

## ATTACHMENT A.2

### CHAPTER 39 – MULTNOMAH COUNTY ZONING CODE (Geologic Hazards Permit)

*The following text is used within the proposed amendments:*

Double Underline = Proposed new language  
~~Strikethrough~~ = Language proposed for removal

#### PART 5 - Overlays

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#### 5.B – GEOLOGIC HAZARDS OVERLAY (GH)

##### § 39.5070 [33.5500]- PURPOSES

The purpose of this Subpart 5.B is to regulate ground disturbing activity within geologic hazard areas in order to promote public health, safety and general welfare and to minimize the following risks potentially arising from ground disturbing activity or the establishment or replacement of impervious surfaces: public and private costs, expenses and losses; environmental harm; and human-caused erosion, sedimentation and landslides. The purposes of the Geologic Hazards (GH) Overlay, MCC 39.5070 through MCC 39.5095, are to promote the public health, safety and general welfare, and minimize public and private losses due to earth movement hazards in specified areas and minimize erosion and related environmental damage in unincorporated Multnomah County, all in accordance with ORS 215, LCDC Statewide Planning Goal No. 7 and OAR 340-41-455 for the Tualatin River Basin, and the Multnomah County Comprehensive Plan policies relating to natural hazards. In addition, the GH is intended to:

- (A) Protect human life;
- (B) Protect property and structures;
- (C) Minimize expenditures for rescue and relief efforts associated with earth movement failures;
- (D) Control erosion, production and transport of sediment; and
- (E) Regulate land development actions including excavation and fills, drainage controls and protect exposed soil surfaces from erosive forces; and
- (F) Control stormwater discharges and protect streams, ponds, and wetlands within the Tualatin River and Balch Creek Drainage Basins.

§ 39.507395 [33.5525] DEFINITIONS.

For purposes of MCC 39.5070 through MCC 39.5110, the following terms and their derivations shall have the meanings provided below: As used in this Subpart 5.B, unless the context requires otherwise, the following terms and their derivations shall have the meanings provided below:

**Best Management Practices** - Methods that have been determined to be the most effective, practical means of preventing or reducing erosion or sedimentation, including but not limited to: use of straw bales, slash windrows, filter fabric fences, sandbags, straw cover, and jute netting.

**Certified Engineering Geologist**—Any person who has obtained certification by the State of Oregon as an engineering geologist.

**Cut**—

- (1) An excavation;
- (2) The difference between a point on the original ground surface and the point of lowest elevation on the final grade;
- (3) ~~The material removed in excavation work.~~

**Development** – In addition to the definition of development in MCC 39.2000, for purposes of this Overlay, “development” also means, any human-made change defined as buildings or other structures, mining, dredging, paving, or ground disturbing activities filling, grading in amounts greater than ten (10) cubic yards on any lot ~~or excavation~~, and any activity that results in the removal of more than 10 percent of the existing vegetation in a Water Resource Area or Habitat Area on a lot or parcel.

**Development Area**—~~The total area of alteration of the naturally occurring ground surface resulting from construction activities whether permanent or temporary.~~

**Drainage Area**—~~The subject property together with the watershed (acreage) contributing water runoff to and receiving water runoff from the subject property.~~

**Drainageway**—Any natural or artificial stream, swale, creek, river, ditch, channel, canal or other open water course.

**Earth Movement**—Any type of land surface failure resulting in the downslope movement of material. The term includes, but is not limited to, soil creep, mudflow, rockslides, block failures, and massive landslides.

**Erosion**—The wearing away or removal of earth surface materials by the action of natural elements or forces including, but not limited to, wind, water or gravity.

**Excavation**—Any act by which earth, sand, gravel, rock or any similar material is dug into, cut, quarried, uncovered, removed, displaced, relocated or bulldozed, including the conditions resulting therefrom.

**Fill**—

(1) Any act by which earth, sand, gravel, rock or similar material is pushed, placed, dumped, stacked, pulled, transported, or in any way moved to a new location above the existing natural surface of the ground or on the top of a stripped surface, including the condition resulting therefrom.

(2) The difference in elevation between a point on the original ground surface and the point of higher elevation on a finished grade.

(3) The material used to make a fill.

**Geologic Hazards Overlay Map – A series of maps maintained and updated from time to time by the Land Use Planning Office, Department of Community Services.**

**Geotechnical Engineer**—A Civil Engineer, licensed to practice in the State of Oregon, who by training, education and experience is competent in the practice of geotechnical or soils engineering practices.

**Geotechnical Report** – Any information required in addition to GHP Form 1 which clarifies the geotechnical conditions of a proposed development site. Examples of this would be reports on test hole borings, laboratory tests or analysis of materials, or hydrologic studies.

**Grading**—Any stripping, cutting, filling, stockpiling or any combination thereof, including the land in its cut or filled condition.

**GHP Form– 1** – The form required for specified developments subject to the Geologic Hazards Overlay. It contains a geotechnical reconnaissance and stability questionnaire which must be filled out and certified by a Certified Engineering Geologist or Geotechnical Engineer.

**Land-disturbing Activities**—Any act which alters earth, sand, gravel, or similar materials and exposes the same to the elements of wind, water, or gravity. Land-disturbing activities includes: excavations or fills, site grading, and soil storage.

~~**Mulch**—Organic materials, such as straw, bark, jute, coconut fibers, or nut shells spread over the surface of the ground, especially freshly graded or exposed soils, to prevent physical damage from erosive agents such as storm water, precipitation or wind, and which shield soil surfaces until vegetative cover or other stabilization measures can take effect.~~

**Ordinary High ~~Water Mark~~ Watermark**— Features found by examining the bed and banks of a stream and ascertaining where the presence and action of waters are so common and usual, and so long maintained in all ordinary years, as to mark upon the land a character distinct from that of the abutting upland, particularly with respect to vegetation. For streams where such features cannot be found, the channel bank shall be substituted. In braided channels and alluvial fans, the ordinary high ~~water mark~~ watermark shall be measured to include the entire stream feature.

**Slope**—

~~(1) Any ground whose surface makes an angle from the horizontal; or~~

~~(2) The face of an embankment or cut section.~~

~~**Slope Hazard Map**—A series of maps maintained and updated from time to time by the Land Use Planning Office, Department of Community Services.~~

~~**Spoil Material**—Any rock, sand, gravel, soil or other earth material removed by excavation or other grading activities.~~

**Stream** – Areas where surface waters flow sufficient to produce a defined channel or bed. A defined channel or bed is indicated by hydraulically sorted sediments or the removal of vegetative litter or loosely rooted vegetation by the action of moving water. The channel or bed need not contain water year-round. This definition is not meant to include irrigation ditches, canals, stormwater runoff devices or other entirely artificial water bodies ~~watercourses~~ unless they are used to convey Class 1 or 2 streams naturally occurring prior to construction. Those topographic features resembling streams but which have no defined channels (e.g. swales) shall be considered streams when hydrologic and hydraulic analyzes performed pursuant to a development proposal predict formation of a defined channel after development.

**Stream Protection** – Activities or conditions which avoid or lessen adverse water quality and turbidity effects to a stream.

**Topographic Information** – Surveyed elevation information which details slopes, contour intervals and ~~drainageways~~ water bodies. Topographic information shall be prepared by a registered land surveyor or a registered professional engineer qualified to provide such information and represented on maps with a contour interval not to exceed 10 feet.

**Vegetation** – All plant growth, especially trees, shrubs, grasses and mosses.

**Vegetative Protection** – Stabilization of erosive or sediment-producing areas by covering the soil with:

(1) Permanent seeding, producing long-term vegetative cover;

- (2) Short-term seeding, producing temporary vegetative cover;
- (3) Sodding, producing areas covered with a turf or perennial sod-forming grass; or
- (4) Netting with seeding if the final grade has not stabilized.

**Water Body**—Areas permanently or temporarily flooded including rivers, streams, sloughs, aquifers, wetlands, creeks, lakes, ponds, coastal waters, and drainages (including intermittent streams and seeps).

**Watercourse**—A channel in which a flow of water occurs, either continuously or intermittently with some degree of regularity. Watercourses may be either natural or artificial. Watercourse includes a river, stream, creek, slough, ditch, canal, or drainageway.

**§ 39.5075 [33.5505] — PERMIT REQUIRED**

All persons proposing development, construction, or site clearing (including tree removal) on property located in hazard areas as identified on the Slope Hazard Map, or on lands with average slopes of 25 percent or more shall obtain a Geologic Hazard Permit as required in the GH, unless specifically exempted in MCC 39.5080.

**§ 39.5080 [33.5510] — EXEMPT LAND USES AND ACTIVITIES**

The following are exempt from the GH:

(A) Development activities approved prior to February 20, 1990; except that within such a development, issuance of individual building permits for which application was made after February 20, 1990 shall conform to site-specific requirements applicable herein.

(B) General Exemptions—Outside the Tualatin River and Balch Creek Drainage Basins, all land-disturbing activities outlined below shall be undertaken in a manner designed to minimize earth movement hazards, surface runoff, erosion, and sedimentation and to safeguard life, limb, property, and the public welfare. A person performing such activities need not apply for a permit pursuant to the GH, if:

- (1) Natural and finished slopes will be less than 25 percent; and,
- (2) The disturbed or filled area is 20,000 square feet or less; and,
- (3) The volume of soil or earth materials to be stored is 50 cubic yards or less; and,
- (4) Rainwater runoff is diverted, either during or after construction, from an area smaller than 10,000 square feet; and,
- (5) Impervious surfaces, if any, of less than 10,000 square feet are to be created; and,
- (6) No drainageway is to be blocked or have its stormwater carrying capacities or characteristics modified.

(C) Categorical Exemptions—Notwithstanding subsections (A) and (B) (1) through (6) above, the following activities are exempt from the permit requirements, except that in the Tualatin River Drainage Basin, activities which effect water quality shall require a Permit pursuant to OAR 340 41 455 (3):

~~(1) An excavation below finished grade for basements and footings of a building, retaining wall, or other structure authorized by a valid building permit. This shall not exempt any fill made with the material from such excavation, nor exempt any excavation having an unsupported finished height greater than five feet.~~

~~(2) Cemetery graves, but not cemetery soil disposal sites.~~

~~(3) Excavations for wells, except that sites in the Tualatin Basin shall require Erosion Control Plans for spoils or exposed areas consistent with OAR 340-41-455 (3).~~

~~(4) Mineral extraction activities as regulated by MCC 39.7300 through 39.7330, except that sites in the Tualatin Basin shall require Erosion Control Plans for spoils or exposed areas consistent with OAR 340-41-455 (3).~~

~~(5) Exploratory excavations under the direction of certified engineering geologists or geotechnical engineers.~~

~~(6) Routine agricultural crop management practices.~~

~~(7) Residential gardening and landscape maintenance at least 100 feet by horizontal measurement from the top of the bank of a watercourse, or the mean high watermark (line of vegetation) of a body of water or wetland.~~

~~(8) Emergency response activities intended to reduce or eliminate an immediate danger to life, property, or flood or fire hazards.~~

~~(9) Forest practices as defined by ORS 527 (The State Forest Practices Act) and approved by the Oregon Department of Forestry.~~

### **§ 39.5075 [33.5505] PERMITS REQUIRED**

Unless exempt under this Code or authorized pursuant to a Large Fill Permit, no development, site clearing, or ground disturbing activity shall occur on land located (1) in hazard areas as identified on the Geologic Hazards Overlay Map, (2) within 200 feet of a landslide, or (3) on lands with average slopes of 25 percent or more, except pursuant to a Geological Hazards Permit (GH).

### **§ 39.5080 [33.5510] EXEMPTIONS**

Ground disturbing activity occurring in association with the following uses is exempt from GH Permit requirements, unless the ground disturbing activity is occurring in the Tualatin River Drainage Basin and will affect water qualify as provided in OAR 340-041-0345(4):

(A) An excavation below finished grade for basements and footings of a building, retaining wall, or other structure authorized by a valid building permit. This shall not exempt any fill made with the material from such excavation, nor exempt any excavation having an unsupported finished height greater than four feet.

(B) Cemetery graves, but not cemetery soil disposal sites.

(C) Excavations for wells, except that sites in the Tualatin Basin shall require a Geologic Hazards Permit for spoils or exposed areas pursuant to water quality standards of OAR 340-041-0345(4).

(D) Mineral extraction activities as regulated by MCC 39.7300 through 39.7330, except that sites in the Tualatin Basin shall require a Geologic Hazards Permit for spoils or exposed areas pursuant to water quality standards of OAR 340-041-0345(4).

(E) Exploratory excavations under the direction of a certified engineering geologist or geotechnical engineer.

(F) Farming practices other than filling or the placement of structures.

(G) Residential gardening disturbing less than 10,000 square feet of ground surface area and landscape maintenance. Landscape maintenance includes normal planting, transplanting and replacement of trees and vegetation. Landscape maintenance does not include preparatory ground disturbing activity for a development project.

(H) Emergency response activities intended to reduce or eliminate an immediate danger to life, property, or flood or fire hazards.

(I) Forest practices.

(J) Ground disturbing activities attributed to routine road maintenance when undertaken by an organization operating under Limit 10, Section 4d of the Endangered Species Act.

(K) Decommissioning or replacing an underground storage tank(s), such as a septic, oil, or other similar tank(s), provided that:

(1) Any contaminated excavated material is handled in accordance with law, whether through treatment, being transported to and deposited at an off-site facility certified and willing to accept the material, or other direction from the Oregon Department of Environmental Quality, and

(2) Any replacement tank(s) is placed in the same location as the tank(s) being replaced.

(3) This exemption does not apply to decommissioning or replacement of a sanitary drainfield.

(L) Placement and replacement of mailbox posts, fence posts, sign posts, utility posts or poles, and similar support structures, but not including any post or pole that provides structural support to a building requiring a structural building permit.

(M) Boring for utilities in a public road right-of-way, provided such activity does not occur within 100-feet of a water body and is completed within 48-hours of commencement. Completion includes final compaction of earthen materials within any trench and removal and lawful disposal or deposit of any excess excavation or fill material from the site of the activity.

(N) Uses not identified in subsections (A) through (M) that meet all of the following requirements:

(1) Natural and finished slopes will be less than 25 percent; and,

- (2) The disturbed or filled area is 20,000 square feet or less; and,
- (3) The volume of soil or earth materials to be stored is 50 cubic yards or less; and,
- (4) Rainwater runoff is diverted, either during or after construction, from an area smaller than 10,000 square feet; and,
- (5) Impervious surfaces, if any, of less than 10,000 square feet are to be created; and,
- (6) No drainageway is to be blocked or have its stormwater carrying capacities or characteristics modified; and,
- (7) The use will occur outside the Tualatin River and Balch Creek Drainage Basins.

**§ 39.5085 [33.5515] GEOLOGIC HAZARDS PERMIT APPLICATION INFORMATION  
REQUIRED**

An application for a Geologic Hazards Permit development ~~subject to the GH~~ shall include two copies of each of the following:

- (A) A scaled site plan showing the following, both existing and proposed:
  - (1) Property lines;
  - (2) Buildings, structures, driveways, roads and right of way boundaries;
  - (3) Location of wells, utility lines, site drainage provisions, stormwater disposal system, sanitary tanks and drainfields (primary and reserve);
  - (4) Trees and vegetation proposed for removal and planting and an outline of wooded areas;
  - (5) Water bodies;
  - (6) Boundaries of ground disturbing activities;
  - (7) Location and height of unsupported finished slopes;
  - (8) Location for washout and cleanup of concrete equipment;
  - (9) Storage location and proposed handling and disposal methods for potential sources of non-erosion pollution including pesticides, fertilizers, petrochemicals, solid waste, construction chemicals, and wastewaters;
  - (10) Soil types;
  - (11) Ground topography contours (contour intervals no greater than 10-feet); and
  - (12) Erosion and sediment control measures.



~~A map showing the property line locations, roads and driveways, existing structures, trees with 8 inch or greater caliper or an outline of wooded areas, watercourses and include the location of the proposed development(s) and trees proposed for removal.~~

~~(B) Calculations of the total area of proposed ground disturbance (square feet), volume of proposed cut (cubic yards) and fill (cubic yards), total volume of fill that has been deposited on the site over the 20-year period preceding the date of application, and existing and proposed slopes in areas to be disturbed (percent slope). For purposes of this provision, the term "site" shall mean either a single lot of record or contiguous lots of record under same ownership, whichever results in the largest land area; An estimate of depths and the extent and location of all proposed cuts and fills.~~

~~(C) The location of planned and existing sanitary drainfields and drywells.~~

~~(D) Narrative Written findings, together with any supplemental plans, maps, reports, or other information map or plan information necessary to demonstrate compliance of the proposal with all applicable provisions of the Geologic Hazards standards in MCC 39.5090 (A). The application shall provide applicable supplemental Necessary reports, certifications, or plans relative may pertain to: engineering, soil characteristics, stormwater drainage control, stream protection, erosion and sediment control, and/or replanting.~~

(1) With respect to fill:

(a) Description of fill materials, compaction methods, and density specifications (with calculations). The Planning Director may require additional studies or information or work regarding fill materials and compaction.

(b) Statement of the total daily number of fill haul truck trips, travel timing, loaded haul truck weight, and haul truck travel route(s) to be used from any fill source(s) to the fill deposit site.

~~(E) The applicant shall provide the information listed in (1), (2) or (3) below along with a description of the use that the ground disturbing activity will support or help facilitate.~~

~~A Geologic Hazard Permit may be approved by the Director only after the applicant provides:~~

~~(1) Additional topographic information showing ~~that~~ the proposed development to be on land with average slopes less than 25 percent, and located more than 200 feet from a ~~known~~ landslide, and that no cuts or fills in excess of 6 feet in depth are planned. High groundwater conditions shall be assumed unless documentation is available, demonstrating otherwise; or~~

~~(2) A geological report prepared by a Certified Engineering Geologist or Geotechnical Engineer certifying that the site is suitable for the proposed development; or,~~

~~(3) A GHP Form– 1 completed, signed and certified by a Certified Engineering Geologist or Geotechnical Engineer with their stamp and signature affixed indicating that the site is suitable for the proposed development.~~

(a) If the GHP Form– 1 indicates a need for further investigation, or if the Director requires further study based upon information contained in the GHP Form– 1, a geotechnical report as specified by the Director shall be prepared and submitted.

(E) Written documentation of:

(1) Approval of any new stormwater discharges into public right-of way by each governing agency having authority over the matter.

(2) Approval of any surcharges to sanitary drainfields by the City of Portland Sanitarian and any other agency having authority over the matter.

~~(F) Geotechnical Report Requirements~~

~~(1) A geotechnical investigation in preparation of a Report required by MCC 39.5085 (E)(3)(a) shall be conducted at the applicant's expense by a Certified Engineering Geologist or Geotechnical Engineer. The Report shall include specific investigations required by the Director and recommendations for any further work or changes in proposed work which may be necessary to ensure reasonable safety from earth movement hazards.~~

~~(2) Any development related manipulation of the site prior to issuance of a permit shall be subject to corrections as recommended by the Geotechnical Report to ensure safety of the proposed development.~~

~~(3) Observation of work required by an approved Geotechnical Report shall be conducted by a Certified Engineering Geologist or Geotechnical Engineer at the applicant's expense; the geologist's or engineer's name shall be submitted to the Director prior to issuance of the Permit.~~

~~(4) The Director, at the applicant's expense, may require an evaluation of GHP Form–1 or the Geotechnical Report by another Certified Engineering Geologist or Geotechnical Engineer.~~

~~(G) Development plans shall be subject to and consistent with the Design Standards For Grading and Erosion Control in MCC 39.5090 (A) through (D). Conditions of approval may be imposed to assure the design meets those standards.~~

**§ 39.5090 [33.5520] GRADING AND EROSION CONTROL STANDARDS FOR GEOLOGIC HAZARDS PERMIT STANDARDS**

(A) A Geologic Hazards (GH) Permit shall not be issued unless the application for such Permit establishes compliance with MCC 39.6210 and satisfaction of the following standards: Approval of development plans on sites subject to a Geologic Hazard Permit shall be based on findings that the proposal adequately addresses the following standards. Conditions of approval may be imposed to assure the design meets the standards:

~~(A) Design Standards For Grading and Erosion Control~~

~~(1) Grading Standards~~

(1) Geotechnical Report Requirements

(a) A geotechnical investigation in preparation of a Report required by MCC 39.5085 (D)(3)(a) shall be conducted at the applicant's expense by a Certified Engineering Geologist or Geotechnical Engineer. The Report shall include specific investigations required by the Director and recommendations for any further work or changes in proposed work which may be necessary to ensure reasonable safety from landslide hazards.

(b) Any development related manipulation of the site prior to issuance of a permit shall be subject to corrections as recommended by the Geotechnical Report to ensure safety of the proposed development.

(c) Observation of work required by an approved Geotechnical Report shall be conducted by a Certified Engineering Geologist or Geotechnical Engineer at the applicant's expense; the geologist's or engineer's name shall be submitted to the Director prior to issuance of the Permit.

(d) The Director, at the applicant's expense, may require an evaluation of GHP Form- 1 or the Geotechnical Report by another Certified Engineering Geologist or Geotechnical Engineer.

(2) Development plans shall be subject to and consistent with MCC 39.5090. Conditions of approval may be imposed to assure the design meets those standards.

(3) The total cumulative deposit of fill on the site for the 20-year period preceding the date of the application for the GH Permit, and including the fill proposed in the GH Permit application, shall not exceed 5,000 cubic yards. For purposes of this provision, the term "site" shall mean either a single lot of record or contiguous lots of record under same ownership, whichever results in the largest land area.

(4a) Fill shall be composed of earth material only. Fill materials, compaction methods and density specifications shall be indicated. Fill areas intended to support structures shall be identified on the plan. The director may require additional studies or information or work regarding fill materials and compaction;

(5b) Cut and fill slopes shall not be steeper than 3:1 exceed 33 percent grade (3 Horizontal: 1Vertical), unless a Certified Engineering Geologist or Geotechnical Engineer certifies in writing that a grade in excess of 33 percent is safe (including, but not limited to, not endangering or disturbing adjoining property) and suitable for the proposed development; geological and/or engineering analysis certifies that steep slopes are safe and erosion control measures are specified;

(6e) Unsupported finished cuts and fills greater than 1 foot in height and less than 4 feet in height shall meet a setback from any property boundary of a distance at least twice the height of the cut or fill, unless a Certified Engineering Geologist or Geotechnical Engineer certifies in writing that the cuts or fills will not endanger or disturb adjoining property. All unsupported finished cuts and fills greater than 4 feet in height shall require a Certified Engineering Geologist or Geotechnical Engineer to certify in

writing that the cuts or fills will not endanger or disturb adjoining property. ~~Cuts and fills shall not endanger or disturb adjoining property;~~

(d) ~~The proposed drainage system shall have adequate capacity to bypass through the development the existing upstream flow from a storm of 10-year design frequency;~~

(7e) ~~Fills shall not encroach on natural watercourses or constructed channels~~ any water body unless measures are approved which will an Oregon licensed Professional Engineer certifies that the altered portion of the waterbody will continue to provide equal or greater flood carrying capacity for a storm of 10-year design frequency. ~~adequately handle the existing flood carrying capacity for the altered portion of the stream.~~

(8) Fill generated by dredging may be deposited in the Sauvie Island / Multnomah Channel Planning Area only to assist in flood control or to improve a farm's soils or productivity.

## ~~(2) Erosion Control Standards~~

(9a) ~~On sites within the Tualatin River Drainage Basin, erosion, sediment and stormwater drainage control measures plans shall satisfy the requirements of OAR 340-041-0345(4). Erosion and stormwater control plans and shall be designed to perform as prescribed by in the currently adopted most recent edition of the "Erosion Prevention & Sediment Control Plans Technical Guidance Handbook (1994)" and the "City of Portland Stormwater Quality Facilities, A Design Guidance Manual (1995)".~~ City of Portland Erosion and Sediment Control Manual and the City of Portland Stormwater Management Manual. ~~Land-~~ Ground disturbing activities within the Tualatin Basin shall provide a 100-foot undisturbed buffer from the top of the bank of a stream, or the ordinary high watermark (line of vegetation) of a water body, or within 100-feet of a wetland; unless a mitigation plan consistent with OAR 340-041-0345(4) is approved for alterations within the buffer area-;

(10b) ~~Stripping of vegetation, grading~~ ground disturbing activities, or other soil disturbance shall be done in a manner which will minimize soil erosion, stabilize the soil as quickly as practicable, and expose the smallest practical area at any one time during construction;

(11e) Development Plans shall minimize cut or fill operations and ensure conformity with topography so as to create the least erosion potential and adequately accommodate the volume and velocity of surface runoff;

(12d) ~~Temporary vegetation and/or mulching shall be used to protect exposed critical areas during development;~~

(13e) Whenever feasible, natural vegetation shall be retained, protected, and supplemented;

(a)1. A 100-foot undisturbed buffer of natural vegetation shall be retained from the top of the bank of a stream, or from the ordinary high ~~water mark~~ watermark (line of vegetation) of a water body, or within 100-feet of a wetland;

(b)2. The buffer required in subsection (13)(a)1- may only be disturbed upon the approval of a mitigation plan which utilizes erosion, sediment, and stormwater control ~~features-~~ measures designed to perform as effectively as those prescribed ~~in the currently adopted edition of the~~

~~"Erosion Prevention & Sediment Control Plans Technical Guidance Handbook (1994)" and the "City of Portland Stormwater Quality Facilities, A Design Guidance Manual (1995)"~~ in the most recent edition of the City of Portland Erosion and Sediment Control Manual and the City of Portland Stormwater Management Manual and which is consistent with attaining equivalent surface water quality standards as those established for the Tualatin River Drainage Basin in OAR 340-041-0345(4);

(14)(f) Permanent plantings and any required structural erosion control and drainage measures shall be installed as soon as practical;

(15)(g) Provisions shall be made to effectively accommodate increased runoff caused by altered soil and surface conditions during and after development. The rate of surface water runoff shall be structurally retarded where necessary;

(16)(h) Sediment in the runoff water shall be trapped by use of debris basins, silt traps, or other measures until the disturbed area is stabilized;

(17)(i) Provisions shall be made to prevent surface water from damaging the cut face of excavations or the sloping surface of fills by installation of temporary or permanent drainage across or above such areas, or by other suitable stabilization measures such as mulching or seeding;

(18)(j) All drainage ~~measures provisions~~ shall be designed to avoid erosion and adequately carry existing and potential surface runoff to suitable drainageways such as storm drains, natural water bodies ~~water courses~~, drainage swales, or an approved drywell systems;

(19)(k) Where drainage swales are used to divert surface waters, they shall be vegetated or protected as required to minimize potential erosion;

(20)(l) ~~Erosion and sediment control devices shall be required where necessary to prevent polluting discharges from occurring.~~ Erosion and sediment control measures must be utilized such that no visible or measurable erosion shall occur on-site and no visible or measurable sediment shall exit the site, enter the public right-of-way or be deposited into any water body or storm drainage system. Control devices ~~and~~ measures which may be required include, but are not limited to:

~~(a)1-~~ Energy absorbing devices to reduce runoff water velocity;

~~(b)2-~~ Sedimentation controls such as sediment or debris basins. Any trapped materials shall be removed to an approved disposal site on an approved schedule;

~~(c)3-~~ Dispersal of water runoff from developed areas over large undisturbed areas.

(21)(m) ~~Disposed spoil material or stockpiled topsoil shall be prevented from eroding into streams or drainageways~~ water bodies by applying mulch or other protective covering; or by location at a sufficient distance from ~~streams or drainageways~~ water bodies; or by other sediment reduction measures;

(22~~n~~) Such non-erosion pollution associated with construction such as pesticides, fertilizers, petrochemicals, solid wastes, construction chemicals, or wastewaters shall be prevented from leaving the construction site through proper handling, disposal, continuous site monitoring and clean-up activities.

(23~~e~~) On sites within the Balch Creek Drainage Basin, erosion, sediment and stormwater control features ~~measures~~ shall be designed to perform as effectively as those prescribed in the most recent edition of the City of Portland Erosion and Sediment Control Manual and the City of Portland Stormwater Management Manual ~~the "Erosion Prevention & Sediment Control Plans Technical Guidance Handbook (1994)".~~ All ~~land disturbing activities~~ ground disturbing activity within the basin shall be confined to the period between May first and October first of any year. All permanent vegetation or a winter cover crop shall be seeded or planted by October first the same year the development was begun; all soil not covered by buildings or other impervious surfaces must be completely vegetated by December first the same year the development was begun.

(24) Ground disturbing activities within a water body shall use instream best management practices designed to perform as prescribed in the City of Portland Erosion and Sediment Control Manual and the City of Portland Stormwater Management Manual.

(25) The total daily number of fill haul truck trips shall not cause a transportation impact (as defined in the Multnomah County Road Rules) to the transportation system or fill haul truck travel routes, unless mitigated as approved by the County Transportation Division.

#### (B) Responsibility

~~(1) Whenever sedimentation is caused by stripping vegetation, regrading or other development, it shall be the responsibility of the person, corporation or other entity causing such sedimentation to remove it from all adjoining surfaces and drainage systems prior to issuance of occupancy or final approvals for the project;~~

~~(2) It is the responsibility of any person, corporation or other entity doing any act on or across a communal stream watercourse or swale, or upon the floodplain or right of way thereof, to maintain as nearly as possible in its present state the stream, watercourse, swale, floodplain, or right of way during such activity, and to return it to its original or equal condition.~~

#### (C) Implementation

~~(1) Performance Bond. A performance bond may be required to assure the full cost of any required erosion and sediment control measures of the measures if not completed by the contractor. The bond shall be released upon determination the control measures have or can be expected to perform satisfactorily. The bond may be waived if the Director determines the scale and duration of the project and the potential problems arising therefrom will be minor.~~

~~(2) Inspection and Enforcement. If inspection by County staff reveals erosive conditions which exceed those prescribed by the Geologic Hazard Permit, work may be stopped until appropriate correction measures are completed.~~

~~(D) Final Approvals~~

~~A Certificate of Occupancy or other final approval shall be granted for development subject to the provisions of the GH only upon satisfactory completion of all applicable requirements.~~