

2013

Additecture

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Authors

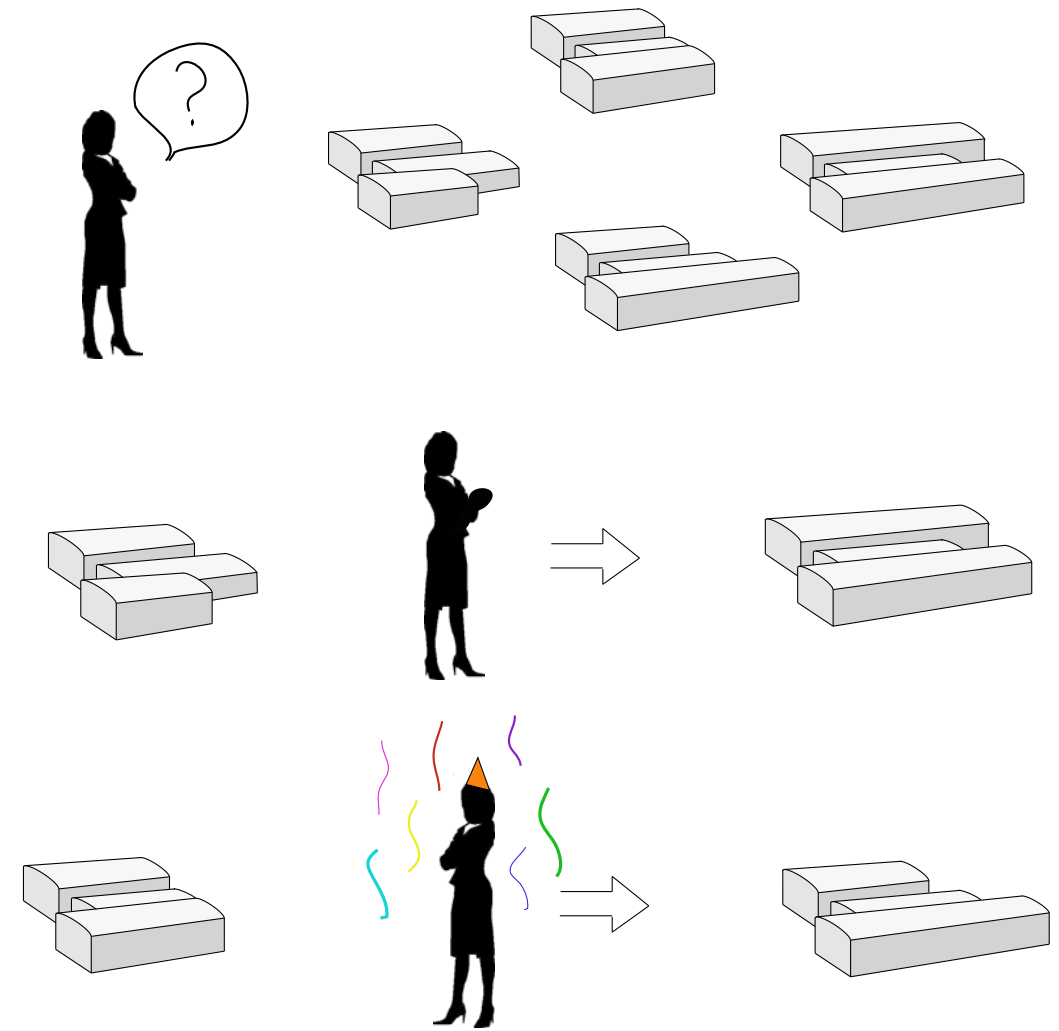
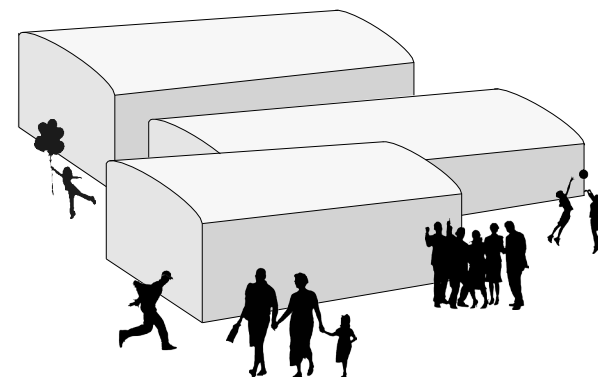
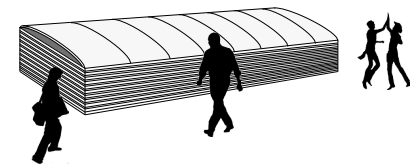
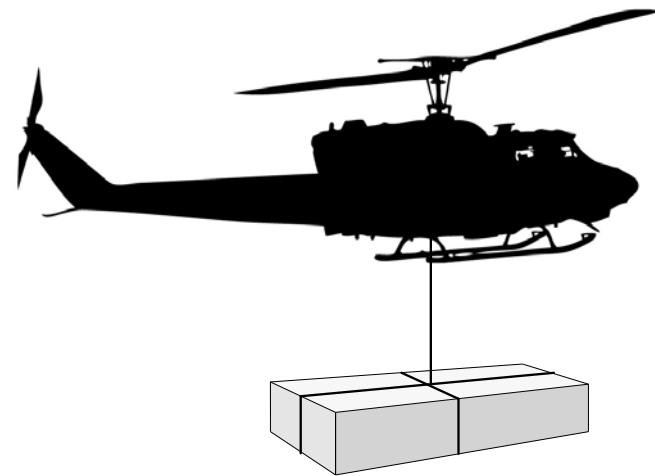
Architecture Department, Jonathan Knowles, Sina Almassi, Alexa K. Asakiewicz, Jason W. Askew, Caterina Belardetti, Guoyuan Chen, Kim E. Dupont-Madinier, Sara B. Fetterolf, Zachary P. Futterer, Atara H. Kelman, John A. Mars, Kevin T. McNulty, Saja Tourbah, Annabelle T. Tran, and Cong-Xin G. Wong



A D D I T E C T U R E

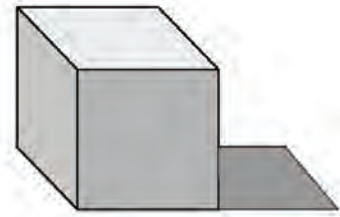
PROJECT GOALS

1. Ability to compact/ Ease of transport
2. Energy efficiency by adjustability
3. Encourage occupant customization, interaction with environment (socially and physically), and movement
4. House as dynamic play





KIT OF PARTS



fabric roof X3



wood rib X18



wood beam X12



opaque wall X3



fabric wall X6



glass wall X5



wood post X12



steel cable X8



wood deck X24



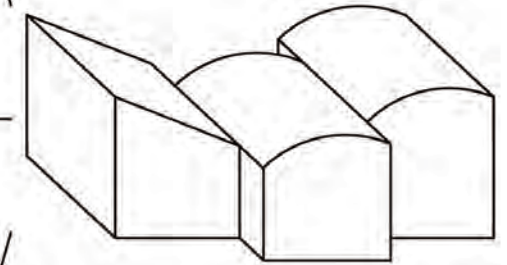
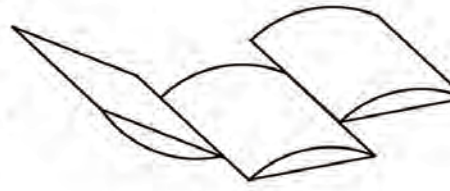
wood beam X12

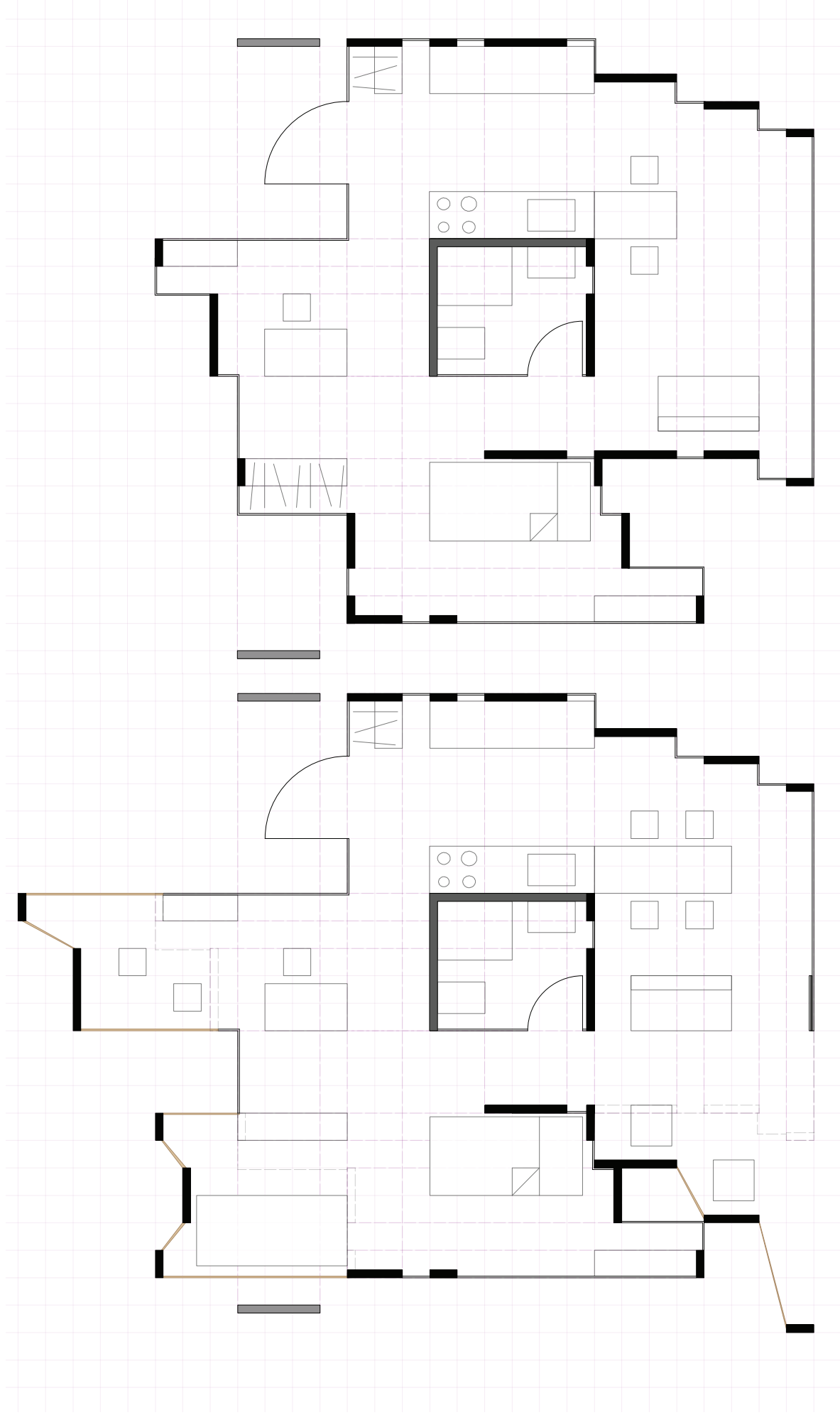
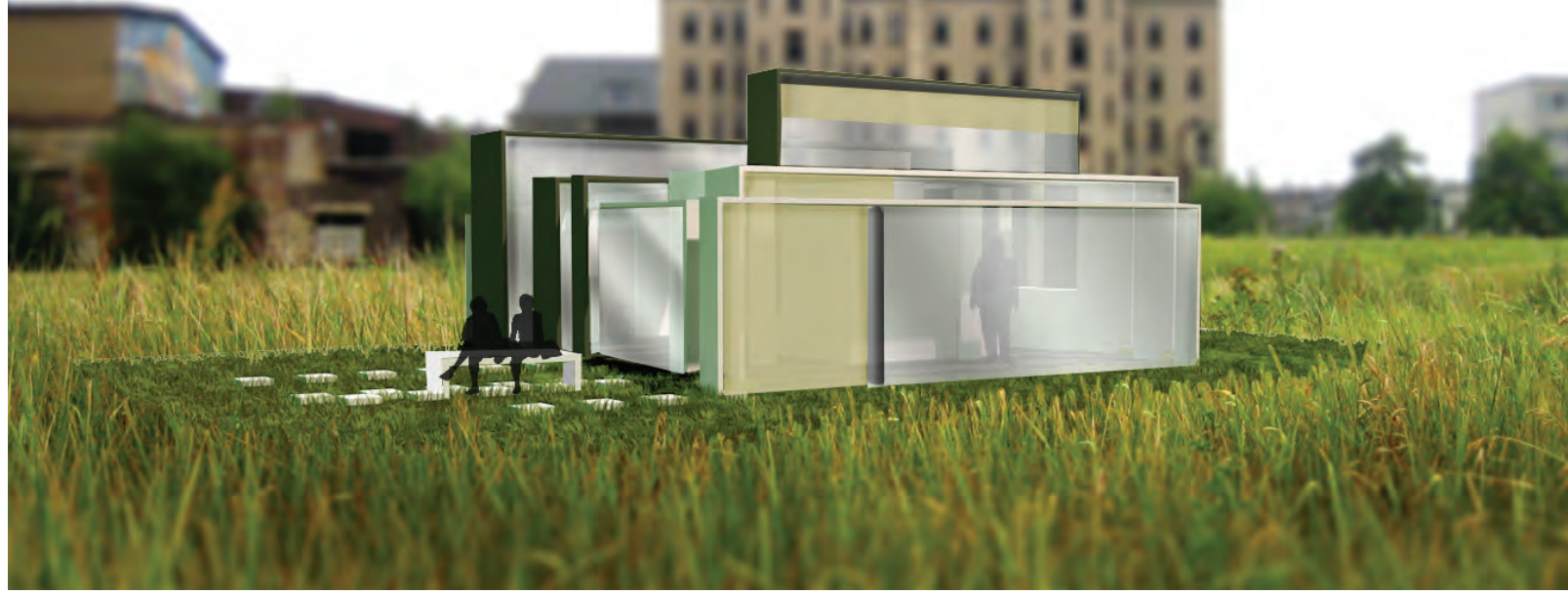
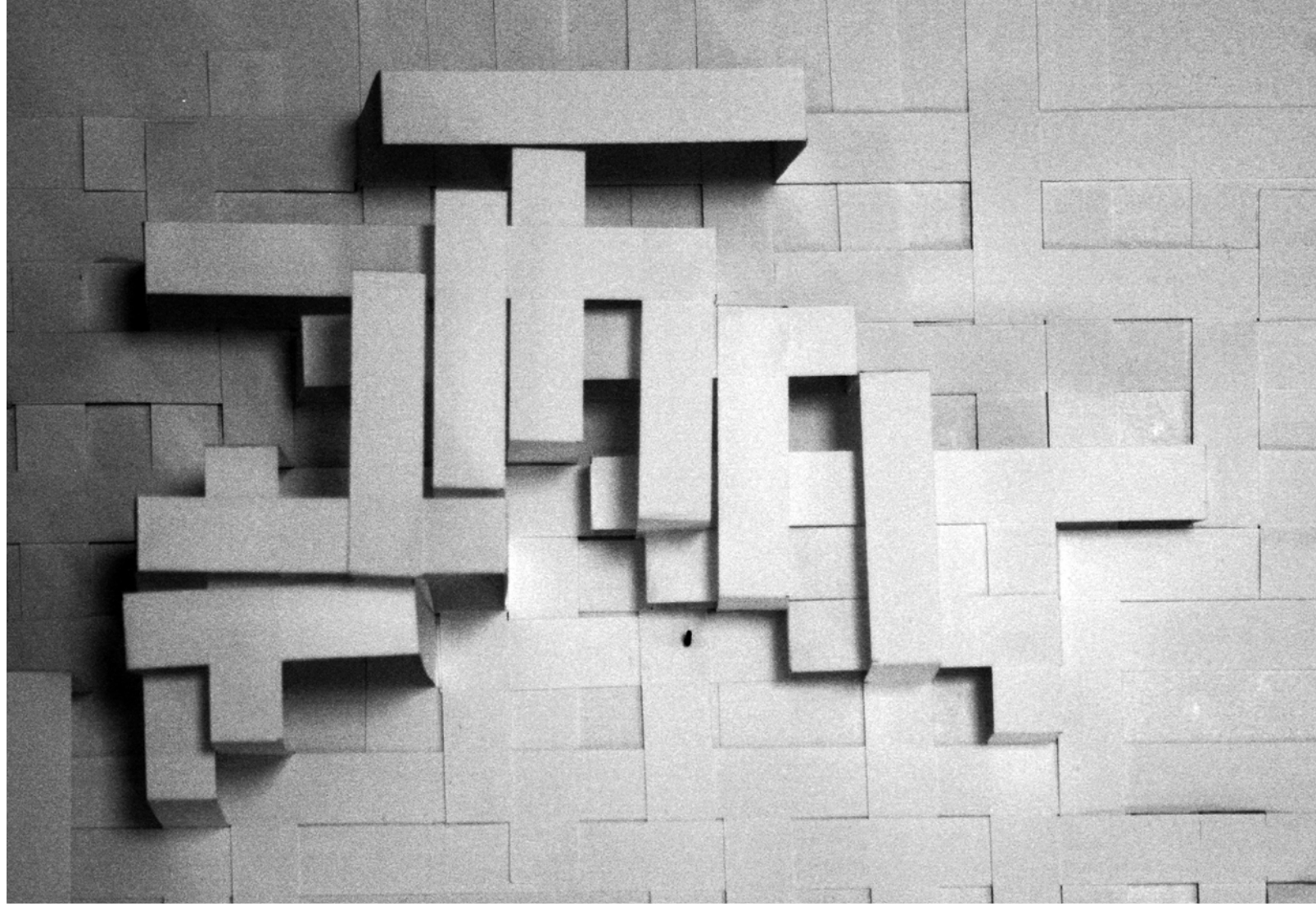


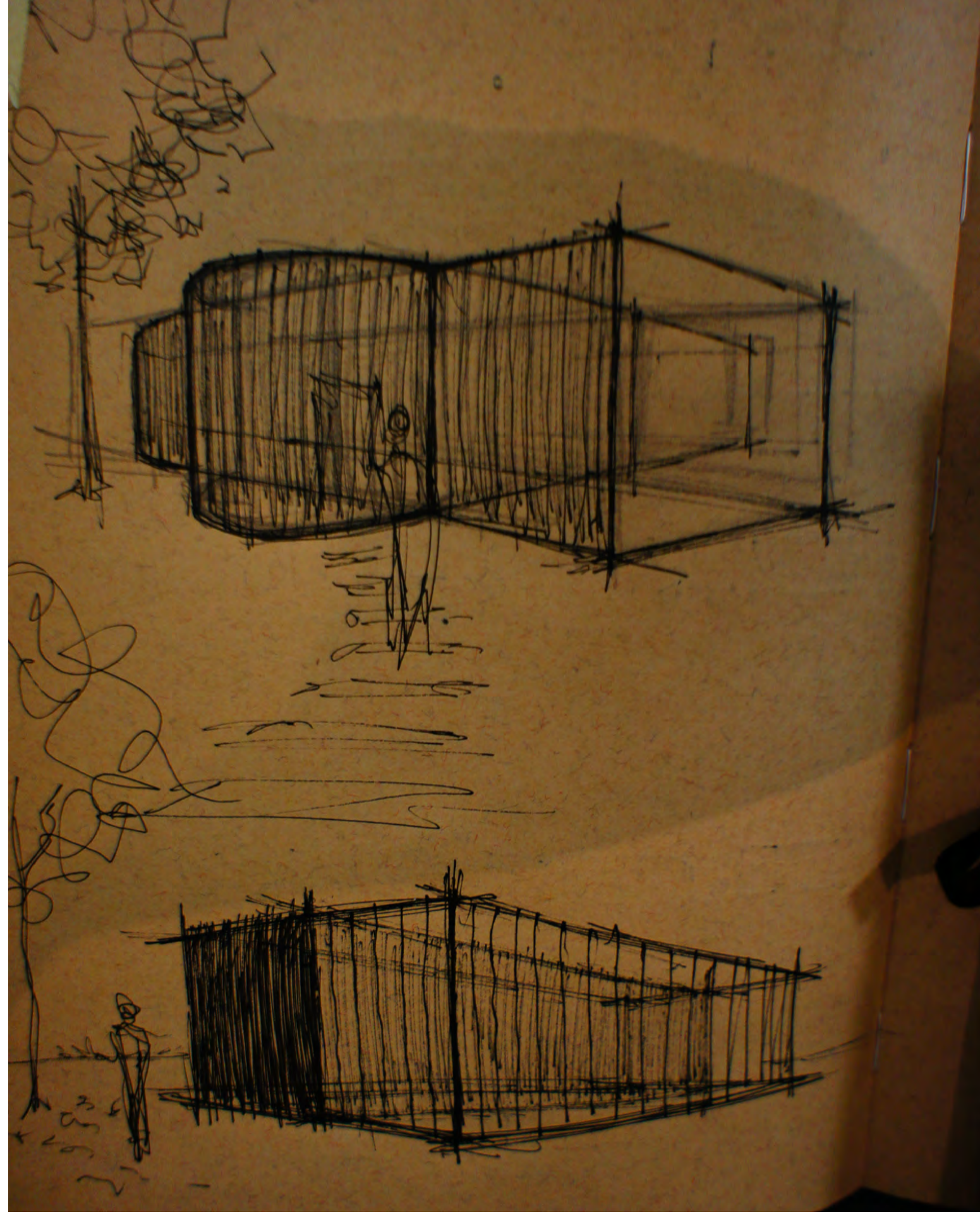
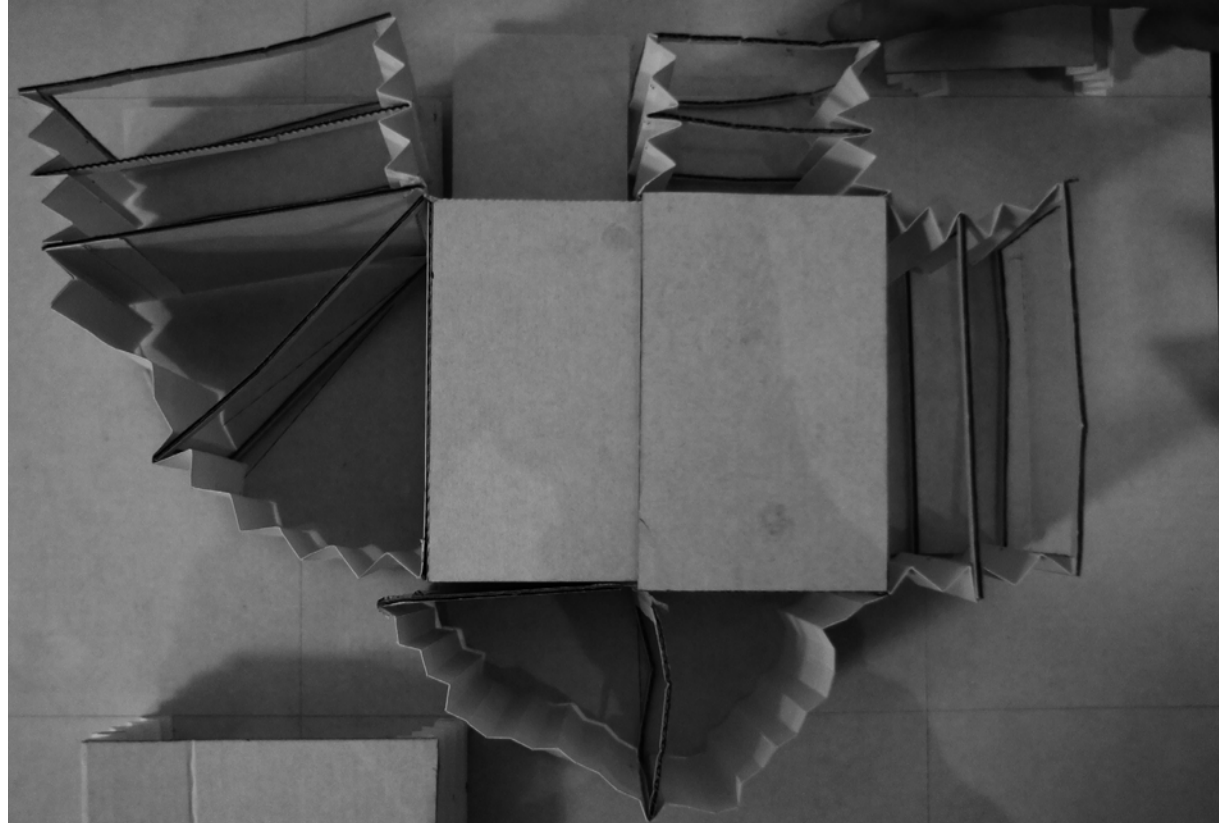
wood rib X18

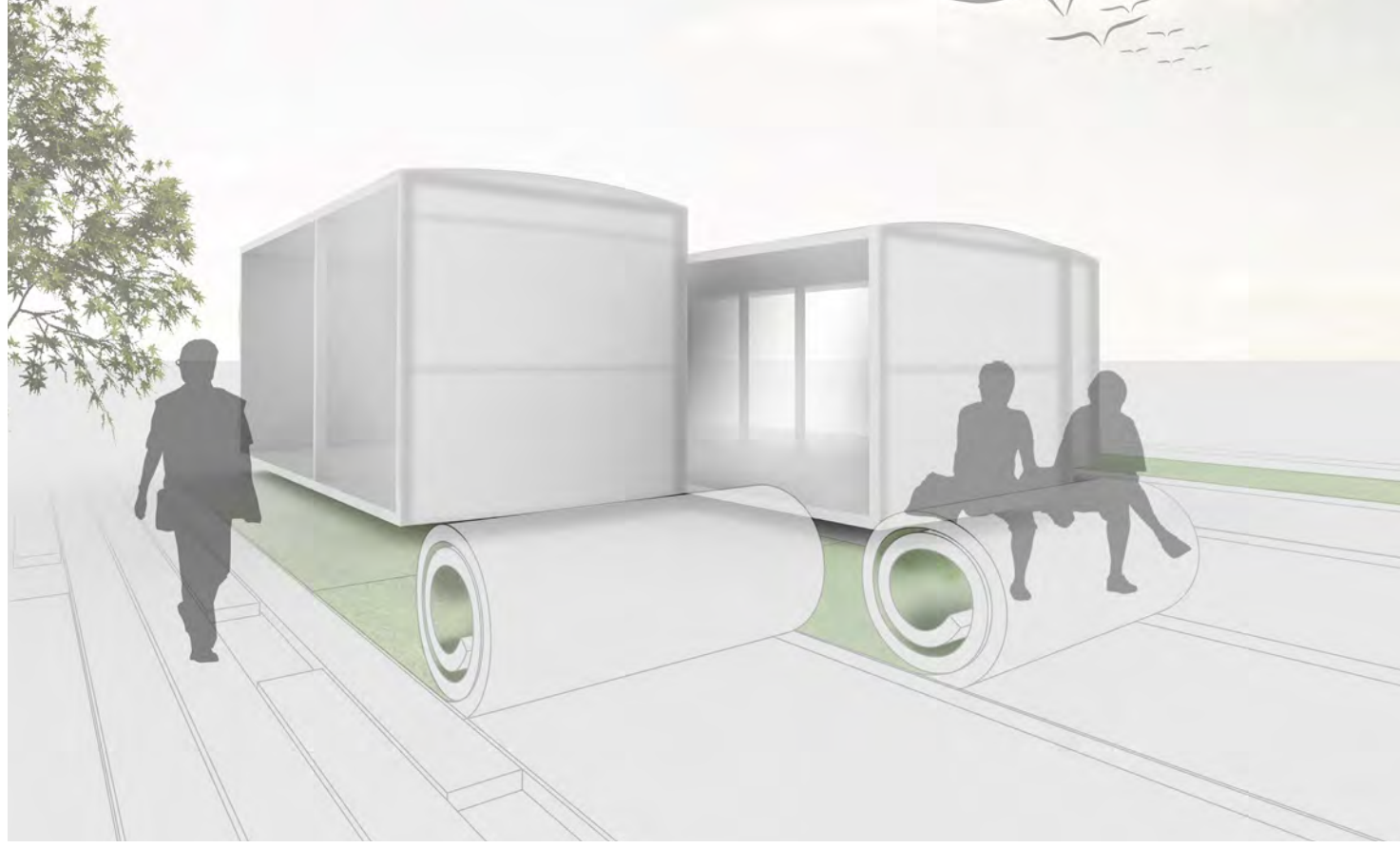
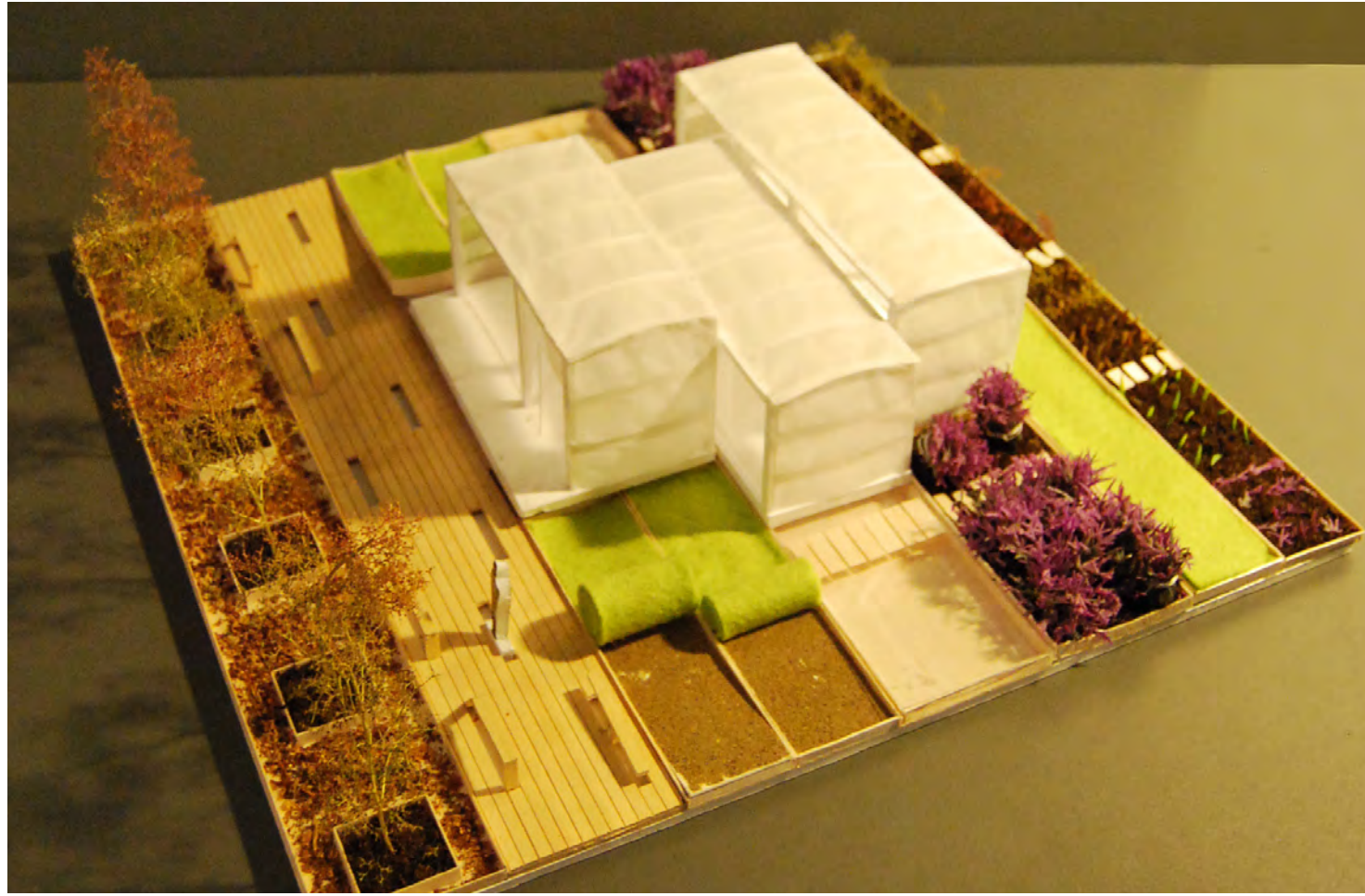


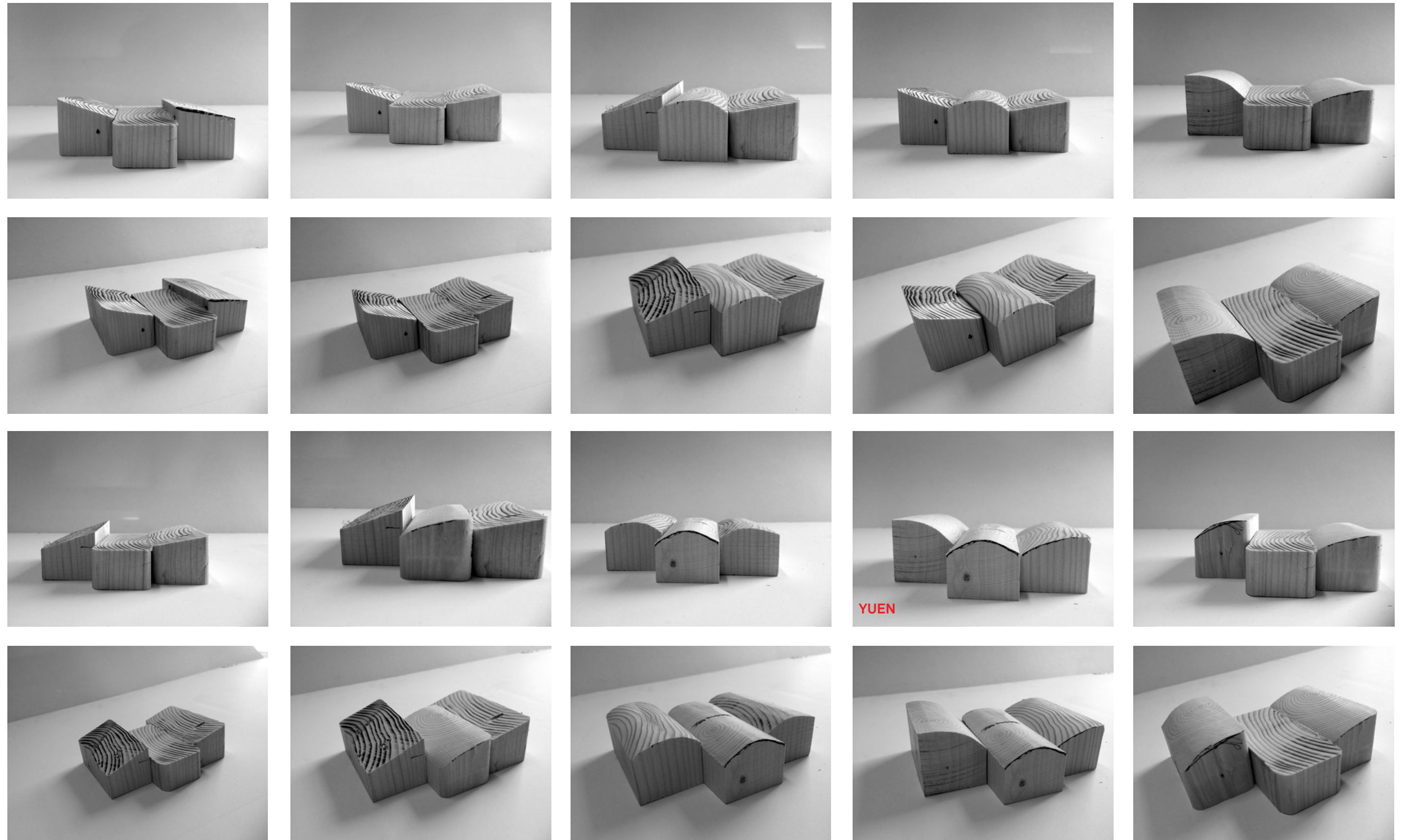
concrete pile X12











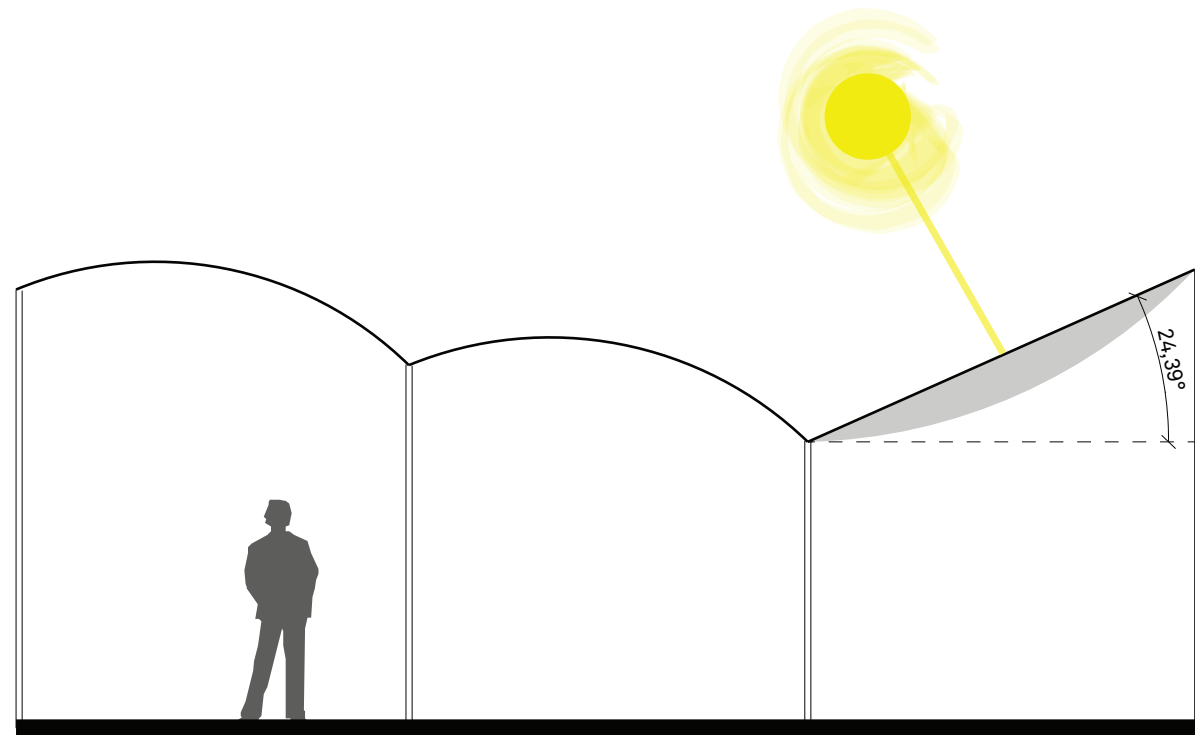
ROOF CONFIGURATIONS

VERSAILLES, FRANCE:
48.8044°N Latitude
2.1232°E Longitude

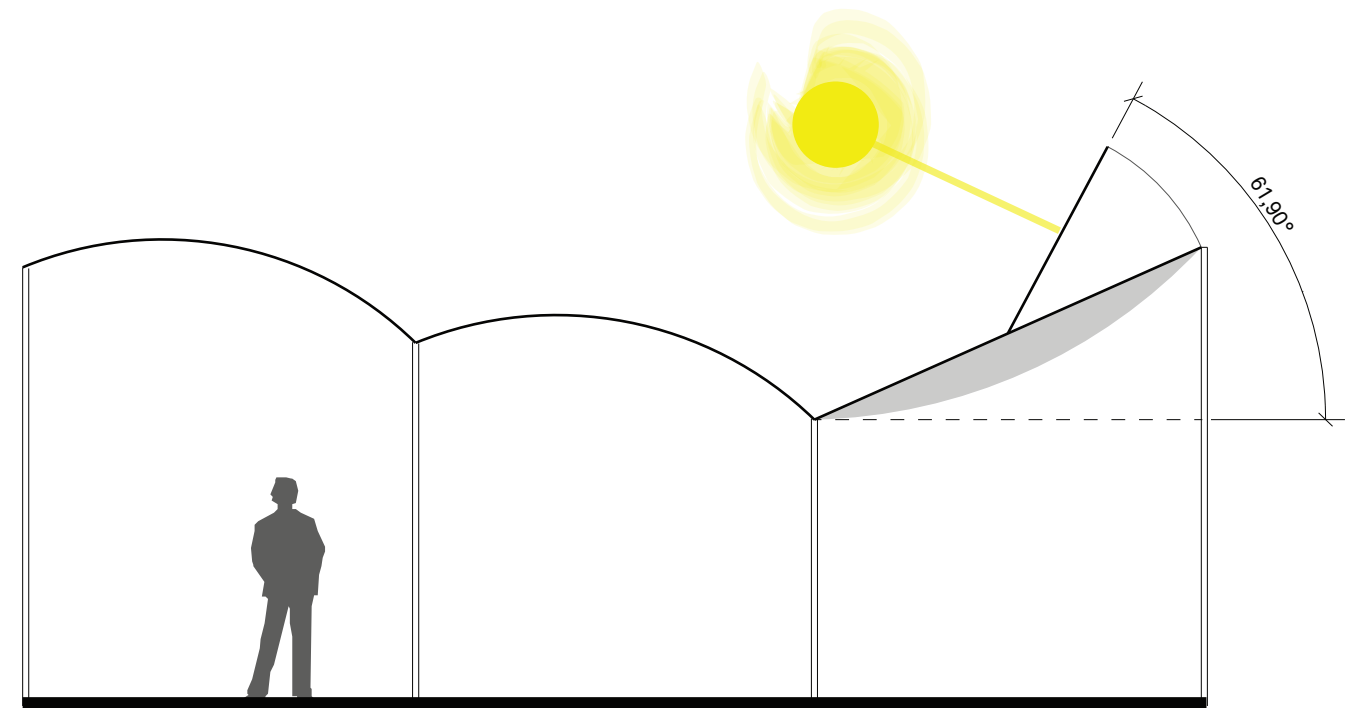
OPTIMUM SOLAR PANEL TILT:

Fixed Tilt: $\text{Latitude} \times 0.76 + 3.1^\circ = 40.19^\circ$

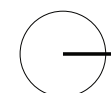
Adjusted Tilt (2x per year):
Summer (adjust March 30): $\text{Latitude} \times 0.93 - 21^\circ = 24.39^\circ$
Winter (adjust Sept 12): $\text{Latitude} \times 0.875 + 19.2^\circ = 61.90^\circ$

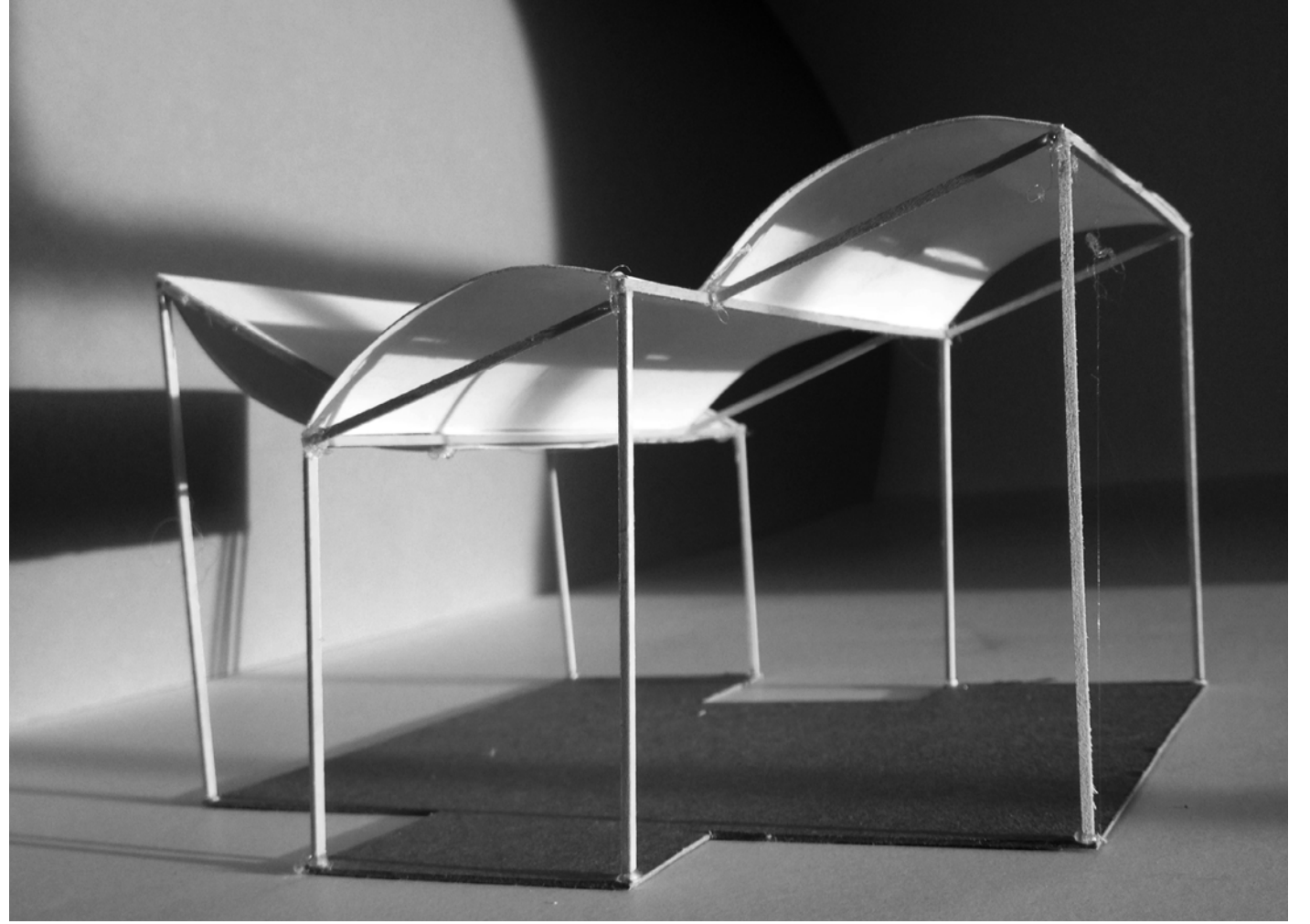
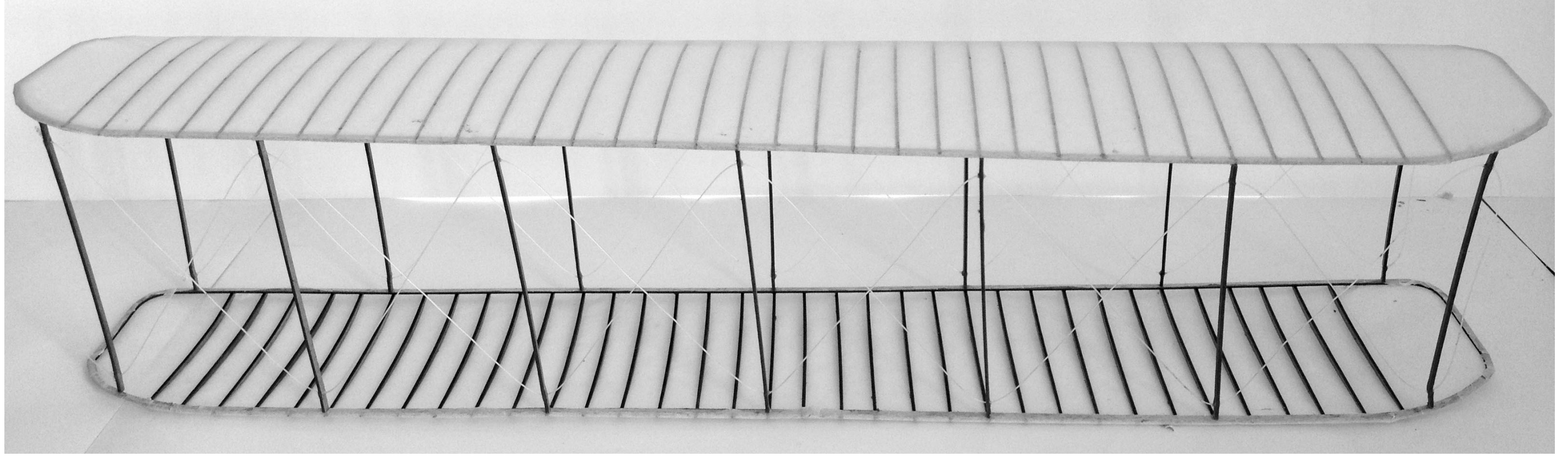


SUMMER
March 30-Sept 11

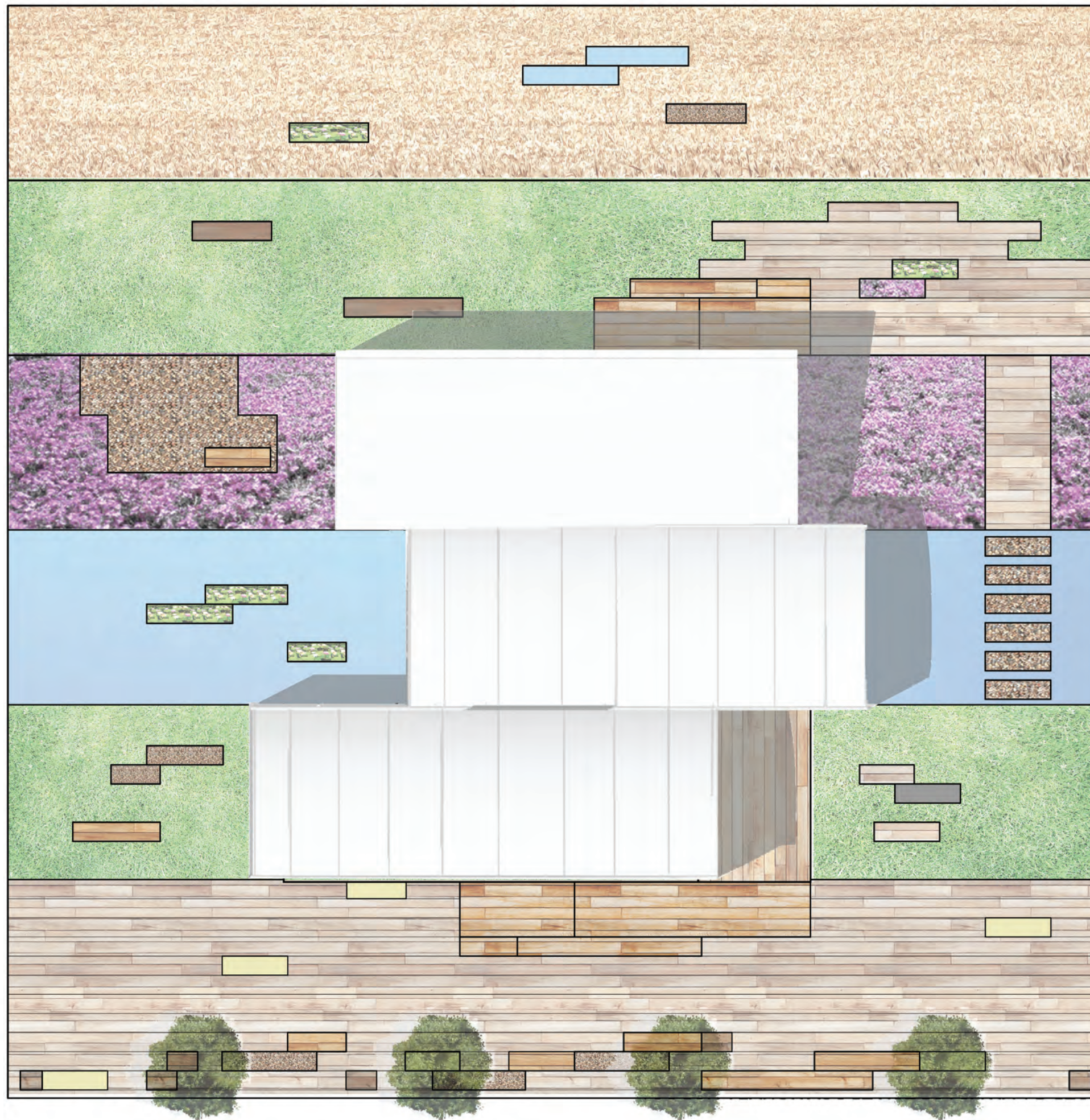


WINTER
Sept 12- March 29









AGRICULTURE

GRASS & WOOD DECK
(BACK YARD)

GARDEN

WATER POND

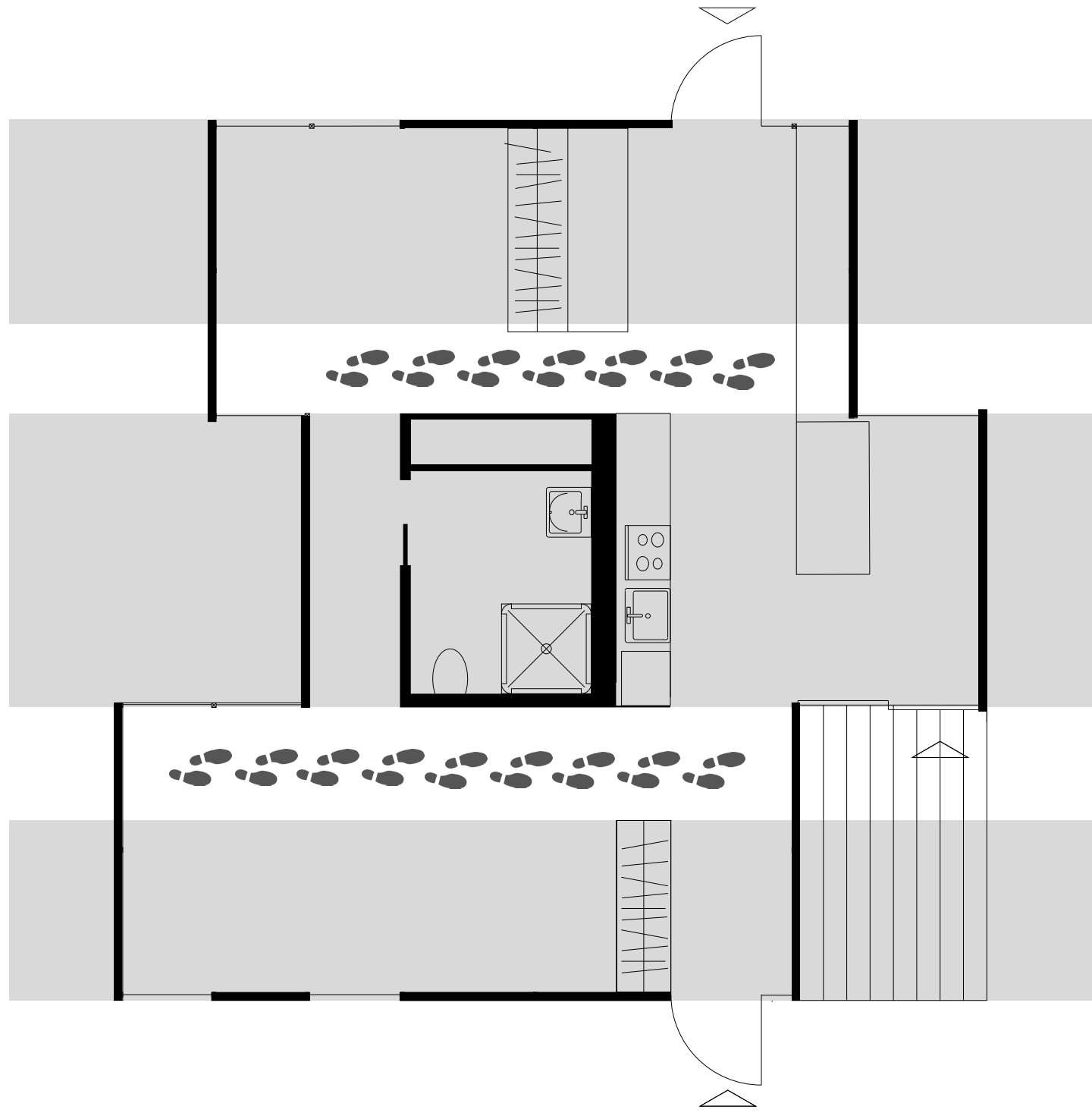
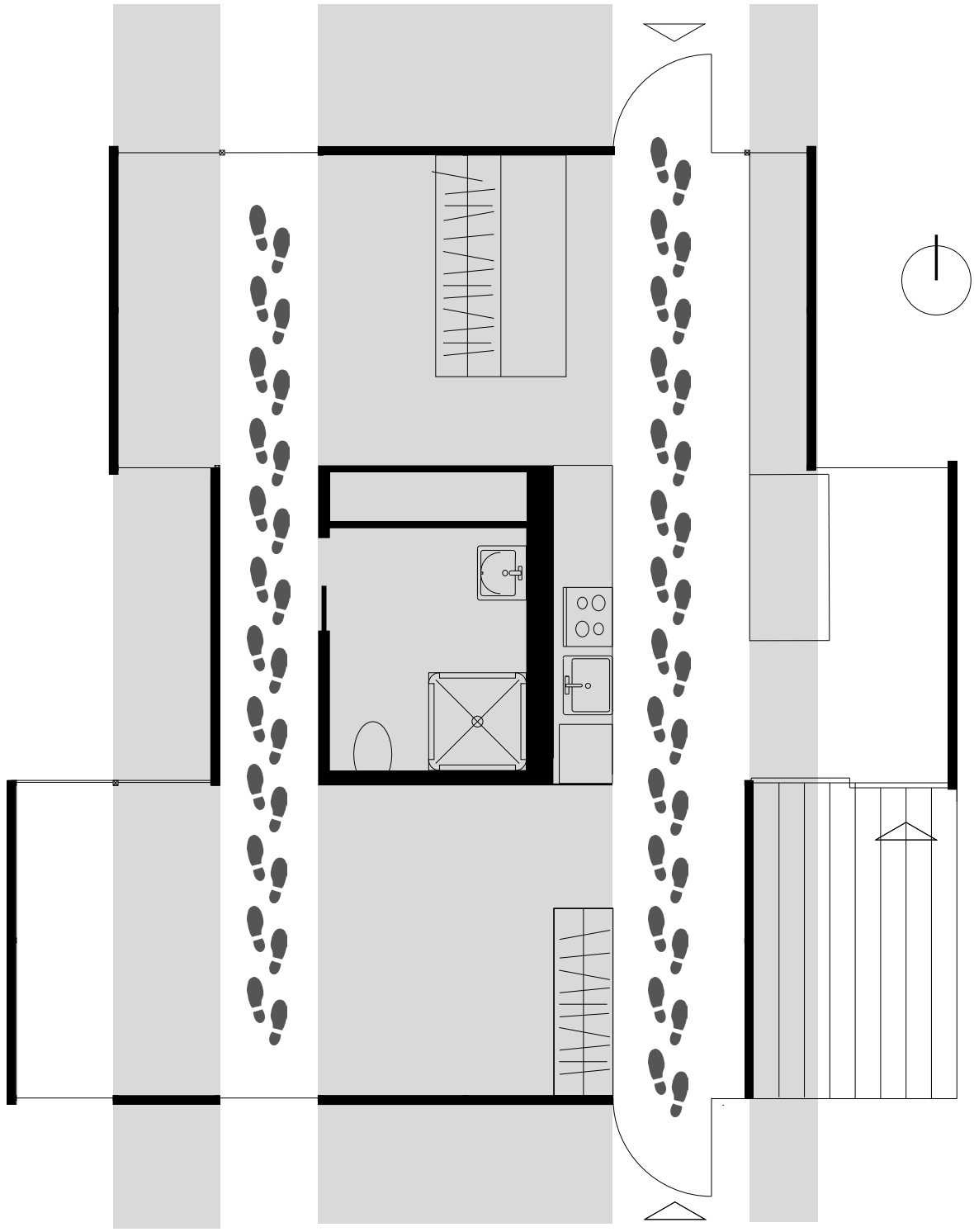
GRASS
(FRONT YARD)

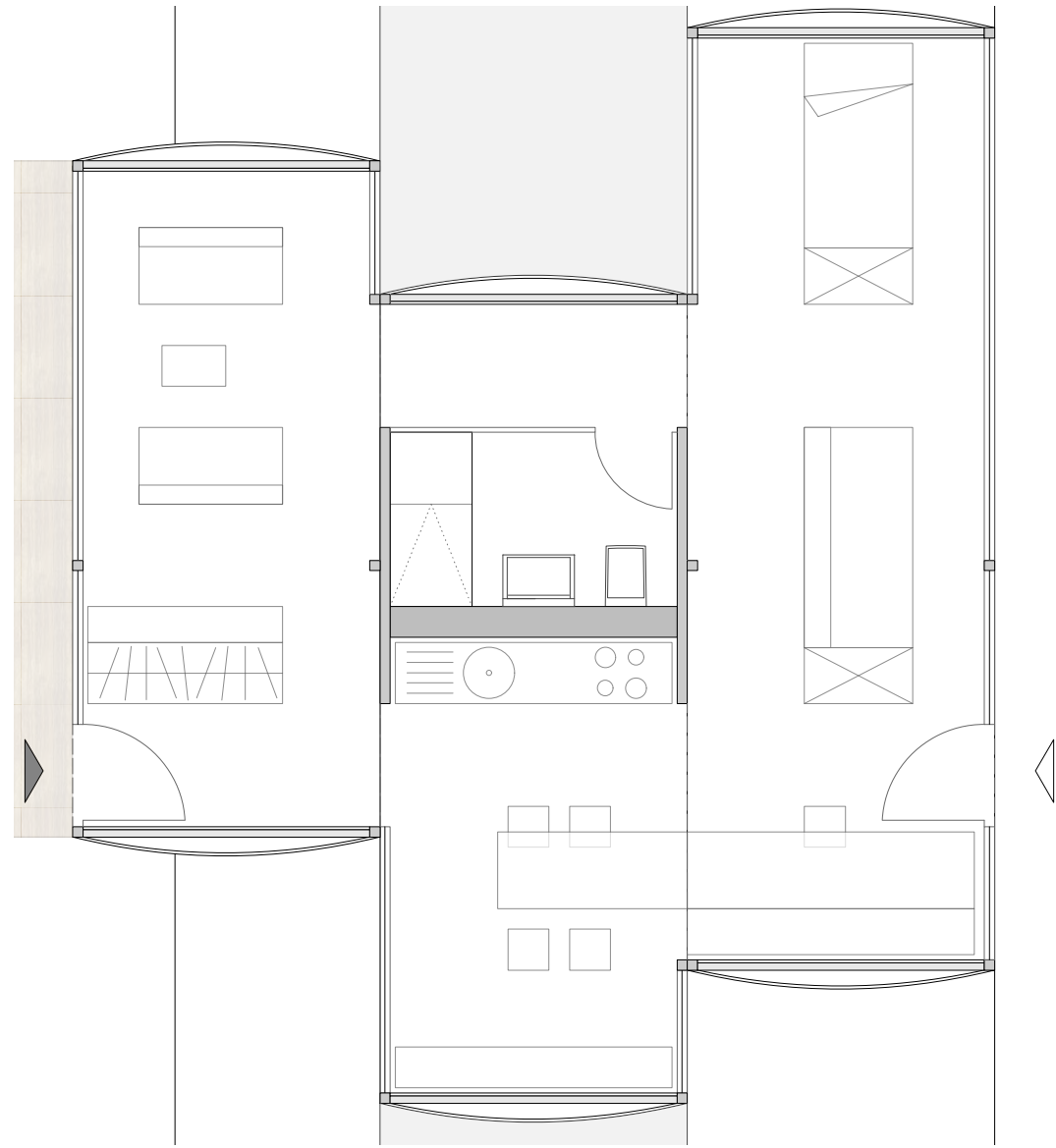
WOOD DECK
(FRONT ENTRANCE)



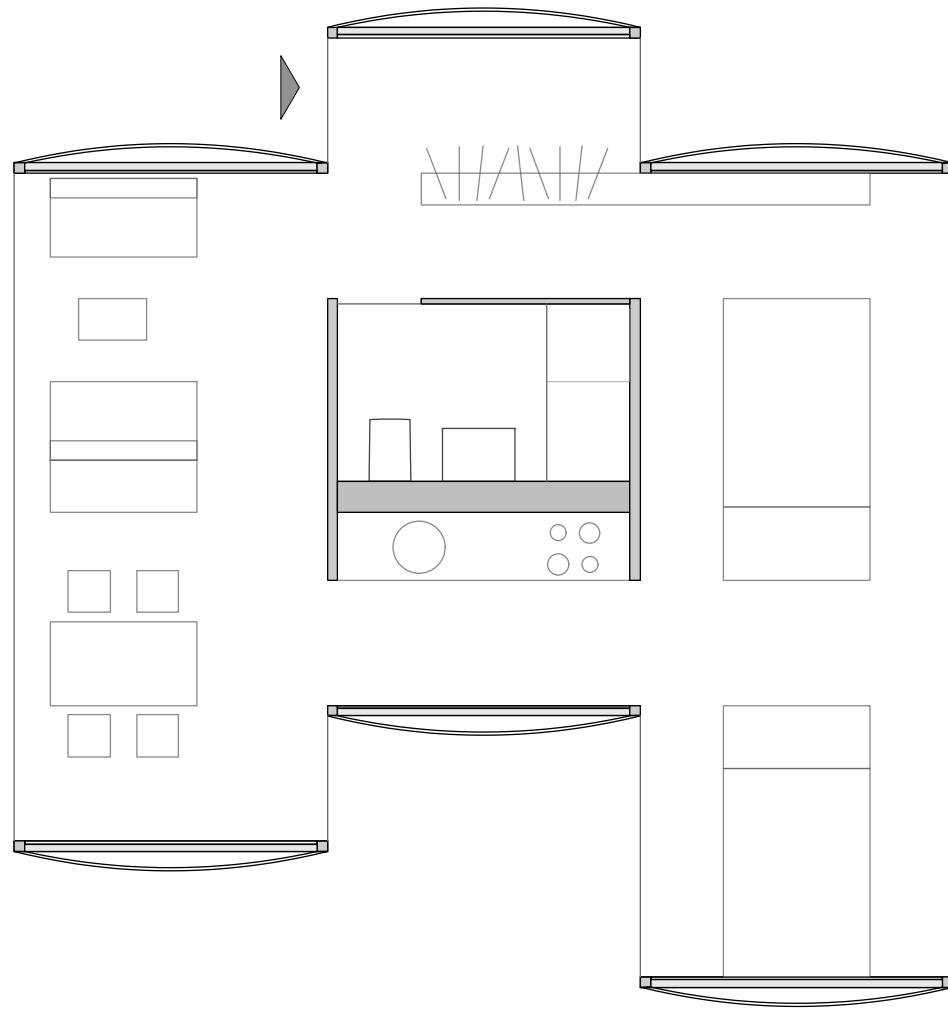
PLAN



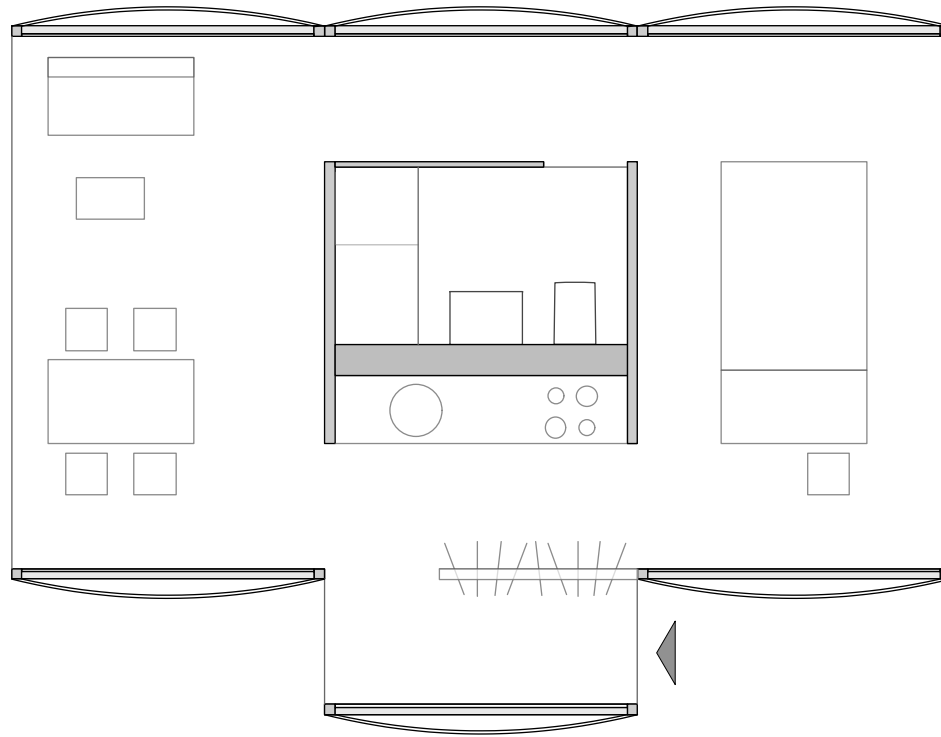




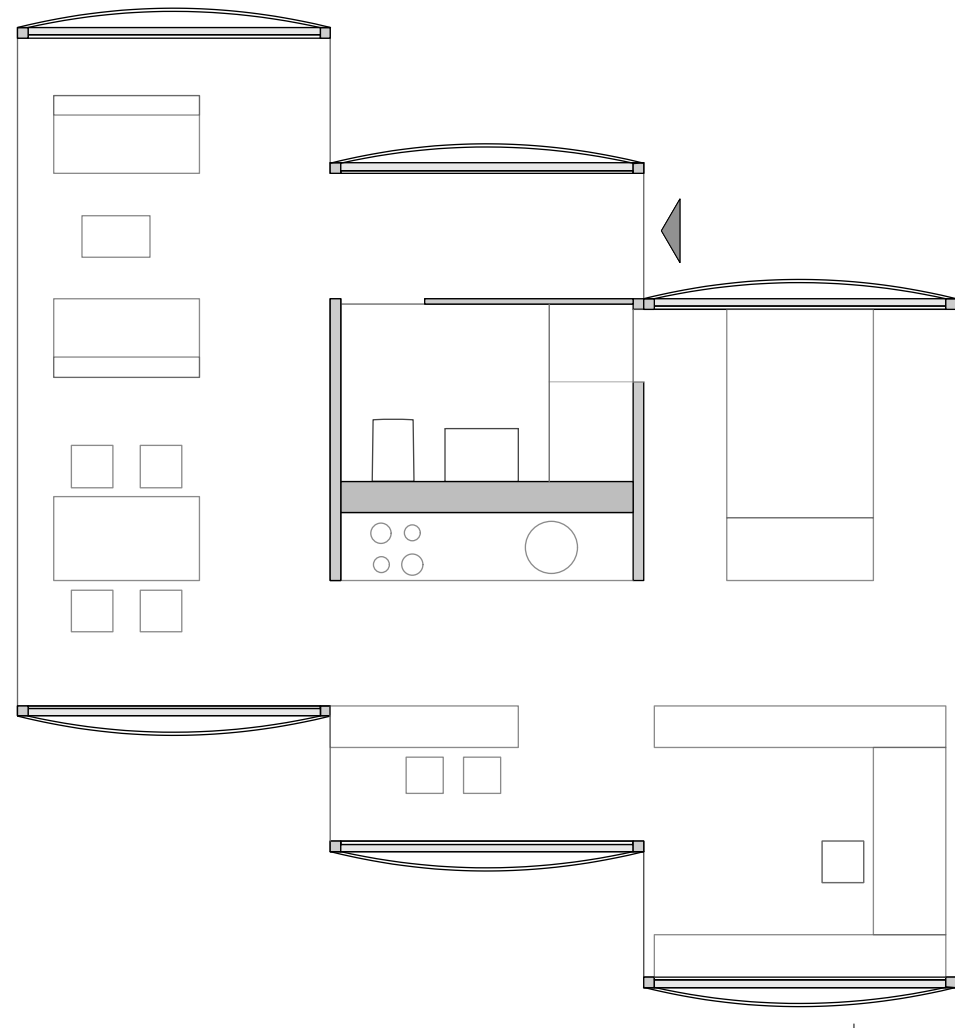
the entertainer



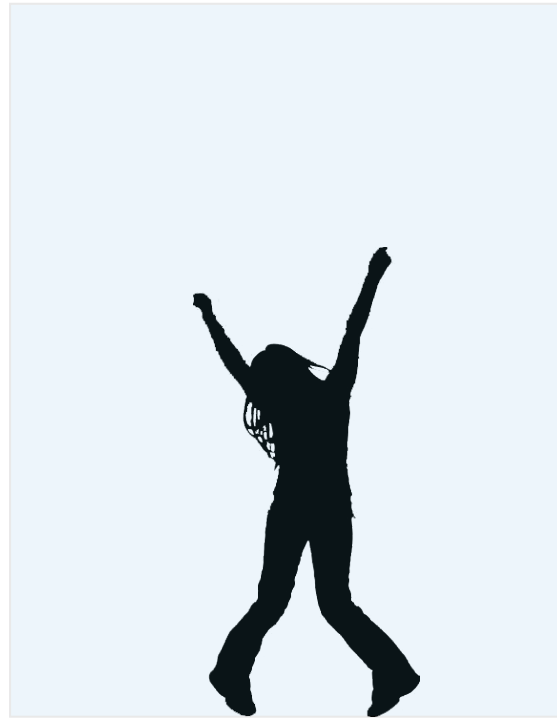
the growing family



the bachelor



the workaholic



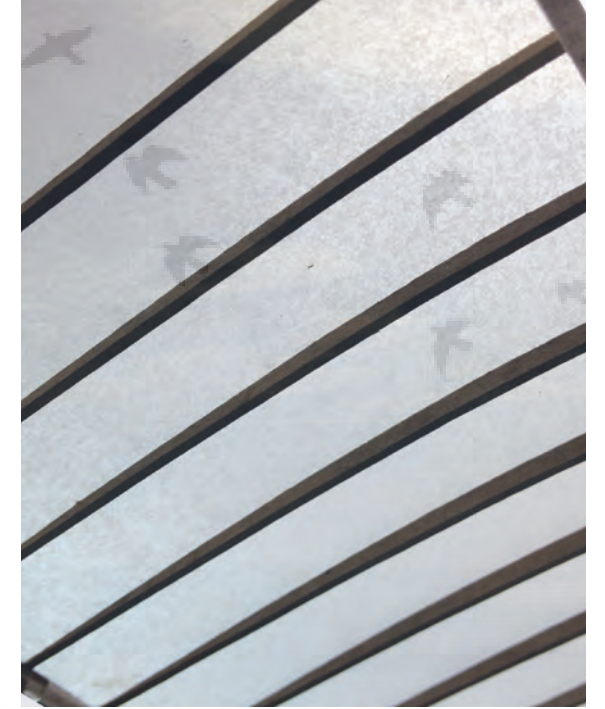
TRANSPARENT: GLASS WINDOWS



SEMI-TRANSPARENT: WINDOW SCREENS DURING THE DAY



SEMI-TRANSPARENT: WINDOW SCREENS AT NIGHT



SEMI-TRANSPARENT: CEILINGS



SEMI-TRANSPARENT: MOOD LIGHTING



SEMI-TRANSPARENT: KID LIGHT DRAWING

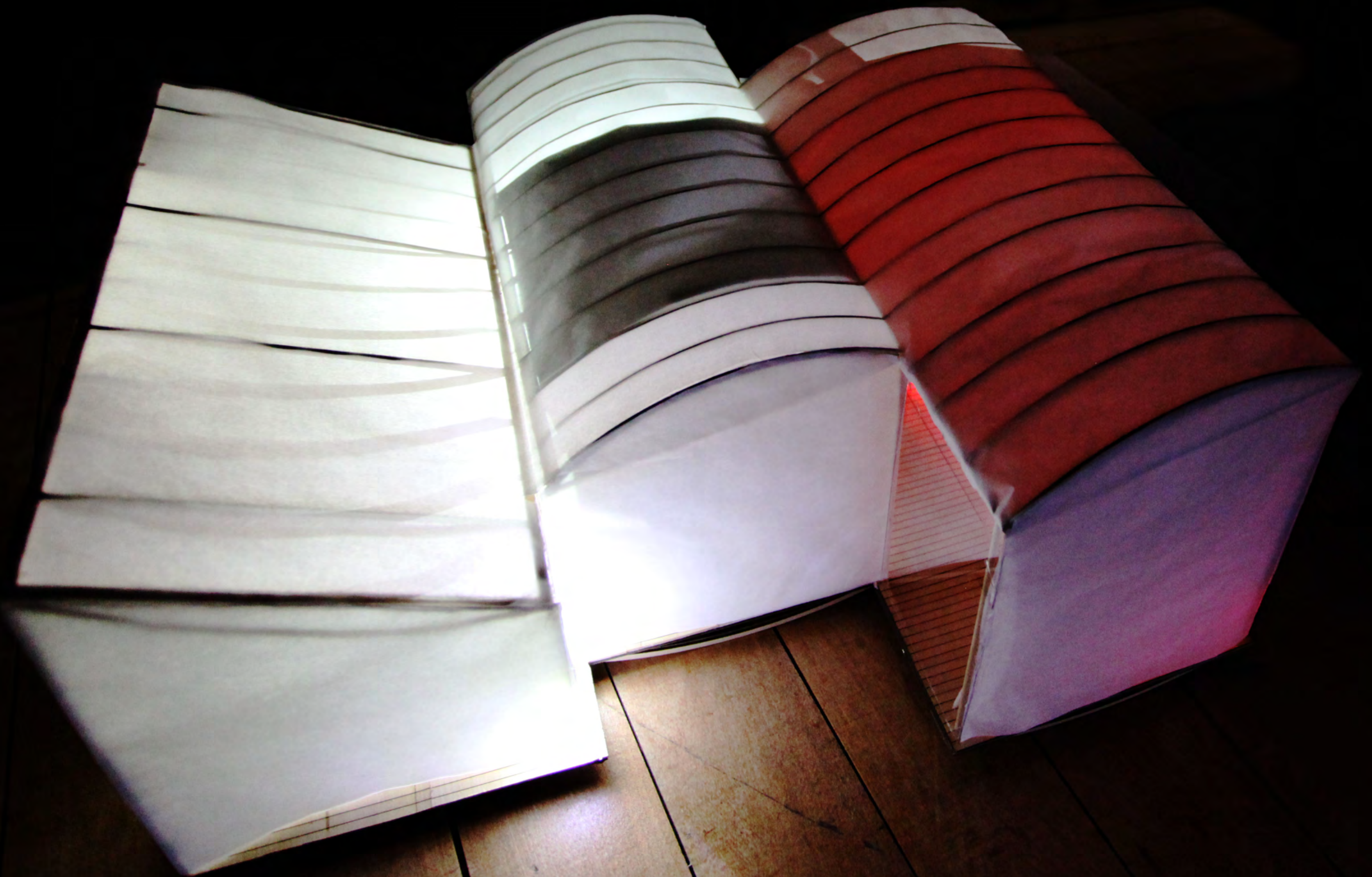


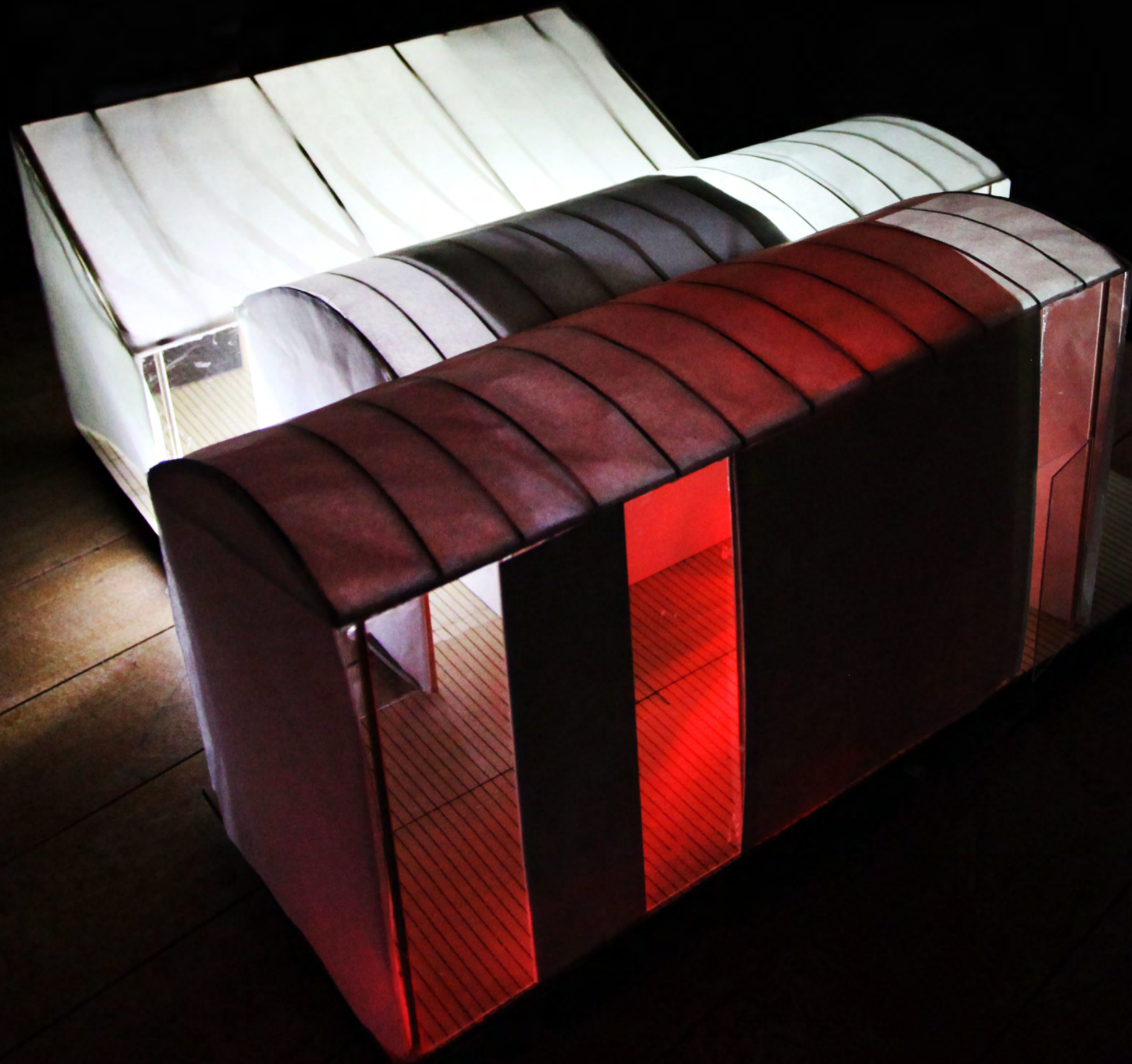
SOLID: SIDE WALLS

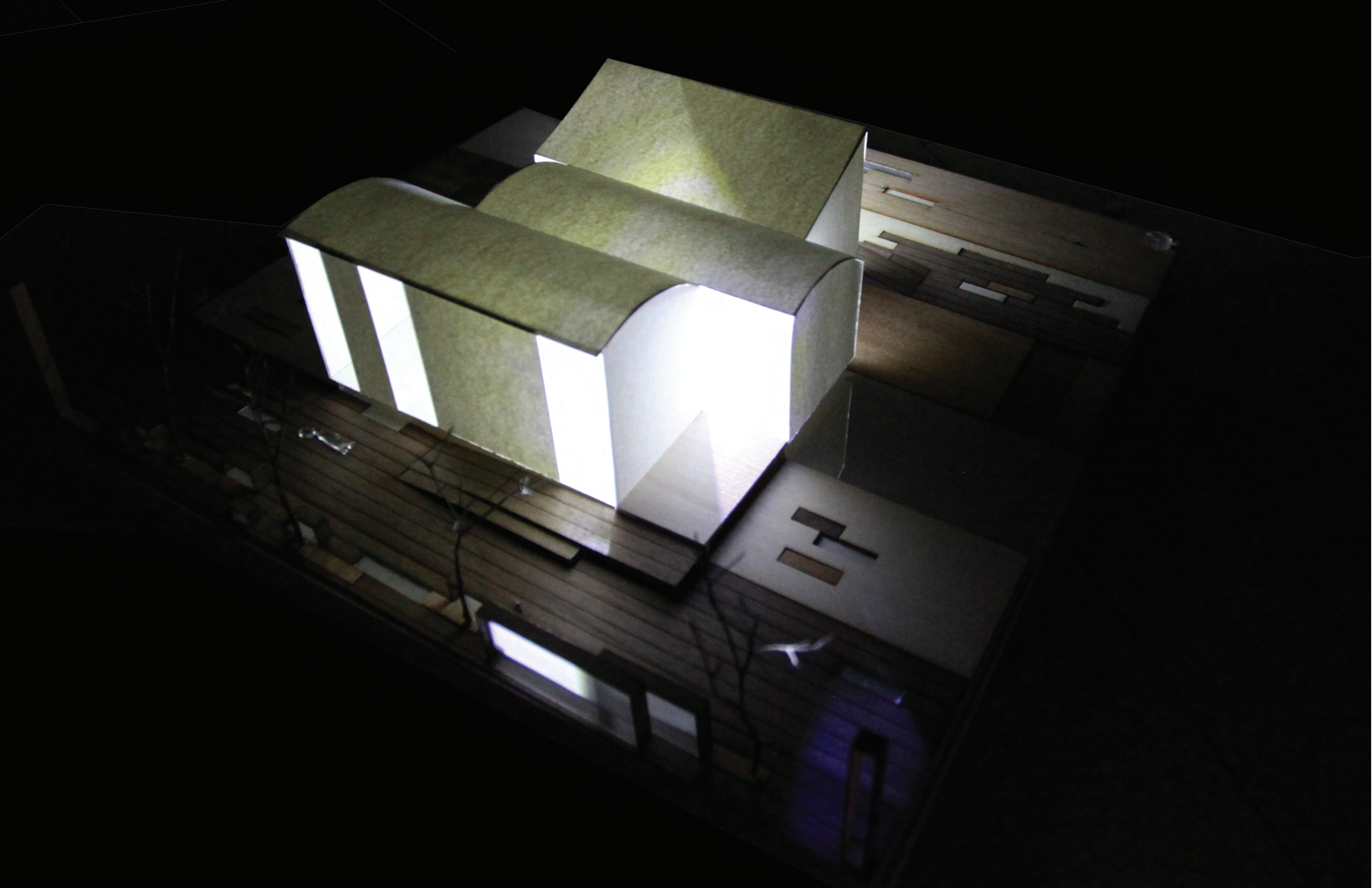


SOLID: CORE WALLS

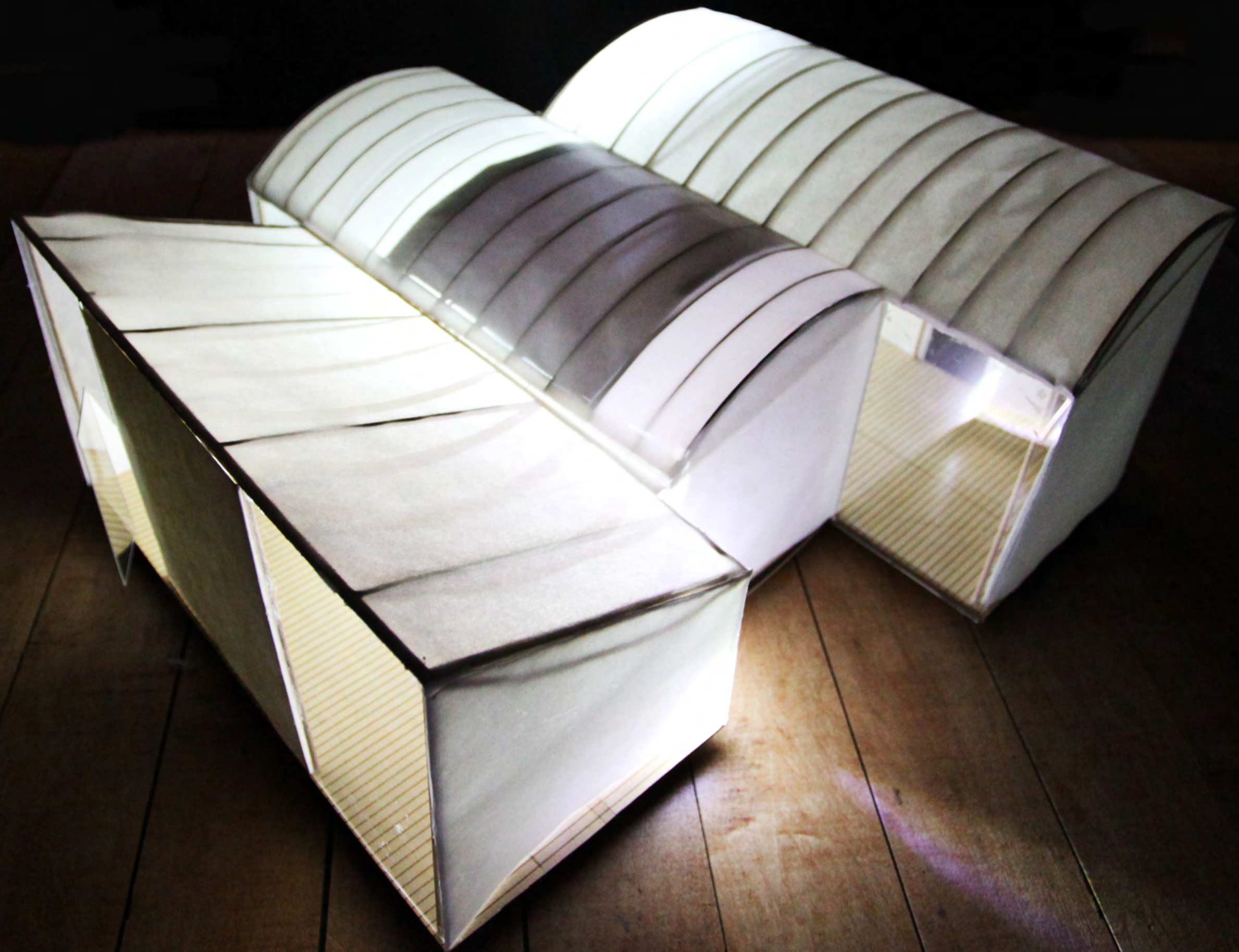


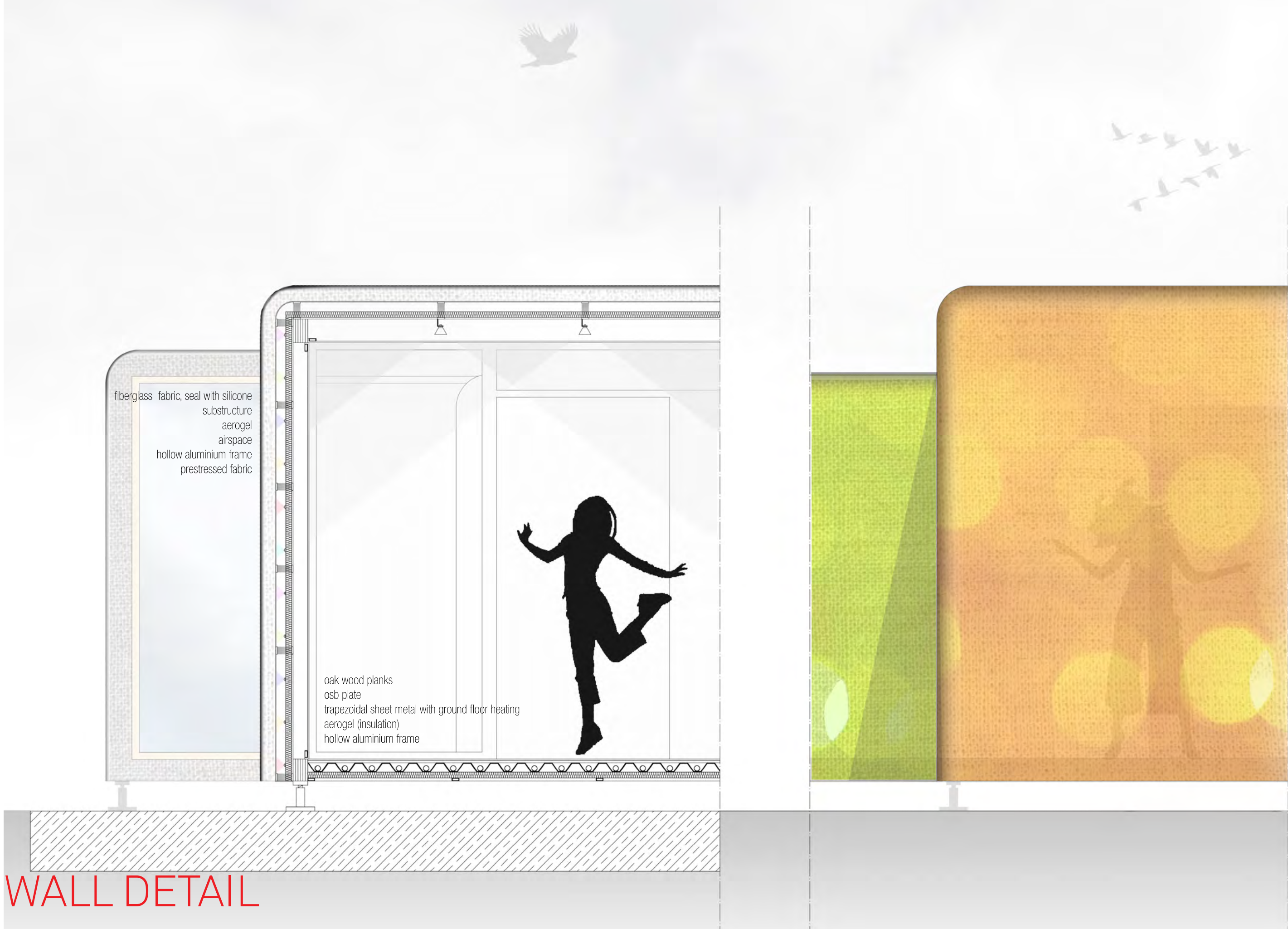












WALL DETAIL



SOLAR DECATHLON / EUROPE 2014
SCHEMATIC DESIGN REVIEW / FEB. 2013



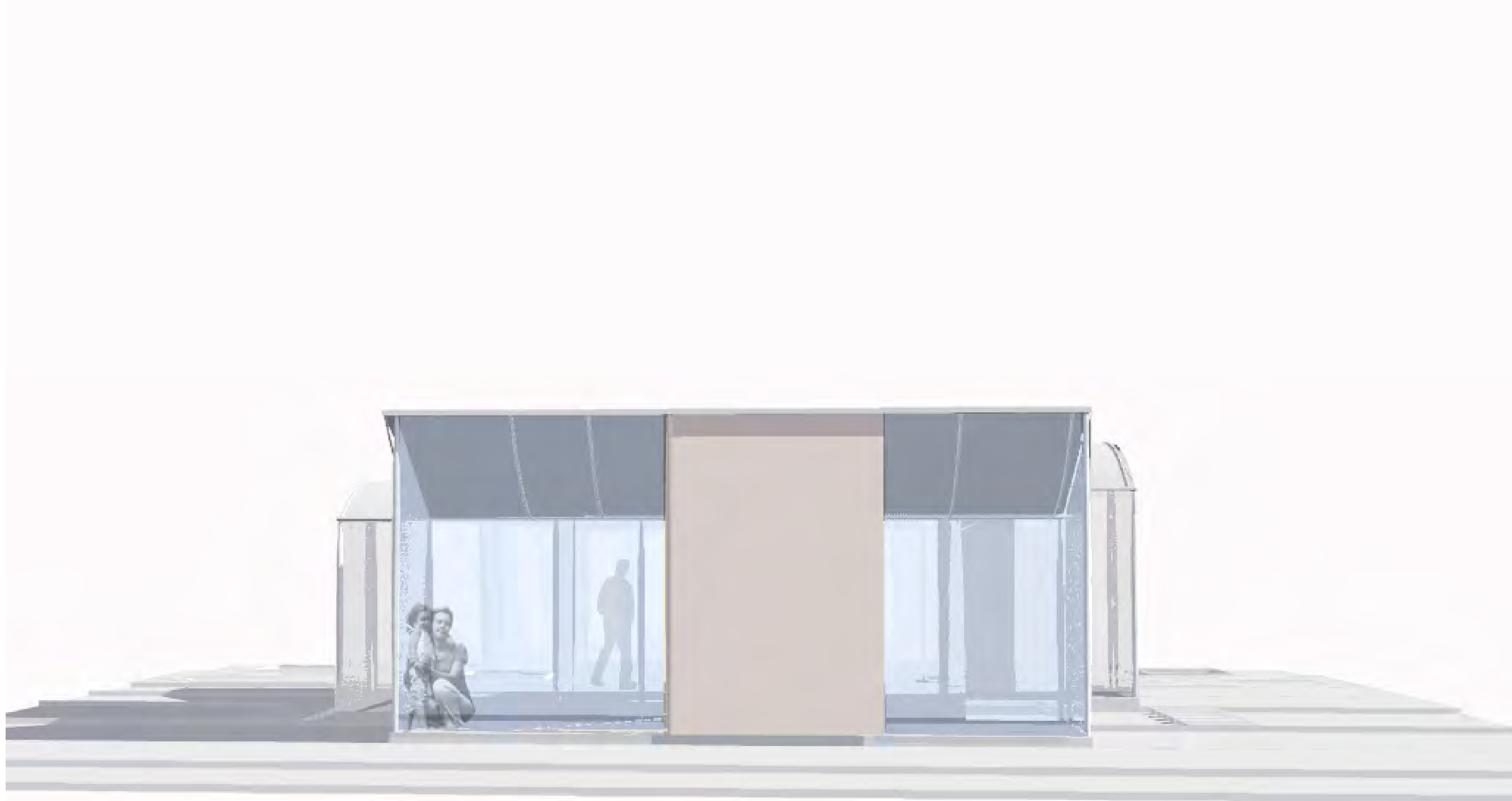


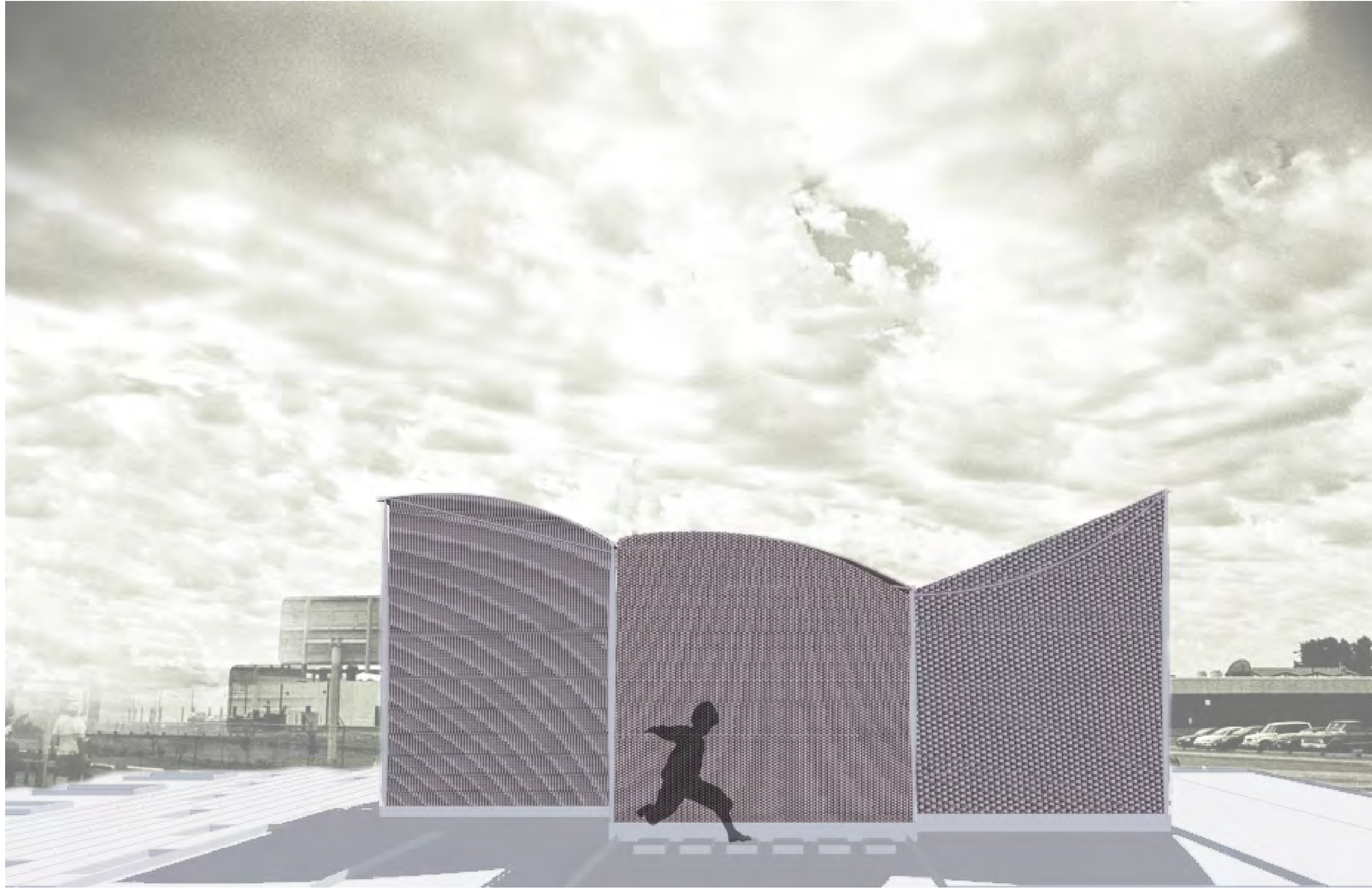






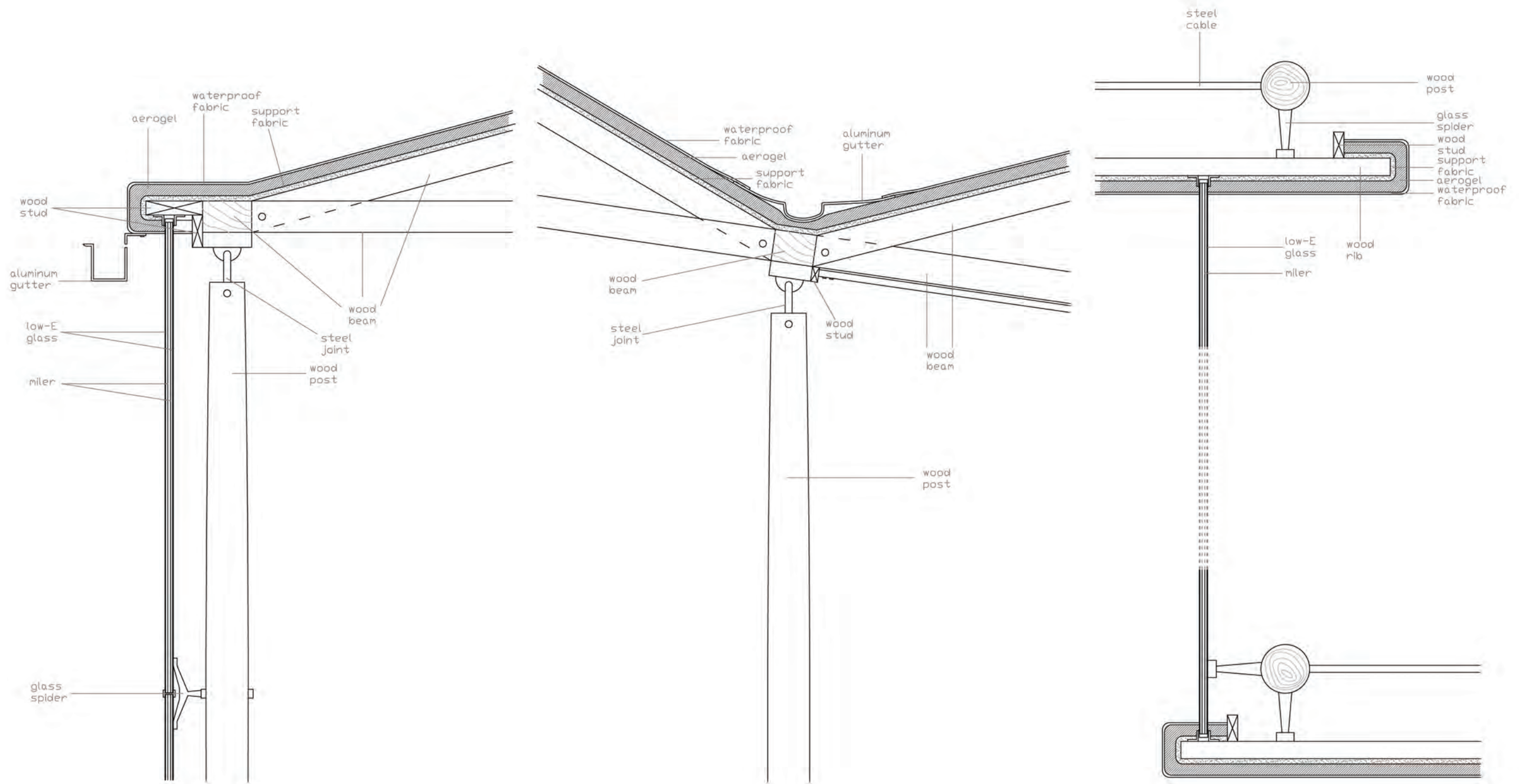


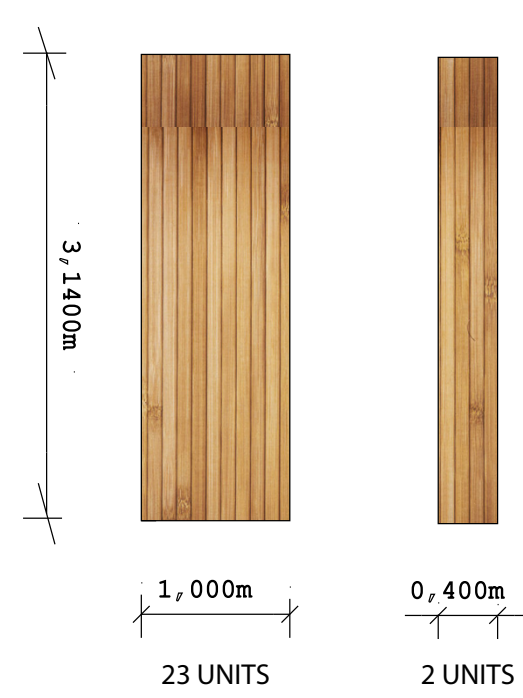
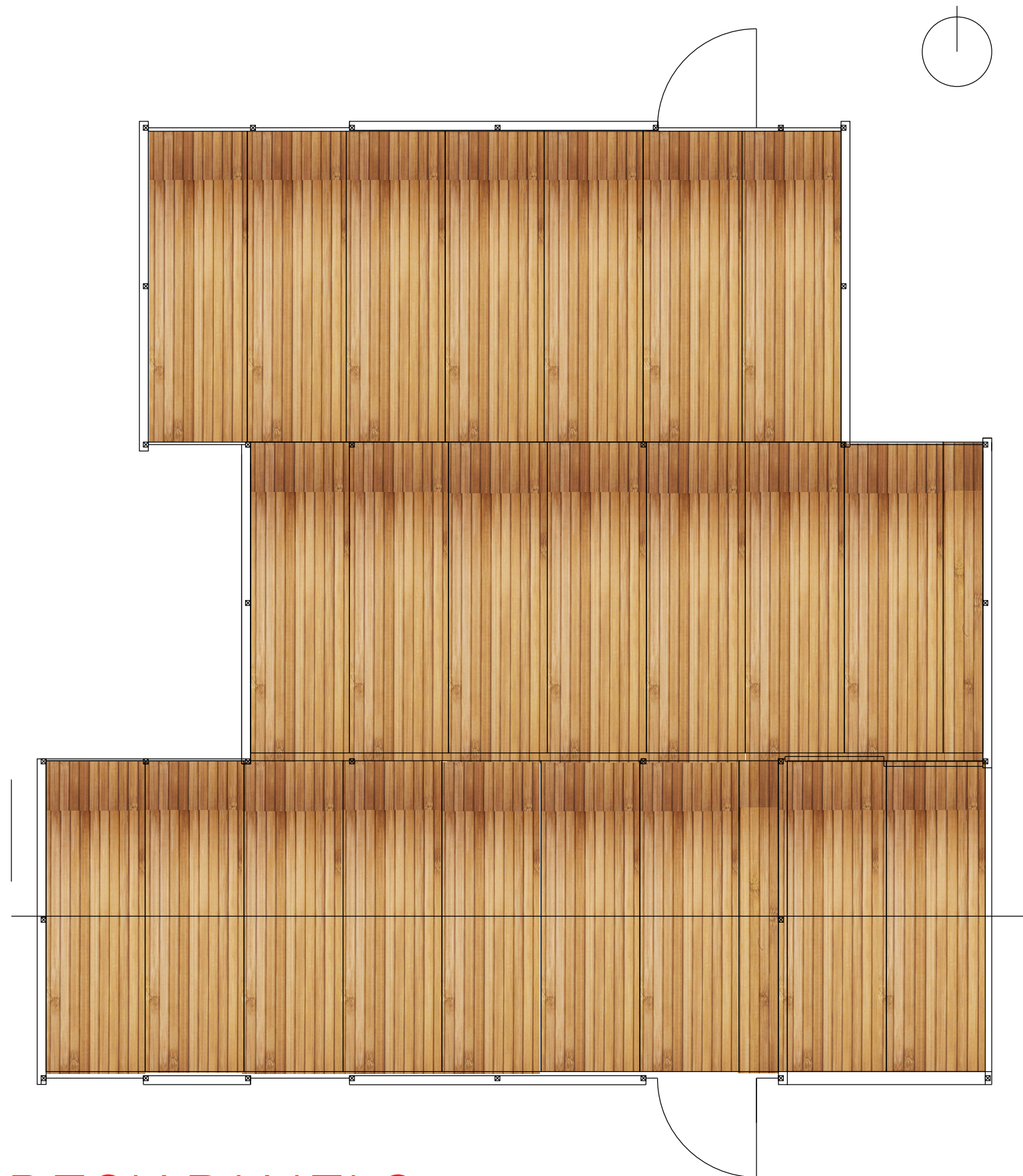




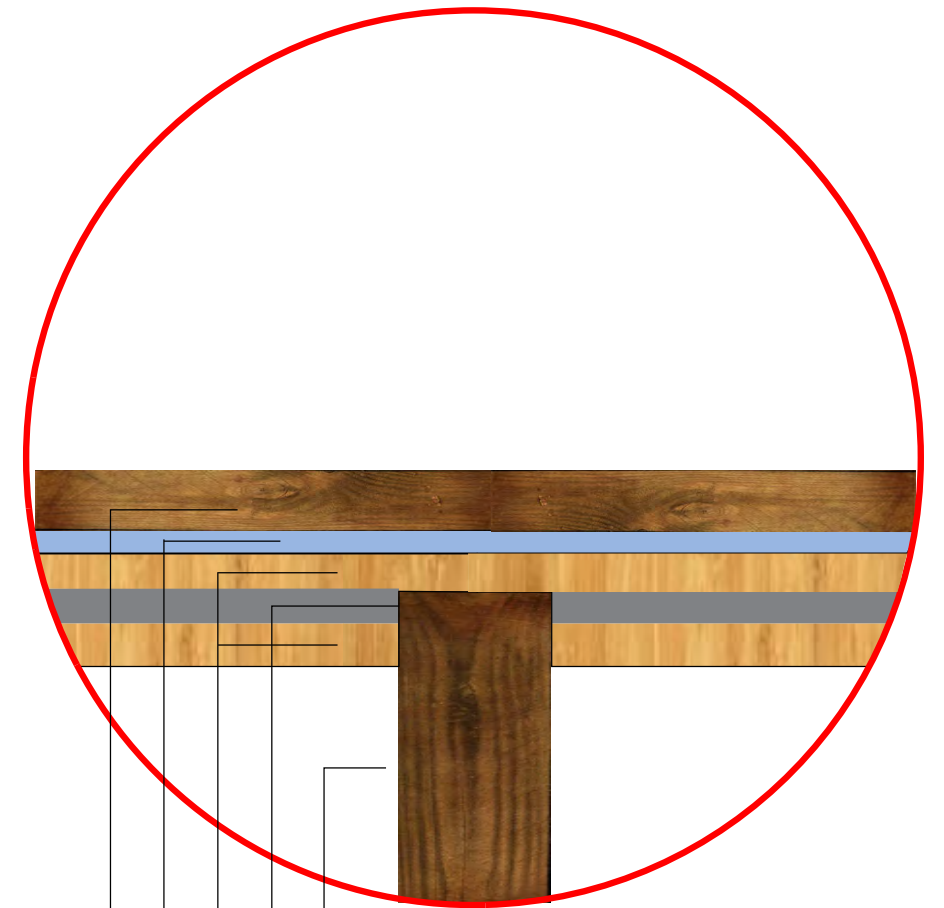


FABRIC ATTACHMENT DETAILS

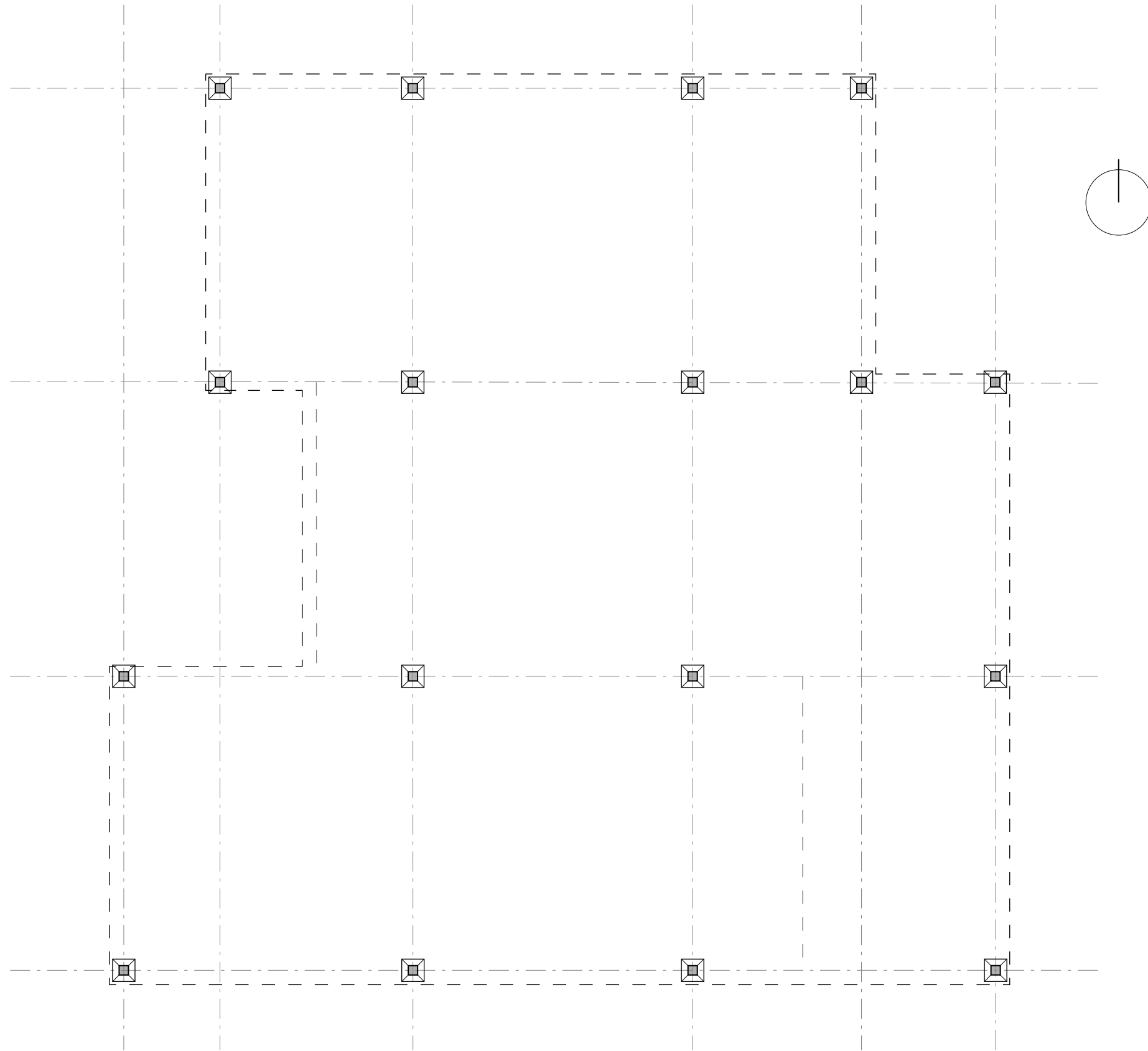




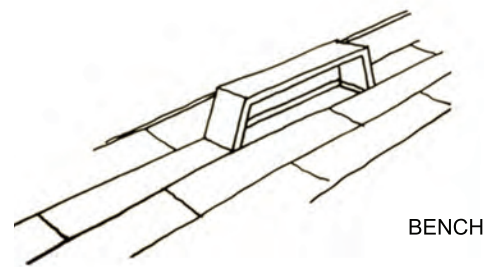
DECK PANELS



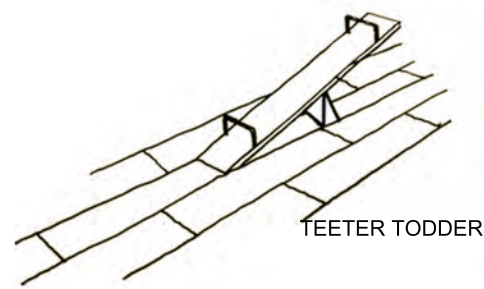
wood flooring
1/8" Aerogel insulation
plywood
insulation foam
wood column



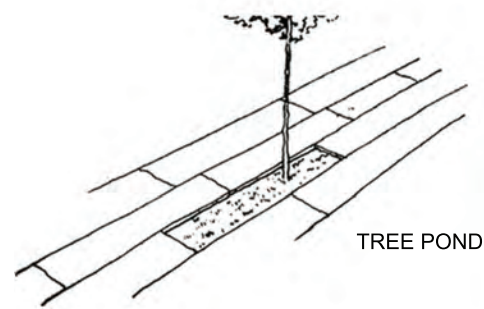
FOOTING PLAN



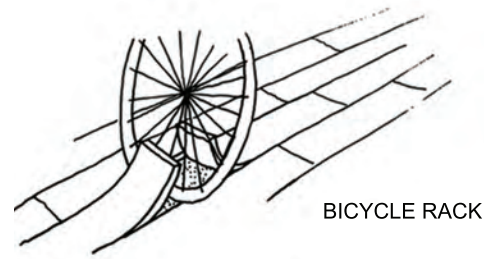
BENCH



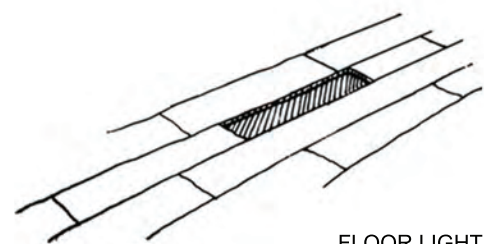
TEETER TODDER



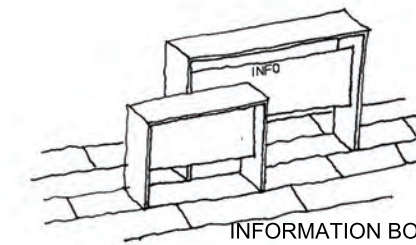
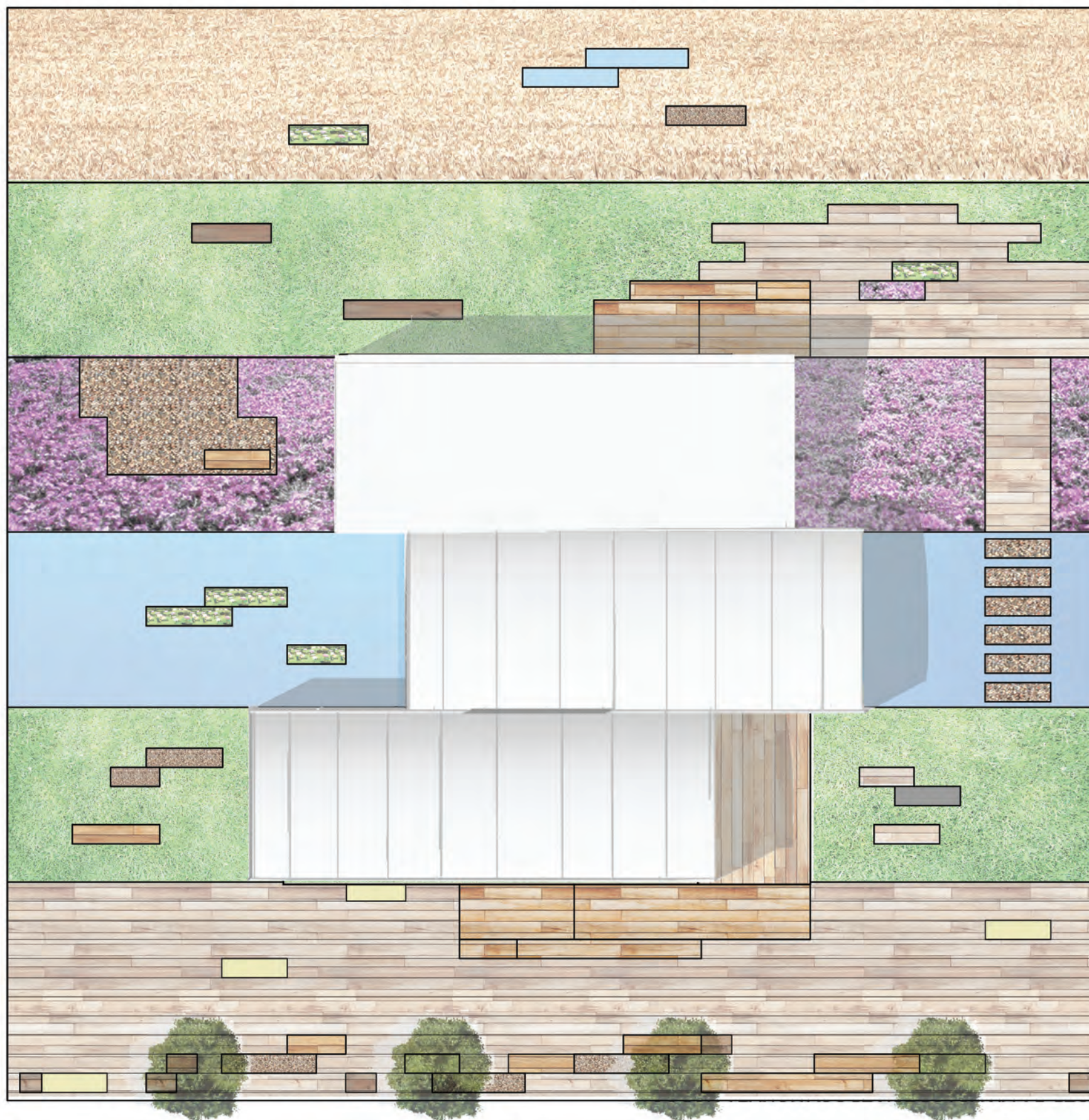
TREE POND



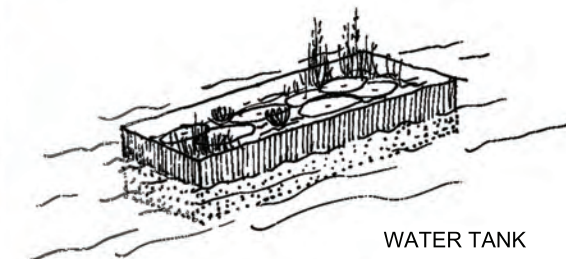
BICYCLE RACK



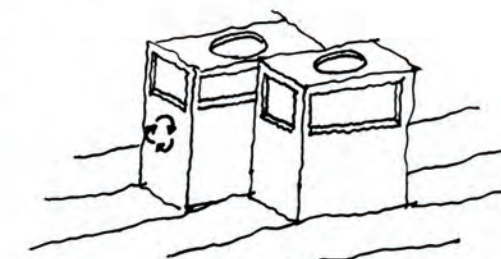
FLOOR LIGHT



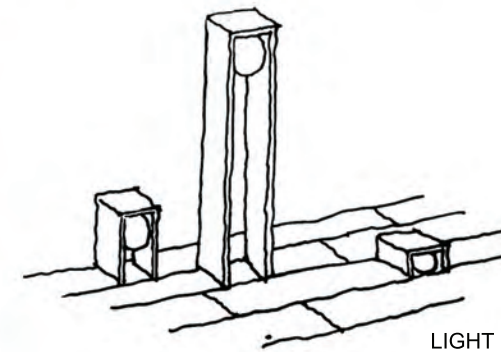
INFORMATION BOARD



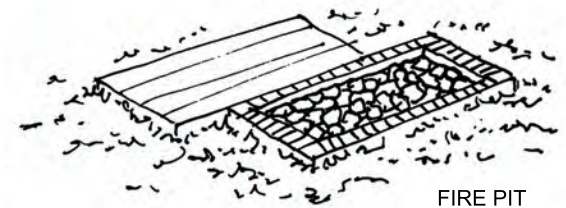
WATER TANK



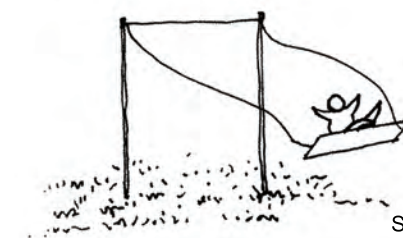
DUSTBIN



LIGHT

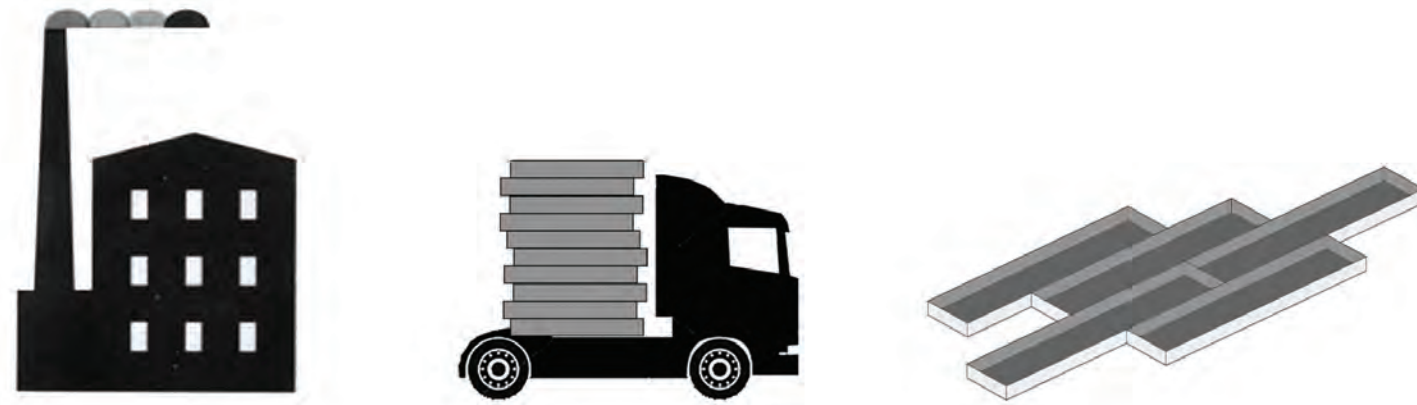


FIRE PIT



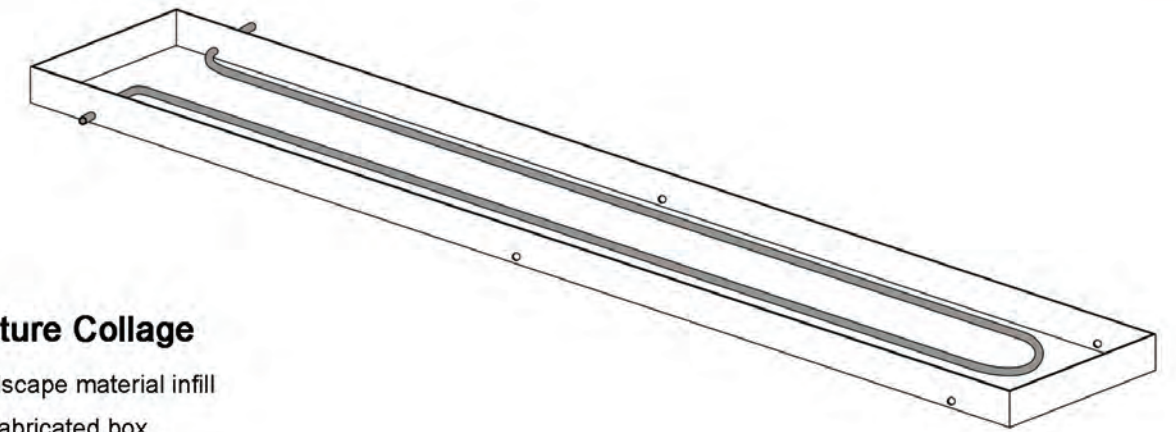
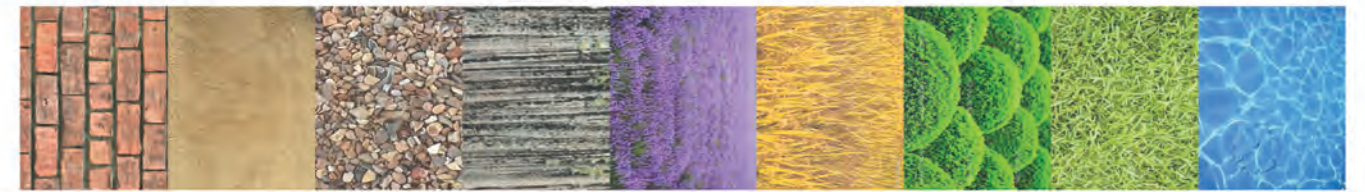
SWING

LANDSCAPE PLAN



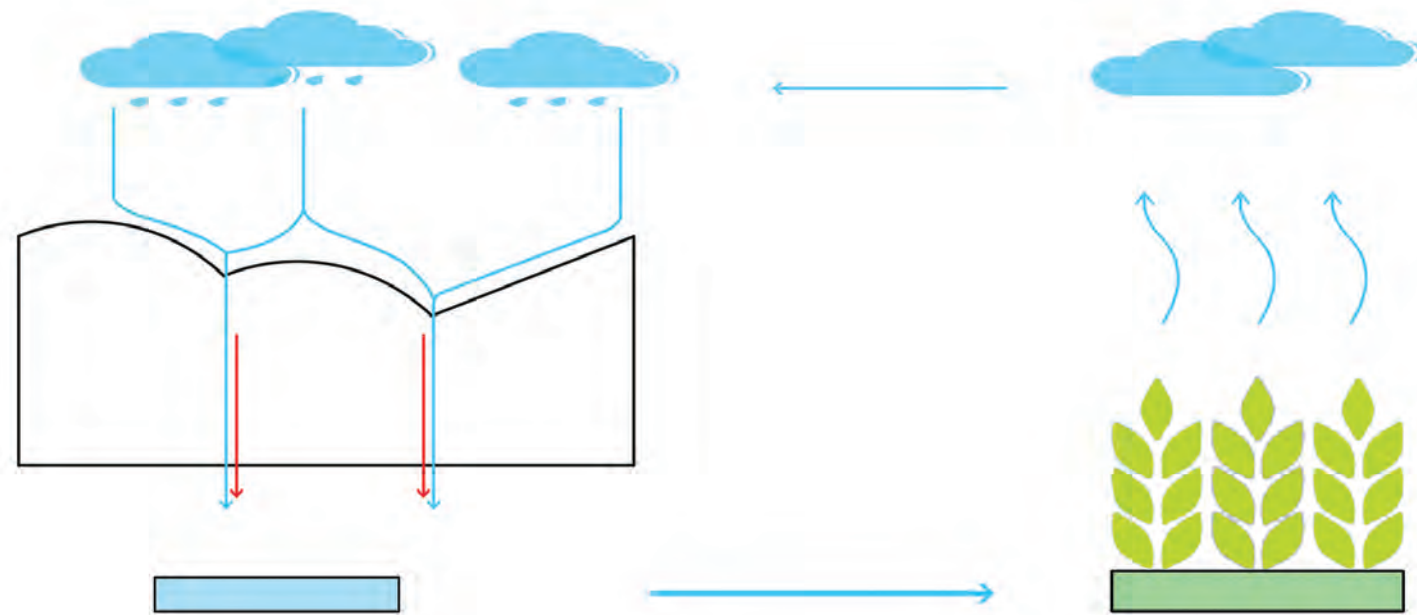
Landscape Container (pre-fabricated)

- Easy to produce
- Easy to install
- Easy to change/replace



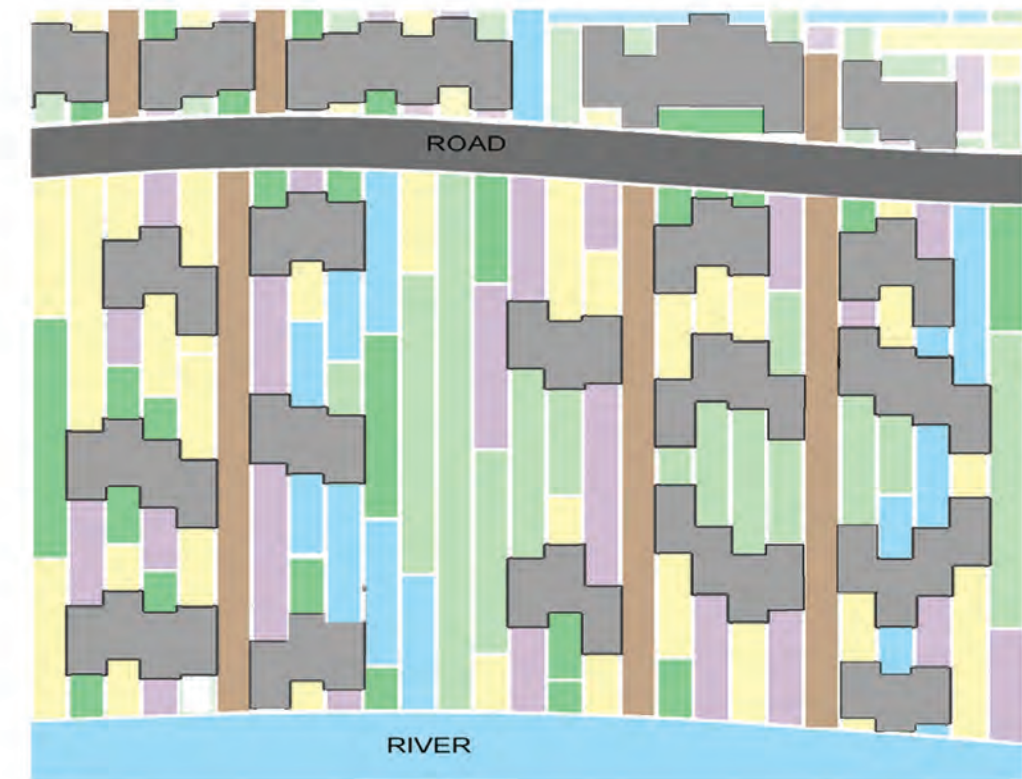
Nature Collage

- landscape material infill
- prefabricated box



Water Recycle Loop

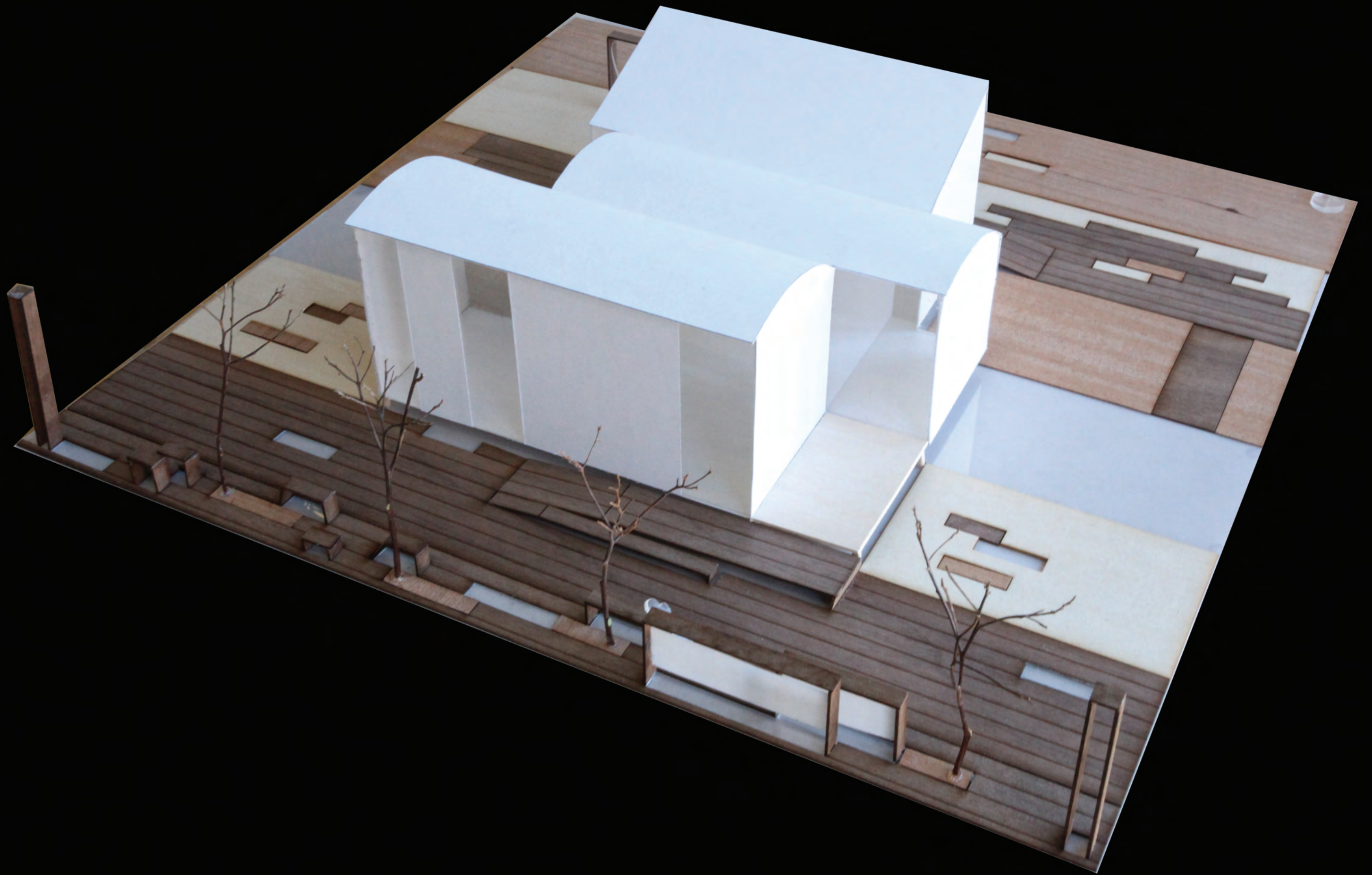
- Rain water & grey water collection
- Micro-climate water pond
- Urban agriculture



- Grass
- Tree
- Agriculture
- Garden
- Water
- Deck
- House

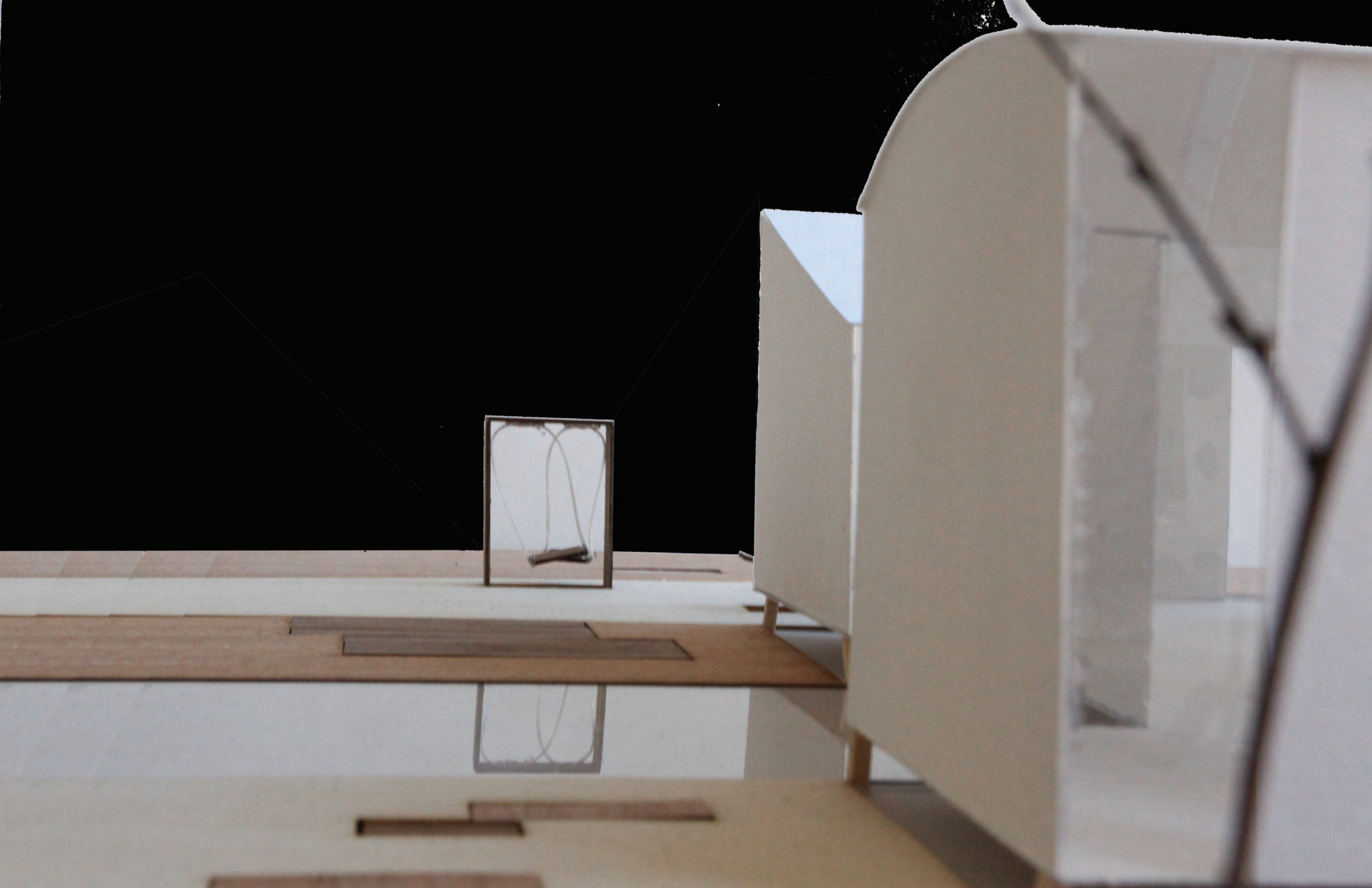
Urban Aggrigation













THANK YOU! / DANKE SCHÖN!