# ORDINANCE 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

Figure A.3 Infiltration Trench Detail

Figure A.4 Shed Stone Base Detail

Figure A.5 Deck Stone Base Detail

#### Appendix A.1

## Simplified Approach Applicability, Submittal and Approval Requirements

## Simplified Approach Applicability:

- Only projects with Regulated Activities that involve 500 or more square feet, but less the 2,000 square feet of Proposed Impervious Surfaces and/or less than 2,000 square feet of proposed Earth Disturbance may utilize the methodology presented in the "Simplified Approach to Stormwater Management for Small Projects" (Simplified Approach).
- The Applicant shall first review the planned project with the Township prior to initiating the Simplified Approach to confirm the following:
  - o 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:
  - o 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
  - o 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 (Figure A.3) or Infiltration Bed Figure A.4 or Figure A.5) collectively an "Infiltration BMP".

- 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 Facility located.
- Name, address and phone number of person responsible for preparation of the site plan.
- Location and dimensions of the Infiltration BMP 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 BMP
- 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 BMP.
- Locations of areas of vegetation to be managed or preserved that function as part of the Infiltration BMP.
- The property boundaries and locations of all surface and subsurface utilities, onlot waste water facilities, sanitary sewers, and water lines.

- The following as it pertains to any easements, covenants and deed restrictions established for the Infiltration BMP:
  - a. Boundaries delineated with bearings and distances shown that encompass the Infiltration BMP 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 or a blanket easement that encompasses the entire property;
  - 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 A.3 shows the typical infiltration trench configuration. Infiltration trenches shall incorporate or make provisions for the following elements:

- These facilities shall 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 shall be wrapped in nonwoven geotextile (top, sides, and bottom).
- There shall 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 shall contain a cleanout to collect sediment and debris before entering the infiltration area.
- Infiltration testing may be required by the Township 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 shall 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 shall 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 shall 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 shall be as small as possible with a ratio of less than 5:1 preferred.

#### Simplified Approach Stormwater Management Infiltration Bed

An infiltration bed is a rock-filled area 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. They are typically used under sheds and decks. Figure A.4 and Figure A.5 shows the typical infiltration configuration. Infiltration Beds shall incorporate or make provisions for the following elements:

- These facilities shall be located 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.
- The typical infiltration bed shall extend a least one (1) foot past the roof line of the shed or shall extend to the outer edge of the deck in order to capture the stormwater.
- The stone shall be placed on nonwoven geotextile (top and sides only)
- There shall be a positive overflow that allows stormwater that cannot be stored or infiltrated to be discharged into a nearby vegetated area.
- Roof downspouts shall not be connected to infiltration bed.
- Infiltration testing may be required by the Township 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 bed shall be at least 5 feet from any property line. It should not be located near stormwater Hotspots.
- Infiltration bed areas shall be protected from compaction by heavy equipment during and after construction.
- Infiltration beds shall 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 bed should be at least 1:1 preferred.

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

It is the Landowner's responsibility to properly maintain the Infiltration BMP 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 BMP 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.

#### Prepared by/Return to:

Kristin S. Camp, Esquire 118 W. Market Street, Suite 300 West Chester, PA 19382

UPI No
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# SIMPLIFIED APPROACH STORMWATER BEST MANAGEMENT PRACTICES OPERATION, MAINTENANCE, AND INSPECTION PLAN AND AGREEMENT

20, by and between, (hereinafter the "Landowner"), and East Goshe
Township, Chester County, Pennsylvania, (hereinafter "Township").
WITNESSETH:
WHEREAS, the Landowner is the owner of certain real property by virtue of a deed conveyance recorded in the Office of the Recorder of Deeds of the County of Cheste Pennsylvania, at Deed Book and Page having a UPI number (hereinafter "Property"); and
WHEREAS, the Landowner recognizes that the Stormwater Management Facilit located on the Property at:
(address of Property where the Stormwater Management Facility is located) must be inspecte and maintained; and
WHEDEAS the Township and the Landaumer for themselves and their administrators

WHEREAS, the Township and the Landowner, for themselves and their administrators, executors, successors, heirs, and assigns, agree that the health, safety, and welfare of the residents of the Township and the protection and maintenance of water quality require that a Stormwater Management Facility be constructed and maintained on the Property; and

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

Infiltration BMP – A structure as specifically identified in the Stormwater Management Site Plan (herein after "Plan"), 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 Township's Stormwater Management Ordinance, including, but not limited to an Infiltration Trench(s) or Infiltration Bed. The Infiltration BMP(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 BMP(s) and associated Conveyance(s); and

WHEREAS, the Township requires that the Storm Water Management Facility as shown on the Plan be constructed by the Landowner; the Storm Water Management Facility shall further be maintained by the Landowner, their administrators, executors, successors, heirs, and assigns in accordance with the associated operation and maintenance requirements included herein. The Plan is 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, their administrators, executors, successors, heirs, and assigns, in accordance with the maintenance requirements set forth herein;

**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.
- Management Facility as shown on the Plan in good working order acceptable to the Township and in accordance with the specific inspection and maintenance requirements outlined herein. At least twice a year and after significant rainfall events the Landowner shall inspect the Infiltration BM(s) and Conveyance(s) and remove any accumulated debris, sediment and invasive vegetation. Vegetation along the surface of an Infiltration Trench(s) or Conveyance(s) shall be maintained in good condition, and any bare spots are to be revegetated as soon as possible. Vehicles shall not 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. Any debris, such as leaves blocking flow in a Conveyance or blocking flow from reaching an Infiltration Trench, shall be routinely removed. The Landowner shall provide the Township with conformation of the semi-annual inspections on the form provided by the Township.

- 4. The Landowner hereby grants permission to the Township, 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 Township's Stormwater Management Ordinance (as amended). Whenever possible, the Township shall notify the Landowner prior to entering the Property.
- 5. The Landowner acknowledges that, per the Township's Stormwater Ordinance, it is unlawful, without written approval of the Township, 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 Township, the Landowner shall be in violation of this Agreement and the Township's Stormwater Ordinance, and the Landowner agrees that the Township 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 Township 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 Township.
- 7. In the event the Township, 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 Township for all expenses (direct and indirect) incurred within thirty (30) days of delivery of an invoice from the Township. Failure of the Landowner to make prompt payment to the Township may result in a civil action or 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, their executors, administrators, assigns, heirs, and other successors in interests, hereby release and shall release the Township, its employees, agents and designated representatives from all damages, accidents, casualties, occurrences or claims which might arise or be asserted against the Township 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 Township. In the event that a claim is asserted or threatened against the Township, its employees, agents or designated representatives, the Township 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 Township or, at the request of the Township, pay the cost, including attorneys' fees, of defense of the same undertaken on behalf of the Township. If any judgment or claims against the Township, 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 Township, including attorney's fees, regarding said damages, judgment or claims.
- 10. The Township 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 Township 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 Township 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 terms and conditions of this Agreement.
- 13. This Agreement shall inure to the benefit of and be binding upon, the Township and the Landowner, as well as their respective heirs, administrators, executors, assigns and successors in interest.
- 14. 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.

IN WITNESS WHEREOF, the parties have executed this Agreement the date first written above.

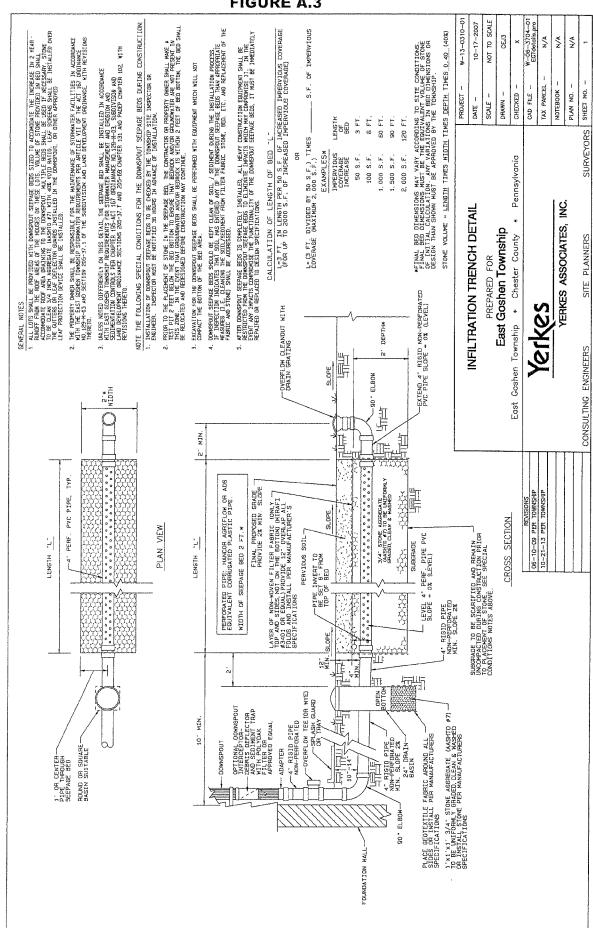
# LANDOWNER

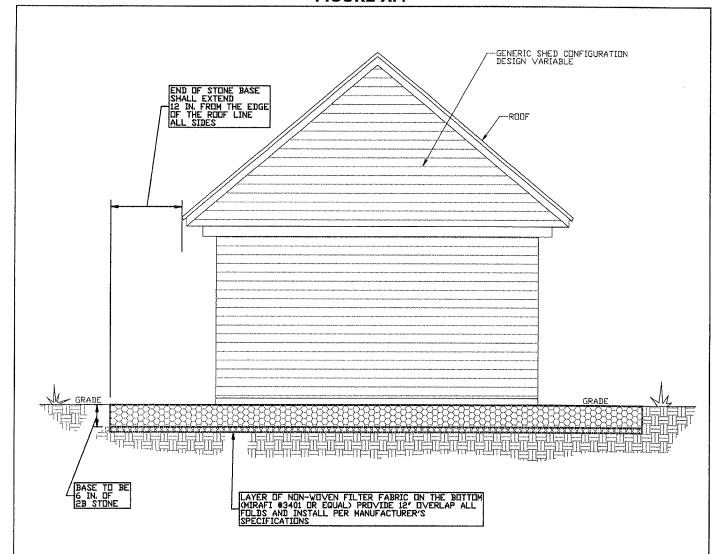
	BY:	
Witness	171,	Name:
A 444.		TOWNSHIP
Attest:		EAST GOSHEN TOWNSHIP
	BY:	
Louis F. Smith, Secretary		Chairman
		Board of Supervisors

COMMONWEALTH OF PENNSYLVANIA:
SS
COUNTY OF CHESTER :
On this, the day of, 2013, before me, the undersigned officer,
personally appeared, known to me (or satisfactorily
proven) to be the person whose name is subscribed to the within instrument, and acknowledged
that he/she executed the same for the purposes therein contained.
IN WITNESS WHEREOF, I hereunto set my hand and official seal.
Notary Public

My Commission Expires:

COMMONWEALTH OF PENNSYLVANIA:
SS
COUNTY OF CHESTER :
On this, day of, 20, before me, a notary public in and for the Commonwealth of Pennsylvania, the undersigned officer, personally appeared, who acknowledged himself to be the Chairman of the Board of Supervisors of East Goshen Township, and that he/she, as such official, being duly authorized to do so, executed the foregoing instrument for the purposes therein contained.  WITNESS my hand an official seal the day and year aforesaid.
Notary Public
My Commission Expires:

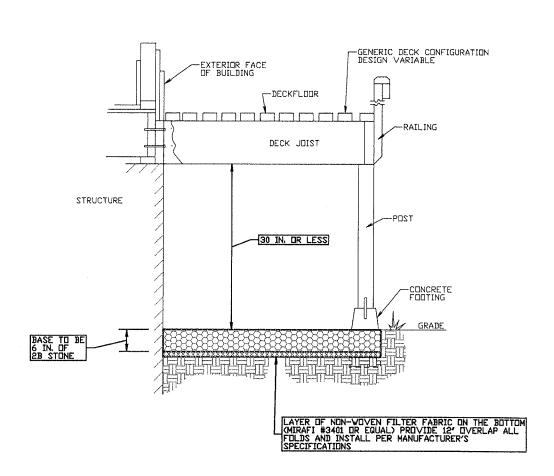




#### GENERAL NOTES

- 1. THIS DETAIL IS FOR THE INSTALLATION OF A STONE BASE BELOW THE AREA OF THE DECK AS SHOWN.
- 2. THE SHED DEPICTED IS A GENERIC REPRESENTATION AND IS NOT INTENDED TO BE AN APPROVED DESIGN BY EAST GOSHEN TOWNSHIP OR THIS OFFICE. THE SHED SHALL BE DESIGNED BY A PROFESSIONAL IN ACCORDANCE WITH ALL LOCAL, STATE AND/OR FEDERAL BUILDING CODE REQUIREMENTS.
- 3. ALL SHEDS SHALL BE APPROVED BY THE EAST GOSHEN TOWNSHIP BUILDING INSPECTOR.

SHED			PROJECT - W-13-0310-01  DATE - OCTOBER 21, 2013	
STONE BASE DETAIL				
F	PREPARED FOR		SCALE -	NOT TO SCALE
Eas	st Goshen Township		DRAWN	CEJ3
East Goshen Township To	wnship * Chester County :	* Pennsylvania	CHECKED -	NAC
Val			CAD FILE W-13	-0310-01EGTdetails.pro
Yerk	<b>ES</b>		TAX PARCEL -	N/A
	YERKES ASSOCIATES, INC.	•	NOTEBOOK -	N/A
	TELLINES ASSOCIATES, INC.	•	PLAN NO	N/A
CONSULTING ENGINEERS	SITE PLANNERS	SURVEYORS	SHEET NO	1



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	DECK		PROJECT -	W-13-0310-01
STONE BASE DETAIL		DATE - OCTOBER 21, 2013		
Past	PREPARED FOR		SCALE -	NOT TO SCALE
East	Goshen Township		DRAWN -	CEJ3
East Goshen Township Town	ship * Chester County *	Pennsylvania	CHECKED -	MC
Value			CAD FILE W-13	-0310-01EGTdetails.pro
Yerkes		TAX PARCEL -	N/A	
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	inted Addodiated, into.		PLAN NO	N/A
CONSULTING ENGINEERS	SITE PLANNERS	SURVEYORS	SHEET NO	1