

NICOLE LAMBROU teaching portfolio

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### (THESIS STUDIO) HOUSING for CLIMATE JUSTICE

#### Thesis Studio Brief Overview

#### Housing for Climate Justice

Climate justice is concerned with revealing and upending inequality in urbanism and architecture. It is a framework for disclosing how the intersection of space and climate risks actively upholds structural inequities. Climate justice is therefore central to community-based design organizations who challenge existing property ownership models and traditional forms of engaging with design processes. Our goal for the thesis project is to engage with non-traditional stakeholders, tools and processes in order to develop design strategies for housing that can mitigate inequalities exposed and intensified by climate change.

To pivot away from market-driven housing design means that we will instead be driven by co-operative ownership models and by climate concerns equally, and that we will confront and interrogate structural inequalities through these design acts. It is in this way that our work can address the redistributive potential of climate justice. By engaging with alternative ownership models for housing, we will also wrestle with the fact that climate injustices have historically shaped marginalized communities. Within this context we pay attention to how design, as a profession, process, and project, can challenge and subvert inequitable systems of social life. Shifting our focus from the design object to a process for exploring alternative models of ownership allows design, even in its speculative form, become political and relevant.

#### Integrated Design

Design is a holistic, integrative, creative process that is inquisitive, iterative and critical. This studio will build on the lessons and experiences you have accrued in previous studios and classes, and will give you the opportunity to

put into practice the skills you have learned; site observation and analysis; typological study; programmatic problem solving; structural, environmental controls, and envelope concepts, all filtered through the lens of climate justice. In this studio we will spend the semester designing a housing project in an urban context. This is a challenging opportunity, both technically and intellectually - the studio intends to further discussions about the meaning generated as we decide how architecture goes together, and how our way of thinking about the design activity effects every element of climate (in)equalities. Some of the may questions that will guide our critical inquiry include:

- + What does it mean to dwell in the city? How do we perceive and define what is urban?
- + How do things go together? Where are they made? How does the materiality of architecture reflect it's ideas?
- + How does a building relate to it's physical context? How does housing relate to its social and cultural contexts?
- + Why do planning and building codes matter? Can the experience of architecture be banal? Profound?
- + What does a building cost? What is a building's responsibility to the next generation? What is the relationship of our design decisions to energy?

You are encouraged to maintain a critical and creative attitude in their approach to the design problem. This means that you must think about the significance of your decisions and actions. Innovative and experimental proposals are encouraged, but all work must be the product of thoughtful analysis and reasoning, and must serve and advance the requirements of the project - namely, that of housing and climate justice. This investigation and exploration will shape the variety of solutions that become available. And your questions and tools will shape the investigation.

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Berman, Marshall. 1982. "In the Forest of Symbols: Some Notes on Modernism in New York" in *All that is Solid Melts into Air*, p. 287-329.

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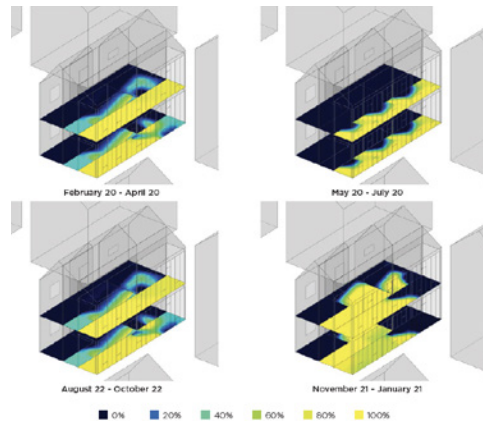
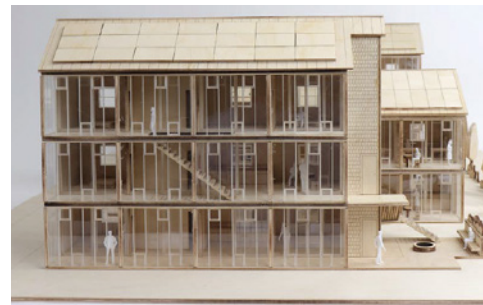
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## NICOLE LAMBROU teaching portfolio

### Thesis, M.Arch.

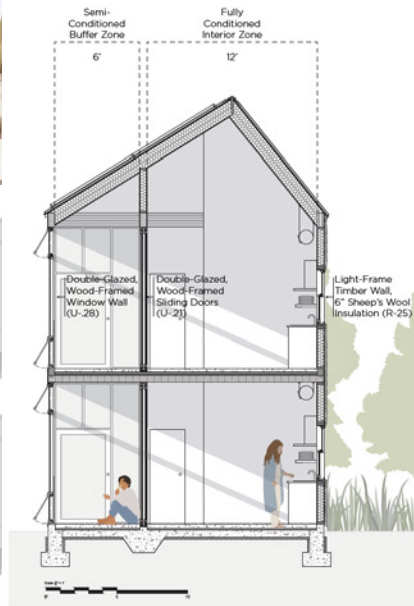
OUTER-MIX: Investigating mixed-use passive house design as a means to fostering a healthy, year-round community on the Outer Cape.

This proposal examines the viability of high density, mixed-use housing models as a solution to the Outer Cape's housing affordability gap. It posits a design solution that is not purely architectural, but one that addresses the complex environmental, economic and cultural vulnerabilities that are unique to this region. It begins with an investigation of a 10-acre site within the Eastham Special Corridor District, with an analysis of population demographics, zoning laws, use patterns and policy at the local and regional level. It leverages an analysis of mixed-use housing models around the world, as well as an indepth study of high-density housing typologies.

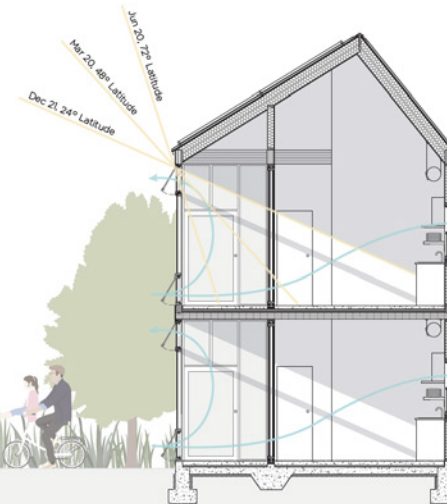


#### Passive Design Strategies: Sunspace as climate buffer zone

Individual units are all designed with a 12' wide, fully conditioned interior, and an attached 6' wide, south-facing, fully glazed sunspace that acts as a climate buffer zone. The sunspace is integral to the overall approach to passive design, maintaining an average temperature between interior and exterior, thereby reducing the heating and cooling load of the interior space throughout the year.



During the summer, the sunspace provides shade and limits direct heat gain for the fully conditioned interior. During the winter, it allows for direct sunlight and solar heat gain. The double-glazed window wall provides ample daylight, with operable awning windows that allow for cross-ventilation during the summer, when prevailing winds come from the south. The radiant heating floor slab allows this semi-conditioned space to function as a comfortable living space most of the year.



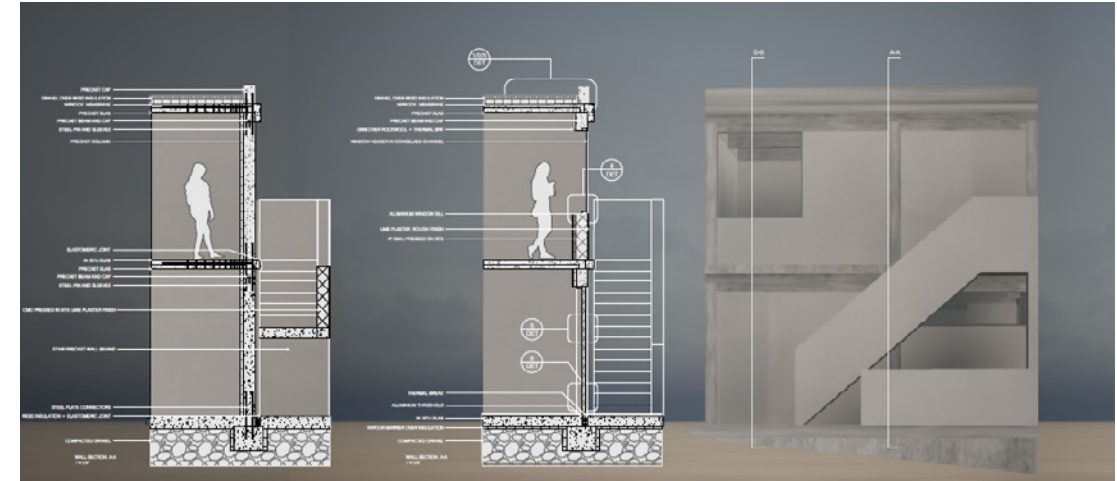
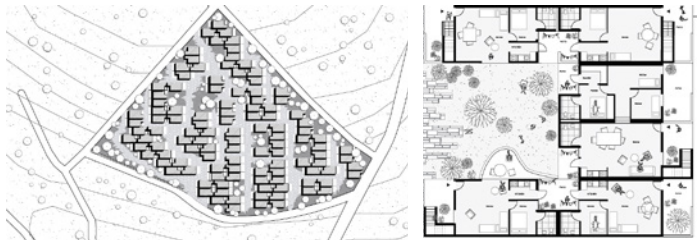


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Thesis, M.Arch.

STATELESS: REFUGEE SHELTERS IN LESBOS, GREECE

The project was developed with the active participation of migrants themselves, primarily Syrian, who are anticipated to build out this community to its full development over time and as needed, using prefabricated means and local materials. The vision of an infrastructure to foster human activities, with economic benefits for both the host population and for the migrants, can be translated into an architectural language that brings hope, development, and dignity in a sustainable way.





NICOLE LAMBROU teaching portfolio

Thesis, M.Arch.

REVITALIZE, REVISE, RECOVER THROUGH PUBLIC AND NATURAL ENGAGEMENT

Understanding the problems of traditional healthcare helps us approach a new solution. Focusing on that which promotes health such as meaningfulness is at the heart of an improved healthcare. This thesis aims to develop a model which challenges the institution-like and secluded nature of healthcare facilities by bringing vitality, and creating a communal, familial, and natural environment which is most conducive to healing and overall well-being. The model includes specialized rehabilitation which focuses on oncology, fused with family accommodations, social space, and public amenities. These parts work together to create an atmosphere of social connection which, in addition to health-promoting architecture, can change our experience of medical care as well as aid in healing and overall health.





NICOLE LAMBROU teaching portfolio

Thesis, M.Arch.

SUSTAINABLE HABITAT: A RESILIENT HOUSING DEVELOPMENT

The purpose of this thesis proposal is to address the unaffordable living system we live in while also developing a resilient, regenerative, supportive community program in the Five Point Neighborhood of Denver, Colorado. The vision for this architecture project is to reduce the overall financial burdens for those who struggle to keep up with the demands of society, in addition to also functioning as a community platform, where people of all ages and backgrounds can live within a sustainable shared living environment.



## NICOLE LAMBROU teaching portfolio

### PLANNING FOR CLIMATE CHANGE: CLIMATE RESEARCH INSTITUTE (DESIGN STUDIO)

#### Studio Brief Overview

#### Planning for Climate Change

This course explores the scientific, economic, cultural, and ecological aspects of climate change at multiple scales and through the lens of climate justice. It provides an overview of conceptual and methodological frameworks in the survey and design of the built environment, and further considers adaptation strategies in communities within urban regions. The objective of the course is to develop each student's ability to analyze and assess complex urban spaces, and to respond to those spaces through design and policy proposals that are aligned with community needs, desires, and visions.

The main deliverable for the course involves an urban design proposal comprised of a physical design strategy, policy guidelines, implementation avenues, funding sources, and supporting demographic and environmental research for a specific community. Students will explore, analyze, and propose urban transformations that allow communities to adapt to present and future climate risks while engaging with the multiscale and complex nature of climate justice. The studio focuses on the relationship between the climate risks and vulnerabilities at the neighborhood scale and the larger urban systems that those climate-related issues are embedded in. Within this context, students will engage with and assess planning and design opportunities and challenges in partnership with non-profit community organizations who work at the intersection of social and environmental justice.

Adaptation design strategies are too often framed without reference to the urban spatial, social, and environmental injustices that form and inform cities. Design, however, is not neutral. Recognizing that inequalities shape urban regions from their onset, how can engaging design offer new visions for an equitable city in the era of climate change?

#### Assumptions

Two assumptions guide this course. First, that the urban site that is the subject of our investigations is actively produced, constructed, and developed. Researching a given urban region, in this sense, is not neutral. In our research we should therefore carefully determine those factors and facets, from sociopolitical and historical to environmental and institutional, that are relevant in assessing the needs and opportunities of each community.

The second assumption is that social and environmental justice frameworks are inseparable, an entanglement we might refer to as climate justice. Urban adaptation strategies that aim to transform urban regions so that they are better prepared for climate change must be understood through this lens. Theorizing the city at multiple scales through a climate justice framework is important given how reliant cities are on resources and infrastructure within and outside their boundaries.

#### Course Outcomes

Upon successful completion of the course students should be able to:

- Analyze social and environmental characteristics of the built environment
- Apply tools of urban analysis using graphic and narrative approaches
- Understand and articulate the relationship between vulnerable communities and climate justice
- Apply design strategies for mitigating climate risks and increasing adaptive capacity.



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### CLIMATE RESEARCH INSTITUTE (DESIGN STUDIO)

#### Studio Brief Overview

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The following list of key texts encompass the topics we will discuss throughout the semester. Specific readings will be posted throughout the semester as required.

Avila, Eric. 2006. *Popular Culture in the Age of White Flight: Fear and Fantasy in Suburban Los Angeles*. Berkeley: University of California Press.

Banerjee, Tridib, and Anastasia Loukaitou-Sideris. 2011. *Companion to Urban Design*. Milton Park, Abingdon, Oxon; New York: Routledge.

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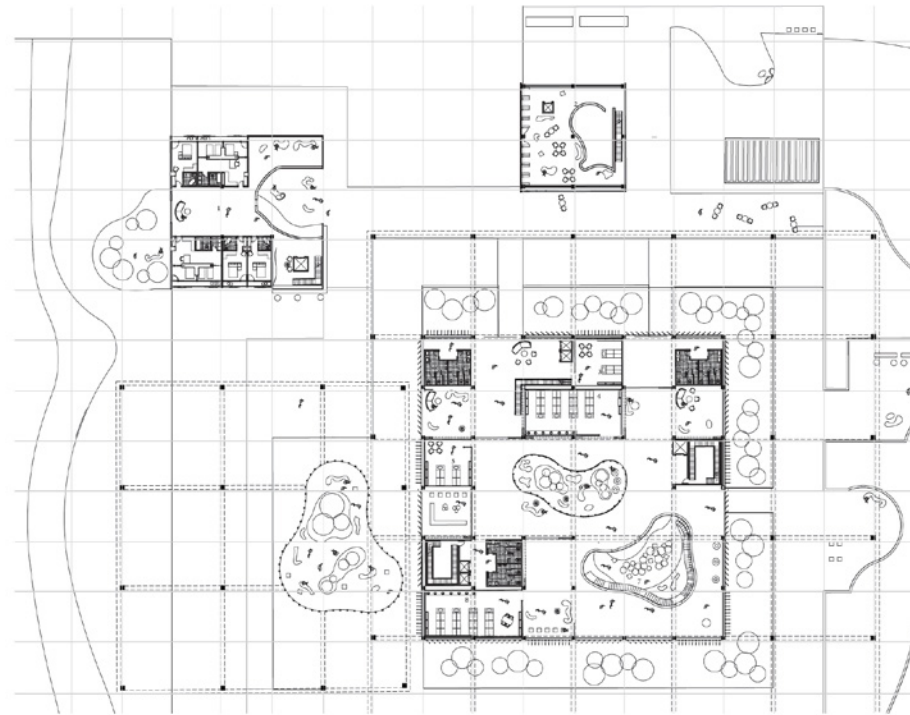
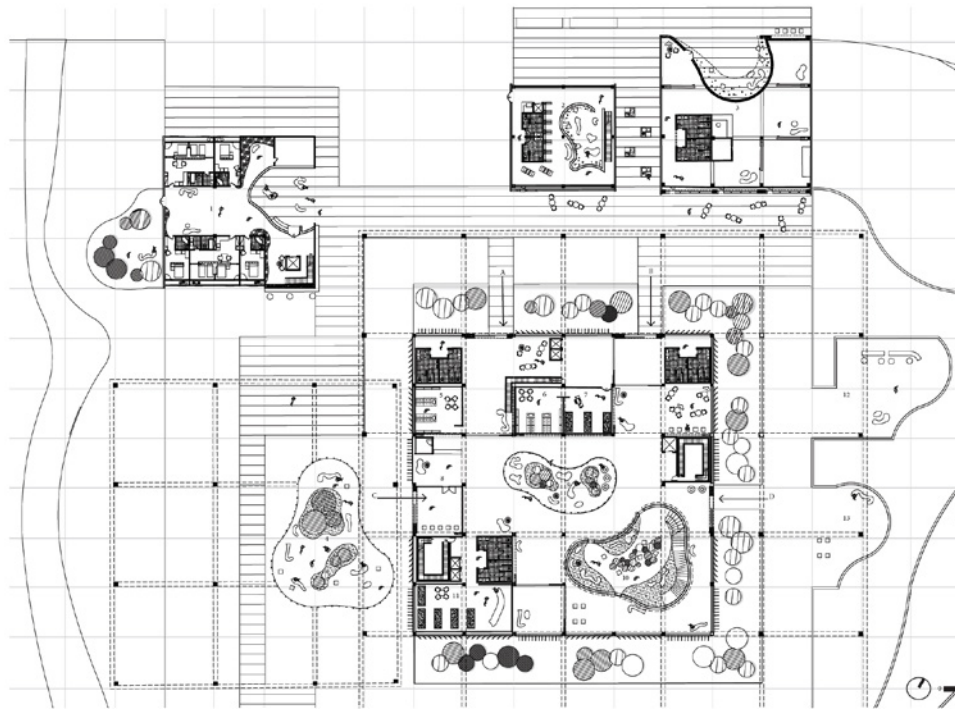
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Koolhaas, Rem. 1995. "Whatever Happened to Urbanism?" In *Small, Medium, Large, Extra-Large*, 958–71. Rotterdam : New York, N.Y: 010 Publishers ; Monacelli Press.

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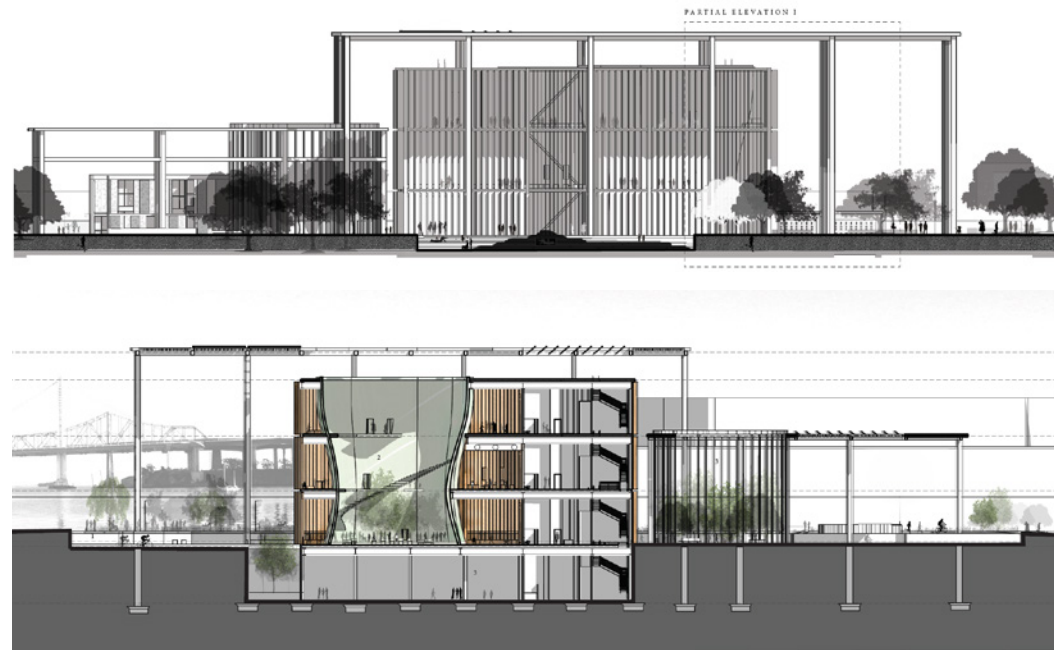
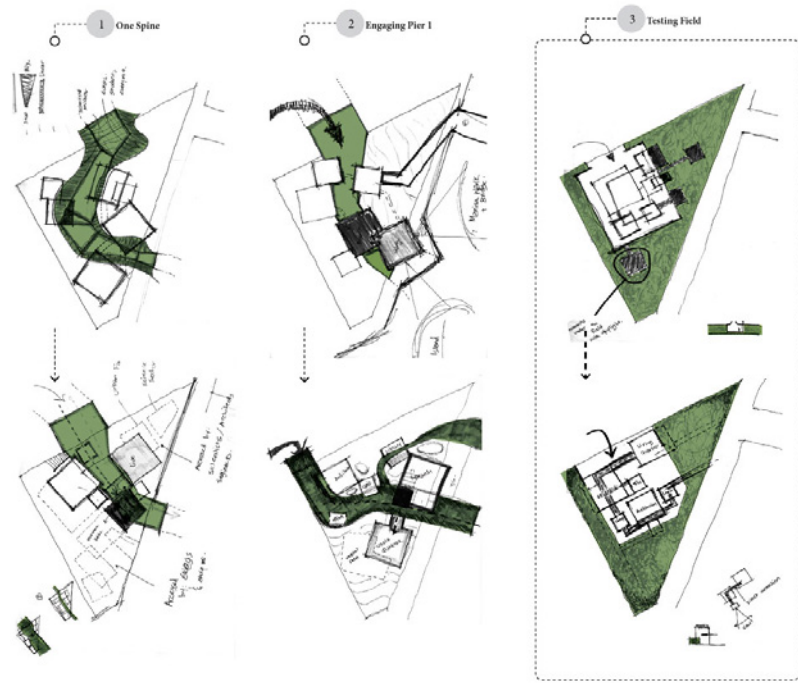
### CLIMATE RESEARCH INSTITUTE (DESIGN STUDIO)

The purpose of Soilab, a climate research center on Treasure Island in the Bay Area, is to develop methods to remediate the contaminated soil on the island while, at the same time, providing opportunities for integrating recreation and public awareness on this subject. The concept explores how soil remediation can provide spatial opportunities that could transform the land into productive and regenerative landscapes.



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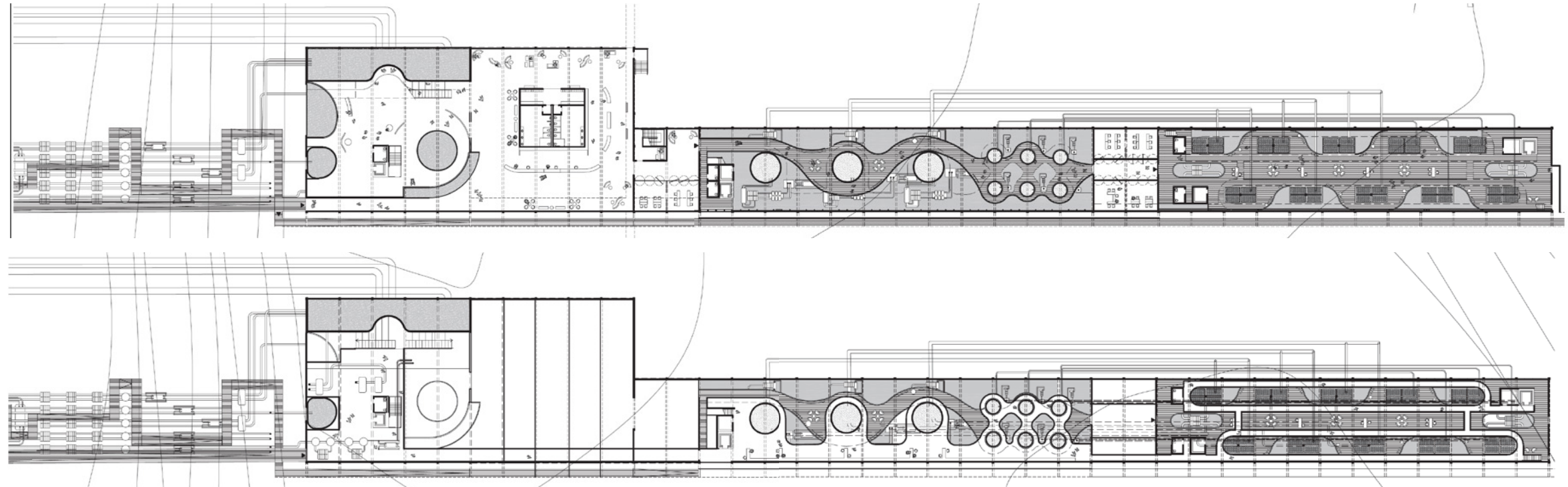
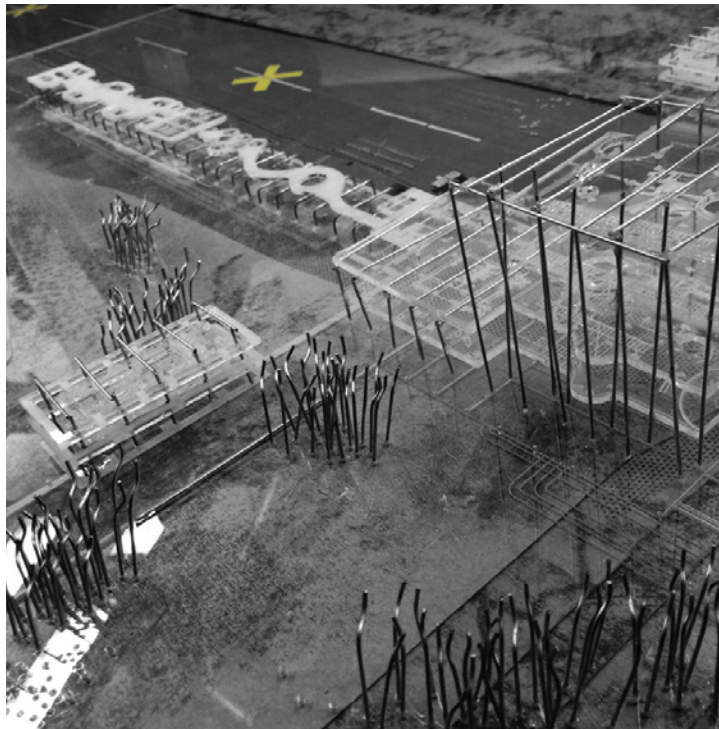




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### CLIMATE RESEARCH INSTITUTE (DESIGN STUDIO)

The proposal aims to expose the combination of engineered and natural remediative processes in an environmentally degraded former airport in Oakland, CA. The exterior program will consist of phytoremediation and workshops where soil and plants can be tested for levels of toxicity as the soil undergoes cleaning processes. Water from the bay will be introduced into the site and cleaned through a system of streams, fish ponds, and planted filter beds. Decks and paths wind throughout the site allowing visitors to bike, run, or walk through the park and wetland areas. The building program will consist of four main components - 1) filtration network bringing water into the building from the San Francisco Bay, 2) an aquarium featuring aquatic bay lifeforms, 3) aquaponics fish system, and 4) plant beds that supply visitors with food.



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