

2022 SECOND PRIZE

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LYCEUM

A traveling fellowship in Architecture

Lyceum Fellowship 2022

LF-9954

Monolith

a connection between the earth and sky



Monolith Concept + Statement

Since the early neolithic period around 8000 BC humans have recorded their connection to the cosmos and the past. The relationship can be seen in monolithic primitive rock formations throughout Europe - a huge mass erected within a natural context. The most basic form of monolithic architecture is a rock-cut building; this is in direct connection to the cave and what is below the site.

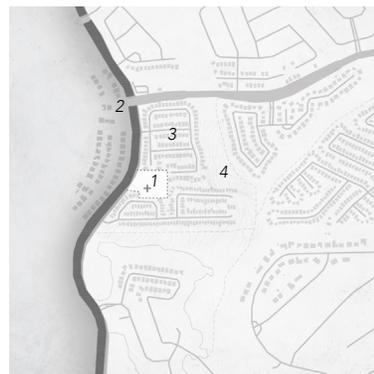


The proposal calls for the required accommodation to be split into separate parts and scattered throughout the Friesenhahn Cave Site. The monoliths are all oriented with viewpoints facing the Cave entrance, creating a mysterious visual connection toward the forest.

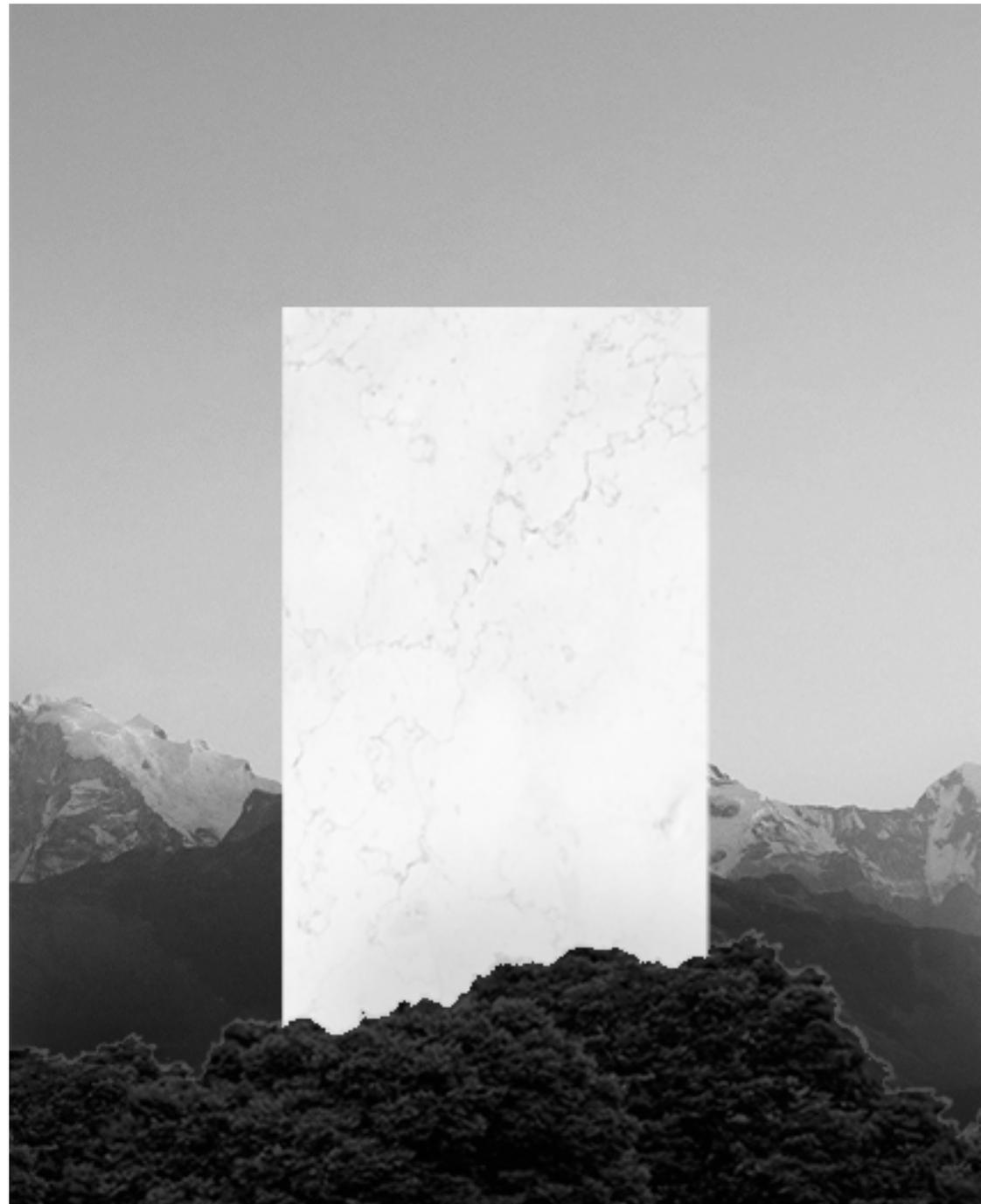
The buildings are surrounded by movable metal sandwich panels that move automatically throughout the day. This feature allows the interior to be concealed and viewable, therefore being able to make itself a monolithic structure at will. All of these monolithic structures will be connected by various stone/gravel foot

paths grounding the occupants with the monoliths. The cave is a sinkhole formed in the region's karst topography. The only entrance, as documented since the earliest twentieth-century explorations, is a vertical twenty-eight-foot shaft. The floor of the cave is relatively flat, measuring thirty by sixty feet, with a seven-foot ceiling. Due to the wealth of bones and fossils discovered at the site.

LEED Certified
Platinum Certification
Score: 93/110

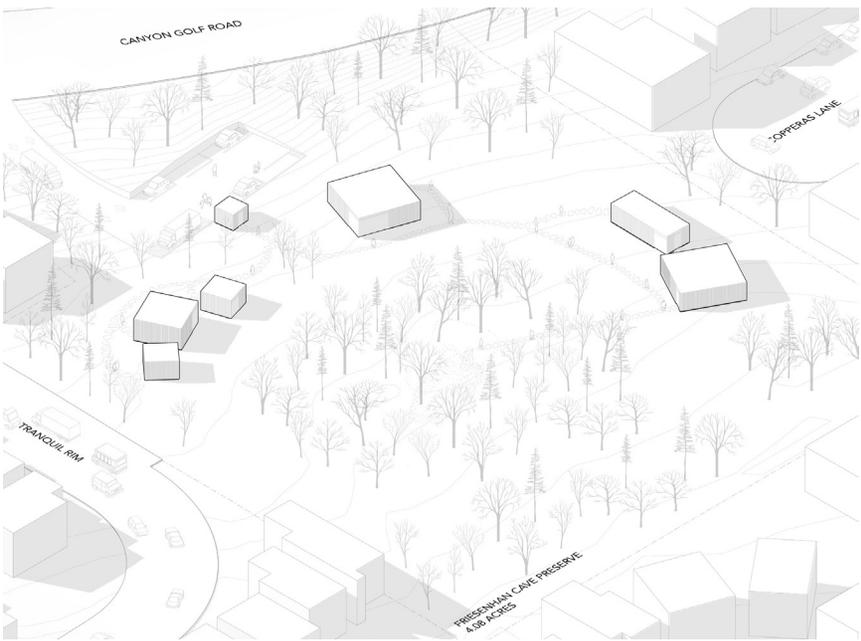


- Site Location 1
- Main Road 2
- Residential Area 3
- Topography 4
- Site Boundary --



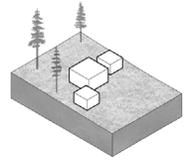


Monolith - Site Axonometric + Form Diagram

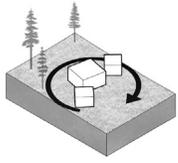


Throughout the project there are goals set in order to create a complete comprehensive design: Separate the project programs across the site in predetermined locations based on program. Respect the cave boundaries and limit breaking the edge condition. Connect the programs with

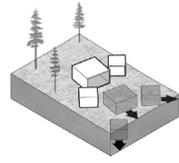
stone/gravel paths keeping site change minimum. Use tall engraved stone as way finding devices throughout the Site to lead visitors. Create sight lines and face all buildings toward the cave entrance creating a mysterious connection to the cave.



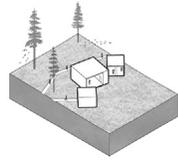
Place
the programs on site with the correct square footages.



Rotate
structures in order to create views toward the cave entrance.

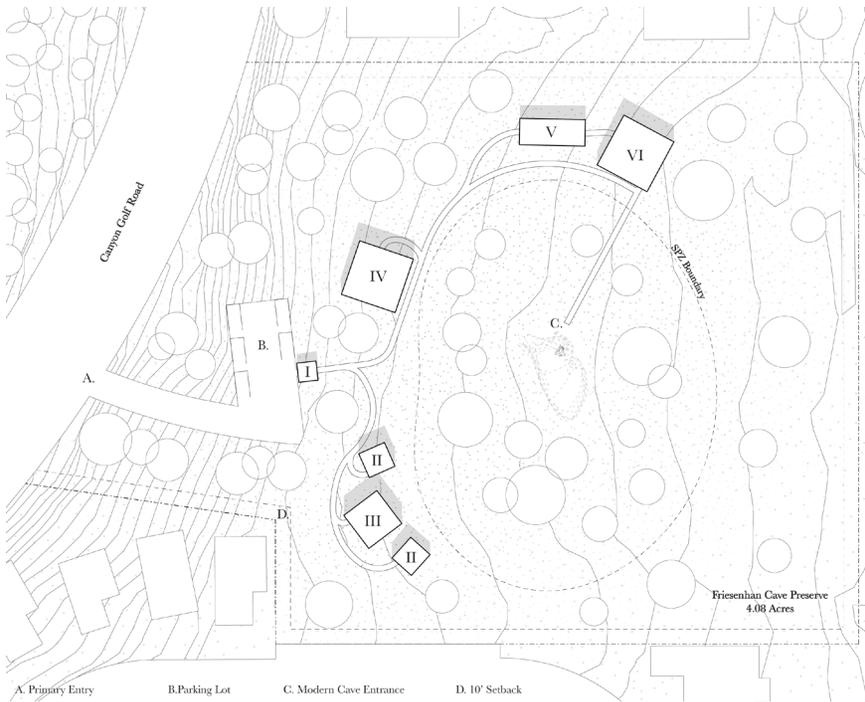


Carve
from the building envelope to create interior space.



Connect
the various buildings with stone paths to encourage mobility.

Monolith - Site Plan

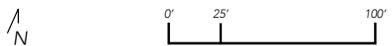


A. Primary Entry
B. Parking Lot
C. Modern Cave Entrance
D. 10' Setback

- I Visitors Center
 - II Residency
 - III Kitchen + Living Area
 - IV Classroom + Support
 - V Laboratory
 - VI Archive + Library
-
- A Primary Entry
 - B Parking Lot
 - C Modern Cave Entrance
 - D 10' Setback

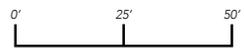
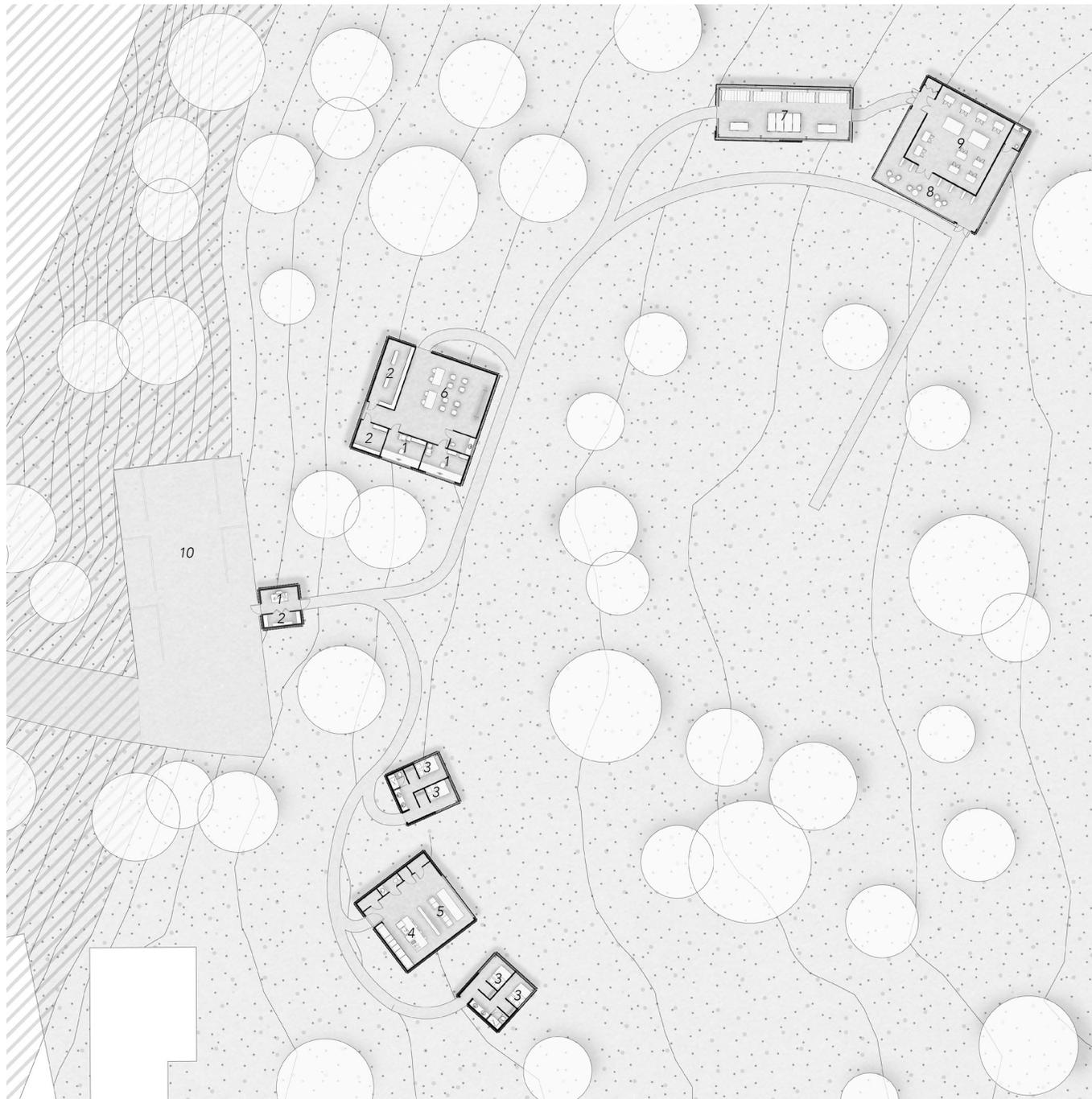
When designing in a densely wooded area it is important to consider what to do with the redeveloped grass, plants and land being used. Each building on site will be taking the land underneath and placing it on the roof of the structure, this include the native indigenous plants as well. This is an extensive green roof suitable for less demanding plants (low maintenance).

- Locate Land
- Excavate
- Construction
- Replace Land [green roof]



Monolith - Floor Plans

- Office Space 1
- Storage 2
- Bedroom 3
- Kitchen 4
- Living Room 5
- Classroom/Lecture Space 6
- Laboratory 7
- Library/Research 8
- Archive 9
- Parking Lot 10



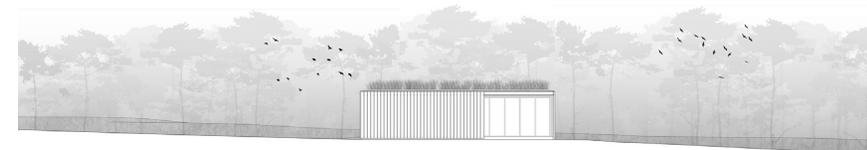
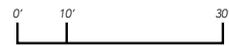
▲ Maintaining a pure, natural environment effecting site as little as possible.

Monolith - Render + Elevations



Construct the building according to its specific design and place it in the excavated land in its designated location. The structure should sit in the land at the depth of land for its foundation.

To finish the construction; after all appropriate layers of the and barriers are placed and secured on the roof then the preserved land will be replaced on the roof of the building. Both roof vegetation and soil increase roof insulation, reducing ambient air temperatures and building energy consumption. This will also benefit retain rainfall, protect roofing membranes, reduce noise, and filter pollutants.



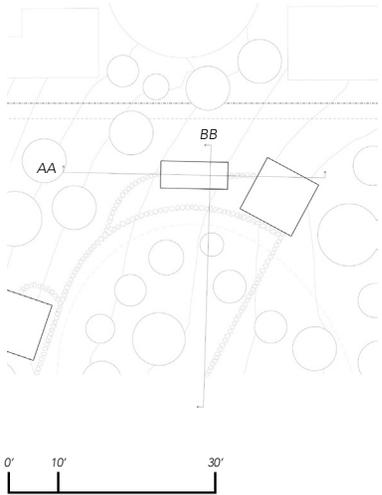
Elevation AA



Elevation BB

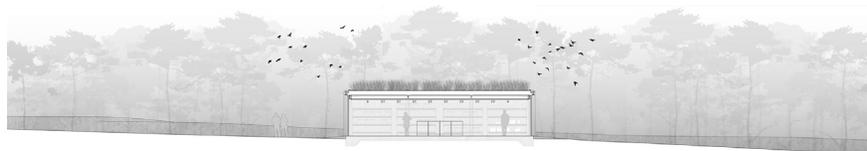


Monolith - Render + Sections

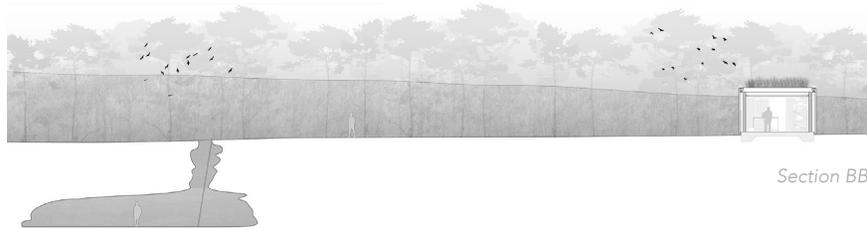


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Select the location of land on site making the choice based on program and the best possible location on site. Dig up the earth on the site location, preserving the quality and store it for future use on the green roof.



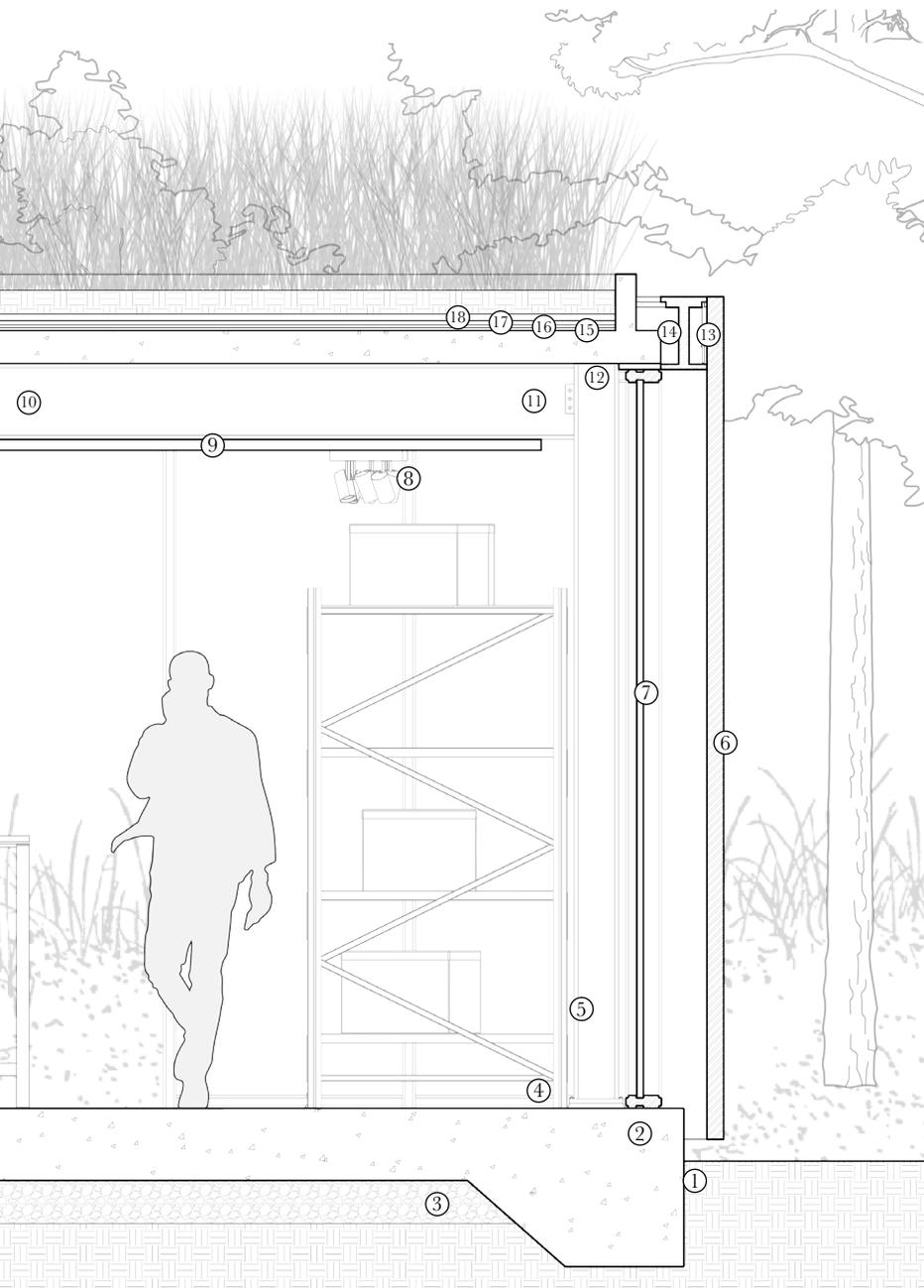
Section AA



Section BB



Monolith - Wall Detail + Exploded Axonometric



The green roof will support the indigenous/ local plants found on site green protection layer for roofs with little load-bearing capacity. Shallow soil suitable for less demanding plants

The panels are on a wheel track connected to the steel frame structure. These movable panels will surround the building and block and allow light to enter the building to an extent. These also create a monolithic effect on the building when closed completely

The full design is meant to show a monolithic effect when the metal sandwich panels are fully closed still allowing light in but in slivers. The green roof on top gives an anonymous feeling as if the structure rose out of the ground giving some mystery to the concept.

- 1 Earth
- 2 Concrete
- 3 Gravel
- 4 Anchor Bolts
- 5 Steel Columns
- 6 Steel Sandwich Panel
- 7 Glass
- 8 Light Fixture
- 9 Gypsum Board
- 10 Steel Beam
- 11 Steel Joint
- 12 Mullion
- 13 Panel Roller
- 14 Steel Support Beam
- 15 Impermeable Liner
- 16 Filter Layer
- 17 Root Barrier
- 18 Water Retention Layer

