



PROJECT PROFILE

Medical Science Building II

Structural Peer Review and Consulting | El Paso, TX



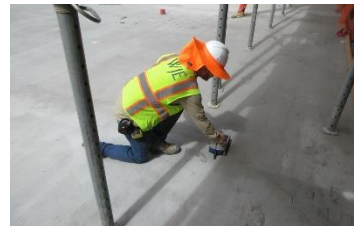
CLIENT

Texas Tech University System (TTUS)

BACKGROUND

The Medical Science Building II is a multistory building on the Texas Tech University Health Sciences Center El Paso campus that will be used for education, laboratories, medical and dental facilities, and administration. The building encloses 219,000 square feet and is five stories tall, with each floor consisting of a conventionally reinforced cast-in-place concrete flat plate.

During construction, severe cracking and larger-than-anticipated deflections developed when shoring was removed from the roof structure. The distress, initially noted in one area, was subsequently discovered in other areas and on other floors. Texas Tech University System (TTUS) engaged WJE to investigate the cause of the cracking and large deflections, perform a technical peer review of the construction documents, and consult with the design and construction team.



SOLUTION

WJE's field investigation included a detailed visual condition assessment, crack mapping, a relative elevation survey, and concrete sampling for strength testing and petrographic analysis. Ground penetrating radar with limited drilling to calibrate results was used to determine reinforcement quantities and placement. The investigation also included a detailed analysis using nonlinear finite element analysis methods.



The investigation uncovered both design and construction errors with regard to the quantity and placement of reinforcing steel in the slabs. A report was prepared with WJE's findings and recommendations for future actions. After completion of the report, TTUS engaged WJE to continue to consult with the design and construction team and to perform a technical peer review of repairs and remedial work designed by the engineer of record. WJE also performed construction phase services, including submittal reviews, consulting on requests for information, and periodic site visits to observe the implementation of the repairs.

