STORMWATER BEST MANAGEMENT PRACTICE

NON-LAND DEVELOPMENT

EFFECTIVE 9/13/2022

All building projects that increase the building footprint on the property by 800 square feet or more require the installation of an on-lot stormwater management Best Management Practice (BMP) structure. Projects totaling 799 square feet or less of building footprint are exempt from implementing stormwater BMPs unless the activity is found to be a significant contributor to pollution of the waters of this commonwealth. If your proposed project requires stormwater management, please follow these steps:

1. Complete page 2 and sign/date.
2. Refer to page 3 for the Rock Sump Detail. Note, this is only a guideline and can/should be modified to meet site specific conditions.
3. Refer to pages 4-6. This is the Maintenance Agreement that must be adhered to for the life of the property. You do not have to print this out, however the property owner must schedule time to sign this document as it needs to be notarized. A fee of $216.75 payable to "Richland Township" can be made at that time (or online) so the Township Solicitor can record the Agreement with Allegheny County.

All stormwater management structures are to be inspected by the Township. Inspections require 24-hour notice. Call or email George Anderson the Township at 724-443-5921 or ganderson@richland.pa.us to schedule inspections or if you have any questions regarding this process.

STORMWATER BMP SIZING

RICHLAND TOWNSHIP

Step 1
Determine the total increase in impervious area in square feet

Step 2
Multiply the area calculated in Step 1 by **0.1433** to obtain the required volume of rock sump

Step 3
Circle the appropriate BMP size to construct based on the volume calculated in Step 2

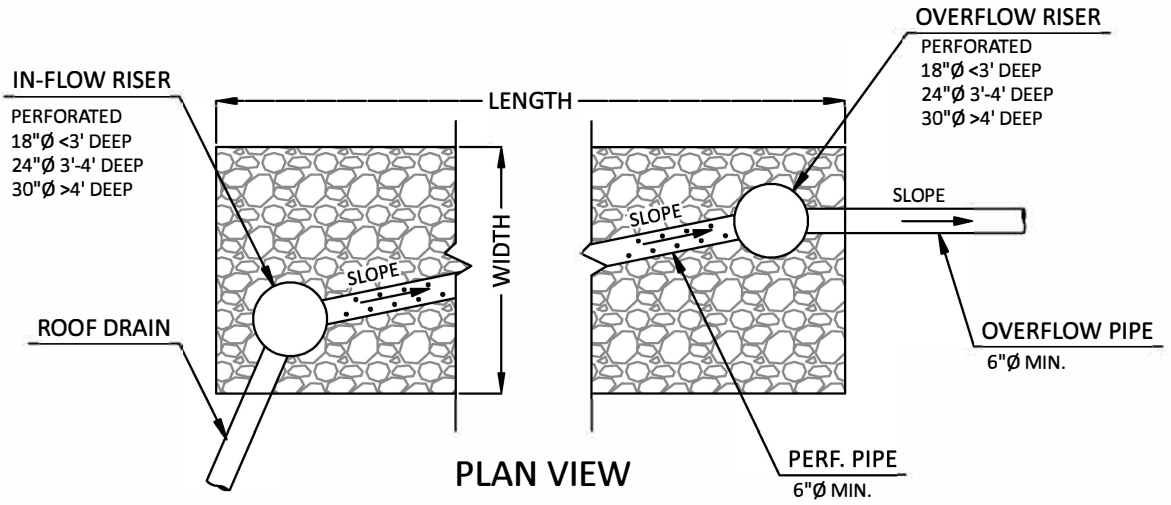
Volume (cu.ft)	Depth (ft)	Length (ft)	Width (ft)
100	4	5	5
120	4	6	5
140	4	7	5
160	4	8	5
180	4	9	5
200	4	10	5
150	5	5	6
180	5	6	6
210	5	7	6
240	5	8	6
270	5	9	6
300	5	10	6
210	6	5	7
252	6	6	7
294	6	7	7
336	6	8	7
378	6	9	7
420	6	10	7
280	7	5	8
336	7	6	8
392	7	7	8
448	7	8	8
504	7	9	8
560	7	10	8

Example:
Roof size is 25 ft wide by 42 ft long
Step 1 25 X 42 = 1,050 sf
Step 2 1,050 X 0.1433 = 150.5 cf
Step 3 Choose a 5ft deep by 5ft long by 6ft deep pit

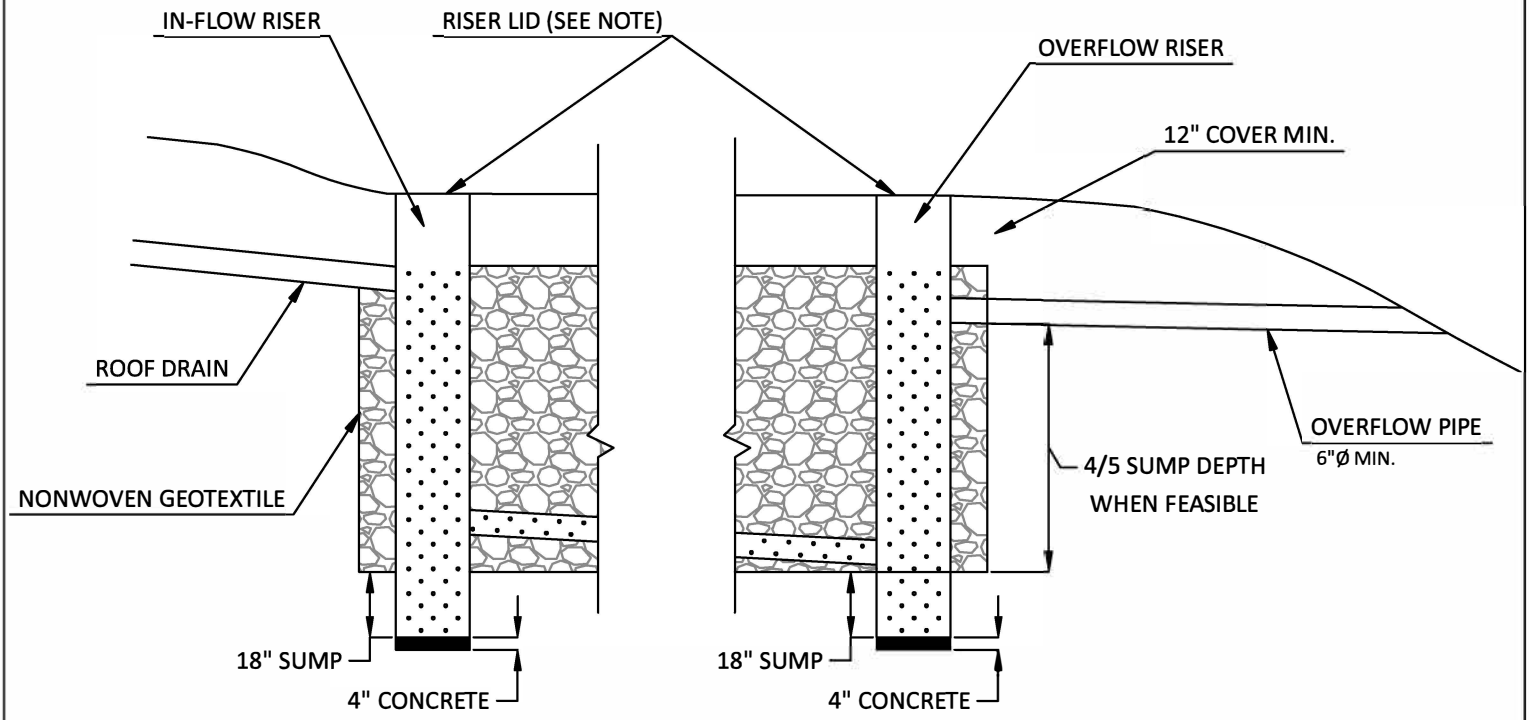
_____
(Address of Sump)

_____
(Applicant Name - print)

_____ _____
(Applicant Signature) (date)



PLAN VIEW



PROFILE VIEW

Notes:

1. All pits shall be no less than 10 feet away and placed downgradient from any structures;
2. The placement of pits shall be approved by the Township prior to installation;
3. Perforated piping - HDPE or PVC smooth interior 6" Ø minimum comply with AASHTO M252;
4. Risers shall be sized per the detail and extend 18" below the bottom of the sump pit for trapping debris to be cleaned out;
5. Riser lids must be compatible with the riser pipe and provide adequate safety and access for regular maintenance;
6. The 4" concrete base in the risers shall be connected to the riser using rebar in a minimum of 2 places in each riser base;
7. Geotextile shall line all 6 sides of the sump pit and be PennDOT Type B nonwoven;
8. Stone fill shall be AASHTO #3 with a void ratio of 40% as measured by ASTM C29;
9. When feasible, sumps shall be placed such that the discharge of the overflow is below the basement floor elevation; and
10. All pipes shall slope from inflow to outflow direction at a minimum of 1%, maximum of 5% slopes.
11. In the event an overflow pipe is not possible, the cover on the outflow riser shall be perforated and act as the primary overflow.

Construction Inspections Required:

Inspections are performed by the Township and require a 24-hour notice. Call (724) 443-5921 to schedule inspections.
1st Inspection - Once pit is excavated and liner installed; and
2nd Inspection - When pipes are connected and stone backfilled, so pipes are visible.

RICHLAND TOWNSHIP	RICHLAND TOWNSHIP 4019 DICKEY ROAD GIBSONIA, PA 15044 (724) 443-5921	ROCK SUMP DETAIL 3	NOT TO SCALE	D1

Address of Property _____

SMALL PROJECT STORMWATER BEST MANAGEMENT PRACTICES, OPERATIONS AND MAINTENANCE AGREEMENT

THIS AGREEMENT made and entered into this ____ day of _____, 20__, by and between _____, (hereinafter, simply or collectively referred to as the Landowner"), and Richland Township, Allegheny County, Pennsylvania, (hereinafter "Municipality");

WITNESSETH

WHEREAS, the Landowner is the owner, occupant, developer or homeowner's association with or interest in of certain real property as recorded by deed in the land records of Allegheny County, Pennsylvania, Deed Book _____ at Page _____, Block and Lot No. _____,) (hereinafter "Property").

WHEREAS, the stormwater management Best Management Practices (BMP) Operations and Maintenance Plan approved by the Municipality (hereinafter referred to as the "Plan") for the Property, provides for management of stormwater within the confines of the Property through the use of BMPs; and

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

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

NOW, THEREFORE, in consideration of the foregoing and intending to be legally bound, the parties hereto agree as follows:

1. The BMPs shall be constructed by the Landowner in accordance with the approved documents.
2. The Landowner shall operate and maintain the BMPs as shown on the Plan in good working order acceptable to the Municipality and in accordance with the specific maintenance requirements noted in the approved documents.

3. The Landowner agrees to inspect each BMP annually and after major storm events and correct any deficiencies noted during each inspection.
4. The Landowner hereby grants permission to the Municipality, its authorized agents and employees to enter upon the property, at reasonable times to inspect the BMPs whenever it deems necessary. Whenever possible, the Municipality shall notify the Landowner prior to entering the property. The Landowner shall reimburse the Municipality for the costs of inspection pursuant to Section 6 below.
5. In the event the Landowner fails to operate and maintain the BMPs as approved in good working order acceptable to the Municipality, the Municipality or its representatives may enter upon the Property and take whatever action is deemed necessary to maintain said BMPs. This provision shall not be construed to allow the Municipality to erect any permanent structure on the land of the Landowner, nor shall municipal action taken under this section be deemed to constitute taking of the Property in any respect. It is expressly understood and agreed that the Municipality is under no obligation to maintain or repair said facilities, and in no event shall this Agreement be construed to impose any such obligation on the Municipality. The Landowner hereby authorizes the Municipality, in addition to any other remedy that the Municipality may possess, to file a lien against the Property for all costs and expenses incurred by the Municipality in designing, approving, performing or contracting to perform any work in connection with the inspection or maintenance of the BMPs, and including all costs incurred in connection with filing and enforcing such lien.
6. In the event that the Municipality, pursuant to this Agreement, performs any work of any nature, or expends any fund in performance of said work for labor, use of equipment, supplies, materials, and the like, the Landowner shall reimburse the Municipality for all expenses incurred plus 10% for administrative overhead within 10 days of receipt of invoice from the Municipality.
7. The intent and purpose of this Agreement is to ensure the proper maintenance of the onsite BMPs 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.
8. The Landowner, its executors, administrators, assigns, and other successors in interests, shall release the Municipality's employees and designated representatives from all damages, accidents, casualties, occurrences, or claims which might arise or be asserted against said employees and representatives from the construction, presence, existence, or maintenance of the BMPs by the Landowner or Municipality. In the event that a claim is asserted against the Landowner and the Landowner shall defend, at their own expense, any suit based on the claim. If any judgment or

claims against the Municipality's employees or designated representatives shall be allowed, the Landowner shall pay all costs and expenses regarding said judgment or claim.

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

ATTEST:

WITNESS the following signatures and seals:

(SEAL) For the Municipality:

_____

(SEAL) For the Landowner:

_____

ATTEST:

RICHLAND TOWNSHIP County of ALLEGHENY, State of PENNSYLVANIA

I, _____, a notary Public in and for the County and State aforesaid, whose commission expires on the_____day of _____,20____, do hereby certify that Raymond P. Kendrick and _____, 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)**

(Source: This document was developed from Guidance on MS4 Ordinance Provisions, Document Number 392-0300-003, by the Pennsylvania Department of Environmental Protection, dated August 2, 2003.)

What is Stormwater?

Stormwater is water that runs off the land after precipitation (rain or snowmelt). Stormwater can drain down into the soil, evaporate back into the atmosphere, be used by plants, or flow into streams or other water bodies. Stormwater that runs off the land into streams or lakes is referred to as stormwater runoff. For areas in Pennsylvania that are wooded or natural meadows, it takes about an inch or more of rain (large storms) to produce runoff, as most precipitation is absorbed into the ground. When a natural area is developed, those spaces are replaced with roofs, driveways, sidewalks, and streets. These hard surfaces, called impervious surfaces, do not allow water to drain through them. When rain falls on impervious surfaces, it "runs off" into nearby waterbodies rather than infiltrating into the soil or being absorbed by vegetation.

This runoff can cause flooding, erosion of streams, sediment build up in lakes, and pollution of streams and lakes. Stormwater flows much faster along a paved roadway than it does in a natural area, and the faster moving water picks up more pollutants/contaminants like sediments, fertilizers, pesticides, and bacterias, carrying them to streams, lakes, etc. An increase in both the amount and speed of stormwater runoff from developed areas can also cause instability in streams, causing them to become wider, deeper, and straighter, and can cause a decrease in fish habitat and other wildlife habitat.

BMPs: what are they, & what do they do?

Stormwater Best Management Practices (BMPs) include designed systems like stormwater seepage pits (dry wells), rain gardens, infiltration trenches, and detention basins, as well as non-engineered approaches like protecting open space to manage stormwater. Stormwater BMPs aim to reduce the impact of development on downstream waterbodies by minimizing the amount of runoff, slowing down runoff, infiltrating runoff, evapotranspiring runoff, and/or filtering runoff.

Stormwater Regulations

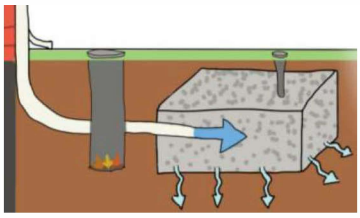
When a property is developed in Richland Township, the owner must manage stormwater as per the Richland Township 2008 Stormwater Management Ordinance through use of Best Management Practices (BMPs). Each stormwater BMP is approved by the Township and must be properly maintained over time.

The installation of an on-lot stormwater BMP is required by the Township for most building projects between 800 – 5,000 square feet. The current property owner is responsible for necessary maintenance of any stormwater BMPs on the property to ensure that they continue to function properly. A *Small Project Stormwater BMP Operations and Maintenance Agreement* is completed and filed at the Township as part of the building permit process. **If you are a new property owner and you did not receive a copy of the *Maintenance Agreement* for your property's stormwater BMP at the time of purchase, please contact the Township.** BMPs must be left in place and maintained; they may not be removed.

If each homeowner does their part to manage stormwater on their property, it helps protect streams in their community, as well as for communities downstream. Everyone plays an important role in the health of downstream waters!

RICHLAND TOWNSHIP
ALLEGHENY COUNTY PA

STORMWATER PITS (DRY WELLS)

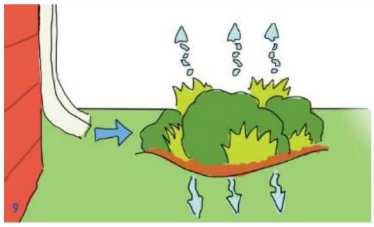


Stormwater seepage pits reduce stormwater volume and flow by allowing it to infiltrate into the soil. Roof runoff is directed through downspouts to an underground pit to be infiltrated. The stormwater is held in the underground storage facility (either a gravel filled pit or a prefabricated plastic or concrete tank) and then can drain slowly into the surrounding soils. There may be a smaller chamber located before the gravel pit or tank, which will collect leaves and other debris to prevent clogging of the larger pit. Stormwater pits permit the entry of water, but leaves, grass clippings, and other small debris may enter too. Over time, this accumulation of debris can clog the pit. If your pit becomes clogged, it can overflow during a heavy storm event, and can cause flooding to your home and nearby properties. For these reasons, it's important to keep the pit and associated drains clean and clear.

Maintenance:

- Clean and clear the drains regularly, especially following severe storms and in the autumn when leaves are falling. This is especially important if you have a lot of deciduous trees and shrubs on your property.
- Clean out gutters annually to keep debris out of the pit.
- There should be an above ground cap (or two) that allows access to the pit. Check the cap/s several times a year to make sure that the pipes in the pit are not accumulating sediment, trash, or other material. Over time the accumulation of debris may need vacuumed or require excavation.
- After large rain events, also check the above ground cap/s to ensure that the pit is draining within 72 hours. If the drain times are longer than 72 hours, the pit may need to be cleaned out or replaced.

RAIN GARDENS

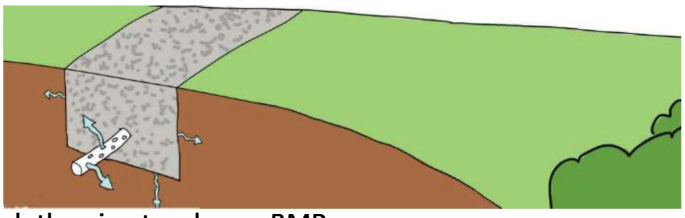


A rain garden is a shallow, vegetated depression that handles stormwater runoff. It is planted with certain native vegetation that filter/use the runoff and increase infiltration. When water pools in the depression, it can either infiltrate deeper into the soil, or be used by the vegetation through evapotranspiration. The deep, dense root system of perennial vegetation infiltrates more water compared to the shallow roots of lawn grasses. In larger storm events during which the rain garden may overflow, runoff is still filtered.

Maintenance:

- Check vegetation regularly. Perennial plants should be cut back if needed. Dead vegetation should be removed and replaced at the end of the growing season. Bare areas need replanted. Weeding may be required.
- Check the inflow pipe/s for sediment buildup. Remove any accumulated sediment.
- Mulch should be re-spread when erosion is evident and replenished as needed. Do not use mulch to "fill in" the depression of the rain garden - the depression area is needed for stormwater management.
- During periods of extended drought, rain gardens may require watering.
- Rain gardens should be checked after large rain storms to make sure that they are draining within 72 hours.

INFILTRATION TRENCHES



Infiltration trenches are essentially leaky pipes in a stone-filled trench. Surface runoff or downspouts can be directed to infiltration trenches, where the stormwater drains out of a perforated pipe into the trench/gravel and then into the soil. For larger storms that produce more runoff, some stormwater will be stored in the stone trench, but water can also flow through the pipe to a larger BMP.

Maintenance:

- Do not drive vehicles over an infiltration trench as it can cause compaction or crush the perforated pipes.
- If the trench has an access pipe, it should be checked and cleaned out regularly.
- Ponding of water on the surface of the trench indicates a drainage problem; it may need cleaned out or replaced.