

# Engineering Geology (1)

- Target for construction: GROUND
- Not all ground is strong & stable
- (e.g.) Site for Riverside park
  - -fractures on rock slopes
  - -soil at foundation of building (from river)
  - -expansive clay at car park area

- Earth is active: earthquake, volcanoes (plate tectonics)
- Process in Earth: erosion, transportation, creation of new rock, deformation of rock
- Rock & soil are not in "static" condition

- Purpose of site investigation
- -to find stable ground
- -to understand ground conditions with minimal evidence (to create 3D model of the ground & underground including rock, soil & groundwater)
  
- BUT: there is still unforeseen ground

- Engineering Geology is required for
- -to observe "Geologic Process"
- -to produce report for "Engineering Products"
  
- Knowledge on  
"GEOLOGY" + "ENGINEERING"

- Examples of very strange scale of geological stuff compared to engineering materials
- (1) same rock can be found even in km scale
- (2) age of rock sometimes million years
- (3) power of earthquake over atomic bomb

- Why Engineering Geology?
- -Engineers should deal with rock and soil which are very old (compared to other engineering material such as steel, plastic, ceramic etc)
- Thus understanding of geologic process during their history is "important"