SELECTED WORKS

alejandra novelo

CONTENTS

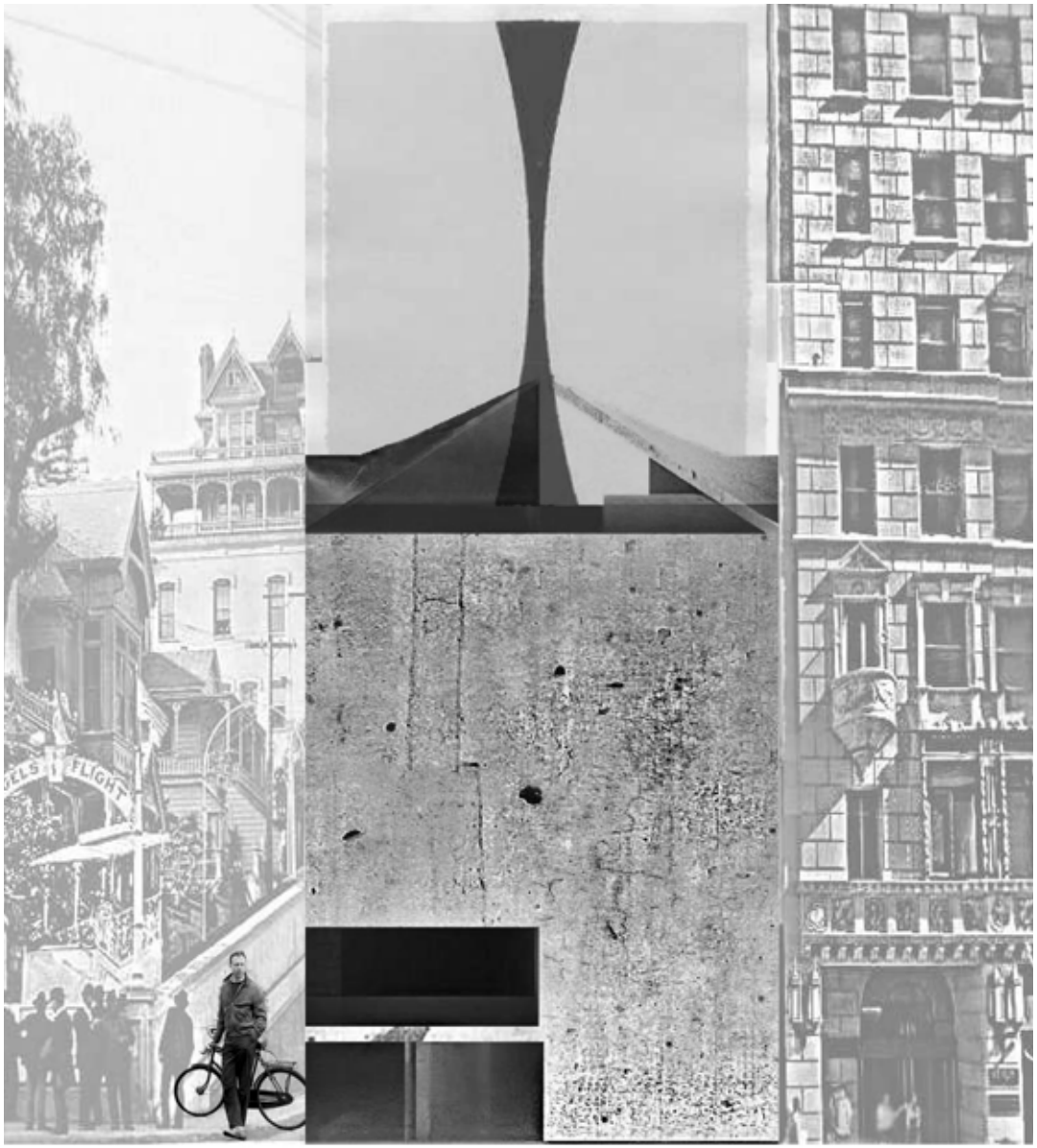
museum of contemporary art
los angeles, california

marine mammal rehabilitation center
huntington beach ,california

scientist's retreat, mount wilson
observatory

multistory housing
west hollywood, california

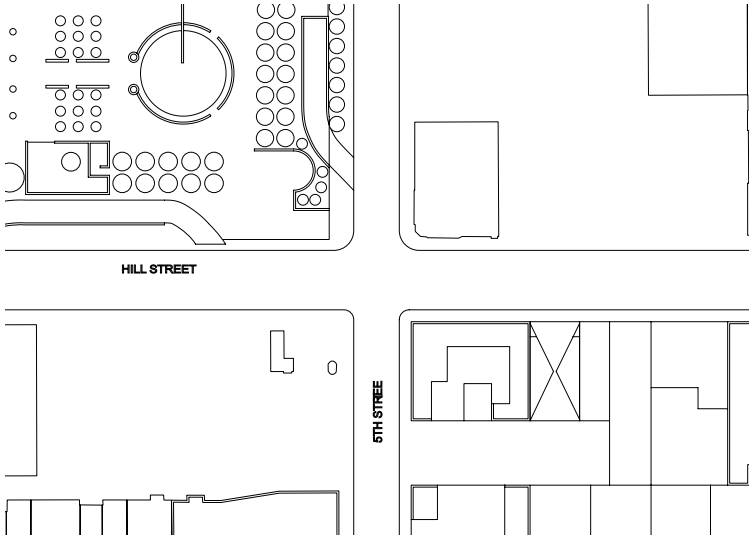
sustainable practice studies

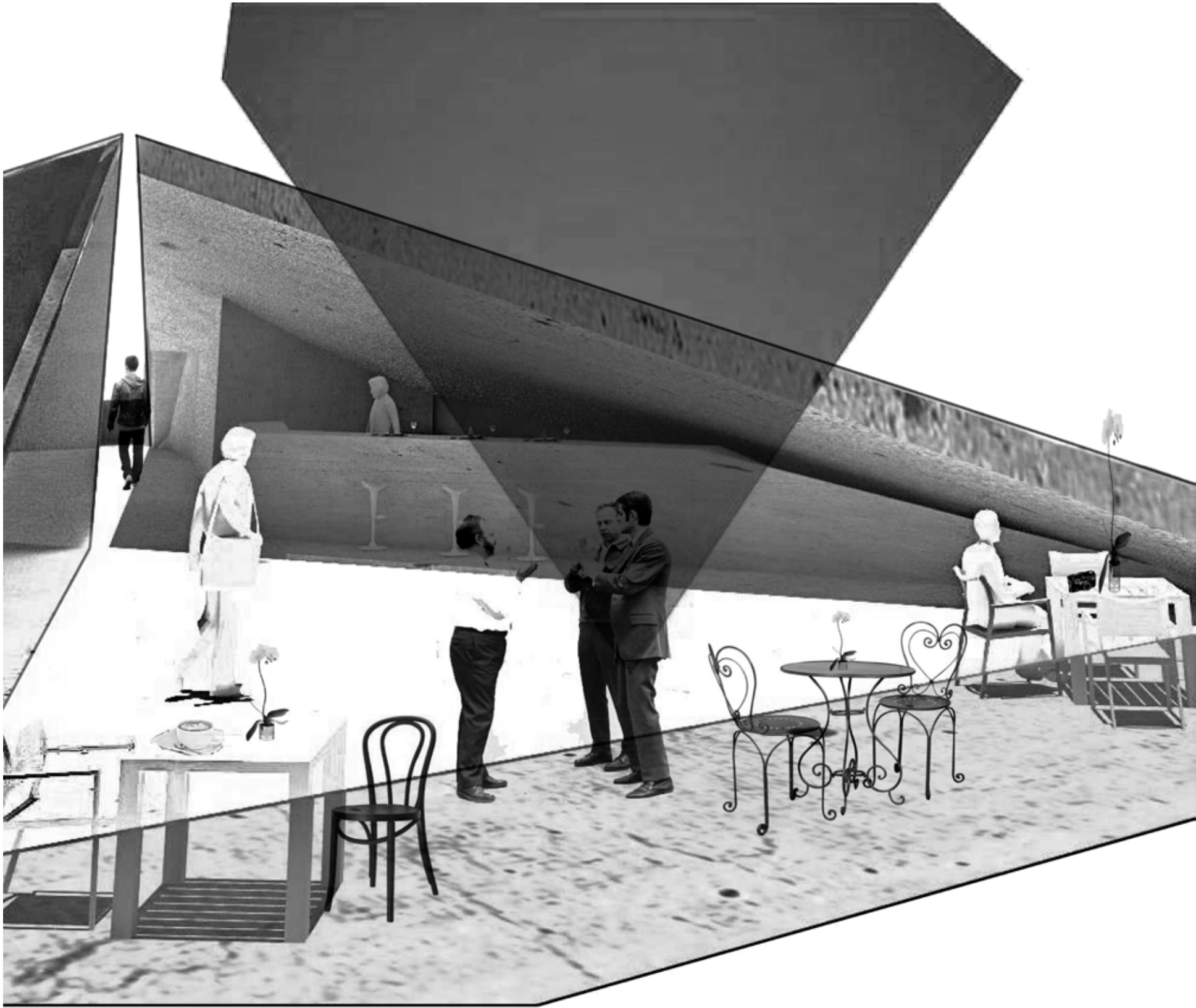


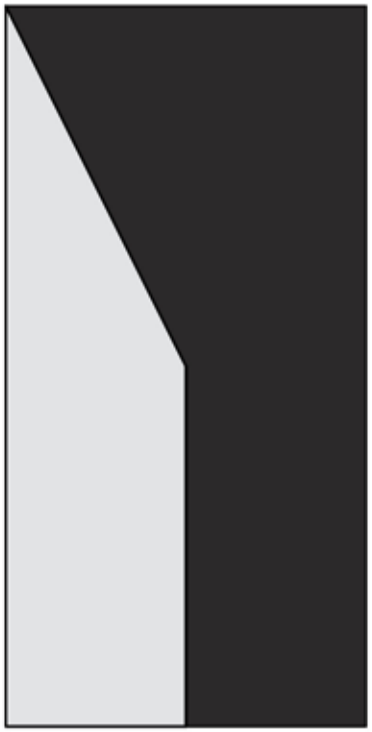
MUSEUM OF CONTEMPORARY ART, LOS ANGELES

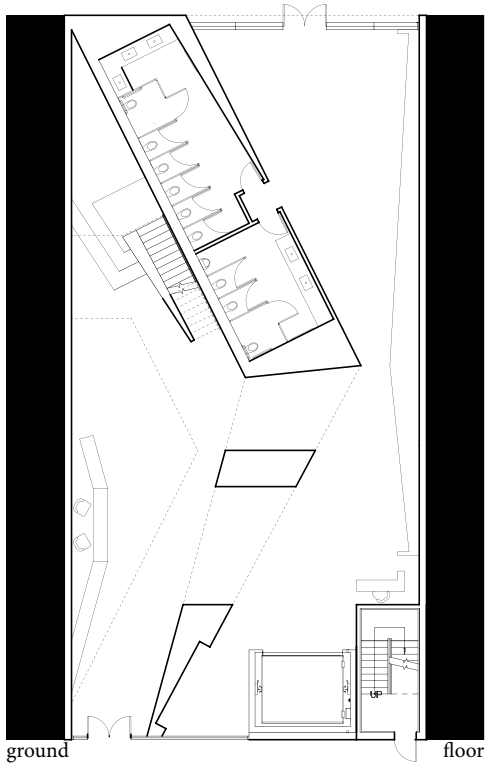
surrounded around the best skyline of california, the museum of contemporary art at 444 south hill street is located at the heart of downtown los angeles. nearby one can find neighborhoods composed by bunker hill located at the north, south park located at the west, fashion district located at the south, and skid row and the arts district located at the east side.

a museum designed in memory of american painter, sculptor and printmaker ellsworth kelly, starts developing behind the inspiration of his minimalist oil on canvas paintings. by absorbing his main ideas behind his theoretical "shaped canvases", carefully considering how geometry and color interact with each other, three new possible relationships "canvas-like- were created. each canvas plays with the mystery of configuration and depth of field. each canvas starts with a rectangle as the acting solid boundary which is later on introduced back into the geometry. this new geometry then meets on one edge of the rectangle, each time in a new configuration. generating then two new pieces of geometry that either gently touch each other or are divided completely. this three new configurations are then introduced to color. only two colors are utilized in each configuration, one primary and one secondary color, thus giving the configuration a depth of field. this three new canvases where then re-interpreted as floor plans, which eventually developed a building, and thus a museum inspired by such master.

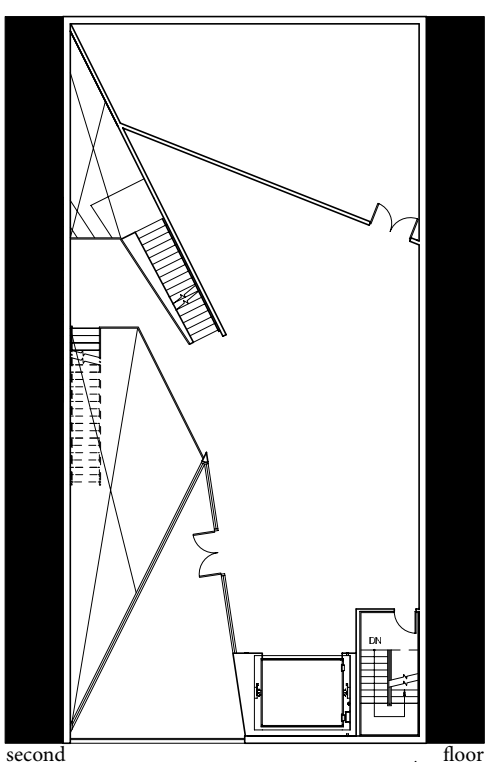




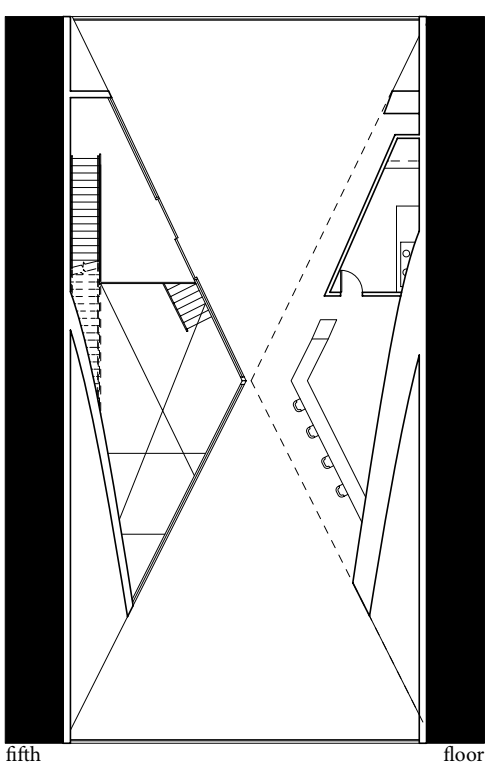




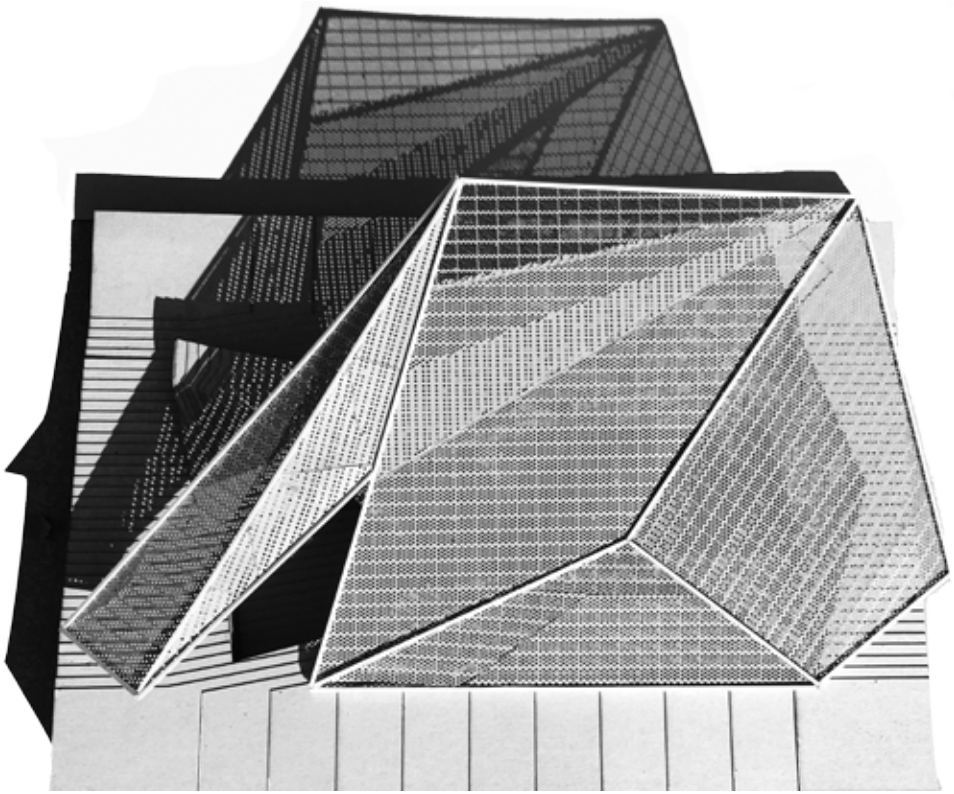
ground floor



second floor



fifth floor



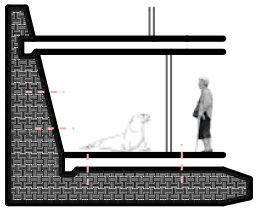
MARINE MAMMAL REHABILITATION CENTER

developed in the bolsa chica wetlands in huntington beach california, the design for the care of sick and injured marine mammals that are stranded along the orange county coastline allows for a reconciliation between human activity and the healing mammals.

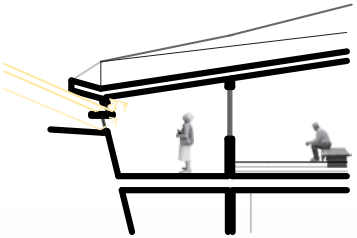
By carefully considering sustainable disciplines, the building is initially oriented to allow natural air flow throughout the entire building site. The building is shaded at a specific amount depending on the programming's need. By utilizing three types of perforated panels, dimensioning four feet by six and a half feet, the panel's perforations vary from fifty percent to eighty-five percent, creating then a shading structure with specific amount of shade one would want depending on the intensity of the sun rays at different times of the day.

The design also maximizes the amount of natural light to enter the interior of the structure, mainly coming from the south and east. The radiation of the sun rays coming from the south bounces up and it's released through the clerestory windows, keeping the building naturally lit. Mammal primary care facilities are surrounded by thermal mas ground that acts an insulator maintaining it a comfortable temperature for the user. The design also allows for natural rain water to enter the site, rain water is then captured and fills the reservoir before taking its natural route off the site. By taking into account previous sustainable studies like cut and fill plus the strategies mentioned before, the design then can be considerate as being regenerative because its practices create a positive impact to the surrounding environment.

south east visitor entrance

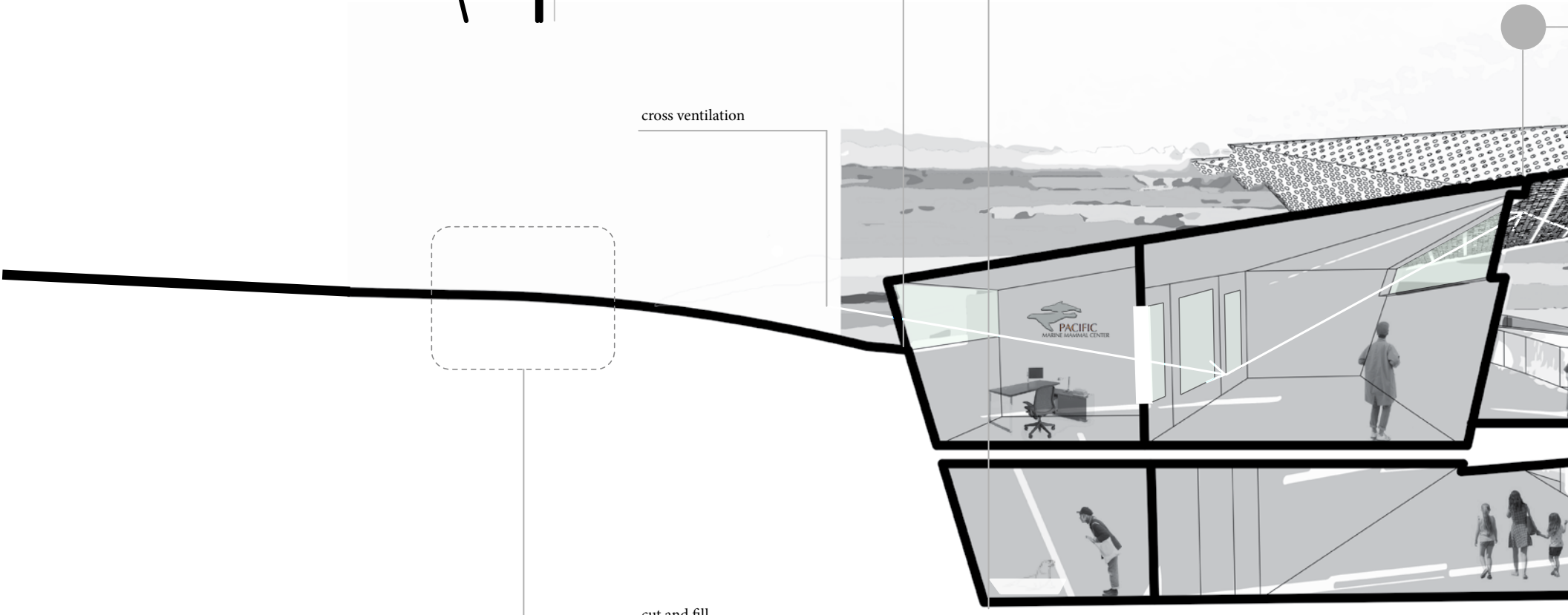


thermal mass

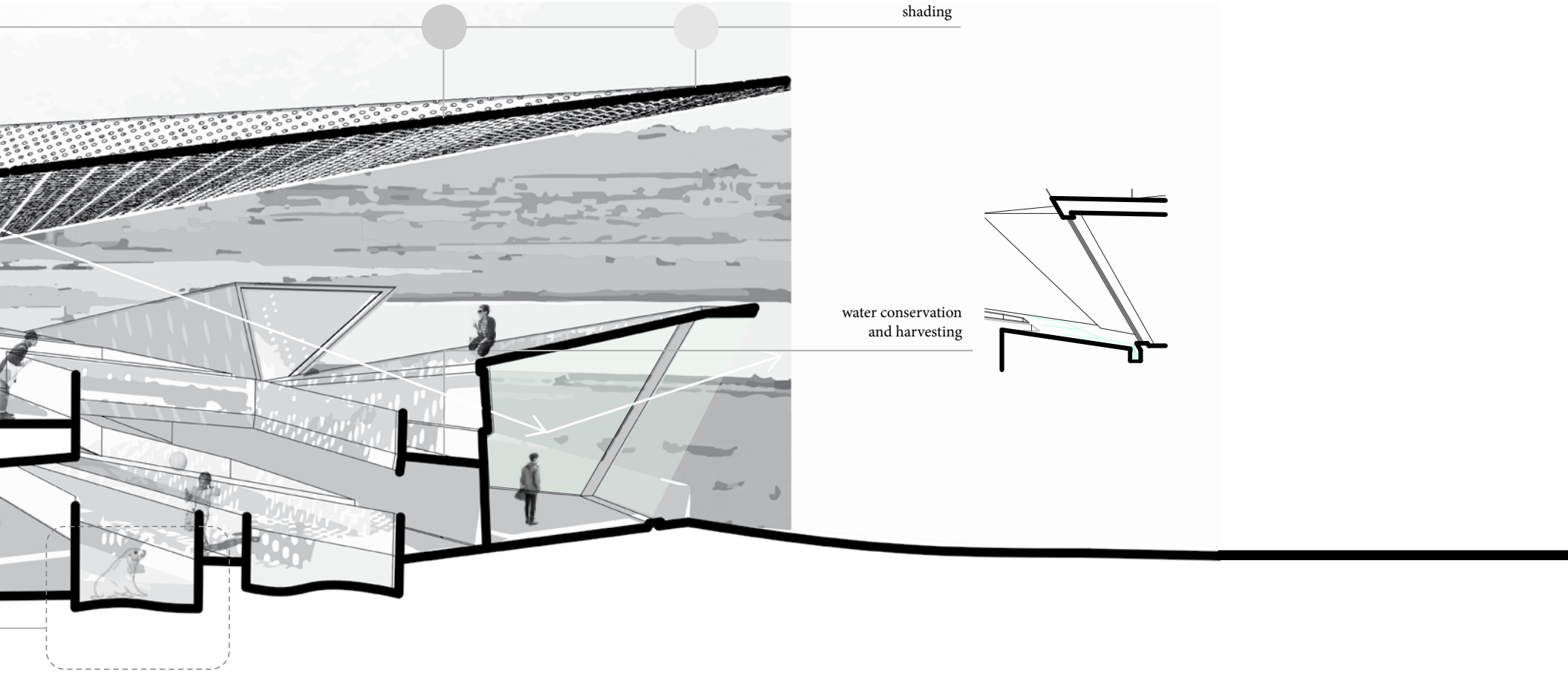


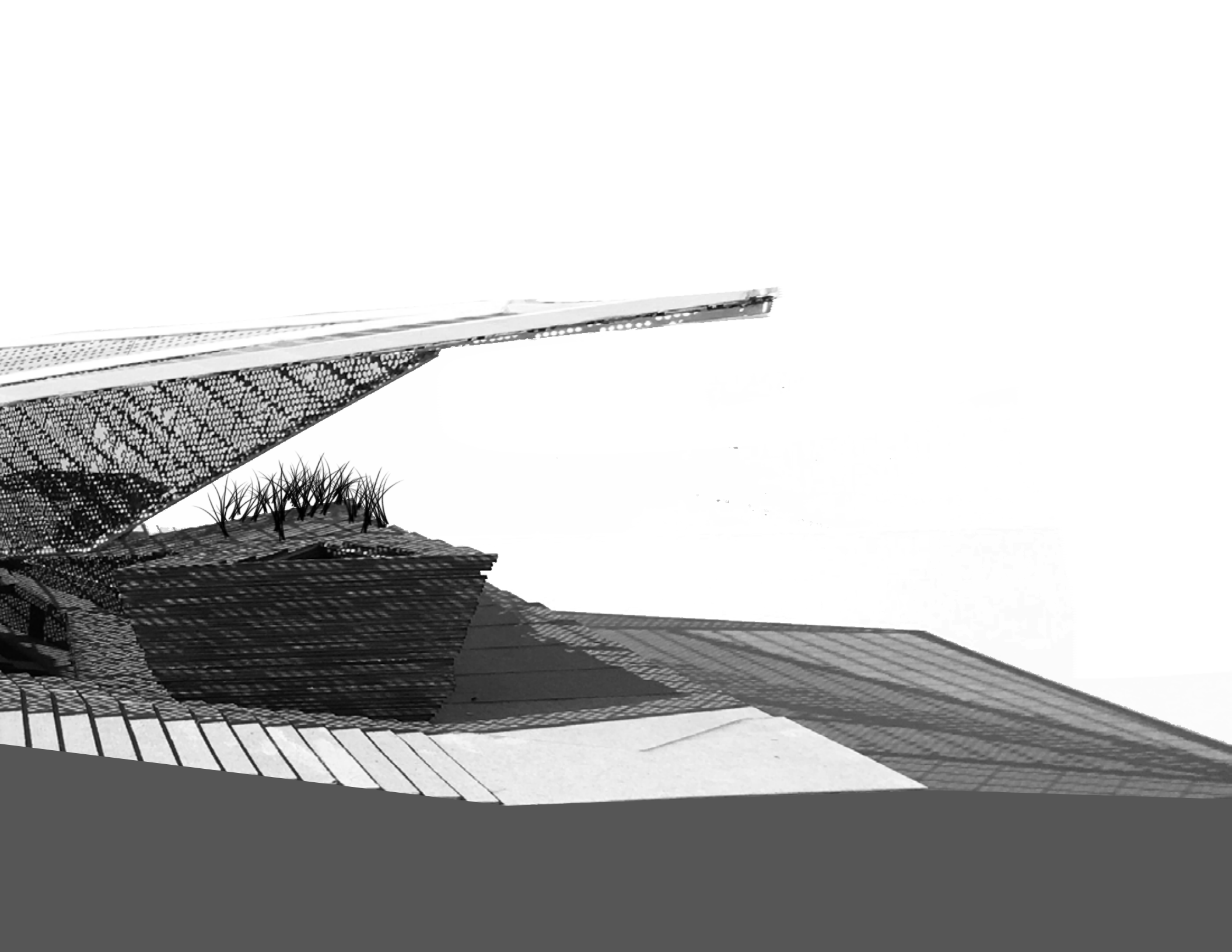
natural day light

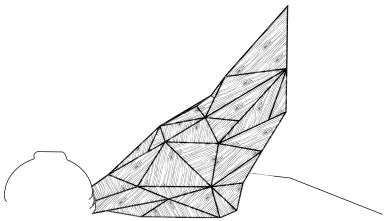
cross ventilation



cut and fill


shading
water conservation
and harvesting



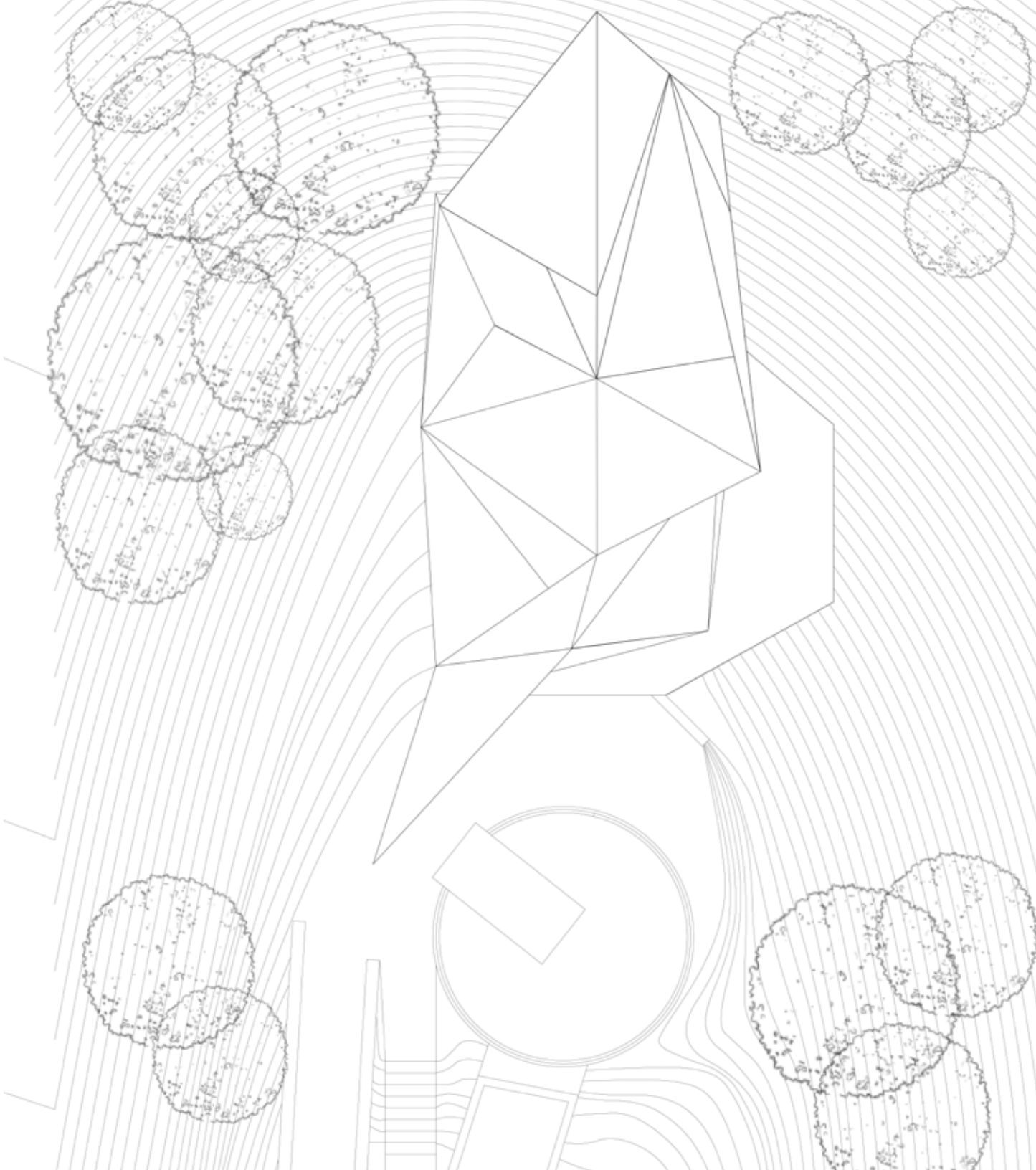


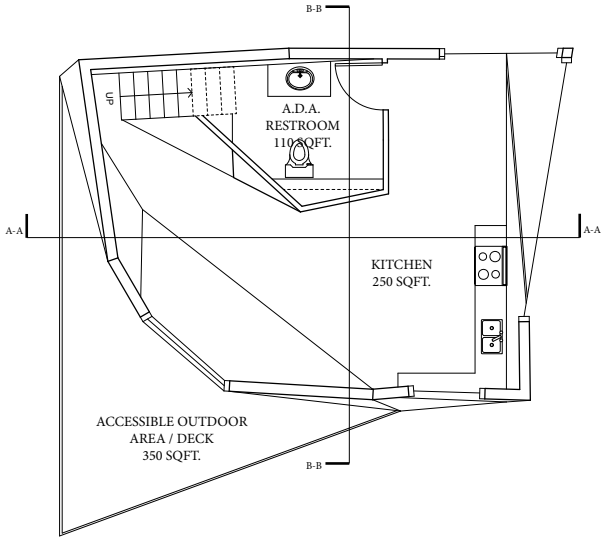
SCIENTIST'S RETREAT, MOUNT WILSON OBSERVATORY

the design project's topic is a scientist's retreat located on a ridge below the mount wilson observatory with steep slopes on either. the facility is used mostly by astronomers, but it will also entertain users interested in astronomy and occasionally to serve hikers. the site is on land that has been leases form the angeles national forest, therefore, it is crucial to promote environmental conservation. thus, any new design, construction, and maintenance must be designed to not impact the natural environment.

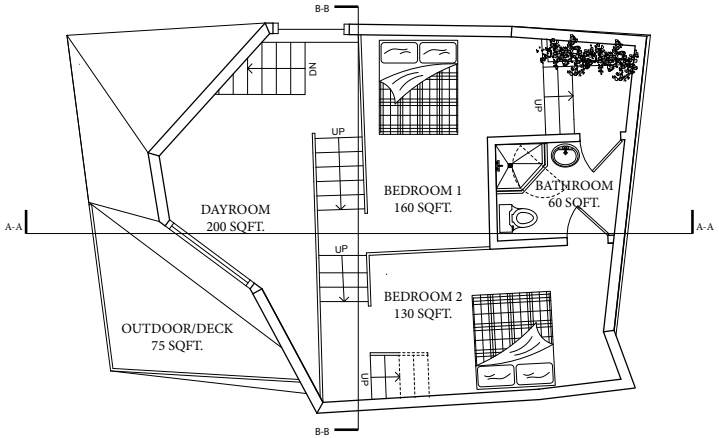
therefore, the design intention behind this project initially developed from environmental strategies. within the passive strategies we find natural daylighting and sustainable construction. within the active strategies we find the collection of water through two cisterns (600 gallons each) located at the east and west sides of the building, around 25 photovoltaic panels installed on site, and a septic tank was to be installed underground. all these to promote conservation and sustainability considering the current conditions that mount wilson is currently undergoing.

subsequently, and as noted through a 'climate analysis' study (energy design tool), the site conditions are mostly cold, the main passive strategies to achieve, then, are: minimizing conduction loss, minimizing infiltration, maximizing heat gain and preventing heat from being lost. by utilizing energy modeling programs like 'heed' the design was able to develop a net-zero-energy status, meaning there would be no carbon footprint if the design was to be constructed, having then no harm to the environment. the design take its shape by inclining the building south at a thirty-five degree angle, allowing an uninterrupted view for the observatory's telescope behind it. as the design builds up, it directs the users into a focused specified view of the site depending on its location and program's purpose. at the very top floor we find a private studio office in which the astronomers can connect as closely as possible to the starts.

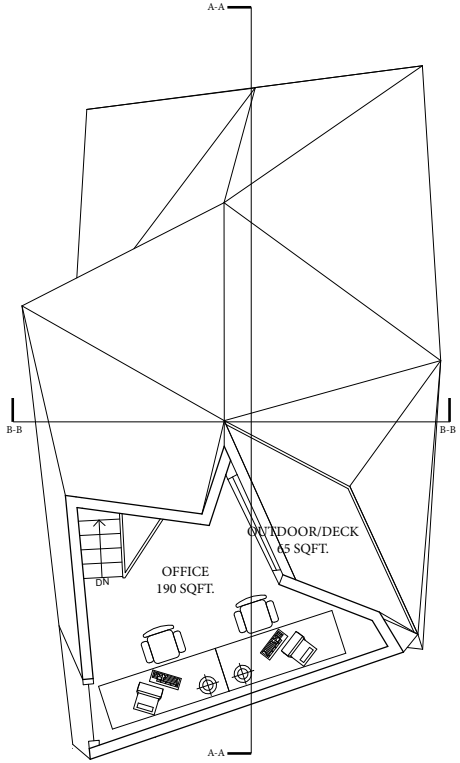




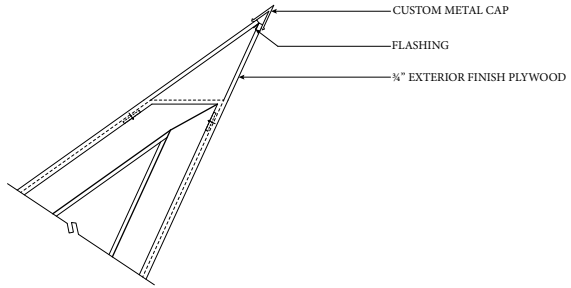
ground floor



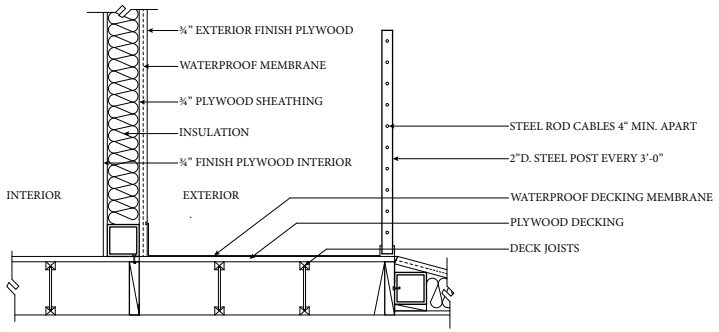
second and third floor



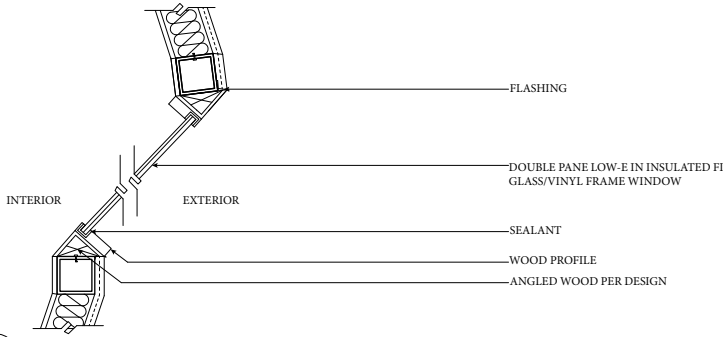
fourth floor



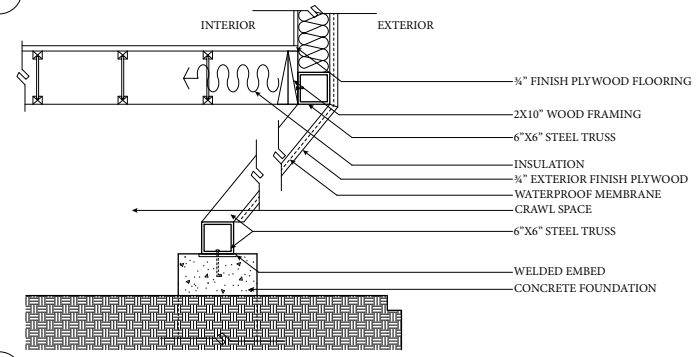
1 PEAK DETAIL



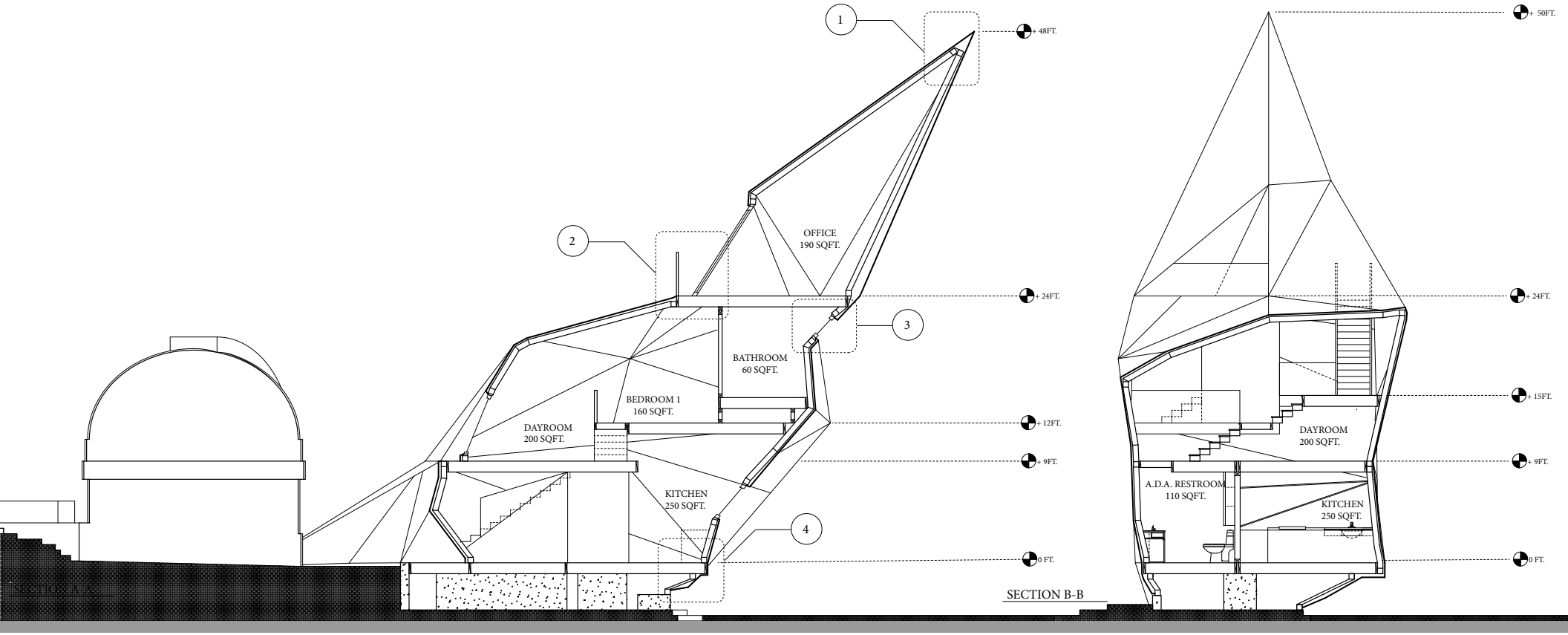
2 DECKING AND WALL DETAIL



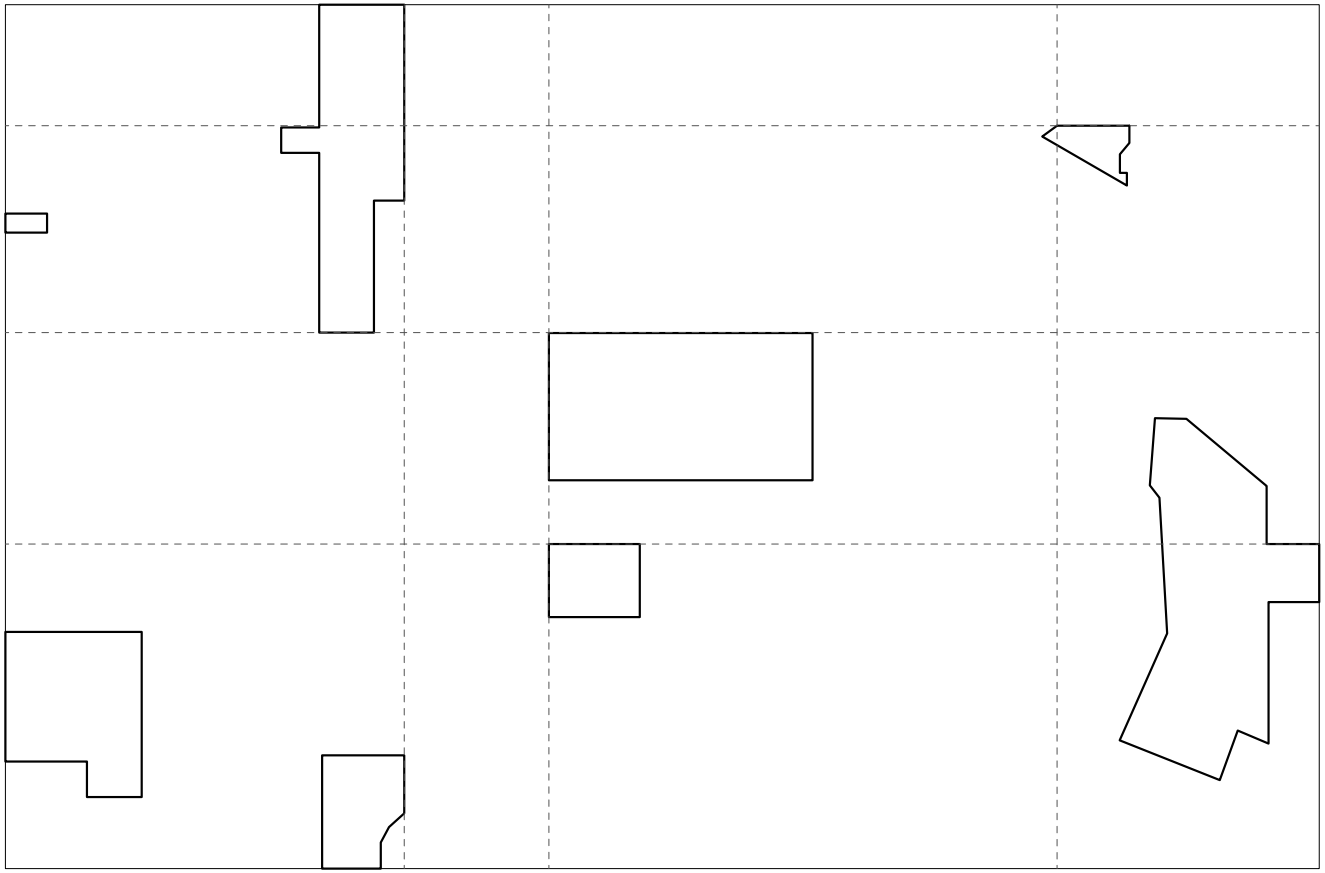
3 WINDOW FRAMING DETAIL



4 FOOTING AND FLOOR FRAMING DETAIL

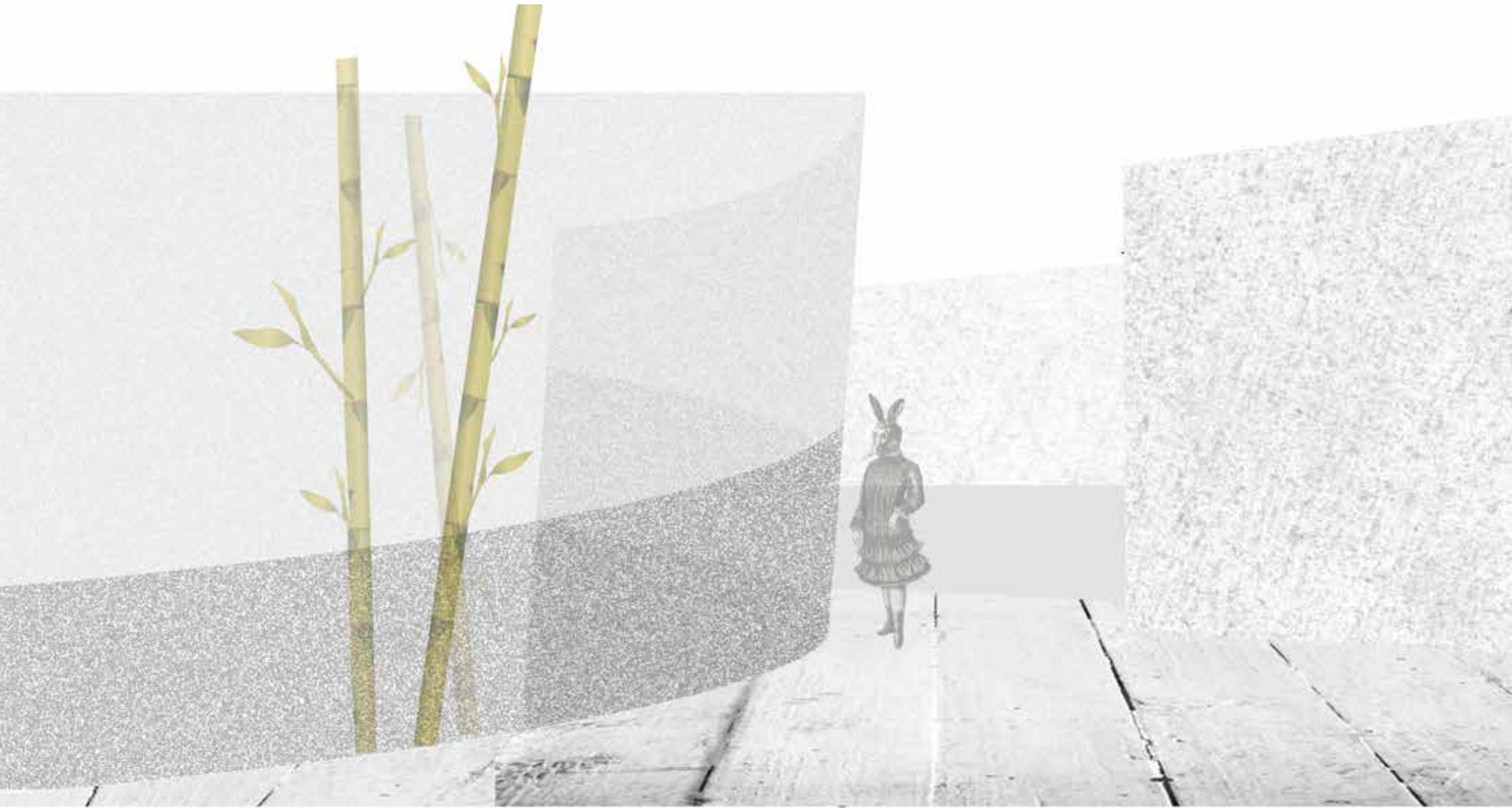

1
2
3
4
+ 48FT.
+ 24FT.
+ 12FT.
+ 9FT.
0 FT.
OFFICE
190 SQFT.
BATHROOM
60 SQFT.
BEDROOM 1
160 SQFT.
DAYROOM
200 SQFT.
KITCHEN
250 SQFT.
SECTION A-A
+ 50FT.
+ 24FT.
+ 15FT.
+ 9FT.
0 FT.
DAYROOM
200 SQFT.
A.D.A. RESTROOM
110 SQFT.
KITCHEN
250 SQFT.
SECTION B-B

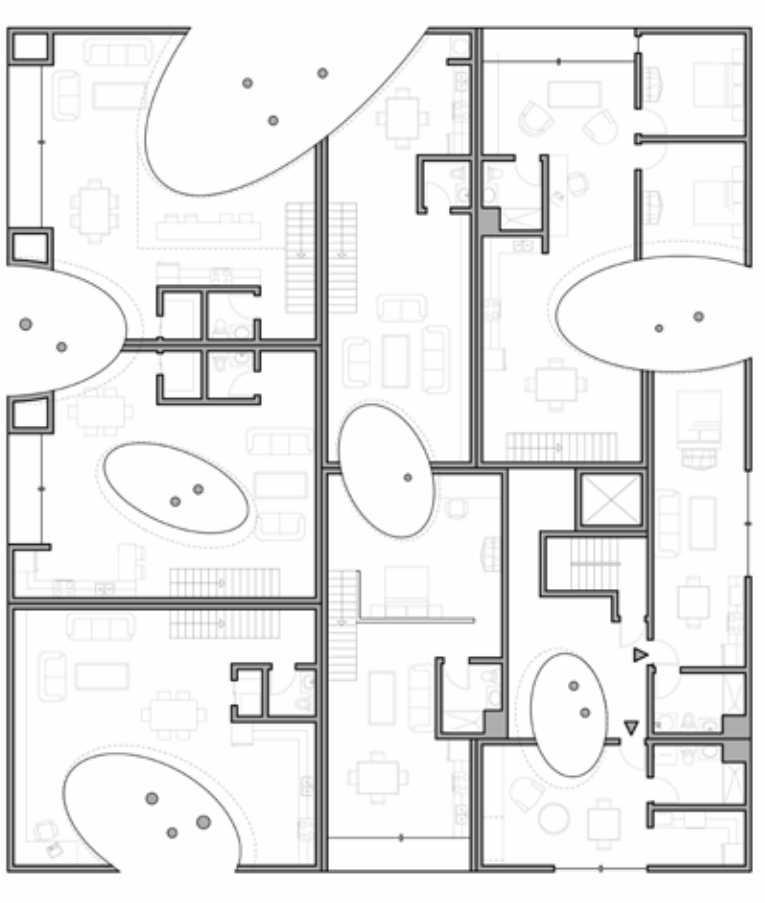
MULTISTORY HOUSING



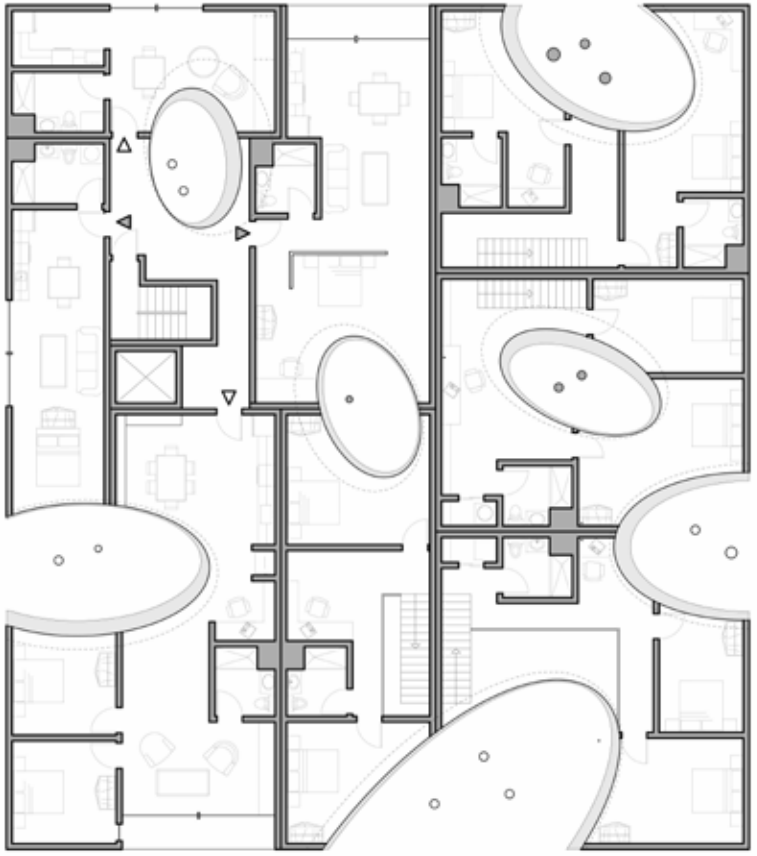
green spaces from west hollywood, california

by enclosing the few green spaces from west hollywood, california into a perimeter, the design throughout embraces men's relationship with nature. these perimeters, drawn as ellipses, funnel through the building all the way to the ground, following the sun path from east to west, thus maximizing the amount of natural daylighting for each unit. at the bottom of these funnels one finds planting that run parallel through the ellipses from underground parking to roof top. such strategy creates unique spatial experiences at every level that encourages the user to engage himself with nature. thereby having the building serve as this reminiscing experience with human and nature.

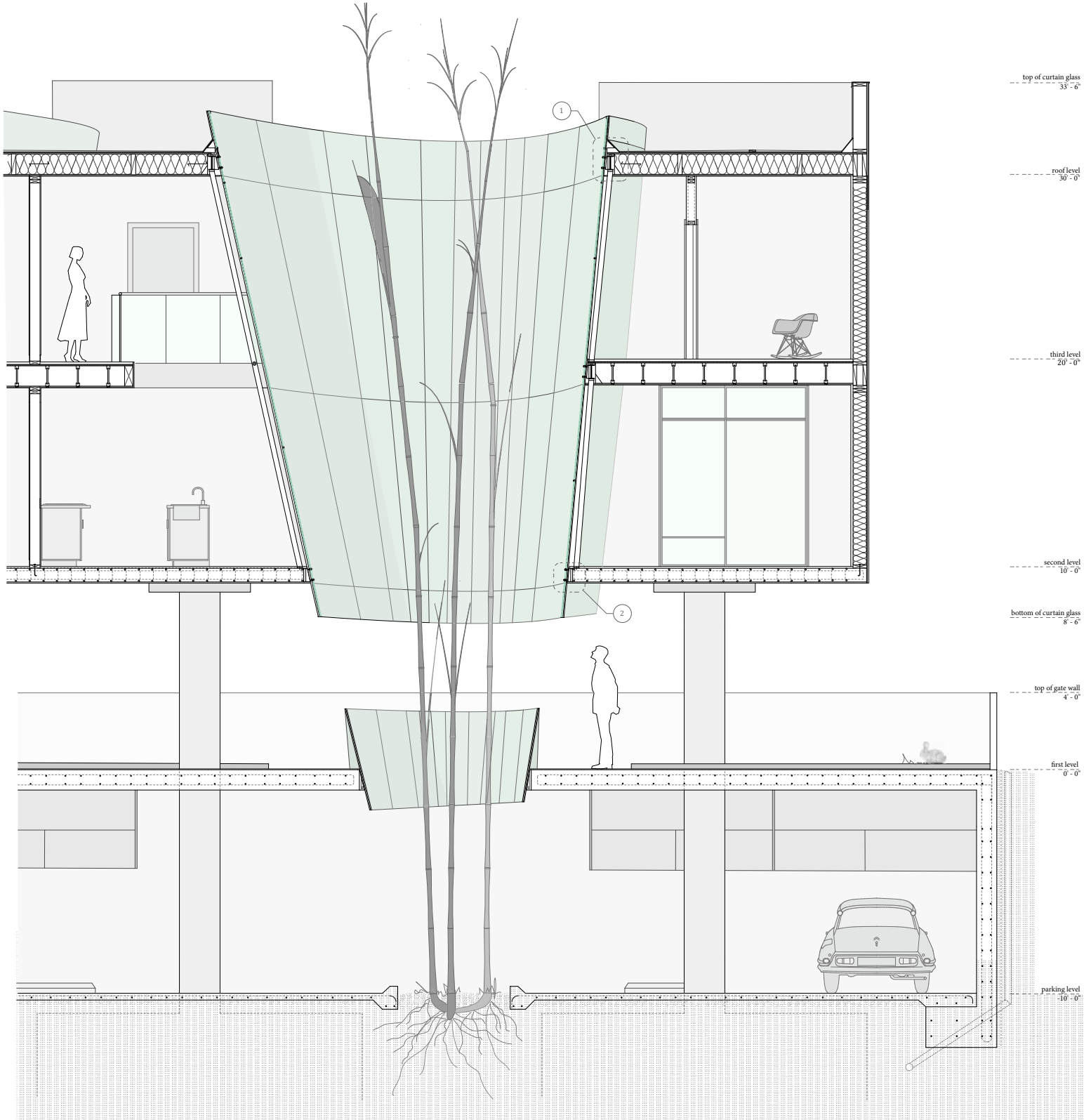


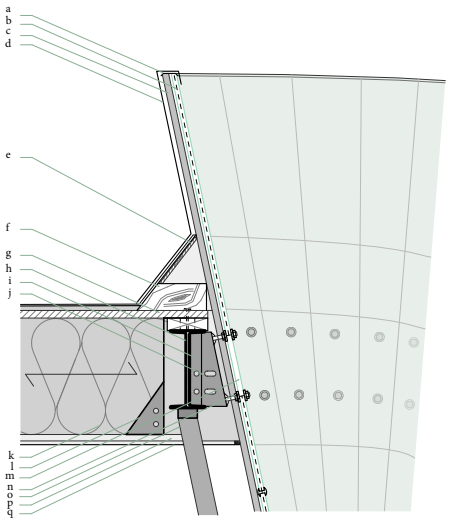


second floor housing



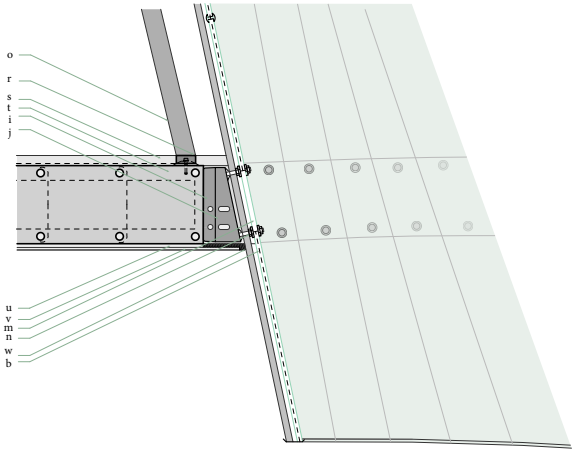
third floor housing


top of curtain glass
33' - 6"
roof level
30' - 0"
third level
20' - 0"
second level
10' - 0"
bottom of curtain glass
8' - 6"
top of gate wall
4' - 0"
first level
0' - 0"
parking level
-10' - 0"
1
2

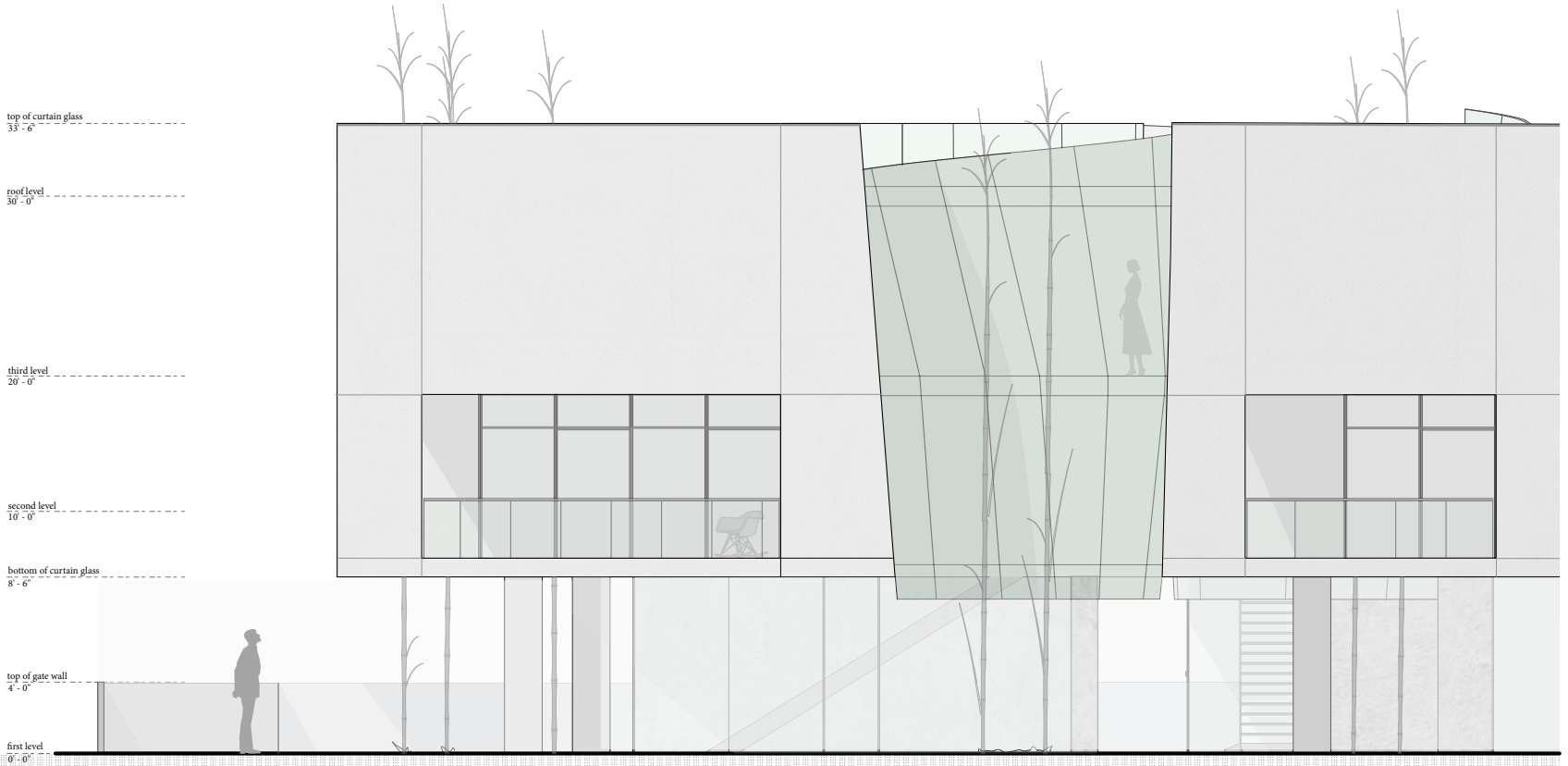


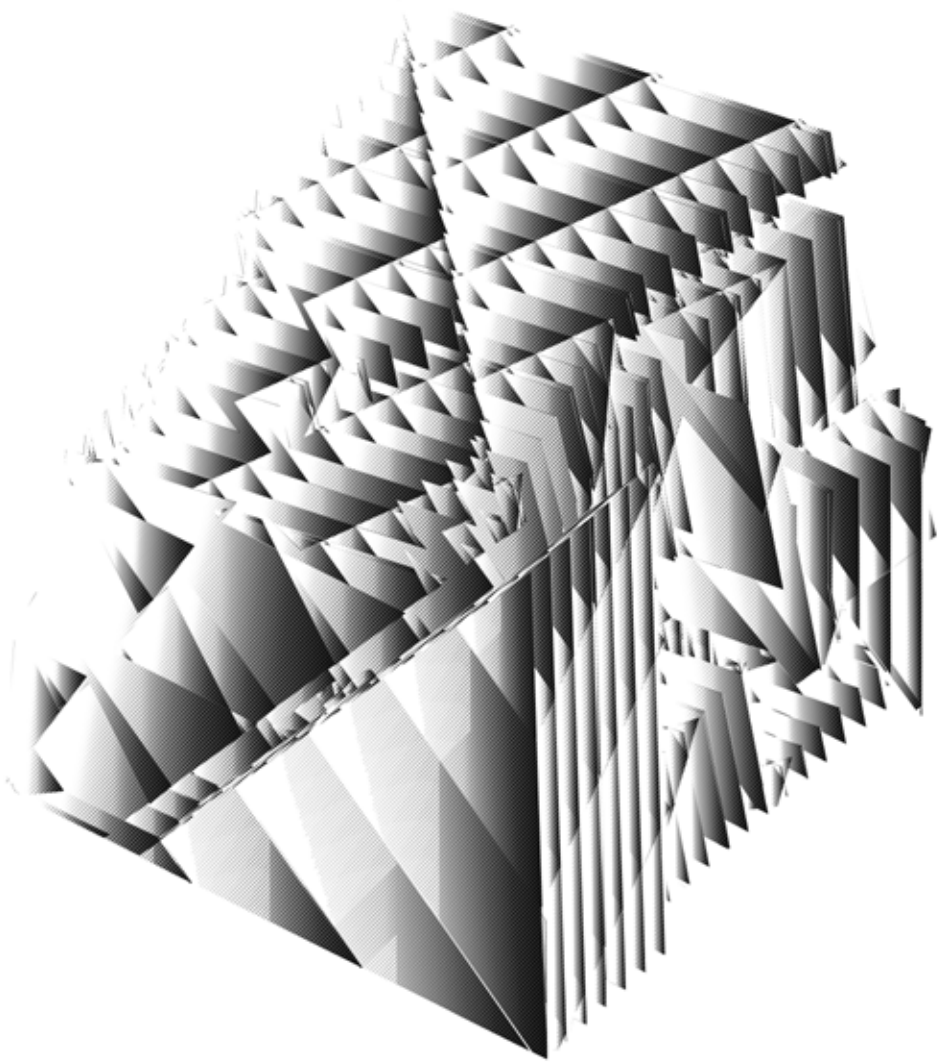
1

a - beveled terminus
b - double pane glass with intumescent cope
c - glass mullion
d - exterior grade self-adhesive wrap
e - backing support
f - cant strip
g - plywood sheathing
h - curved steel beam
i - steel plate
j - angled steel plate
k - batt insulation within tji roof joists
l - hanger
m - spandrel glass
n - neoprene rubber washer
o - pipe steel column
p - resilient channel spacing
q - gypsum board
r - steel pipe connection
s- light-weight concrete
t - concrete slab
u - rigid insulation
v- exterior plaster finish
w- sealant



2





GRADING STUDY

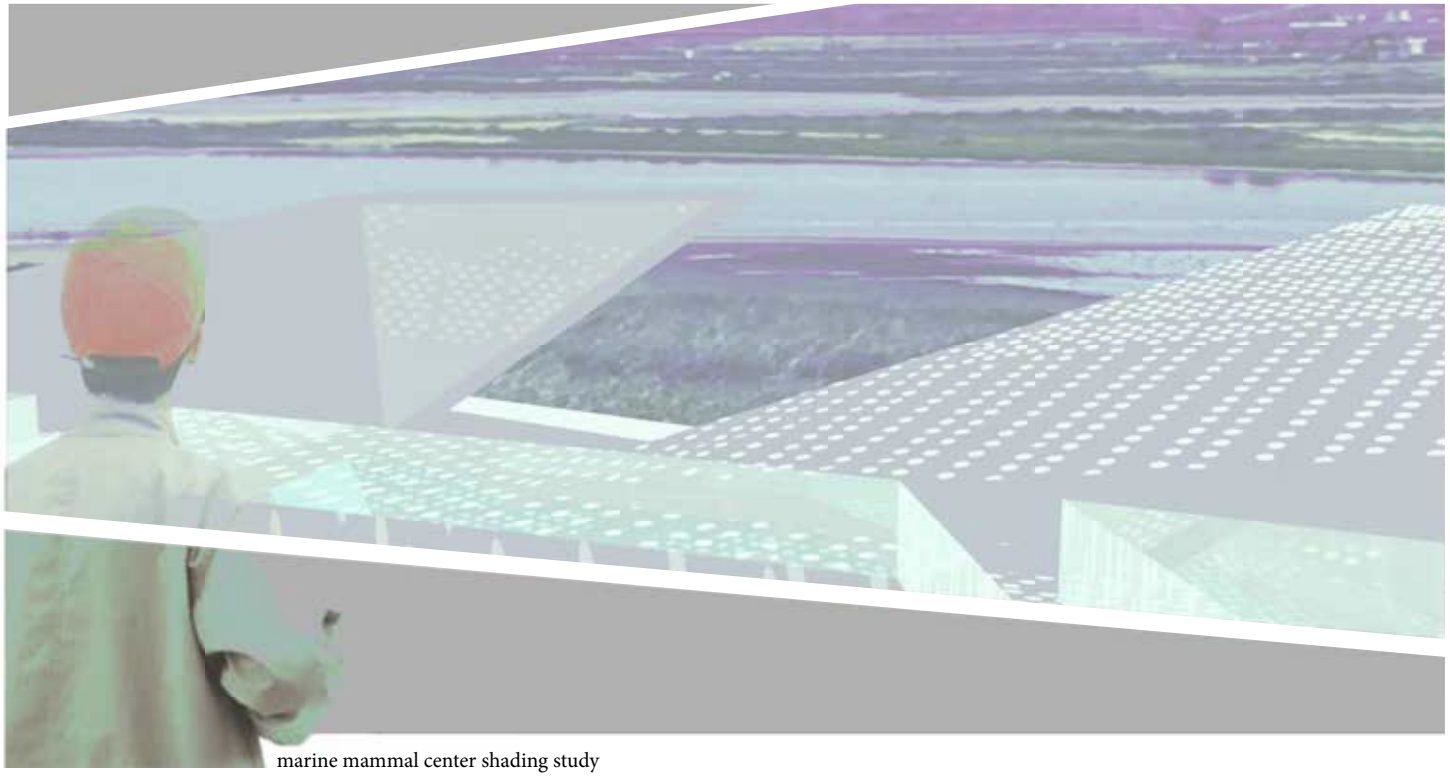
a grading study is approached by forgiving and relocating the territory/land being claimed. through the proper practice of adding and subtracting, one will dig out land and reposition it somewhere else following certain datum or patterns in the landfill itself, therefore forming new spaces with different spatial experiences at different levels, and still maintaining sustainable and regenerative practices.

CONSTRUCTING STUDY

by developing a field of drafted applications in two dimensions, x and y plane, one generates a graphic sensibility embedded into a gridded field of two dimensional spaces that were produced by a tartan grid and one hundred and thirty quadrants. one then transforms this two dimensional figures into three dimensional voids capable of holding water. while taking into consideration sustainable disciplines like cut and fill, one is able to carefully grade a site while still conserving the natural balancing of earth itself.

materials: cardboard. glycerin.

SHADING STUDY



marine mammal center shading study

after a construction and a sustainable grading study has been done, one now gives orientation to the site and provides specific shade for each of the spaces created; in this project case, three bodies of water created. by utilizing three types of perforated panels, dimensioning four feet by six and a half feet. the then perforations varied from fifty percent to eighty-five percent, one is able to develop a shading structure with several layers of this perforated panels, thus creating the specific amount of shade one would want depending on the intensity of the sun rays and the land site's location.