



PROJECT PROFILE

Qasr al-Bint Monument

Feasibility Study Development | Petra, Jordan



CLIENT

American Center of
Oriental Research

BACKGROUND

The Qasr al-Bint Monument is located in the UNESCO World Heritage site of Petra in the Hashemite Kingdom of Jordan. The monument is believed to be a Nabatean Temple that was dedicated to Dusares, the sun god, and constructed in 4 BCE. The Nabateans were pre-Islamic Semites. It is the only remaining free standing masonry structure in Petra and may be the most intact Nabatean Temple in existence. The monument was damaged by the earthquakes of 233 AD, 362 AD, and 747 AD. The City of Petra subsequently fell into obscurity and was "lost" to the western world. Petra was "rediscovered" by Sir Richard Burton during his secret trip to Mecca.

The Qasr al-Bint (meaning House of the Daughter of Pharaoh) has been the focus of archaeological investigations since 1954. American Center for Oriental Research (ACOR) retained WJE to perform a feasibility study for further investigation and seismic strengthening of the monument after the stability of some elements, including the cornice and entry archway, were called into question.

SOLUTION

WJE performed a condition assessment of the monument using both ground and Difficult Access Team rappelling techniques. Limited testing was performed to record the construction and condition of the structure. With the data collected, WJE engineers and architects were able to map various forms of sandstone decay on a stone-by-stone basis. The team also developed repair documents based on the findings.

Finally, WJE's seismic investigation resulted in developing strengthening measures for the monument that complied with the conventions of the *Venice Charter: International Charter for the Conservation and Restoration of Monuments and Sites*.

