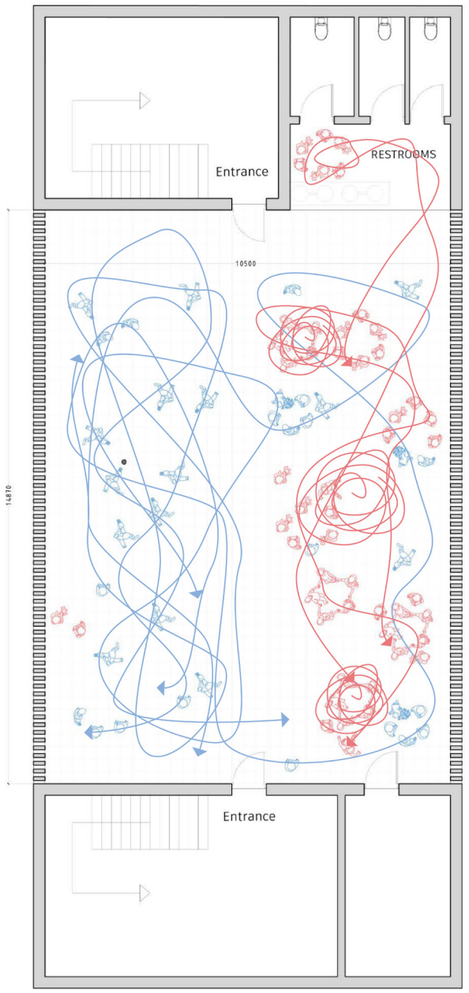
LIANA

A timber play structure that reimagines traditional playground design for primary school children through an architectural lens. Inspired by the organic growth of lianas, this timber installation merges structural innovation with playfulness, creating a spatial experience that encourages exploration, creativity, and physical activity.

This project was designed and built by students at Valldaura Labs, part of the Institute for Advanced Architecture of Catalonia (IAAC). Located within the Collserola Forest on the outskirts of Barcelona, Valldaura Labs is a self-sufficient campus dedicated to research and experimentation in ecological building and sustainable design. As part of the Master's in Advanced Ecological Buildings and Biocities (MAEBB), students live, work, and create in close connection with nature, utilizing local resources and innovative technologies to craft projects that embody ecological principles and architectural innovation.

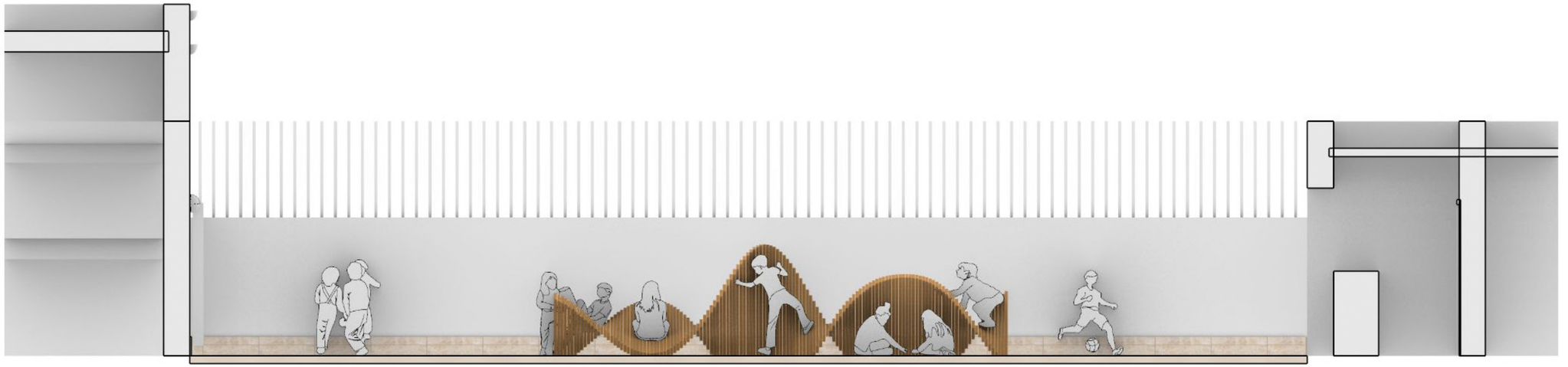
INSPIRATION

Drawing inspiration from lianas—woody vines that ascend the forest canopy—Liana abstracts these natural growth patterns into a dynamic architectural form. The design reflects Valldaura Lab's commitment to ecological principles and integrates them seamlessly into the built environment.



CO-DESIGN

The development of Liana was guided by a collaborative design process with the children and staff of Colegi Mare de Déu dels Àngels Primary School in Barcelona. Through workshops, we explored the children's unique play styles, translating their creativity into the design's form and function.



SECTION A

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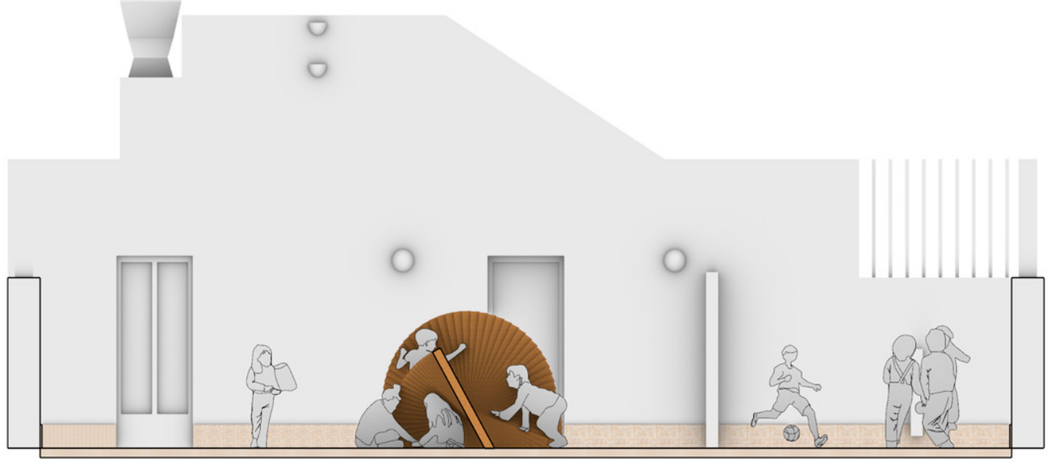
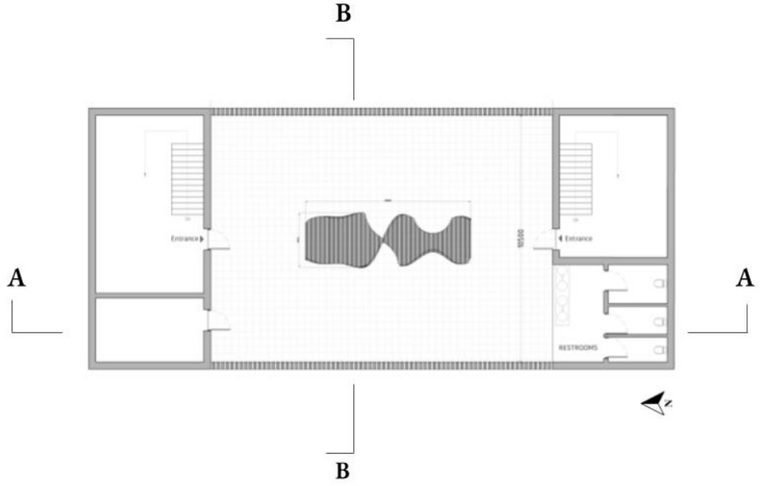
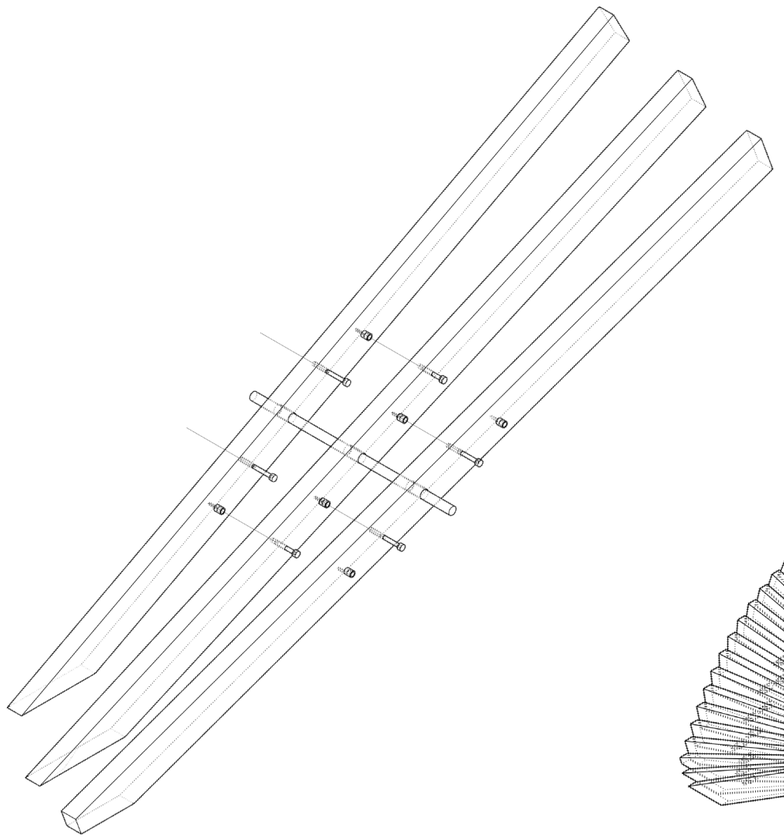
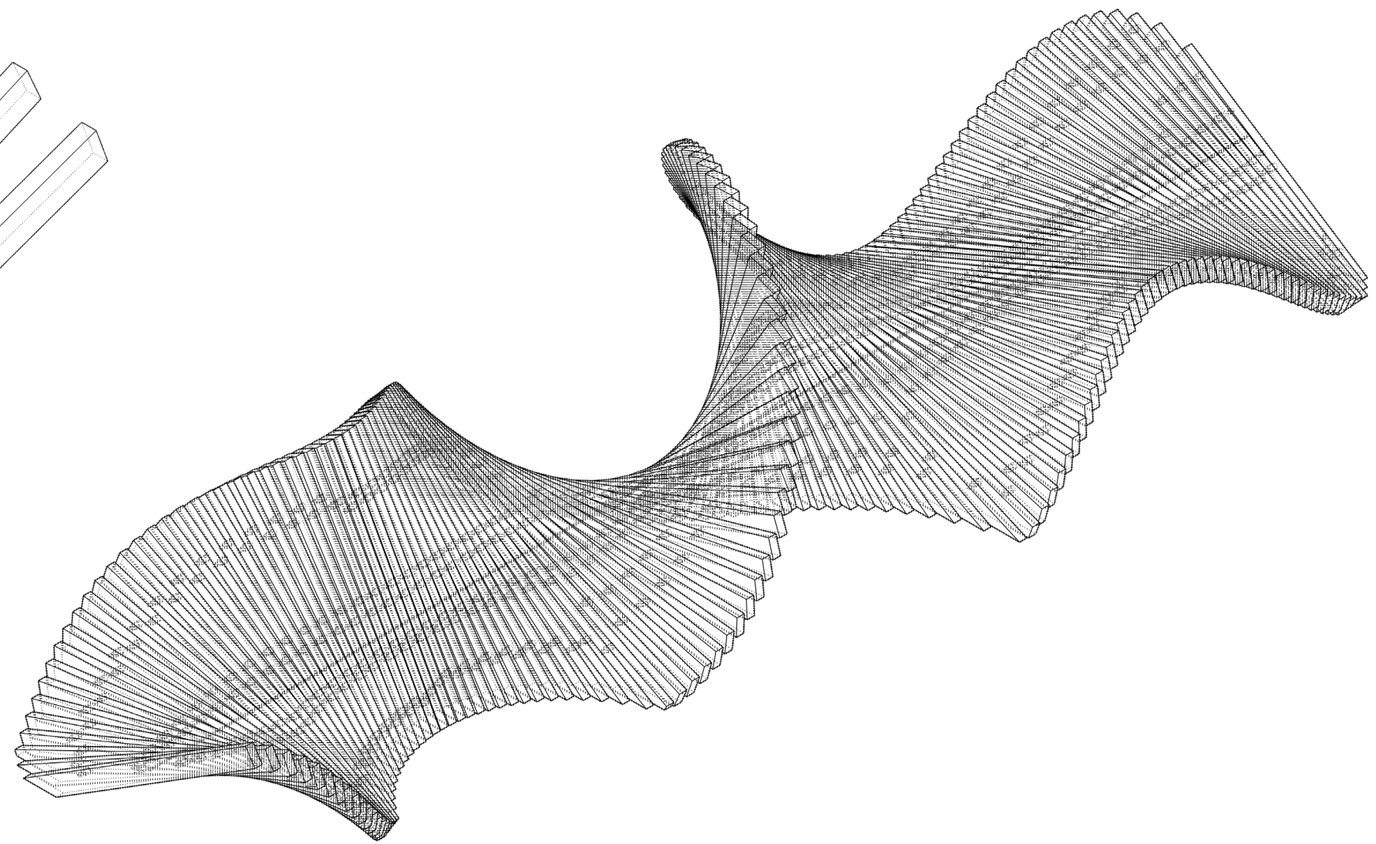


SECTION B



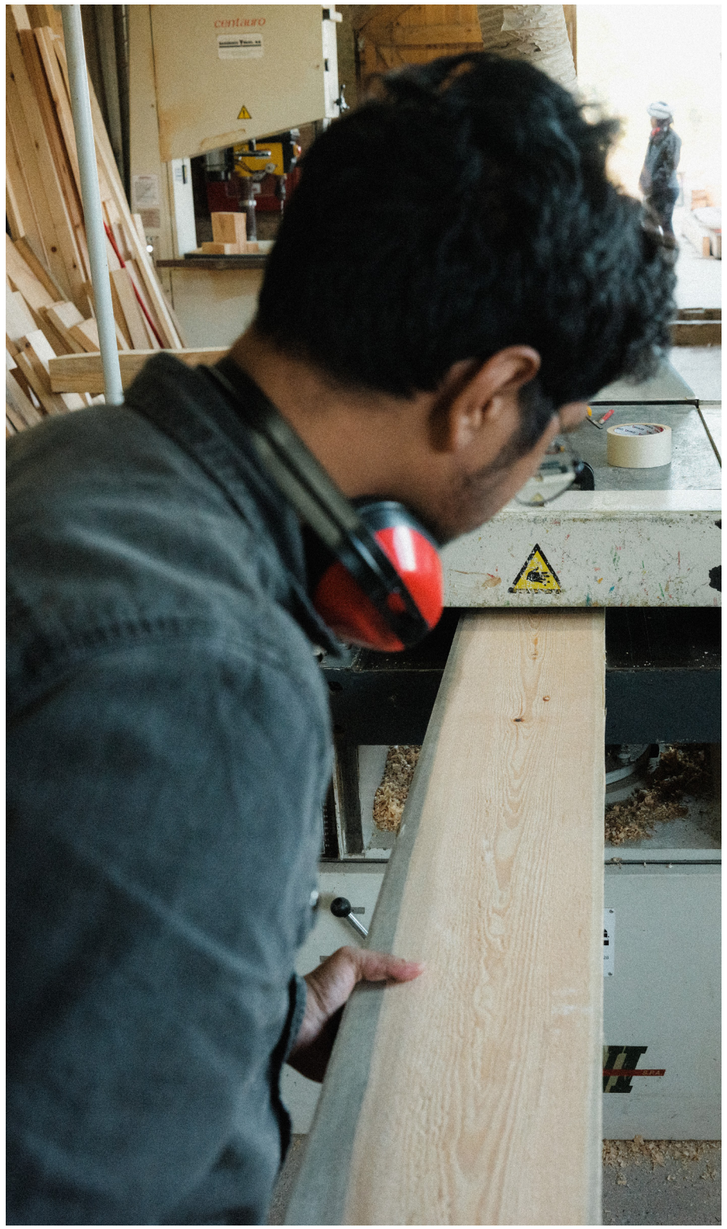
DRAWINGS





TECHNICALDRAWINGS

Liana was shaped through advanced parametric design to reflect the organic forms of its namesake. Achieving its intricate, fluid geometry required the precision of computational design and digital fabrication tools.



FABRICATION

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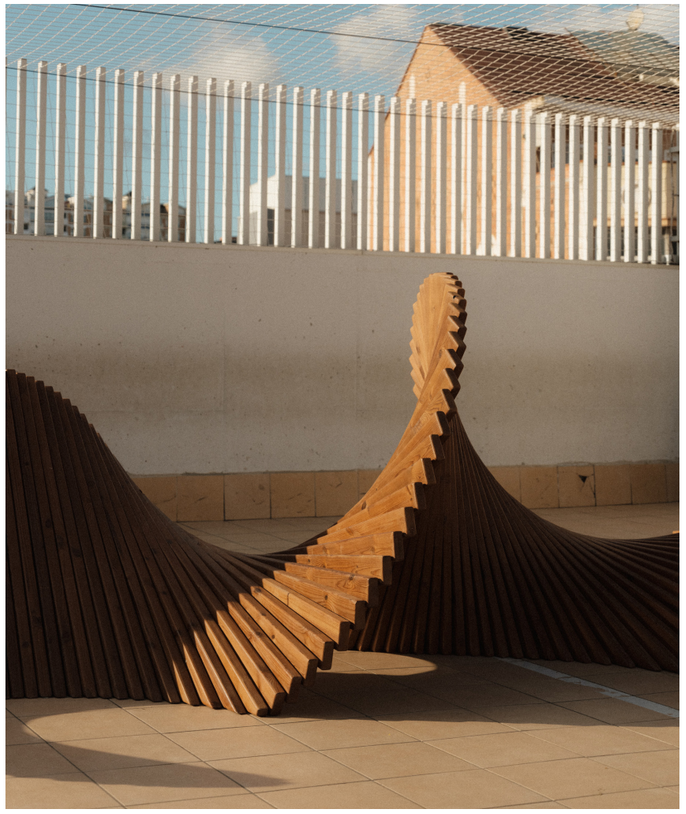
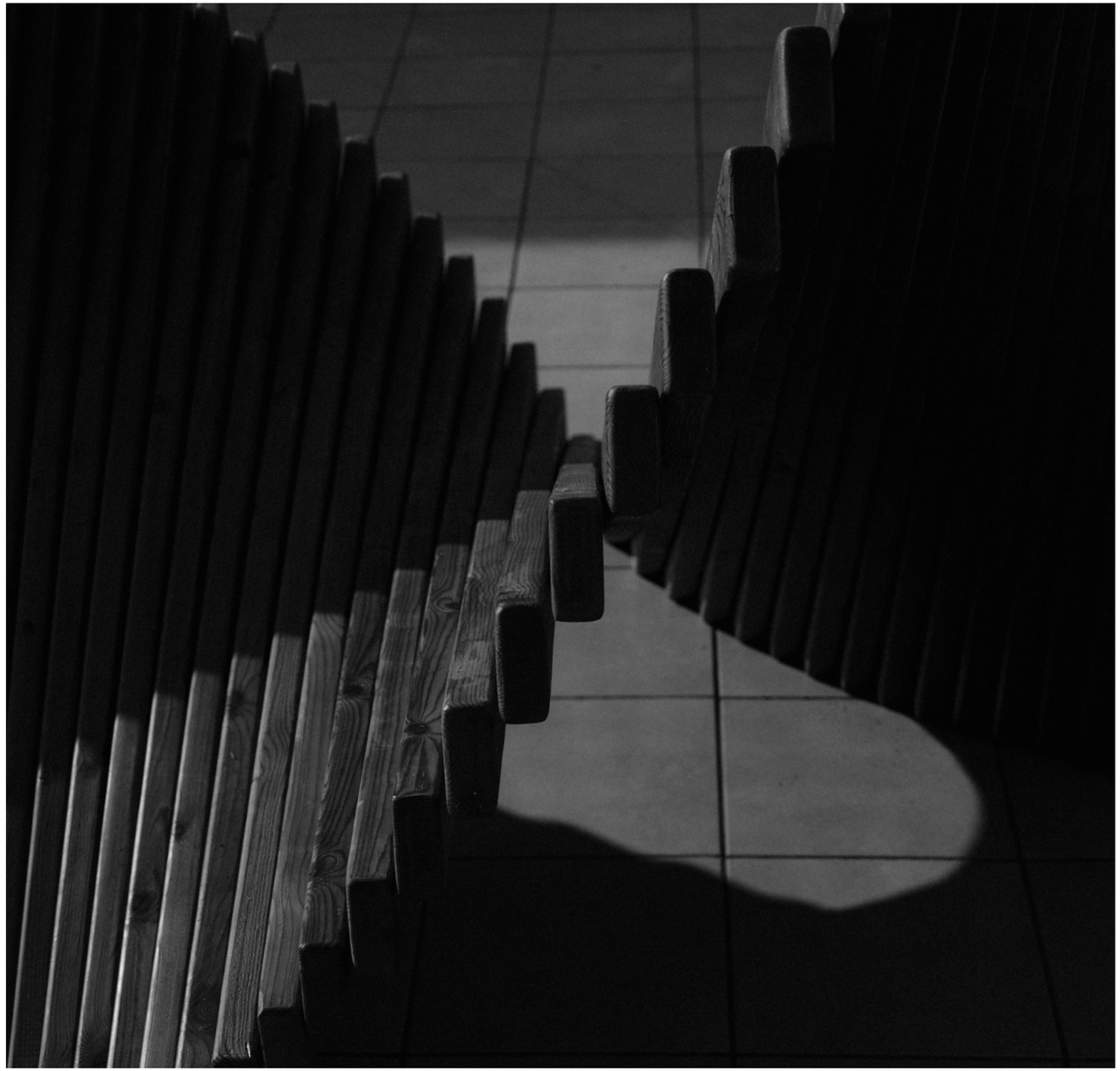
FABRICATION

REALIZATION

Installed at Colegi Mare de Déu dels Àngels Primary School, Liana transforms the playground into an imaginative and dynamic space. This nature-inspired structure redefines how children engage with their environment, fostering movement, creativity, and new ways of play.