

Great Lakes Future, Permanent Exhibit, Discovery World at Pier Wisconsin

GRACE LA

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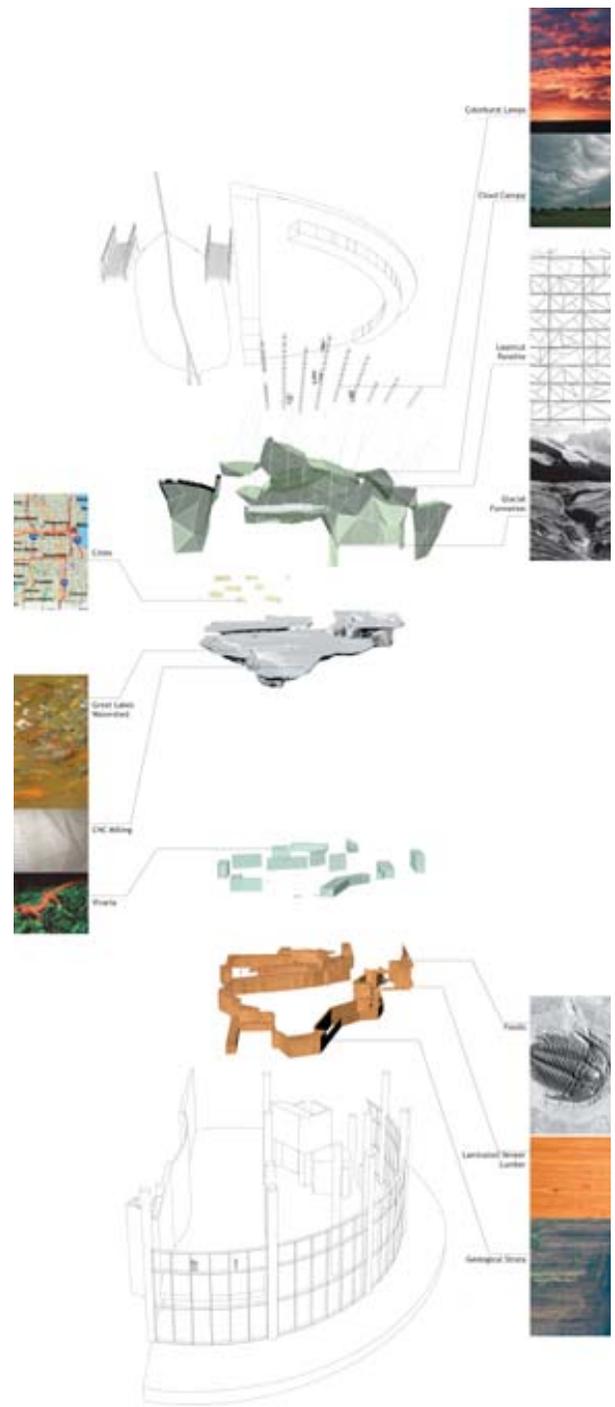


SITE:

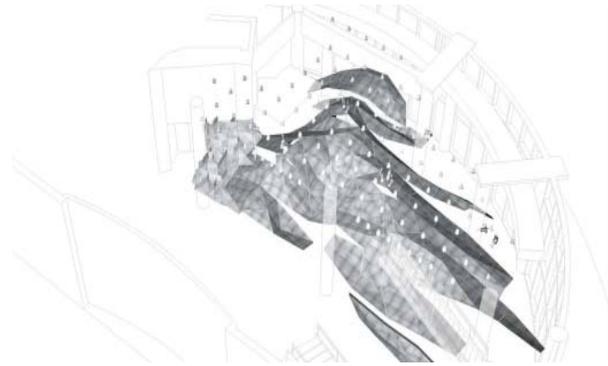
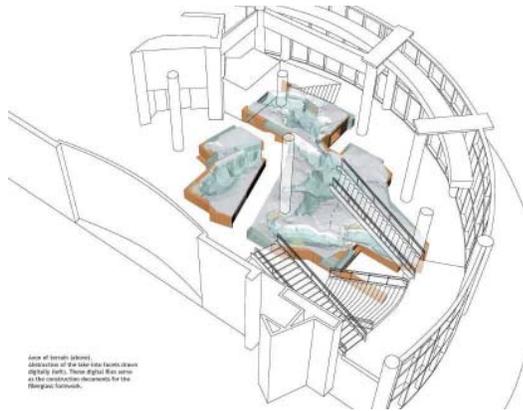
A 1000 sf wedge of an existing, ground floor space within a cylindrical building at the complex of Discovery World at Pier Wisconsin. This hands-on science museum (not designed by the authors of this submission) is situated along Lake Michigan, with episodic views of Milwaukee’s natural coastline, extensive park system, and built skyline.

PROGRAM:

An interpretive, permanent exhibit of the Great Lakes watershed, featuring live aquatic animals. The proposed program weaves together historic, scientific, and topographic data conveying information such as weather patterns, animal life, marshland, and water movement, which play integral roles in the region’s greatest natural resource. The program requires integration of highly technical support systems for aquatic and amphibious life, digital imagery, interactive displays, cartography, fossils, and live-fed atmospheric data.



Axon Diagram of program elements.



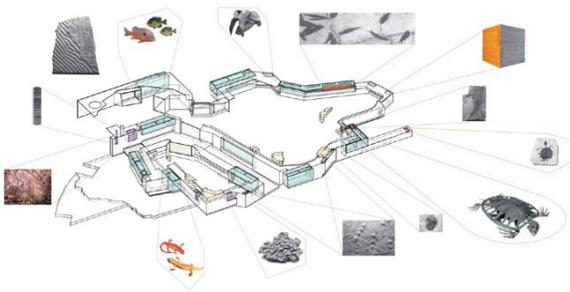
PROJECT:

The design project emphasizes two ecosystems: that of the *terrain* and the *sky*:

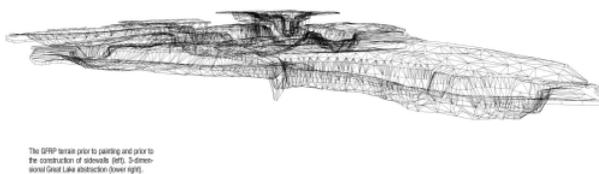
The *terrain*, punctuated by glowing forms that situate *cities*, is lifted from the floor to allow the visitor full immersion into the exhibit, a re-construction of the Great Lake's watershed. Topographic data is abstracted into a faceted surface, the formwork for which is carved by a CNC milling machine fed directly from our digital model. The low-tech process of fiberglass is then sprayed

over the formwork, resulting in a floating surface that hovers above carved, laminated veneer lumber (LVL) *sidewalls* which contain prismatic vitrines displaying animals, aquatic life, vegetation, and fossils.

The *sky* is an inversion of the land forms, interpreting varying atmospheric pressure systems that recall undulate cloud formations perceived in the Midwest. This *sky canopy* is illuminated by an array of LED lights, attached to sensors fed by

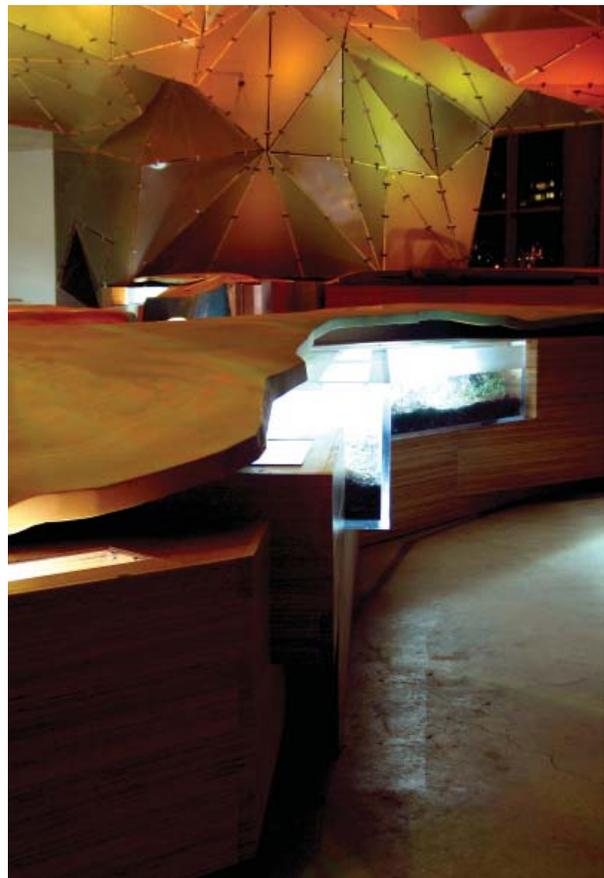


Sidewall diagram of laminated veneer lumber containing prismatic vitrines.



The 3DPP terrain prior to painting and prior to the construction of sidewall vitrines. 3-dimensional Great Lake abstraction (lower right).

Drawing, milling, spraying, and extracting.



live weather data. Made of 652 discrete translucent panels and nested for maximum material efficiency, the sky canopy simulates diverse weather patterns such as thunder and rain, changing dramatically from sunset to sundown and winter to spring.

The exhibit design reveals opportunities to explore the intersection between man-made and natural systems-- illuminating the primordial relationship between earth and sky. Moving fluidly within the insistent concrete column grid and certain boundary of the building's shell, around a fixed mechanical core, and between undifferentiated floor and ceiling planes, the *terrain* and *sky* create cinematic views of the landscape beyond. Through a highly iterative design process in form-making and fabrication (marrying both high-tech and primitive technologies), the exhibit itself is an analogue to that which it is responsible for exhibiting. The design mediates between the organic and the man-made; the physical and the atmospheric; the neutral, existing space and the flexible, complex insertion; the grounded and the celestial.

PROJECT COLLABORATORS

Executive Director, Discovery World: Paul Krajniak

Owner: Discovery World at Pier Wisconsin

Architects: La Dallman Architects

Grace La, James Dallman, Jonathan Goldstein, Dan Hesketh, Paul Lorenz, Bob Tiede, James Schrader, Trevor Patt, Andrew Lasca

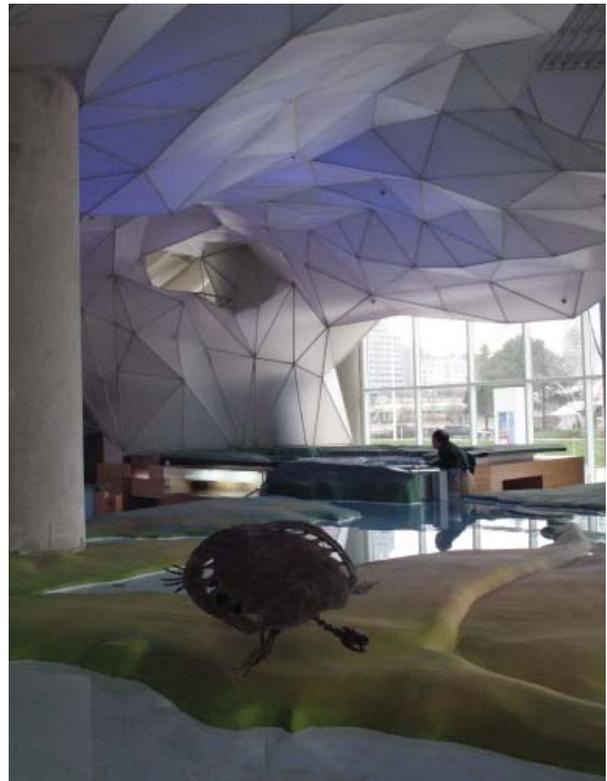
Engineer: ARUP

Lighting Design: Noele Stollmack Lighting Design

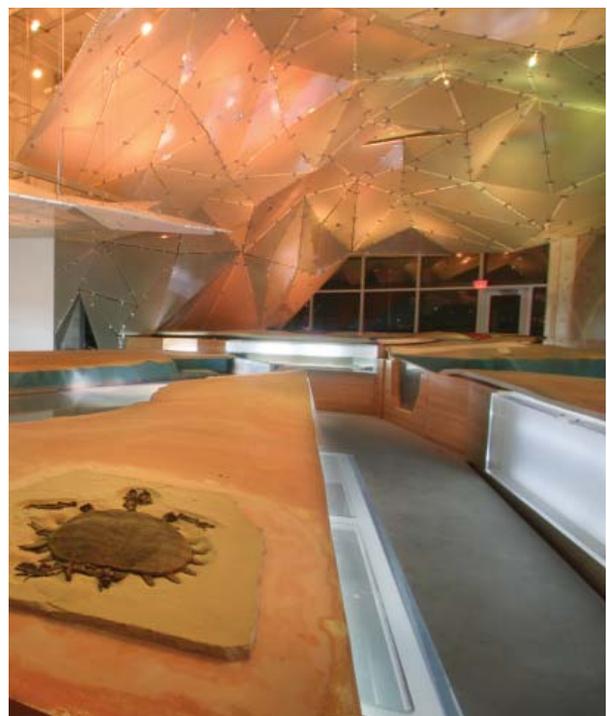
Builders: Tri North

Special Fabrications: Mike Nass

Photography: Jim Brozek and La Dallman Architects



Final installation including sky oculus.



Mock up of sky form, testing of the LED atmospheric lighting program.