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Generalized Geologic Map for Land-Use Planning: Whitley County, Kentucky

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David L. Casey, Bethany L. Overfield, and Randall L. Taylor

Acknowledgements:


What are the factors that cause landslides?

Many factors contribute to landslides. The most common are listed below:

1. Steep slopes.
2. Poor soil condition, excessive water on the surface, and excessive water tension in the subsoil.
3. Cutting the natural slope during erosion control or road construction.
4. Liquefaction, which is the collapse of loose sandy soils when water is added to them, followed by a rapid loss of strength.
5.模板 unable to induce or control drainage into or around the site of the proposed construction.
6.模板 unable to install or maintain road drainage systems.
7.模板 unable to install or maintain containment systems or a balance of the site.
8.模板 unable to install or maintain a geologic investigation of the site.
9.模板 unable to install or maintain a site plan that indicates the location of existing structures.
10.模板 unable to install or maintain a site plan that indicates the location of the proposed construction.

Planning Guidance by Rock Unit Type

<table>
<thead>
<tr>
<th>Rock Unit Type</th>
<th>Planning Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandstone, Bluestone, and Slate</td>
<td>Heavy equipment is required for excavation.</td>
</tr>
<tr>
<td>Coal measures</td>
<td>Moderate preparation is required.</td>
</tr>
<tr>
<td>Siltstone and shale</td>
<td>Slight preparation is required.</td>
</tr>
<tr>
<td>Limestone</td>
<td>No preparation is required.</td>
</tr>
</tbody>
</table>

Water Can Cause Landslides

Real estate agents warn that a house built on a steep hill is "unstable."

Landfite

Rover & Ross

Planning information from the Kentucky Geological Survey and the U.S. Department of Agriculture–Natural Resources Conservation Service.

What are the ways to prevent landslides?

1. Reduce the slope.
2. Fix the water condition. Poor soil or water conditions are prevalent in the area. Improper drainage and water tension in the subsoil can lead to landslides. Fixing the water condition is essential to preventing landslides.
3. Establish the natural slope during erosion control or road construction.
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Additional Resources

Learn more about Kentucky geology at kgsweb.uky.edu/download/kgsplanning.htm.