



Improving Individual Lot Grading (Part 1 of 2)

The Rochester Public Works Department receives a wide variety of citizen complaints each year. One of the chronic problem areas is associated with improper grading on individual lots. Every stage of development has the potential to create grading problems or magnify the problems caused at the previous stage.

Effective grading is a team effort that starts with developers and their design engineers. They must know the pre-construction site-specific conditions, the ultimate construction design needs, and how to link both with the surrounding drainage system. From this, they develop a grading plan that is reviewed and approved by City staff. The developer's contractors must then construct the rough grades to correspond with the approved plan. If they are not, problems can be quickly compounded as individual lot construction proceeds.

When builders buy lots from developers, they should confirm that their lot grades meet the approved grading plan requirements before beginning further grading or construction. Builders should get a copy of the approved grading plan for their lot and the drainage area surrounding it from their developer. These grading plan copies should be shared with the builder's grading contractors, foundation excavators, landscape contractors, and even the eventual building owners. By helping them understand the grading requirements and keeping the grading plan on site during construction, builders can help prevent future drainage conflicts.

Knowledge and implementation of these grading and drainage basics can help prevent long-term problems:

- Know the location of property lines and the location and width of drainage easements
- Keep drainage ways clear at all times
- Build the right house style at the right location on the right lot (homeowner requests for changes need single lot grading plan modification approval)
- Don't change the foundation elevation
- Always have a minimum 2% grade on a lot (pooling of water in yards is prohibited)
- Maintain positive drainage away from all structures
- Pay particular attention to drainage swale installation (especially designated emergency overflows and those with subtle grades)
- Create the slopes as approved (slopes steeper than 3:1 must go through a special approval process)
- Dealing with excess soil from foundation excavations require pre-planning
 - Excess soil does not belong in the right-of-way, any drainage way, or on other's property
 - If more that 50 cyd of soil is involved, it should not be moved to an off-site location without an approved grading plan
 - Don't redistribute soil in any manner that changes grades
 - Soil should not be pushed over a steep slope unless directed by the grading plan (be sure to compact soil to prevent future slumping and never bury trees)
- When you encounter grades that don't make sense (including grades on adjacent stabilized lots), don't make in-field "fixes" that upset delicate drainage balances without taking these steps:
 - Confirm the approved grades on the grading plan
 - Contact the consulting engineer to evaluate the problems before they are compounded further
 - Obtain approvals from the City for grading modifications
- Make frequent site inspections and verify that in-field conditions match the approved grading plan
- Be sure to communicate the need to avoid grading alterations at EVERY stage of construction.



Improving Individual Lot Grading (Part 2 of 2)

A Task Force of construction industry representatives and City staff was convened in 2003 to review Rochester's erosion and sediment control (ESC) and grading and drainage provisions. One recommendation of the group was that the City should not consider adopting new storm water management ordinances to control drainage and ESC problems until the existing ordinances are more effectively enforced.

The City has hired a Grading Inspector who will begin in-field inspections to insure that the requirements of the Rochester Code of Ordinances Ch. 50.03 (Building Code, Additional Provisions) are met. In particular, Ch. 50.03, Subd. 2. (Grading Requirements), Item B. (Site Grading), states that:

“No permit shall be issued for construction of a new building until the City Engineer has inspected and approved the site grading. The City Engineer shall approve the site grading when the rough grading of the site is substantially complete and the storm water facilities serving the site are complete and stable, in accordance with the following requirements:

- (1) Rough grading of the site shall be such that the ground elevations at property corners are in conformance with the property corner elevations indicated on the approved plans*

With the onset of the 2007 construction season, developers will be required to have their consulting engineers submit the vertical and horizontal elevations of lot property corners in map form to Public Works. Staff will review these submittals and verify that the approved grading plan conditions were constructed before releasing building permits. At the building stage, Public Works staff will be making periodic grading inspections so that site grading problems can be corrected before minor problems become major ones. They will be looking at conditions such as: the house style, its location on the lot, the relative elevations between houses and in drainage easements, the window placement, and the like. Any needed site grading corrections will be communicated to the builder. A revised lot grading plan may need to be prepared, reviewed and approved to address the correction. The specific procedures that will be utilized by the Grading Inspector are currently under development.

Throughout the building process, it is the Builder's responsibility to make sure that all the subcontractors, especially the grading contractor, foundation excavator, and landscape contractor maintain the lot grades that were approved in the grading plan. Builders, excavators, contractors and landscapers should receive copies of the approved grading plan and understand its requirements. Use these plans in the field and make regular inspections to insure proper grading.