

## **Hillside Protection Regulations Chagrin Falls, Ohio**

### **1165.01 INTENT.**

Whereas the hillside areas of the Municipality differ from the Municipality's flatlands, hillsides necessitate different provisions for their development and their protection. The Hillside Protection Regulations are established to achieve, among others, the following objectives:

- (a) To permit development on hillside areas while conserving and promoting the public health, safety, convenience and general welfare by minimizing water run-off and soil erosion problems incurred in adjustment of the topography to meet development needs;
- (b) To use the best accepted design, landscape architecture, architecture and civil engineering to preserve, enhance and promote the existing and future appearance and resources of hillside areas;
- (c) To preserve and enhance the natural beauty of the landscape by encouraging the maximum retention of natural topographic features such as natural drainage swales, streams, slope ridge lines, rock outcroppings, vistas from and of the hillsides, trees and other natural plant formations and to retain the sense of identity and image that the hillside areas now impart to the Municipality.

(Ord. 1988-32. Approved by voters 11-8-88.)

### **1165.02 DEFINITIONS.**

(a) "Average percent slope."

Average percent slope "S" is computed by the formula:

$$S = (0.00229 \ I \ L) / A$$

where S = Average percent slope

I = Contour interval, in feet\*

L = Summation of length of contours, in feet

A = Area in acres of parcel being considered

\*Calculations of average percent slope should be based upon accurate topographic surveys using a contour interval no greater than ten feet and a horizontal map scale of 1" : 200' or larger.

(b) "Cut" means a portion of land surface or areas from which the earth has been removed or will be removed by excavation; the depth below the original ground surface or excavating surface.

(c) "Earth moving" means any excavating, cutting or filling, or any stockpiling thereof.

(d) "Erosion" means the general process whereby soils are detached and moved by the flow of surface or subsurface water, wind, ice and gravity.

(e) "Excavating" means removing of soil or other materials by any means whatsoever from water or land on or beneath the surface thereof or beneath the land surface, whether exposed or submerged.

(f) "Fill" means depositing of soil, rock or other materials by other than natural means.

(g) "Finish grade" means the final grade or elevation of the ground surface after grading is completed.

(h) "Grade" means the degree of rise or descent of a sloping surface.

(i) "Grading" means any excavating, cutting or filling, stockpiling of land or earth or combination thereof, including the conditions resulting from any of the above.

(j) "Hillside area" includes land in all zoning districts in the Municipality with an average percent slope of twelve percent (12%) or greater.

(k) "Hillside control measures" means all of the planning work and control that is required and specified by this chapter.

(l) "Impervious surface" means roads, buildings and structures as defined in Section 1107.05, tennis courts, roofs, driveways, sidewalks, pools, patios, pool decks, decks, parking lots and other similar surfaces.

(m) "Natural ground surface" means the ground surface in its original state before any grading, excavation or filling.

(n) "Natural vegetation" means plant materials which are indigenous to the area and exist on a site prior to any construction or earth moving activity.

(o) "Owner/developer/builder" means an individual, firm, association, syndicate, partnership or corporation having sufficient proprietary interest to seek development of land.

(p) "Run-off" means the part of precipitation which flows over land without filtering into the soil.

(q) "Undisturbed" means that portion of the parcel to be developed which will not be regraded, have any vegetation removed from or have any impervious surface constructed on or over as specified in this chapter.

(Ord. 1992-83. Passed 11-9-92.)

### **1165.03 PROCEDURES.**

Upon the filing of a request for approval of a building permit, grade plan approval or subdivision, the Village Chief Administrative Officer shall use the following procedures to determine whether the proposed action is governed by provisions of this chapter and whether a hillside protection permit is required for a parcel or part of a parcel.

(a) The average percent slope shall be calculated and this information shall be supplied by the applicant at the time of filing of the application with the Municipality.

(b) The application shall be reviewed by the Village Engineer who shall then notify the Village Chief Administrative Officer if a hillside protection permit is required.

(c) If a hillside protection permit is required, the owner/developer shall be required to include hillside control measures with grading, hydrological and landscaping plans as specified in Section 1165.04.

These plans shall be submitted to the Village Engineer for approval.

(d) If it is determined by the Village Chief Administrative Officer that the action is governed by these provisions, then a hillside protection permit shall be required before a building permit or subdivision permit is issued to the owner or developer by the Village. A hillside protection permit shall be issued in phases as determined by the Village Chief Administrative Officer and the Village Engineer before the next phase permit will be issued.

(e) The Planning and Zoning Commission shall have the authority to request the developer to modify the hillside protection plans and preliminary plot plans in hillside areas to better meet the standards and control measures of this chapter, to protect the health and welfare of the adjacent property owner and to protect the surrounding hillside and its natural topography.

(f) The Planning and Zoning Commission shall have the authority to modify or waive building setback requirements on a lot by lot basis. This authority shall be based on a greater concern for the protection of the surrounding hillside and its natural topography.

(g) The Planning and Zoning Commission shall have the authority to require the owner to place dwelling units on the portion of the property to be developed that has a slope of less than twelve percent (12%) when this is feasible and possible within the confines of the area to be developed.

(h) The Planning and Zoning Commission shall approve hillside control measures, subdivision and building plans or preliminary plot plans for hillside areas if it finds based on the examination of the required studies, plans and improvements and upon the recommendations of the Village Chief Administrative Officer and Village Engineer that the proposed development is consistent with development policies and basic technical standards set forth in this chapter provided, however, that the Planning and Zoning Commission may deny a permit

if it is in the Commission's opinion that the proposed project is so designed or will be so located, constructed and maintained that the public health, safety and welfare will be endangered.

Refer to Section 1165.06 for additional information on administration and enforcement.

(Ord. 1992-83. Passed 11-9-92.)

#### **1165.04 REQUIRED HILLSIDE CONTROL MEASURES, STANDARDS AND PLANS.**

The owner/developer shall comply with the following provisions:

(a) Pre-Construction Record. A video tape record shall be filed with the Village Chief Administrative Officer prior to any building, grading or clearing activity on the parcel to be developed. This video tape record shall completely depict the pre-development condition of the parcel in sufficient detail to enable the Chief Administrative Officer to evaluate compliance with these regulations during and following completion of construction activities under these regulations. The Chief Administrative Officer shall have the authority to request additional video tape records of pre-development conditions of the parcel being developed to satisfy the intent of this section when in his opinion such additional records are required.

(b) Grading Plans. A grading plan shall be required for each lot in conformance with Section 1307.19 of the Building Code and in addition shall show the natural topography of the total parcel to be developed, the location and size of all structures, the finish grade of all improvement locations and the dimensions, elevations and contours of any proposed earth moving and shall be submitted with each application for a hillside protection permit and shall show the following:

(1) A detailed topographic map. A contour map with two-foot intergrals or suitable cross sections or profiles of areas where streets, driveways, buildings, utilities or grading construction is proposed shall be required.

(2) Road profiles. Profiles and cross sections of all significant changes in the cross slopes; the cross section to show proposed and natural grade at the centerline of the road, the right-of-way line and the proposed building setback lines shall be required.

(3) Special terrain notes. Notes and details of existing terrain shall be shown over the required topographic information.

(4) Material disposal. A description shall be included of methods to be employed in disposing of soil and other material removed, including the location of the disposal site.

(5) Timetable. A schedule shall be included showing when each stage of the project will be completed, including the estimated starting and completion dates.

(c) Earth Moving Controls. The following minimum standards shall apply to earth moving:

(1) Minimum alterations. Earth moving shall be limited to the minimum required for building foundations, driveways, drainage control structures and immediate yard areas. With the exception of purely stockpiling or restoration efforts, substantial earth moving shall not be permitted.

(2) Erosion control. All earth moving shall create the lowest possible potential for airborne or waterborne transportation of soil.

(3) Compaction. All fill shall be stabilized in conformance with generally accepted engineering standards, including a compacted density of a least ninety-five percent (95%).

(4) Prompt completion. All earth moving shall be accomplished in the shortest practical period of time. In no event shall the existing natural vegetation be destroyed, removed or disturbed more than fifteen days prior to the initiation of construction.

(5) Cut and fill. Cut and fill slopes shall be no steeper than two horizontal to one vertical; fill slopes shall not be located on natural slopes steeper than 2:1; or where fill slope toes out within twelve feet horizontal of the top of an existing or planned cut slope.

(6) No unnecessary cuts and/or fills shall be allowed in order to create additional lots or building sites.

(d) Hydrological Controls. The following standards shall apply to hydrological controls:

(1) Natural channels. Natural drainageways shall be preserved to the maximum extent possible.

(2) Controlled run-off. Run-off from concentrated impervious surfaces shall be collected and transported in a pipe or other approved manner to a Municipal storm sewer system if available, or if unavailable, to the bottom of a ravine in a safe, adequate and nonerosive manner. Where required by the Village engineer, storm water retention facilities shall be installed.

(3) Interceptor ditches. Where required, interceptor ditches shall be established above steep slopes in such a way as not to saturate or erode soil, and the intercepted water shall be conveyed in a pipe or other approved manner

to a Municipal storm sewer system or to the bottom of a ravine or steep slope.

(4) Discharge point stabilization. Natural drainageways shall be established by means consistent with sound professional engineering practice, below drainage and culvert discharge points for a distance sufficient to convey the discharge without channel erosion and in such manner as to dissipate the energy of the discharge.

(5) Early completion. The overall drainage system shall be completed and made operational at the earliest possible time during construction.

(6) Impact on adjacent property. Natural or usual flow of surface or subsurface water shall not be altered or obstructed in any way by grade changes that may adversely affect the property of another by either contributing to pooling or collection of waters, or to the concentration or intensification of surface water discharge. However, construction which might otherwise be prohibited hereinabove may be allowed if such waters are safely and adequately drained in a nonerosive manner by a pipe or other approved manner to a storm sewer or to a channel at the bottom of a ravine or steep slope.

(e) Hydrological Control Plan. A hydrological control plan, prepared by a registered professional civil engineer or landscape architect, shall be submitted with each application for a hillside protection permit. This plan shall include the following:

(1) Hydrologic inventory. A reasonably detailed description of:

- A. The direction of flow within the local drainage basin;
- B. All natural drainage channels directed toward and away from the site within fifty feet of the perimeter of the site;
- C. Other natural drainageways which may affect or be affected by the proposal; and
- D. Any future realignment of the natural ravine channel.

(2) Special notations. Special notations shall be included highlighting details of the terrain, existing natural surface drainage and areas subject to seepage or spring flow.

(3) Proposed facilities. The location of all surface and subsurface drainage devices and protective measures to be installed as part of the proposed development, together with a statement concerning any active erosion occurring at the outlet of existing or proposed systems.

(f) Vegetation and Revegetation. The following standards shall apply to vegetation and revegetation:

(1) Schedule. The percent of each parcel to remain in an undisturbed state shall be determined by the average percent of slope within each parcel to be developed. The following schedule shall apply to development in hillside areas:

<u>Average Percent (%)</u> <u>Slope of Parcel</u>	<u>Minimum Percent (%) of</u> <u>Parcel To Be Undisturbed</u>
12-18	65
19-24	73
25-30	81
31-35	89
36 - 100	97

(2) Smallest area. The smallest practical area of land shall be exposed in any given time during development. Such exposure shall be kept to as short a duration of time as practical.

(3) Temporary measures. Where required, temporary vegetation, mulch or other acceptable cover shall be used to protect areas exposed during development and to prevent airborne or waterborne transportation of soil.

(4) Revegetation. A mix of plantings (preferably native with adequate deep root systems) shall be used to landscape steep slope areas disturbed by earth moving and construction.

(g) Landscape Plan. A landscape plan, prepared or approved in writing by a professional registered landscape architect trained and experienced in both the characteristics of plant material and proper procedures for installation, shall be submitted with each application for a hillside protection permit. This plan shall include the following:

(1) Existing inventory. A site plan inventory describing the existing vegetation cover of the property and showing those areas where the vegetation will be removed as part of the proposed development.

(2) Revegetation. A site plan describing proposed revegetation of disturbed areas and specifying the materials to be used.

(3) Written description. A detailed description of any slope stabilization and revegetation methods, together with the rationale for selecting the plant materials and planting techniques to be used.

(h) Excluded Activities.

(1) Landscaping. This chapter shall not be interpreted to prohibit normal landscape maintenance or routine arboreal activities or to prohibit small scale planting of ornamental flowers or shrubs, or the removal of diseased, dead or damaged trees. However, such activities shall be carried out to conformance with the standards of vegetation or revegetation of this chapter.

(Ord. 1992-83. Passed 11-9-92.)

**1165.05 HOLD HARMLESS PROVISIONS.**

The following hold harmless provisions pertain to any construction or any earth moving activities permitted by the administration of this chapter:

- (a) Limited Obligation. Compliance with the procedures of this chapter and the issuance of any related permits shall not be construed to impose any legal obligation upon the Municipality or its elected or appointed officials.
- (b) Civil Claims. Compliance with the procedures of this chapter and the issuance of related permits shall not relieve the property owner from civil liability claims by other property owners.
- (c) Endorsement. Compliance with the procedures of this chapter and the issuance of related permits do not imply approval of, the need for or the benefit or efficacy of the proposed construction; nor does it constitute any assertion that the proposed construction will not result in damage to the property in question or to adjoining property.

(Ord. 1992-83. Passed 11-9-92.)

**1165.06 ADMINISTRATION AND ENFORCEMENT.**

- (a) Administration and Enforcement. As prescribed in Chapter 1109.
- (b) Additional Site Inspections. Additional site inspections shall be scheduled by the Village Administrator or Engineer during and upon completion of each phase of the hillside development. Construction activity shall be halted if it is found upon inspection that a situation exists or could result which endangers the health, safety or welfare of adjacent property owners.
- (c) Appeals. As prescribed in Chapter 1111 of the Planning and Zoning Code.
- (d) Separability. If for any reason, any change, sentence paragraph, section or other part of these Subdivision Regulations should be decided by a court of competent jurisdiction to be invalid, such judgment shall not affect the validity of these Hillside Protection Regulations as a whole, or any part thereof, other than the part so held to be invalid.
- (e) Relation To Other Laws. The provision of these Regulations shall supplement any and all laws of the State, ordinances of the Municipality or any and all rules and regulations promulgated by authority of such law or ordinance relating to the



purpose and scope of these Regulations. Whenever the requirements of any other lawfully adopted law, ordinance, regulation, resolution or rule, the more restrictive or that imposing the higher standards shall govern.

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