



PROJECT PROFILE

Art Institute of Chicago: Modern Wing

Vibration Control, Structural Peer Review, and Construction-Phase Services | Chicago, IL



CLIENT

The Art Institute of Chicago

BACKGROUND

The Modern Wing added 264,000 square feet of galleries, educational space, storage, and offices to the AIC, thus increasing its size by one-third and making it the second-largest art museum in the United States. The Nichols Bridgeway is a lightweight, 620-foot pedestrian bridge designed to resemble a ship's hull. Part of the bridge is built on top of the Millennium Garage, an existing underground parking structure.

The Art Institute of Chicago (AIC) commissioned renowned Italian architect Renzo Piano to design the museum's Modern Wing, which would house its collection of 20th and 21st century art, and the Nichols Bridgeway to connect the new space to Millennium Park. Faced with the challenge of building these two innovative structures, the AIC needed an experienced, local partner for structural peer review and consulting services as well as vibration experts to safeguard the AIC's art collections throughout construction.



SOLUTION

WJE engineers worked in cooperation with the design team to peer review the structural design and provide recommendations. With its local presence, WJE facilitated reviews with Chicago building authorities and prepared a final peer review report for the city. WJE also evaluated the potential for damage to the existing buildings and artwork from construction vibrations. After extensive field testing, WJE designed and implemented an alarm system to monitor vibrations during construction and advised the AIC regarding relocation of vulnerable artwork.

To determine whether it could support the Nichols Bridgeway, WJE evaluated the strength of the Millennium Garage roof, designed bridge piers and roof strengthening solutions, and prepared construction documents for the bridge's foundation system. WJE provided on-site observation and troubleshooting during construction to ensure a successful outcome.

Throughout the eight-year design and construction process, WJE's experience, expertise, and local presence were instrumental in turning Piano's unique vision into reality. In recognition of their work on the Nichols Bridgeway, WJE received an Award of Merit from the Structural Engineers Association of Illinois.

