

jockey's ridge research + education center
outer banks, north carolina
paul landon



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manifesto

I view architecture as a framework to intensify a site, creating a more integrated solution for people and a meaning of place that has not existed before, unique to each of its social, cultural, and geographical conditions. Architecture is dynamic; it provides an aperture through which we view the overlap of emotional, psychological, physical, and sublime experiences of space.

project description

my project will be a . . .

Education & Research Center in the Outer Banks, NC.

my project will be about . . .

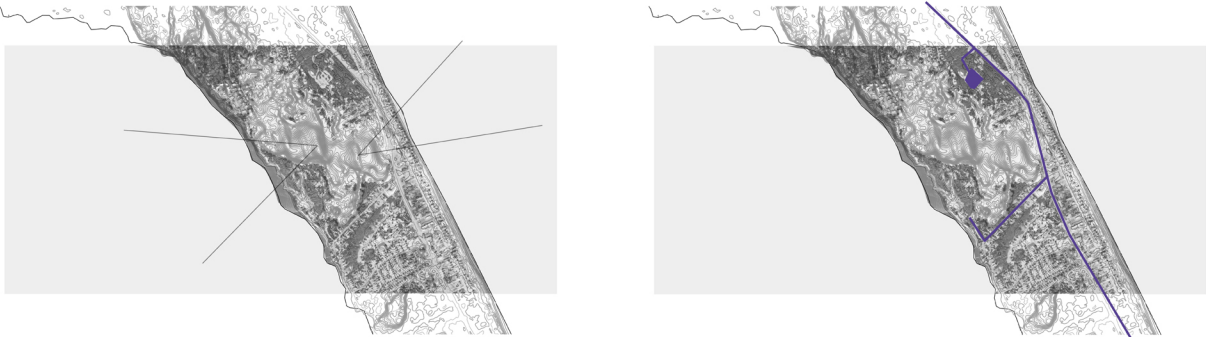
creating an integrated solution for education and research, while investigating a culturally and ecologically charged hybrid project typology.

my project will be developed because . . .

recent litigation related to offshore oil drilling has threatened North Carolina’s beautiful shoreline and biodiversity. Furthermore, the Outer Banks have seen a drop in tourism over the past few seasons. With a research and education center, regional alternatives to environmentally costly drilling can be developed, while culturally providing a destination that celebrates and elucidates the fragility and splendor of the OBX.

project goals

- i. celebrate and preserve biodiversity.
- ii. encourage regional alternatives for energy in lieu of environmentally costly drilling.
- iii. promote community participation in education and research opportunities.
- iv. provide a beautiful node for enhanced seasonal tourism.
- v. investigate the relationship of culture and ecology through a hybrid project typology.
- vi. sensibly respond to social, cultural, and physical contexts.



project principles

- I. Sustainability
improving productivity of design and construction, enhance affordability and quality, and doing so in an ethical and aesthetically moving manner sensitive to contexts.
- II. Community
outreach, accessibility, involvement, ownership.
- III. Integration
strategize to achieve high performance, low energy consumption, and cost-effectiveness through ground-up consideration of program, siting, design, materials, systems, and products; collaboration.

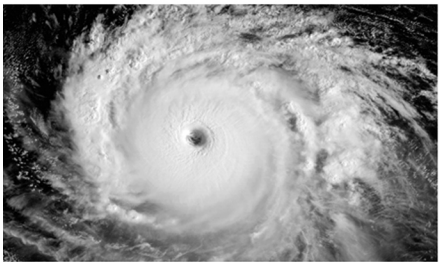
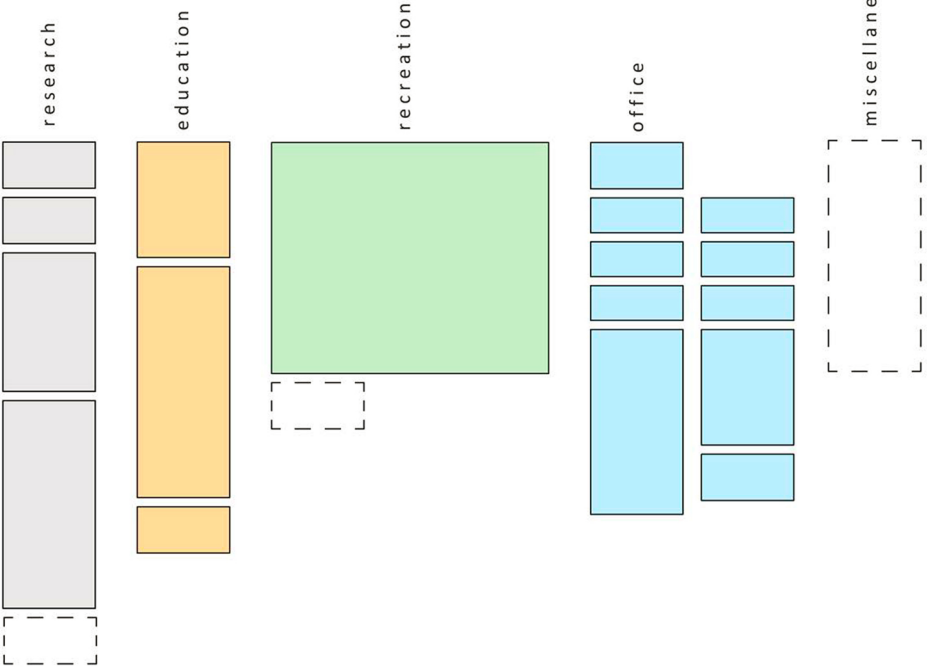
project stakeholders

- A. Researchers
- B. Residents of OBX
- C. Vacationers, Tourists



parameters

research	reception	200 sf	1900 sf
	computer rooms	200 sf	
	studio area	600 sf	
	indoor lab area	900 sf	
	research landscape	TBD	
education	teaching classrooms	500 sf ea	1500 sf
	multimedia room	1000 sf	
	interactive exhibition spaces	TBD	
recreation	indoor fitness center	3000 sf	3000 sf
	outdoor rec space	TBD	
office	reception	200 sf	2600 sf
	administration offices (6)	150 sf each	
	conference rooms	800 sf	
	kitchen/café	500 sf	
	storage	200 sf	
miscellaneous	restrooms	300 sf each	TBD
	storage	10% of zone	
	outdoor space	TBD	
	mechanical	x% of total	
	parking	# vehicles	
	circulation	x% of total	



desired qualities

social

tactically adjust the site's historic fill and preserve this area for public use by proposing a vibrant new node for community participation.

structural

sensibly meet the ground, through investigation and revision of historically significant structural strategies in this environmentally fluid context.

aesthetic

begins with an effort to achieve fitness between two entities: the form in question and its context. The form is the solution to the problem; the context defines the problem.

performance

define the qualitative and quantitative measures of sustainability and the data needed to implement and assess these measures for energy consciousness from project inception.

collage

the combination or collection of various things; a method that leads to a composition; the act of assembling various materials resulting in a cohesive whole that creates new, interpretive meaning through its connections between parts; a superimposition of layers.

place

develop the intersection of an architectural intervention with its surroundings, strengthening both.

jockey's ridge

Jockey's Ridge is the tallest active sand dune system in the Eastern United States, and the most striking of the remaining dunes on the Outer Banks. Shifting winds are constantly re-shaping the dunes. Jockey's Ridge encompasses three distinct ecological environments: Dunes, Maritime Thicket, and the Roanoke Sound Estuary. The site provides an ecologically and recreationally rich space for conducting research, and engaging the community.

t h e d u n e s

The dunes consist of three peaks and are an example of a Medaño, shifting sand that lacks vegetation. No plants or animals make their home on the dune due to the harsh conditions here.

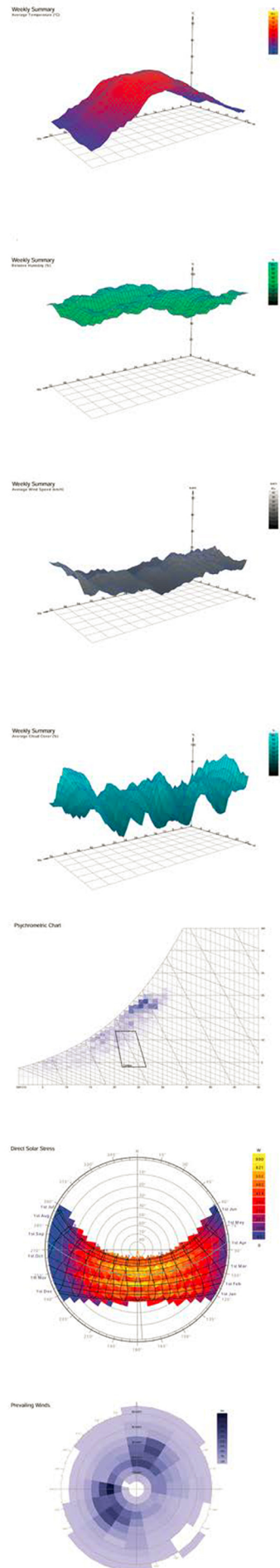
The area around the base of the dunes hosts a variety of grasses and small plants. One such plant is the American Beach Grass which anchors itself in the sand with help from its 40-foot long root system. The grasses create habitats for small animals and insects. Heavy rains sometimes create temporary pools around the base of the dunes, providing wildlife with fresh water.

m a r i t i m e t h i c k e t

The maritime thicket of live oaks, persimmons, red cedar, wax myrtle, bayberry, sweet gum, red oaks, and pines grows best in areas protected by the large dune. The height of the dune provides protection from both wind and salt blown off the ocean. The effects of the wind and salt stunts the growth of trees, causing them to look like shrubs. Larger animals such as foxes, deer, and raccoon find protection in this environment.

r o a n o k e s o u n d e s t u a r y

The Roanoke Sound Estuary is a rich habitat for a variety of plant, animal and bird life. Cat-tails, sawgrass, giant cordgrass and black needlerush provide habitats for many waterfowl and serve as fish nurseries. The sound is also home to the Blue Crab, an important commercial fisheries industry in North Carolina.





north carolina



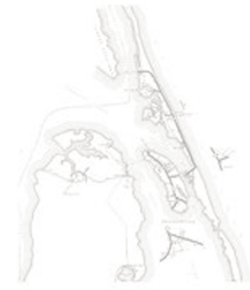
outer banks



jockey's ridge



1930



1936



1944



1949



1953



1957

selection criteria

cultural/ecological (hybrid) intensity
remediation
positioned for community involvement
sited for minimal enregy footprint
research opportunities

recreation opportunities

sand boarding
handgliding
kite-flying
kayaking
windsurfing
hiking

site history

Scientists believe that the barrier islands of the Outer Banks were remnants of the last Ice Age, which ended approximately 12,000 years ago. They have also concluded that Jockey's Ridge itself came into being about 7,000 years ago. Through a process known as saltation the sand was eventually blown onto the area now known as Jockey's Ridge where something caused it to begin building the dune system. At one time, the dunes of the Outer Banks extended all the way to the southern end of Virginia. Many mariners used the ridge as a landmark in navigation of the area for coastal exploration in the 16th century.

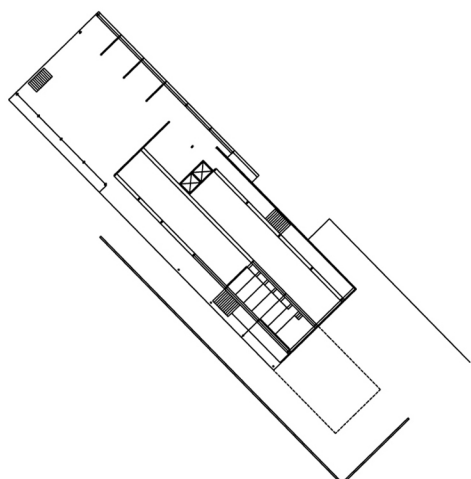
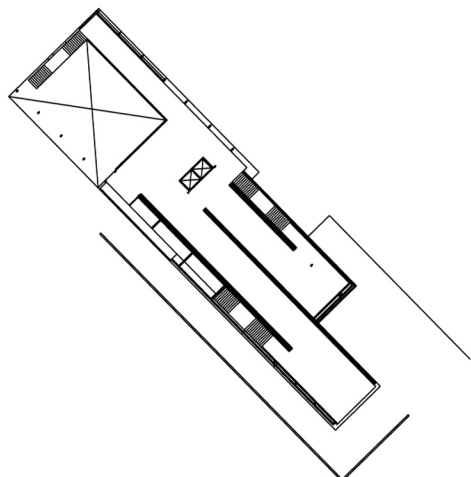
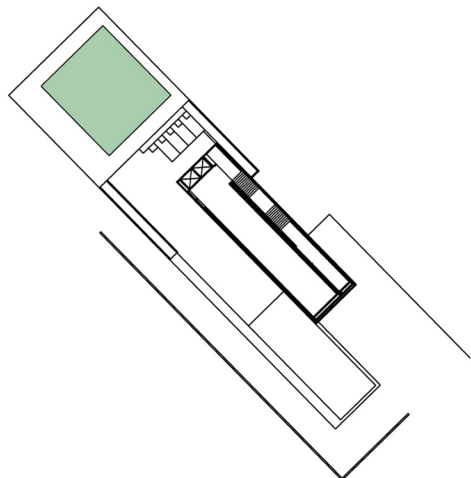
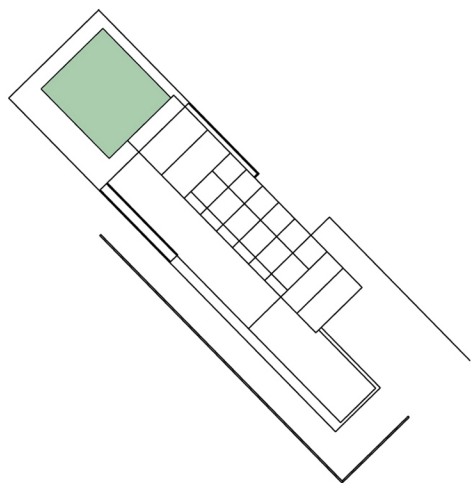


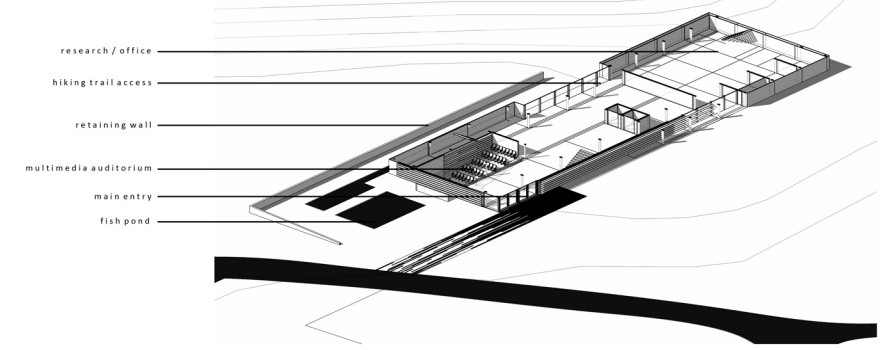
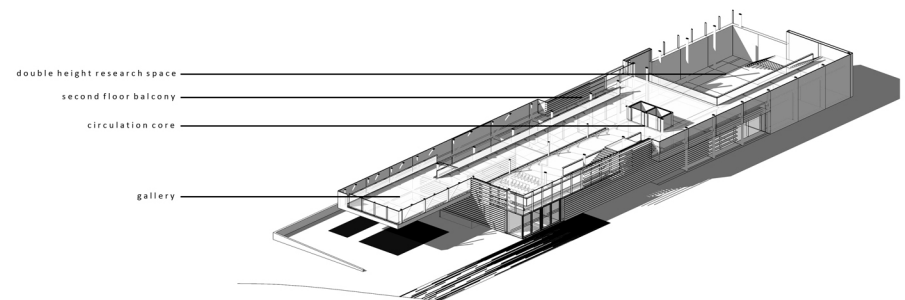
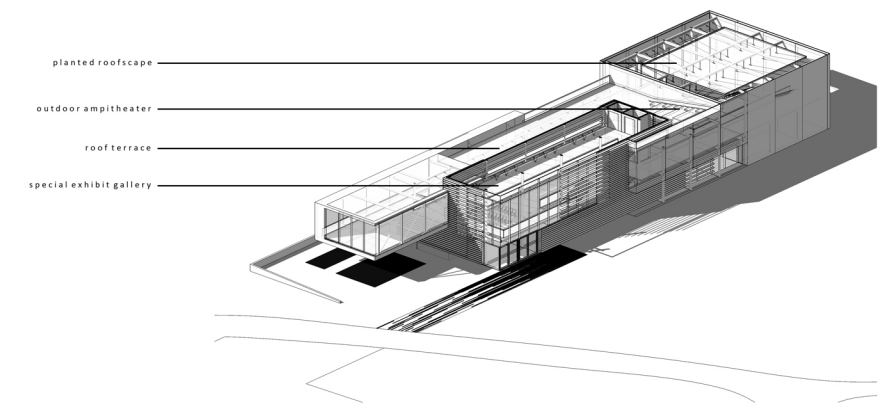
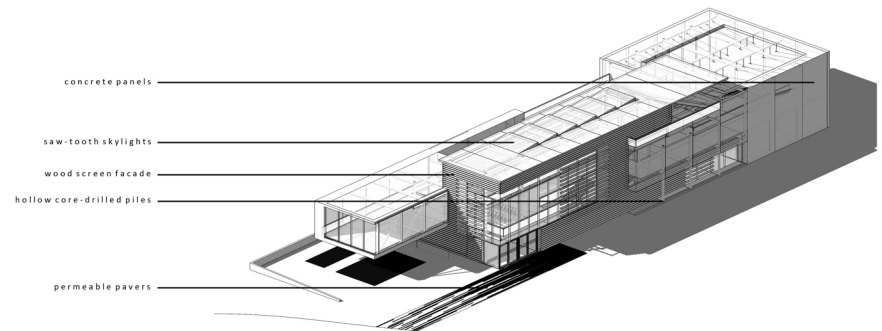
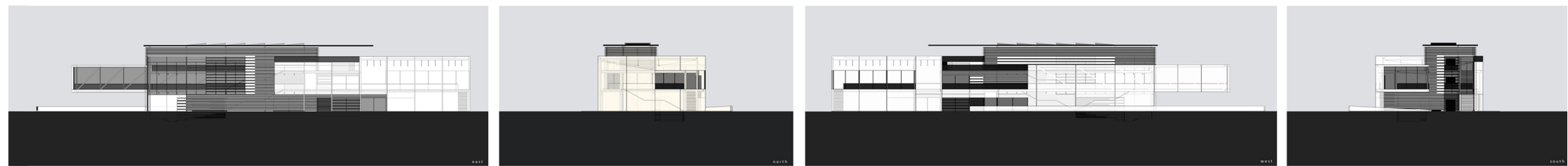
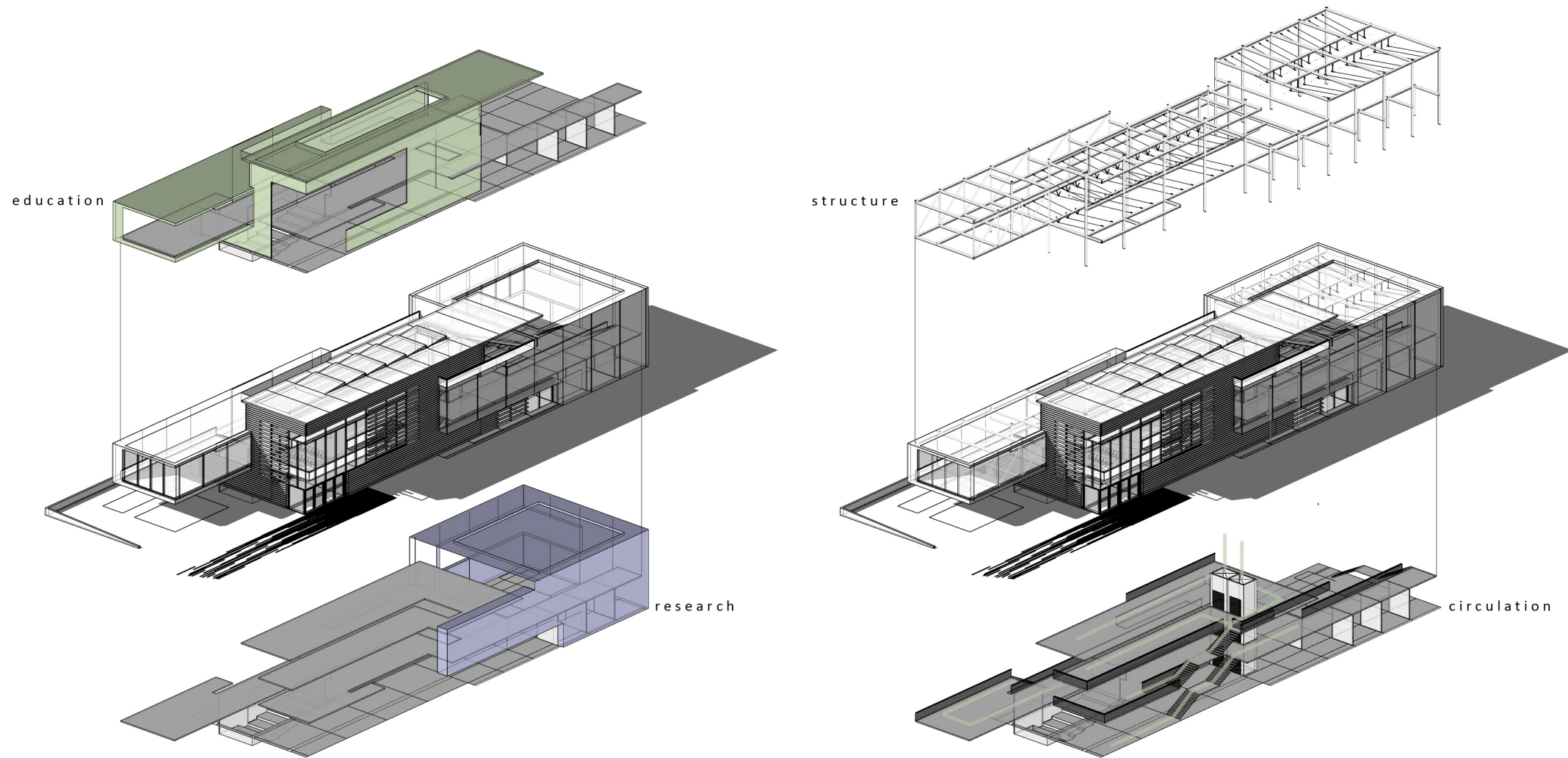


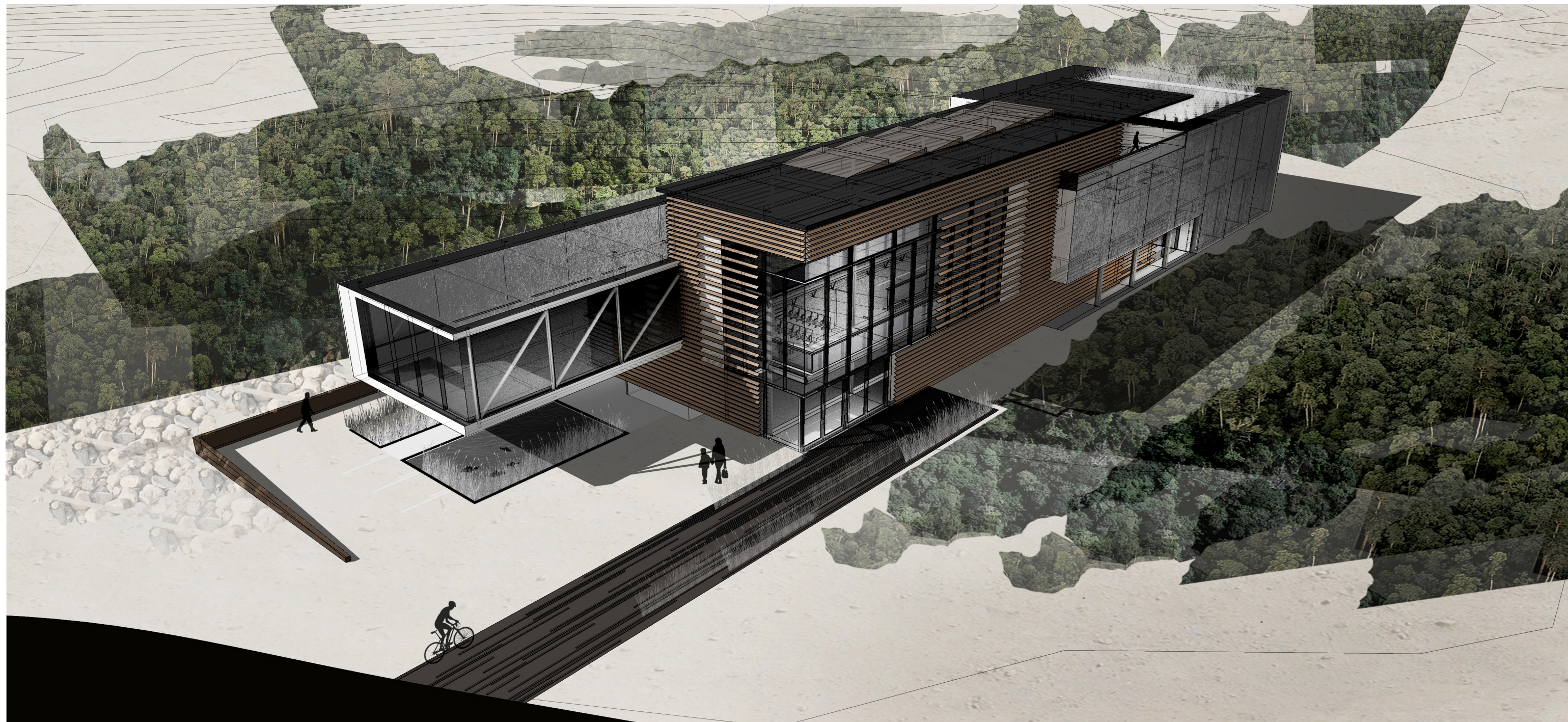
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perspective looking NW



perspective looking NE



longitudinal section perspective



transverse section perspective