



PROJECT PROFILE

West Point Barracks Building

Structural Assessment | West Point, NY



CLIENT

Burns & McDonnell

BACKGROUND

Reportedly constructed in 1908, the West Point Barracks Building is a three-story structure with a basement level that is T-shaped in plan. The building has overall dimensions of approximately 280 feet in the north/south direction and approximately 160 feet in the east/west direction. The building structure typically consists of a timber-framed structure with perimeter brick masonry-bearing walls. There are various additions to the building. All existing buildings and grounds of the West Point Military Academy were designated as a National Historic Landmark in 1960.

As part of a full renovation of the building, WJE was hired to perform a structural survey of the timber structure to identify structural elements that may require repair as part of the proposed renovation. Following the completion of the survey, we were asked to provide engineered repair details for the timber structure to be included in the design documents.

SOLUTION

WJE visited the building to perform a field investigation. While on-site, we performed a visual survey of the interior and exterior of the structure, including a review of the crawl spaces and accessible attic locations with a focus on the condition of the wood structure. Based on the findings of the visual survey, we made probe openings through the existing finishes to expose the underlying structure. In addition, wood samples were taken, visual grading of wood members was performed, and nondestructive evaluation—including sounding and resistance drilling of select members—was performed.

We developed construction documents of wood elements that required repair based on our investigation. We also provided typical details for all anticipated wood repairs that would be uncovered during construction.

During construction, we provided construction period services, visiting the building following full interior demolition to identify repair locations of the full structure.

