

## PROJECT

Merchant's House Museum  
New York, NY

## CLIENTS

Robert Silman Associates  
Merchant's House Museum  
New York, NY

## PROJECT DESCRIPTION

A new building was planned adjacent to the Merchant's House Museum. Foundations for the new building were planned in close proximity to existing Merchant's House Museum foundations. There was a concern that the anticipated foundation settlement in the new building could result in damage to the 1832 landmarked historic plaster covering the interior surfaces of the House.

Atkinson-Noland & Associates was retained to analyze conditions on site and determine whether the anticipated foundation settlement will produce damage, and if so, the likely locations of damage, and the extent of cracking or other forms of damage. To investigate the likelihood of damage to the House, an advanced 3D finite element analysis was conducted using nonlinear material formulations for the exterior masonry walls and interior wood framed partition walls.

## SERVICES PROVIDED BY ATKINSON-NOLAND

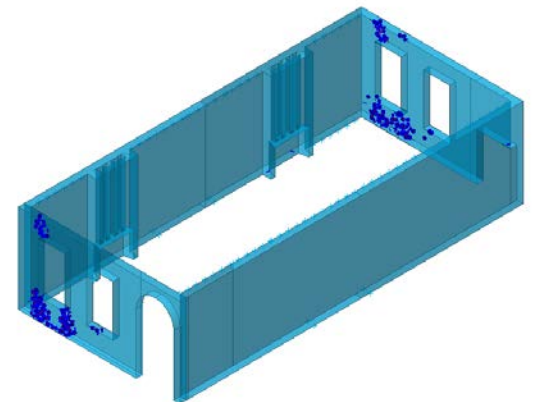
- Condition survey and crack mapping
- Cracking analysis based on 3D nonlinear finite element model
- Predicting location and extent of cracking



*Merchant's House Museum*



*3D finite element mesh*



*Likely damage at 1<sup>st</sup> floor masonry walls based on FE analysis*



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