

The following relevant material for the C16 webpages has been collected by Engineering Geology students of Prof. Scott Burns at Portland State University (USA) in the framework of a students assignment. This material has not yet been screened and commented nor approved by the C16 chair and membership.

ANCIENT MONUMENT-RELATED ENGINEERING TERMS:

Architectural Heritage

Acropolis

- Greek for “highest city”, citadel. Monument at highest point in a city (e.g., Acropolis of Athens). Allowed for good vantage and easy defense.

Ashlar

- Square-cut masonry.

Building stones

- Rocks used in building or masonry. Can include any variety of igneous, metamorphic, or sedimentary rock. (e.g., granite, marble, and sandstone)

Buttress

- A square projection of masonry on the outside or corner of a wall that provides extra strength for some internal feature such as a roof beam or arch.

Chamfer

- The cutting of stone at an angle to give expansion to a window or door rather than leaving just a squared-off opening.

Dolmen

- Means “stone table.” Typically circular, megalithic stone structure. Often associated with religious rituals.

Foundation

- Basis or footing upon which a structure or monument is built.

Granite

- Intrusive, crystalline, igneous rock typically consisting of quartz, feldspar, and mica. Commonly used in monuments and for building.

Limestone

- Sedimentary rock composed largely of the mineral calcite. Composed of grains, mainly skeletal fragments of marine organisms such as coral or foraminifera.

Marble

- Metamorphic rock transformed from either limestone or dolomite. Commonly used building stone for monuments and sculptures.

Masonry

- Construction technique achieved through the use of layered brick or stone.

Monument

- Building or structure erected as a memorial to a person, group, or event.

Parthenon

- Temple in Acropolis of Athens consisting of columns of marble.

Pyramid

- Stone, brick, or mud structure in the shape of a pyramid. Often used as tombs or symbols of wealth for ancient Egyptian, Chinese, Mexican, and South American cultures.

Rubble

- Stone construction using irregular stones imbedded in mortar.

Ruins

- Remnants of anthropogenic structures, including monuments and buildings.

Sandstone

- Common sedimentary rock composed of weathered granite and other sand-sized sediments. Resistant rock used as building stone.

Scheduled monument

- Important historical site or structure defined by the Ancient Monuments and Archeological Areas Act 1979 (England).

Stone circle or henge

- Circular or oval monument consisting of a series of individual stone or earthen features (e.g. Stonehenge).

Spur

- A triangular buttress used to strengthen the bottom of a round tower (giving it a square base).

Vault

- A stone arched ceiling.

Geosciences and GeoEngineering

Soil and rock mechanics

- Application or study of engineering properties of soil and rocks, including strength, cohesion, and permeability.

Foundation engineering

- Aspect of engineering that investigates subsurface stability of a building or structure to maintain building integrity against external forces.

Structural geology

- Branch of geology focusing on the structure, origin, deformation, and distribution of the rocks that make up the crust of the earth.

Geomorphology

- The study of the characteristics, origin, and development of a natural landscape.

Geophysics

- Branch of geology that uses physics to study the interaction of the earth and its atmosphere.

Seismology

- Study of earthquakes and earthquake-related phenomena.

Weathering

- Various mechanical and chemical processes that cause exposed rock to decompose.

Erosion and decay

- Disintegration and removal of material from a feature or landscape.

Restoration

- Return a structure, feature, or landscape to its original condition.