

# Dams and Bridges

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Engineering has been an aspect of life since the beginnings of human existence. The earliest practice of civil engineering may have commenced between 4000 and 2000 BC in [ancient Egypt](https://en.wikipedia.org/wiki/Ancient_Egypt), the [Indus Valley Civilization](https://en.wikipedia.org/wiki/Indus_Valley_Civilization), and [Mesopotamia](https://en.wikipedia.org/wiki/Mesopotamia) (ancient Iraq) when humans started to abandon a [nomadic](https://en.wikipedia.org/wiki/Nomad) existence, creating a need for the construction of shelter. During this time, transportation became increasingly important leading to the development of the wheel and [sailing](https://en.wikipedia.org/wiki/Maritime_history).

Until modern times there was no clear distinction between civil engineering and architecture, and the term engineer and architect were mainly geographical variations referring to the same occupation, and often used interchangeably. [\[5\]](https://en.wikipedia.org/wiki/Civil_engineering#cite_note-5) The construction of [pyramids](https://en.wikipedia.org/wiki/Egyptian_pyramids) in Egypt (circa 2700–2500 BC) were some of the first instances of large structure constructions. Other ancient historic civil engineering constructions include the [Qanat](https://en.wikipedia.org/wiki/Qanat) water management system (the oldest is older than 3000 years and longer than 71&nbsp;km, [\[6\]](https://en.wikipedia.org/wiki/Civil_engineering#cite_note-6)) the [Parthenon](https://en.wikipedia.org/wiki/Parthenon) by [Iktinos](https://en.wikipedia.org/wiki/Iktinos) in [Ancient Greece](https://en.wikipedia.org/wiki/Ancient_Greece) (447–438 BC), the [Appian Way](https://en.wikipedia.org/wiki/Appian_Way) by [Roman engineers](https://en.wikipedia.org/wiki/Roman_engineering) (c. 312 BC), the [Great Wall of China](https://en.wikipedia.org/wiki/Great_Wall_of_China) by General [Meng T'ien](https://en.wikipedia.org/wiki/Meng_Tian) under orders from Ch'in Emperor [Shih Huang Ti](https://en.wikipedia.org/wiki/Qin_Shi_Huang) (c. 220 BC) [\[7\]](https://en.wikipedia.org/wiki/Civil_engineering#cite_note-Oakes-7) and the stupas constructed in ancient [Sri Lanka](https://en.wikipedia.org/wiki/Sri_Lanka) like the [Jetavanaramaya](https://en.wikipedia.org/wiki/Jetavanaramaya) and the extensive irrigation works in [Anuradhapura](https://en.wikipedia.org/wiki/Anuradhapura). The Romans developed civil structures throughout their empire, including especially [aqueducts](https://en.wikipedia.org/wiki/Roman_aqueduct), [insulae](https://en.wikipedia.org/wiki/Insulae), harbors, bridges, dams and roads.