

PROJECT DESCRIPTION

OSU Old Central Foundation Stabilization



Location: Oklahoma State University,
Stillwater, Oklahoma

Client:
Geo-Con,
Environmental Barrier
Company, Inc.

Old Central during Renovation

Oklahoma State University engaged Geo-Con to stabilize the foundation of Old Central, the first building constructed on its campus. The University built Old Central near the turn of the last century and used it for classrooms and administration. The building is supported by spread footings bearing on expansive clay and throughout its history, the building has experienced serious foundation movements associated with alternating drought periods and wet seasons. The movements continually damaged the building.

The University addressed the foundation movements as part of a general building renovation. Geo-Con engaged MMCE to design a system to address the foundation movement. Recognizing that the foundation movement was caused by the shrinking and swelling of the expansive clay from moisture changes beneath the foundation, MMCE designed a system to limit moisture changes to the foundation bearing grades. This system includes a cement-bentonite barrier wall that circumscribes the building. A geomembrane was attached to the building foundation wall and the barrier wall to limit underlying moisture changes. The geomembrane lies on the subgrade a few feet below the ground surface. The design also included subgrade drains to collect water that seeped down through the ground and collected on the geomembrane surface.