

Landscape Your Way to a Dry Basement – Solutions to a ‘Knee Deep’ Problem!

Why is my basement getting wet?

- **Structure & landscape items**
 - Poor or damaged roofing construction materials
 - Gutters & downspouts aren't working properly, are misplaced, are undersized, or the most common, are clogged (leaves, branches, needles, cones, ice, & snow).
 - Lawn/shrub irrigation system discharging too much water next to the house
 - Poor site grading – Landscape is unable to deal with onsite/offsite stormwater inputs
 - Stormwater backing up into your home (older homes, pre-1980's)
- **Miscellaneous items**
 - Leaky basement windows & window wells
 - Hydrostatic pressure – Caused by the water table rising under a foundation - Groundwater in water-saturated soils is then pushed into the basement
 - Your neighbor's water can be your issue
- ***Interior - (Structure)*** – Where water can find its way in
 - Foundation cracks, holes, & other entry points
 - Sump pump - Remember to check and maintain for proper function.

Will it always be wet? Why does my basement get wet at certain times & not every year?

- 1) *Mother Nature & our changing climate*
- 2) *Development impacts – (Increasing impervious surfaces within your watershed)*
- 3) *Poor &/or the settling of soils or other hard surfaces - This can change water flow direction*
- 4) *Circumstance issues – A recent natural occurrence that can impede proper drainage*

Stormwater issues don't fix themselves – START with an integrated “outside/in” & top/down approach

- Determine if wet basement is one time or reoccurring
- Where is the water coming from? - Inspection hierarchy – ‘Outside/in’ & ‘top to bottom’
- The majority of basement leaks can be traced back to the drainage conditions around the outside of your basement.
- Cost options for a dry basement - The problem solving process of elimination

Structural improvements (Exterior)

- Downspouts & gutters
 - Correct size, correct placement on roof edge, correct location on house
 - Leaf or gutter guard – Yay or Nay?
- Window wells & protections – Covers, connecting to subsurface drain system
- **Winter note:** Do not pile snow against your house- it can melt & come in over the walls

Site improvements – Two approaches

- 1) Keep water away from structures
 - 2) Make changes to your impervious surfaces & 'Reduce, Reslope, & Resurface'
- Design Basics – Landscape/soil solutions
 - Treat your water like a train
 - Consider the way water enters, moves through, & leaves a site
 - Start with structures & work outward & always work with the topography
 - Make water & water processes visible (surface treatments)
 - Be creative, cost-effective, & maximize existing opportunities
 - Design Basics - Water (in the landscape)
 - Water travels downhill, freezes, and it doesn't like to turn corners ☺
- 1) Keep water away from structures – Landscape/soil solutions
 - *Regrading/redirecting water* – Shaping around the structure
 - Raising/lowering the grade
 - *Drainage systems & conveying water* – Moving away from the structure
 - Above ground & underground
 - *Rainwater infiltration* – Managing away from the structure
 - Rain gardens (yard & terrace) & native plants
 - Infiltration trenches
 - Consider subgrade/subsoils & water table
 - Homeowner infiltration test
 - *Rainwater harvesting* (rain barrels)
 - 2) Make changes to impervious surfaces – Reduce, Resurface, & Reslope
 - a. Next to our roofs, driveways make up the largest percentage of impervious surfacing
 - Reduce - Ecodriveways
 - Resurface - Porous/permeable paving, etc.
 - Reslope – Draining impervious surfaces into a rain garden, etc

Critical tips

- Design for failure - Building in redundancy (Primary & secondary protections)
- Don't just put on a Band Aid, Stop the "bleeding"- FINISH with a long-term, sustainable solution
- Be in the know if there is any maintenance required for your landscape/soil solution

How to Hire a Professional

- Select a landscape contractor with water issue experience
- They should pitch an integrated top/down & outside/in approach
- The contractor should work well with other necessary contractors
- Contractors should warranty their work and have good references