Post glacial deposits occur in many places throughout the state and are the result of the reworking, transporting, and deposition of soil and/or rock material occurring since the end of the last glaciation. Descriptions of prominent post glacial features and their characteristics follow.

2-4.1 Alluvial Deposits

Alluvial deposits, sometimes referred to as alluvium, consist of irregularly sorted or stratified material deposited by flowing water in stream valleys or shallow basins. Water erosion of surrounding uplands is the source of the alluvial material and in some areas has brought large volumes of material into the adjacent basins and stream valleys. While this is a natural process, human activities such as logging and farming have increased the rate of erosion in some areas. The rate of erosion and deposition is dependent upon a combination of factors including soil texture, slope, ground cover, rainfall amounts, general climatic conditions, and stream gradient. Alluvial material can vary widely in texture and have complex stratification. Alluvial deposits are found throughout the state but are especially common in the hill and valley regions of the southwest and west.

2-4.2 Colluvium and Talus

Colluvium and talus are related materials derived from erosion of steep rock slopes. Colluvium is a more general term and is defined as a heterogeneous mixture of rock and soil accumulated at the base of a steep slope. Talus is a more specific term and is defined as an accumulation of rock debris formed against steep rock exposures. Both are products of erosion and weathering of exposed rock faces. Seasonal freeze-thaw action on the exposed rock faces can bring down large boulders often weighing hundreds of pounds to a ton or more. In Wisconsin, colluvium and talus are prominent along the bluffs of the Mississippi River and its tributary valleys. These materials are also common along the bluffs of the Wisconsin River downstream from Prairie du Sac. Devils Lake in Columbia County also exhibits a prominent display of talus. Colluvium can be found against any rock slope and is a common occurrence wherever bedrock is exposed at the surface.

2-4.3 Organic Soils

Organic soils formed from the gradual accumulation of the remains of water tolerant plants growing in lakes, ponds, wet basins, and streams. Organic soils began developing as a post glacial feature on the landscape of the state and continue that development to the present time. Glaciation had a pronounced impact on the location and development of organic soils. A more detailed discussion of organic soils is presented in Chapter IV of this manual.

2-4.4 Residuum

Residuum is not limited to a post-glacial feature, but does warrant discussion. Residuum is a term used to describe the material derived from the in-place weathering of bedrock. Depending on the type of parent rock, residuum can vary in texture from a coarse gravelly material to clay. The origin of the parent rock, its grain size, water, climate, and time all factor into the development of residuum. Residuum is formed by the gradual breakdown of the chemical bonds between the individual grains in the rock matrix. A coarse grained rock will produce a coarser grained material while fine grained rock will weather to silt or clay sized particles. Residuum tends to have finer material at the surface and become coarser with depth. The occurrence of residuum in the state is somewhat related to glaciation. In areas covered by the Wisconsin Glacier, little or no residuum is present on the rock surface. Whatever material that was once present was carried away by the advancing glacier, and not enough time has elapsed for significant redevelopment. However, in the areas of older glaciation in the north central and west central areas and the unglaciated areas of the west, central, and southwest parts of the state, residuum over the rock surface can reach 10 feet in thickness. In the north central area where thin layers of sandstone remain over the underlying igneous and metamorphic rock, an unusual condition has developed where a layer of igneous/metamorphic residuum is found under the sandstone. Such a condition can have a pronounced effect on foundations, footing, and rock slopes. A general summary relating rock type to residuum texture can be found in Table 1.

Table 1 – Bedrock and Associated Residuum

Bedrock	Residuum
Coarse-grained igneous (granite, diorite)	Coarse gravelly material to lighter-colored clay-sized material
Fine-grained igneous and metamorphic	Dark-colored silt and clay-sized material grading to coarser material
Sandstone	Sand to sand with fines
Shale	Silt and clay-sized material
Limestone	Clay and silt/clay mixtures, often light brown to red color