

Eco Home Solutions for Your Yard

Improper drainage can speed up the deterioration of a home drastically when it is left unaddressed. But there are a myriad of materials and techniques that can be used to repair existing damage and prevent additional degradation while adding beauty to your home.

Homeowners today often view an outdoor portion of their property or an exterior portion of their house as another room in their home. To meet this growing trend, professional designers, builders and remodelers have applied their talents to implementing creative designs that integrate attractive, durable solutions focusing on a home's exterior. In general, the goal is to create beautiful spaces that enhance outdoor enjoyment while providing durability with minimum maintenance. This goal is achieved through thoughtful design, coupled with quality workmanship and materials.

A home's exterior includes everything from the foundation, siding, roofing and gutters to decks, porches, patios, gazebos, pergolas, trellises, retaining walls, water features, landscaping, outdoor fireplaces, pools and spas, drainage and fencing. Exterior lighting, garden benches and accessories fit within this category as well.

Exterior Conditions Requiring Repair

This article focuses on the challenges posed by one home's exterior and the solutions that were devised to address them. The home's rear yard had water drainage problems, an insufficient walkway, overgrown shrubs, and disintegration of the front brick step and the steps from the rear yard to the detached garage. In addition, the garage foundation wall was leaking water and there was a lack of space to put trash and recyclable container bins. There were several other maintenance problems to deal with as well: The rear yard sloped from right to left and water runoff from the gutters and yard caused a muddy bog at the walkway to the garage and silt runoff deposited onto the neighbors nicely landscaped rear patio and garden. The fence was falling down and rotted in several locations.

Drainage-related water problems are a major cause of leaky basements, erosion under concrete steps, stoops

and sidewalks, insect infestations and mold growth. There are building code requirements that apply to site water management, run-off and the durability and waterproofing of foundations but many of these requirements are rarely enforced in most residential additions and remodeling projects.

Addressing Drainage Problems

My firm completed a rear addition on the home this past winter and it is our standard practice to ensure that the grading is performed properly and that all affected components, such as walkways and pavement, are repaired or replaced as needed. We had observed the this yard's poor drainage during the construction process and recommended new side and rear yard walkways be installed with a French drain system constructed underneath. The French drain allowed downspout water and excess surface water to be piped to the rear property line. A catch basin with a surface drain piped to daylight was added to collect water during torrential rains (which occur more and more frequently in this area) or if the French drain becomes clogged or overwhelmed. The drain was installed at the low point of the yard to ensure that run off onto the neighbor yard was kept to a minimum.

BY ALEX DEAN

Who said
you couldn't
have it all?



The catch basin drain is under large stones, which protects it from being blocked by yard debris. The new drain was tested during the heavy rains of spring 2014 and performed as designed. The French drain utilizes solid 4" PVC pipes with perforations on half of the circumference. It is embedded in gravel and wrapped in filter fabric to prevent clogging. It is sloped to drain. Corrugated black PVC drainpipe is not recommended for this purpose.

Expand Use of Available Space

The new trash storage pad tucks neatly into the side of the garage. Custom brick steps and a gate were designed and constructed to create a space to store the trash bins securely and inconspicuously. Reclaiming the side yard freed up enough space for the owner to use the garage for a vehicle. A car charging circuit was installed to provide the infrastructure for an electric vehicle. New brick steps replaced the failing wall and allow for access to the alley.

Addressing Erosion Damage

The brick steps were deteriorating from erosion caused by the poor drainage conditions and were completely rebuilt. The walls were raised, allowing for a narrow dry well along the garage foundation to remove earth from laying on it and eliminating the cause of the leaking foundation walls.

The front step was falling apart due to erosion from a downspout that discharged roof run-off right next to the step. The irregular heights of the step risers also made the area unsafe. The downspout was connected to a solid 4" PVC drain pipe, which discharges to a yard "bubbler" towards the front yard, approximately 12' away from the house. The new brick and slate step provides an attractive, safe and solid entry-way to the home, which will last for many years. A new handrail completed the upgrade.

The new side walkway and planting beds are pleasant and inviting and allow for easy access from the front of the house. A drip irrigation system with water sensors ensures efficient watering and ease of maintenance. Downspouts are piped under the walkway to daylight at the rear.

The rear yard transformation provides a peaceful garden in the middle of the city, designed and built for maximum enjoyment, durability and functionality, as well as minimum maintenance. ■

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