that:

A. Inadequate management of accelerated stormwater runoff resulting from land disturbance and development throughout a watershed increases flooding, flows and velocities, contributes to erosion and sedimentation, overtaxes the capacity of streams and storm sewers, greatly increases the cost of public facilities to convey and manage stormwater, undermines floodplain management and flood reduction efforts in upstream and downstream communities, reduces infiltration and groundwater recharge, increases nonpoint source pollution to waterways, and threatens public health and safety.

B. Inadequate planning and management of stormwater runoff resulting from land disturbance and development throughout a watershed can 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 comprehensive program of stormwater management, including minimization of impacts of New Development, Redevelopment, and other Earth Disturbance Activities causing accelerated runoff and erosion and loss of natural infiltration, is fundamental to the public health, safety, and general welfare of the people of the Municipality and all of the people of the Commonwealth, their resources, and the environment.

D. Stormwater is an important water resource that provides infiltration and groundwater recharge for water supplies and baseflow of streams, which also protects and maintains surface water quality.

E. Impacts from stormwater runoff can be minimized by reducing the volume of stormwater generated and by using project designs that maintain the natural hydrologic regime and sustain high water quality, infiltration, stream baseflow, and aquatic ecosystems. Cost-effective and environmentally sensitive stormwater

management can be achieved through the use of nonstructural Site design techniques that minimize Impervious Surfaces, reduce disturbance of land and natural resources, avoid sensitive areas (i.e., riparian buffers, floodplains, steep slopes, wetlands, etc.), and consider topography and soils to maintain the natural hydrologic regime.

F. Public education on the control of pollution from stormwater is an essential component in successfully addressing stormwater.

G. Federal and State regulations require the Municipality to implement a program of stormwater controls. The Municipality is required to obtain a permit and comply with its provisions for stormwater discharges from its Separate Storm Sewer System under the National Pollutant Discharge Elimination System (NPDES)

H. Non-stormwater discharges to municipal or other storm sewer systems can contribute to pollution of the Waters of the Commonwealth.

Section 103. Purpose

The purpose of this Ordinance is to protect public health, safety and general welfare, property and water quality by implementing drainage and stormwater management practices, criteria, and provisions included herein for land development, construction and Earth Disturbance Activities, to achieve the following throughout the Municipality:

A. Reduce the frequency and magnitude of flooding and stormwater impacts affecting people, property, infrastructure and public services.

B. Sustain or improve the natural hydrologic characteristics and water quality of groundwater and surface waters.

C. Protect natural resources, including riparian and aquatic living resources and habitats.

D. Maintain the natural hydrologic regime of Land Development Sites and their receiving watersheds.

E. Minimize land disturbance and protect and incorporate natural hydrologic features, drainage patterns, infiltration, and flow conditions within land development Site designs.

F. Reduce and minimize the volume of stormwater generated, and manage and release stormwater as close to the source of runoff as possible.

G. Provide infiltration and maintain natural groundwater recharge to protect groundwater supplies and stream baseflows, prevent degradation of surface water and groundwater quality, and to otherwise protect water resources.

H. Reduce stormwater pollutant loads to protect and improve the chemical, physical, and biological quality of ground and surface waters.

I. Reduce scour, erosion and sedimentation of stream channels.

J. Reduce flooding impacts and preserve and restore the natural flood-carrying capacity of streams and their floodplains.

K. Protect adjacent and downgradient lands from adverse impacts of direct stormwater discharges.

L. Minimize Impervious Surfaces and connected Impervious Surfaces to promote infiltration and reduce the volume and impacts of stormwater runoff.

M. Provide proper long-term operation and maintenance of all permanent stormwater management facilities, BMPs and Conveyances that are implemented within the Municipality.

N. Reduce the impacts of runoff from existing developed land undergoing Redevelopment while encouraging New Development and Redevelopment in urban areas and areas designated for growth.

O. Implement an illicit discharge detection and elimination program that addresses non-stormwater discharges.

P. Provide performance standards and design criteria based on watershed-based stormwater management planning.

Q. Provide standards to meet certain NPDES stormwater permit requirements.

R. Meet legal water quality requirements under State law, including regulations at 25 PA Code Chapter 93, to protect, maintain, reclaim and restore the existing and designated uses of the Waters of the Commonwealth.

S. Implement the requirements of Total Maximum Daily Load (TMDLs) where applicable to waters within or impacted by the Municipality

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

U. Fulfill the purpose and requirements of PA Act 167 (PA Act 167, Section 3):

> *"(1) Encourage planning and management of storm water runoff in each watershed which is consistent with sound water and land use practices.*

(2) Authorize a comprehensive program of stormwater management designated to preserve and restore the flood carrying capacity of Commonwealth streams; to preserve to the maximum extent practicable natural storm water runoff regimes and natural course, current and cross-section of water of the Commonwealth; and to protect and conserve ground waters and ground-water recharge areas.

(3) Encourage local administration and management of storm water consistent with the Commonwealth's duty as trustee of natural resources and the people's constitutional right to the preservation of natural, economic, scenic, aesthetic, recreational and historic values of the environment."

Section 104. Statutory Authority

The Municipality is empowered or required to regulate land use activities that affect runoff and surface and groundwater quality and quantity by the authority of:

A. Act of October 4, 1978, P.L. 864 (Act 167) 32 P.S., Section 680.1 et seq., as amended, the "Storm Water Management Act" (hereinafter referred to as "the Act");

B. Second Class Township Code, 53 P.S. Sections 65101 et seq.;

C. Act of July 31, 1968, P.L. 805, No. 247, 53 P.S. Section 10101, et seq., as amended, the Pennsylvania Municipalities Planning Code, Act 247 hereinafter referred to as the "MPC").

Section 105. Applicability

A. The following activities are regulated by this Ordinance:

1. All Regulated Activities as defined in this Ordinance including, but not limited to, New Development, Redevelopment, and Earth Disturbance Activities that are located within the Municipality shall be subject to regulation by this Ordinance.

2. Specific provisions from the previous "East Goshen Stormwater Management Ordinance", Ordinance 129-M-03 that was adopted on October 23, 2003

3. When a building and/or grading permit is required for any Regulated Activity on an existing parcel or approved lot created by a subdivision and/or improved as a land development project, issuance of the permit shall be conditioned upon adherence to the terms of this Ordinance.

4. This Ordinance contains the stormwater management performance standards and design criteria that are necessary from a watershed-based perspective. The

Municipality's stormwater management Conveyance and system design criteria (e.g., inlet spacing, inlet type, collection system design and details, outlet structure design, etc.) shall continue to be regulated by Chapter 205 Subdivision and Land Development of the Code of East Goshen Township.

5. The provisions of Article VIII – Prohibitions are applicable to all properties located in East Goshen Township.

B. Duty of Persons Engaged in a Regulated Activity

Notwithstanding any provision(s) of this Ordinance, including exemptions, any Landowner or any person engaged in a Regulated Activity, including but not limited to the alteration or development of land, which may affect stormwater runoff characteristics, shall implement such measures as are reasonably necessary to prevent injury to health, safety, or other property. Such measures also shall include actions as are required to manage the rate, volume, direction, and quality of resulting stormwater runoff in a manner which otherwise adequately protects health, property, and water quality of Waters of the Commonwealth.

C. Phased and Incremental Project Requirements

1. Any Regulated Activity (including but not limited to New Development, Redevelopment, or Earth Disturbance) that is to take place incrementally or in phases, or occurs in sequential projects on the same parcel or property, shall be subject to regulation by this Ordinance if the cumulative Proposed Impervious Surface or Earth Disturbance exceeds the corresponding threshold for exemption (as presented in Table 106.1 "Thresholds for Regulated Activities that are Exempt from the Provisions of this Ordinance as Listed Below").

2. October 23, 2003 (the date of adoption of the previous "East Goshen Stormwater Management Ordinance", Ordinance 129-M-03) shall be the starting point from which to consider tracts as parent tracts relative to future subdivisions, and from which Impervious Surface and Earth Disturbance computations shall be cumulatively considered.

Section 106. Exemptions and Small Project Requirements

A. Requirements for Exempt Activities

1. An exemption from any requirement of this Ordinance shall not relieve the Applicant from implementing all other applicable requirements of this Ordinance or from implementing such measures as are necessary to protect public health, safety, and welfare, property and water quality.

2. An exemption shall not relieve the Applicant from complying with the requirements for State-designated special protection waters designated by PADEP

as high quality (HQ) or exceptional value (EV) waters, or any other current or future State or municipal water quality protection requirements.

3. An exemption under this Ordinance shall not relieve the Applicant from complying with all other applicable municipal ordinances or regulations.

B. General Exemptions

Regulated Activities that:

1. Involve less than five hundred (500) square feet of Proposed Impervious Surfaces AND less than five thousand (5,000) square feet of Earth Disturbance, excepting that any project that involves ten (10) square or more to less than five hundred (500) square feet of Proposed Impervious Surface shall infiltrate the first one (1) inch of runoff from Proposed Impervious Surface.

2. Are listed in Subsection 106.C, are exempt from those (and only those) requirements of this Ordinance that are included in the sections and articles listed in Table 106.1. Exemptions are for the items noted in Table 106.1 only, and shall not relieve the Landowner from other applicable requirements of this Ordinance. Exemption shall not relieve the Applicant from implementing such measures as are necessary to protect health, safety, and welfare, property, and water quality.

TABLE 106.1
Thresholds for Regulated Activities that are Exempt from the Provisions of this Ordinance as Listed Below (see Notes below)

Ordinance Article/Section	Activities Listed in Subsection 106.C.	< 500 sq. ft. of Proposed Impervious Surfaces AND < 5,000 sq. ft. of Proposed Earth Disturbance	≥ 500 sq. ft. of Proposed Impervious Surfaces OR ≥ 5,000 sq. ft. of Proposed Earth Disturbance
Article I	Not Exempt	Not Exempt	Not Exempt
Article II	Not Exempt	Not Exempt	Not Exempt
Sections 302, and 303, 311	Not Exempt	Not Exempt	Not Exempt
Sections 301, 304, 305, 306, 307, 308, 309, and 310	Exempt	Exempt	Not Exempt
Article IV	Exempt	Exempt	Not Exempt
Article V	Exempt	Exempt	Not Exempt
Article VI	Exempt	Exempt	Not Exempt
Article VII	Exempt	Exempt	Not Exempt
Article VIII	Not Exempt	Not Exempt	Not Exempt
Article IX	Not Exempt	Not Exempt	Not Exempt
Other Erosion, Sediment and Pollution Control Requirements	Must comply with Title 25, Chapter 102 of the PA Code and other applicable State and municipal codes, including the Clean Streams Law.		

Table 106.1 Notes:

- Specific activities listed in Subsection 106.C are exempt from the indicated requirements, regardless of size.
- A proposed Regulated Activity must be less than BOTH the Proposed Impervious Surfaces and proposed Earth Disturbance thresholds to be eligible for exemption from the requirements listed in this table.
- "Proposed Impervious Surface" - as defined in this Ordinance.
- "Exempt" – Regulated Activities are exempt from the requirements of listed section(s) only; all other provisions of this Ordinance apply.

C. Exemptions for Specific Activities

The following specific Regulated Activities are exempt from the requirements of Sections 301, 304, 305, 306, 307, 308, 309, and 310, and Article IV, Article V, Article VI and Article VII) of this Ordinance (as shown in Table 106.1), unless otherwise noted below. All other conveyance and system design standards established by the Municipality in other codes or ordinances shall be required, and all other provisions of this Ordinance shall apply.

1. Emergency Exemption - Emergency maintenance work performed for the protection of public health, safety and welfare. This exemption is limited to repair of the existing facility; upgrades, additions or other improvements are not exempt. A written description of the scope and extent of any emergency work performed shall be submitted to the Municipality within two (2) calendar days of the commencement of the activity. A detailed plan shall be submitted no later than thirty (30) days following commencement of the activity. If the Municipality finds that the work is not an emergency, then the work shall cease immediately and the requirements of this Ordinance shall be addressed as applicable.

2. Maintenance - Any maintenance to an existing stormwater management system, facility, BMP or Conveyance made in accordance with plans and specifications approved by the Municipal Engineer or Municipality.

3. Existing Landscaping - Use of land for maintenance, replacement or enhancement of existing landscaping.

4. Gardening - Use of land for gardening for home consumption.

5. Agricultural Related Activities –

   a. Agricultural Activities (as defined in Article II).

   b. Conservation Practices (as defined in Article II) that do not involve construction of any new or expanded Impervious Surfaces.

6. Forest Management - Forest management operations, which are consistent with a sound forest management plan as filed with the Municipality and which comply with the Pennsylvania Department of Environmental Protection's management practices contained in its publication "Soil Erosion and Sedimentation Control Guidelines for Forestry" (as amended or replaced by subsequent guidance). Such operations are required to have an Erosion and Sedimentation Control Plan, which meets the requirements of 25 PA Code Chapter 102 and meets the erosion and sediment control standards of Section 303 of this Ordinance.

7. Maintenance of Existing Paved Surfaces - Replacement of existing paved surfaces shall meet the erosion and sediment control requirements of 25 PA Code Chapter 102 and Section 303 of this Ordinance, and is exempt from all other requirements of this Ordinance listed in Subsection 106.C above. Resurfacing of existing paved surfaces is exempt from the requirements of this Ordinance listed above. Construction of new or additional Impervious Surfaces shall comply with all requirements of this Ordinance as indicated in Table 106.1.

8. Municipal Roadway Shoulder Improvements - Shoulder improvements conducted within the existing roadway cross-section of municipal owned roadways, unless an NPDES permit is required, in which case the proposed work must comply with all requirements of this Ordinance.

9. In-Place Replacement of Residential Dwelling Unit - The replacement in the exact footprint of an existing one- or two-family dwelling unit.

10. In-Place Replacement, Repair, or Maintenance of Residential Impervious Surfaces - The replacement of existing residential patios, decks, driveways, pools, garages, and/or sidewalks that are accessory to an existing one- or two-family dwelling unit in the exact footprint of the existing Impervious Surface.

D. Small Project Requirements

Regulated Activities that involve 500 square feet to less than 2,000 square feet of Proposed Impervious Surfaces and 5,000 square feet to less than 10,000 square feet of proposed Earth Disturbance may apply the modified requirements presented in the "Simplified Approach to Stormwater Management for Small Projects" (Simplified Approach) (Appendix A) to comply with the requirements of Sections 304, 305, 306, 307, 308, 309, and 310, and Article IV, Article V, Article VI and Article VII of this Ordinance (as shown in Table 106.2).

The Applicant shall first contact the Municipality to confirm that the proposed project is eligible for use of the Simplified Approach and is not otherwise exempt from these Ordinance provisions; to determine what components of the proposed project are to be considered as Impervious Surfaces; and to determine if other known Site or local conditions exist that may preclude the use of any techniques included in the Simplified Approach.

Appendix A includes instructions and procedures for preparation, submittal, review and approval of documents required when using the Simplified Approach and shall be adhered to by the Applicant. All other provisions of this Ordinance shall apply.

TABLE 106.2
Thresholds for Regulated Activities that are Eligible for the Small Project Requirements for the Provisions of this Ordinance that are Listed Below

Ordinance Article/Section	Activities Listed in Subsection 106. D
Article I	All Provisions Apply
Article II	All Provisions Apply
Sections 302, and 303, 311	All Provisions Apply
Sections 301, 304, 305, 306, 307, 308, 309, and 310	Exempt if Small Project Requirements of Subsection 106.D are Applied
Article IV	Exempt if Modified Requirements of Subsection 106.D are Applied
Article V	Exempt if Modified Requirements of Subsection 106.D are Applied
Article VI	Exempt if Modified Requirements of Subsection 106.D are Applied
Article VII	Exempt if Modified Requirements of Subsection) 106.D are Applied
Article VIII	All Provisions Apply
Article IX	All Provisions Apply
Other Erosion, Sediment and Pollution Control Requirements	Must comply with Title 25, Chapter 102 of the PA Code and other applicable State and municipal codes, including the Clean Streams Law.

Table 106.2 Notes:

- "Small Project Requirements" – Regulated Activities listed within the Subsections of this Ordinance noted in Table 106.2 are eligible for exemption only from the indicated sections and subsections of this Ordinance and only if the modified requirements of ***Subsection 106.D*** are met to the satisfaction of the Municipality; all other provisions of this Ordinance apply.

Section 107. Repealer

Any ordinance or ordinance provision of the Municipality inconsistent with any of the provisions of this Ordinance are hereby repealed to the extent of the inconsistency only.

Section 108. Severability

If any sentence, clause, section or part of this Ordinance is for any reason found to be unconstitutional, illegal or invalid, such unconstitutionality, illegality or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections or parts of this Ordinance. It is hereby declared the intent of the Governing Body of the Municipality that this Ordinance would have been adopted had such unconstitutional, illegal or invalid provision, sentence, clause, section or part thereof not been included herein.

Section 109. Compatibility with Other Ordinances or Legal Requirements

A. Approvals issued and actions taken pursuant to this Ordinance do not relieve the Applicant of the responsibility to secure and comply with other required permits or approvals for activities regulated by any other applicable code, rule, act, law, regulation, or ordinance.

B. To the extent that this Ordinance imposes more rigorous or stringent requirements for stormwater management than any other code, rule, act, law, regulation or ordinance, the specific requirements contained in this Ordinance shall take precedence.

C. Nothing in this Ordinance shall be construed to affect any of the Municipality's requirements regarding stormwater matters that do not conflict with the provisions of this Ordinance, such as local stormwater management design criteria (e.g., inlet spacing, inlet type, collection system design and details, outlet structure design, etc.).

D. The requirements of this Ordinance shall supersede any conflicting requirements in other municipal ordinances or regulations.

Section 110. Financial Security

For all activities requiring submittal of a Stormwater Management (SWM) Site Plan that involve subdivision or land development, the Applicant shall post financial security to the Municipality for the timely installation and proper construction of all stormwater management facilities as required by the approved SWM Site Plan and this Ordinance, and such financial security shall:

A. Be equal to or greater than the full construction cost of the required facilities except to the extent that financial security for the cost of any of such improvements is required to be and is posted with the Pennsylvania Department of Transportation in connection with a highway occupancy permit application;

AND

B. Be determined, collected, applied and enforced in accordance with Sections 509-511 of the MPC and the provisions of the Municipality's Subdivision and Land Development Ordinance (SALDO).

Section 111. Waivers

A. General - The requirements of this Ordinance are essential and shall be strictly adhered to. For any Regulated Activity where, after a close evaluation of alternative Site designs, it proves to be impracticable to meet any one or more of the mandatory minimum standards of this Ordinance on the Site, the Municipality may approve measures other than those in this Ordinance, subject to Subsections 111.B and 111.C.

B. The Governing Body shall have the authority to waive or modify the requirements of one or more provisions of this Ordinance if the literal enforcement will exact undue hardship because of peculiar conditions pertaining to the land in question, provided that such modification will not be contrary to the public interest and that the purpose and intent of the Ordinance is observed. Cost or financial burden shall not be considered a hardship. Modification may also be considered if an alternative standard or approach can be demonstrated to provide equal or better achievement of the results intended by the Ordinance. A request for modification shall be in writing and accompany the SWM Site Plan submission. The request shall state in full the grounds and facts on which the request is based, the provision or provisions of the Ordinance involved and the minimum modification necessary.

C. PADEP Approval Required - For any proposed Regulated Activity involving Earth Disturbance equal to or greater than one (1) acre, the Municipality may approve measures for minimum volume and infiltration control other than those required in this Ordinance only after consultation with and evaluation by PADEP that the alternate Site design meets State water quality requirements and does not conflict with State law, including, but not limited to, the PA Clean Streams Law, 35 P.S. Section 691.1, et seq.

Section 112. Erroneous Permit

Any permit or authorization issued or approved based on false, misleading or erroneous information provided by an Applicant is void without the necessity of any proceedings for revocation. Any work undertaken or use established pursuant to such permit or other authorization is unlawful.

ARTICLE II – DEFINITIONS

Section 201. Interpretation

For the purposes of this Ordinance, 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 word "person" includes an individual, partnership, public or private association or corporation, firm, trust, estate, municipality, governmental unit, public utility or any other legal entity whatsoever which is recognized by law as the subject of rights and duties. Whenever used in any section prescribing or imposing a penalty, the term "person" shall include the members of a partnership, the officers, members, servants and agents of an association, officers, agents and servants of a corporation, and the officers of a municipality.

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

E. The words "used" or "occupied" include the words "intended, designed, maintained, or arranged to be used, occupied, or maintained."

F. The definitions in this Ordinance are for the purposes of enforcing the provisions of this Ordinance and have no bearing on other municipal regulations or ordinances.

Section 202. Definitions

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

Applicant – A Landowner, developer, or other person who has filed an application to the Municipality for approval to engage in any Regulated Activity as defined in this Ordinance.

As-Built Plans (Drawings) – Engineering or Site plans or drawings that document the actual locations, dimensions and elevations of the improvements, and building components, and changes made to the original design plans. The final version of these documents, or a copy of same, are signed and sealed by a qualified Licensed Professional and submitted to the Municipality at the completion of the project, as per the requirements of Section 502 of this Ordinance as "final As-Built Plans".

Bankfull – The channel at the top-of-bank or point from where water begins to overflow onto a floodplain..

Baseflow – Portion of stream discharge derived from groundwater; the sustained discharge that does not result from direct runoff or from water diversions, reservoir releases, piped discharges, or other human activities.

BMP (Best Management Practice) – Activities, facilities, designs, measures, or procedures used to manage stormwater impacts from Regulated Activities, to provide water quality treatment, infiltration, volume reduction, and/or peak rate control, to promote groundwater recharge, and to otherwise meet the purposes of this Ordinance. Stormwater BMPs are commonly grouped into one (1) of two (2) broad categories or measures: "structural" or "nonstructural." In this Ordinance, nonstructural BMPs or measures refer to operational and/or behavior-related practices that attempt to minimize the contact of pollutants with stormwater runoff whereas structural BMPs or measures are those that consist of a physical device or practice that is installed to capture and treat stormwater runoff. Structural BMPs include, but are not limited to, a wide variety of practices and devices from large-scale retention ponds and constructed wetlands to small-scale underground treatment systems, infiltration facilities, filter strips, low impact design, bioretention, wet ponds, permeable paving, grassed swales, riparian or forested buffers, sand filters, detention basins, and manufactured devices. Structural stormwater BMPs are permanent appurtenances to the Site.

Buffer – See Riparian Buffer.

Carbonate Geology (or carbonate rock formations) – See Karst.

CFS – Cubic Feet per Second.

Channel – A natural or artificial open drainage feature that conveys, continuously or periodically, flowing water and through which stormwater flows. Channels include, but shall not be limited to, natural and man-made drainageways, swales, streams, ditches, canals, and pipes flowing partly full.

CN – Curve number.

Commonwealth – Commonwealth of Pennsylvania.

Conservation District – The Chester County Conservation District.

Conservation Plan – A plan written by a planner certified by NRCS that identifies Conservation Practices and includes site specific BMPs for agricultural plowing or tilling activities and animal heavy use areas.

Conservation Practices – Practices installed on agricultural lands to improve farmland, soil and/or water quality which have been identified in a current Conservation Plan.

Conveyance – A natural or manmade, existing or proposed facility, feature or channel used for the transportation or transmission of stormwater from one place to another. For the purposes of this Ordinance, Conveyance shall include pipes, drainage ditches, channels and swales (vegetated and other), gutters, stream channels, and like facilities or features.

Design Storm – The magnitude and temporal distribution of precipitation from a storm event measured in probability of occurrence (e.g., a five (5)-year storm) and duration (e.g., twenty-four (24) hours), used in the design and evaluation of stormwater management systems. Also see Return Period.

Detention (or **To Detain**) – Capture and temporary storage of runoff in a stormwater management facility for release at a controlled rate.

Detention Basin – An impoundment designed to collect and retard stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate. Detention basins are designed to drain completely shortly after any given rainfall event.

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

Developer – A person who seeks to undertake any Regulated Activities at a Site in the Municipality.

Diameter at Breast Height (DBH) – The outside bark diameter of a tree at breast height which is defined as four and one half (4.5) feet (one and thirty-seven one-hundredths of a meter (1.37 m)) above the forest floor on the uphill side of the tree.

Disturbed Area – Land area disturbed by or where an Earth Disturbance Activity is occurring or has occurred.

Drainage Area - That land area contributing runoff to a single point (including but not limited to the point/line of interest used for hydrologic and hydraulic calculations) and that is enclosed by a natural or man-made ridge line.

Earth Disturbance (or 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; land development;

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

Easement – A right of use granted by a Landowner to allow a grantee the use of the designated portion of land for a specified purpose, such as for stormwater management or other drainage purposes.

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

Erosion and Sediment Control Plan – A plan required by the Conservation District or the Municipality to minimize accelerated erosion and sedimentation, and that must be prepared and approved per the applicable requirements.

FEMA – Federal Emergency Management Agency.

Flood – A temporary condition of partial or complete inundation of land areas from the overflow of streams, rivers, and other waters of this Commonwealth.

Floodplain - Any land area susceptible to inundation by water from any natural source or delineated by applicable FEMA maps and studies as being a Special Flood Hazard Area.

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

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

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

Geotextile – A fabric manufactured from synthetic fiber that is used to achieve specific objectives, including infiltration, separation between different types of media (i.e., between soil and stone), or filtration.

Governing Body - the Board of Supervisors of East Goshen Township.

Grade/Grading – 1. (noun) A slope, usually of a road, channel, or natural ground, specified in percent and shown on plans as specified herein. 2. (verb) To finish the surface of a roadbed, the top of an embankment, or the bottom of an excavation.

Groundwater – Water that occurs in the subsurface and fills or saturates the porous openings, fractures and fissures of under-ground soils and rock units.

Groundwater Recharge – The replenishment of existing natural groundwater supplies from infiltration of rain or overland flow.

HEC-1 – The U.S. Army Corps of Engineers, Hydrologic Engineering Center (HEC) hydrologic runoff model.

HEC-HMS – The U.S. Army Corps of Engineers, Hydrologic Engineering Center (HEC) - Hydrologic Modeling System (HMS).

Hotspots – Areas where prior or existing land use or activities can potentially generate highly contaminated runoff with concentrations of pollutants in excess of those typically found in stormwater.

Hydrologic Regime – The hydrologic system, cycle or balance that sustains the quality and quantity of stormwater, stream baseflow, storage, and groundwater supplies under natural conditions.

Hydrologic Soil Group (HSG) – A classification of soils by the Natural Resources Conservation Service (NRCS), into four (4) runoff potential groups. The groups range from A soils, which are very permeable and produce little runoff, to D soils, which are not very permeable and produce much more runoff.

Impervious Surface - A surface that has been compacted or covered with a layer of material so that it prevents or is resistant to infiltration of water, including but not limited to: structures such as roofs, buildings, storage sheds; other solid, paved or concrete areas such as streets, driveways, sidewalks, parking lots, patios, decks, tennis or other paved courts; or athletic playfields comprised of synthetic turf materials. For the purposes of determining compliance with this Ordinance, compacted soils or stone surfaces used for vehicle parking and movement shall be considered impervious. Surfaces that were designed to allow infiltration (i.e. areas of porous pavement) will be considered on a case-by-case basis by the Municipal Engineer, based on appropriate documentation and condition of the material, etc.

Infiltration – Movement of surface water into the soil, where it is absorbed by plant roots, evaporated into the atmosphere, or percolated downward to recharge groundwater.

Infiltration Facility – A stormwater BMP designed to collect and discharge runoff into the subsurface in a manner that allows infiltration into underlying soils and groundwater (e.g., French drains, seepage pits, or seepage trenches, etc.).

Intermittent Stream – A defined channel in which surface water is absent during a portion of the year, in response to seasonal variations in precipitation or groundwater discharge.

Invert – The lowest surface, the floor or bottom of a culvert, pipe, drain, sewer, channel, basin, BMP, or orifice.

Karst – A type of topography that is formed over limestone or other carbonate rock formations by dissolving or solution of the rock by water, and that is characterized by closed depressions, sinkholes, caves, a subsurface network of solution conduits and fissures through which groundwater moves, and no perennial surface drainage features.

Land Development – Any of the following activities:

A. The improvement of one (1) lot or two (2) or more contiguous lots, tracts, or parcels of land for any purpose involving:
   1. A group of two (2) 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, or
   2. The division or allocation of land or space, whether initially or cumulatively, between or among two (2) or more existing or prospective occupants by means of, or for the purpose of, streets, common areas, leaseholds, condominiums, building groups, or other features;
B. A subdivision of land;
C. Development in accordance with Section 503(1.1) of the Pennsylvania Municipalities Planning Code (as amended).

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

Licensed Professional – A Pennsylvania Registered Professional Engineer, Registered Landscape Architect, Registered Professional Land Surveyor, or Registered Professional Geologist, or any person licensed by the Pennsylvania Department of State and qualified by law to perform the work required by the Ordinance within the Commonwealth of Pennsylvania.

Limiting Zone – A soil horizon or condition in the soil profile or underlying strata that includes one of the following:

A. A seasonal high water table, whether perched or regional, determined by direct observation of the water table or indicated by other subsurface or soil conditions.
B. A rock with open joints, fracture or solution channels, or masses of loose rock fragments, including gravel, with insufficient fine soil to fill the voids between the fragments.
C. A rock formation, other stratum, or soil condition that is so slowly permeable that it effectively limits downward passage of water.

MPC - Act of July 31, 1968, P.L. 805, No. 247, 53 P.S. Section 10101, et seq., as amended, the Pennsylvania Municipalities Planning Code, Act 247.

MFEMP – Mushroom Farm Environmental Management Plan.

MS4 - Municipal Separate Storm Sewer System.

Maintenance - The action taken to restore or preserve the as-built functional design of any facility or system.

Municipal Engineer – A professional engineer licensed as such in the Commonwealth of Pennsylvania, duly appointed as the engineer for a Municipality, planning agency, or joint planning commission.

Municipality – East Goshen Township, Chester County, Pennsylvania.

NOAA - National Oceanic and Atmospheric Administration.

New Development – Any Regulated Activity involving placement or construction of new Impervious Surface or grading over existing pervious land areas not classified as Redevelopment as defined in this Ordinance.

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

Nonstormwater Discharges – Water flowing in stormwater collection facilities, such as pipes or swales, which is not the result of a rainfall event or snowmelt.

Nonstructural Best Management Practice (BMPs) – See Best Management Practice (BMP).

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

NRCS – Natural Resource Conservation Service (previously Soil Conservation Service, SCS), an agency of the U.S. Department of Agriculture.

PADEP – Pennsylvania Department of Environmental Protection.

Parent Tract – The parcel of land from which a land development or subdivision originates, determined from the date of municipal adoption of this Ordinance.

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

PennDOT – Pennsylvania Department of Transportation.

Pennsylvania Stormwater Best Management Practices Manual (PADEP BMP Manual) - Document Number 363-0300-002 (December 2006, and as subsequently amended).

Pervious Surface (or Pervious Area) – Any area not defined as Impervious Surface.

Planning Commission – The Planning Commission of East Goshen Township.

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 Pennsylvania Code § 92.1.

Post-construction – Period after construction during which Disturbed Areas are stabilized, stormwater controls are in place and functioning, and all proposed improvements approved by the Municipality are completed.

Predevelopment – Land cover conditions assumed to exist within the proposed Disturbed Area prior to commencement of the Regulated Activity for the purpose of calculating the Predevelopment water quality volume, infiltration volume, and peak flow rates as required in this Ordinance.

Pretreatment – Techniques employed in stormwater BMPs to provide storage or filtering, or other methods to trap or remove coarse materials and other pollutants before they enter the stormwater system, but may not necessarily be designed to meet the entire water quality volume requirements of this Ordinance.

Proposed Impervious Surface - All new, additional and replacement Impervious Surfaces.

Rainfall Intensity - The depth of accumulated rainfall per unit of time.

Recharge – The replenishment of groundwater through the infiltration of rainfall, other surface waters, or land application of water or treated wastewater.

Redevelopment - Any Regulated Activity that involves demolition, removal, reconstruction, or replacement of existing Impervious Surface(s).

Regulated Activity - Any Earth Disturbance Activity(ies) or any activity that involves the alteration or development of land in a manner that may affect stormwater runoff.

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

Retention or **To Retain** – The prevention of direct discharge of stormwater runoff into surface waters or water bodies during or after a storm event by permanent containment in

a pond or depression; examples include systems which discharge by percolation to groundwater, exfiltration, and/or evaporation processes and which generally have residence times of less than three (3) days.

Retention Basin – An impoundment that is designed to temporarily detain a certain amount of stormwater from a catchment area and which may be designed to permanently retain stormwater runoff from the catchment area; retention basins always contain water.

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

Return Period - The average interval, in years, within which a storm event of a given magnitude can be expected to occur one (1) time. For example, the twenty-five (25)-year return period rainfall would be expected to occur on average once every twenty-five (25) years; or stated in another way, the probability of a twenty-five (25)-year storm occurring in any one (1) year is four-one hundredths (0.04) (i.e., a four (4)% chance).

Riparian – Pertaining to anything connected with or immediately adjacent to the banks of a stream or other body of water.

Riparian Buffer – An area of land adjacent to a body of water and managed to maintain vegetation to protect the integrity of stream channels and shorelines, to reduce the impact of upland sources of pollution by trapping, filtering, and converting sediments, nutrients, and other chemicals, and to supply food, cover and thermal protection to fish and other aquatic species and wildlife.

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

SALDO – See Subdivision and Land Development Ordinance.

SCS – Soil Conservation Service, now known as the Natural Resources Conservation Service.

Sediment – Soil or other materials transported by, suspended in or deposited by surface water as a product of erosion.

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

Sheet Flow – A flow process associated with broad, shallow water movement on sloping ground surfaces that is not channelized or concentrated.

Site – Total area of land in the Municipality where any proposed Regulated Activity, as defined in this Ordinance, is planned, conducted, or maintained or that is otherwise impacted by the Regulated Activity.

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

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

Storm Frequency – (see Return Period).

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

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

Stormwater Management (SWM) Site Plan – The plan prepared by the Applicant or its representative, in accordance with the requirements of Article IV of this Ordinance, indicating how stormwater runoff will be managed at a particular Site in accordance with this Ordinance, and including all necessary design drawings, calculations, supporting text, and documentation to demonstrate that Ordinance requirements have been met, herein referred to as "SWM Site Plan." All references in this Ordinance to "final" or "approved" SWM Site Plans shall incorporate the approved SWM Site Plan and all subsequent approved revisions thereto.

Stream – A natural watercourse.

Structural Stormwater Management Practices - See BMP (Best Management Practices).

Subdivision - The division or re-division of a lot, tract, or parcel of land as defined in The Pennsylvania Municipalities Planning Code, Act of July 31, 1968, P.L. 805, No. 247 (as amended).

Subdivision and Land Development Ordinance – Subdivision and Land Development Ordinance of East Goshen Township, Chester County, PA, as amended.

Swale – An artificial or natural waterway or low-lying stretch of land that gathers and conveys stormwater or runoff, and is generally vegetated for soil stabilization, stormwater pollutant removal, and infiltration.

SWM Site Plan – See Stormwater Management Site Plan.

Timber Operations – See Forest Management.

Top-of-bank – Highest point of elevation of the bank of a stream or channel cross-section at which a rising water level just begins to flow out of the channel and into the floodplain.

Township – East Goshen Township, Chester County, Pennsylvania.

USDA – United States Department of Agriculture.

Watercourse – A channel or Conveyance of surface water having a defined bed and banks, whether natural or artificial, with perennial or intermittent flow.

Water Table – The upper most level of saturation of pore space or fractures by groundwater. Seasonal High Water Table refers to a water table that rises and falls with the seasons due either to natural or man-made causes.

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 and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of the Commonwealth.

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

Wetland – Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, fens, and similar areas.

Woods - Any land area of at least one-quarter (0.25) acre with a natural or naturalized ground cover (excluding manicured turf grass) and that has an average density of two (2) or more viable trees per one thousand five hundred (1,500) square feet with a DBH of six (6) inches or greater. The land area to be considered Woods shall be measured from the outer drip lines of the outer trees.

ARTICLE III – STORMWATER MANAGEMENT STANDARDS

Section 301. General Requirements

A. Applicants proposing Regulated Activities in the Municipality which are not exempt under Section 106 shall submit a Stormwater Management Site Plan (SWM Site Plan) to the Municipality for review and approval in accordance with Articles III and IV. SWM Site Plans approved by the Municipality shall be on Site throughout the duration of the Regulated Activity.

B. The stormwater management and runoff control criteria and standards in this Ordinance shall apply to the total proposed Regulated Activity, even if it is to take place in stages. The measurement of Impervious Surfaces shall include all of the Impervious Surfaces in the total proposed Regulated Activity even if the development is to take place in stages.

C. No Regulated Activity within the Municipality shall commence until:

1. The Municipality issues approval of a SWM Site Plan, which demonstrates compliance with the requirements of this Ordinance; and

2. The Applicant has received a letter of adequacy or approval for the Erosion and Sediment Control Plan review by the Municipality and the Conservation District (if required), and has received all other local, State and Federal permit approvals required for the project involving the Regulated Activity.

D. Neither submission of an SWM Site Plan under the provisions herein nor compliance with the provisions of this Ordinance shall relieve any person from responsibility for damage to any person or property otherwise imposed by law.

E. The Applicant shall design the Site to minimize disturbances to land, Site hydrology, and natural resources, and to maintain the natural hydrologic regime, drainage patterns and flow conditions. The Applicant shall apply the procedures set forth in Section 304 for the overall Site design and for selection, location and design of features and BMPs to be used to comply with the requirements of this Ordinance.

F. To the maximum extent practicable, Post-construction stormwater shall be discharged within the drainage area of the same stream or water body receiving the runoff prior to construction of the proposed Regulated Activity.

G. Persons proposing to construct Regulated Activities with one (1) acre or more of proposed Earth Disturbance that do not discharge directly to waters of the Commonwealth shall provide the Municipality with a copy of the easement

authorizing such discharge or confirmation from PADEP that an easement is not required.

H. Areas located outside of the Site (i.e., areas outside of the Regulated Activity) that drain through a proposed Site are not subject to water quality and volume control, infiltration, stream channel protection, or peak flow rate control requirements (as presented in Sections 305, 306, 307, and 308). Drainage facilities located on the Site shall be designed to safely convey flows from outside of the Site through the Site.

I. If Site conditions preclude capture of runoff from limited portions of the Disturbed Area for achieving water quality volume control standards, stream channel protection standards, and the 2-year, 5-year, and 10-year storm event peak runoff rate reduction standards for New Development required by this Ordinance, the Applicant shall propose alternate methods to mitigate the bypass of the BMPs, subject to the approval of the Municipal Engineer. In no case shall resulting peak rate be greater than the Pre-development peak rate for the equivalent design storm.

J. For all Regulated Activities, erosion and sediment control BMPs shall be designed, implemented, operated, and maintained during the Regulated Activities (i.e., during construction) as required to meet the purposes and requirements of this Ordinance, to meet the erosion and sediment control requirements of the Municipality, if applicable, and to meet all requirements under Title 25 of the PA Code and the Clean Streams Law.

K. For all Regulated Activities, permanent BMPs and Conveyances shall be designed, implemented, operated, and maintained to meet the purposes and requirements of this Ordinance and to meet all requirements under Title 25 of the Pennsylvania Code, the Clean Streams Law, and the Storm Water Management Act.

L. The design of all BMPs and Conveyances shall incorporate sound engineering principles and practices in a manner that does not aggravate existing stormwater problems as identified by the Municipality. The Municipality reserves the right to disapprove any design that would result in construction in an area affected by existing stormwater problem(s) or continuation of an existing stormwater problem(s).

M. Existing wetlands, either on the Site or on an adjacent property, shall not be used to meet the minimum design requirements for stormwater management or stormwater runoff quality treatment. Stormwater discharges to existing wetlands shall not degrade the quality or hydrologic integrity of the wetland.

N. Hotspots Runoff Controls –

Specific structural or pollution prevention practices may be required, as determined to be necessary by the Municipal Engineer, to pretreat runoff from Hotspots prior to infiltration. Following is a list of examples of Hotspots:

1. Vehicle salvage yards and recycling facilities;

2. Vehicle fueling stations;

3. Vehicle service and maintenance facilities;

4. Vehicle and equipment cleaning facilities;

5. Fleet storage areas (bus, truck, etc.);

6. Industrial sites based on Standard Industrial Classification Codes;

7. Marinas (service and maintenance areas);

8. Outdoor liquid container storage;

9. Outdoor loading/unloading facilities;

10. Public works storage areas;

11. Facilities that generate or store hazardous materials;

12. Commercial container nursery;

13. Contaminated sites/brownfields;

14. Other land uses and activities as designated by the Municipality.

O. Contaminated and Brownfield Sites -

Where BMPs may contribute to the migration of contaminants in groundwater, the water quality and runoff volume, stream channel protection, and peak rate control standards shall be met; however, at the Municipal Engineer's discretion, the minimum infiltration requirement may be reduced or eliminated commensurate with the contaminated area and the required water quality and runoff control measures may be increased to mitigate the reduced infiltration requirement for the contaminated area.

P. Additional Water Quality Requirements -

The Municipality may require additional stormwater control measures for stormwater discharges to special management areas including, but not limited to:

1. Water bodies listed as "impaired" by PADEP.

2. Any water body or watershed with an approved Total Maximum Daily Load (TMDL).

3. Areas of known existing flooding problems.

4. Critical areas with sensitive resources (e.g., State designated special protection waters, cold water fisheries, carbonate geology or other groundwater recharge areas that may be highly vulnerable to contamination, drainage areas to water supply reservoirs, etc.).

Q. Applicants shall utilize the *Pennsylvania Stormwater Best Management Practices Manual* (PA BMP Manual), as amended, or other sources acceptable to the Municipal Engineer, for testing and design standards for BMPs, and where there is a conflict with the provisions of this Ordinance, the most restrictive applies.

R. For areas underlain by karst or carbonate geology that may be susceptible to the formation of sinkholes and other karst features, the location, type, and design of infiltration BMPs shall be based on a Site evaluation conducted by a qualified Licensed Professional and based on the PA BMP Manual or other design guidance acceptable to the Municipal Engineer.

S. All Regulated Activities located within a Special Flood Hazard Area designated by the Federal Emergency Management Agency (FEMA) shall comply with Section 240-26 of the Code of East Goshen Township, and shall be designed to maintain the flood carrying capacity of the floodway such that the base flood elevations are not increased, either upstream or downstream. The natural conveyance characteristics of the Site and the receiving floodplain shall be incorporated into the stormwater management practices proposed for the Site.

T. Disturbance of existing ground cover during construction of the proposed Regulated Activity is prohibited within fifty (50) feet of top-of-bank of all perennial and intermittent waterways, water bodies (lakes, ponds, etc.) and wetlands, except for activities otherwise approved by State or local agencies (e.g. stream restoration projects, road crossings, subsurface utility projects, etc.). At the Municipal Engineer's discretion, and with Conservation District and PADEP approval where necessary, the non-disturbance buffer may be reduced because of setback or other Site constraints, but never be less than ten (10) feet.

U. If a perennial or intermittent stream passes through the site, the applicant shall create a riparian buffer extending a minimum of fifty (50) feet to either side of the top of the bank of the channel. The buffer area shall be maintained with appropriate native vegetation (see list of technical references in Appendix F). If the applicable rear or side yard setback is less than fifty (50) feet, the buffer width may be reduced to twenty-five (25) percent of the setback to a minimum of ten (10) feet. If an existing

buffer is legally prescribed (e.g., deed covenant, easement, etc.) and it exceeds the requirement of this Ordinance, the existing buffer shall be maintained.

Section 302. Permit Requirements by Other Governmental Entities

The following permit or other regulatory requirements may apply to certain Regulated Activities and shall be met prior to (or as a condition of) final approval by the Municipality of the SWM Site Plan and prior to commencement of any Regulated Activities, as applicable:

A. All Regulated Activities subject to permit or regulatory requirements by PADEP under regulations at Title 25 Pennsylvania Code Chapter 102, or erosion and sediment control requirements of the Municipality.

B. Work within natural drainage ways subject to permit by PADEP under Title 25 Pennsylvania Code Chapter 105.

C. Any BMP or Conveyance that would be located in or adjacent to surface Waters of the Commonwealth, including wetlands, subject to permit by PADEP under Title 25 Pennsylvania Code Chapter 105.

D. Any BMP or Conveyance that would be located on or discharge to a State highway right-of-way, or require access to or from a State highway and be subject to approval by PennDOT.

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 PADEP under Title 25 Pennsylvania Code Chapter 105.

Section 303. Erosion and Sediment Control

A. No Regulated Activity within the Municipality shall commence until:

1. The Municipality receives documentation that the Applicant has received:

   a. A "letter of adequacy" from the Conservation District or other approval from PADEP in compliance with Title 25 Chapter 102 of the Pennsylvania Code of an Erosion and Sediment Control Plan for construction activities, if applicable;

   b. A PADEP NPDES Construction Activities Permit as required under Title 25 Pennsylvania Code Chapter 92, if applicable;

   c. Evidence of any other permit(s) or approvals required for the Regulated Activities; and

2. An Erosion and Sediment Control Plan has been approved by the Municipality, if required.

B. A copy of the Erosion and Sediment Control Plan and any required permit(s), as required by PADEP regulations, shall be available on the Site at all times.

C. Additional erosion and sediment control measures shall be applied where infiltration BMPs are proposed, at a minimum including those required in Subsection 306.M.

Section 304. Site Design Process

For Regulated Activities with ten thousand (10,000) or more or proposed Earth Disturbance OR two thousand (2,000) square feet or more of Proposed Impervious Surfaces, the Applicant shall design the Site to minimize the disturbances to land, Site hydrology, and natural resources, and to maintain the natural hydrologic regime, drainage patterns and flow conditions. For Regulated Activities with ten thousand (10,000) or more square feet of proposed Earth Disturbance OR two thousand (2,000) or more square feet of Proposed Impervious Surfaces the Applicant shall demonstrate in its SWM Site Plan (as required in Subsection 402.C) that the design sequence, objectives and techniques described below were applied to the maximum extent practicable in the Site design of the Regulated Activity while complying with all other requirements of this Ordinance. The Site design shall:

A. First, identify and delineate all existing natural resources and natural and man-made hydrologic features listed in Subsection 402.B.8 that are located within the Site, or receive discharge from, or may be impacted by the proposed Regulated Activity.

B. Second, provide a prioritized listing of these resources and features to identify:

1. Those to be incorporated into the Site design in a manner that provides protection from any disturbance or impact from the proposed Regulated Activity;

2. Those to be protected from further disturbance or impact but for which the proposed Regulated Activity will provide improvement to existing conditions;

3. Those that can be incorporated into and utilized as components of the overall Site design in a manner that protects or improves their existing conditions while utilizing their hydrologic function within the limits of their available capacity (e.g., for infiltration, evapotranspiration, or reducing pollutant loads, runoff volume or peak discharge rates, etc.) to reduce the need for or size of constructed BMPs; and

4. Those that may be considered for alteration, disturbance or removal.

C. Third, develop the Site design to achieve the following:

1. Recognize and incorporate the priorities identified in Section 304.B as the basis for the proposed Site layout, grading, construction, and permanent ground cover design;

2. Minimize Earth Disturbance (both surface and subsurface);

3. Maximize protection of or improvement to natural resources and special management areas;

4. Minimize the disturbance of natural Site hydrology, in particular natural drainage features and patterns, discharge points and flow characteristics, natural infiltration patterns and characteristics, and natural channel and floodplain conveyance capacity;

5. Incorporate natural hydrologic features and functions identified in Subsection 304.B into the Site design to protect and utilize those features and their hydrologic functions to reduce the need for or size of constructed BMPs;

6. Maximize infiltration and the use of natural Site infiltration features, patterns and conditions, and evapotranspiration features;

7. Apply selective grading design methods to provide final grading patterns or preserve existing topography in order to evenly distribute runoff and minimize concentrated flows;

8. Minimize the cumulative area to be covered by Impervious Surfaces and:

    a. Minimize the size of individual Impervious Surfaces,

    b. Separate large Impervious Surfaces into smaller components,

    c. Disconnect runoff from one Impervious Surface to another, and

    d. Utilize porous materials in place of impervious wherever practicable;

9. Minimize the volume and peak discharge rates of stormwater generated;

10. Avoid or minimize stormwater runoff pollutant loads and receiving stream channel erosion;

11. Locate infiltration and other BMPs:

    a. At or as near to the source of generation as possible, and

    b. At depths that are as shallow as possible;

12. Prioritize the selection and design of BMPs as follows:

    a. Nonstructural and vegetation BMPs, then

    b. Structural (surface and subsurface) BMPs;

13. For flow volumes requiring conveyance from the source of generation to a BMP for management, give preference to open channel conveyance techniques that provide infiltration and water quality benefits, and landscaped-based management in common open space areas, where practicable; and

14. Consider additional guidance for incorporating natural hydrology into the Site and BMP designs, methods and techniques that support the objectives of Subsections 304.B and 304.C. Appendix B presents additional discussion of natural hydrology site design and sources of information for "Conservation Design", "Low Impact Design", and "Sustainable Design".

D. The procedures set forth above shall be utilized to the maximum extent practicable for the overall Site design and selection, location and design of features and BMPs to be used to comply with the requirements of Sections 305, 306, 307 and 308.

Section 305. Water Quality and Runoff Volume Requirements

To control Post-construction stormwater impacts from Regulated Activities and meet State water quality requirements, BMPs shall be provided in the Site design that replicate Predevelopment stormwater infiltration and runoff conditions, such that Post-construction stormwater discharges do not degrade the physical, chemical, or biological characteristics of the receiving waters. The Applicant shall comply with the following water quality and runoff volume requirements for all Regulated Activities, including all New Development and Redevelopment activities:

A. The Post-construction total runoff volume shall not exceed the Predevelopment total runoff volume for all storms equal to or less than the two (2)-year, twenty-four (24)-hour duration precipitation (design storm). The water quality and runoff volume to be managed shall consist of any runoff volume generated by the proposed Regulated Activity over and above the Predevelopment total runoff volume and shall be captured and permanently retained or infiltrated on the Site. Permanent retention options may include, but are not limited to, reuse, evaporation, transpiration, and infiltration.

B. For modeling purposes, the Predevelopment ground cover conditions shall be determined using the corresponding ground cover assumptions presented in Subsection 309.D of this Ordinance.

C. The design of the facility outlet shall provide for protection from clogging and unwanted sedimentation.

D. BMPs that moderate the temperature of stormwater shall be used to protect the temperature of receiving waters.

E. Water quality improvement shall be achieved in conjunction with achieving the infiltration requirements of Section 306. The infiltration volume required under Section 306 may be included as a component of the water quality volume. If the calculated water quality and runoff volume is greater than the volume infiltrated, then the difference between the two (2) volumes shall be managed for water quality and runoff volume control through other techniques or practices but shall not be discharged from the Site.

F. Runoff from the Disturbed Area shall be treated for water quality prior to entering existing waterways or water bodies. If a stormwater management practice does not provide water quality treatment, then water quality BMPs shall be utilized to provide pre-treatment prior to the runoff entering the stormwater management practice.

G. The Municipality may require additional water quality and runoff control measures for stormwater discharging to special management areas such as those listed in Subsection 301.P.

H. When the Regulated Activity contains or is divided by multiple drainage areas, the water quality and runoff volume shall be separately addressed for each drainage area.

I. Weighted averaging of runoff coefficients shall not be used for manual computations or input data for water quality and runoff volume calculations.

J. Areas located outside of the Site (i.e., areas outside of the Regulated Activity) may be excluded from the calculation of the water quality and runoff volume requirements.

K. Water quality and volume control practices shall be selected and designed to meet the criteria of Subsection 304.C that apply to water quality and volume control.

Section 306. Infiltration Requirements

Providing for infiltration consistent with the natural hydrologic regime is required to compensate for the reduction in the recharge that occurs when the ground surface is disturbed or Impervious Surface is created or expanded. The Applicant shall achieve the following infiltration requirements:

A. Wherever possible, infiltration should be designed to accommodate the entire water quality and runoff volume required in Section 305.

B. For Regulated Activities involving New Development, the volume of a minimum of one (1)-inch of runoff from all Proposed Impervious Surfaces shall be infiltrated.

C. For Regulated Activities involving Redevelopment, whichever is less of the following volume options shall be infiltrated:

1. The volume of a minimum of one (1)-inch of runoff from all Proposed Impervious Surfaces;

OR

2. The total water quality and runoff volume required in Section 305 of this Ordinance.

D. If the requirements of Subsections 306.B or 306.C cannot be physically accomplished, then the Applicant shall be responsible for demonstrating with data or calculations to the satisfaction of the Municipal Engineer why this infiltration volume cannot be physically accomplished on the Site (e.g., shallow depth to bedrock or limiting zone, open voids, steep slopes, etc.) and what alternative volume can be infiltrated; however in all cases at least the first one-half (0.5) inch of runoff volume shall be infiltrated.

E. Only if a minimum of at least one-half (0.5) inch infiltration requirement cannot be physically accomplished on the Site, shall a waiver from Section 306 be considered by the Municipality.

F. If Site conditions preclude capture of runoff from portions of the Impervious Surfaces, the infiltration volume for the remaining area shall be increased an equivalent amount to offset the loss.

G. When a project contains or is divided by multiple watersheds, the infiltration volume shall be separately addressed for each watershed.

H. Existing Impervious Surfaces located in areas outside of the Site (i.e., outside of the Regulated Activity) may be excluded from the calculation of the required infiltration volume.

I. A detailed soils evaluation of the Site shall be conducted by a qualified professional and at a minimum shall address soil permeability, depth to bedrock, and subgrade stability. The general process for designing the infiltration BMP shall be conducted by a qualified Licensed Professional and shall be consistent with the PA BMP Manual (as amended) (or other guidance acceptable to the Municipal Engineer) and in general shall:

1. Analyze hydrologic soil groups as well as natural and man-made features within the Site to determine general areas of suitability for infiltration practices. In areas where development on fill material is under consideration, conduct geotechnical

investigations of sub-grade stability; infiltration may not be ruled out without conducting these tests.

2. Provide field tests such as double ring infiltrometer or other hydraulic conductivity tests (at the elevation of the proposed infiltration surface) to determine the appropriate hydraulic conductivity rate. Standard septic/sewage percolation tests are not acceptable for design purposes.

3. Design the Infiltration Facility for the required retention (infiltration) volume based on field-determined infiltration capacity (and apply safety factor as per applicable design guidelines) at the elevation of the proposed infiltration surface.

4. On-lot infiltration features are encouraged; however, it shall be demonstrated to the Municipal Engineer that the soils are conducive to infiltration on the identified lots.

J. Infiltration BMPs shall be selected based on suitability of soils and Site conditions and shall be constructed on soils that have the following characteristics:

1. A minimum depth of twenty-four (24) inches between the bottom of the BMP and the top of the Limiting Zone. Additional depth may be required in areas underlain by karst or carbonate geology (see Subsection 306.N).

2. An infiltration rate sufficient to accept the additional stormwater volume and drain completely as determined by field tests conducted by the Applicant.

3. The Infiltration Facility shall completely drain the retention (infiltration) volume within three (3) days (seventy-two (72) hours) from the end of the design storm.

K. All infiltration practices shall:

1. Be selected and designed to meet the criteria of Subsection 304.C that are applicable to infiltration;

2. Be set back at least ten (10) feet from all buildings and features with sub-grade elements (e.g., basements, foundation walls, etc.) and five (5) feet from any property line or right-of-way line, unless otherwise approved by the Municipal Engineer;

3. For any infiltration practice that collects runoff from shared or multiple features and that is located within ten (10) feet of a building or feature with sub-grade elements (e.g., basements, foundation walls, etc.), the bottom elevation shall be set below the elevation of the sub-grade element.

L. Infiltration Facilities shall, to the maximum extent practicable, be located to avoid introducing contaminants to groundwater:

1. When a Hotspot is located in the area draining to a proposed infiltration facility, an evaluation of the potential of groundwater contamination from the proposed infiltration facility shall be performed, including a hydrogeologic investigation (if necessary) by a qualified Licensed Professional to determine what, if any, pre-treatment or additional design considerations are needed to protect groundwater quality.

2. When located within a "well head protection area" of a public water supply well, infiltration practices shall be in conformance with the applicable approved source water protection assessment or source water protection plan.

3. The Applicant shall provide appropriate safeguards against groundwater contamination for land uses that may cause groundwater contamination should there be a mishap or spill.

M. During Site construction, all infiltration practice components shall be protected from compaction due to heavy equipment operation or storage of fill or construction material. Infiltration areas shall also be protected from sedimentation. Areas that are accidentally compacted or graded shall be remediated to restore soil composition and porosity. Adequate documentation to this effect shall be submitted to the Municipal Engineer for review. All areas designated for infiltration shall not receive runoff until the contributory drainage area has achieved final stabilization.

N. Where sediment transport in the stormwater runoff is anticipated to reach the infiltration system, appropriate permanent measures to prevent or collect sediment shall be installed prior to discharge to the infiltration system.

O. Where roof drains are designed to discharge to infiltration practices, they shall have appropriate measures to prevent clogging by unwanted debris (for example, silt, leaves and vegetation). Such measures shall include but are not limited to leaf traps, gutter guards and cleanouts.

P. All infiltration practices shall have appropriate positive overflow controls.

Q. No sand, salt or other particulate matter may be applied to a porous surface material for winter ice conditions.

R. The following procedures and materials shall be required during the construction of all subsurface facilities:

1. Excavation for the Infiltration Facility shall be performed with equipment that will not compact the bottom of the seepage bed/trench or like facility.

2. The bottom of the bed and/or trench shall be scarified prior to the placement of aggregate.

3. Only clean aggregate with documented porosity, free of fines, shall be allowed.

4. The tops, bottoms and sides of all seepage beds, trenches, or like facilities shall be covered with drainage fabric. Fabric shall be non-woven fabric acceptable to the Municipal Engineer.

5. Stormwater shall be distributed throughout the entire seepage bed/trench or like facility and provisions for the collection of debris shall be provided in all facilities.

Section 307. Stream Channel Protection Requirements

For Regulated Activities involving New Development with one (1) or more acres of Earth Disturbance, the Applicant shall comply with the following stream channel protection requirements to minimize stream channel erosion and associated water quality impacts to the receiving waters:

A. The peak flow rate of the Post-construction two (2)-year, twenty-four (24)-hour design storm shall be reduced to the Predevelopment peak flow rate of the one (1)-year, twenty-four (24)-hour duration precipitation, using the SCS Type II distribution.

B. To the maximum extent practicable, and unless otherwise approved by the Municipal Engineer, the Post-construction one (1)-year, twenty-four (24)-hour storm flow shall be detained for a minimum of twenty-four (24) hours and a maximum not to exceed seventy-two (72) hours from a point in time when the maximum volume of water from the one (1)-year, twenty-four (24)-hour storm is stored in a proposed BMP (i.e., when the maximum water surface elevation is achieved in the facility). Release of water can begin at the start of the storm (i.e., the invert of the orifice is at the invert of the proposed BMP).

C. For modeling purposes, the Predevelopment ground cover conditions shall be determined using the corresponding ground cover assumptions presented in Subsection 309.D of this Ordinance.

D. The minimum orifice size in the outlet structure to the BMP shall be three (3) inches in diameter unless otherwise approved by the Municipal Engineer, and a trash rack shall be installed to prevent clogging. For Sites with small drainage areas contributing to the BMP that do not provide enough runoff volume to allow a twenty-four (24) hour attenuation with the three (3)-inch orifice, the calculations shall be submitted showing this condition.

E. When the calculated orifice size is below three (3) inches, gravel filters (or other methods) are recommended to discharge low-flow rates subject to the Municipal Engineer's satisfaction. When filters are utilized, maintenance provisions shall be provided to ensure filters meet the design function.

F. All proposed stormwater facilities shall make use of measures to extend the flow path and increase the travel time of flows in the facility.

G. When a Regulated Activity contains or is divided by multiple drainage areas, the peak flow rate control shall be separately addressed for each drainage area.

Section 308. Stormwater Peak Rate Control Requirements

The Applicant shall comply with the following peak flow rate control requirements for all Regulated Activities including those that involve New Development and Redevelopment that are NOT located in the Chester Creek watershed.

A. Post-construction peak flow rates from any Regulated Activity shall not exceed the Predevelopment peak flow rates as shown for each of the design storms specified in Table 308.1.

TABLE 308.1
Peak Rate Control Standards

(Peak Flow Rate of the Post-construction Design Storm Shall be Reduced to the Peak Flow Rate of the Corresponding Predevelopment Design Storm Shown in the Table)

POST-CONSTRUCTION DESIGN STORM FREQUENCY (24-Hour Duration)	PREDEVELOPMENT DESIGN STORM	
	New Development Regulated Activities	Redevelopment Regulated Activities
2-Year	1-Year	2-Year
5-Year	5-Year	5-Year
10-Year	10-Year	10-Year
25-Year	25-Year	25-Year
50-Year	50-Year	50-Year
100-Year	100-Year	100-Year

B. For modeling purposes, the Predevelopment ground cover conditions shall be determined using the corresponding ground cover assumptions presented in Subsection 309.D of this Ordinance.

C. For Regulated Activities involving only Redevelopment, no peak flow rate controls are required when and **only if** the total Proposed Impervious Surface area is at least twenty percent (20%) less than the total existing Impervious Surface area to be disturbed by the Regulated Activity. In all cases where this requirement is not met, the Redevelopment Regulated Activity shall achieve the peak flow rate controls presented in Table 308.1, using the Redevelopment Ground Cover Assumptions presented in Subsection 309.D.

DRAFT

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APPENDIX A

SIMPLIFIED APPROACH TO STORMWATER MANAGEMENT FOR SMALL PROJECTS

Appendix A.1 –
Applicability, Submittal and Approval Requirements

Appendix A.2 –
"Operation, Maintenance and Inspection Plan and Agreement"

Appendix A.1
Simplified Approach Applicability, Submittal and Approval Requirements

Simplified Approach Applicability:

- Only projects with less than 2,000 square feet of Proposed Impervious Surfaces (as defined in the Township's Stormwater Management Ordinance) and with less than 10,000 square feet of proposed Earth Disturbance (as defined in the Township's Ordinance) may apply the "Simplified Approach to Stormwater Management for Small Projects" (Simplified Approach).

- The Applicant should first review the planned project with the Township prior to initiating the Simplified Approach to confirm the following:
    - That the proposed project is not otherwise exempt from the stormwater management control and the engineered Stormwater Management Site Plan requirements of the Township's Stormwater Management Ordinance;
    - That the proposed project is eligible to use this Simplified Approach;
    - To determine which components of the proposed project must be included in the calculation of "impervious surfaces (areas)"; and,
    - Whether any local conditions are known to the Township that would preclude the use of any of the techniques included in this Simplified Approach.

Simplified Approach Submittal and Approval Requirements:

Use of the Simplified Approach requires:

- The applicant to submit the following to the Township for review and approval prior to beginning construction:
    - A Simplified Stormwater Management Site Plan (i.e. sketch plan) that contains the information listed in Section 702.A of the East Goshen Township Stormwater Management Ordinance and accompanying Application; and
    - A completed, signed and notarized "Simplified Operation, Maintenance and Inspection Plan and Agreement".
- The first 1-inch of rainfall runoff from Proposed Impervious Surfaces (as defined by the East Goshen Township Stormwater Management Ordinance) must be captured on the applicant's property by an Infiltration Trench as depicted on the Standard Downspout Seepage Bed Detail.
- The "Simplified Approach – Stormwater Best Management Practices Operation, Maintenance and Inspection Plan and Agreement" will be recorded at the Chester County Office of the Recorder of Deeds after approval by the Municipality.
- A final inspection conducted by the Township after completion of construction.

Simplified Approach Stormwater Management Site Plan

The Simplified Stormwater Management Site Plan shall be prepared at sufficient scale for municipal review, and ultimately for the use by the person responsible for operation and maintenance, and shall also be prepared at a legible scale that meets the requirements for recordation as an attachment to the Simplified Approach – Stormwater Best Management Practices Operation, Maintenance and Inspection Plan and Agreement at the Chester County Office of the Recorder of Deeds.

The following items shall be included in the Simplified Stormwater Management Site Plan.

- Owner name and address; and property address and tax parcel number of the parcel on which the Infiltration Trench is located.

- Name, address and phone number of person responsible for preparation of the site plan.

- Location and dimensions of the Infiltration Trench relative to roadways, property boundaries, or other identifiable landmarks and existing natural drainage features such as streams, lakes, ponds, or other bodies of water.

- Delineation of the land area, structures, Impervious Surfaces and Conveyances draining to and from the Infiltration Trench

- Representative elevations and/or topographic contours at intervals of two (2) feet, or other as acceptable to the Township Engineer.

- Other features including FEMA floodplain and floodway boundaries, sinkholes, etc. located within the immediate proximity of the Infiltration Trench.

- Locations of areas of vegetation to be managed or preserved that function as part of the Infiltration Trench.

- The property boundaries and locations of all surface and subsurface utilities, on-lot waste water facilities, sanitary sewers, and water lines.

- The following as it pertains to any easements, covenants and deed restrictions established for the Infiltration Trench:

  a. Boundaries delineated with bearings and distances shown that encompass the INFILTRATION TRENCH or Conveyance and that includes a twenty (20) foot perimeter area surrounding these features and sufficient vehicular ingress to and egress from a public right-of-way and roadway;

  b. Labels specifying the type and purpose of the easement, covenant, or deed restriction and who it benefits; and

c. Labels with reference to any corresponding easement agreement, covenant, deed restriction or other document to be recorded.

Simplified Approach Stormwater Management Infiltration Trench

An infiltration trench is a long, narrow, rock-filled trench, with a perforated pipe placed within the rock to distribute water evenly along the trench that receives stormwater runoff. Runoff is stored in the void space between the stones and in the pipe, and infiltrates through the bottom of the trench into the underlying soil matrix. Figure 1 shows the typical infiltration trench configuration. Infiltration trenches shall incorporate or make provisions for the following elements:

- These facilities should be located a minimum of ten (10) feet from the building foundation to avoid foundation seepage problems, and at least five (5) feet from any property line and are not recommended if their installation would create a risk of flooding other structures constructed at or below grade.

- Perforated pipe placed within the rock is to be set level.

- The typical trench is 2 feet wide and 3 feet deep (2 feet of stone with 1 foot of cover).

- Trench should be wrapped in nonwoven geotextile (top, sides, and bottom).

- There should be a positive overflow that allows stormwater that cannot be stored or infiltrated to be discharged into a nearby vegetated area.

- Roof downspouts may be connected to infiltration trenches, but should contain a cleanout to collect sediment and debris before entering the infiltration area.

- Infiltration testing is recommended to ensure soil is capable of infiltrating stormwater.

- It is recommended that there be a 2 foot clearance above the regularly occurring seasonal high water table, and have a minimum depth to bedrock of 2 feet.

- The infiltration trench should be at least 5 feet from any property line, 50 feet from individual water supply wells, and 50 feet from any septic system component. It should not be located near stormwater Hotspots.

- The infiltration trench should be located a minimum of 10 feet from any sub-surface structures such as building foundations and basements.

- Infiltration areas shall be protected from compaction by heavy equipment during and after construction.

- Infiltration trenches should be placed in service after all earth disturbance associated with a given project is stabilized to avoid clogging.
- The ratio of the drainage area which stormwater runoff is collected from to the area of the footprint (bottom area) of the infiltration portion of the facility should be as small as possible with a ratio of less than 5:1 preferred.

Appendix A.2
Simplified Approach Operation, Maintenance, and Inspection Plan and Agreement

It is the Landowner's responsibility to properly maintain the Infiltration trench and associated Conveyances. It is also the Landowner's responsibility to inform any future buyers of the function, operation, and maintenance needed for the Infiltration Trench and associated Conveyances prior to the purchase of the property.

The following maintenance agreement outlines the inspection and maintenance required for the Infiltration Trench and associated Conveyances and the responsibilities of the Landowner, and the rights of the Township in regards to inspection and enforcement of the maintenance requirements.

The Operation, Maintenance and Inspection Plan and Agreement must be signed, notarized and submitted to the Township with the Stormwater Permit Application.

Upon approval of the Stormwater Management Permit the Operation, Maintenance and Inspection Plan and Agreement, will be recorded at the Chester County Office of the Recorder of Deeds, by the Township. A copy of the recorded agreement will be provided to the Landowner.

SIMPLIFIED APPROACH
STORMWATER BEST MANAGEMENT PRACTICES
OPERATION, MAINTENANCE, AND INSPECTION PLAN AND AGREEMENT

THIS AGREEMENT, made and entered into this _____ day of _____, 20___, by and between _____

_____, (hereinafter the "Landowner"), and East Goshen Township, Chester County, Pennsylvania, (hereinafter "Municipality").

WITNESSETH

WHEREAS, the Landowner is the owner of certain real property by virtue of a deed of conveyance recorded in the land records of Chester County, Pennsylvania, at Deed Book _____ and Page _____, having a UPI number of _____ (hereinafter "Property"); and

WHEREAS, the Landowner recognizes that the stormwater management Infiltration Trench and associated Conveyances located on the Property at:

_____

_____

_____ (address of Property where Infiltration Trench(s) is located) must be inspected and maintained; and

WHEREAS, the Municipality and the Landowner, for itself and for its administrators, executors, successors, heirs, 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 management facility be constructed and maintained on the Property; and

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

Infiltration Trench – A structure used to manage stormwater impacts from development, to protect and maintain water quality and ground water recharge and to otherwise meet the purposes of the Municipality's Stormwater Management Ordinance, including, but not limited to infiltration trenches. The Infiltration Trench(s) are permanent appurtenances to the Property, and

Conveyance – As specifically identified in the Stormwater Management Site Plan (herein after "Plan"), a man-made, existing or proposed facility, structure or channel used for the transportation or transmission of stormwater from one place to another, including pipes, drainage ditches, channels and swales (vegetated and other), gutters, and like facilities or features. The Conveyances identified in the Plan are permanent appurtenances to the Property; and

Storm Water Management Facility – A system comprised of the Infiltration Trench(s) and associated Conveyance(s): and

WHEREAS, the Municipality requires that the Storm Water Management Facility as shown on Plan and in accordance with the sizing calculations found on the Stormwater Management Application (herein after "Application") be constructed by the Landowner; the Storm Water Management Facility shall further be maintained by the Landowner, its administrators, executors, successors, heirs, and assigns in accordance with the associated operation and maintenance requirements included herein. The Plan and Application are attached hereto and incorporated herein together as Exhibit "A" hereto; and

WHEREAS, the Municipality requires that the Storm Water Management Facility be constructed and adequately inspected, operated and maintained by the Landowner, its administrators, executors, successors, heirs, and assigns, in accordance with the following maintenance requirements:

Infiltration Trench(s) and Conveyance(s)

a. At least twice a year and after significant rainfall events the Landowner is to inspect the infiltration trench(s) and conveyance(s) remove any accumulated debris, sediment and invasive vegetation.

b. Vegetation along the surface of an infiltration trench(s) or Conveyance(s) is to be maintained in good condition, and any bare spots are to be revegetated as soon as possible.

c. Vehicles are not to be parked or driven on an infiltration trench(s) or conveyance(s) (unless the conveyance(s) is designed for this activity and care is to be taken to avoid excessive compaction by mowers.

d. Any debris, such as leaves blocking flow in a conveyance or blocking flow from reaching an infiltration trench, is to be routinely removed.

NOW, THEREFORE, in consideration of the foregoing promises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto, intending to be legally bound hereby, agree as follows:

1. The foregoing recitals to this Agreement are incorporated as terms of this Agreement and obligations of the Landowner as if fully set forth in the body of this Agreement.

2. The Landowner shall construct the Storm Water Management Facility in accordance with the specifications identified in the Plan and Application.

3. The Landowner shall inspect, operate and maintain the Storm Water Management Facility as shown on the Plan in good working order acceptable to the Municipality and in accordance with the specific inspection and maintenance requirements outlined in this Agreement. The Landowner shall provide the Municipality with conformation of the semi-annual inspections on the form provided by the Municipality.

4. The Landowner hereby grants permission to the Municipality, its authorized agents and employees, to enter upon the Property from the public right-of-way or roadway, at reasonable times and upon presentation of proper identification, to inspect the Storm Water Management

Facility whenever it deems necessary for compliance with this Agreement and the East Goshen Township Stormwater Management Ordinance (as amended). Whenever possible, the Municipality shall notify the Landowner prior to entering the Property.

5. The Landowner acknowledges that, per the Municipality's Stormwater Ordinance, it is unlawful, without written approval of the Municipality, to:

a. Modify, remove, fill, landscape, alter or impair the effectiveness of any Storm Water Management Facility that is constructed as part of the Plan;

b. Place any structure, fill, landscaping, additional vegetation, yard waste, brush cuttings, or other waste or debris into a Storm Water Management Facility that would limit or alter the functioning of the Storm Water Management Facility;

c. Allow the Storm Water Management Facility to exist in a condition which does not conform to the Plan or this Agreement; and

d. Dispose of, discharge, place or otherwise allow pollutants including, but not limited to, deicers, swimming pool additives, household chemicals and automotive fluids to directly or indirectly enter any Storm Water Management Facility.

6. In the event the Landowner fails to operate and maintain the Storm Water Management Facility as shown on the Plan in good working order acceptable to the Municipality the Landowner shall be in violation of this Agreement and the Landowner agrees that the Municipality or its representatives may, in addition to and not in derogation or diminution of any remedies available to it under the Stormwater Ordinance or other statutes, codes, rules or regulations, or this Agreement, enter upon the Property and take whatever action is deemed necessary to maintain said Storm Water Management Facility. It is expressly understood and agreed that the Municipality is under no obligation to maintain or repair said Storm Water Management Facility, and in no event shall this Agreement be construed to impose any such obligation on the Municipality.

7. 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 30 days of delivery of an invoice from the Municipality. Failure of the Landowner

to make prompt payment to the Municipality may result in enforcement proceedings, which may include the filing of a lien against the Property, which filing is expressly authorized by the Landowner.

8. The intent and purpose of this Agreement is to ensure the proper maintenance of the Storm Water Management Facility by the Landowner; provided, however, that this Agreement shall not be deemed to create or affect any additional liability of any party for damage alleged to result from or be caused by stormwater runoff.

9. The Landowner, its executors, administrators, assigns, heirs, and other successors in interests, hereby release and shall release the Municipality, its employees, agents and designated representatives from all damages, accidents, casualties, occurrences or claims which might arise or be asserted against the Municipality and/or its said employees, agents or representatives, arising out of the construction, presence, existence, or maintenance of the Storm Water Management Facility either by the Landowner or Municipality. In the event that a claim is asserted or threatened against the Municipality, its employees, agents or designated representatives, the Municipality shall notify the Landowner and the Landowner shall defend, at his own expense, any claim, suit, action or proceeding, or threatened claim, suit, action or proceeding against the Municipality or, at the request of the Municipality, pay the cost, including attorneys' fees, of defense of the same undertaken on behalf of the Municipality. If any judgment or claims against the Municipality, its employees, agents or designated representatives shall be allowed, the Landowner shall pay all damages, judgments or claims and any costs and expenses incurred by the Municipality, including attorney's fees, regarding said damages, judgment or claims.

10. The Municipality may enforce this Agreement in accordance with its Stormwater Ordinance, at law or in equity, against the Landowner for breach of this Agreement. Remedies may include fines, penalties, damages or such equitable relief as the parties may agree upon or as may be determined by a Court of competent jurisdiction. Recovery by the Municipality shall include its reasonable attorney's fees and costs incurred in seeking relief under this Agreement.

11. Failure or delay in enforcing any provision of this Agreement shall not constitute a waiver by the Municipality of its rights of enforcement hereunder.

12. The Landowner shall inform future buyers of the Property about the function of, operation, inspection and maintenance requirements of the Storm Water Management Facility prior to the purchase of the Property by said future buyer, and upon purchase of the Property the future buyer assumes all responsibilities as Landowner and must comply with all components of this Agreement.

13. This Agreement shall inure to the benefit of and be binding upon, the Municipality and the Landowner, as well as their heirs, administrators, executors, assigns and successors in interest.

This Agreement shall be recorded at the Office of the Recorder of Deeds of the County of Chester, Pennsylvania, and shall constitute a covenant running with the Property and/or equitable servitude, in perpetuity.

WITNESS the following signatures and seals:

(Signatures on next page)

For the Landowner:

_____

_____

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 _____, 20__.

_____ _____

NOTARY PUBLIC **(SEAL)**

For the Municipality:

_____

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 _____, 20__.

_____ _____

NOTARY PUBLIC **(SEAL)**

Yerkes

Yerkes Associates, Inc. Consulting Engineers / Landscape Architects / Surveyors

September 26, 2013

East Goshen Township
1580 Paoli Pike
West Chester, Pennsylvania 19380

Attn: Mark Gordon, Township Zoning Officer

Re: Sunny Ridge Farms Subdivision – Colonial Lane
Subdivision Plan Review

Dear Mark:

The following plans, report, and letter prepared by Mullin Engineering have been submitted to this office for review:

Title Plan – sheet 1 of 9
Subdivision and Layout Plan – sheet 2 of 9
Existing Conditions Plan – sheet 3 of 9
Demolition Plan – sheet 4 of 9
Grading and Utilities Plan – sheet 5 of 9
Landscape Plan – sheet 6 of 9
Erosion and Sediment Control Plan – sheet 7 of 9
Erosion and Sediment Control Details – sheet 8 of 9
Construction Details – sheet 9 of 9
Stormwater Management Report, last revised August 28, 2013
August 28, 2013 Plan Submission Letter

All plans have a latest revision date of August 28, 2013. The plans depict the subdivision of tax map parcel 53-04-041 into four lots for the construction of a single-family dwelling on each lot. The parcel consists of 5.50 acres located on the northwest corner of the Colonial Lane intersection with Cornwallis Drive. The parcel contains an existing dwelling, in-ground pool, barn, and accessory building noted as an 'office'. The driveway and all existing structures are to be removed. The west side of the parcel contains steep slopes with grades between 15 to 25 percent. Overland runoff from the parcel drains to the north, the west, and toward the Colonial Lane intersection with Cornwallis Drive. Stormwater management is to be addressed by individual on-lot drywell systems. The proposed lots range in area from 1.001 acres to 1.950 acres. Note 15 on sheet 1 indicates that each lot is to be served by on-lot water supply and public sewer. The parcel is situated within the R-2 Low Density Residential District

The plan revisions include the addition of tree locations to the existing conditions plan and the addition of a landscape plan to the plan set.

All comments from my previous review letter of July 18, 2013 have been satisfactorily addressed except for the following that are numbered as they appeared previously:

Zoning Ordinance

1. Section 240-9.G – The minimum lot width at the building setback line is 150 feet. The lot 4 width at the building setback line measures 145 feet. Sketch 'C' in the zoning ordinance appendix illustrates how the lot width is determined. It appears that the front yard depth will need to be increased in order to provide the minimum required lot width at the building setback line.

2. Section 240-24.F – Sewage facility planning modules will need to be submitted for review and approval by the Township and PADEP.

4. Section 240-25.C.2.d – All natural vegetation shall be maintained on all slopes of 15 percent or greater unless a landscape plan prepared by a landscape architect provides for replacement of existing vegetation. Regarding the removal of trees adjacent to the pool, the demolition plan should note that the steep slopes adjacent to the pool are man-made.

Subdivision and Land Development Ordinance

7. Section 205-30.B.7 – The subdivision plan should note the parcel boundary error of closure. The parcel boundary shall be balanced and closed with an error of closure not to exceed one foot in 10,000 feet. Note 18 on sheet 1 should be amended to indicate the actual error of closure.

8. Section 205-30.B.10 – The existing conditions plan indicates the location of a sanitary sewer manhole located approximately 200 feet east of the Colonial Lane and Cornwallis Drive intersection. The manhole invert elevation should be noted on the plan. The design engineer should evaluate the option of extending the gravity sewer line from this manhole if basement sewer service is to be provided for lots 1 and 2.

10. Sections 205-30.C.1.d, 205-44.E, and 205-51.A – As part of the proposed subdivision construction improvements, the Colonial Lane cartway width is to be increased from 14 feet to 20 feet, the cul-de-sac turnaround circle paving is to be increased from a 40 foot diameter to an approximately 74 foot diameter, and the cul-de-sac right-of-way diameter is to be increased from 100 feet to 110 feet. The road widening cross section detail on sheet 9 should be amended to indicate a 5 inch layer of BCBC base course overlain by a minimum 2 inch layer of binder course and a minimum 1.5 inch layer of wearing course.

11. Section 205-35.F – The proposed extent of tree removal and replacement will need to be reviewed and approved by the Township's Conservancy Board.

12. Section 205-35.G – No natural grade alterations shall be done within a distance of five feet from an adjoining tract. The design engineer should further evaluate the discharge point locations for the lot 1 and lot 2 drywells so that discharge is not directed toward the existing dwelling on adjoining parcel 53-4-40.1.

13. Section 205-39 – Traffic impact fee requirements will need to be addressed as part of the final plan approval.

18. Sections 205-62.A and .B – Street trees shall be installed on 40 foot centers (80 foot separation distance along the same side of the street) and shall consist of the species identified by this section. The plans need to identify proposed street tree locations along Cornwallis Drive.

Stormwater Management Ordinance 129-M-03

22. Section 304.B.18 – The plan(s) to be recorded will need to include a list and schedule of maintenance tasks to be performed for the proposed drainage and stormwater management facilities.

23. Sections 402.B and 404.A.1 – The stormwater management design will need to address how increased runoff directed toward the Colonial Lane intersection with Cornwallis Drive is to be controlled.

General Comments

26. The proposed yard drain top of grate elevations and the grading adjacent to the yard drains need to be adjusted to ensure capture of the intended runoff.

28. The outlet structure details on sheet 8 need to address how the control structures are to be installed within the yard drains. The two foot wide by two foot long yard drain dimensions are insufficient to include the outlet structure in the middle of the yard drain box.

31. Since the proposed limit of disturbance exceeds one acre, the erosion and sediment control plan will need to be submitted to the Chester County Conservation District for review and approval. A letter of adequacy from the Chester County Conservation District and an NPDES Permit are required for final plan approval.

The plan submission should be revised in accordance with the above comments. Please contact me if you have any questions concerning this review letter.

Sincerely,
YERKES ASSOCIATES, INC.

Michael Conrad, P.E.

Cc: Mullin Engineering