# Chelsea Art Gallery

## New York, New York

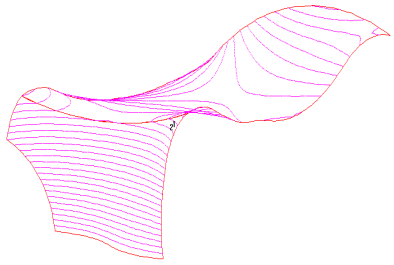
***Owner/Client***
Alf Namann, New York City

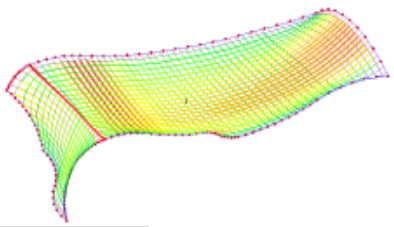
***Architect***
studioMDA

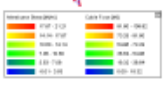
***Design Completion Date***
January 2009

***Total Area***
5,900 sf

***Construction Cost***
Approximately $500,000







Thornton Tomasetti performed a design study for the Chelsea Art Gallery, a new project space underneath the existing historic steelwork elevated rail line, called the Highline, on the west side of Chelsea, Manhattan. The project 'builds around' the existing structure independently by means of vertically cantilevering walls.

As a second layer of defense, a translucent PTFE (or ePTFE) membrane spans above the gallery space, curving downwards as a façade towards the West 24th street main entrance. There are invisible integrated gutters around the fabric roof, which slopes to both sides in an anticlastic geometry. We used Easy/Technet software to help design the translucent roofing membrane that curves down to the front entrance as a fabric façade.

A facetted glazing entrance façade invites visitors into the exhibition space. Next to the Highline, there are glazed roof skylights allowing natural light to shine down into the space from the roof.

Since city inspectors need to periodically examine the underside of the existing historic bridge, the fabric roof is demountable providing access to the bridge. Thornton Tomasetti performed the form-finding of the membrane and related structural calculations, determining all fabric tensile stresses under loading as well as investigation of ponding lines to ensure sufficient drainage in case of leakage from the primary brick deck. A full set of bidding drawings and performance specification for the system have been developed.