



Green Mountain Falls, Colorado

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Stormwater Management

Drainage Issues Affecting Construction

Residential Drainage

In most cases, the best solution for addressing excess surface water is to align stormwater flow along a common boundary or property line, whenever possible, in a manner so that it is centered on the property line.

Slope

In all cases, building floor levels must be carefully set so there is adequate slope away from the building in all directions, particularly when a floor opens to a lower grade.

Subdivision Drainage Plans

Many approved subdivisions have a stormwater drainage plan on file with the _____ County Engineering Department. These drainage plans contain details as to the appropriate horizontal and vertical placement of structures, driveways, culvert sizes and overall site grading (where applicable).

Property Owner Responsibility

It is the responsibility of the property owner and builder to ensure that stormwater drainage on individual subdivision lots is consistent with the approved subdivision drainage plan.

Certification of drainage and grading by a licensed professional engineer may be required before a Certificate of Occupancy can be issued.

Certification of Elevation

Some subdivisions require an elevation certificate by a licensed professional engineer before a Certificate of Occupancy can be issued.

Colorado Common Law

Under Colorado common law, upstream property owners are prohibited from directing stormwater onto downstream neighboring properties in a quantity or manner as to cause harm.

Landowners are considered to be equal under common law, whether private citizens, companies, road authorities, municipalities, state or federal governments.

Directing water onto a neighboring property in a manner different from the historic may be determined by a court to be a trespass. It is recommended that landowners consult a qualified engineer before re-directing the flow of water.

Neighbor Disputes

In the event of a dispute over stormwater, neighbors are encouraged to reach some common ground without going to court. Colorado courts have the ultimate authority in stormwater drainage disputes; however, court rulings may not make either side happy.

Stormwater Construction Permit

Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division
web page: www.cdphe.state.co.us/wq/permitsunit

You must obtain permit coverage (or an R-Factor waiver) to discharge stormwater from any construction activity that disturbs at least 1 acre of land (or is part of a larger common plan of development that will disturb at least 1 acre).

The owner or operator must apply for coverage under the Stormwater Construction Permit at least 10 days prior to the start of construction activities. The application is available from the Colorado Department of Public Health web page. www.cdphe.state.co.us/wq/permitsunit

Drainage Tips – Excerpt from USDA *Natural Resources Conservation Fact Sheet*

Gutters and Downspouts to Direct Roof Runoff

Be sure that your roof is properly fitted with gutters and downspouts that will release water onto a surface such as a paved driveway. Or you can connect downspouts firmly to solid plastic pipe that will carry water down slope away from your structures to a place where it will be released safely such as a paved roadside or storm drain ditch. Because twigs, pine needles and leaves can clog gutters and downspouts, clear gutters regularly and inspect them to ensure your roof runoff system is working properly.

Curbs and Berms Protect Sensitive Slopes

An asphalt or compacted-earth berm (a sandbag berm may be used as a temporary measure) on the outside edge of a driveway or building pad can direct runoff away from sensitive slopes to an area where it can be released safely. Recommended height of the berm is a minimum 12-18 inches. A pipe drop may be used to carry runoff down slope to a place where it can be released safely, such as a paved roadside ditch.

Lined Ditches Handle Road & Driveway Runoff

Roads and driveways can be graded toward a lined ditch or street gutter designated to handle water sheet flowing from paved surfaces and uphill slopes. At specific intervals along the main road, water is transported under the road through a culvert and released safely onto a non-erodible surface. An energy dissipater, such as a rock-lined outlet, can serve this purpose where slope is minimal. Roads and driveways generally require a number of drainage measures.

Grading Your Property

Correct grading of your land helps prevent water from pooling around foundations, flooding basements and adding unwanted weight to slopes.

In general, grade surfaces around a home so runoff flows away from foundations at a minimum grade of six (6) inches within the first ten (10) feet. Where lot lines, walls, slopes and other physical barriers prohibit six (6) inches within ten (10) feet, drains and swales must be provided to ensure drainage away from the structure.



Drainage for Retaining Walls

Good drainage must be provided for retaining walls. Weep holes and perforated pipe with a gravel backfill behind the wall work well. Small openings between boards of redwood retaining walls are also used for this purpose.

Diversions Ditches

A diversion ditch may be needed to handle surface runoff flowing onto your property from upslope. For slopes steeper than 5%, where large amounts of water are expected, the ditch channel should be lined with erosion-resistant concrete or lined with filter fabric and hand-placed rock. Water should be directed to a safe, non-erodible outlet - never onto the slope itself. Always consult a qualified engineer to design water diversion measures.

Never direct water onto adjoining property without consulting the property owner.

Maintenance

Regular maintenance of drainage systems will keep your drainage problems to a minimum.

- One of the best measures you can take is to watch runoff patterns on your property during a rain.
- Check gutters, downspouts and pipes during and after storms and remove debris that might cause clogging.
- Regularly inspect, clean, and repair berms and ditches as necessary.
- Check for and repair any damage caused by burrowing animals.
- Seed and mulch or otherwise vegetate all bare areas, especially on slopes.
- Regular maintenance saves time and money.

Safety Measures, Utility Locate

Do not start any work until the location of both above-ground and underground utilities lines have been determined.

Information on the location of underground utility lines can be obtained by calling the Utility Notification Center of Colorado (UNCC) 1-800-922- 1987

Do not release runoff onto septic leach fields, slopes or at the base of foundations.

Drainage Issues and FAQ

The City and County public works departments maintain the drainage systems within the right of ways of City and County roads. Drains and drainage issues beyond the right of ways is generally an issue between private landowners. Drainage is a constant source of problems between neighbors, and the Engineering Office is a resource for answers to questions by property owners regarding responsibilities relating to the problems. Most of these questions can be addressed by application of the general rules of water drainage and flow control and diversion that have been applied in common law for hundreds of years. The following sentence summarizes these rules and conditions:

A landowner may reroute water in any fashion he desires within the boundary of his property, provided that he continues to allow water that has been entering the property to continue to enter in the same location and quantities, and also provided that he continues to allow the water to exit in the same location and in approximately the same quantities as prior to the modifications.

If a landowner violates these rules, he is considered to be creating a nuisance and may be subject to civil action by an affected landowner.

When a parcel of property is subdivided or cut with new lines, the creation of the new property boundary crossing a drain locks in the location that water must be allowed to flow through from that point forward. This applies whether the drain was newly created by a developer prior to selling and cutting lots, or whether the drain was a historical natural drain defined by the original land slopes. When a new buyer purchases the new lot or lots, that buyer purchases the drainage conditions with the land, and any modifications to the drains within the lot will be the responsibility of the new owner. The new owner cannot legitimately justify blocking the entrance of water to his lot or changing the discharge to a new location based on conditions that may have existed prior to the changes made by the developer, but instead must follow the above rule and make provision for routing the water through his lot.

Frequently Asked Questions for Drainage:

Why should I have to deal with somebody else's water on my land?

Going back to old English Common Law, which is incorporated specifically in the state constitution, the legal history dictates that water does not belong to any individual, but is instead a "common enemy" that we all fight as it makes its way to the sea. In other words, mother nature delivers water in various methods to the earth, where it is either a resource or a curse, depending on the situation, that must be dealt with by each landowner it passes. The old common law formalized the concept of natural drains, which are the swales, ditches, gullies, creeks, and rivers that formed naturally as the landscape has evolved. Many lawsuits over the years have upheld the concept that it is not the water's presence that creates a new and valid tort claim, but instead, changes

to the existing conditions that increase or decrease substantially the amount of water entering or leaving a property.

Why isn't the County responsible for fixing drains though my yard?

Water drainage is considered to be a characteristic of a parcel when it is purchased, and is a factor in land values or lack of values. The County, by law, is prohibited from expending public resources on private property unless it is for a clearly definable public benefit. Installing, repairing, or improving drains in a private yard would result in an increase in the private property value at the taxpayer's expense. This remains the case even if the water is flowing from a drain pipe under a roadway, although the county may work on those portions of the drain that are located within the right-of-way owned by the County.

Can my neighbor create a pond that backs up over my property without my permission?

Not legally. However, to prevent it or obtain relief from the water, you would have to pursue the matter in the courts.

Can't I put the water back to where it was before the development was built?

It is unlikely that this would be possible unless every affected landowner between where you were changing the flow and where the flow re-enters the original natural drain were to agree. Once a developer changes the drains within his property and then creates the new lot lines, the drains are then redefined at the points they cross those lines. Any change would leave a landowner open to civil action.

Can I put up a berm to block the water running from my neighbor's yard into mine?

This would violate the rules for drainage in that you would be preventing water from entering your property where it has been entering and your neighbor could require you to remove the blockage. If you obtain your neighbor's agreement and the diverted water were routed to the drain below your property, this may be possible.