

J. Hillside Design Standards

1. Purpose

Hillside areas of the County of Missoula are characterized by slope, vegetation, drainage, rock outcroppings, geologic hazards, and other physical factors which, if disturbed for the purposes of development, can cause physical damage to public and private property. Therefore, the development of such areas and adjacent land requires special care.

These standards, guidelines, and criteria apply to developments located on slopes over ten percent (10%) and are intended to supplement other standards within the Missoula County Zoning regulations, in order to substantially accomplish the following objectives:

- a. The protection of hillside land and resources within the legitimate expectations of property owners and the County’s overall goals;
- b. The protection of the public from natural hazards due to seismic activity, soil characteristics which are limiting, landslides, slope instability, sedimentation, stormwater runoff, sheet flooding on frozen surfaces, soil erosion, and groundwater;
- c. The preservation of natural features, wildlife habitat, and open space;
- d. The retention of natural topographic features, such as drainage channels, streams, ridge-lines, rock outcroppings, vistas, trees and native vegetation;
- e. Promote design sensitive to existing vistas;
- f. The preservation and enhancement of visual and environmental quality by use of natural vegetation and minimal excavation and terracing;
- g. The assurance of an adequate transportation system, including non-motorized transportation, for the total hillside area that considers densities and topography with minimal cuts, fills, and other visible scars;
- h. The establishment of on-site and off-site transportation systems that ensure ingress and egress for vehicles, including emergency vehicles, into all developed areas at all times;
- i. The encouragement of innovative planning, design, and construction techniques for development in environmentally sensitive areas; and,
- j. The mitigation of adverse environmental impacts, including, but not limited to, erosion and the degradation of air and water quality.

2. Lot Slope and Density within the Urban Service Area

- a. For properties located within the Urban Service Area, as defined and mapped in the Missoula County Growth Policy, permitted density is adjusted down for land within slope categories greater than ten percent (10%). The density may be used within that slope category or may be used in a lesser slope category.
- b. Density is adjusted using the table below.

Adjusted Density Calculations

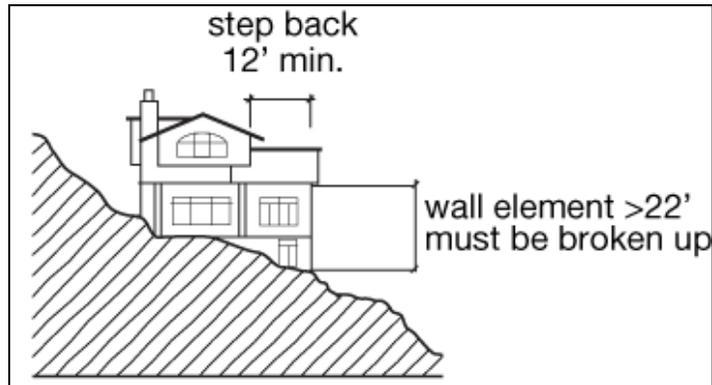
Slope Category	Permitted Density
0 – 10%	Number of units permitted by zoning. No adjustment to zoning density.
10.01 – 20%	Number of units permitted by zoning x .70
20.01 and greater	Number of units permitted by zoning x .50

- c. According to the goals and objectives within this section density recuperation up to the maximum allowance of fifty percent (50%) of the adjusted density may be applied to the adjusted density. Density for the hillside land in each slope category shall not exceed maximum density allowed by the underlying zone for the area of land within that slope category. Units permitted in each slope category through density recuperation shall be physically placed in that or a lesser slope category.
 - i.) Density recuperation may be applied if the property meets the Process Requirements and Neighborhood Notice Requirements of the Density Bonus section.
- d. **Density Recuperation Items**
 Density recuperation is based on gross acreage and is always rounded to the nearest whole number. Density recuperation may be awarded, subject to Zoning Officer approval, as follows:
 - i.) Fifty percent (50%) detached single-family dwelling units, where the building foot print does not exceed nine hundred (900) square feet of ground floor living area. Units required are always rounded up to the next whole unit. (20% Bonus)
 - ii.) Providing a cluster/open space development. (20% Bonus)
 - iii.) Connection to a waste water collection and treatment facility, not to include individual or community drainfield. (20% Bonus)
- 3. All structures shall be constructed on a minimum buildable area of two thousand (2,000) contiguous square feet of land with a slope of less than twenty-five percent (25%). Building construction on slopes greater than 25% is prohibited. Lots created prior to the adoption of Resolution #2001-011, on January 30, 2001, are exempt from this requirement.
- 4. **Driveways**
 Driveways shall be designed to minimize cut and fill and site disturbance, provide year-round access, and accommodate emergency response equipment. The driveway shall substantially follow the natural contour and not exceed the maximum grade of the regulations. Driveway plans shall be approved by the appropriate fire jurisdiction prior to issuance of a Zoning Compliance Permit.
- 5. **Design Standards**
 - a. When structures are located on hillside land, they shall be designed to fit into the hillside, rather than altering the hillside to fit the structure. The design may require the use of one or more methods to fit into the hillside.
 Methods for incorporating structures into hillsides are:
 - i.) Reduced footprint design, where the building footprint does not exceed nine hundred (900) square feet of ground floor living area.
 - ii.) Multiple "step up" or "step down" structures which follow the natural hillside slope on any buildable portion of the site.
 - iii.) Orient buildings to slopes so that the greatest horizontal dimension is parallel with, not perpendicular to, the natural contour of the land.
 - iv.) Use of landscape screening, if the underside of the building is exposed.
 - v.) Building pads which are graded with a minimum of fill slope on downslope side.
 - vi.) Other hillside design methods that meet the intent of this section and meet the goals of the adopted growth policies.

b. Building Wall Elements

- i. Wall elements adjacent to grade shall be measured from the lowest existing grade to the underside of the eave or top of coping of a flat roof.
- ii. Wall elements not adjacent to grade shall be measured from the lowest point at which the wall element intersects any part of the adjacent building element to the underside of the eave or top of coping of a flat roof.
- iii. A gable end above the eave shall be excluded as part of the wall element measurement.
- iv. Building wall elements may not exceed twenty-two (22) feet in height (vertically).

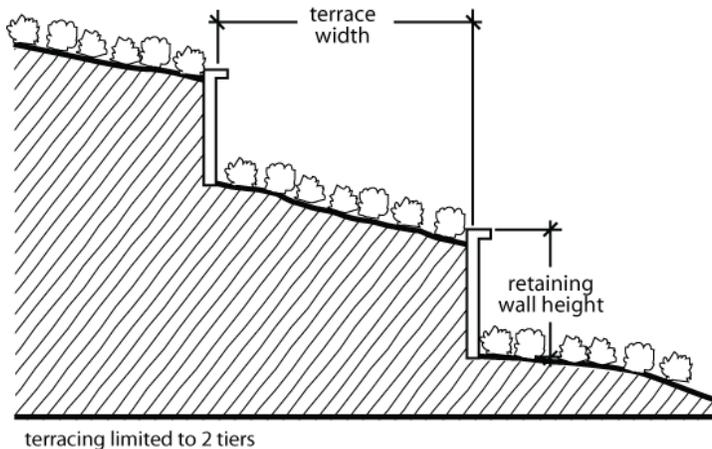
Individual wall elements may be stacked vertically if the total cumulative vertical dimensions of all stacked wall elements does not exceed twenty-two (22) feet in height or if the wall elements are offset by at least twelve (12) feet in horizontal distance. Wall elements will be considered offset for the purpose of these hillside regulations only if (1) they are separated by at least twelve (12) feet in horizontal distance, and (2) the offset occurs by stepping the building back towards the slope (uphill).



c. Retaining Walls

- i. Where retaining walls are used, the walls should step down from the building structure following the natural hillside contours. Maximum permitted height of a retaining wall is six feet zero inches (6'- 0") measured from finished grade.

- ii. Terracing of retaining walls is limited to two tiers. The width of the terrace between 4-foot or shorter vertical retaining walls must be at least three (3) feet. Retaining walls with a height of more than four (4) feet must be separated from any other retaining wall by a minimum horizontal distance of five (5) feet. Terraces created between retaining walls must be permanently landscaped or revegetated.



- d. The highest part of any structure shall be a minimum of eighty (80) vertical feet below the closest point on the nearest prominent hilltop or ridgeline. The ridgeline's natural contour and native vegetation must remain intact. A map locating prominent hilltops and ridgelines is available at the Planning Office. In addition, the choice of buildable area shall weigh the need to protect conservation resources, such as natural slope, areas of

riparian resource and habitat for species of special concern against the need to protect the view from the valley floor. If an alternative design is proposed, the applicant shall provide a written statement stating how the design meets the intent of this section. On approving alternative designs, the Zoning Officer may require more restrictive hillside design standards.

6. Submittal Requirements

- a. Drawings showing that no part of the building or structure pierces the building envelope plane;
- b. A topographic map which shall identify the site boundaries, natural drainage courses, rock outcroppings, known landslides and other geologic hazards. The topographic map shall be prepared by a professional engineer, licensed land surveyor or other qualified licensed professional, and shall have a scale of not less than one (1) inch to fifty (50) feet and a contour interval of not more than two (2) feet unless otherwise approved by the Planning Office.
- c. When requested by the Planning Office, a site plan of the entire development showing areas of slope category between: 0 - 10%, 10.01 - 20%, 20.01 - 25%, and over 25%.

K. Cluster Development Standards

1. Purpose

Cluster development standards are established to provide an administrative method to permit modifications of lot size and width, setbacks and parks, open space and common area requirements without the review of multiple boards and requiring multiple variances, in order to permit the grouping of structures pursuant to a preconceived development plan, which meets one or more of the following objectives:

- a. Provide efficient use of the land while substantially preserving wildlife habitat, viable agricultural land, historical features, open space, scenic views, natural drainage systems or other desirable features of the natural environment, which enhances our quality of life;
- b. Provide for a diversity of lot sizes, of housing units sizes and types, of housing choices or building densities in order to accommodate a variety of age and income groups;
- c. Allow housing to be concentrated on sites that are outside of sensitive land areas;
- d. Create or enhance neighborhoods with distinct identities, a sense of community, and access to open space and other neighborhoods;
- e. Encourage innovation and promote flexibility, economy, and creativity in development;
- f. Provide open space areas for conservation or agricultural purposes, or passive or active recreational areas for use by residents of the development and, where specified, the larger community;
- g. Protect existing historic buildings or incorporate them into the development through adaptive reuse;
- h. Arrange structures to avoid adverse effects of shadows, noise, and traffic on the residents of the site;
- i. Reduce infrastructure and service costs; and
- j. Preserve aesthetics of the neighborhood by providing variation of continuous development pattern.

2. Definitions

- a. Rural Cluster Open Space Development