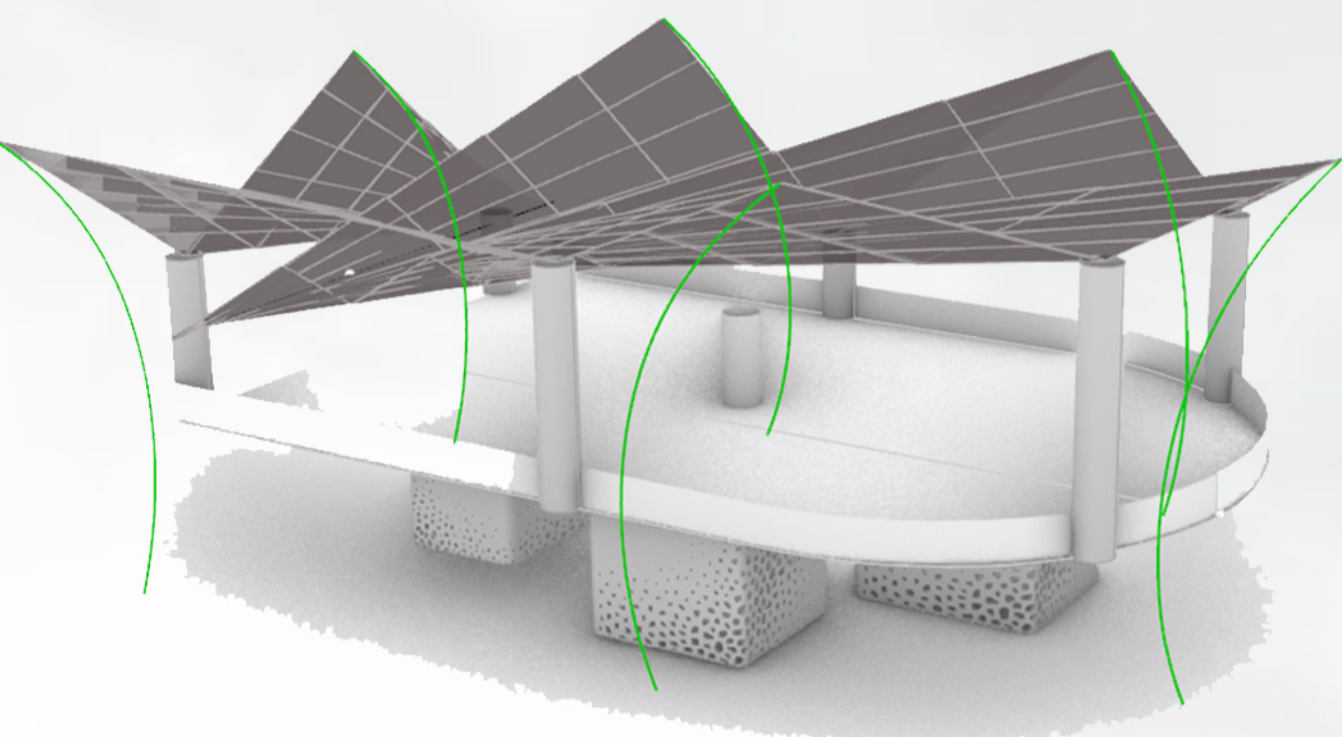
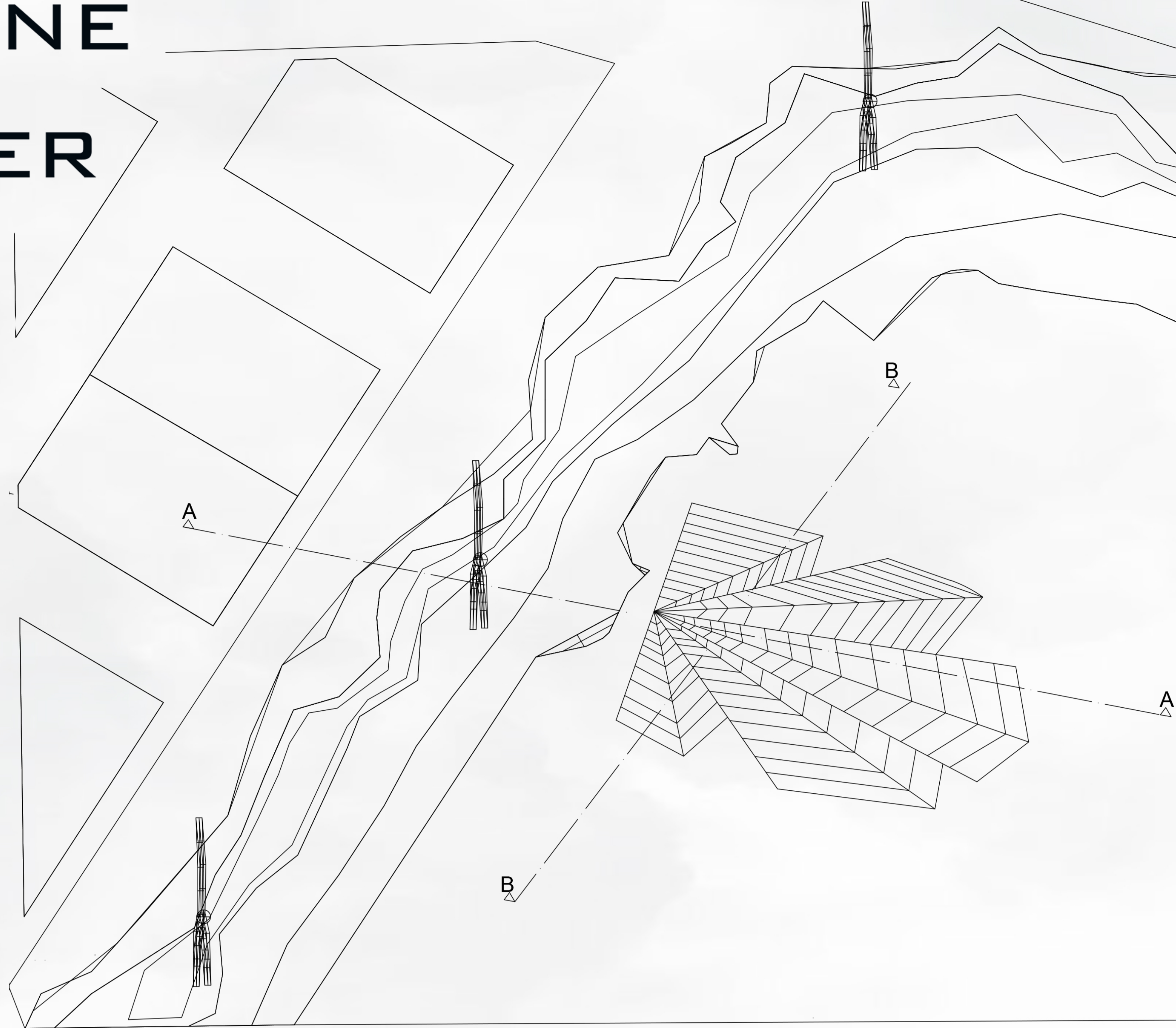
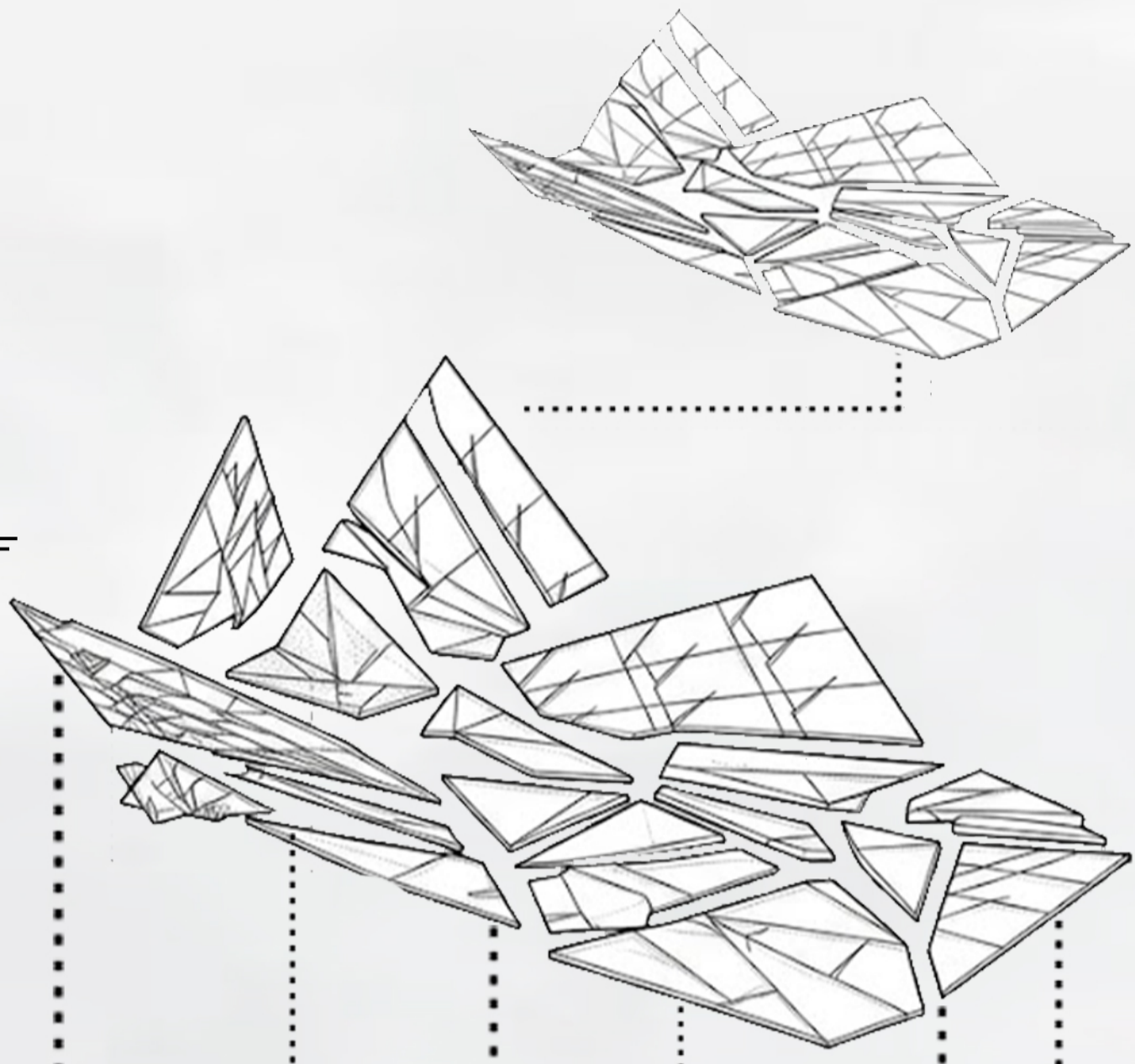


# OCEAN AND MARINE RESEARCH CENTER

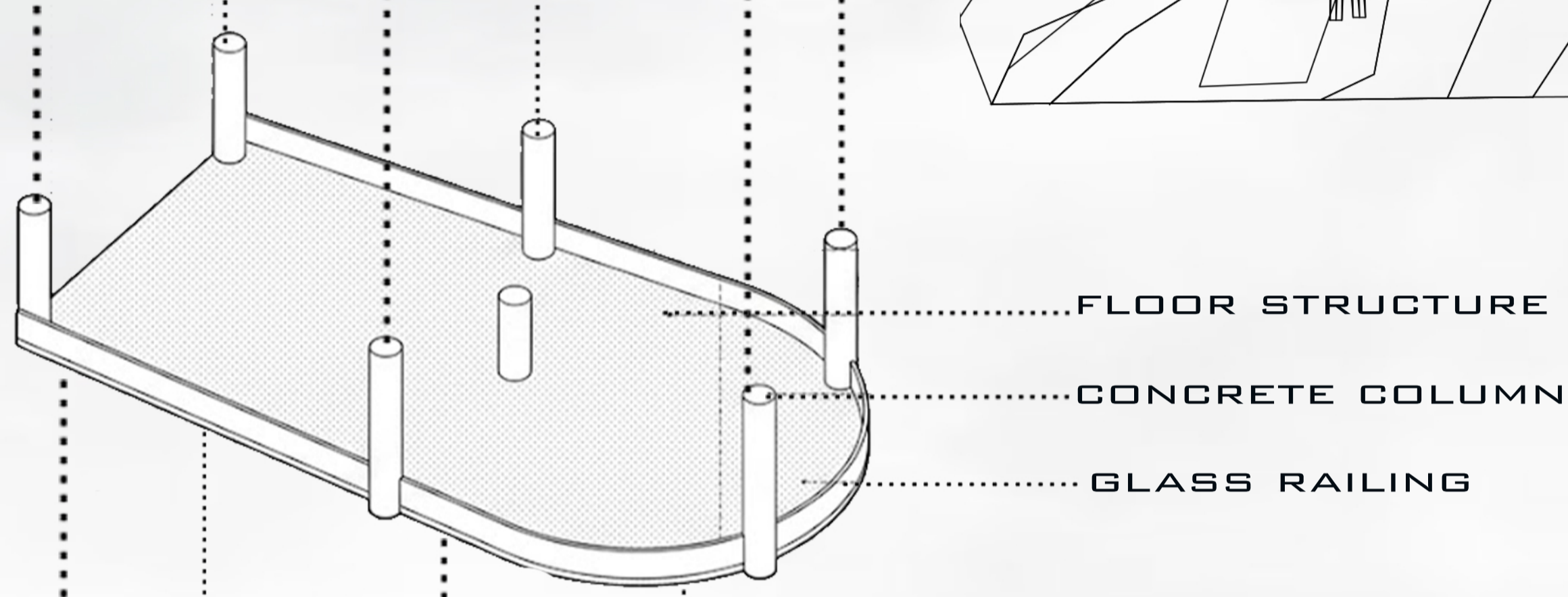
## CONCEPT

THE CONCEPT OF THIS STRUCTURE IS BASED ON CATENARY CURVES. A STANDARD CATENARY CURVE IS THE NATURAL U-SHAPE FORMED BY A FLEXIBLE CABLE OR CHAIN SUSPENDED FREELY FROM BOTH ENDS UNDER ITS OWN WEIGHT. IN THIS STRUCTURE, HOWEVER, ONE END OF THE CHAINS IS SUBMERGED BENEATH THE SEA WHILE THE OTHER END IS FIXED TO THE ROOF. CONSEQUENTLY, THE TIDAL ENERGY GENERATED IN THE SEA EXERTS FORCE ON THESE ANCHORED CHAINS. SINCE THE ROOF CONSISTS OF A PANELLED FORM RATHER THAN A SINGLE MONOLITHIC PIECE, IT DIRECTLY TRANSMITS THE MARINE TIDAL ENERGY TO THE ROOF VIA THE CHAINS. THUS, A DYNAMIC ROOF ALIGNED WITH NATURE AND SHAPED BY TIDAL FACTORS IS CREATED.

PARAMETRIC ROOF



ON THE SUBMERGED FLOOR OF THE STRUCTURE, A FACADE DESIGN INSPIRED BY THE VORONOI DIAGRAM WAS

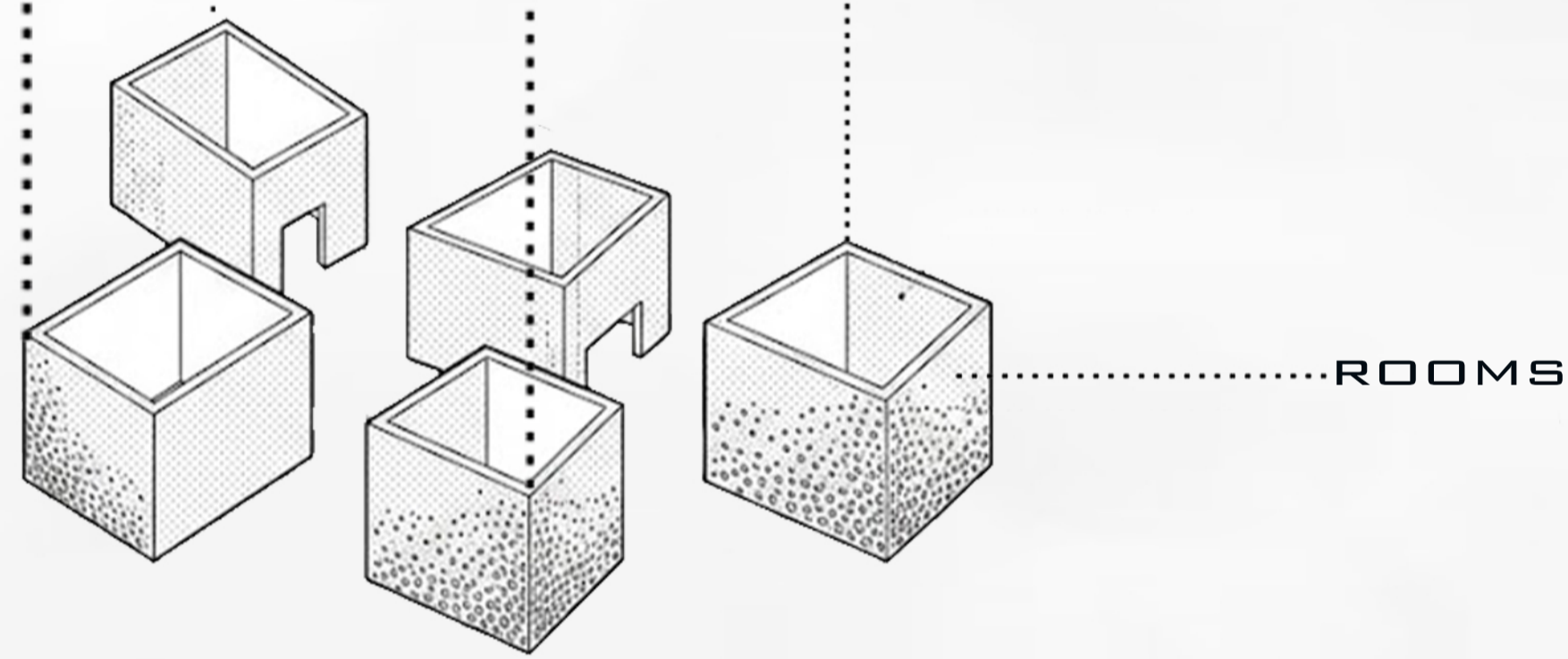


FLOOR STRUCTURE  
CONCRETE COLUMN  
GLASS RAILING

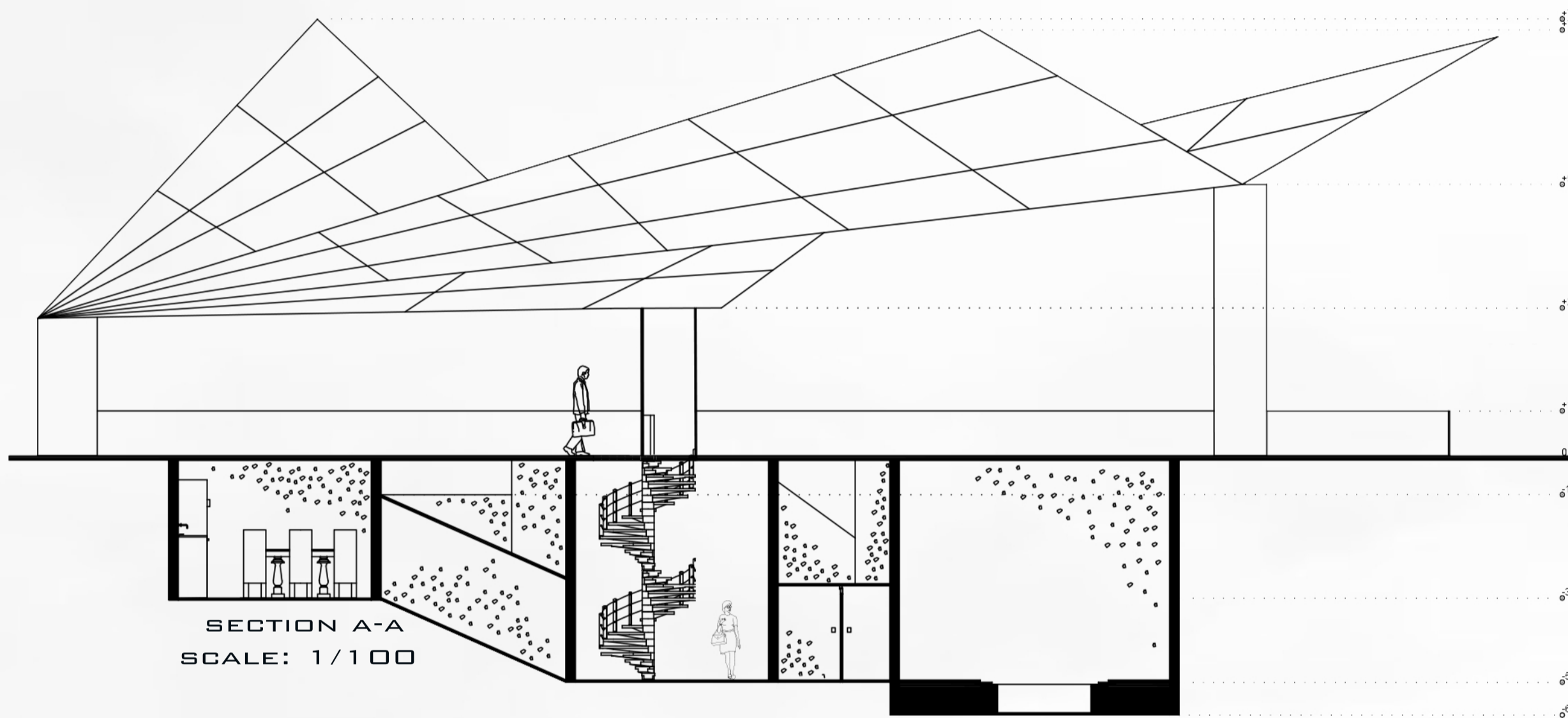
## LOCATION

HOLLANDA / ROTTERDAM  
MASVEKTE 2

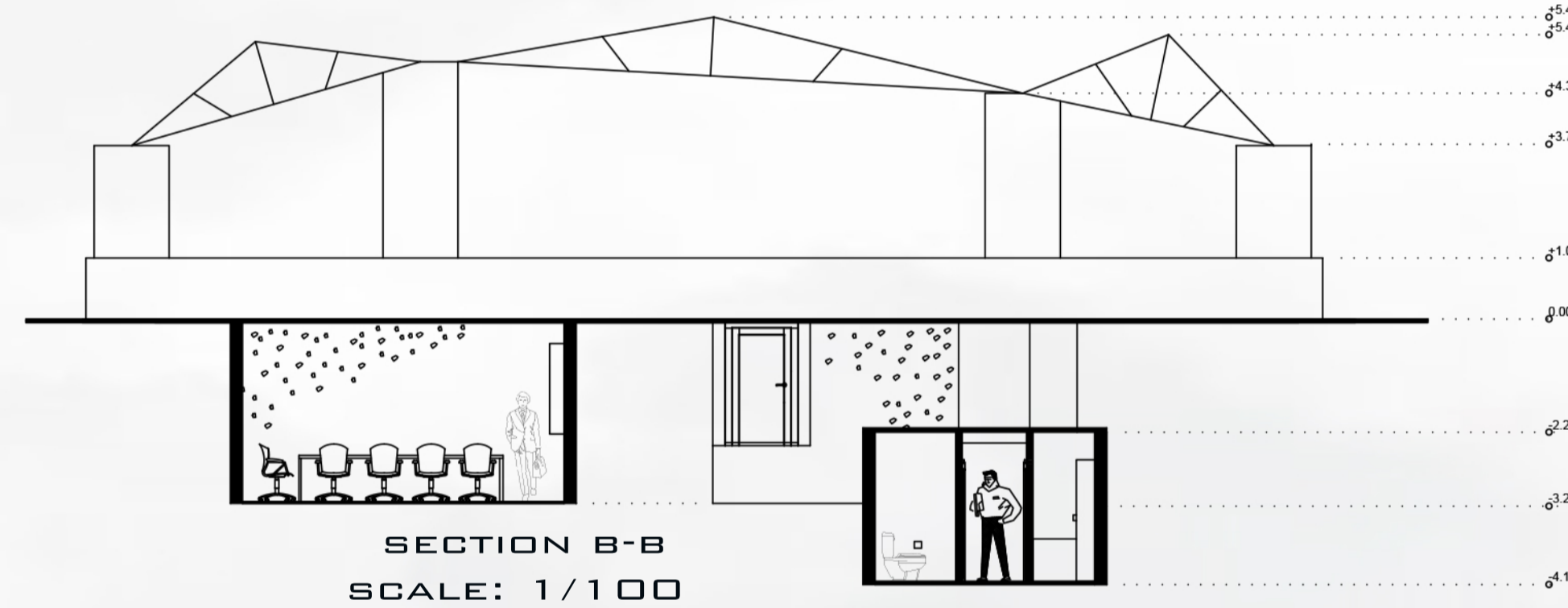
SINCE THE PORT IN THE REGION WAS CONSTRUCTED BY RECLAIMING LAND FROM THE NORTH SEA, EXTENSIVE DAMAGE EXISTS WITHIN IT. FURTHERMORE, THIS GEOGRAPHY REQUIRES THE STRUCTURE TO WITHSTAND BOTH STRONG WINDS AND POWERFUL CURRENTS. IN LIGHT OF THESE CHALLENGES, THE MARINE RESEARCH CENTER ESTABLISHED IN THE AREA ADOPTS A RESPONSIVE ATTITUDE ALIGNED WITH THE SITE BY UTILIZING BOTH WIND AND INTENSE TIDAL CURRENTS. ADDITIONALLY, THE CATENARY CURVES IN ITS DESIGN—DUE TO THEIR MATERIAL SELECTION—HAVE THE POTENTIAL TO RESTORE THE DISPLACED FISH POPULATION AND REHABILITATE THE DAMAGED PORT AREA



ROOMS



SECTION A-A  
SCALE: 1/100



SECTION B-B  
SCALE: 1/100



GROUND PLAN  
SCALE: 1/100



LEVEL -1 PLAN  
SCALE: 1/100

