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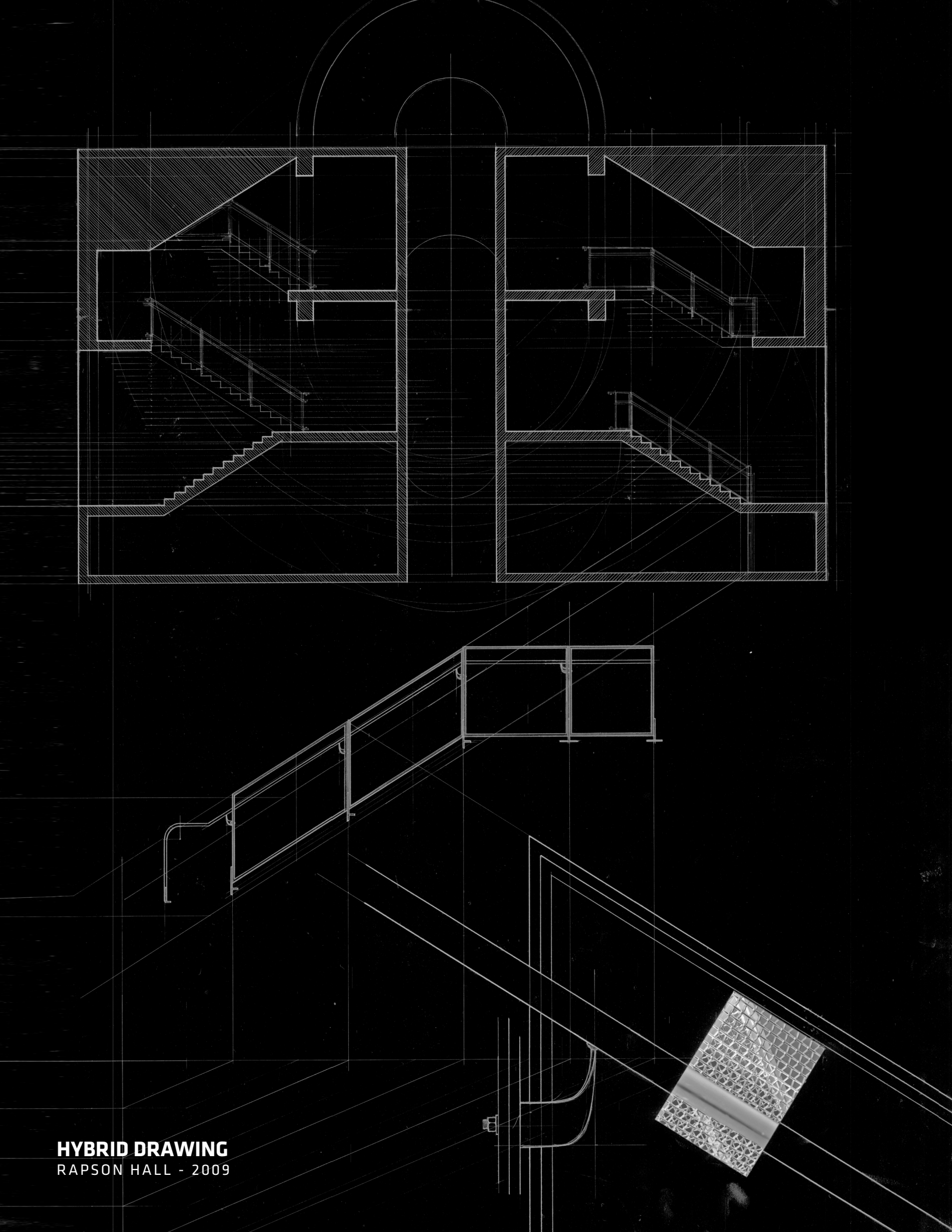

HYBRID DRAWING
RAPSON HALL - 2009

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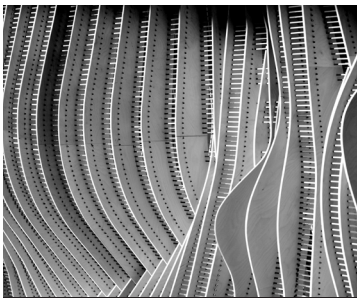
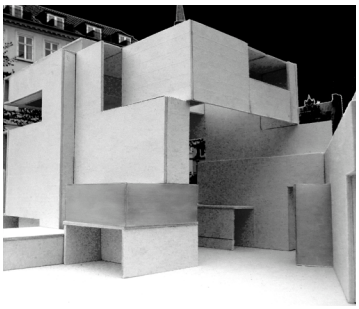
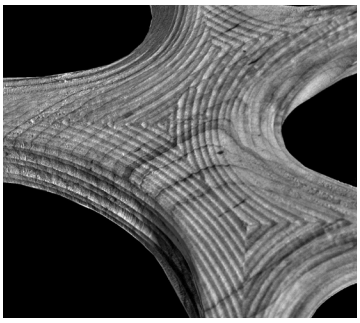
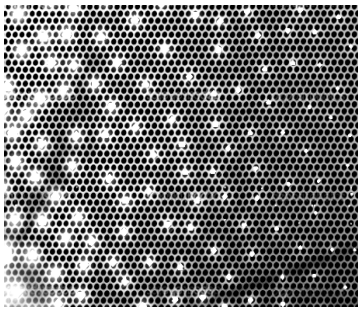








Please find an online version at:
http://issuu.com/danielraznick/docs/daniel_raznick_full_portfolio

For more images, projects, and info visit:
http://www.danielraznick.com/

CENTENNIAL CHROMAGRAPH

RAPSON HALL INSTALLATION - 2013

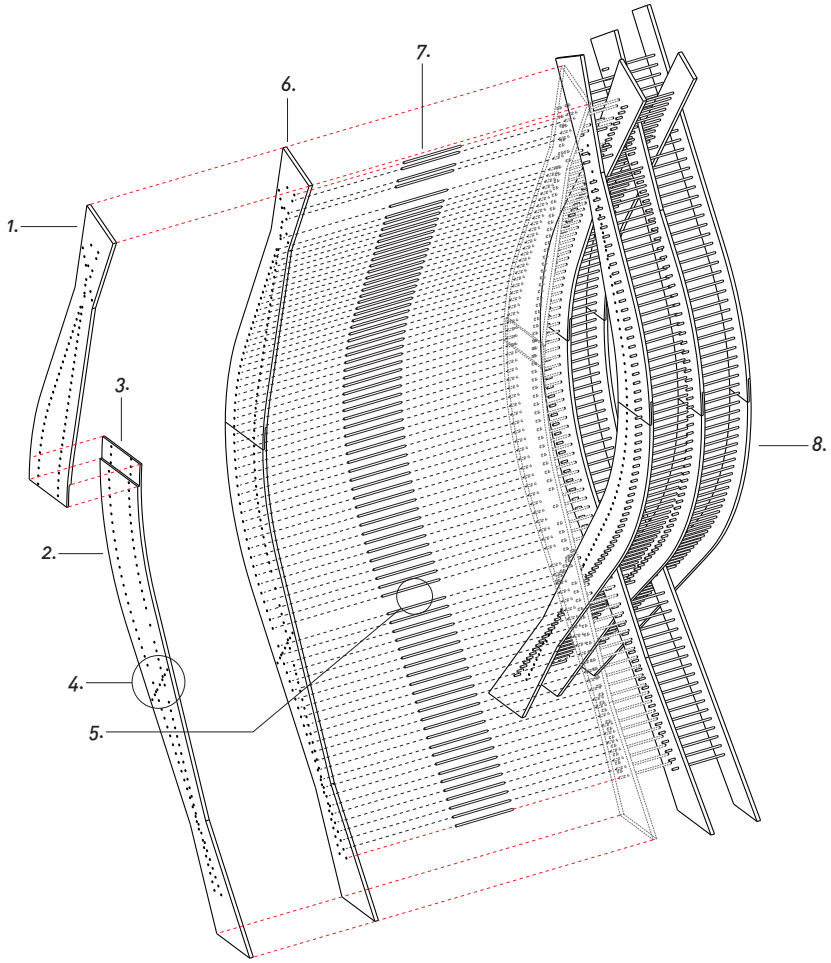
with: VARIABLE PROJECTS

AIA Minnesota Honor Award Winner, 2013

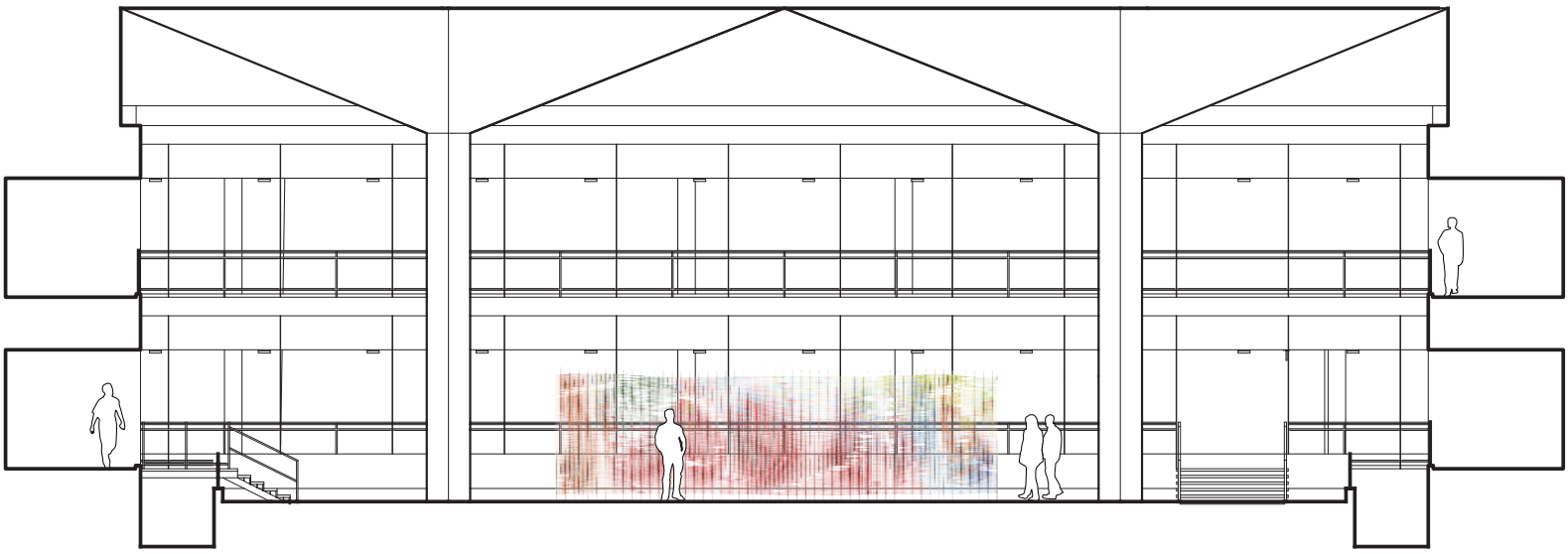
INFORMATION SPATIALIZATION

Centennial Chromagraph is a life-size representation of the history of the University of Minnesota School of Architecture. The project is an exercise in data spatialization: using computational design tools to generate formal and spatial constructions with large quantities of data—in this case, information sampled from the School's 100-year history.

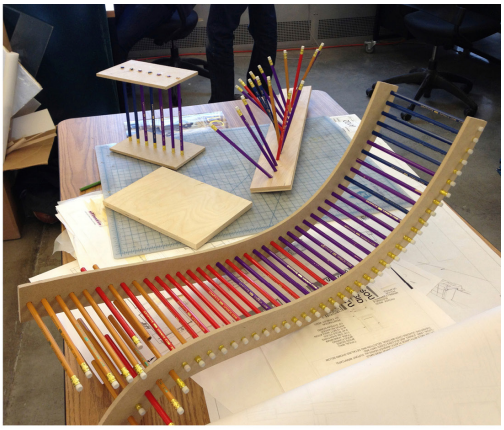
The project is both a sculptural installation, constructed within the central courtyard of Ralph Rapson Hall as a centerpiece for this year's Centennial celebrations, and an applied research project exploring the possibilities of data-driven design. It embraces an aesthetic tension between didactic representation and atmospheric experience, both conveying information and producing abstract effects of light and color. In this regard, Centennial Chromagraph resists either quantitative or qualitative readings, instead oscillating between the two.

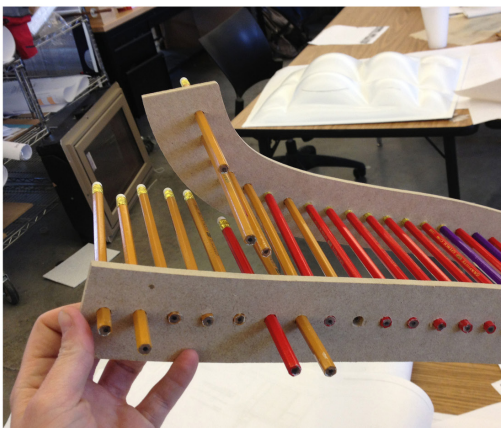


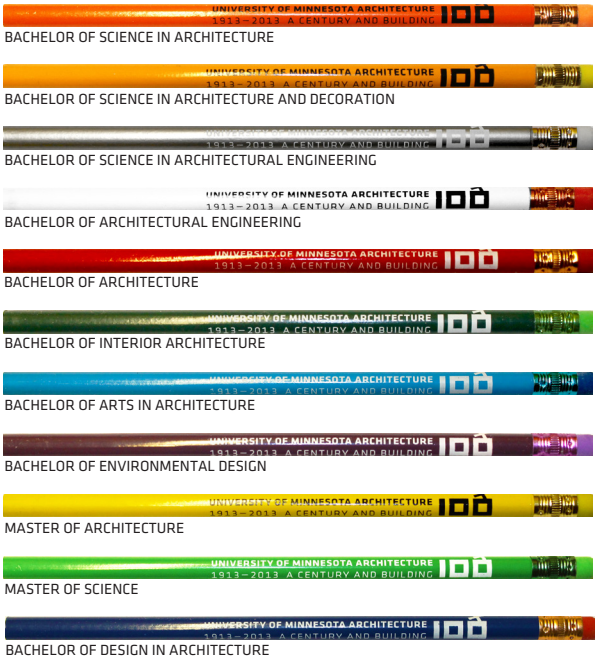
1. RIB PART 1
2. RIB PART 2
3. LAP JOINT
4. CROSS RIB INTERSECTION HOLES
5. PENCIL REMOVED AT COLLISION LOCATION
6. ASSEMBLED RIB
7. PENCILS
8. COMPLETED ASSEMBLY

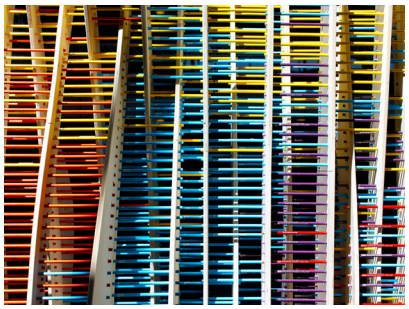



UNIVERSITY OF MINNESOTA ARCHITECTURE
1913–2013 A CENTURY AND BUILDING



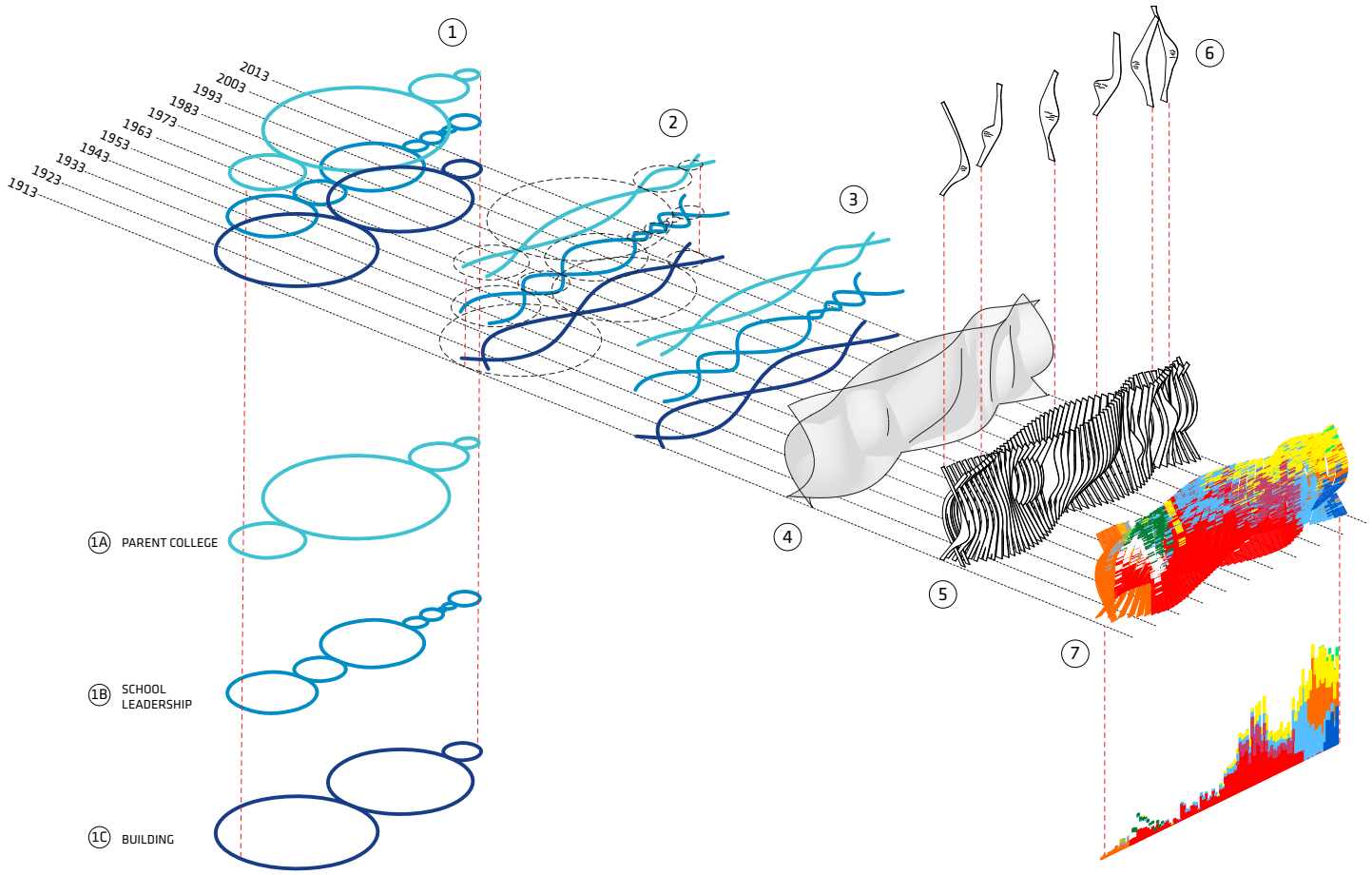






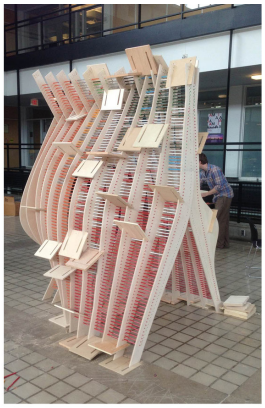
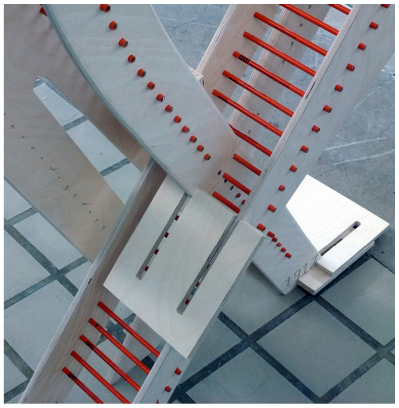
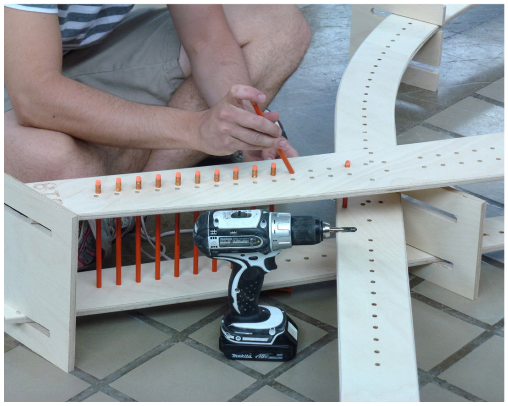
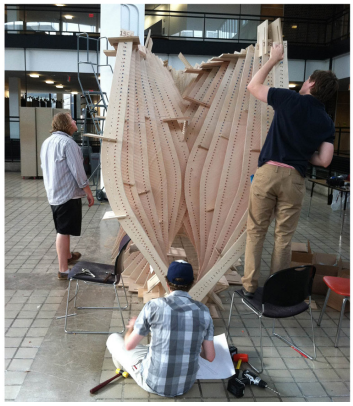
FABRICATION AND COLOR

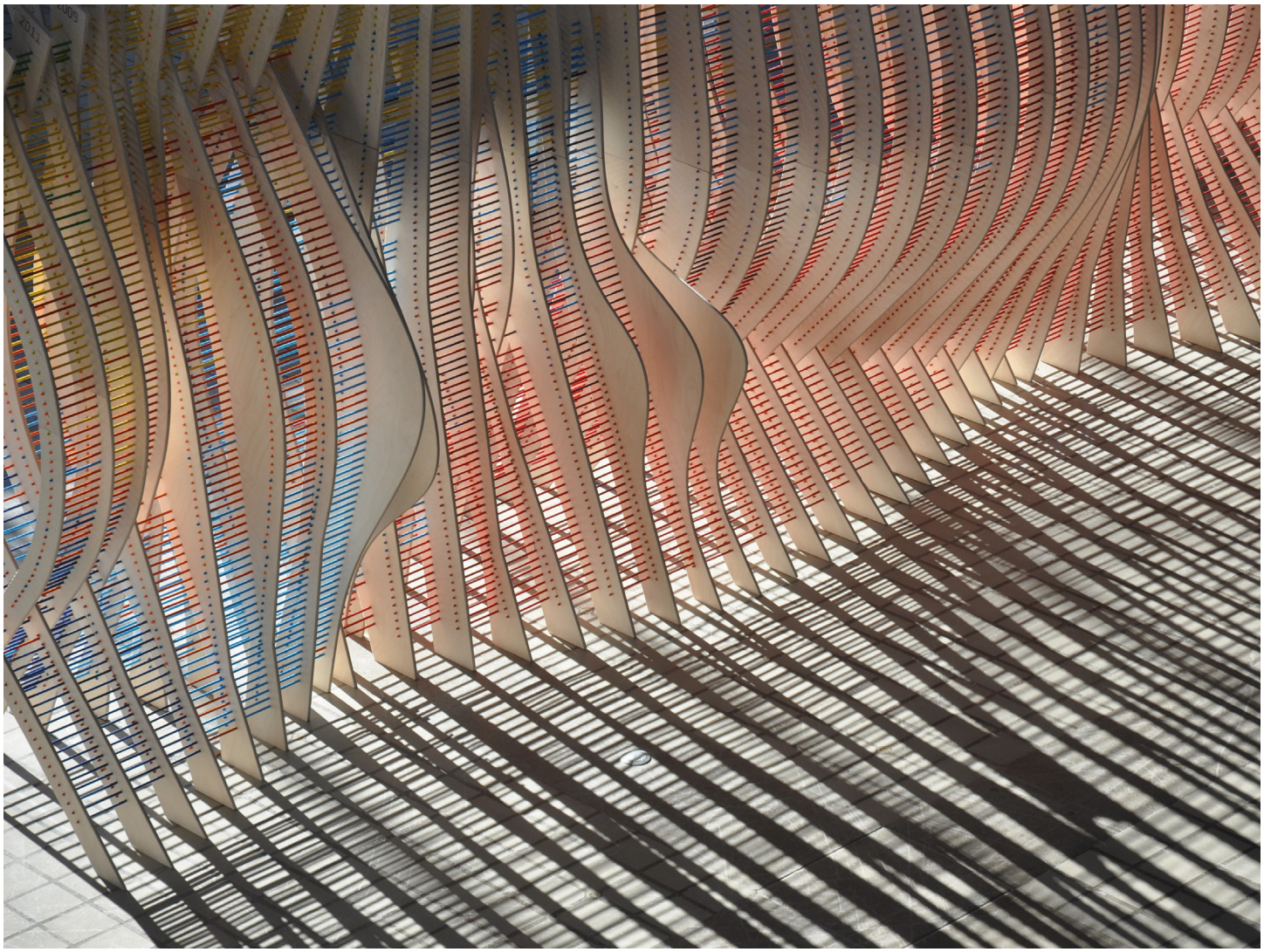
The installation consists of 100 robotically-routed plywood ribs, joined together with 8,080 colorful #2 pencils. The curvature of the ribs expresses major historical eras and periods of the School, while the color of the pencils reflects the changing composition of the School's degree programs over its first century.s of school leadership, the buildings the program has occupied, and the colleges architecture has belonged to–while the color of the pencils reflects the changing composition of the school's degree programs over its first century.

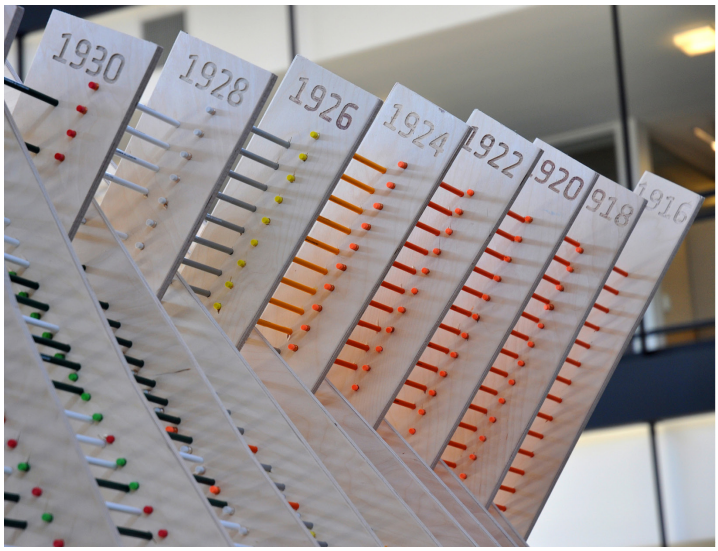


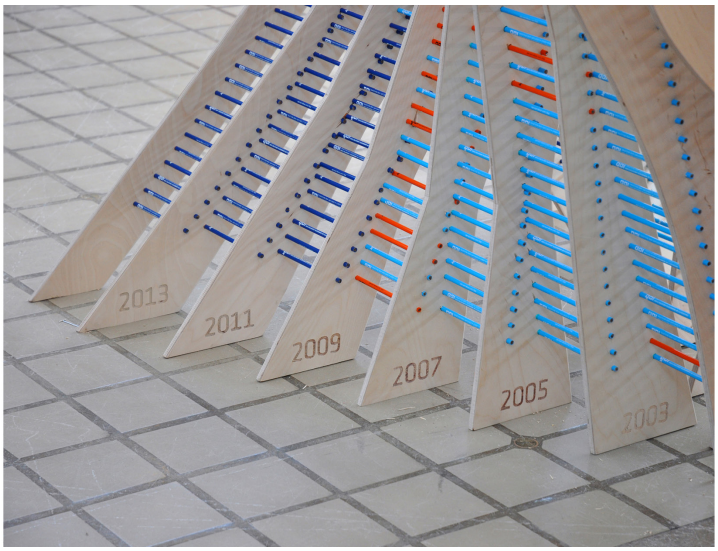
1 HISTORICAL RANGES
2 TRANSFORMATION TO SPLINES
3 CONSTRUCTION CURVES
4 SURFACE GENERATION
5 SECTIONAL RIBS
6 ENGRAVINGS: HEADS OF SCHOOL
7 PENCILS COLORED BY DEGREE TYPE, PROPORTIONAL BY YEAR



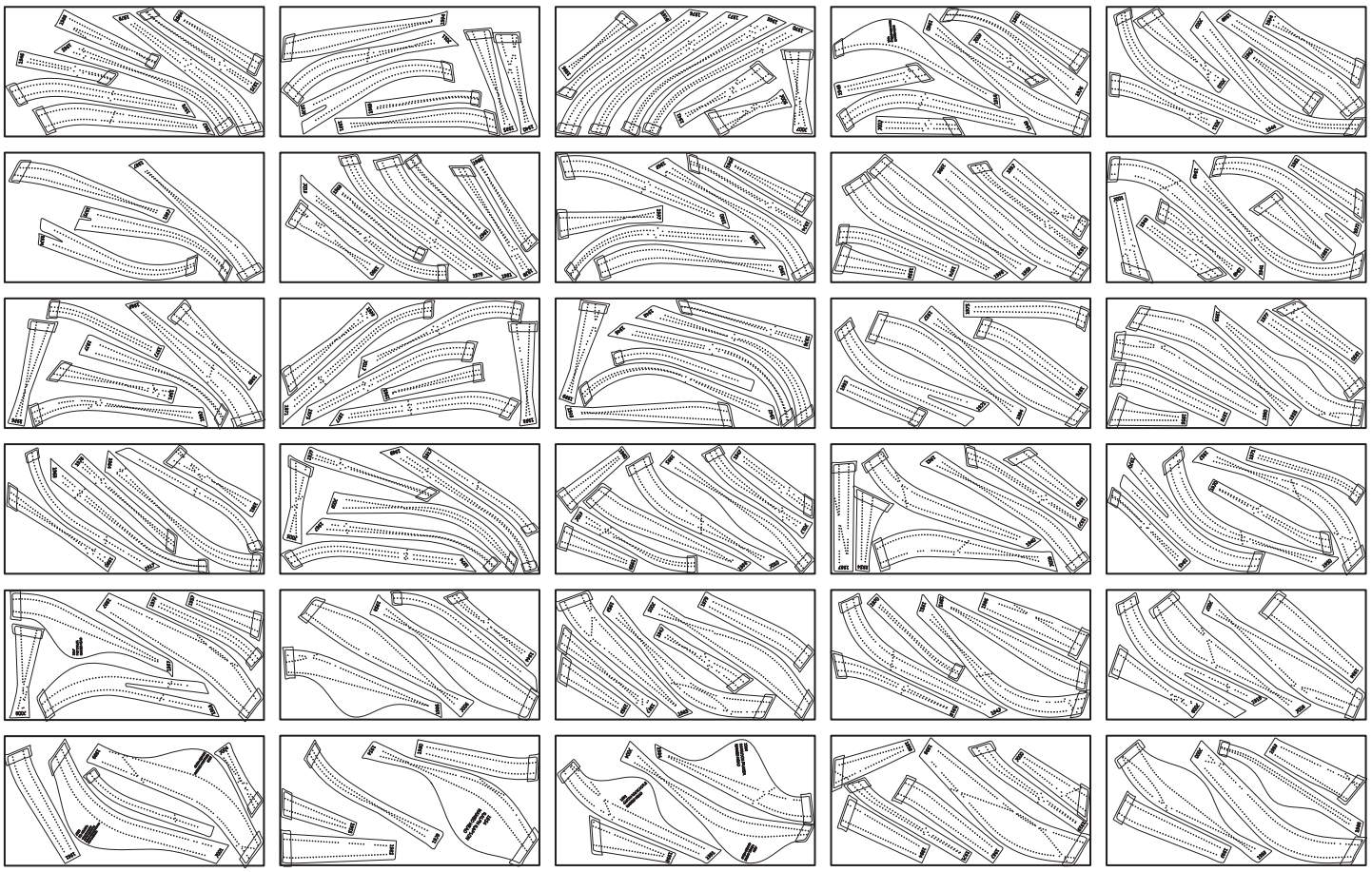




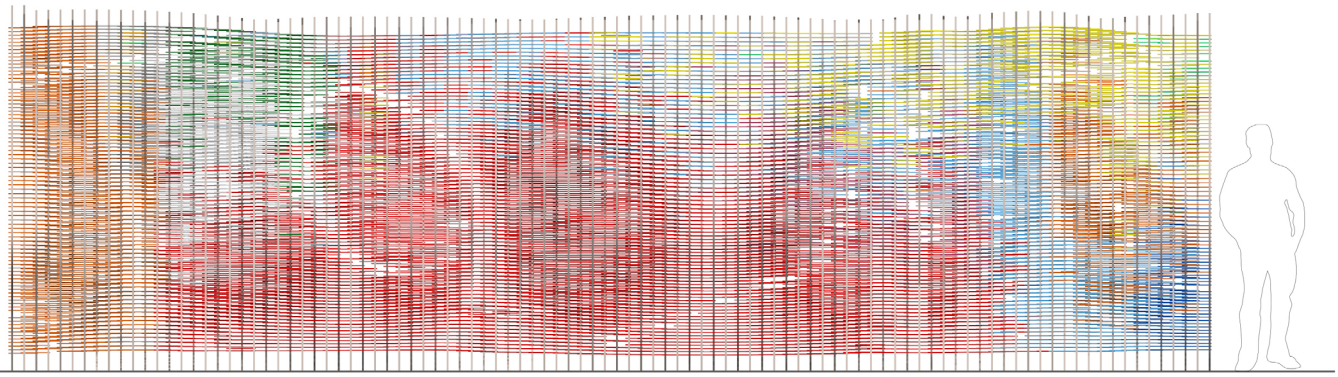


FORM AND DATA

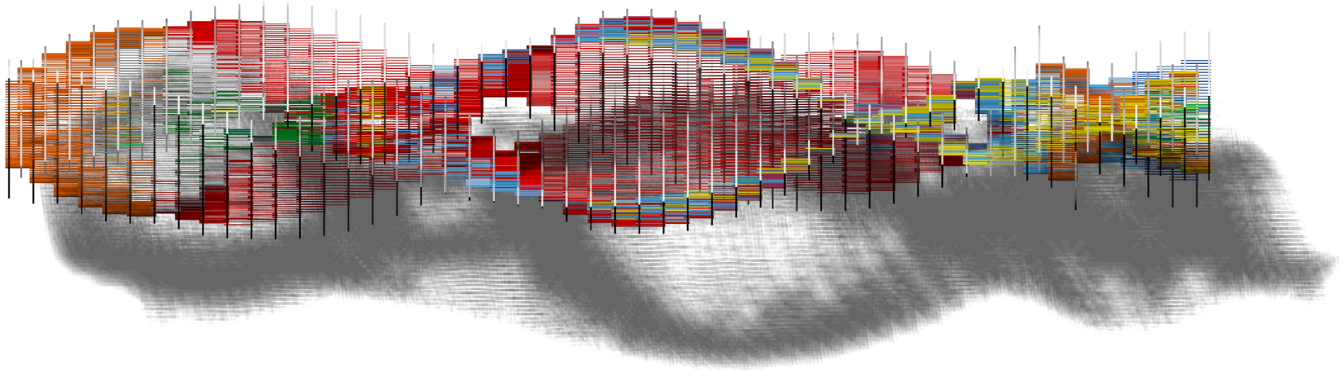
The design process began with a mapping analysis of the School's alumni archives. Computational design software was employed to visualize this data, in relation to class sizes, degree types, and geographic locations of the School's graduates through time. The data mapping yielded two primary design strategies: spatial and chromatic. First, the installation's curved form is derived from broad ranges from the school's history: the tenures of its leadership, the buildings it has occupied, and the colleges it has belonged to. This information, chronologically mapped and diagrammatically abstracted through superimposed curves, drives the installation's overall form. Second, a more granular data set of degrees granted by the School drives the distribution of color throughout the installation. The chromatic logic allows one to read the evolution of the School's degree programs through time.



NESTED SHEETS FOR FABRICATION



ELEVATION



PLAN

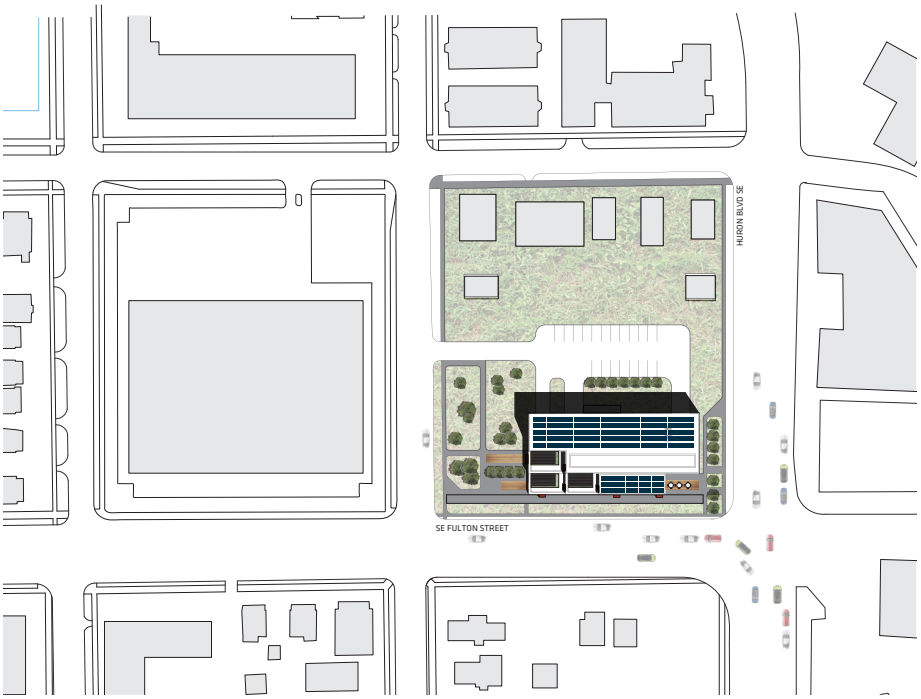
HEALTH AND WELLNESS CENTER

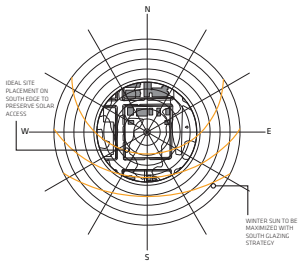
GRADUATE DESIGN III - 2012

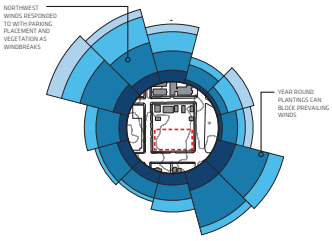
GATEWAY EXPANSION

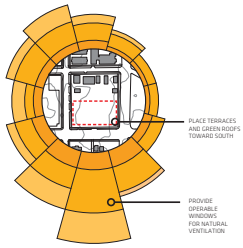
As the University of Minnesota expands into the residential districts of Stadium Village, the urban conditions, and use of space will undergo massive transformations. It is essential that these transformations be sustainable, and that they prioritize sustainable use.

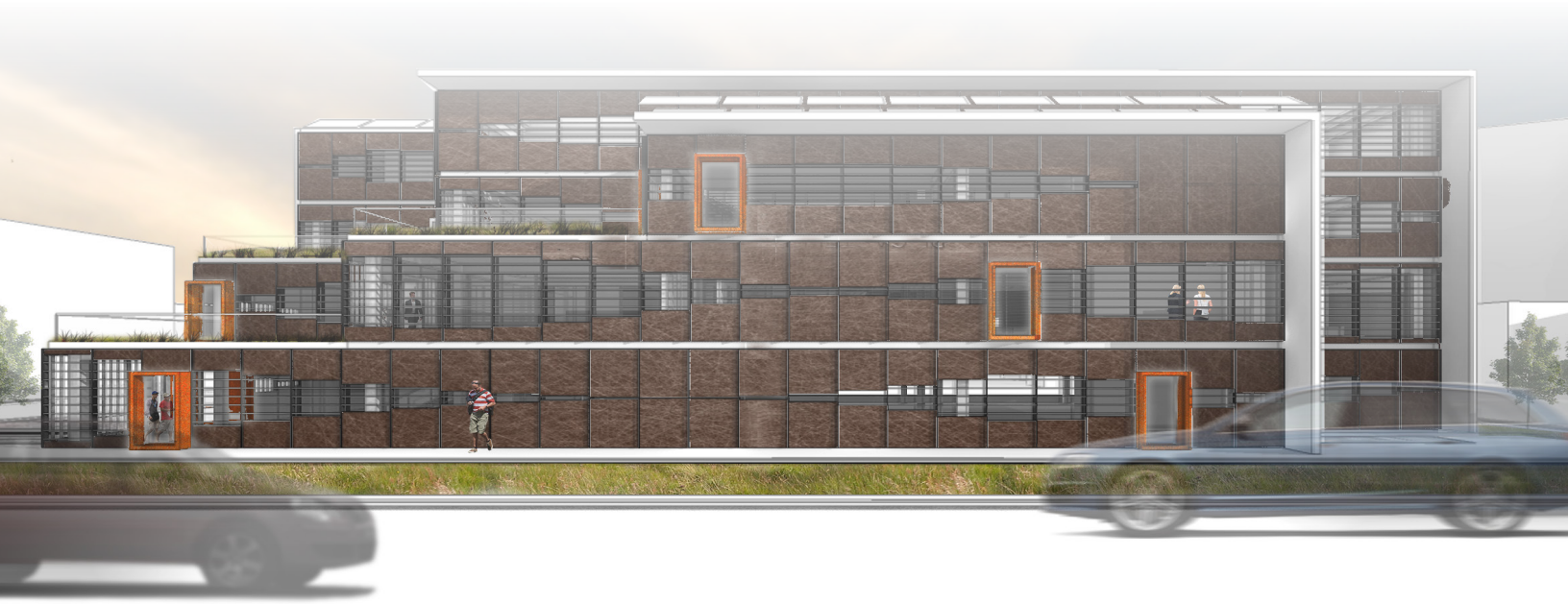
Currently at the intersection of Essex and Huron, the entry-way to campus seems to be disregarded. The bustle from I-94 permeates into the residential zone, and the place itself has little if any identifying features. By siting the Center for Healing and Wellness on this intersection, the newly developed gateway can promote green public space as well as reflect sustainable attitudes of the future for the university – to live simply, healthily, and sustainably.

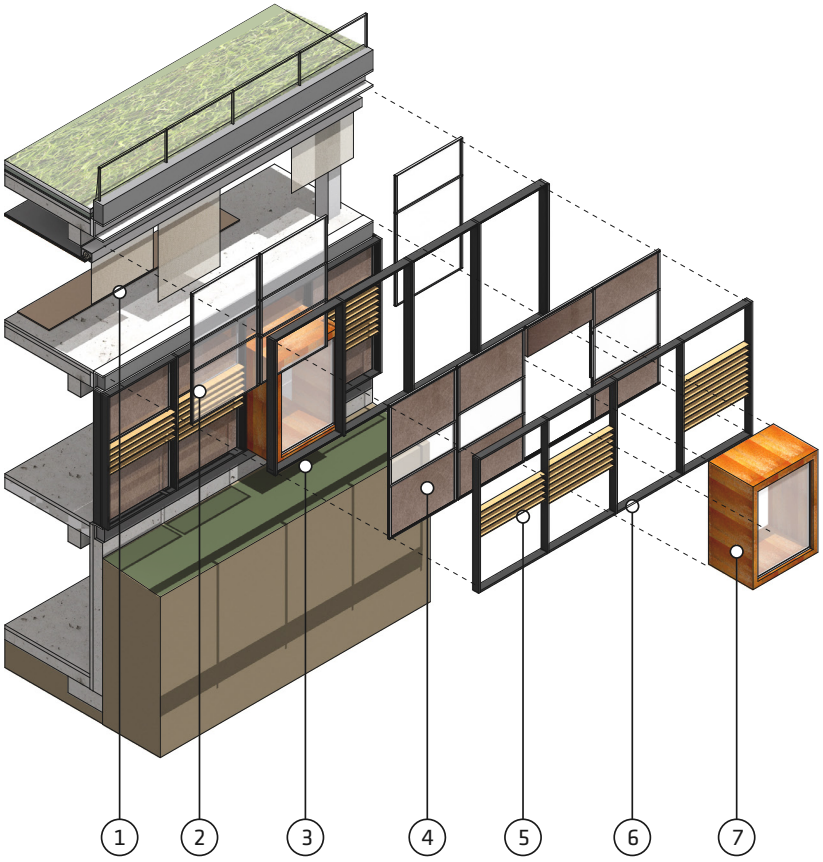












1 Operable pull down shade

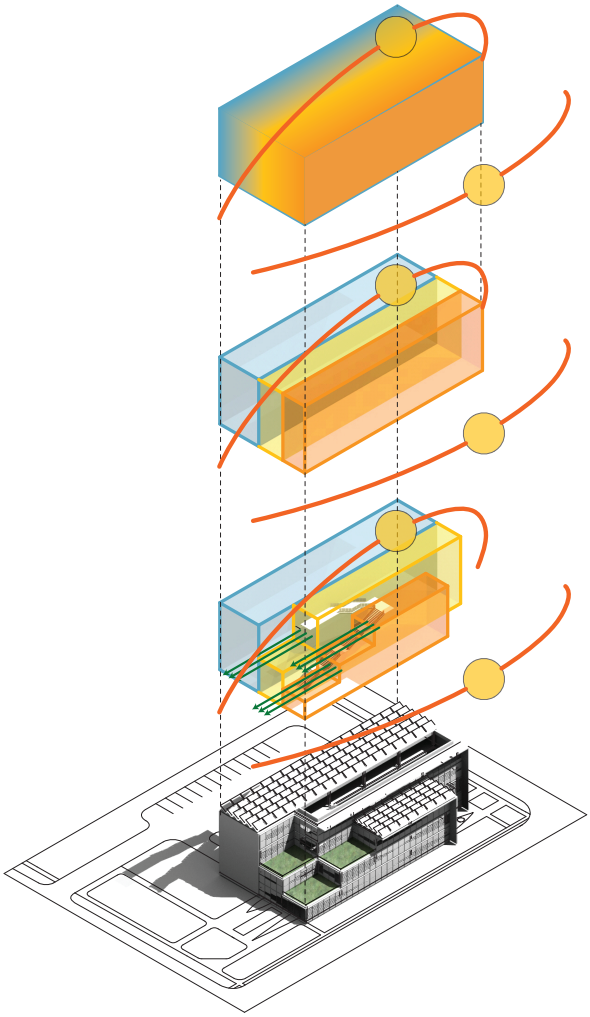
2 Single pane operable glazing

3 Interior aluminum curtain wall frame

5 8" treated glulam louvers

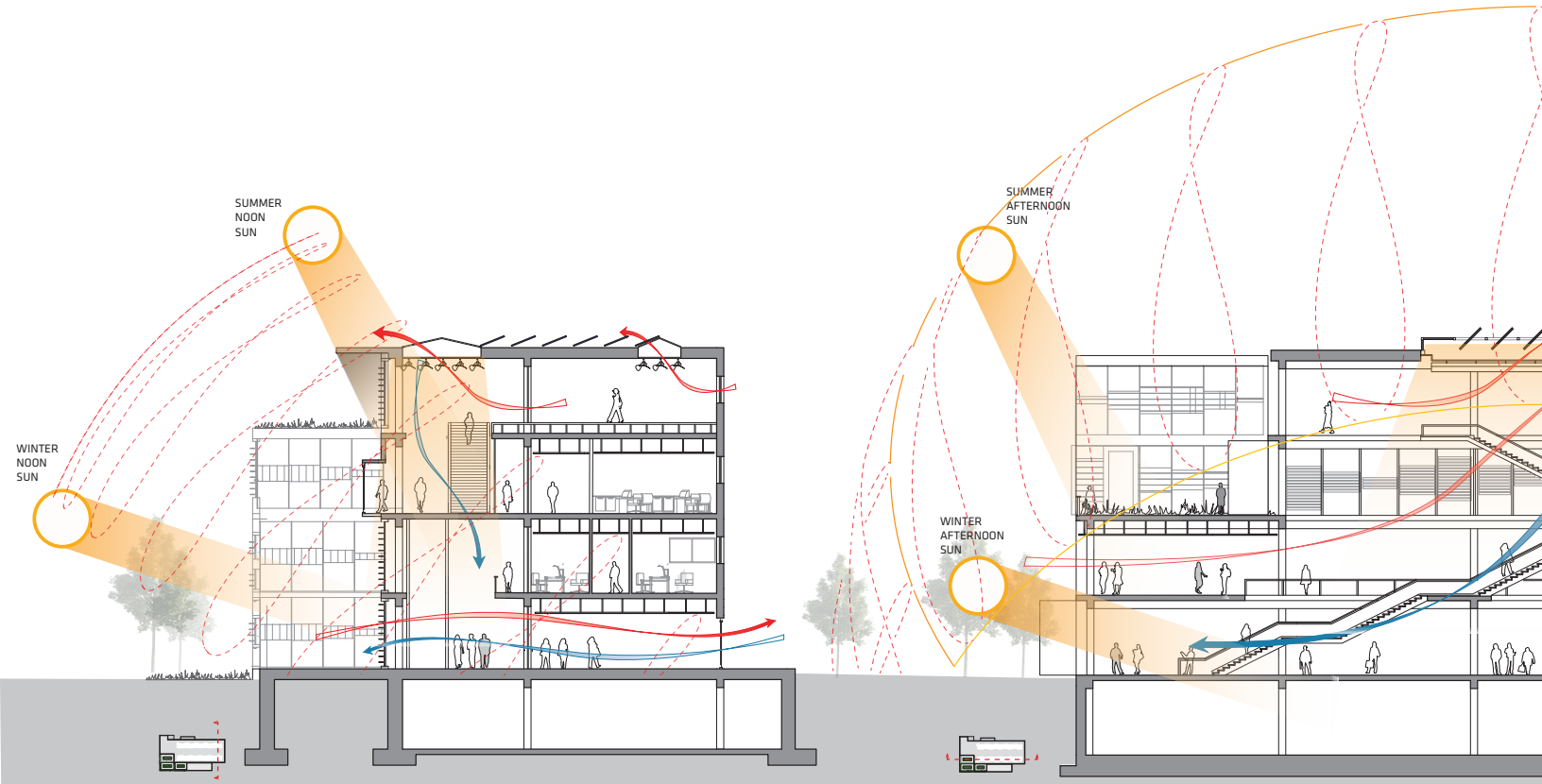
6 Exterior aluminum curtain wall frame

7 Cor-ten panel window box

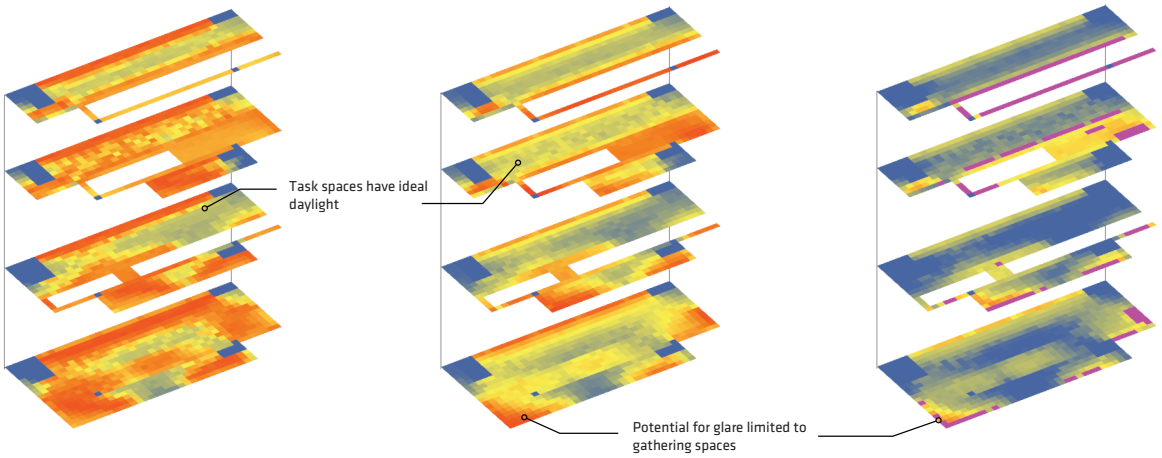


DAYLIGHT ANALYSIS

The daylight analysis reflect the intent of dynamic conditions between the three zones. However, it also indicates a finer grain of specificity in how orientation at a micro scale creates unique instances of more intense light around the periphery of the circulation and gathering zones. The envelope responds to this allowing higher levels of daylight in open public spaces, and reduces it in less public spaces like the pharmacy and the cafe prep room.



CLIMATE BASED DAYLIGHT SIMULATIONS



USEFUL DAYLIGHT ILLUMINANCE +200 FC

25% 50% 75% 100%

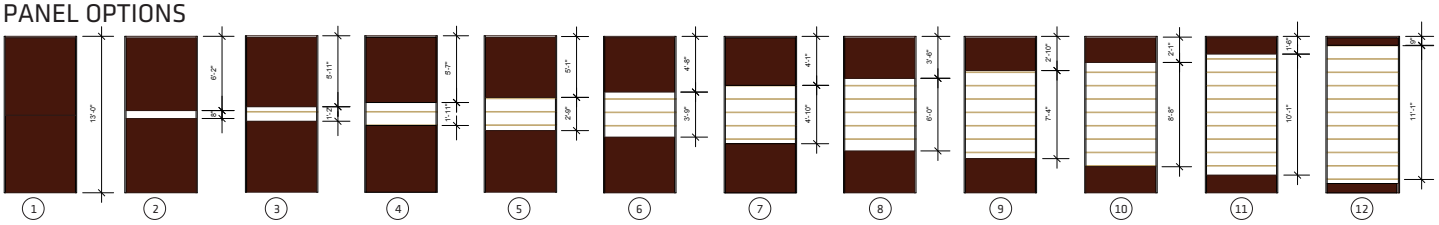
DATLIGHT AUTONOMY +200 FC

25% 50% 75% 100%

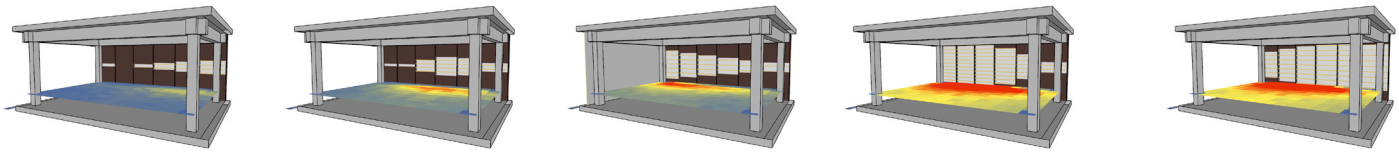
DAYLIGHT AVAILABILITY +50 FC

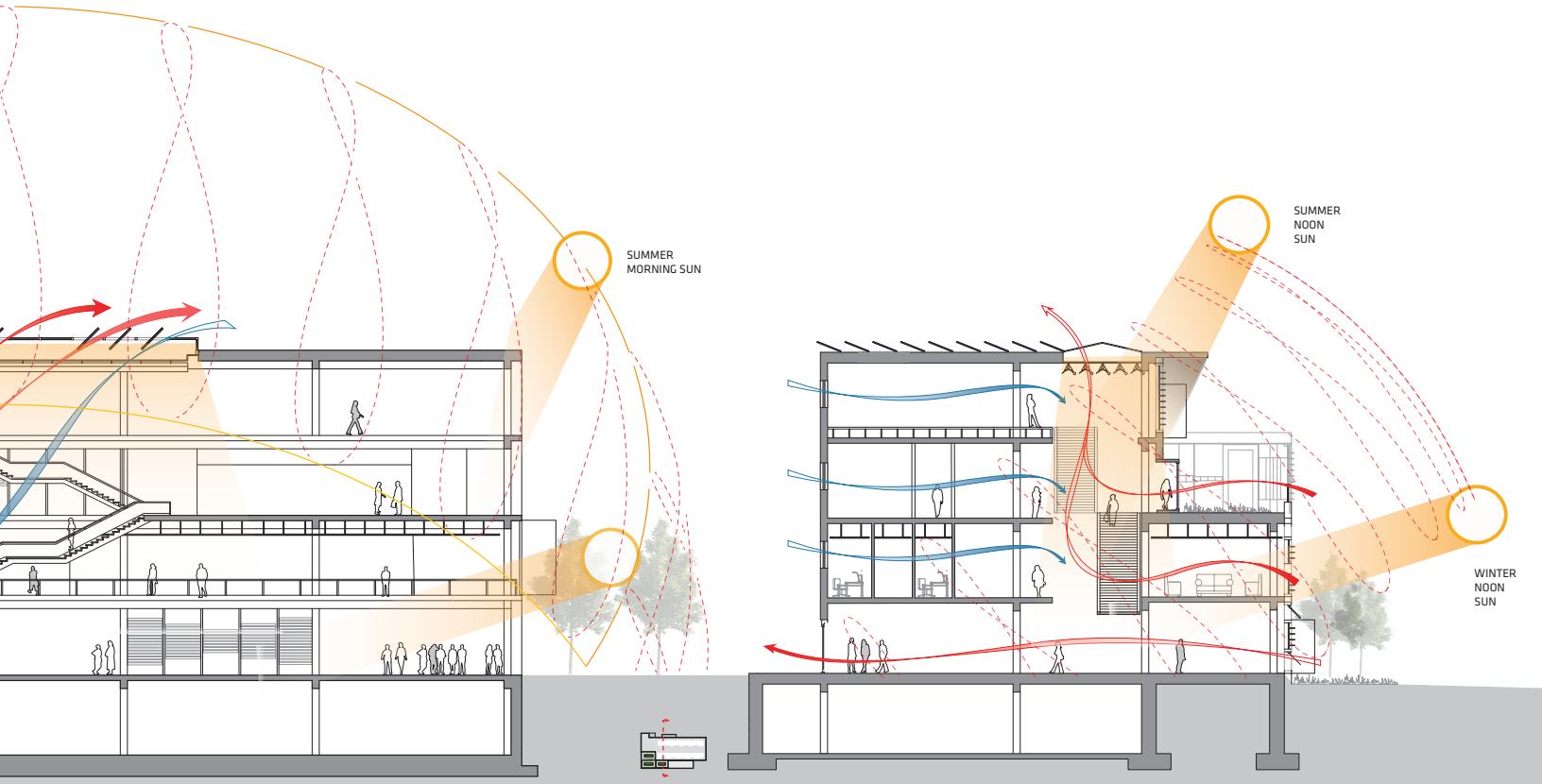
25% 50% 75% 100%

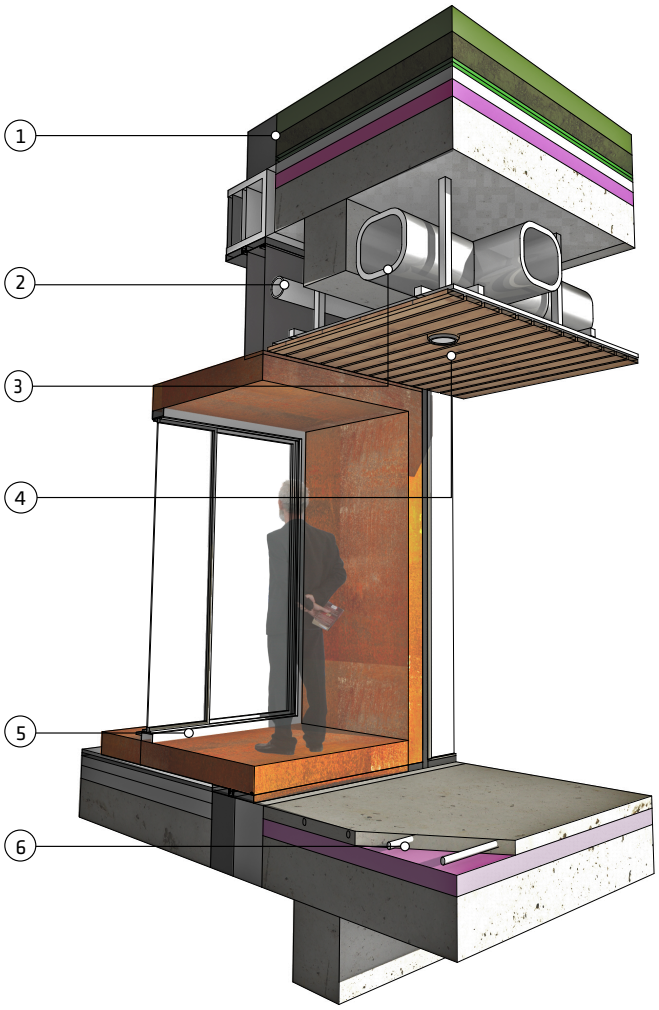
PANEL OPTIONS

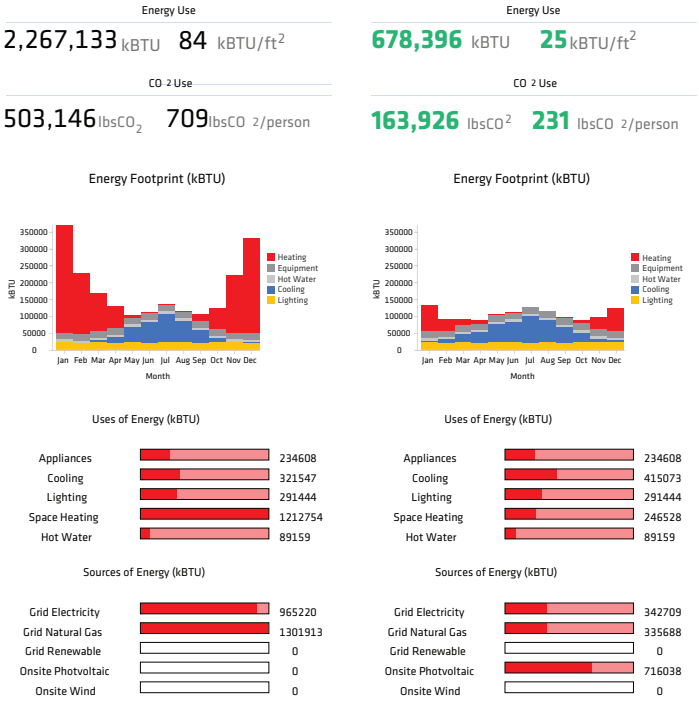


DAYLIGHT RESULTS



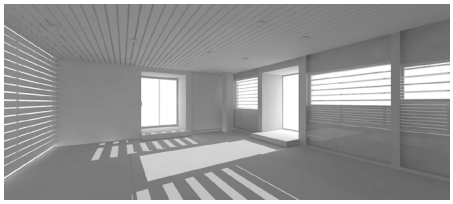


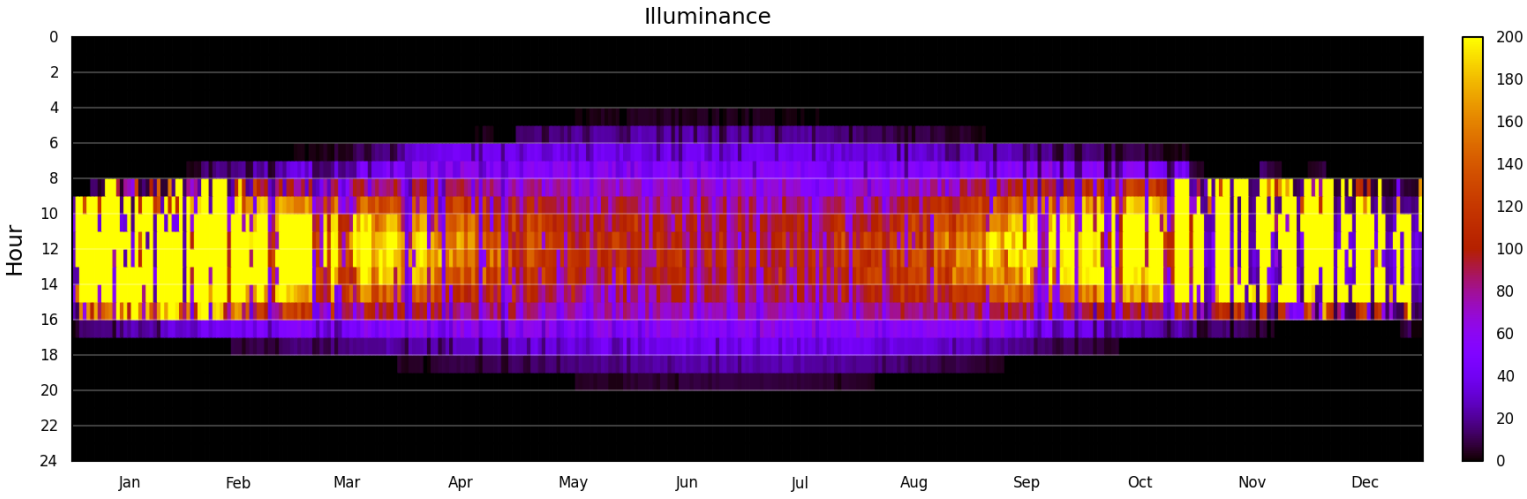


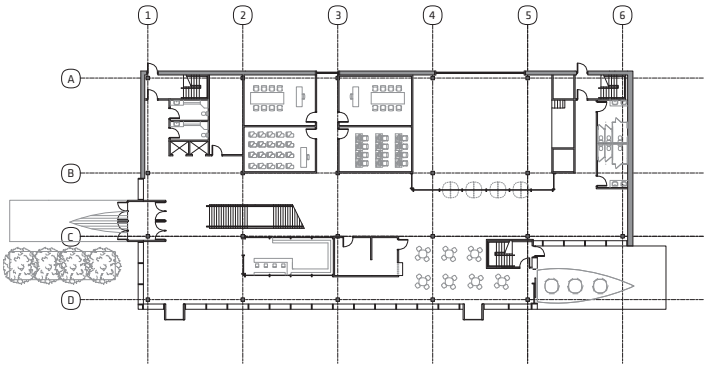


ROOM STUDY OPTIMIZATION

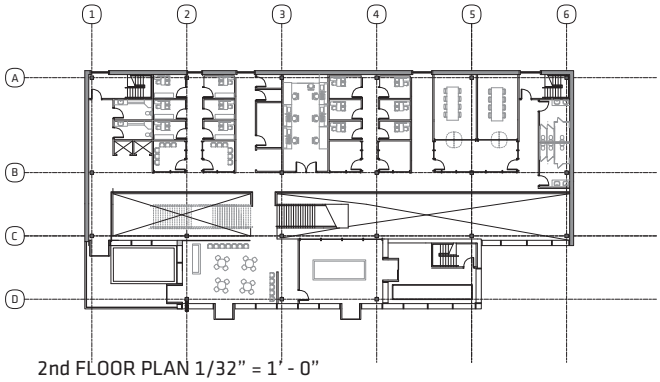
The meditation room allows for ideal solar and thermal conditions to aid in the harsh seasonal climate. In the summer, the louvers block most of the sun, the shades diffuse any light, and the air is cooled from above. In the winter the direct sun is welcome, warming the thermal mass floor aided by radiant tubes. The graph represents the moments throughout the year where glare would be experienced as in the perspective. When occupants can connect with nature and the sun in a calm, focused state of meditation.outdoor program placement, which gives a strong sense of orientation for the occupants.



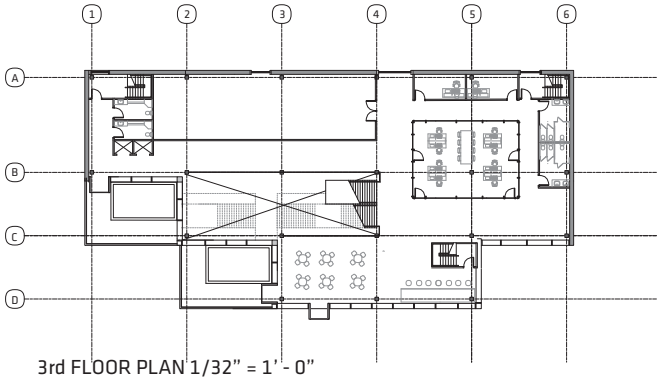




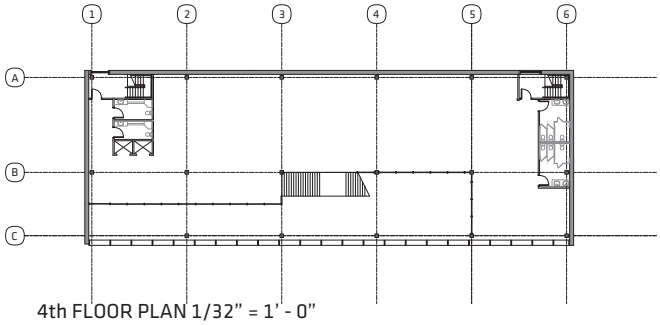
1st FLOOR PLAN 1/32" = 1' - 0"



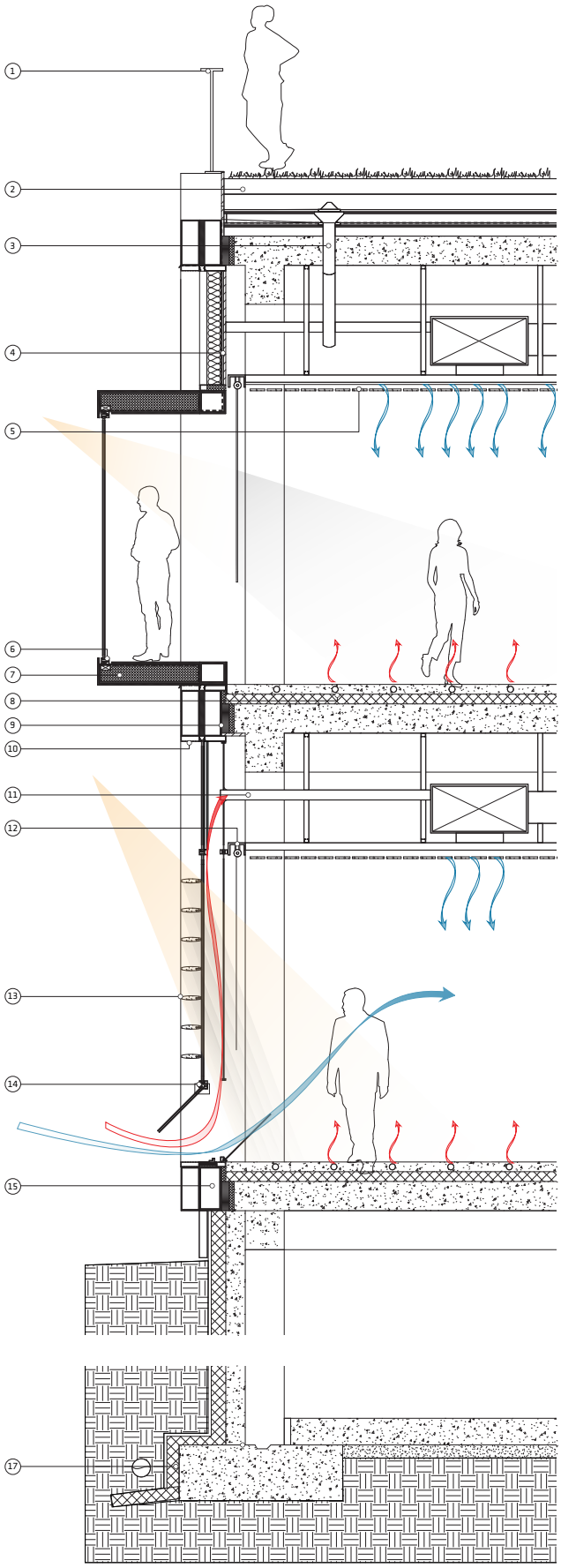
2nd FLOOR PLAN 1/32" = 1' - 0"



3rd FLOOR PLAN 1/32" = 1' - 0"

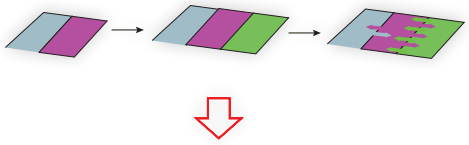


4th FLOOR PLAN 1/32" = 1' - 0"



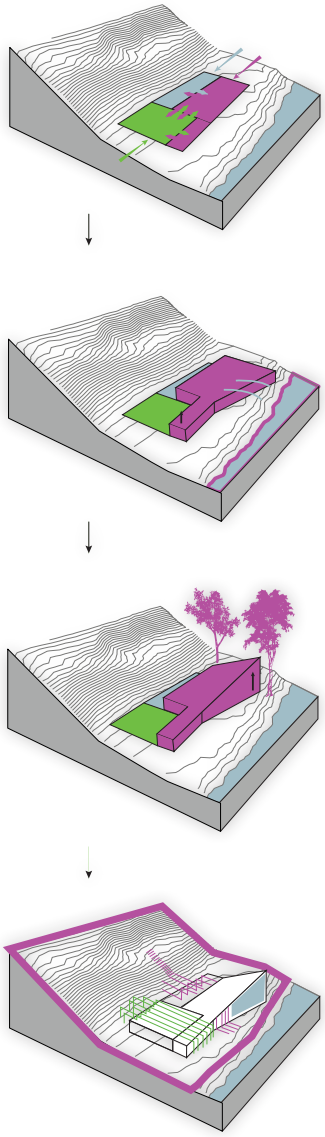
RIVERSIDE LEARNING RESTAURANT

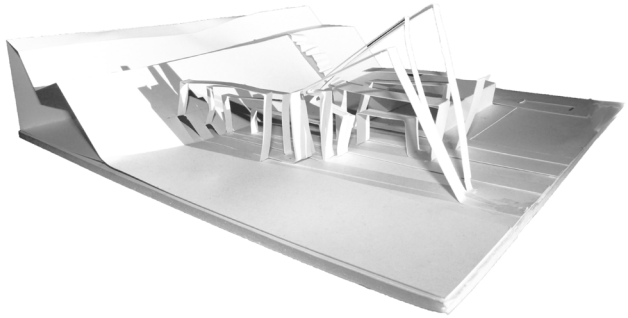
GRADUATE DESIGN I - 2011

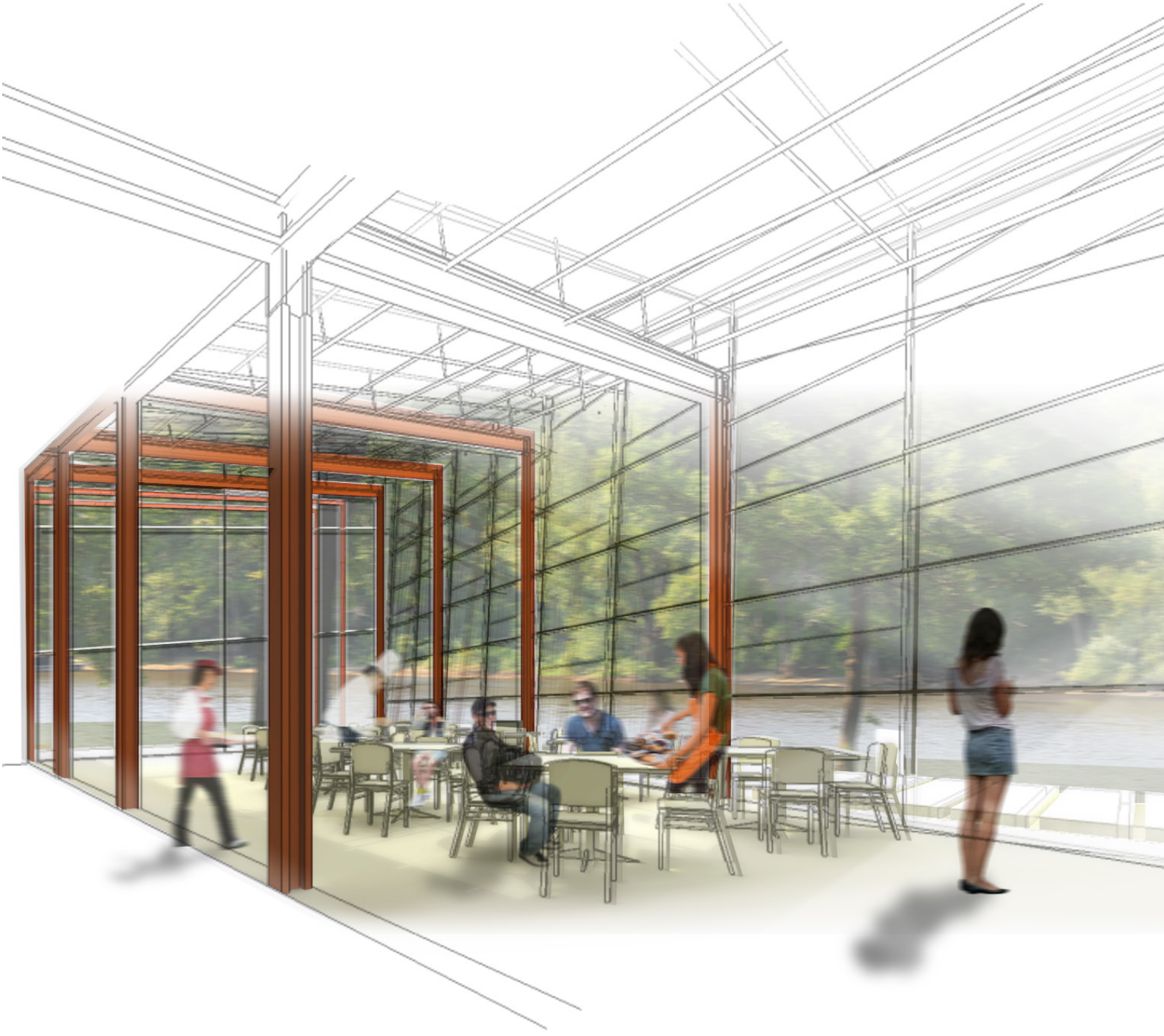


GATEWAY EXPANSION

An iterative conceptual modelling process was employed to investigate how architecture can respond to existing site conditions. The glazed wall is canted to face the river, and the dining room reaches toward the trees. The program include studio gardens and kitchens for the leaning center, a dining room (80 seats), and a staff kitchen. The experience of the restaurant connects people to the land that produces their food, and to the river as the building seemingly dissolves into the site.

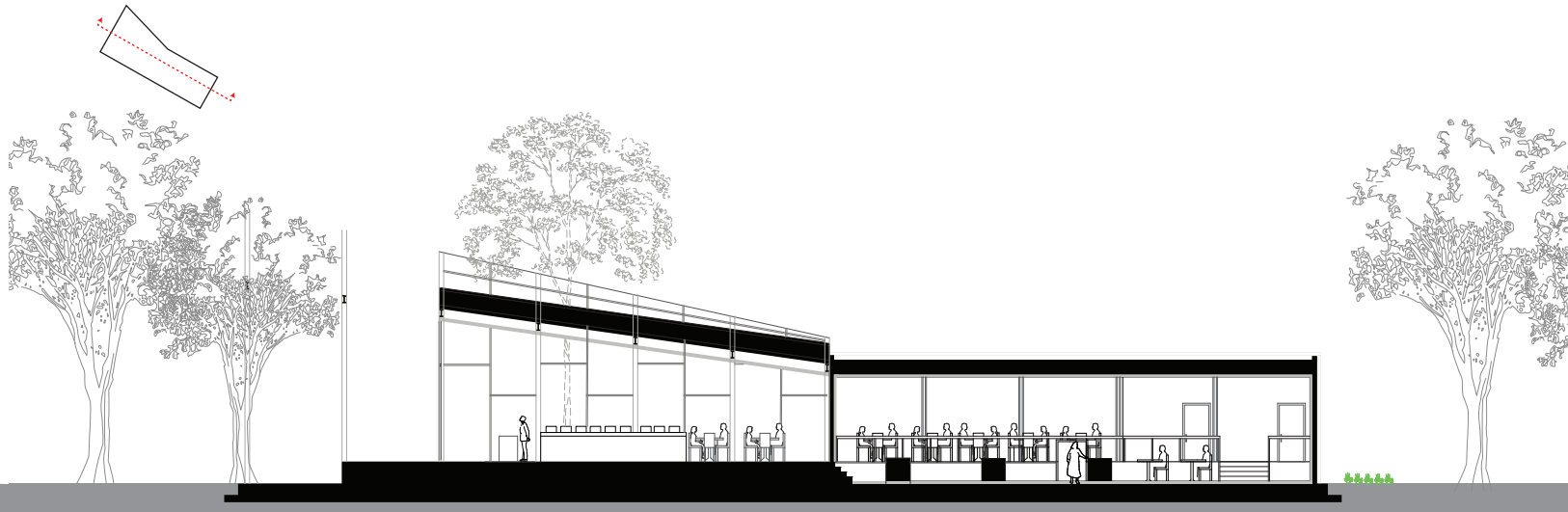






SITE PLAN

PLAN



CRADLE TO CRADLE PAVILION

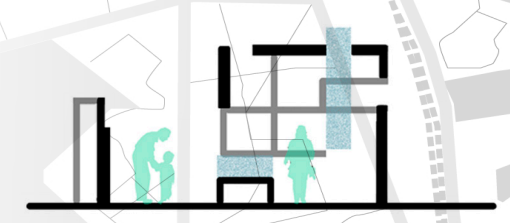
COPENHAGEN, DENMARK - 2010

PAVILION LIFE + AFTERLIFE

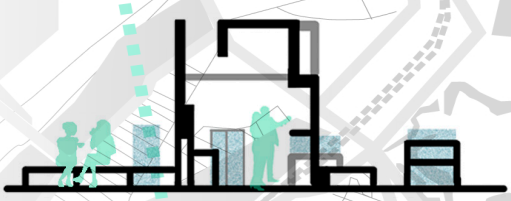
By using William McDonough's concepts in Cradle to Cradle on a seasonal pavilion, the first task was to ask: what is the pavilion's afterlife?

Copenhagen has a rich culture of using public squares year-round. We began designing the summer pavilion with the intent that we could leave a permanent impression on multiple public spaces throughout Copenhagen after the summer pavilion's life.

The idea to deconstruct the pavilion into urban benches was made possible by the modular nature of the design. The dimension were based on human proportions for sitting, leaning, and viewing exhibits. Therefore, the transformation retained the usability and created a dialogue between the two forms



section



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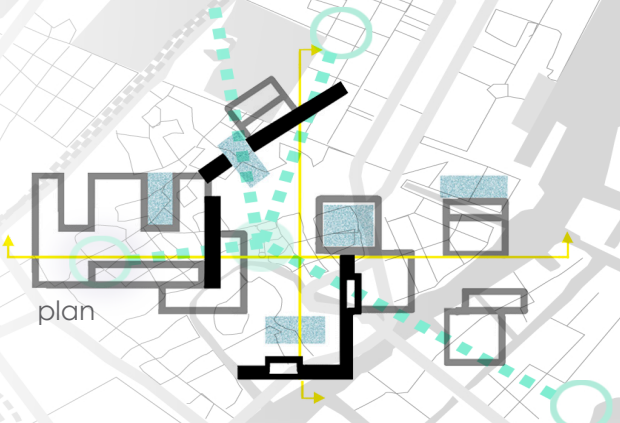
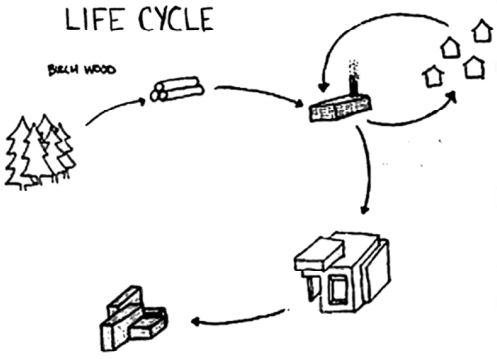
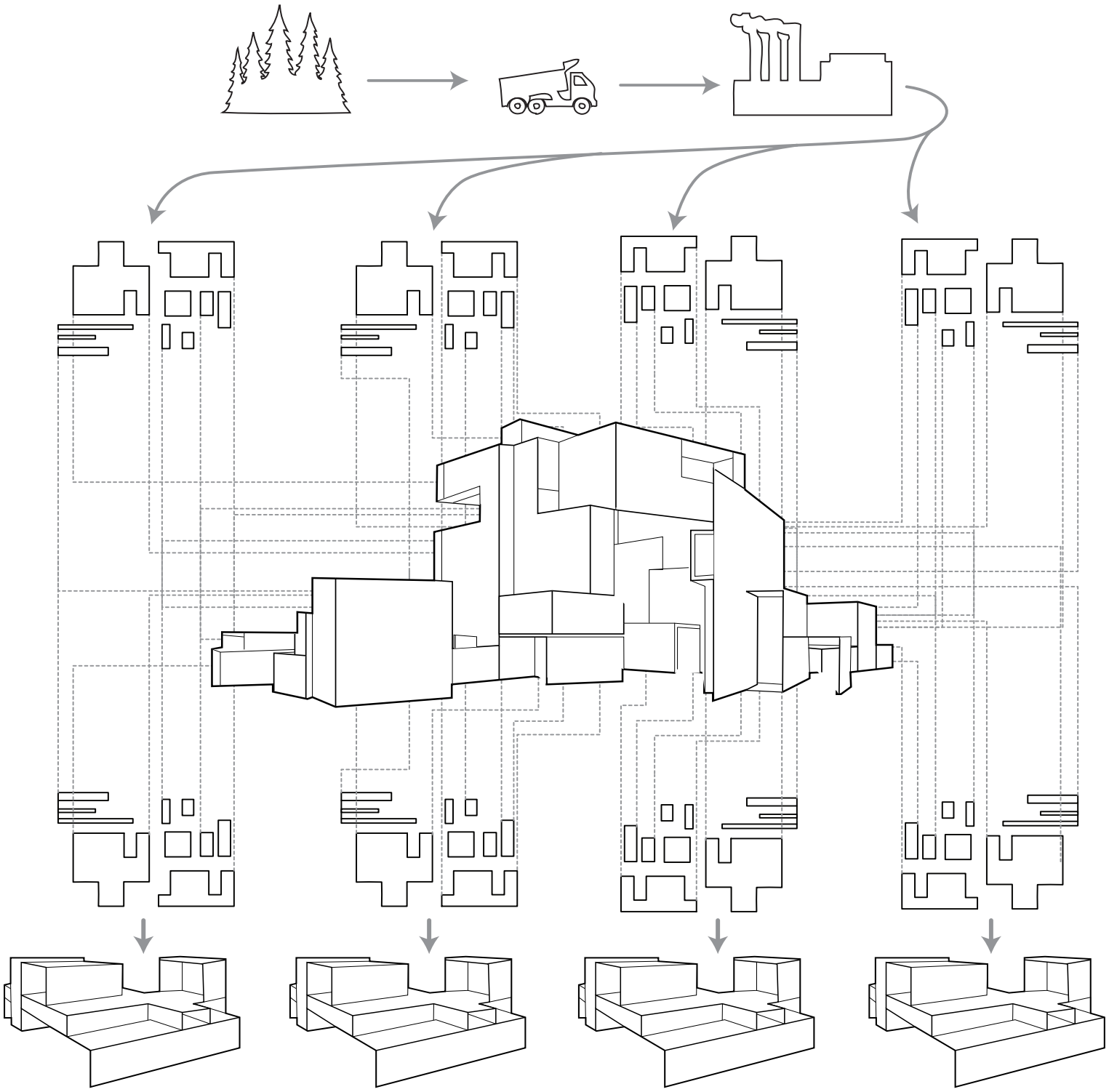


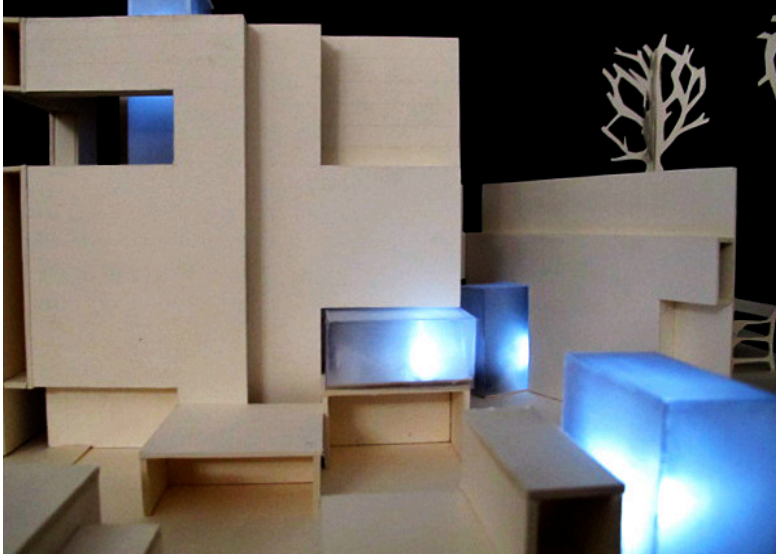
plan

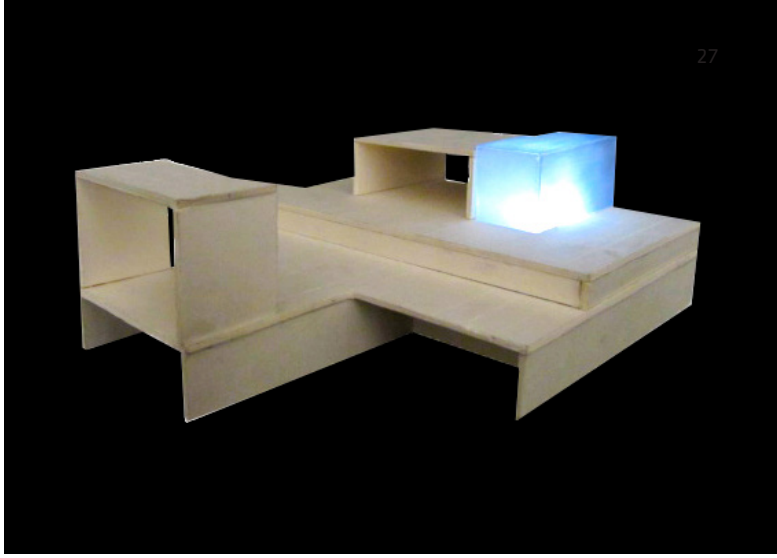




ART + MEMORY

The pavilion serves as a gallery of local art exhibits. The light boxes display the art and act as a beacon to attract visitors to Højbro Plads. The Cradle to Cradle Pavilion aims to revitalize the public space with life and energy both day and night. The pavilion's lifespan is short - but it's reborn form of urban benches would leave a permanent impression and reminder of the importance of public urban space in Copenhagen. What was once a temporal experience in now embedded in memory and ignited by the experience of the bench.






RESTAURANT SHANGHAI
Bagels

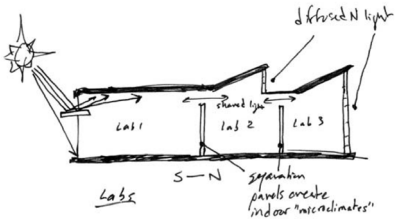
ZERO ENERGY LAB
TECH II STUDIO - 2012

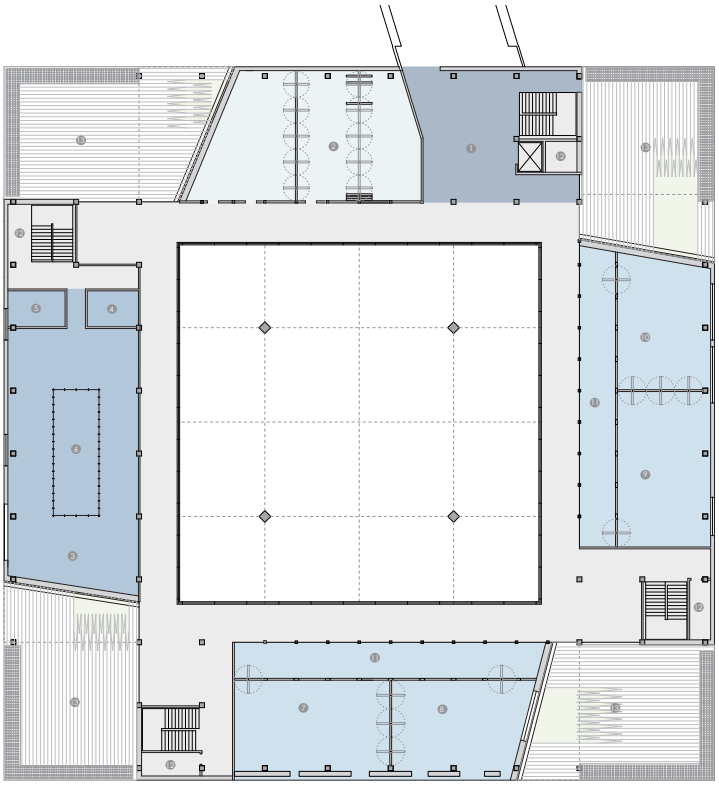
WITH VANESSA ABIN FUENTES
AND PATRICK TRIGGS

SUSTAINABLE ADDITION

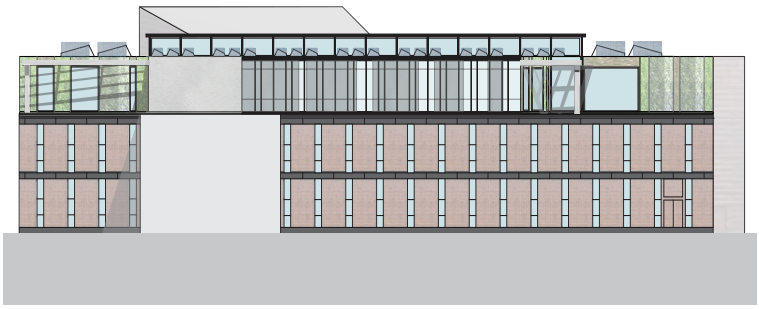
The Zero Energy Lab is the new home for the Center for Sustainable Building Research. The third floor of Rapson becomes an expression of thermal and luminous design. Optimization and passive strategies inform the design -creating spaces that are functional, enjoyable, and efficient. Form and circulation relates to the rigid symmetry of the original building, but responds to the asymmetrical Steven Holl addition with outdoor program placement, which gives a strong sense of orientation for the occupants.

The program includes labs, offices, studio classrooms, and outdoor courtyards. The outdoor courtyards provide views and make each corridor in a symmetrical building unique.



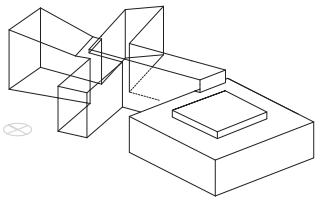


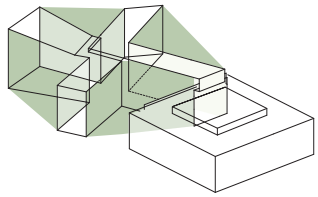
Third Floor Plan

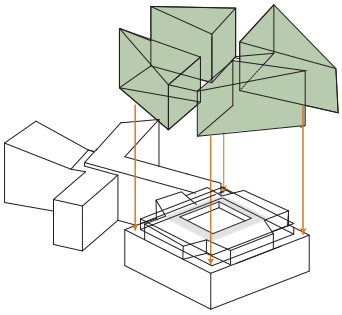


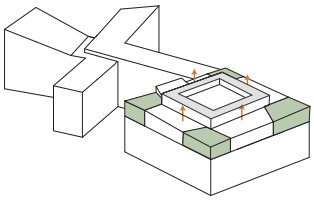
South Elevation

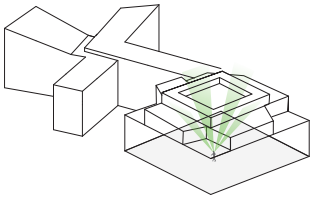
West Elevation







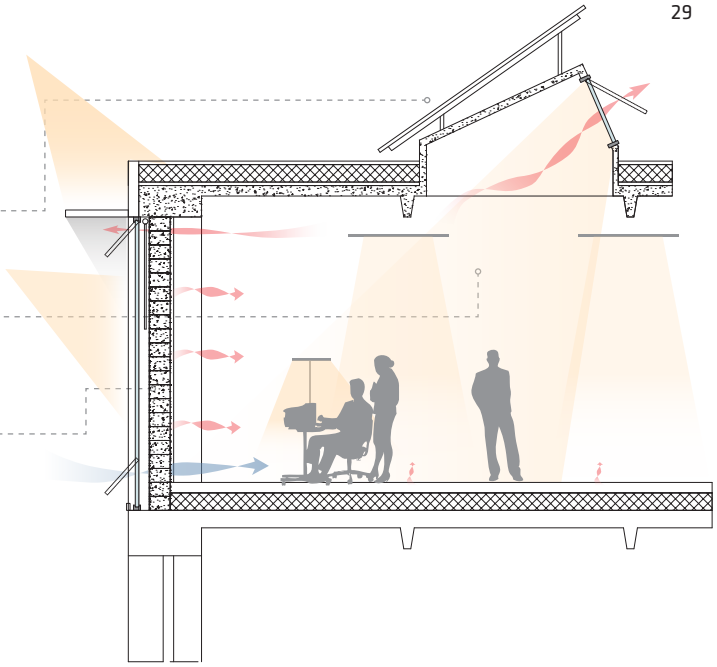


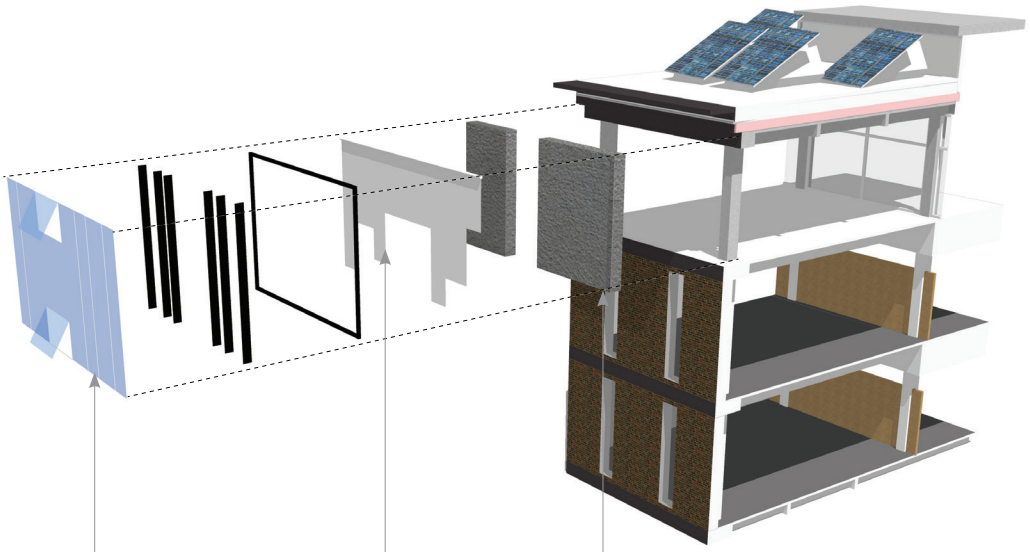


north facing skylights allow for south facing pv

lab space is lit naturally and with localized task lighting

the trombe wall has a screen and overhang to shade during summer, and openings for ventilation

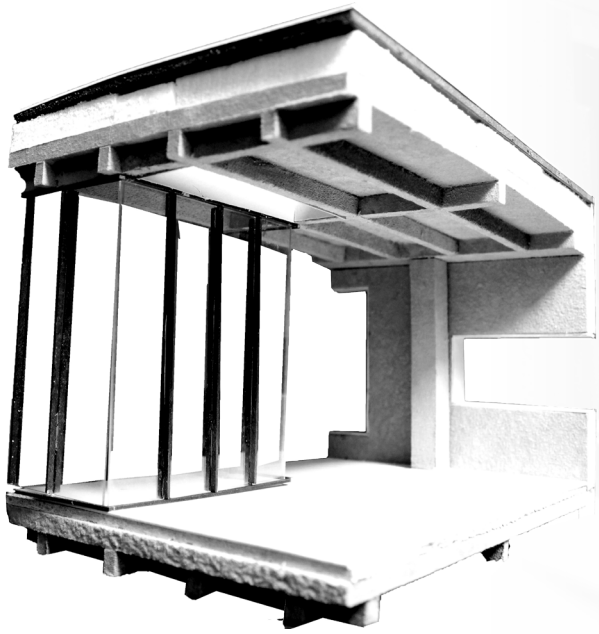




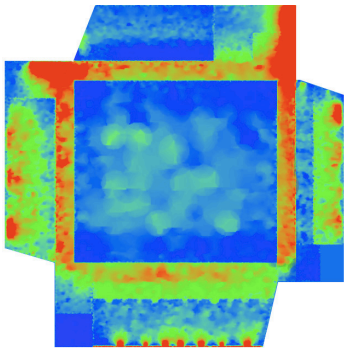
high transmissivity glazing

seasonal trombe wall shade

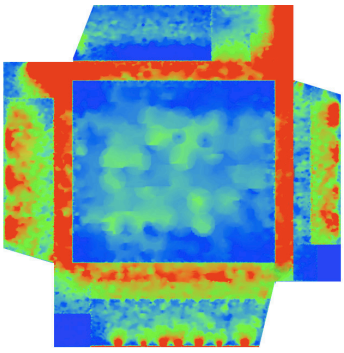
10" thermal mass



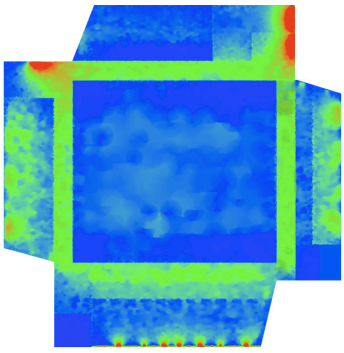
DAYLIGHTING LEVELS IN FOOT CANDLES



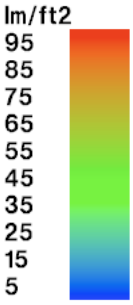
Noon: March 21st

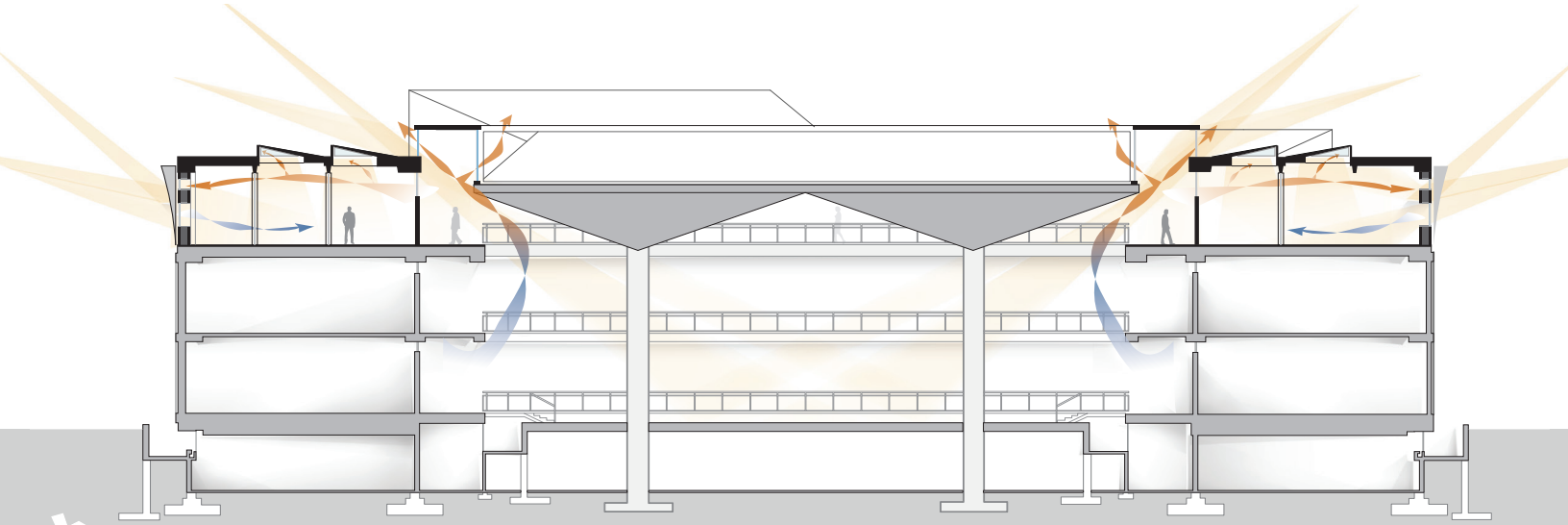


Noon: June 21st



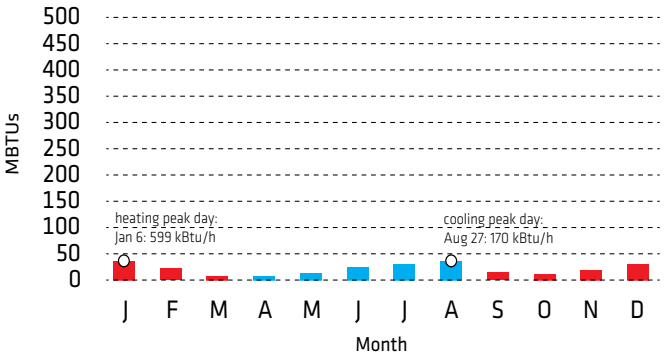
Noon: December 21st



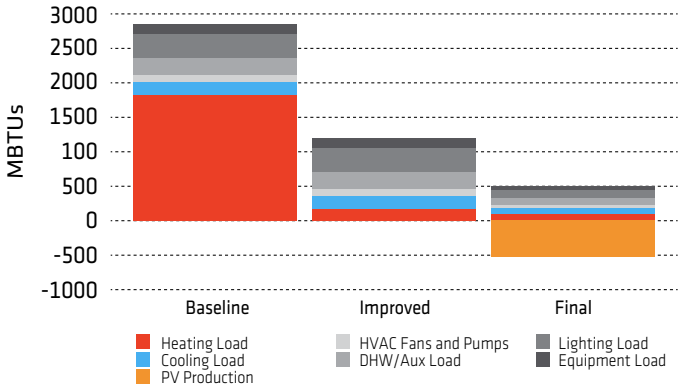


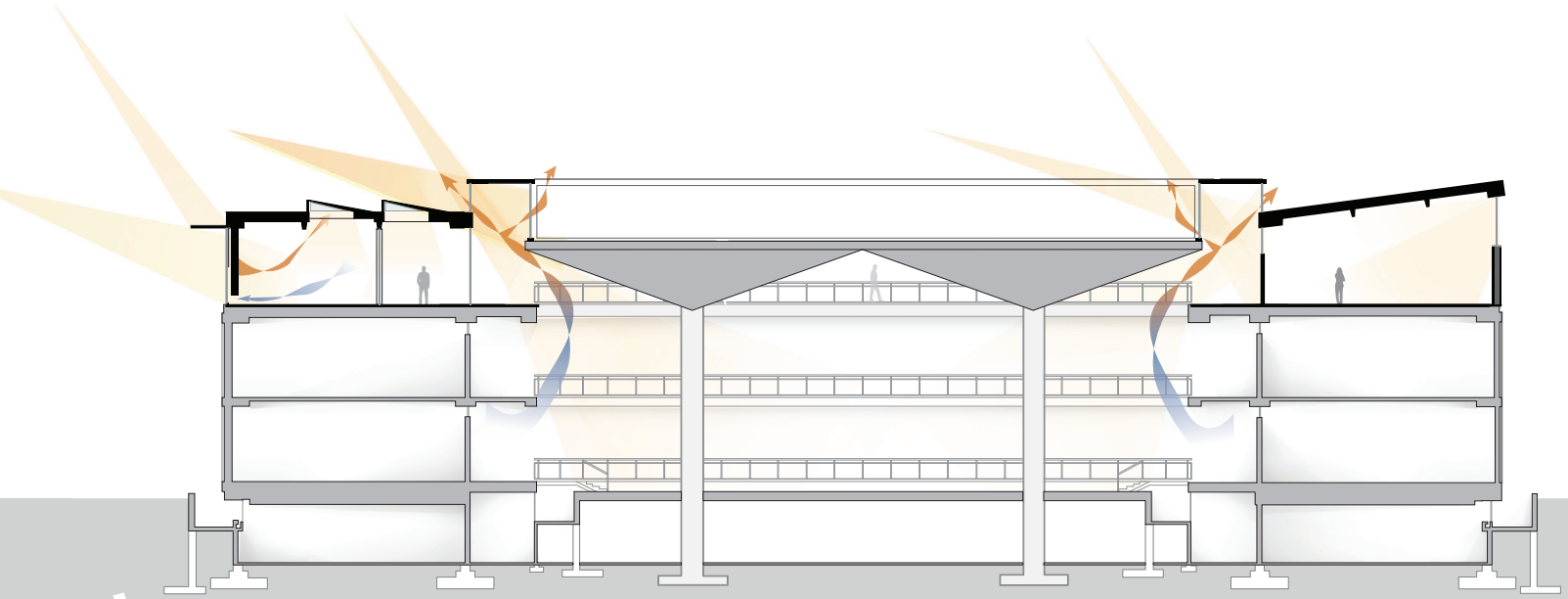
NORTH SECTION

MONTHLY HEATING AND COOLING LOADS



COMPARATIVE ENERGY BALANCE



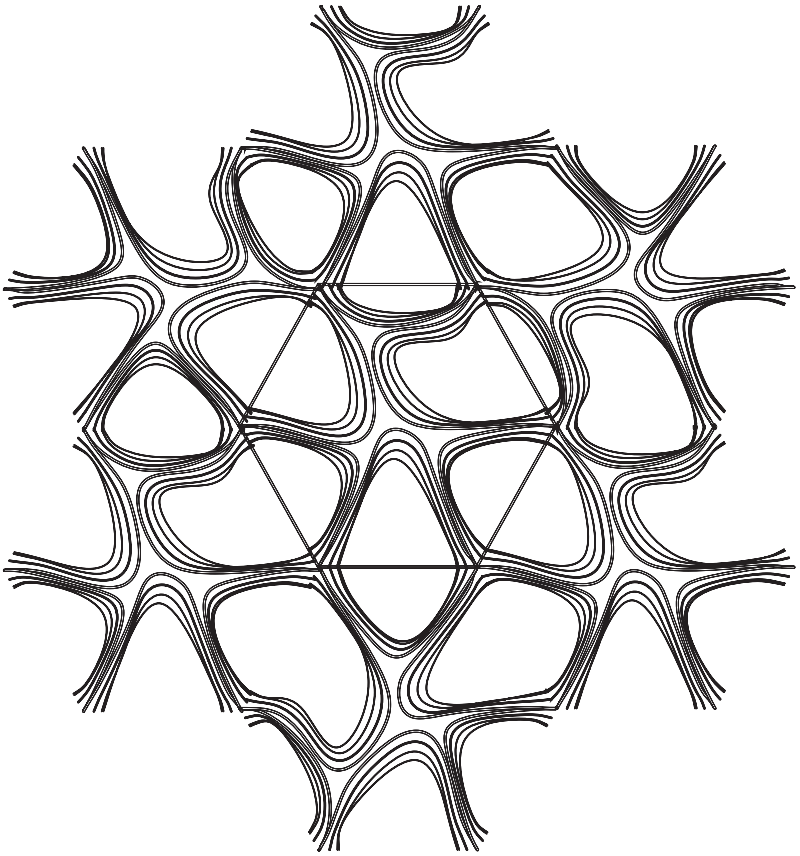


WEST SECTION

NESTED SCALES

CATALYST - 2012

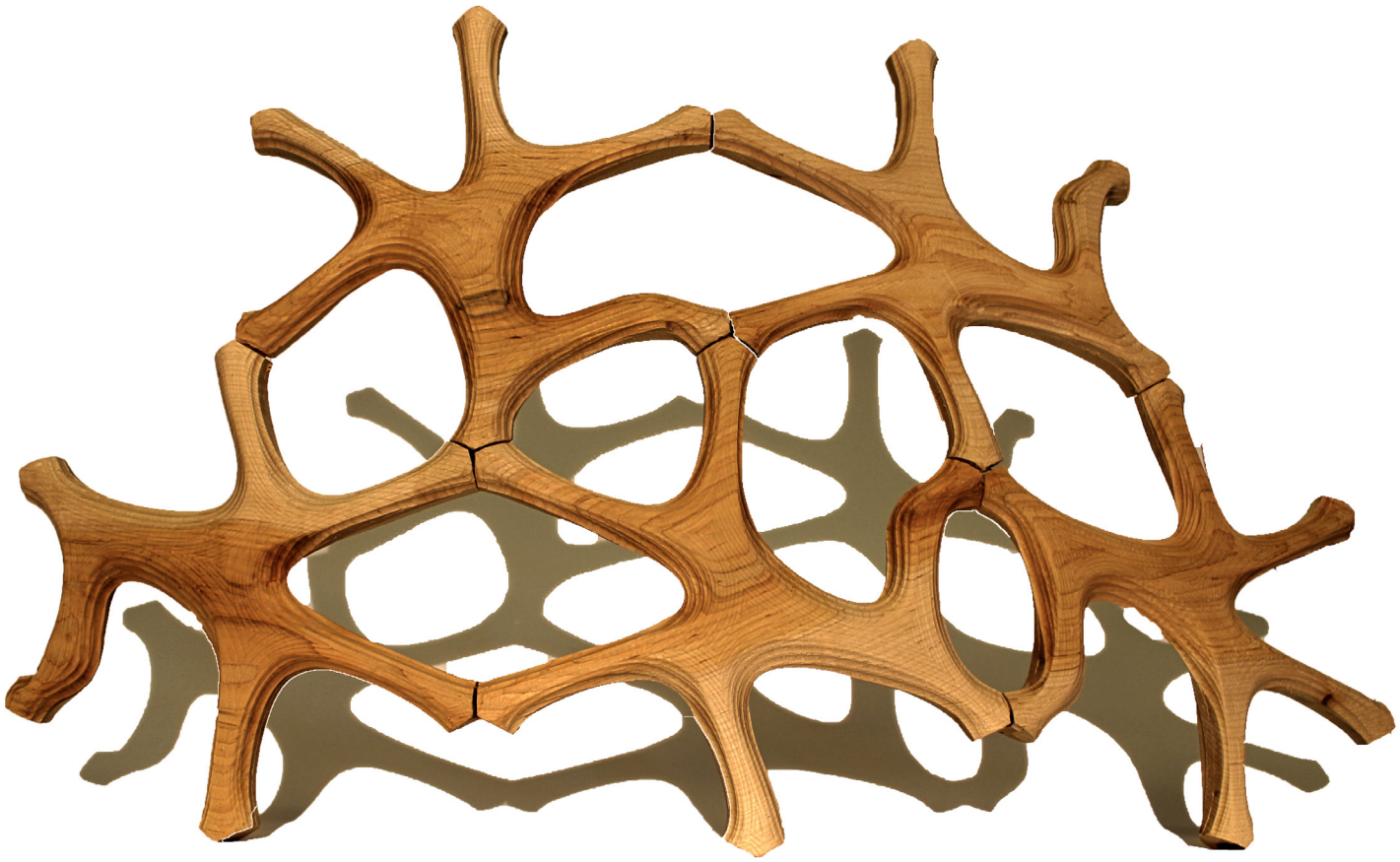
WITH BEN NEWBY, MIKE STEPHENS
AND HEATHER BRIERLEY



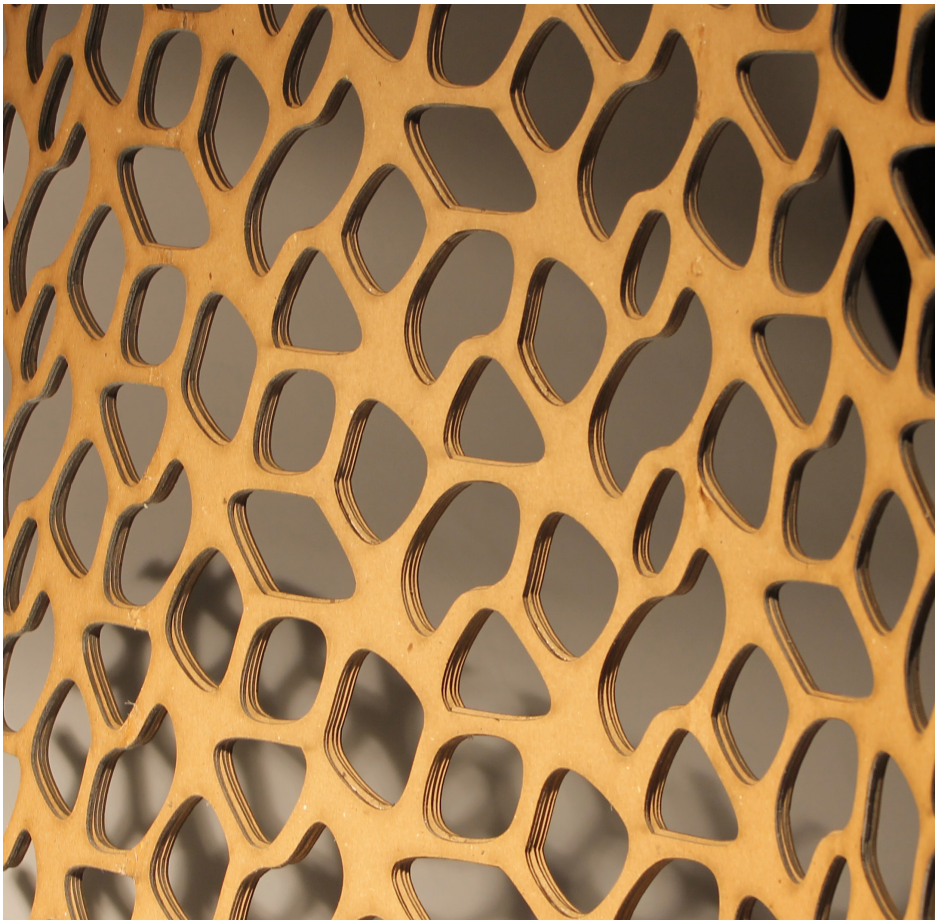
DIGITAL PROVOCATIONS

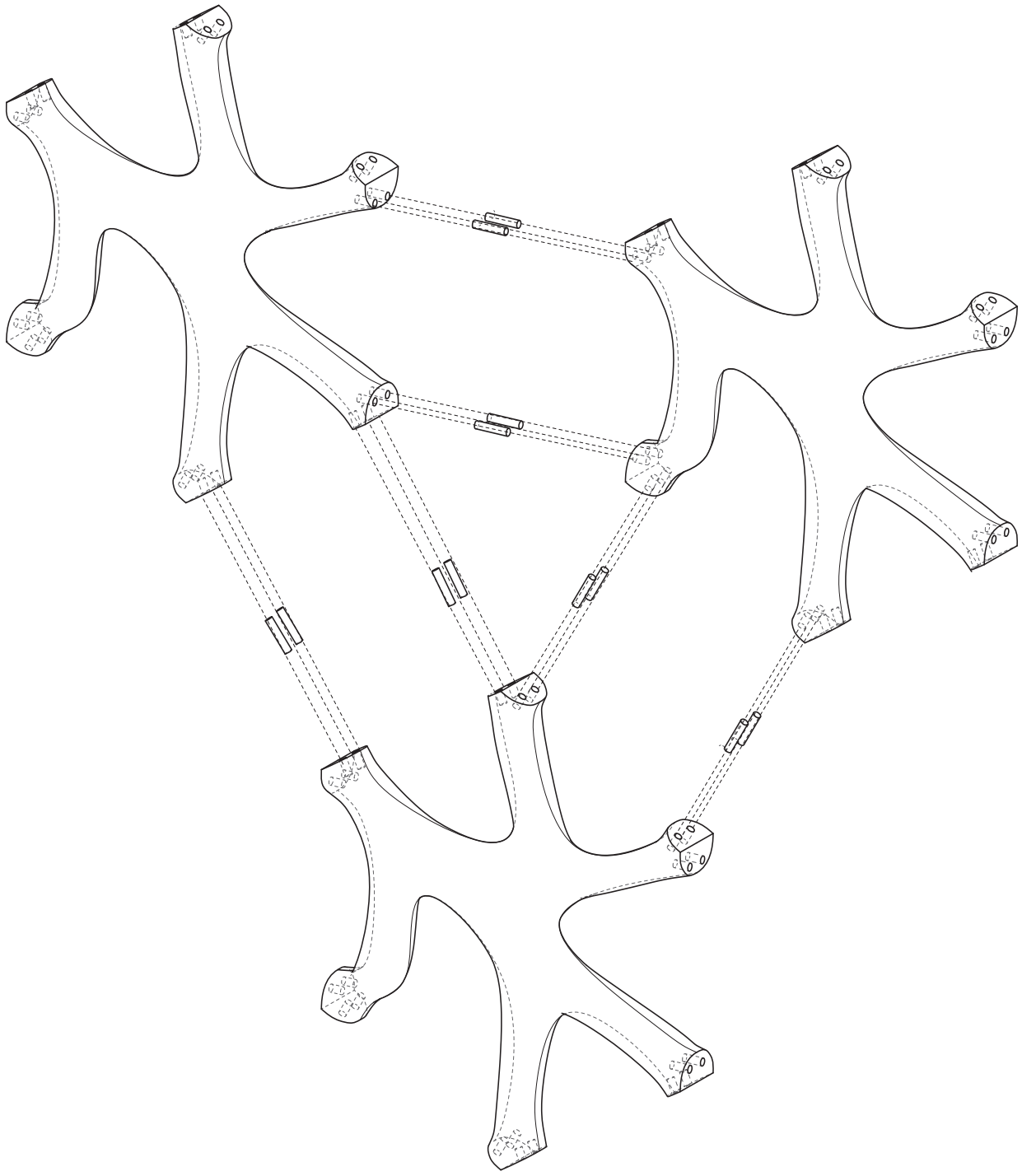
In a week long intensive studio, Architecture as Catalyst, we investigated biological geometries derived from porous plants and digitally developed them to create the form of a screen wall installation. The design is informed by expressing the tooling of the cnc. The wall represents a pattern manifested at three scales: the surface, the module, and the system. A single hexagonal module, when tesselated, creates a seemingly random pattern.

The hexagonal shape can be linked in any combination. The cnc router allowed for an opportunity to experiment with surface patterns generated by parametric tool paths.



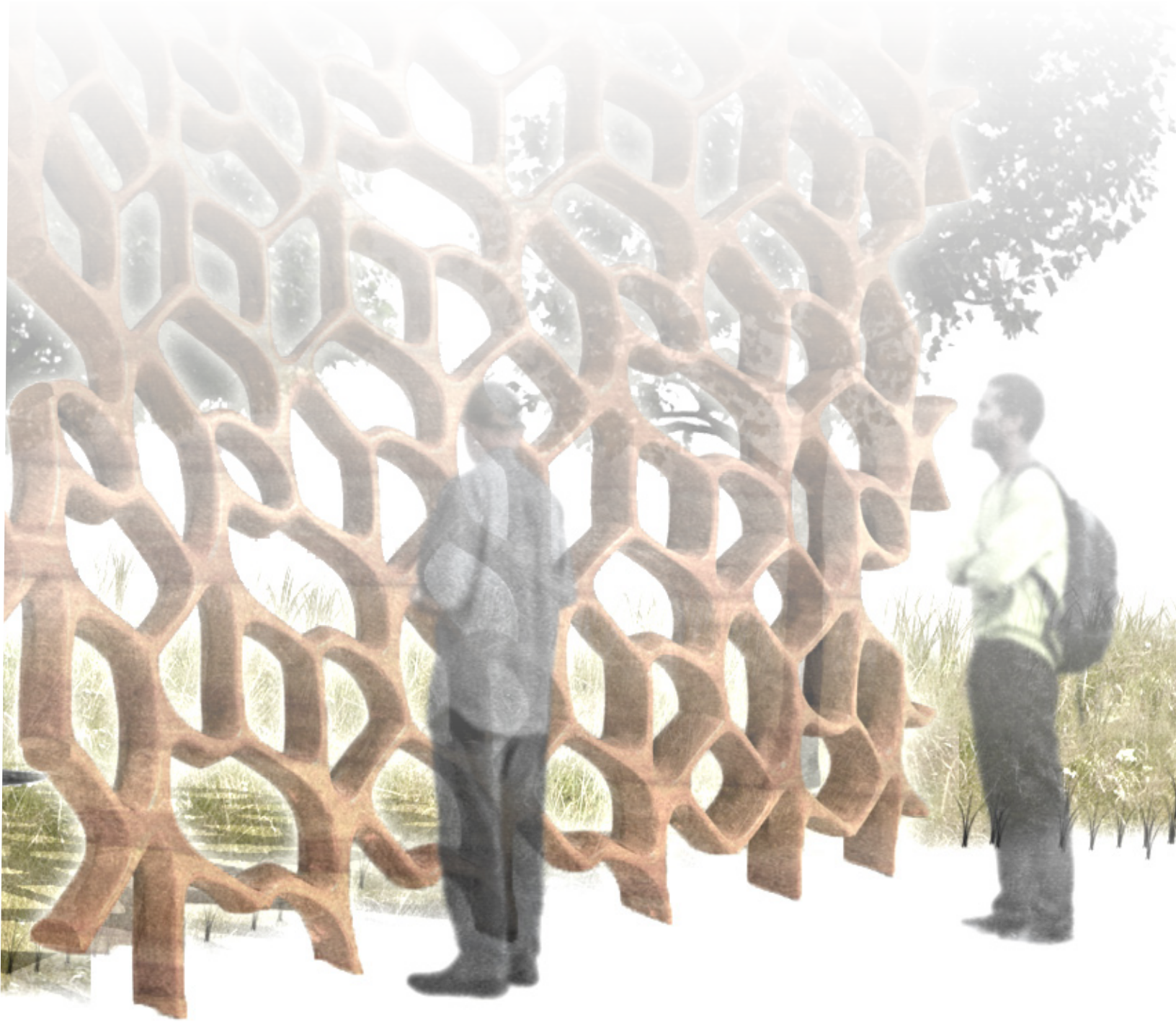

COBRA





CNC EXPRESSIONS

Computational design is explored through patterns of machining. Unforeseen results are discovered through experimentations of linking parametric patterns to CNC toolpathing. The nested scales result from the articulation of these effects on the pattern of the module and the pattern of the surface.



RIPARIAN WETLAND COMMUNITY CENTER

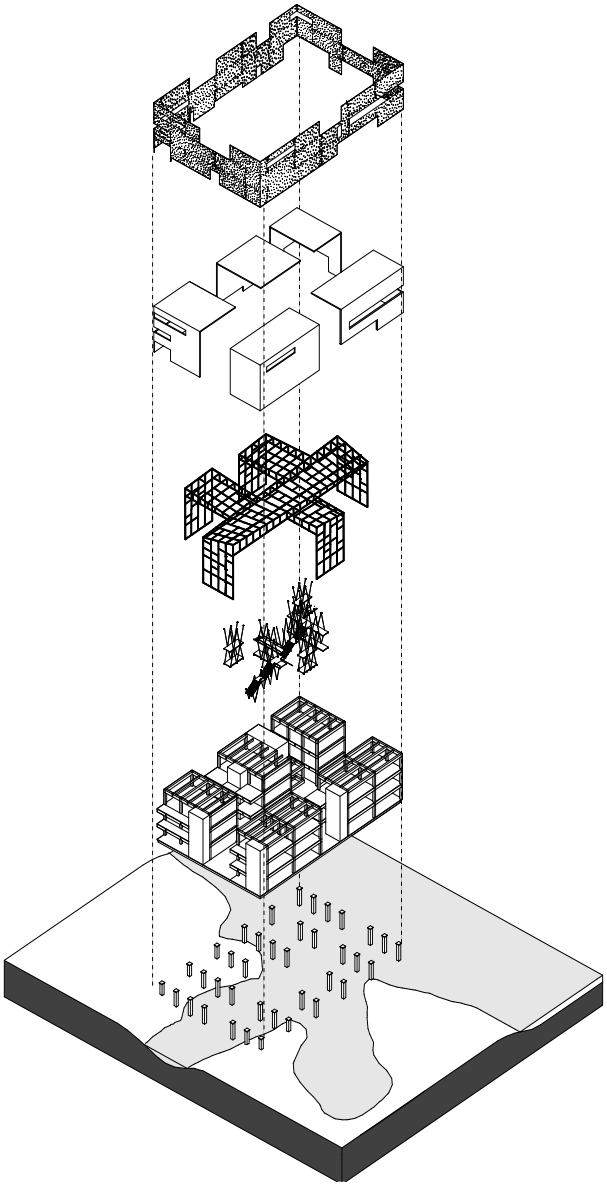
GD II STUDIO - 2012

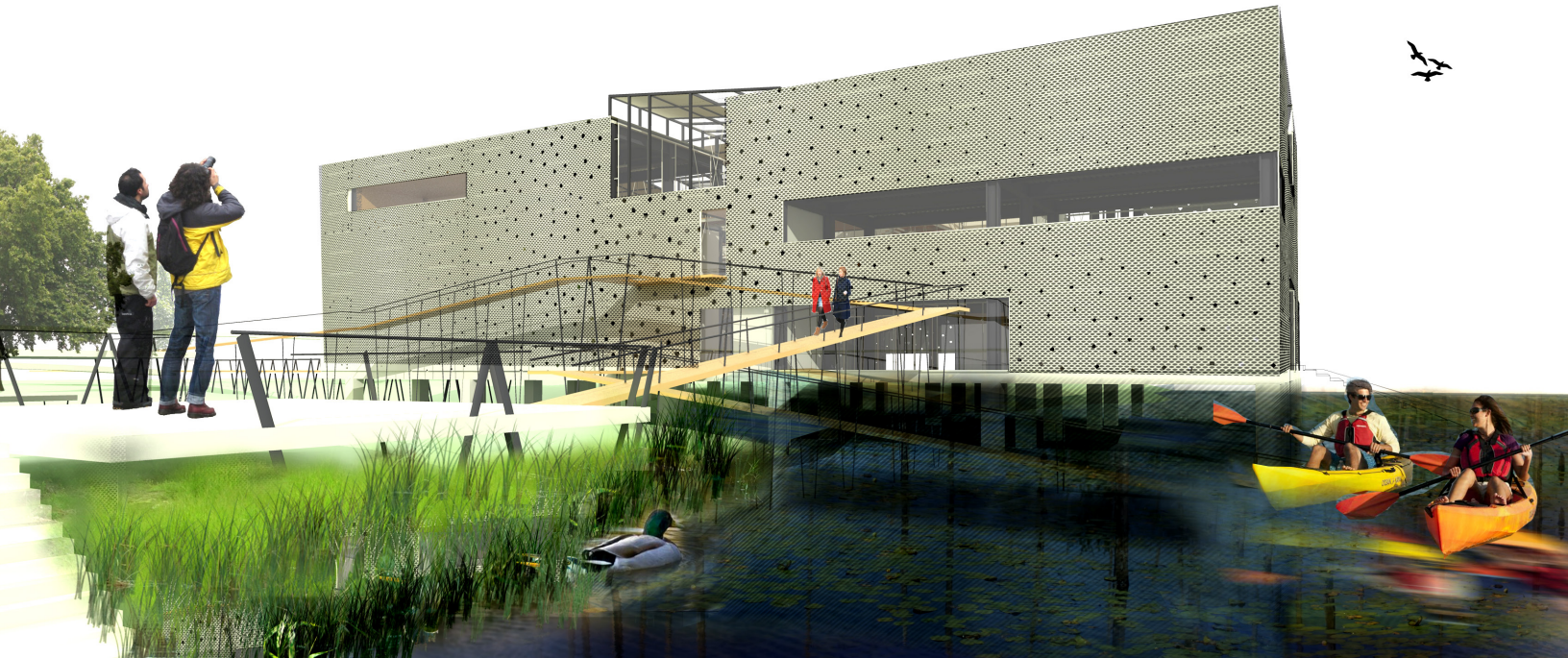
Design Democracy Award, 2013

INDUSTRIAL TRANSFORMATIONS

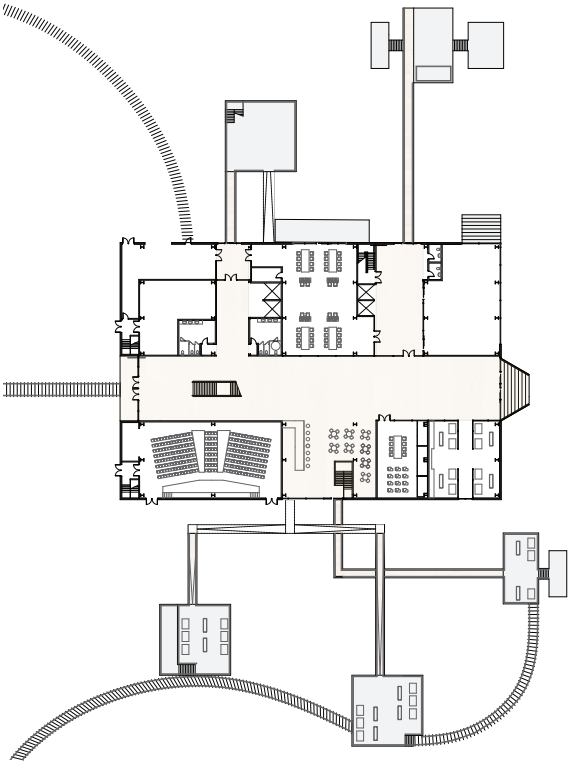
The Riparian Wetland Center embodies the transformation of the Mississippi River Bank from an industrial brownfield into a reclaimed natural system. As the Mississippi River Wetlands are reclaimed, the Riparian Wetland Center emerges as the remaining industrial ruin –a utilitarian box –discovered beyond the threshold of city and nature.

The box is lifted off the newly created wetland inlet. Water flows around and underneath the building, and the site is connected to the building through the bridges that extend beyond the enclosure and transform into walkways leading to the wetlands. Once the site is transformed into a natural ecology, the intervention of the building expresses how industrial architecture can be transformed to suit the needs of people to experience wetlands, and how the building can coexist with nature and the river.

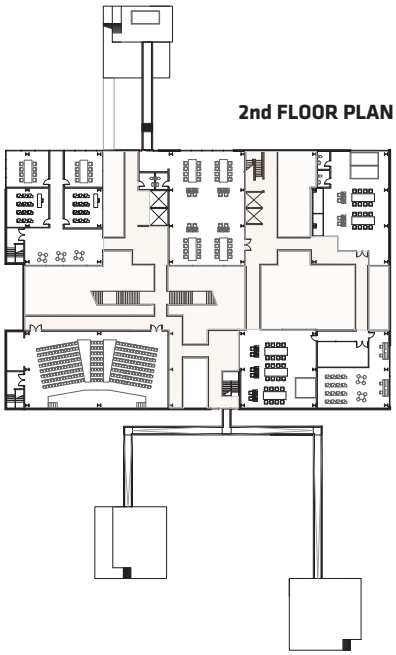




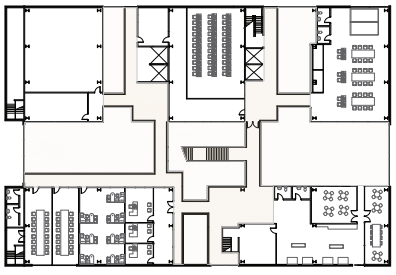
1st FLOOR PLAN



2nd FLOOR PLAN



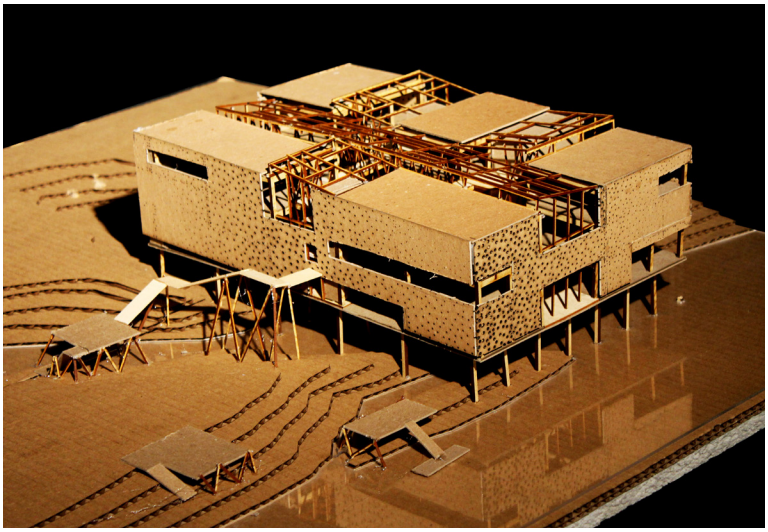
3rd FLOOR PLAN

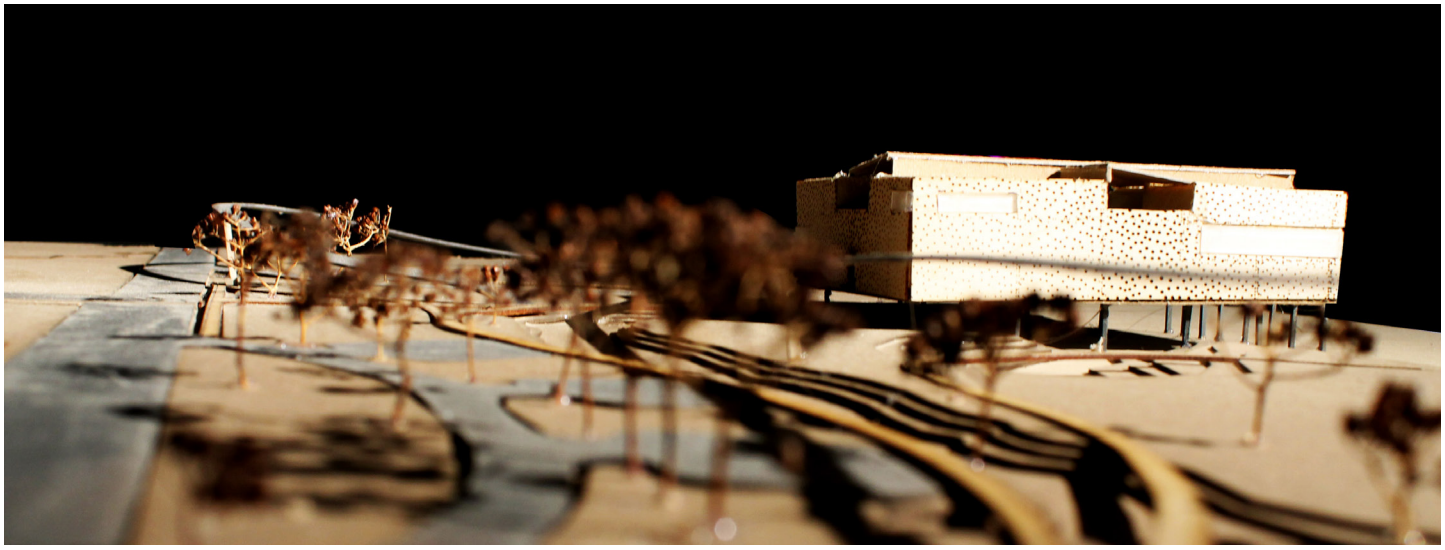


Site Plan

STRUCTURE AND PROGRAM

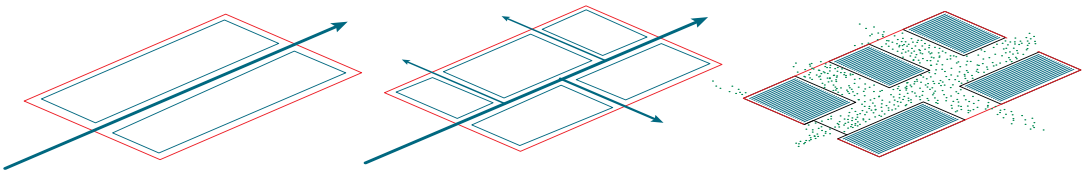
The box evolves with patterns of use on two realms: the utilitarian spaces house the 'fixed' program. Where use is maintained over time and flexibility is provided to respond to long term evolution. The box's program is organized around a central atrium. It becomes the funnel for people from city to river. It is shaped by specific structure – providing for rapidly changing patterns of use to transform its space. The atrium is the building's river, with tributaries to bring people from interior program to the site.

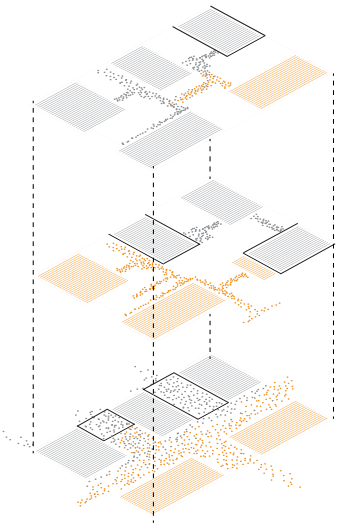


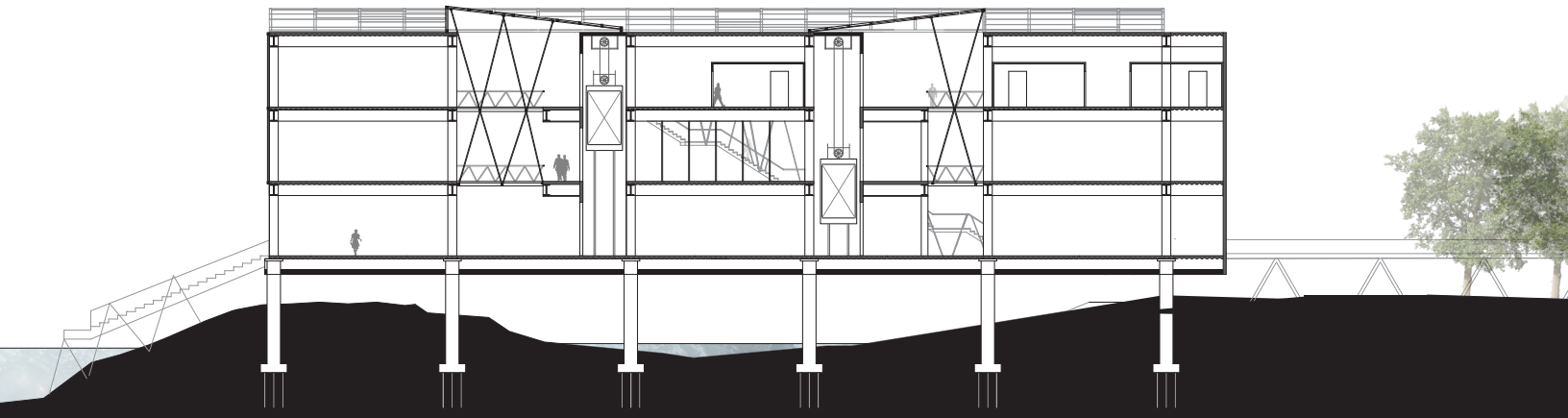


PARTI AND PROGRAM

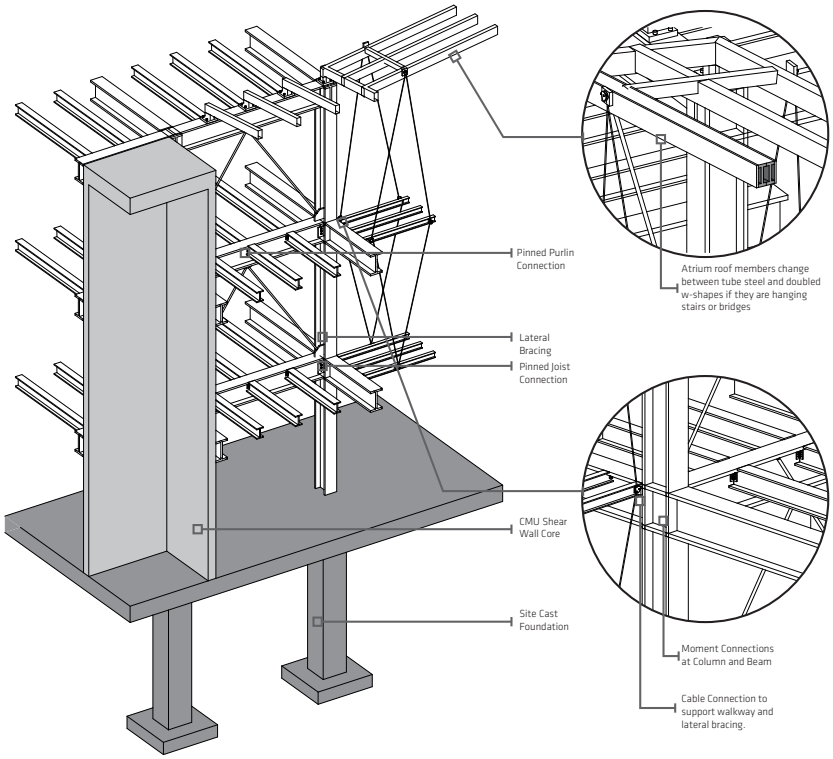
The connection between city and river is realized through the atrium. Its centrality and openness invites flexible public program. The utilitarian spaces are organized around it. They are not organized based on public and private use, but rather by their desire to be connected to specific areas of the site and adjacent spaces. The system of bridges and walkways in turn simultaneously support the circulation and the separation between public and private.





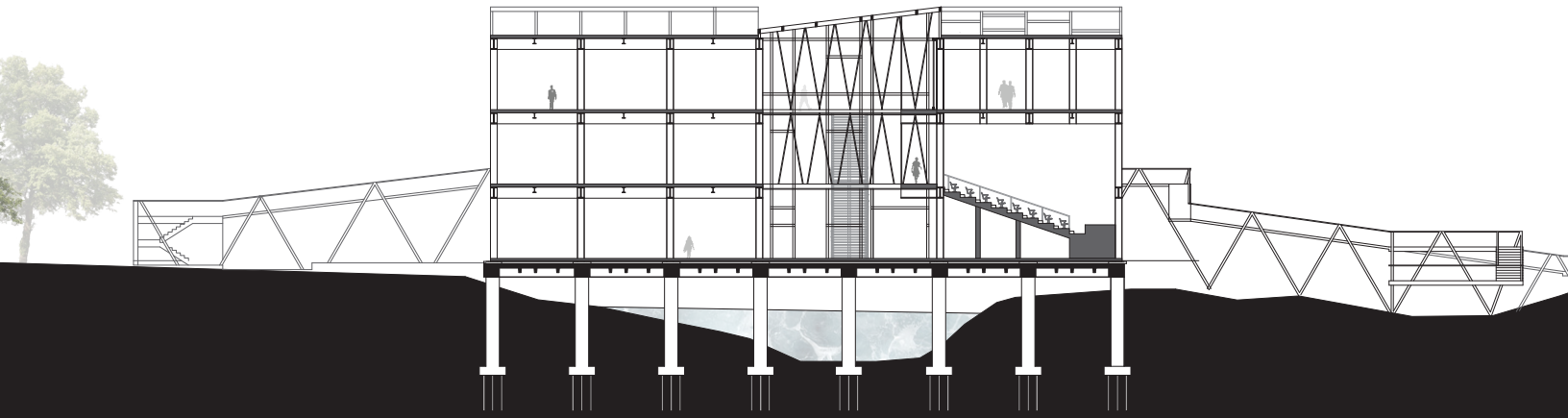


EAST/WEST SECTION

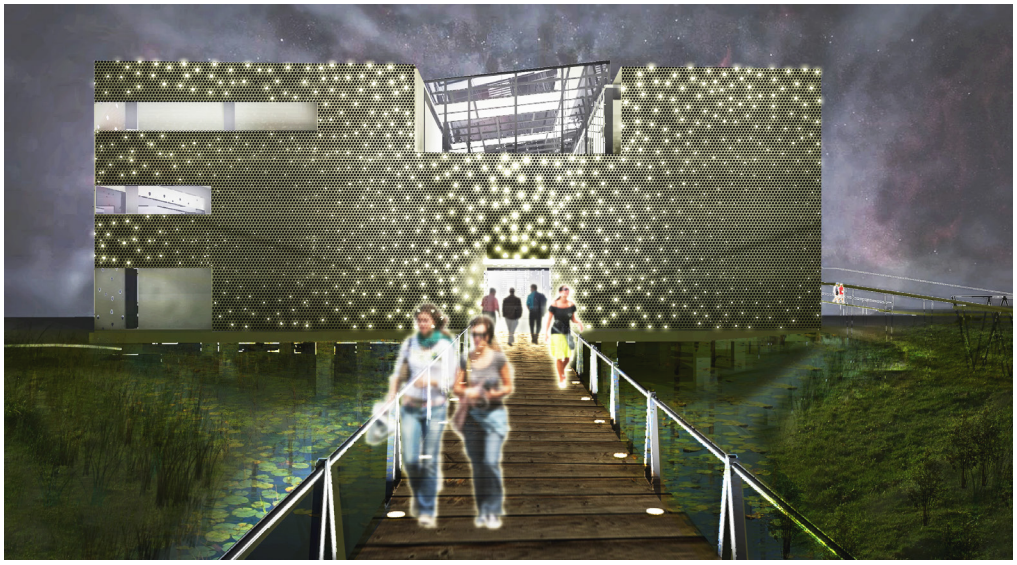


GENERIC + SPECIFIC

The architectural systems are integrated, creating conditions between static and dynamic use, where the structural systems and the envelope fuse together. The articulation of structural forms generates a new perception of industry and river. Here, the tectonic imprint of man is fused together with nature in the same ways it fuses the program together.

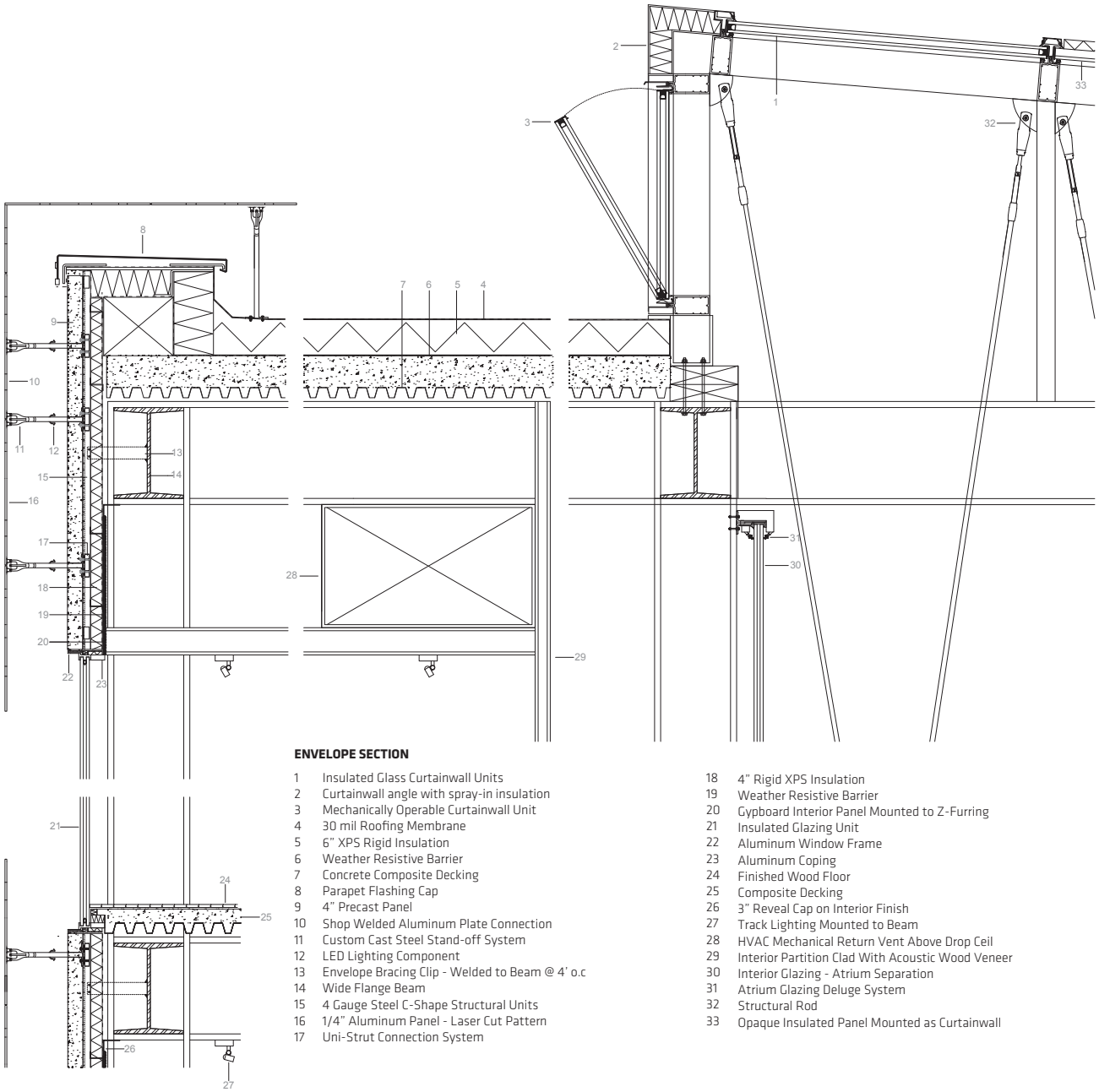


NORTH/SOUTH SECTION



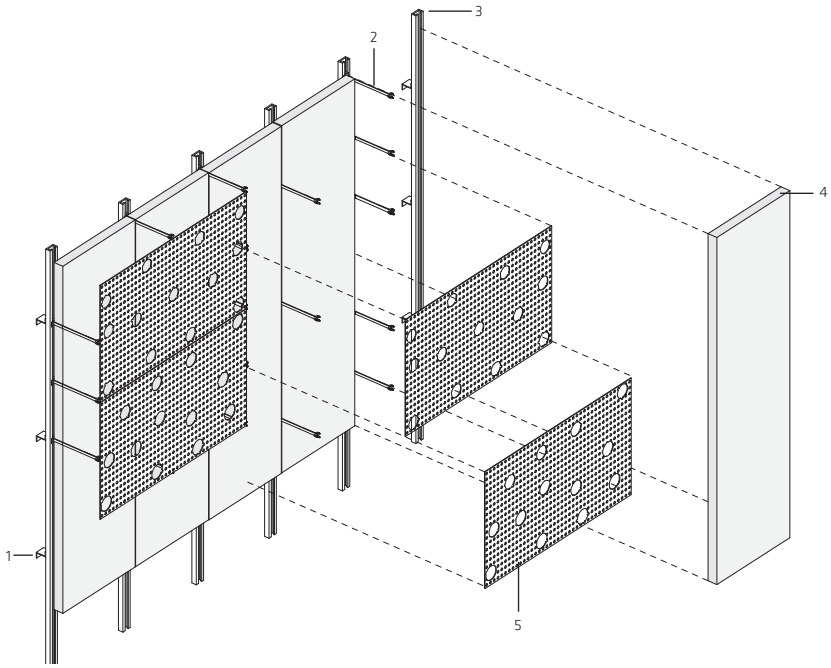
GENERIC + SPECIFIC

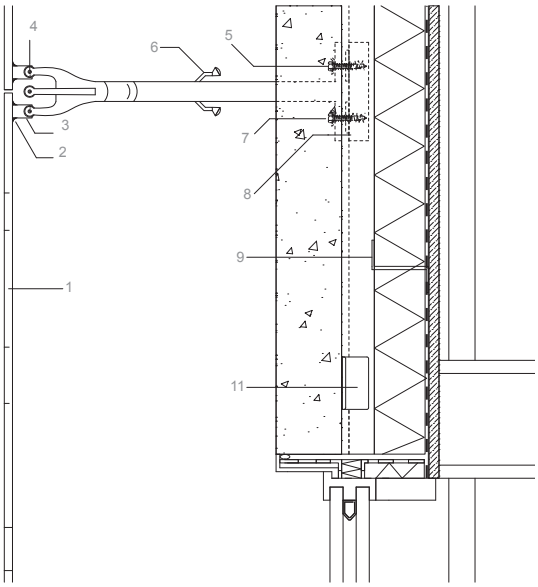
Some nights, the specific spaces evolve to allow for social public gatherings. The building's skin is expressed both on the interior and exterior. Comprised of a variable aluminum panel system, the skin is envisioned as a wrapper. The perforations glow as a beacon from the exterior and activate the utilitarian spaces. Materials and forms of industries of the past are harmonized and reintroduced to each other in the skin as it becomes the activating feature of the building.



ENVELOPE SECTION

1 Insulated Glass Curtainwall Units
2 Curtainwall angle with spray-in insulation
3 Mechanically Operable Curtainwall Unit
4 30 mil Roofing Membrane
5 6" XPS Rigid Insulation
6 Weather Resistive Barrier
7 Concrete Composite Decking
8 Parapet Flashing Cap
9 4" Precast Panel
10 Shop Welded Aluminum Plate Connection
11 Custom Cast Steel Stand-off System
12 LED Lighting Component
13 Envelope Bracing Clip - Welded to Beam @ 4' o.c
14 Wide Flange Beam
15 4 Gauge Steel C-Shape Structural Units
16 1/4" Aluminum Panel - Laser Cut Pattern
17 Uni-Strut Connection System
18 4" Rigid XPS Insulation
19 Weather Resistive Barrier
20 Gypboard Interior Panel Mounted to Z-Furring
21 Insulated Glazing Unit
22 Aluminum Window Frame
23 Aluminum Coping
24 Finished Wood Floor
25 Composite Decking
26 3" Reveal Cap on Interior Finish
27 Track Lighting Mounted to Beam
28 HVAC Mechanical Return Vent Above Drop Ceil
29 Interior Partition Clad With Acoustic Wood Veneer
30 Interior Glazing - Atrium Separation
31 Atrium Glazing Deluge System
32 Structural Rod
33 Opaque Insulated Panel Mounted as Curtainwall





EXPLODED ASSEMBLY

1 Z Clip supports insulation and finishTek-SVcrew
2 Custom cast stand-off support with LED attachment
3 Low gauge C-channel support system
4 Precast concrete panel
5 4' x 8' Variable Laser Cut Aluminum Screen Panel

FACADE DETAIL

1 1/4" (3 ga) Aluminum Panel with Laser Cut Pattern
2 Shop Weld
3 Aluminum Connection Plate
4 Zinc Coated Fastener
5 Tek-SVcrew
6 LED Lighting Element
7 Uni-Strut System
8 4 Gauge Steel C-Shape Structural Units
9 Z-Furring Connects Interior Finish to C-Shapes
10 Steel C-Shape for Cladding Mounting
11 Precast Panel Connection Clip


PERRY ELLIS

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University of Minnesota - Twin Cities, College of Design

Danish Institute of Study Abroad, 2010
Copenhagen, Denmark, January 2010 – May 2010

EXPERIENCE

Design Research Intern, Perkins+Will
January 2014 – May 2014, Minneapolis, MN
- Research in digital workflows to integrate environmental simulation and evidence-based design

Project Designer, Variable Projects
March 2013 – August 2013, Minneapolis, MN
- Design, fabrication, and assembly for the School of Architecture Centennial Chromagraph installation

Research Assistant, University of Minnesota School of Architecture
January 2013 – November 2013, Minneapolis, MN
- Planning, preparation, and presentations for Architecture as Catalyst 2013 and the Centennial Celebration

Architectural Intern, Meyer, Scherer and Rockcastle
July 2012 – October 2012, Minneapolis, MN
- Conceptual and schematic design for the Southwest Regional Library in Louisville, KY

SKILLS

Software
Revit, Rhino, Grasshopper, DIVA, RhinoCAM, VRay, AutoCAD, Adobe Creative Suite, SketchUp, Sefaira, IES <VE>, Microsoft Office

Other Skills
CNC Milling, Laser Cutting, 3D Printing, Model Building, Drafting, Sketching, Woodworking.

AWARDS

AIA Minnesota Honor Award
Centennial Chromagraph, Variable Projects, University of Minnesota School of Architecture, 2013

Design Democracy Award
University of Minnesota School of Architecture, 2013

Saul Parness Fund Fellowship
University of Minnesota School of Architecture, 2013

Bill and Elizabeth Pederson Graduate Fellowship
University of Minnesota School of Architecture, 2012

ACTIVITIES

Digital Assistant, University of Minnesota – School of Architecture
July 2012 - Present
- Creating software tutorials for students through online access and in-person sessions

School of Architecture Centennial Messaging Committee
January 2013 - October 2013
- Planning and coordinating events and designs for the School of Architecture Centennial Celebration