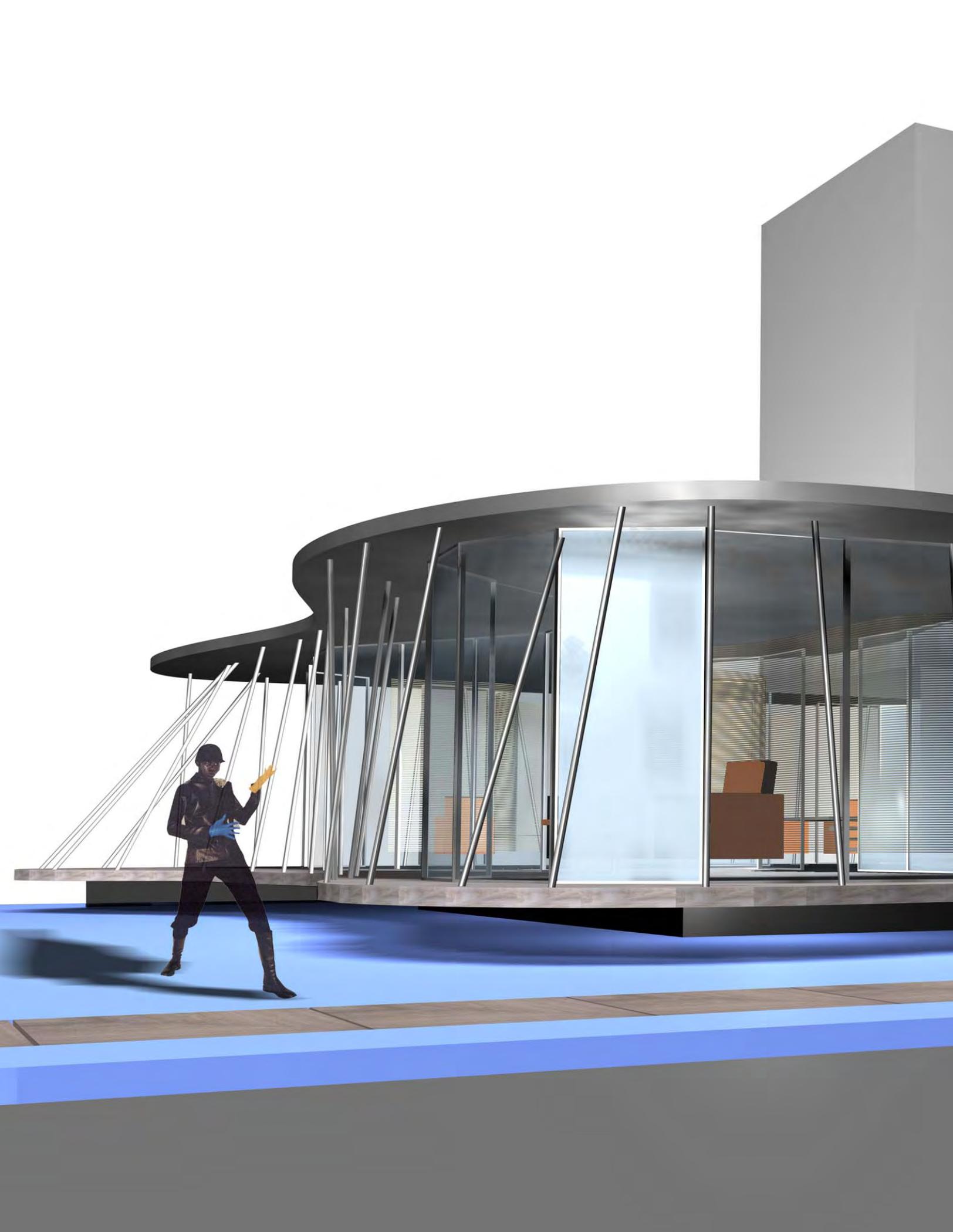
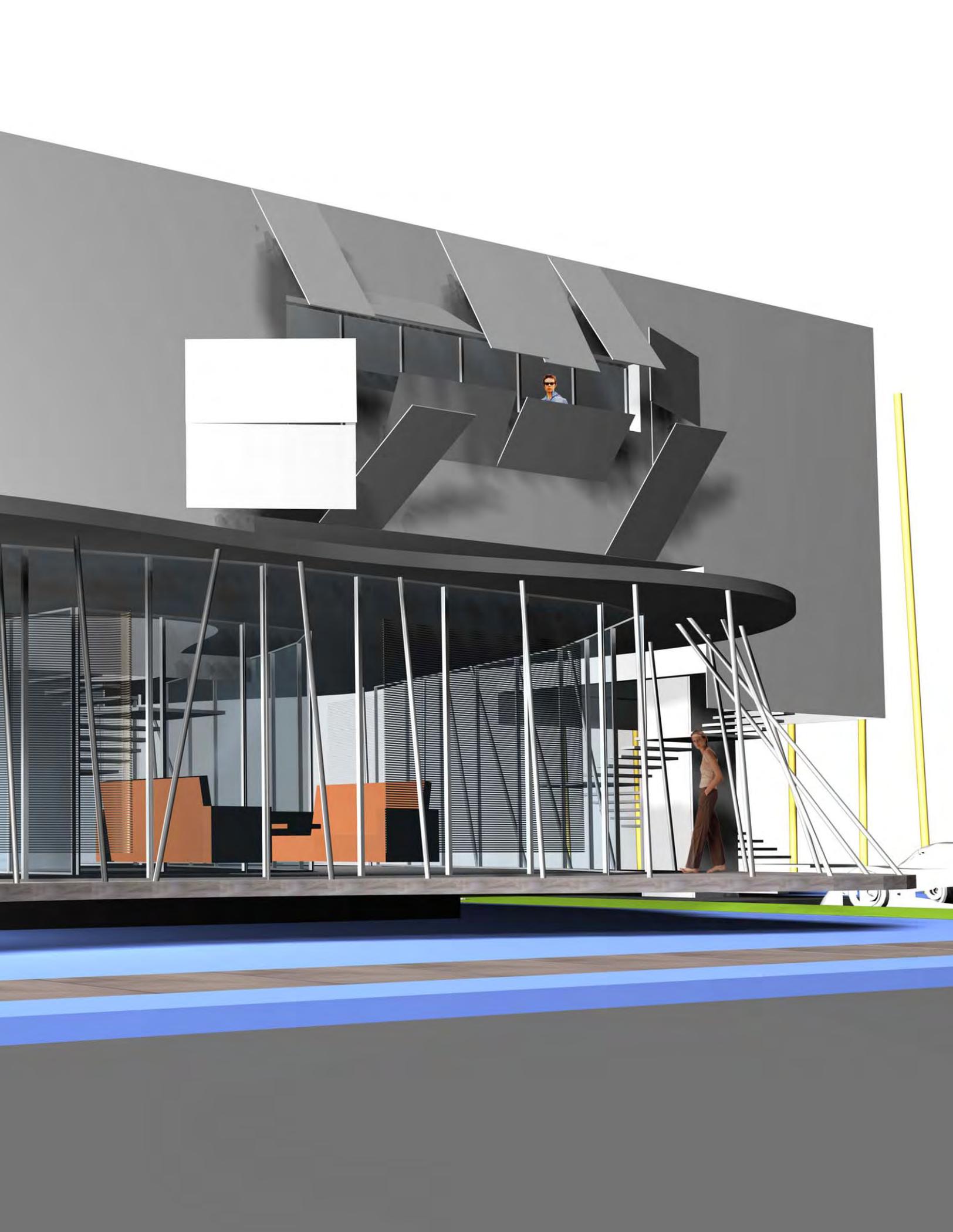


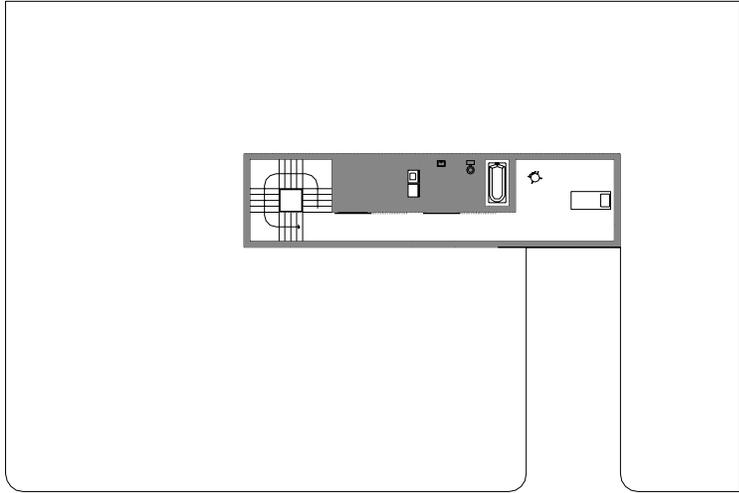
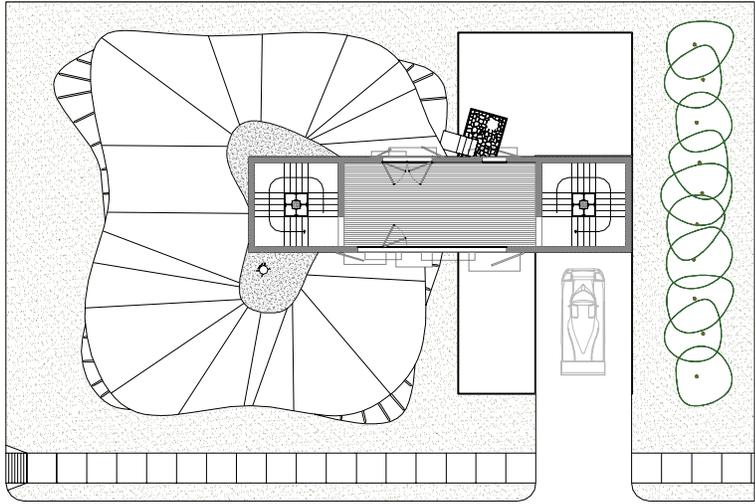
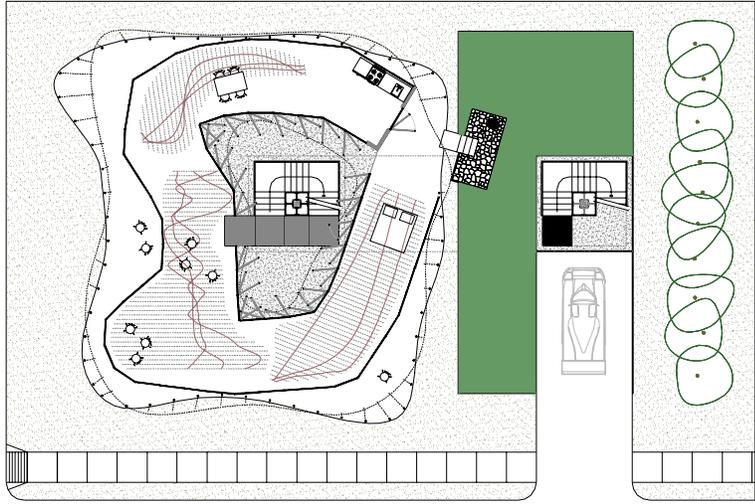


rubber-banded house  
raleigh, north carolina

a single family suburban residence  
with mutable rubber-banded walls







plan level 002-001-000

Surface, through its formal and material investigation, defines the premise of the rubber-banded house.

Set in a suburban single-family house neighborhood inside the beltline of Raleigh, North Carolina, the rubber-banded house depends upon a mutable wall surface to simultaneously define the form and function of the residence's public space.

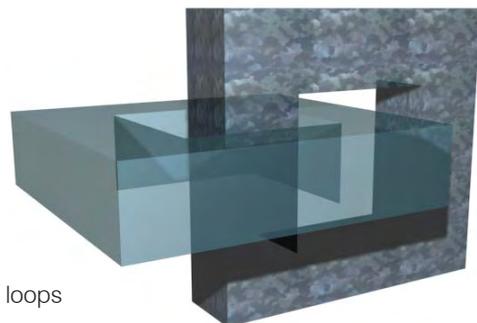
The surface, as the premise of the rubber-banded house, relies upon its material, fabrication and presence to define its identity. The character of the architecture and the formal response of its spaces are governed and inspired by the flexible scrim. The surface creates enclosure and place.

The form of a house defines two modes of the domestic realm: public and private. The activities within each realm orchestrate and activate the formal enclosure. The private occurs in the opaque vertical loop that allows the penetration of light and view while revealing the intimate actions of interior to exterior. The public is a transparent glass layer enclosing a public horizontal loop. Three woven rubber-band walls operate, flexing space, transparency and light within this living corridor. Their activity governs space by

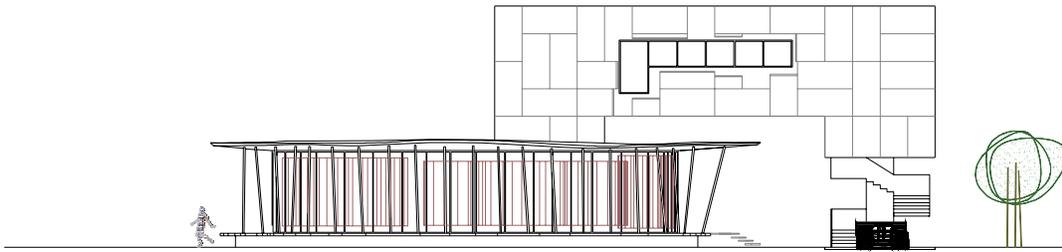
## *rubber-banded house*

orchestrating event and composing form. The diagram of the house is founded on three interior walls fabricated out of a movable matrix of delicate steel cable supports fixed in movable glides and then woven together with an elastic membrane of common rubber bands. These mutable figures establish an elastic surface that provides privacy, filters light, establishes scale, defines space and adjusts emotion by riding through the house in response to the actions of the inhabitant. The membrane, as a continuous system, adopts the interaction of single point of interface across the entirety of its surface. The residual spaces are governed by the flexible surface of enclosure.

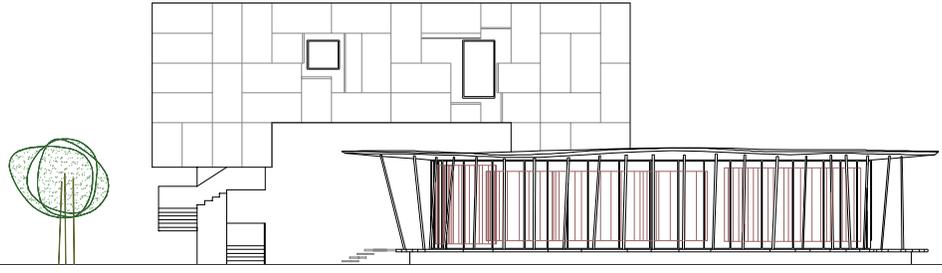
The flexibility of the material surface creates a flexibility of the plan to allow a transparency of occupancy. The suburban home is transformed through the interaction of occupant and material.

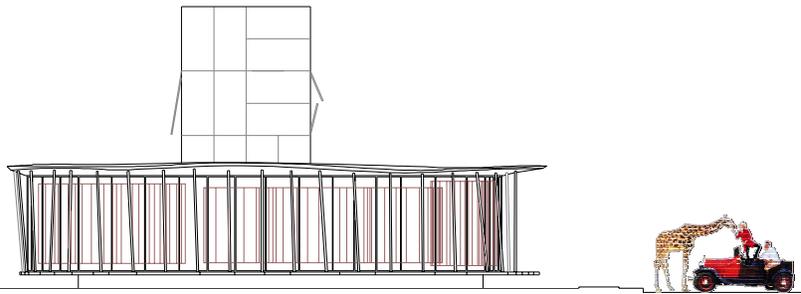


program loops

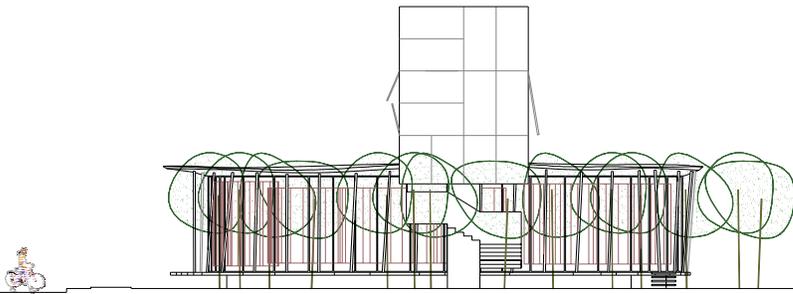


elevations - s n





elevations - **w e**





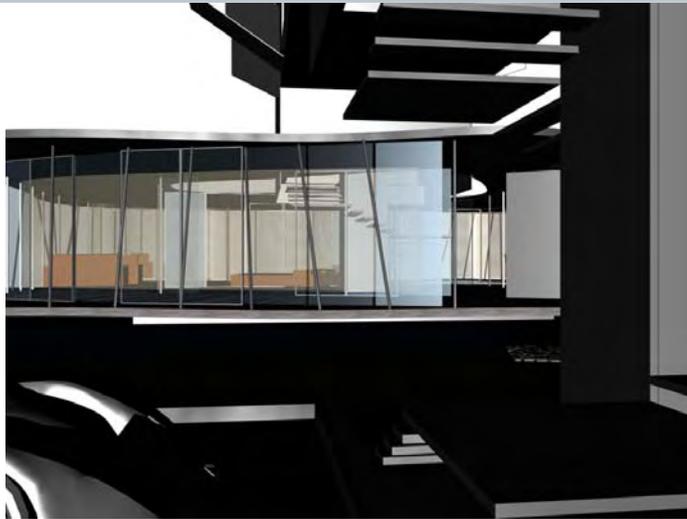
inverted view



view from driveway

carport

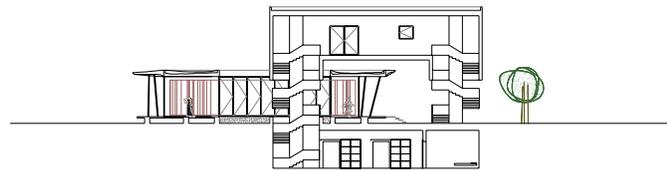
porch deflection

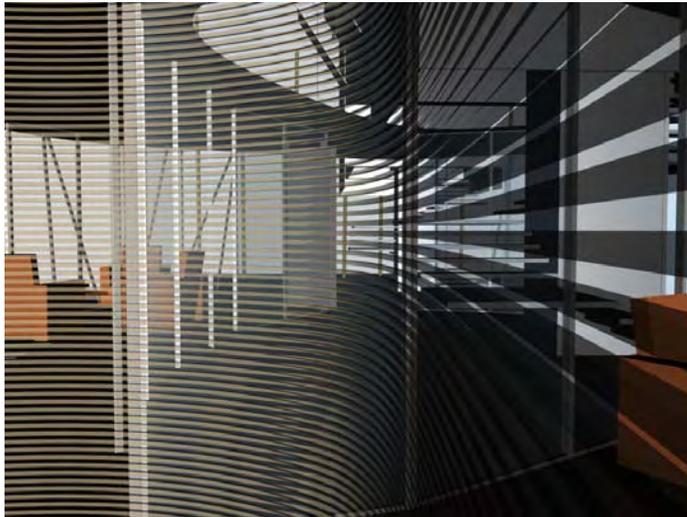




porch view

layered surfaces

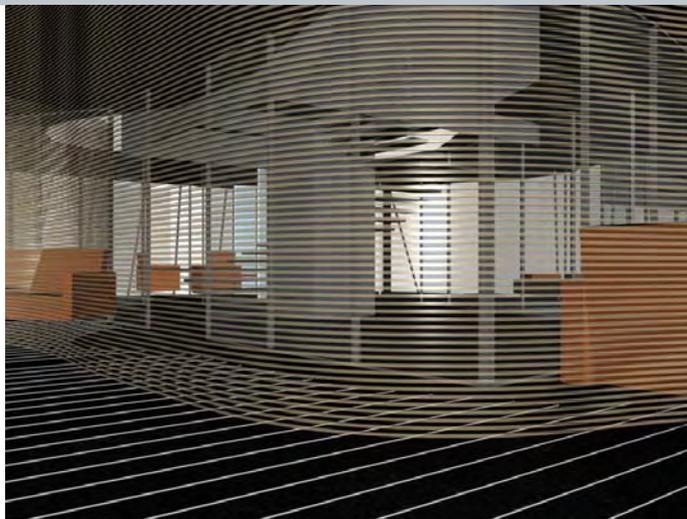




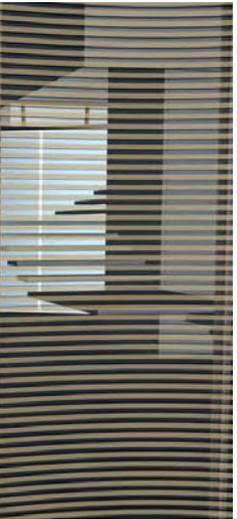
brise soleil



transparent surface



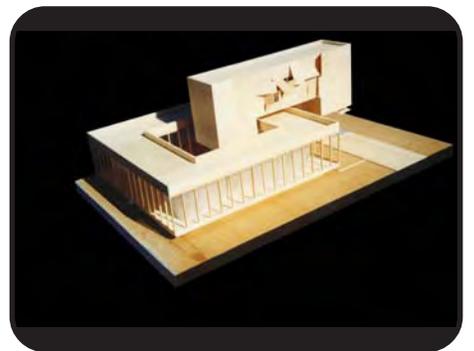
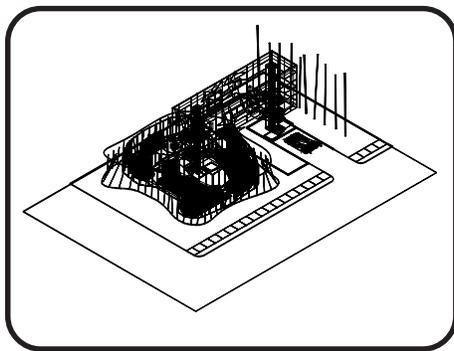
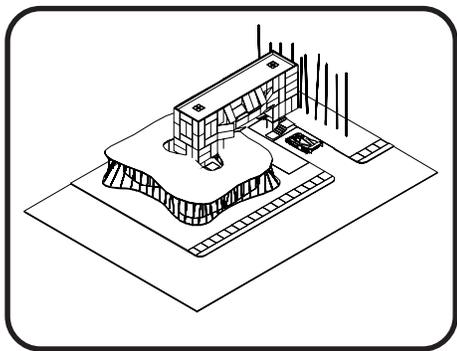
mutable wall



interior layers

rubber banded wall





A re-interpretation of the single-family home allows for an investigation of the domestic landscape. Split between the public and the private, the house became a double helix: two loops, each belonging to different social spheres rotated against one another to interlock their forms. Their adjacency allows for a bridge between the public social face and the private intimate realm.

The private is a solid ring, cloaked in birch plywood. The facade cracks back at distinct moments to reveal apertures beneath the patterned skin. Dealing with a sectional arrangement, the ends become vertical circulation spaces with the upper deck as a privileged vantage of private living, and the lower subterranean level as protective sleeping and bathing. The in-between realm of the public is perpetually traversed to link the inhabitant to the social contract of societal participation.

The between realm exists in a dual interior and exterior condition. The traditional yard and elevated porch become exterior public spaces, housing a patio for grilling, and an auto court in addition to the cultivated lawn and alley of tress. The interior realm is enclosed within an undulating glass ring - responding to the movement of the interior operable walls. The interior encircles a central gravel courtyard. The inner public space, as a continuous loop folding around itself, has three rubber partition walls. Constructed out of a series of operable vertical structural poles, encompassed in a woven flexible rubber membrane of standard rubber bands, the wall is able to undulate base on desire. The architecture physically reacts to the occupation.

Vertical poles, running from floor to ceiling hold alternating hooks upon which the rubber band is stretched. The poles are inset in a sliding track in the floor and ceiling, laterally spaced based upon the minimum tension of the elastic range of the rubber band. As a force is applied to a single point along a pole, the rubber band deflects, ultimately drawing the adjacent poles with it approximating the force across the remainder of the membrane. The action causes a diffused reaction across the entire surface.

The suburban house becomes uniquely American in its identity. The realm of the individual is defined and demarcated by an architecture that celebrates our social rituals. The mutable surface of inter-laced rubber bands, overlaid with the program and activities of the domestic realm fabricate the collective composition of the rubber-banded house.



position 1



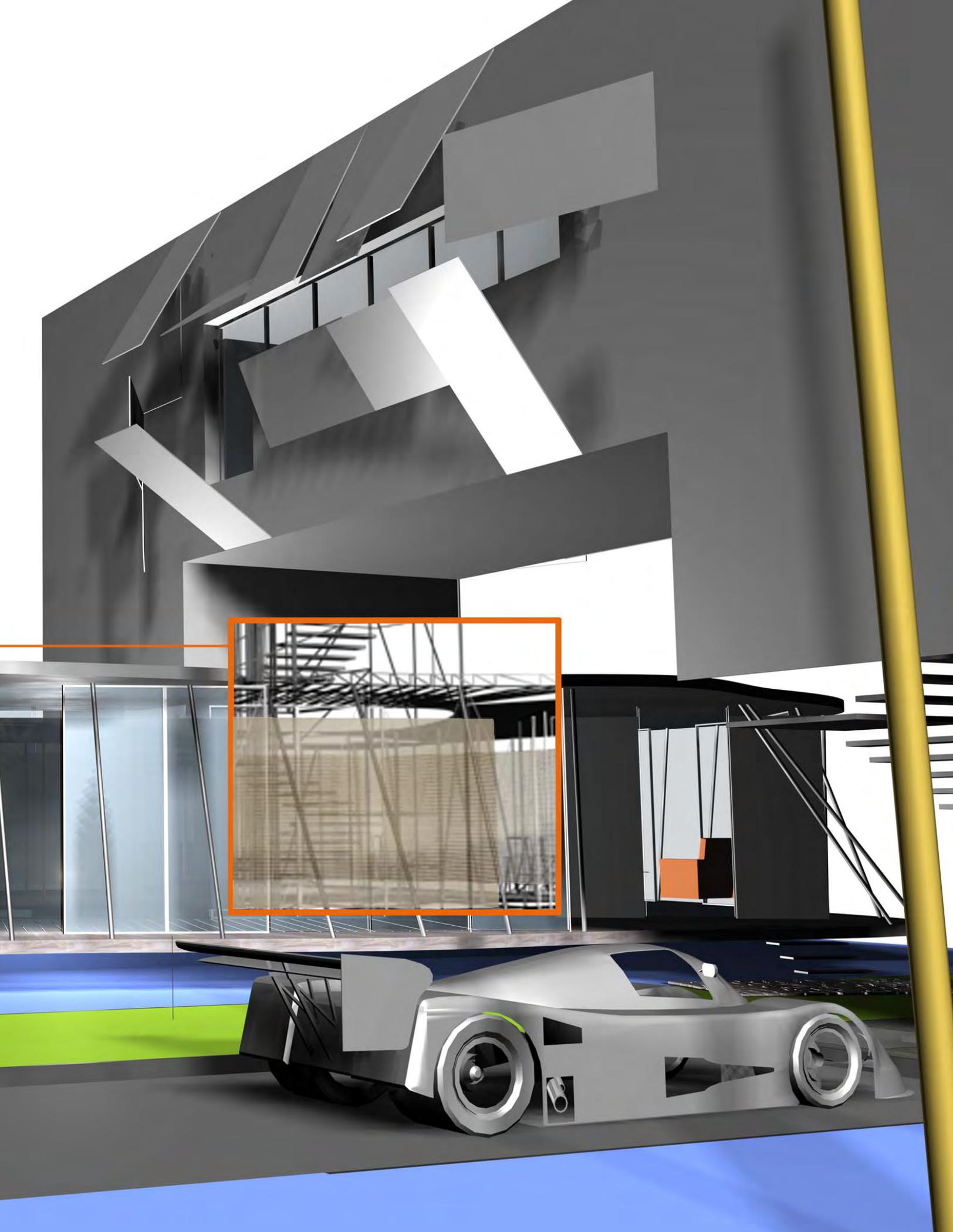
position 2

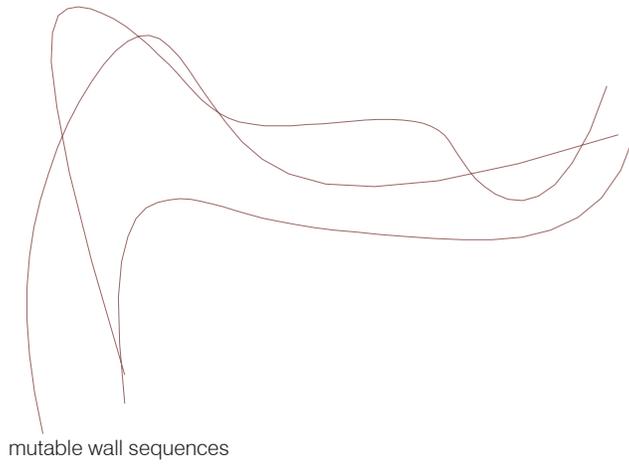
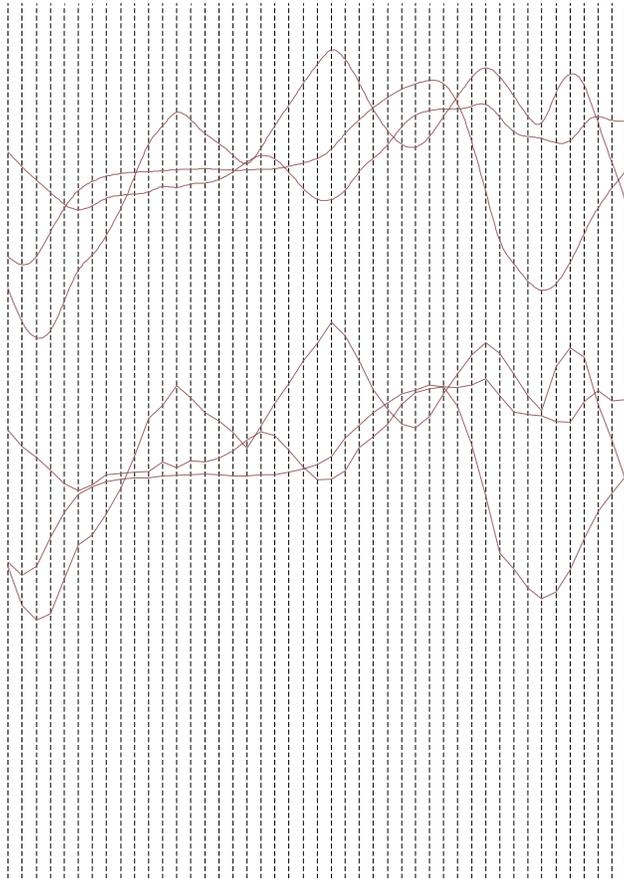


position 3

## x-ray







iteration 01

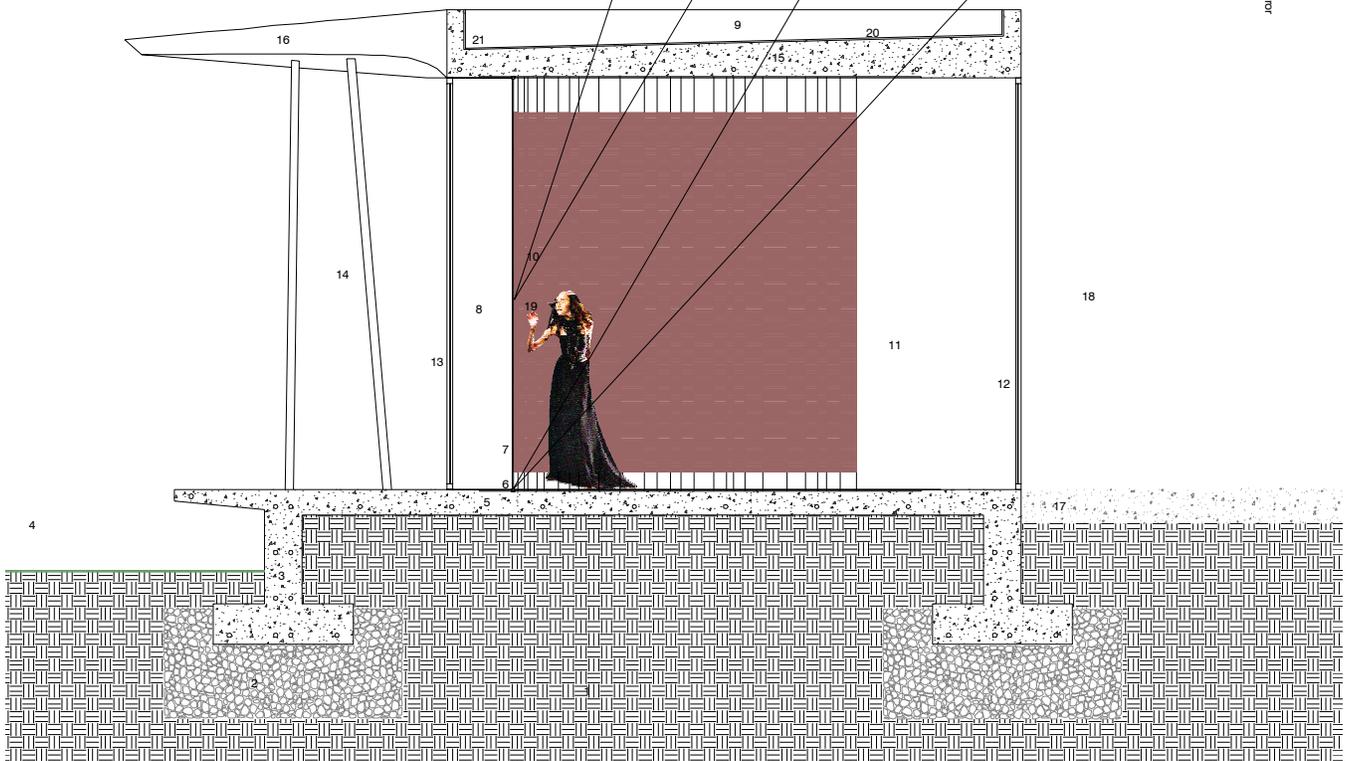
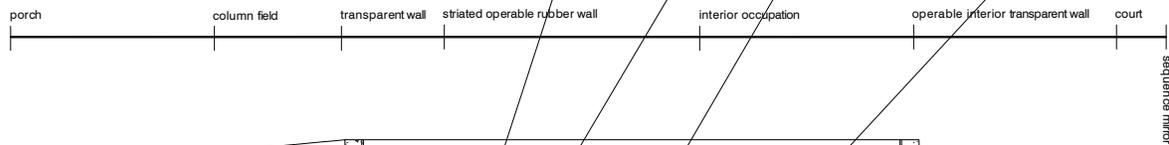
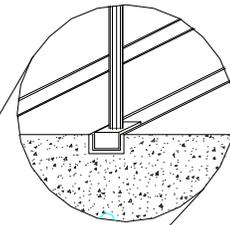
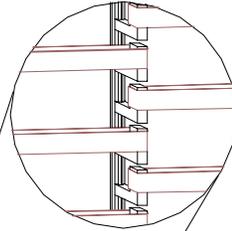


iteration 02



iteration 03

- 1 earth
- 2 compacted gravel
- 3 concrete pier foundation
- 4 suburban lawn
- 5 radiat slab on grade - polished concrete
- 6 inset sliding track
- 7 stress pole - vertical .5" stainless steel
- 8 porch
- 9 parapet roof
- 10 interlocking rubber band wall
- 11 flexible interior
- 12 operable glass panel
- 13 fixed glass panel
- 14 2" steel pipe column - roof struts
- 15 polished concrete roof
- 16 recessionary roof overhang
- 17 gravel
- 18 interior courtyard
- 19 operable energy
- 20 waterproof membrane
- 21 internal drain



sequence mirror



