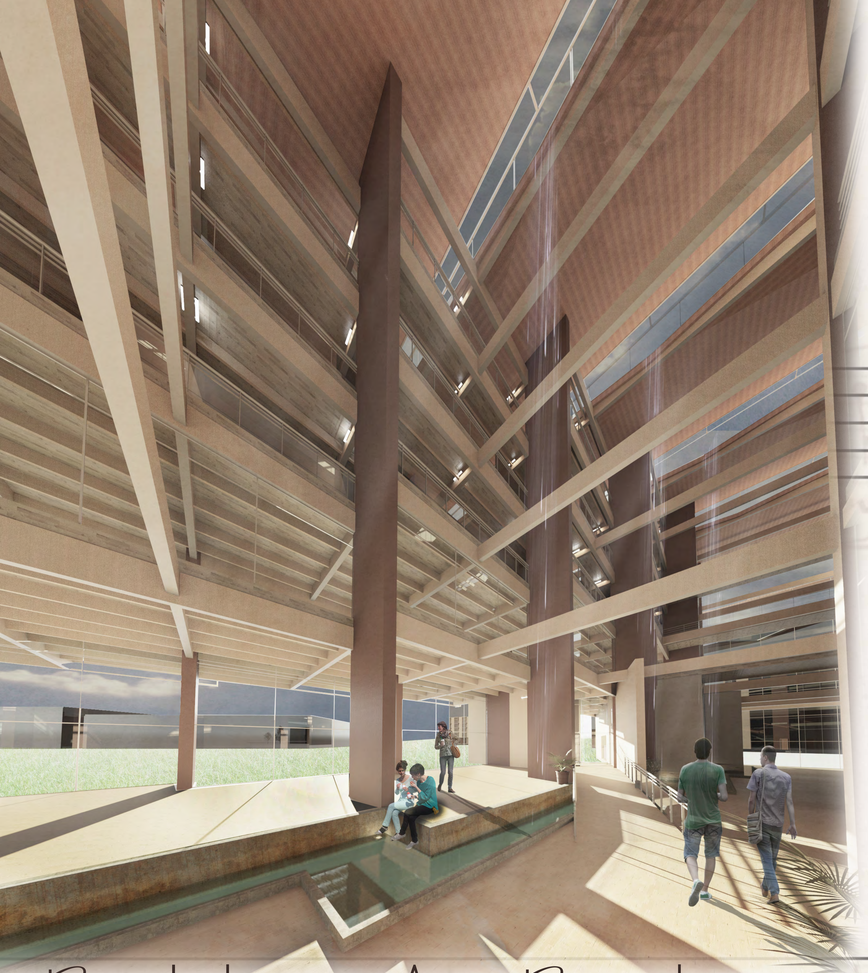


Building As Bridge

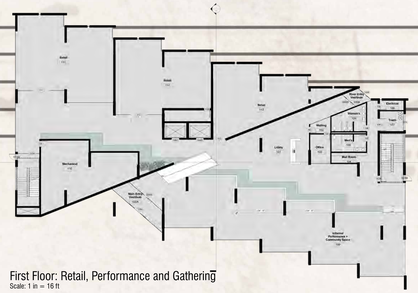
Re-imagining Sustainable Living Through Symphonic Design

Located in the artistically dense community of downtown east Minneapolis, MN, I propose a mixed-use residence for artists participating in local residency programs. It includes retail, apartments, artist studios, exhibition space, a research library, and informal performance space. The design provides an opportunity for the city to engage in meaningful and multi-layered cultural exchange between communities through the works of visiting artists. Inspired by the way one participates in music and framed in the structure of a symphony, architecture brings all things together—bridging city to city, individual to community, nature to technology—into one harmonious composition.

For German Philosopher, Martin Heidegger, a bridge is a manifestation of the fourfold—Earth, Sky, Divinities, and Mortals—which is at the root of all dwelling. He believed that preserving this fourfold is how we dwell in a holistic way on earth. This understanding of sustainable living requires human participation. Today, sustainable design has disregarded human participation with its specialized application, limiting our understanding of its relationship to the larger world. However, the task of Architecture is not to reduce our interaction with the world, but rather to, like music, invite us into a space for interpretation; calling us to participate in its experience. My project reinterprets sustainable living based on Heidegger's sense of dwelling, by creating an atmosphere that establishes a harmonious relationship between all things—Earth, Sky, Divinities, and Mortals.

Fourfold in Symphony

Stretching across the building, the entrance opens up to both sides, bridging city and riverfront.



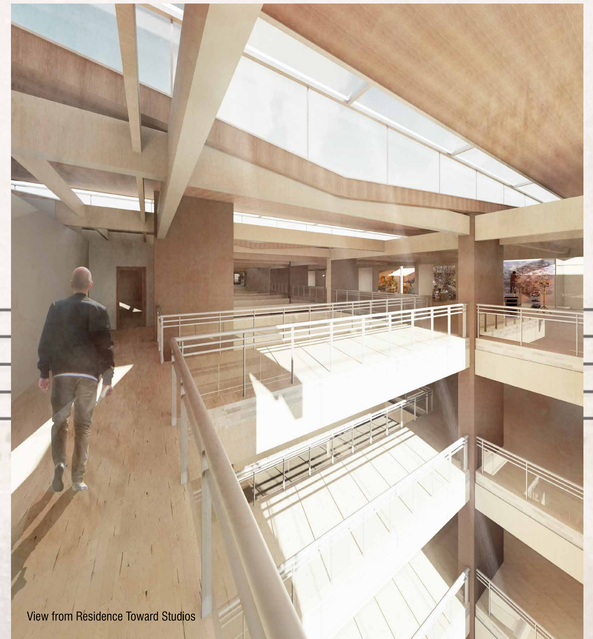
First Floor: Retail, Performance and Gathering
Scale: 1 in = 16 ft

One approaches this architectural symphony under large wooden chords, drawing one's eye up to the sky while simultaneously calling attention to one's relationship to the ground. Like the **Introduction** to a symphony, one is introduced to the architectural movement slowly, down a long, gradual ramp, increasing the weight of the architectural movement before its **Exposition**.

Second Floor: Library and Gallery
Scale: 1 in = 16 ft

The **Introduction** crescendos to a huge 5-story atrium. Performing as a symphony's **Exposition**, the atrium connects all parts of the movement and exposes its primary themes. The atrium brings all things together—earth, sky, divinities and mortals—by folding the sky into the building, exposing the elements of the earth, displaying cultural works for the public, and connecting individuals with community.

City Entrance



View from Residence Toward Studios

Passive Design Strategies:

The design is oriented to allow for maximum direct gain from the sun in the winter with fixed horizontal louvers for shade in the summer. Tubes of water running through the floors are used as thermal mass to absorb heat from the sun, to prevent daytime overheating and to store for nighttime use. Natural ventilation is achieved through both cross-ventilation and stack effect through the central atrium. The roof's design allows for the collection of rainwater to be distributed for grey water uses.

Section Exposing an Entire Neighborhood
Scale: 1 in = 8 ft

Third-Fifth Floors: Residence and Studios
Scale: 1 in = 16 ft

Dwelling Unit
Scale: 1 in = 8 ft

The upper floors break from the movement's **Exposition** forming the **Development** where the movement is altered and new themes and ideas are introduced. Included in these developmental spaces are a library, gallery, residences, studios, and music rooms, all allowing for the composition of cultural contributions.

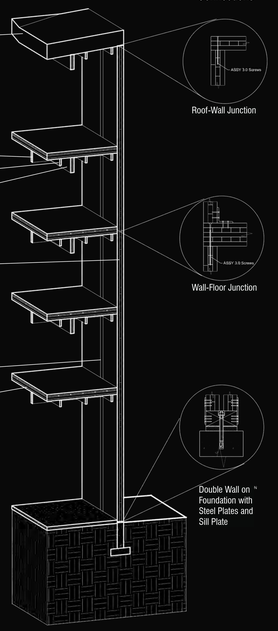
All spaces open back up into the atrium, transitioning into the movement's **Recapitulation**—an altered repeat of the **Exposition**. This closing cadence continuously reconnects all things, bridging earth and sky, city and nature, individual and community.

Library

Gallery

Bedroom

Connections



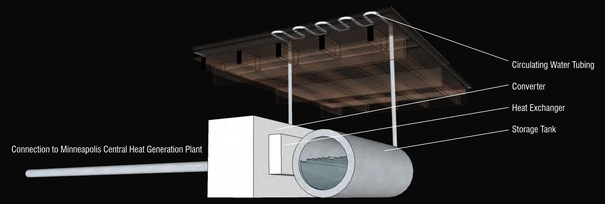
Cross-Laminated Timber Construction

Cross-Laminated Timber was chosen for its natural beauty and sustainable properties. CLT is renewable, recyclable, has superior insulating properties and reduces our carbon footprint through carbon sequestration.

Hydronic Heating System

The sun heats tubes of water embedded in a 1-1/2" layer of concrete during the day, which is then stored and recirculated throughout the building at night.

This system is also connected to Minneapolis's Central Heat Generation Plant that provides steam and chilled water as a back-up system during extreme heating and cooling days.



Building As Bridge: Re-imagining Sustainable Living Through Symphonic Design
ARCH 772 Design Thesis
Emma DeMartelaere
Advisor: Stephen Wischer
Revit, Autocad, Sketchup, Photoshop, Indesign