Identify Sensitive Areas BMP 15

Description

Sensitive areas may include wetlands, floodplains, riparian buffers, steep slopes, shallow bedrock, high water table areas, and other constraining features. Sensitive natural factors can provide special positive functions or may limit development.

General Information

Environmentally sensitive site design depends on knowledge of the nature and degree of constraints and opportunities offered by a given site. Identification of unsafe or unsuitable land is an integral part of this process, both from the standpoint of providing safe and habitable buildings and for providing protection and conservation of natural resources.

Wetlands, floodplains, riparian buffers and natural drainages should be identified and mapped for consideration throughout the design process. The objective is to integrate these site resources into the final design in a way that allows them to function as assets rather than problems. Other sensitive site features to be protected may include woodland conservation zones and important existing trees; steep slopes; and highly permeable and erosive soils.

Floodplains perform valuable functions including wildlife habitat; recreational, aesthetic, and scientific needs; open space; groundwater recharge; water quality maintenance; and sediment control. Development in flood plains usually reduces, modifies, or eliminates their ecological functions.

Wetlands are areas that are inundated or saturated by surface and ground water at a frequency and duration sufficient to support vegetation typically adapted for life in saturated soil conditions. Wetlands generally support diverse vegetation species, which filter suspended sediment and dissolved nutrients from local runoff. Wetlands provide flood control, functioning as temporary storage areas.

Aquifers are thick, porous, and permeable layers of rock that underlie many areas in Idaho that provide groundwater. Over 90% of Idaho communities rely on ground water as a source for drinking water and other domestic uses. Aquifers are usually recharged by local precipitation and are vulnerable to contamination from overlying land uses.

Riparian buffers include the many types of plants that grow in the wetted perimeter along creeks, streams, and rivers. Riparian vegetation stabilizes stream channel perimeters and plays an indispensable role in preventing erosion. Vegetation functions as a filter trap for suspended sediment from upstream locations. Trees and shrubs provide shade and habitats for fish and other wildlife.

Sensitive areas, such as steep slopes, shallow bedrock, high water table areas, and other constraining features are also important because land development in

these areas may have negative impacts and should be avoided. Observations and mapping should extend beyond the basics forms to potential "problems", such as noxious vegetation; erosion gullies, boggy ground, rocky areas, or compacted, leached soils.

Additional Resources

Delaware Department of Natural Resources and Brandywine Conservancy, 1997. *Conservation Design for Stormwater Management.* Available on website.

Lyle, John Tillman, 1994 (2nd ed. of 1985 pub.). *Regenerative Design for Sustainable Development,* John Wiley & Sons, Inc.

Steiner, Frederick, 1999. *The Living Landscape: an Ecological approach to Landscape Planning,* McGraw-Hill, Inc.

Figure 15. Identify sensitive areas