



# EARTH USA 2011

Sep 30, Oct 1 & 2, 2011 – Albuquerque, New Mexico

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**Title:**

The Story of the Investigation and Restoration Plan for the San Antonio de Padua Catholic Church, Questa, NM

**Abstract:**

This paper is in regard to the San Antonio de Padua Catholic Church located in Questa, New Mexico. Built around 1840, the Church is constructed with four foot thick adobe walls. In October of 2008 a portion of the west nave wall collapsed. At the end of April 2011, the Catholic Archdiocese signed an agreement to allow the community to rebuild the structure.

Druc Engineering, Structural Engineers was hired to determine whether it was possible and feasible to restore the building. We determined that yes, it is possible and worth it.

The paper includes:

The cultural history of the community and the church building as the heart of the community.

The investigation of the building, sampling adobes and looking for cracks. Understanding what the cracks are telling us.

Determining the causes of the failure including delaminating walls. We discovered that the four foot thick wall was separating in planes parallel with the wall.

Drainage and plaster permeability issues.

Previous attempts to repair the walls.

Working with the community and the archdiocese

Brief case studies: Churches in northern NM that have been repaired.

Areas of concern:

Foundation

Site drainage and grading

Delaminating walls

Rebuilding collapsed area

Adobe building preservation items, bond beams, buttresses, etc.

The restoration plan including cost estimates:

Adding a new foundation

Regrading and new drainage.

Details for a thick adobe wall.

The system of strapping and threaded rods to stabilize delaminating walls.

Architectural concerns and issues.

The community strides into the future.