

ISN'T THAT SPATIAL:

Manifestations of the Metafigural in an Aquatics Center
for Santa Barbara, California

By Ken Radtkey

Bachelor of Science in Mechanical Engineering
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January 20, 1989

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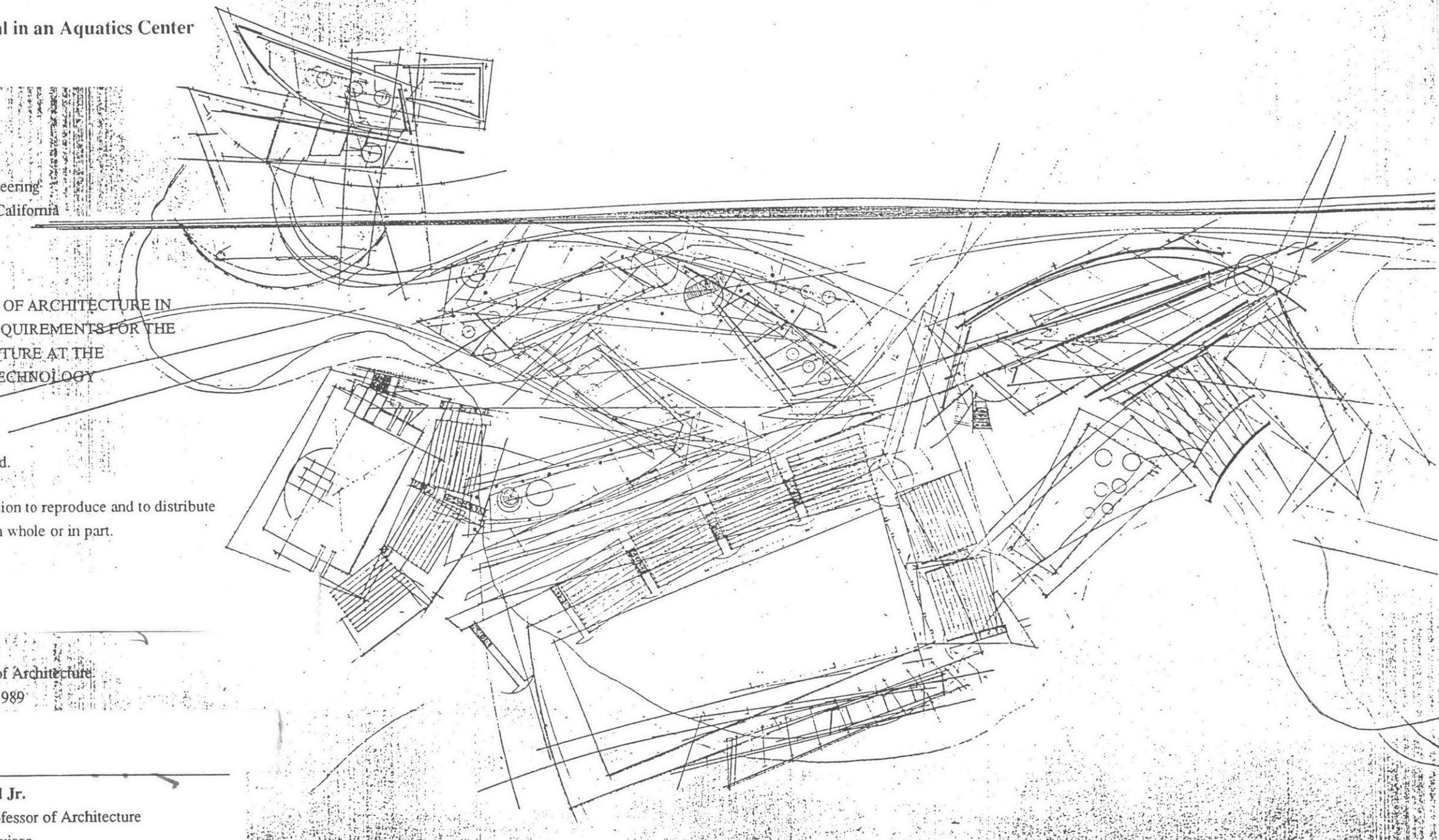
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ABSTRACT

This thesis is the design of a center for aquatic sport for the City of Santa Barbara. The design supports a variety of rituals to be acted out by users including infant nonswimmers, elite international competitors, and citizens of all ages seeking to recreate their bodies and spirits.

The term "metafigural", invented in my effort to describe an attitude toward architecture and space making, is introduced here. And, the images in this thesis represent the last of several design iterations in each of which I sought to further manifest the attributes of "metafigurality".

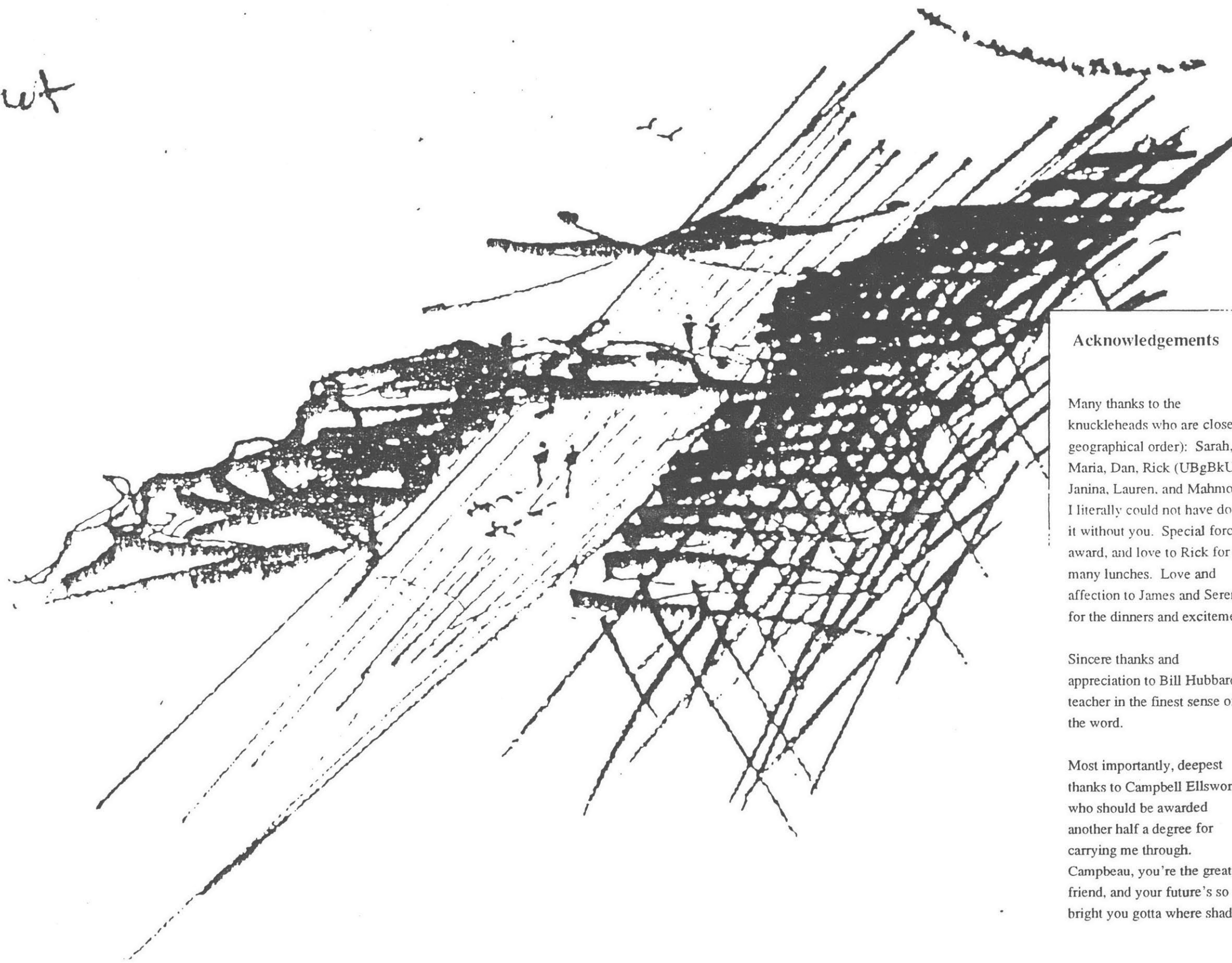
Submitted to the Department of Architecture on January 20,
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degree of Master of Architecture.

Thesis Supervisor:
Title:

Bill Hubbard Jr.
Assistant Professor
of Architecture

Wall = wal
well = horizon
light = wall
solid ≈ void

vaped out



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Sincere thanks and appreciation to Bill Hubbard: a teacher in the finest sense of the word.

Most importantly, deepest thanks to Campbell Ellsworth who should be awarded another half a degree for carrying me through. Campbeau, you're the greatest, friend, and your future's so bright you gotta wear shades!

Introduction

H. Allen Brooks, in his essay, "Wright and the Destruction of the Box" describes the way that Wright designed interior space, and at one point summarizes:

"Wright analyzed the components of a room, which basically was a box. He realized that the corners were the most expressive element, so he demolished them first. He then dismembered intermediary walls, ceilings, and even floors. Finally, as was later to occur in synthetic Cubism, he reassembled the shattered pieces (images) in a different spatial context."

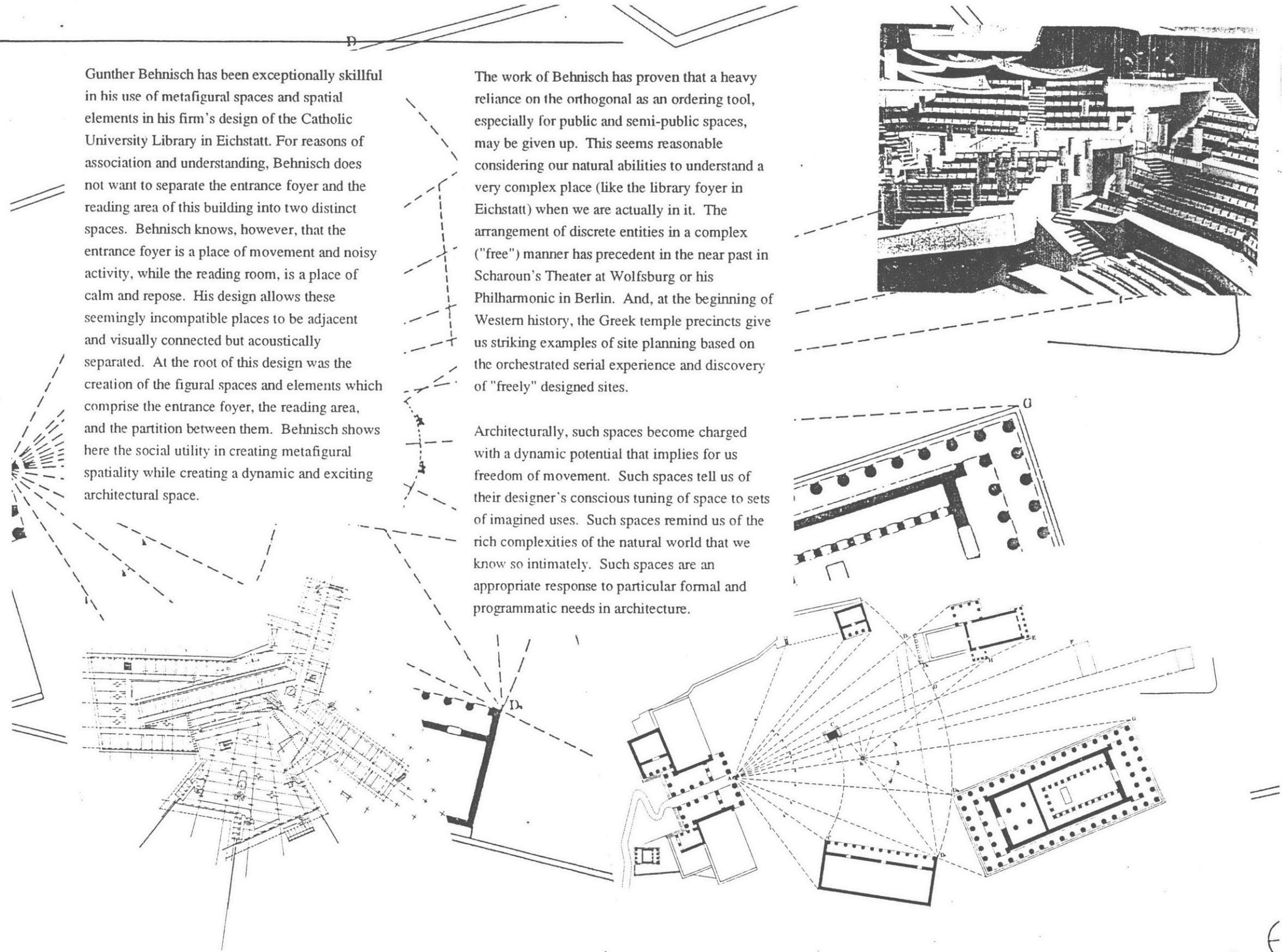
Brooks tells us that the "destruction of the box" is the first essential design step for Wright and for others who would design toward a space where all elements are figures in a continuous context of sibling figures (as opposed to a space where all elements are figural discontinuities in a "ground"). A space comprised entirely of figural elements is an embodiment of what I will call metafigural spatiality.

Just as Wright reassembled shattered images of the box (elements of discrete identity) in a particular spatial context, others, like Scharoun, Scarpa, and Behnisch, can be seen as creating their own reassemblages of the box within new spatial contexts. If Wright's spatial context was a built garden landscape, the lush, exciting spaces of Behnisch's Hysolar Building can be seen as having been formed within the context of a "built jungle". Critical to this metafigural reassembly is the definite integrity of the various elements that have been torn from the whole, and their distribution through space as systems of elements with legitimate identity.

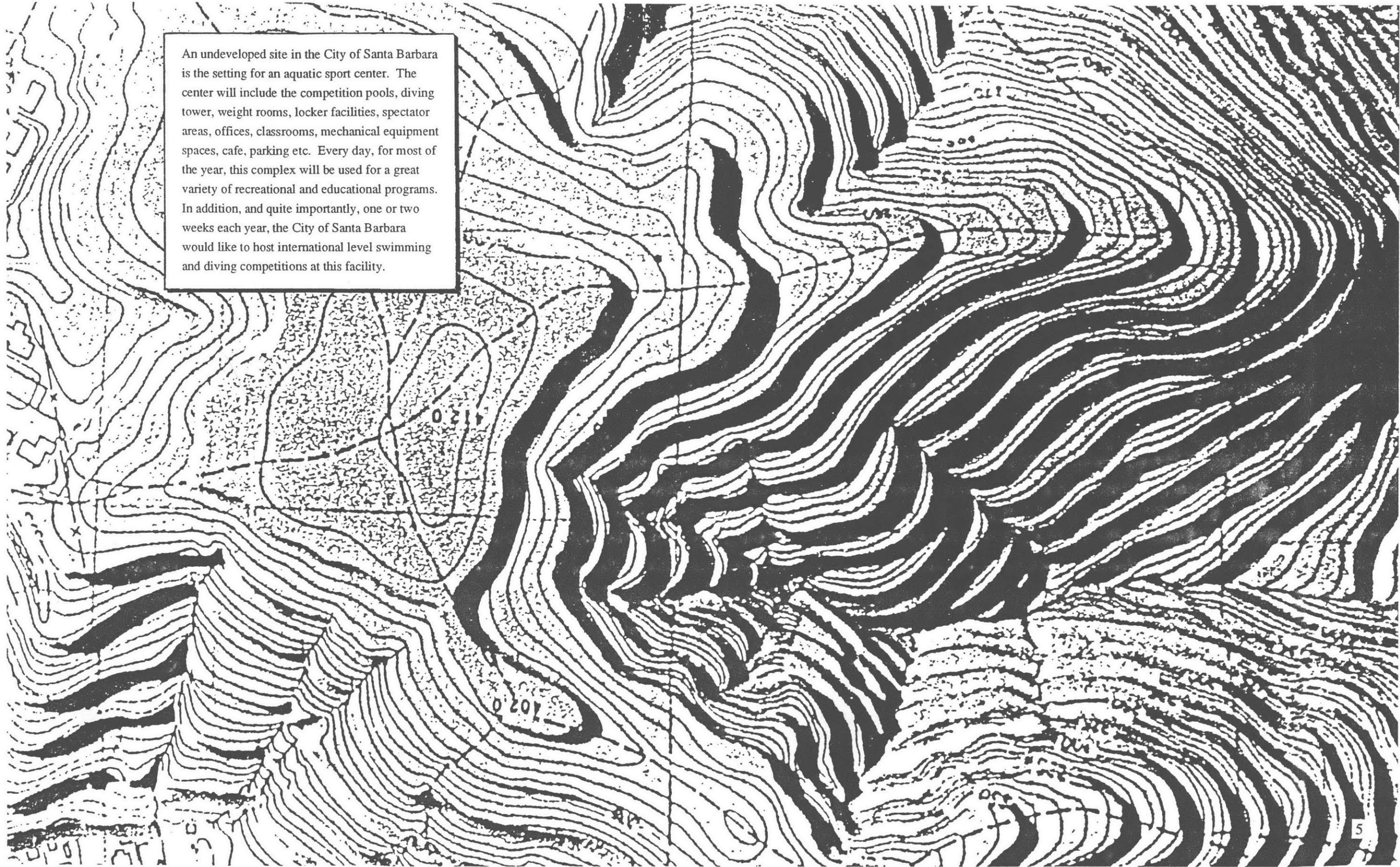
Gunther Behnisch has been exceptionally skillful in his use of metafigural spaces and spatial elements in his firm's design of the Catholic University Library in Eichstatt. For reasons of association and understanding, Behnisch does not want to separate the entrance foyer and the reading area of this building into two distinct spaces. Behnisch knows, however, that the entrance foyer is a place of movement and noisy activity, while the reading room, is a place of calm and repose. His design allows these seemingly incompatible places to be adjacent and visually connected but acoustically separated. At the root of this design was the creation of the figural spaces and elements which comprise the entrance foyer, the reading area, and the partition between them. Behnisch shows here the social utility in creating metafigural spatiality while creating a dynamic and exciting architectural space.

The work of Behnisch has proven that a heavy reliance on the orthogonal as an ordering tool, especially for public and semi-public spaces, may be given up. This seems reasonable considering our natural abilities to understand a very complex place (like the library foyer in Eichstatt) when we are actually in it. The arrangement of discrete entities in a complex ("free") manner has precedent in the near past in Scharoun's Theater at Wolfsburg or his Philharmonic in Berlin. And, at the beginning of Western history, the Greek temple precincts give us striking examples of site planning based on the orchestrated serial experience and discovery of "freely" designed sites.

Architecturally, such spaces become charged with a dynamic potential that implies for us freedom of movement. Such spaces tell us of their designer's conscious tuning of space to sets of imagined uses. Such spaces remind us of the rich complexities of the natural world that we know so intimately. Such spaces are an appropriate response to particular formal and programmatic needs in architecture.



An undeveloped site in the City of Santa Barbara is the setting for an aquatic sport center. The center will include the competition pools, diving tower, weight rooms, locker facilities, spectator areas, offices, classrooms, mechanical equipment spaces, cafe, parking etc. Every day, for most of the year, this complex will be used for a great variety of recreational and educational programs. In addition, and quite importantly, one or two weeks each year, the City of Santa Barbara would like to host international level swimming and diving competitions at this facility.

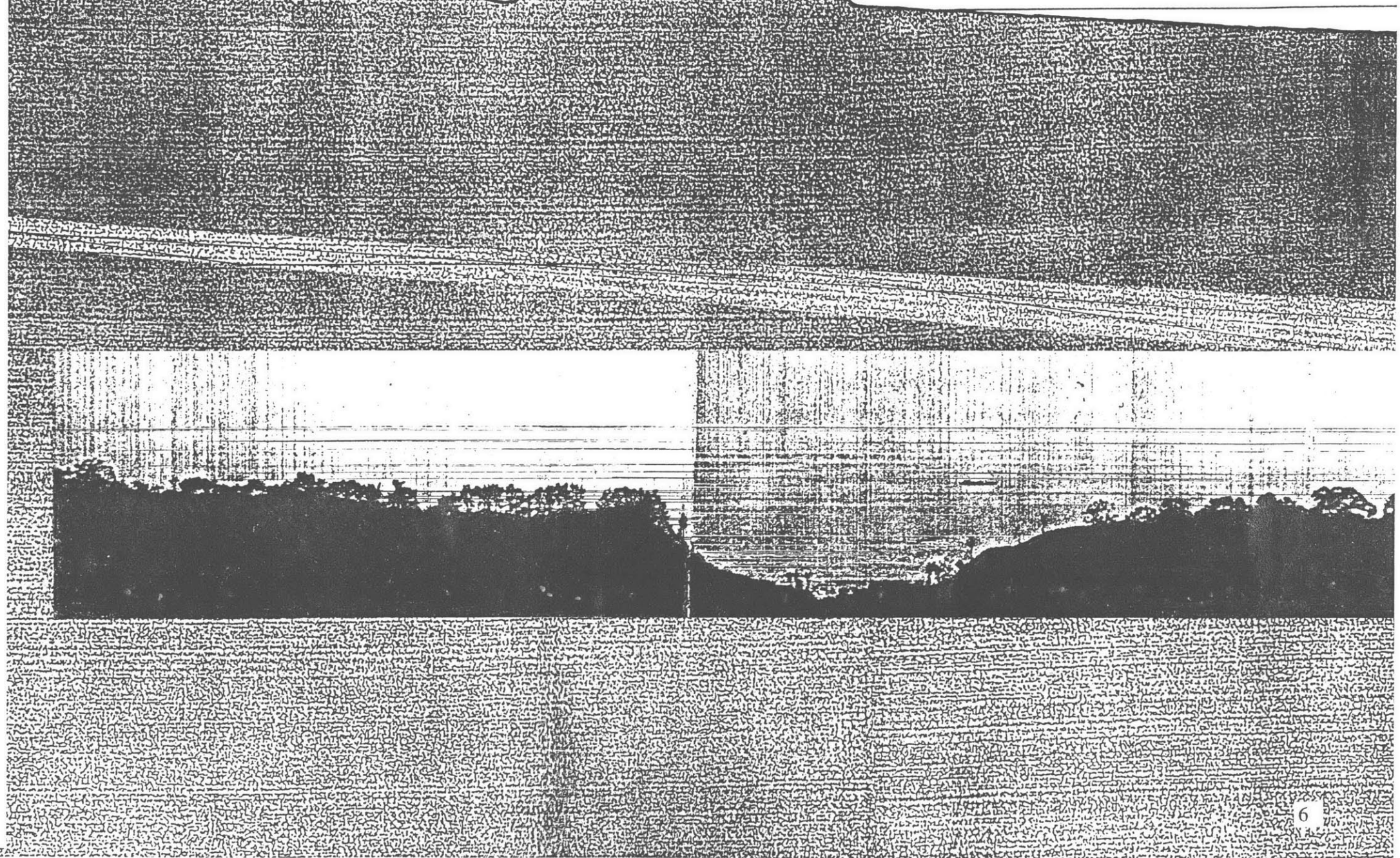


The design of the new aquatics complex for the City of Santa Barbara can be successful only when two major issues are confronted.

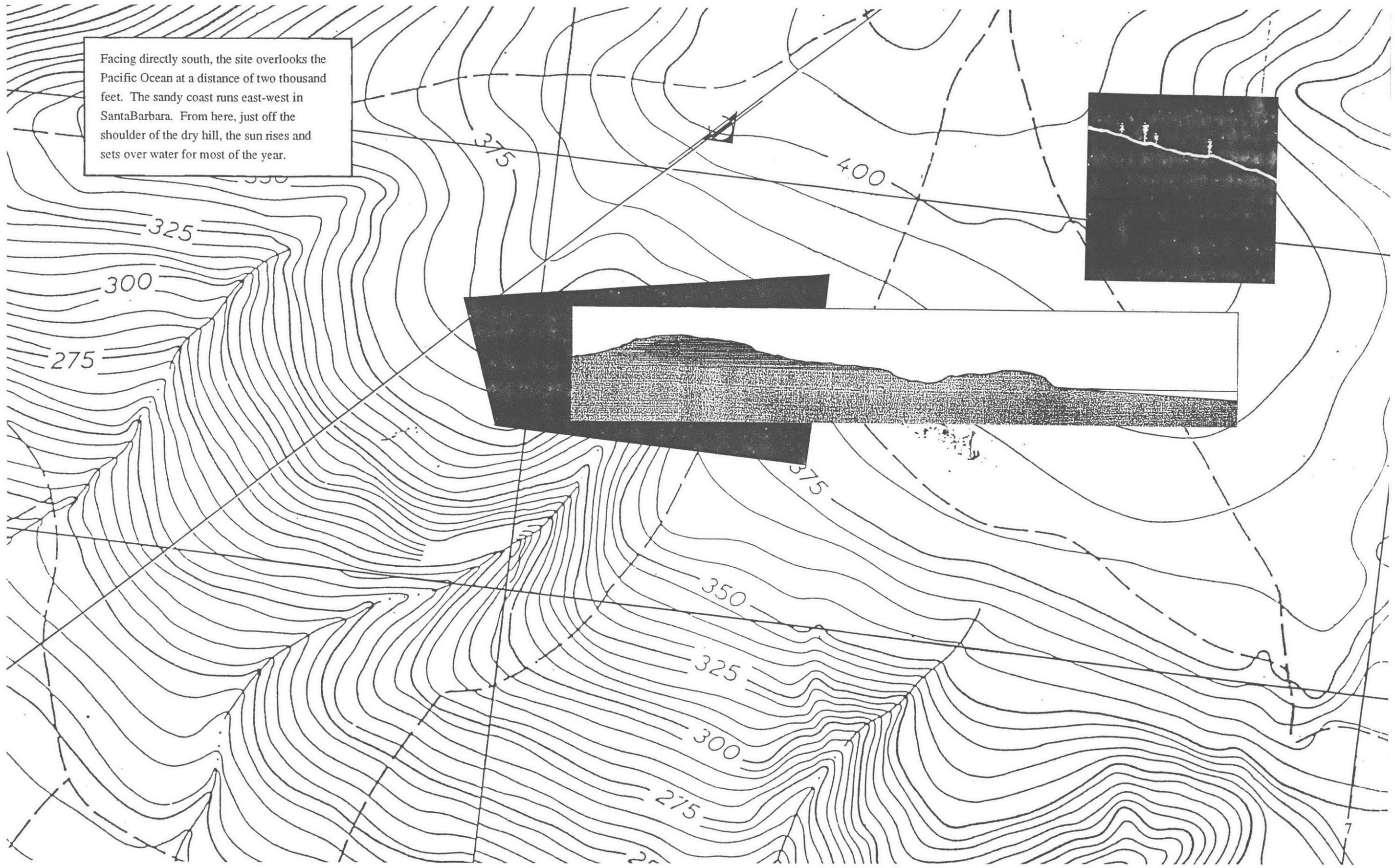
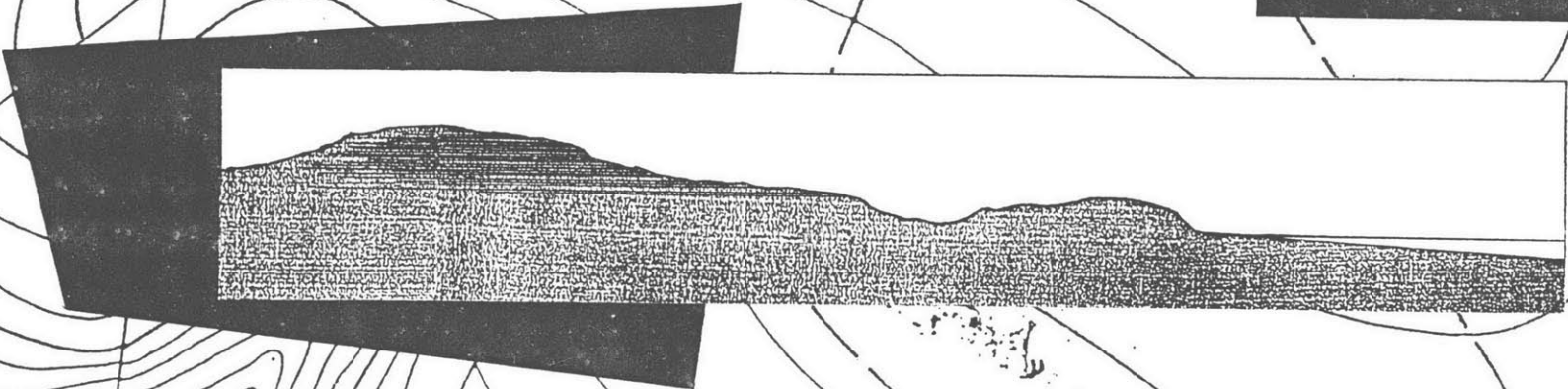
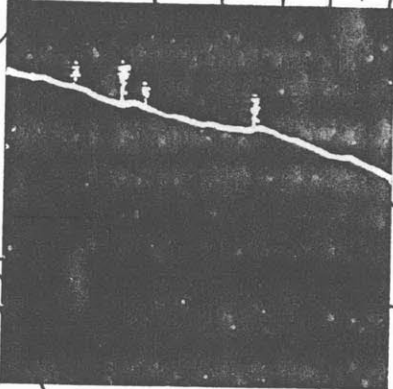
First, although this facility must be of necessity large, the place must avoid overwhelming the varied community that will use it. By connecting people to the rich complex of activities and rituals that will occur there, the place becomes an environment to discover as opposed to a place of intimidation. An example of how to clearly connect a set of spaces using a spatially metafigural assemblage of architectural elements, is seen in The library at Eichstatt. Creating a communicative, metafigural spatiality using all the elements within the built landscape (pools, spectator seating, structure, closure, etc.) can, therefore, meet the disparate needs of many users.

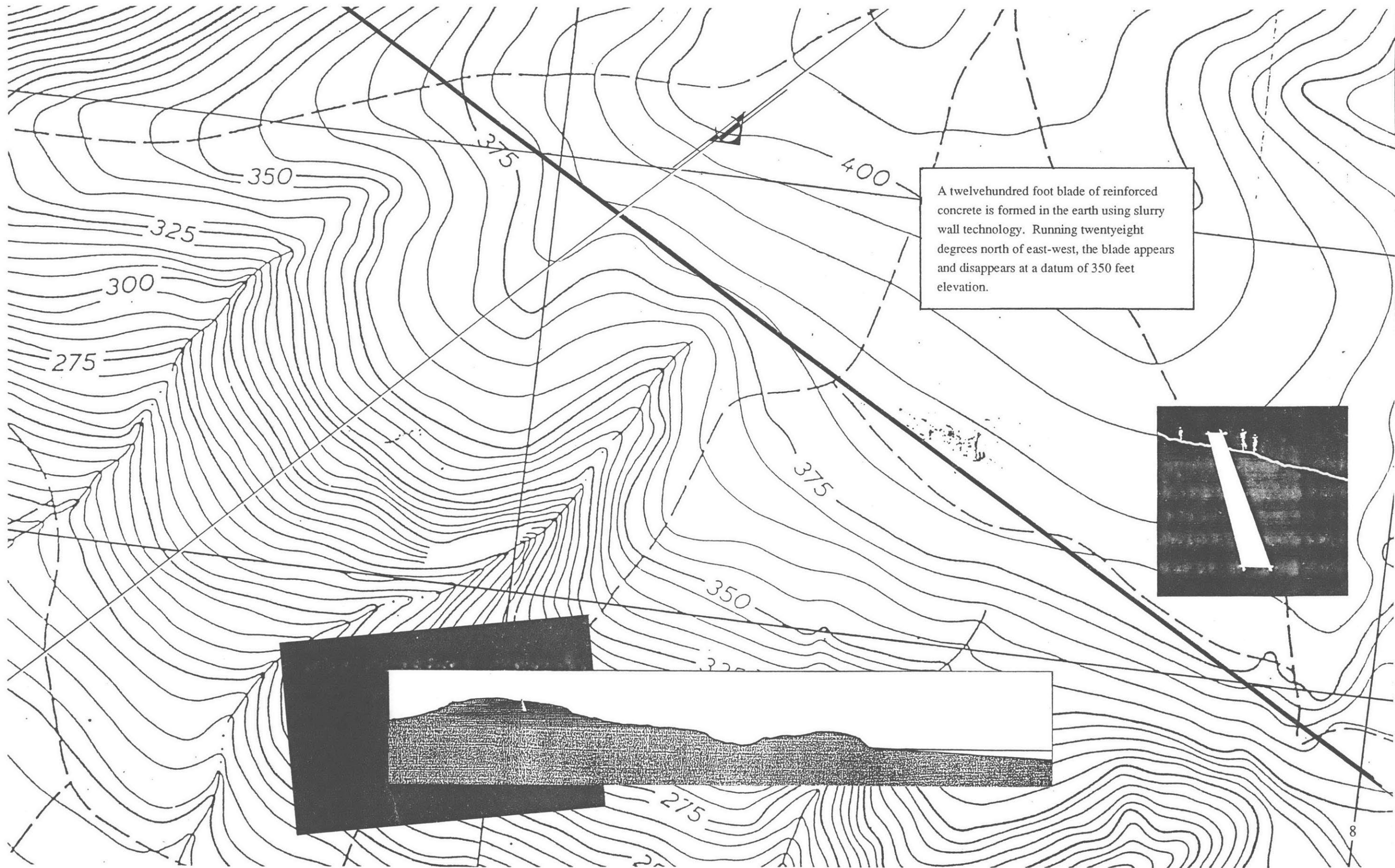
Secondly, the permanent alteration of a fantastic natural landscape by a large center like this must not be an intervention of dominance or submission. A set of elements, introduced and native, reacting in sympathetic parity is needed. A metafigural design would lead us to a place of elemental siblings in a sensuous landscape of both built and naturally occurring identities.

The design of a metafigural spatiality across the site is the primary means through which the programmatic and social (spatial!) needs of the community are addressed in this project.

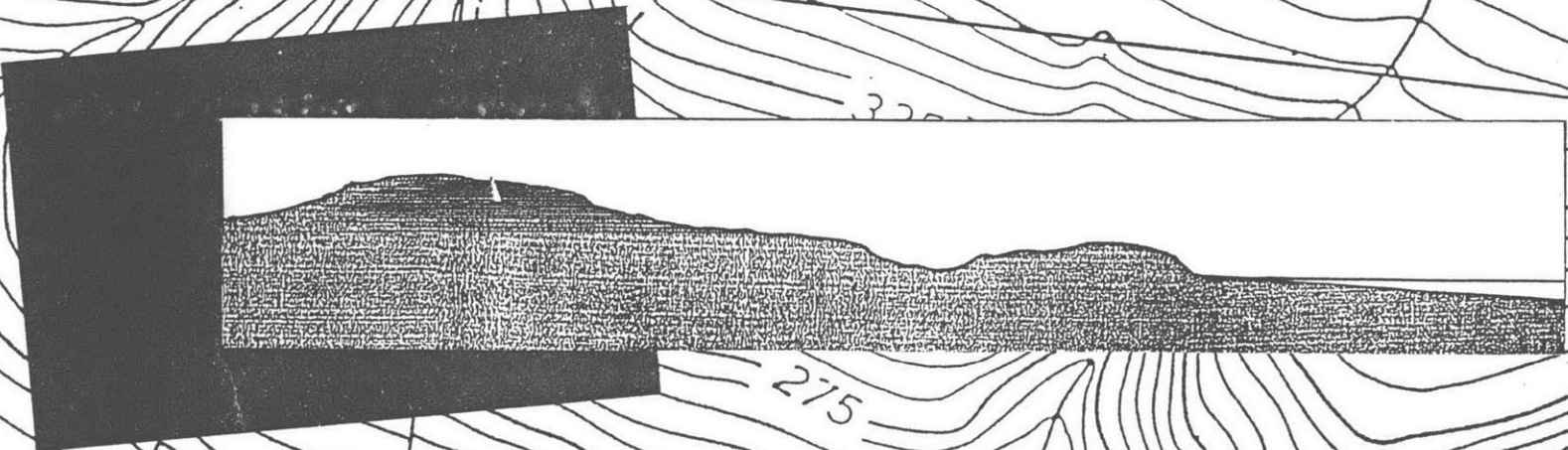
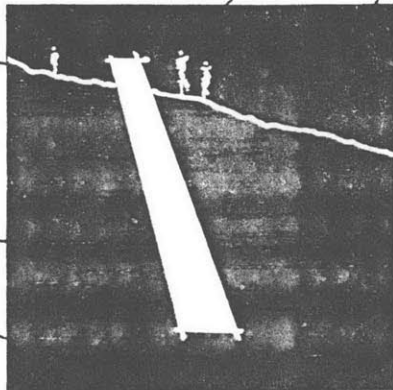


Facing directly south, the site overlooks the Pacific Ocean at a distance of two thousand feet. The sandy coast runs east-west in SantaBarbara. From here, just off the shoulder of the dry hill, the sun rises and sets over water for most of the year.



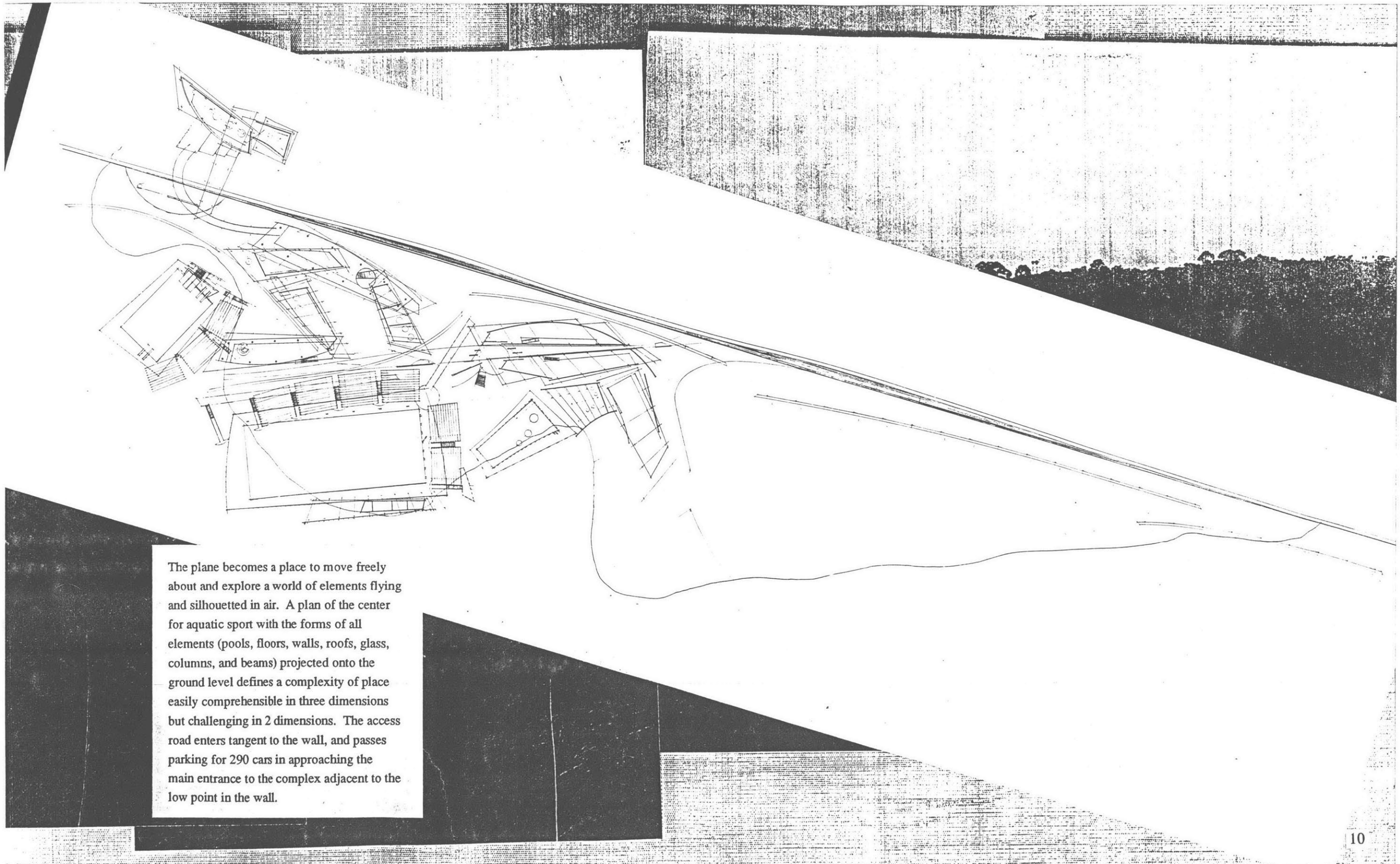


A twelvehundred foot blade of reinforced concrete is formed in the earth using slurry wall technology. Running twentyeight degrees north of east-west, the blade appears and disappears at a datum of 350 feet elevation.

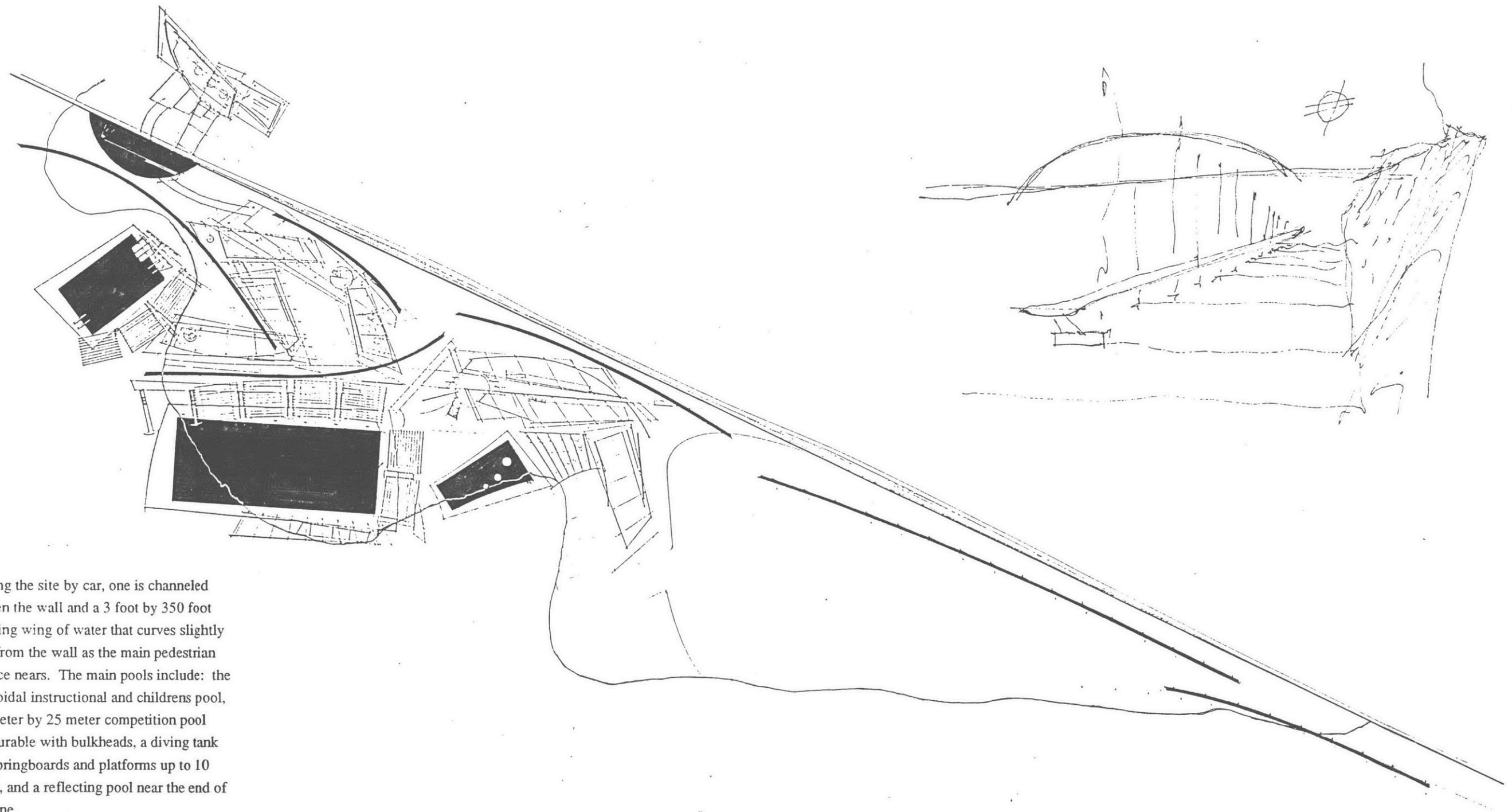




The earth above 360 feet elevation is removed. The form of the land is revealed in the section cut by **The Wall**, and in **The Plane** exposed by the removal. The wall is battered back at an angle of fifteen degrees. The solstice sunset casts long shadows down the length of the wall which is visible from the sea as a light sliver in the hillside. A place is made for the center for aquatic sport.

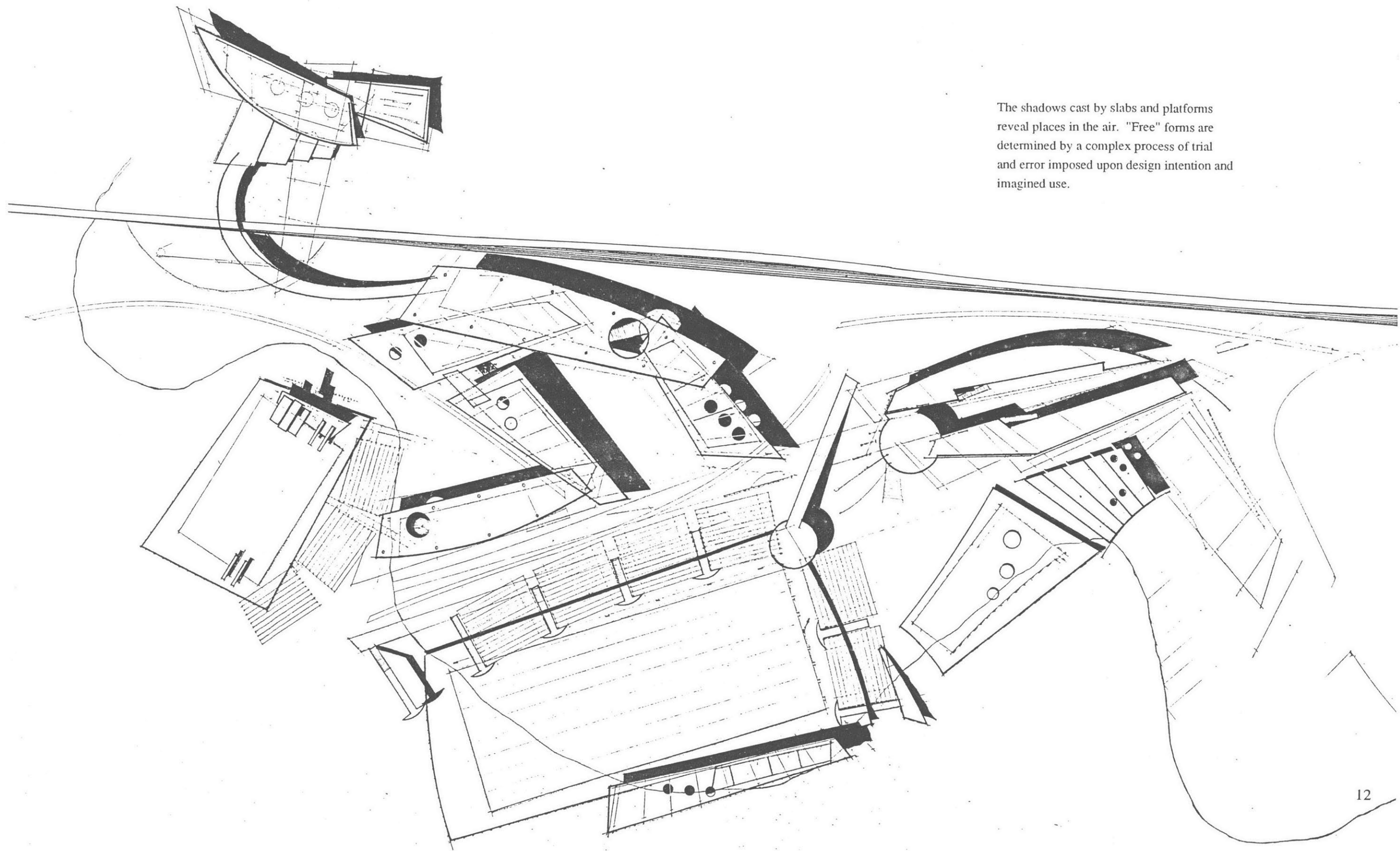


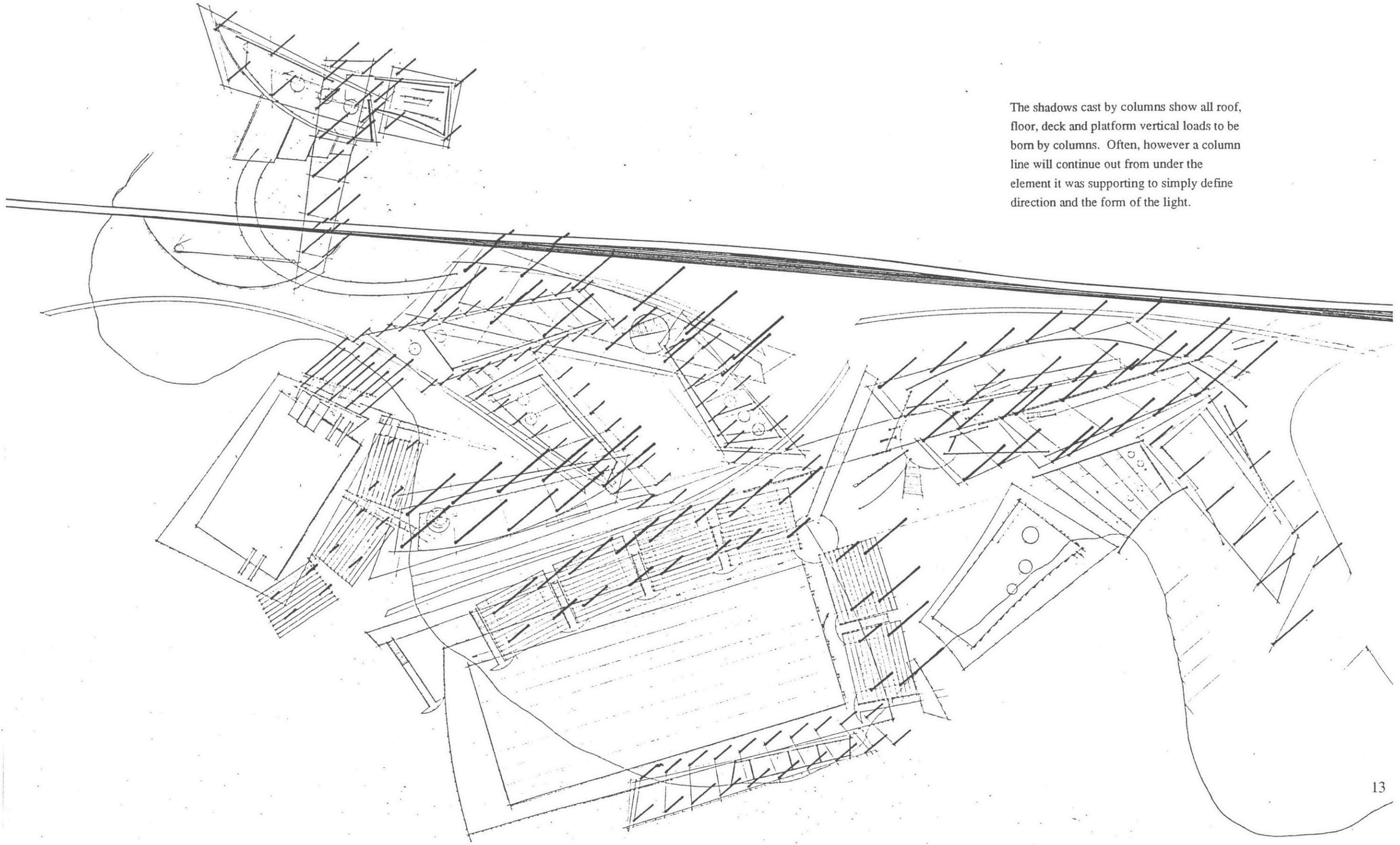
The plane becomes a place to move freely about and explore a world of elements flying and silhouetted in air. A plan of the center for aquatic sport with the forms of all elements (pools, floors, walls, roofs, glass, columns, and beams) projected onto the ground level defines a complexity of place easily comprehensible in three dimensions but challenging in 2 dimensions. The access road enters tangent to the wall, and passes parking for 290 cars in approaching the main entrance to the complex adjacent to the low point in the wall.



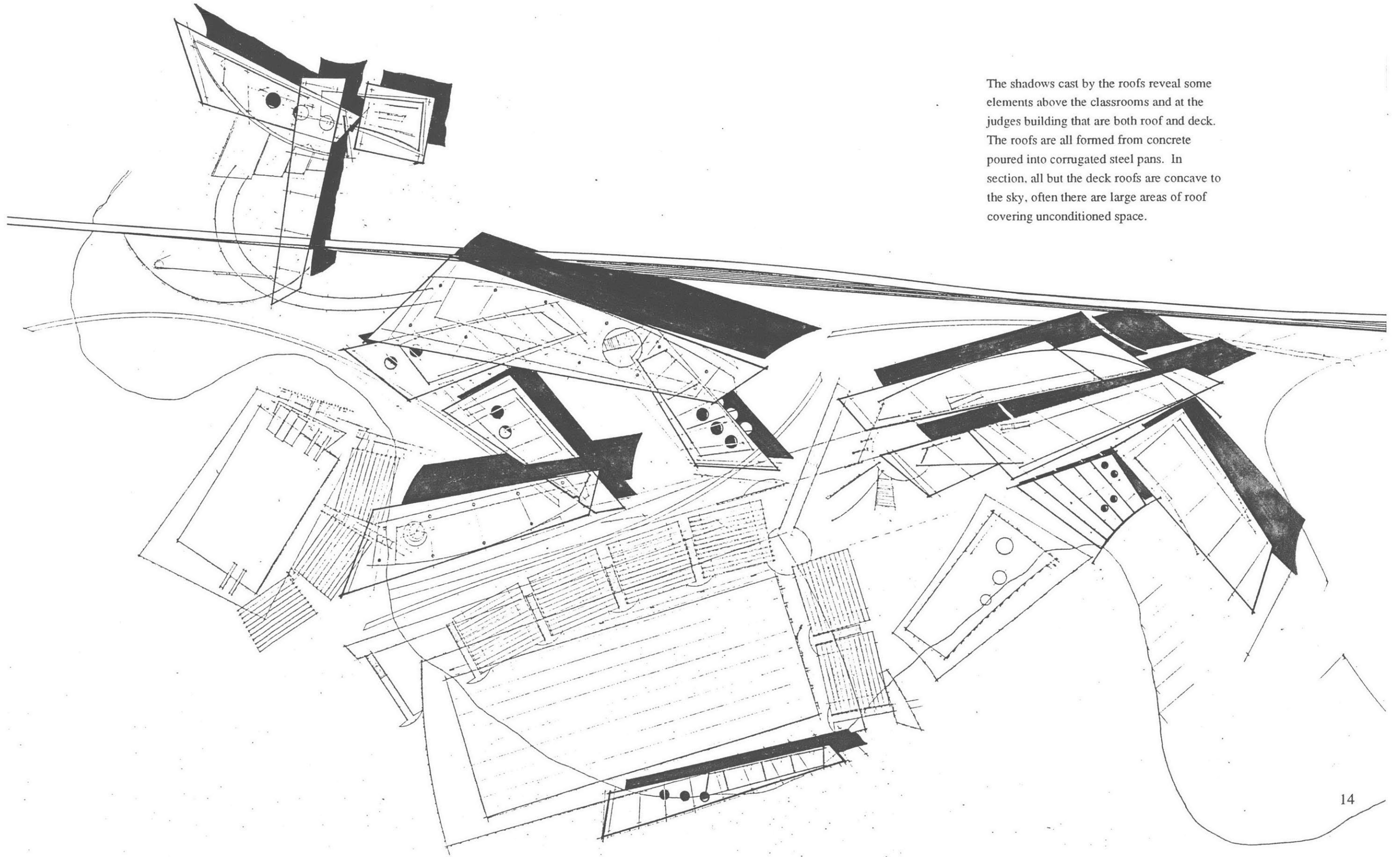
Entering the site by car, one is channeled between the wall and a 3 foot by 350 foot reflecting wing of water that curves slightly away from the wall as the main pedestrian entrance nears. The main pools include: the trapezoidal instructional and childrens pool, a 60 meter by 25 meter competition pool configurable with bulkheads, a diving tank with springboards and platforms up to 10 meters, and a reflecting pool near the end of the plane.

The shadows cast by slabs and platforms reveal places in the air. "Free" forms are determined by a complex process of trial and error imposed upon design intention and imagined use.



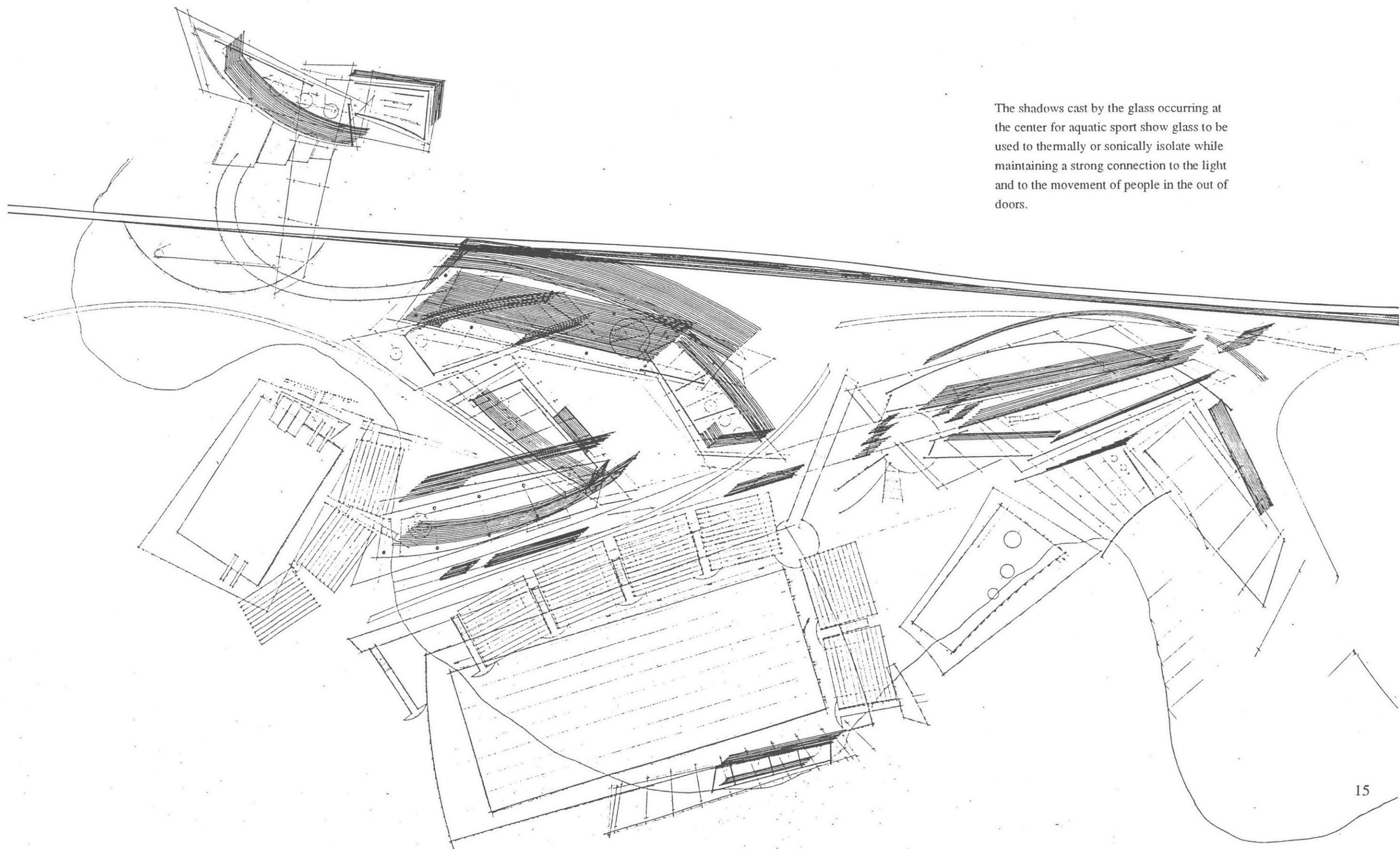


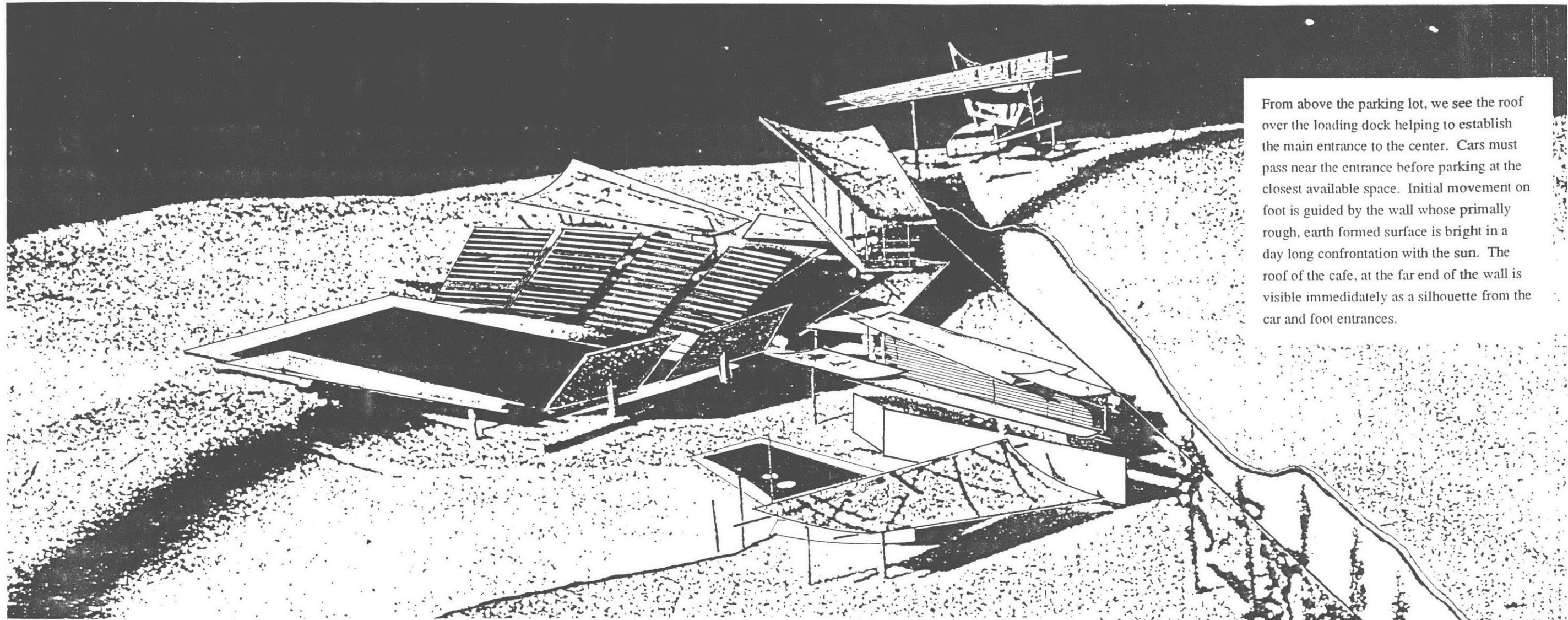
The shadows cast by columns show all roof, floor, deck and platform vertical loads to be born by columns. Often, however a column line will continue out from under the element it was supporting to simply define direction and the form of the light.



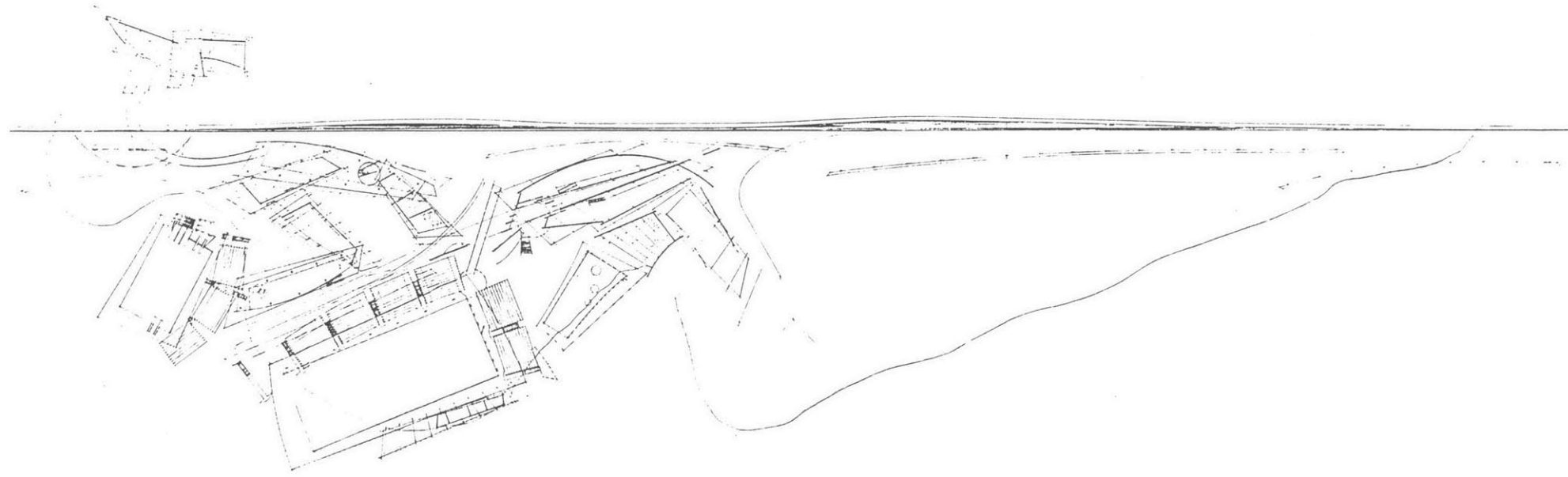
The shadows cast by the roofs reveal some elements above the classrooms and at the judges building that are both roof and deck. The roofs are all formed from concrete poured into corrugated steel pans. In section, all but the deck roofs are concave to the sky, often there are large areas of roof covering unconditioned space.

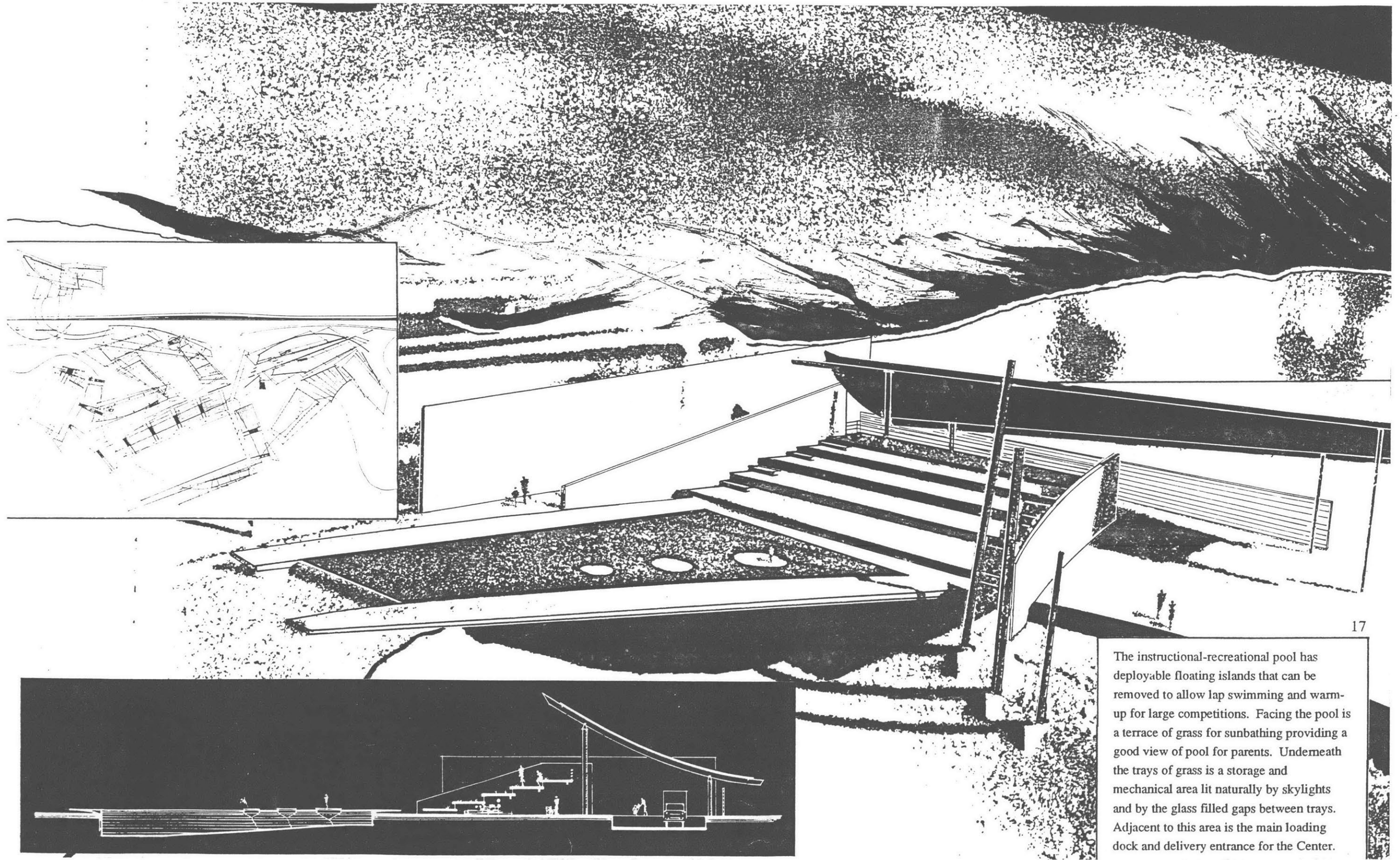
The shadows cast by the glass occurring at the center for aquatic sport show glass to be used to thermally or sonically isolate while maintaining a strong connection to the light and to the movement of people in the out of doors.



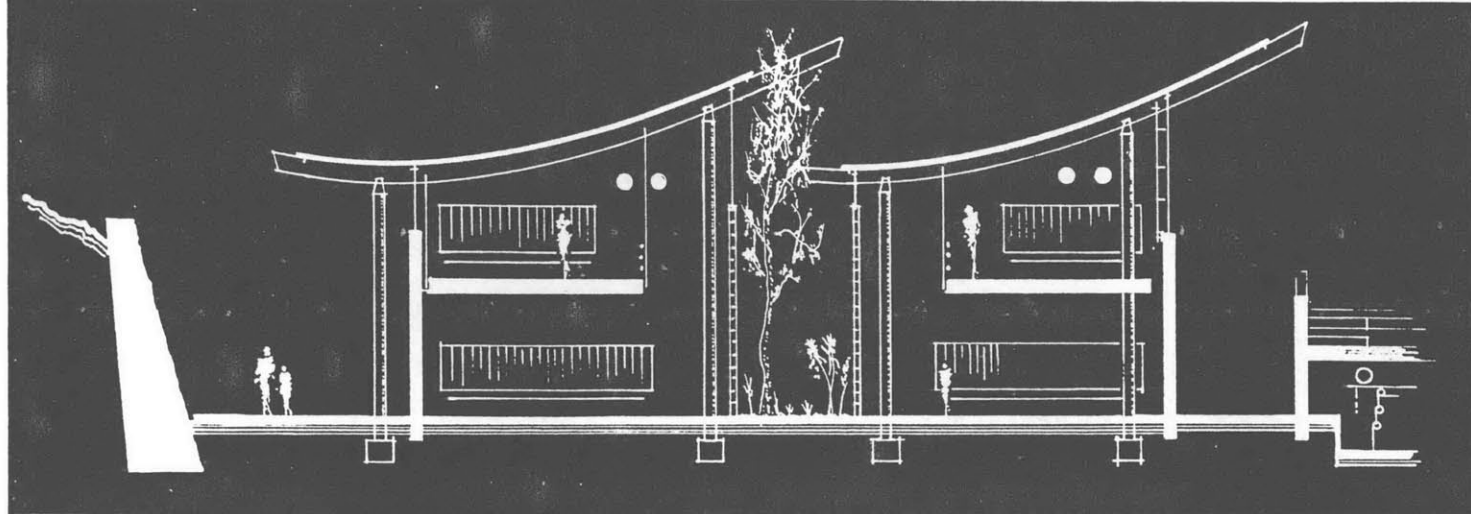


From above the parking lot, we see the roof over the loading dock helping to establish the main entrance to the center. Cars must pass near the entrance before parking at the closest available space. Initial movement on foot is guided by the wall whose primarily rough, earth formed surface is bright in a day long confrontation with the sun. The roof of the cafe, at the far end of the wall is visible immediately as a silhouette from the car and foot entrances.

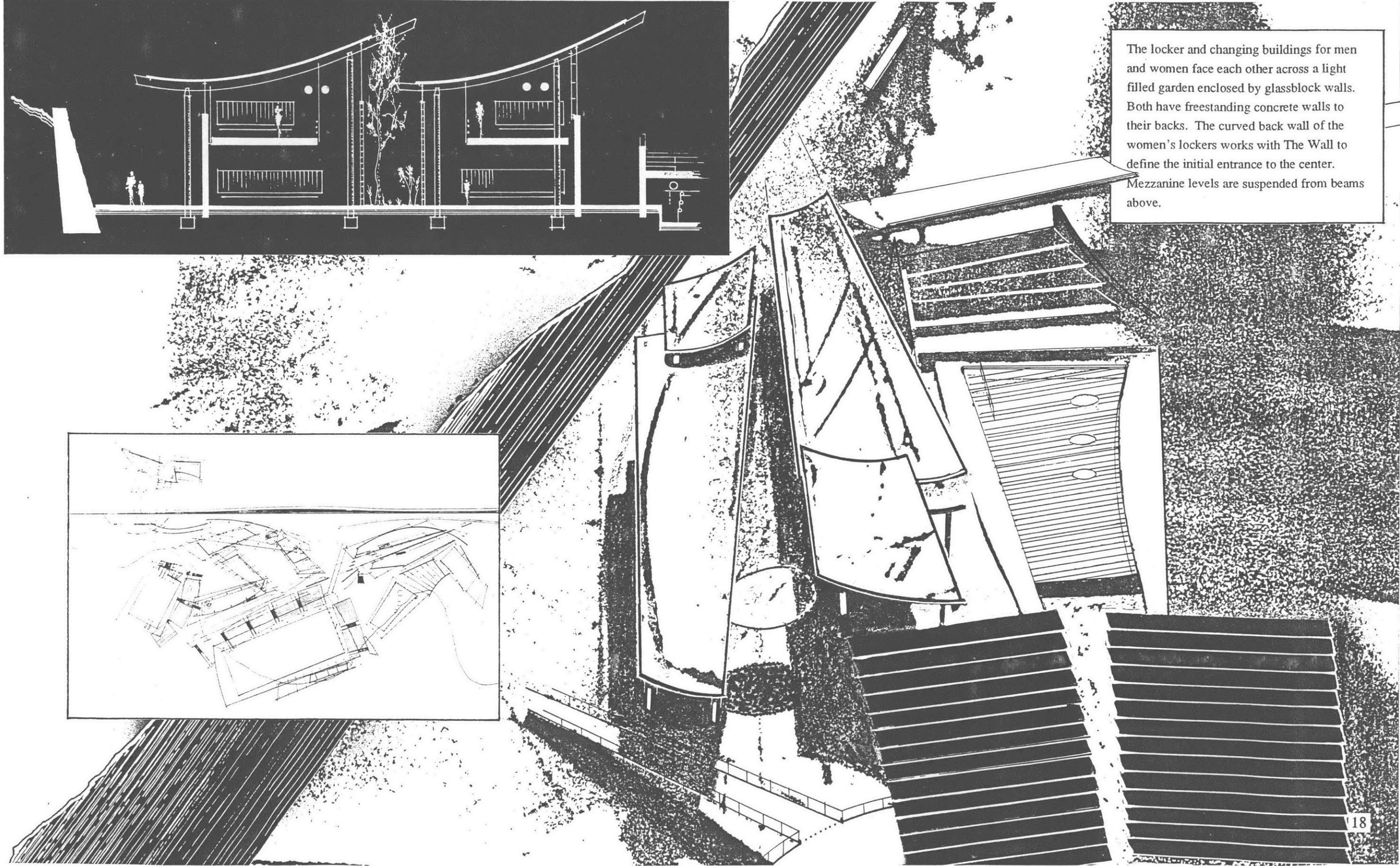
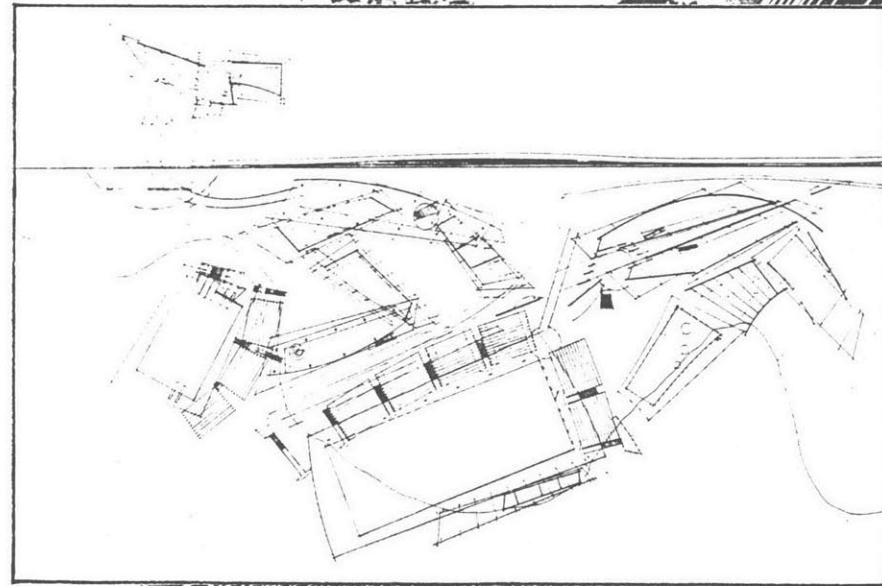


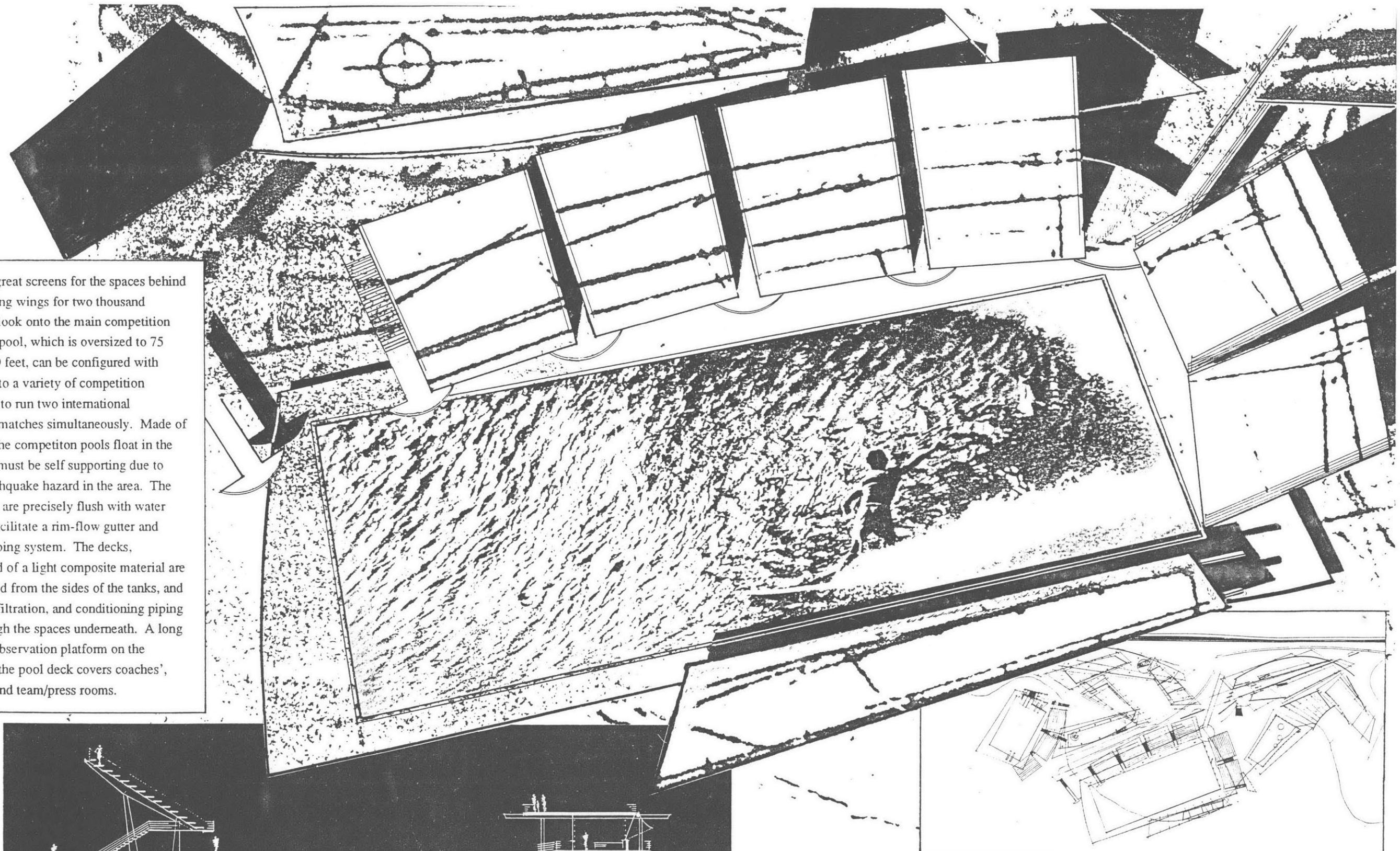


The instructional-recreational pool has deployable floating islands that can be removed to allow lap swimming and warm-up for large competitions. Facing the pool is a terrace of grass for sunbathing providing a good view of pool for parents. Undemeath the trays of grass is a storage and mechanical area lit naturally by skylights and by the glass filled gaps between trays. Adjacent to this area is the main loading dock and delivery entrance for the Center.

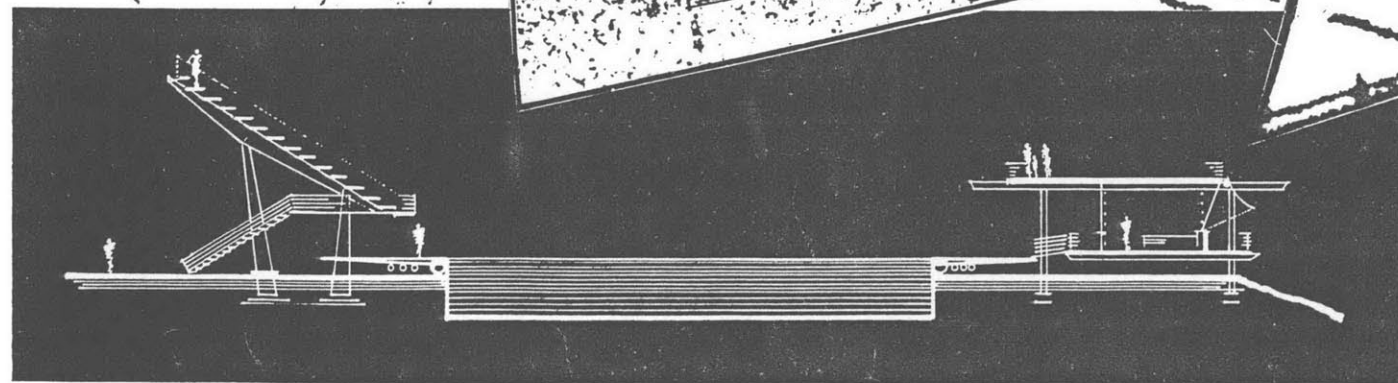


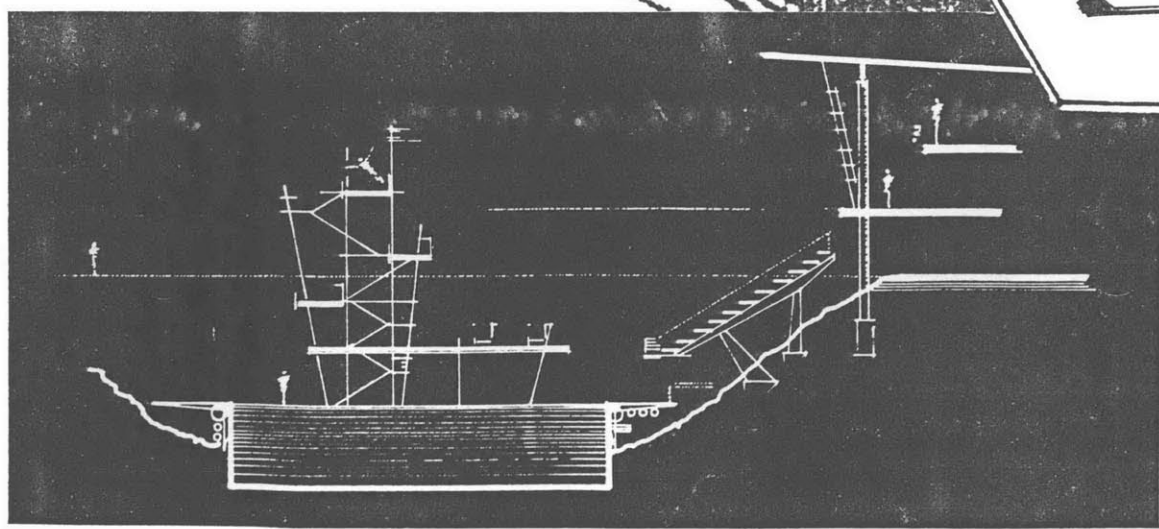
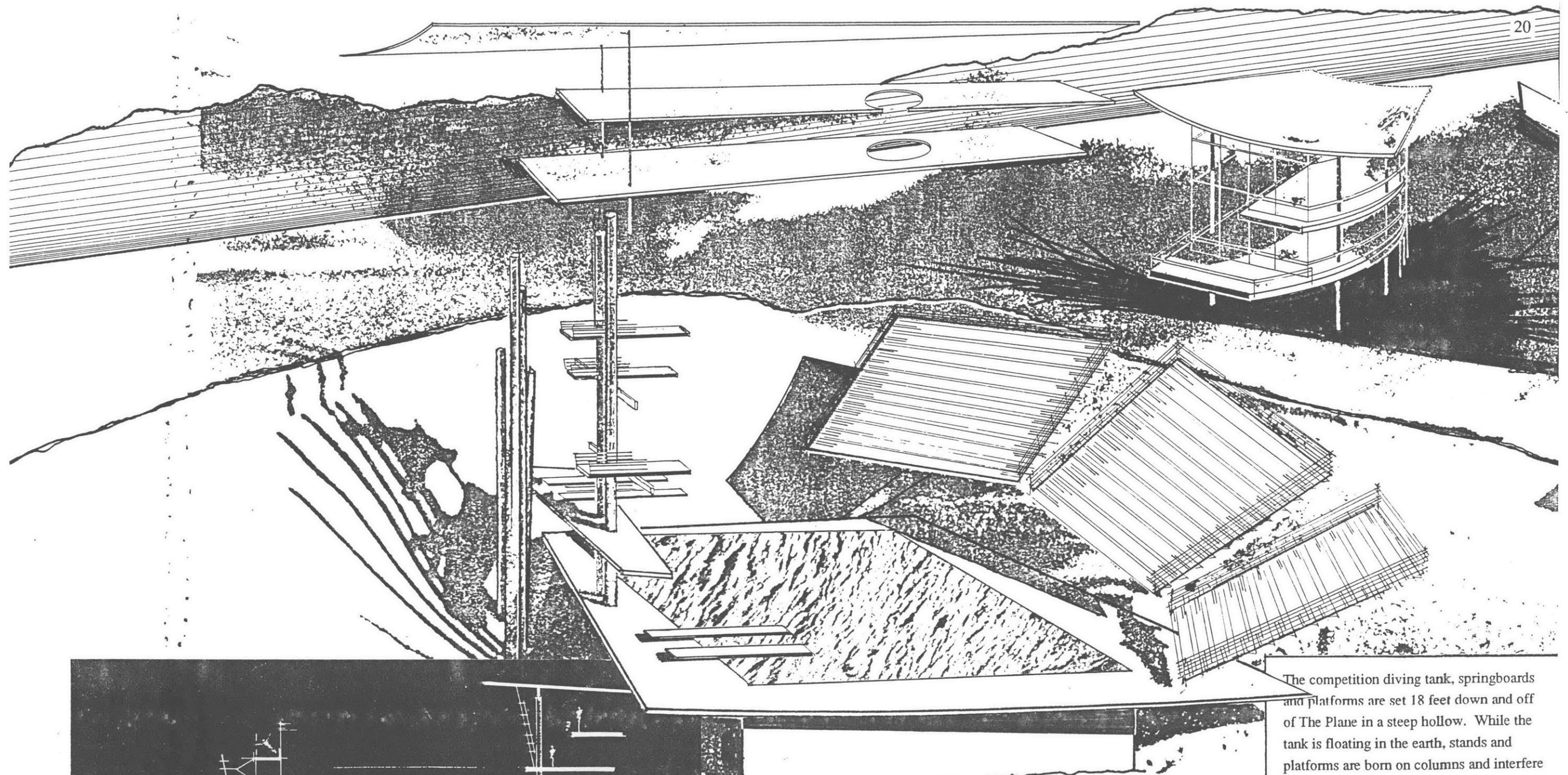
The locker and changing buildings for men and women face each other across a light filled garden enclosed by glassblock walls. Both have freestanding concrete walls to their backs. The curved back wall of the women's lockers works with The Wall to define the initial entrance to the center. Mezzanine levels are suspended from beams above.



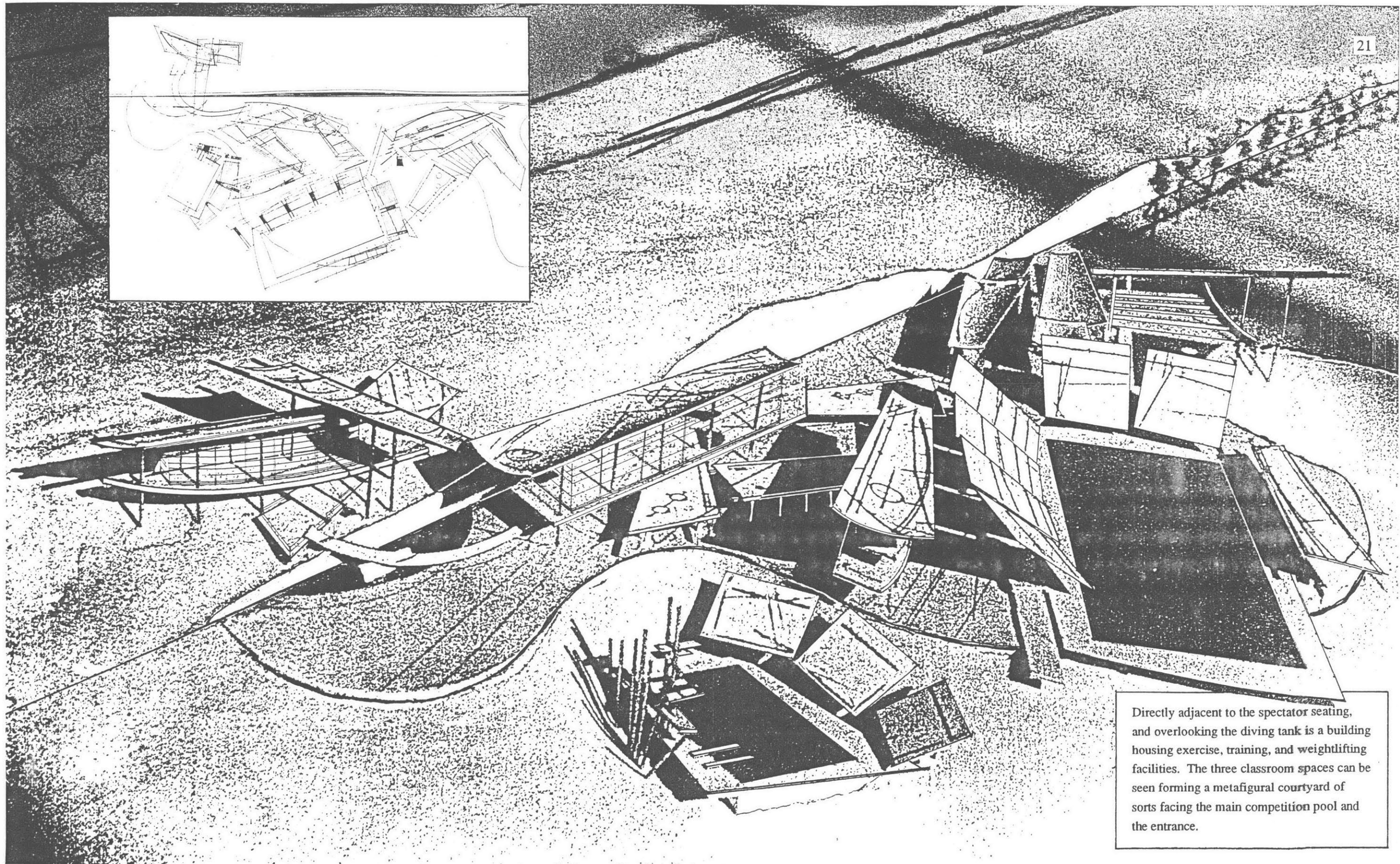
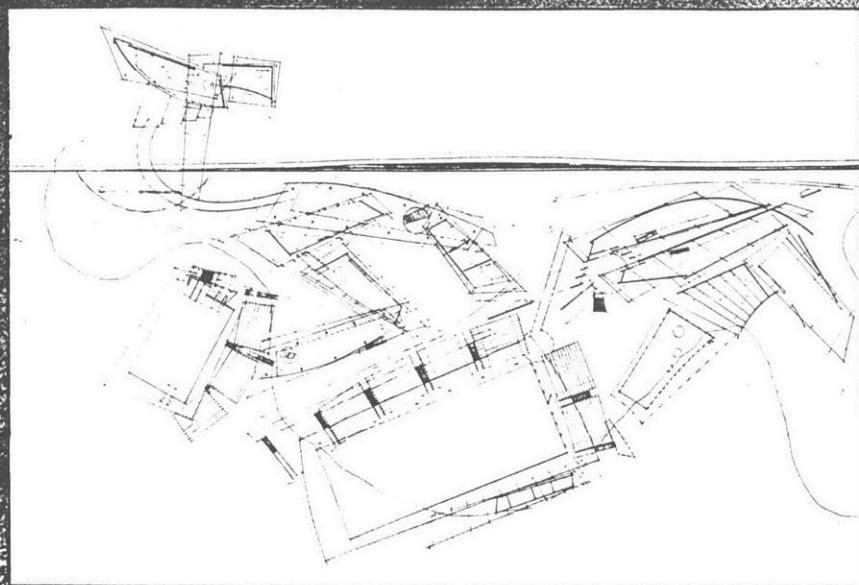


Acting as great screens for the spaces behind them, seating wings for two thousand spectators look onto the main competition pool. The pool, which is oversized to 75 feet by 180 feet, can be configured with bulkheads to a variety of competition lengths, or to run two international water polo matches simultaneously. Made of metal, all the competition pools float in the earth, and must be self supporting due to severe earthquake hazard in the area. The pool decks are precisely flush with water levels to facilitate a rim-flow gutter and wave damping system. The decks, constructed of a light composite material are cantilevered from the sides of the tanks, and overflow, filtration, and conditioning piping runs through the spaces underneath. A long roofdeck observation platform on the outside of the pool deck covers coaches', officials' and team/press rooms.



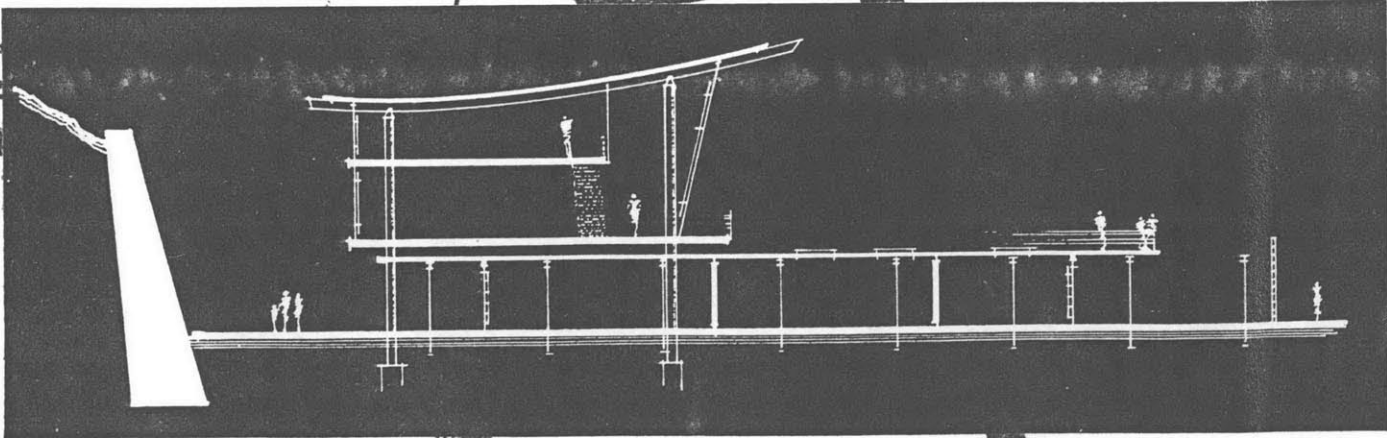
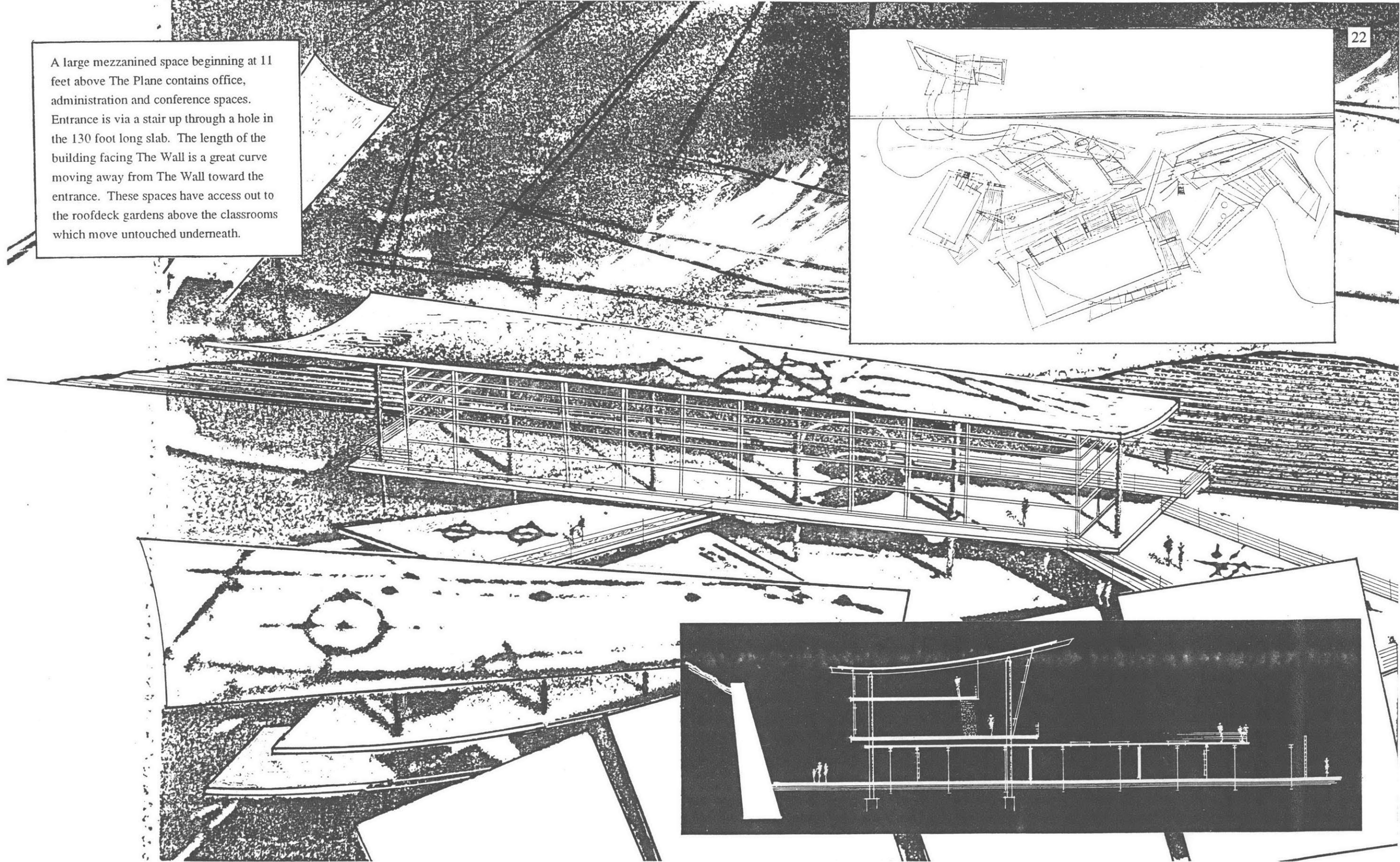
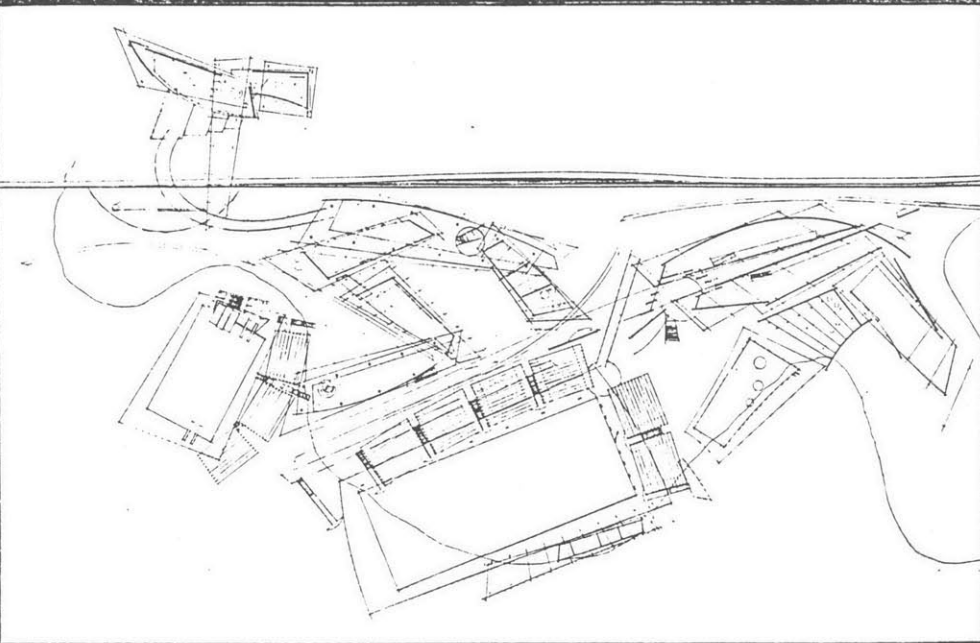


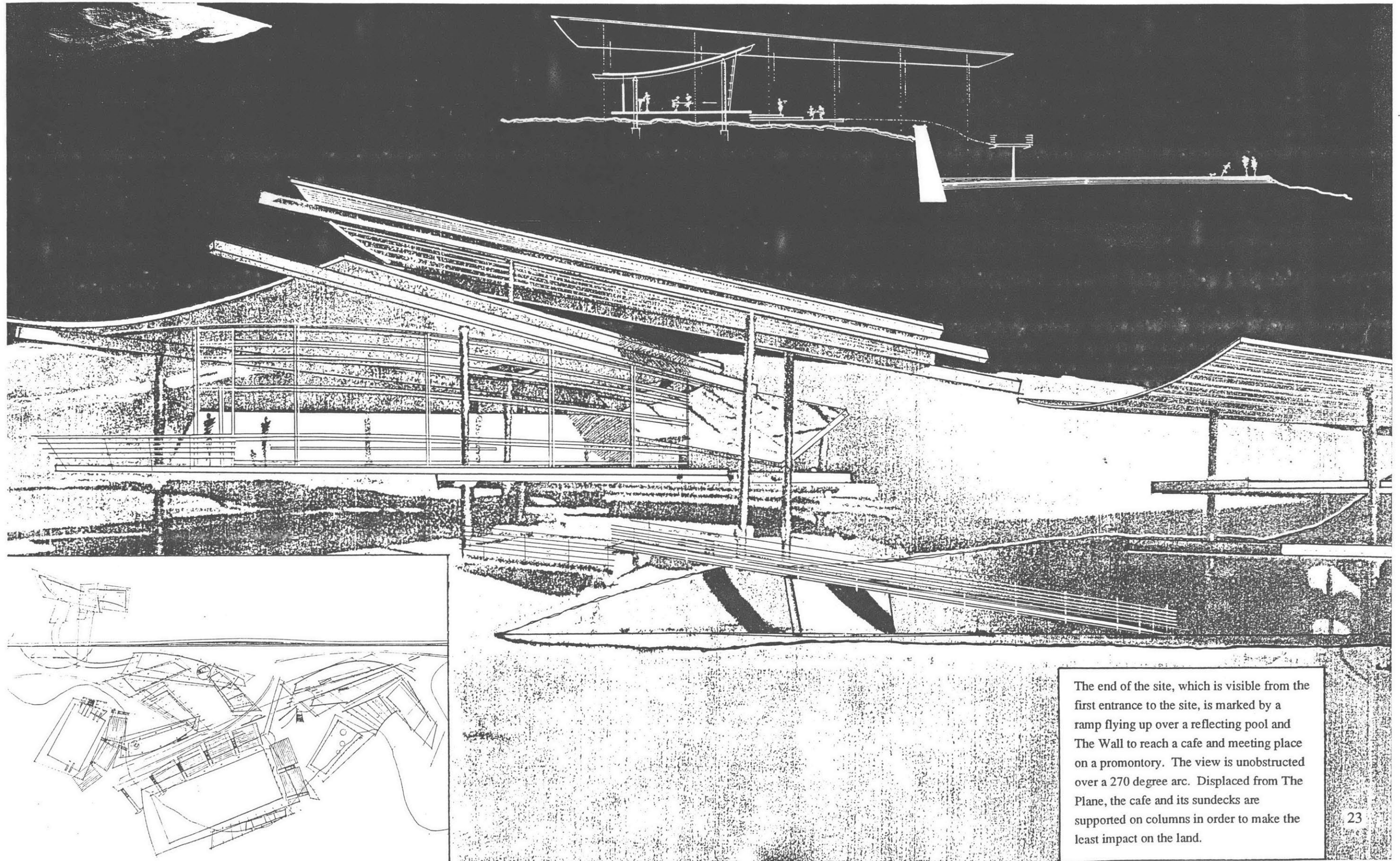
The competition diving tank, springboards and platforms are set 18 feet down and off of The Plane in a steep hollow. While the tank is floating in the earth, stands and platforms are born on columns and interfere with the form of the land as little as possible. From The Plane divers can be seen across space leaping into the air, and disappearing from view. Divers ascend to a platform upon which the three meter springboards rest. Platform divers can climb stairs further to 5, 7, and 10 meter platforms.



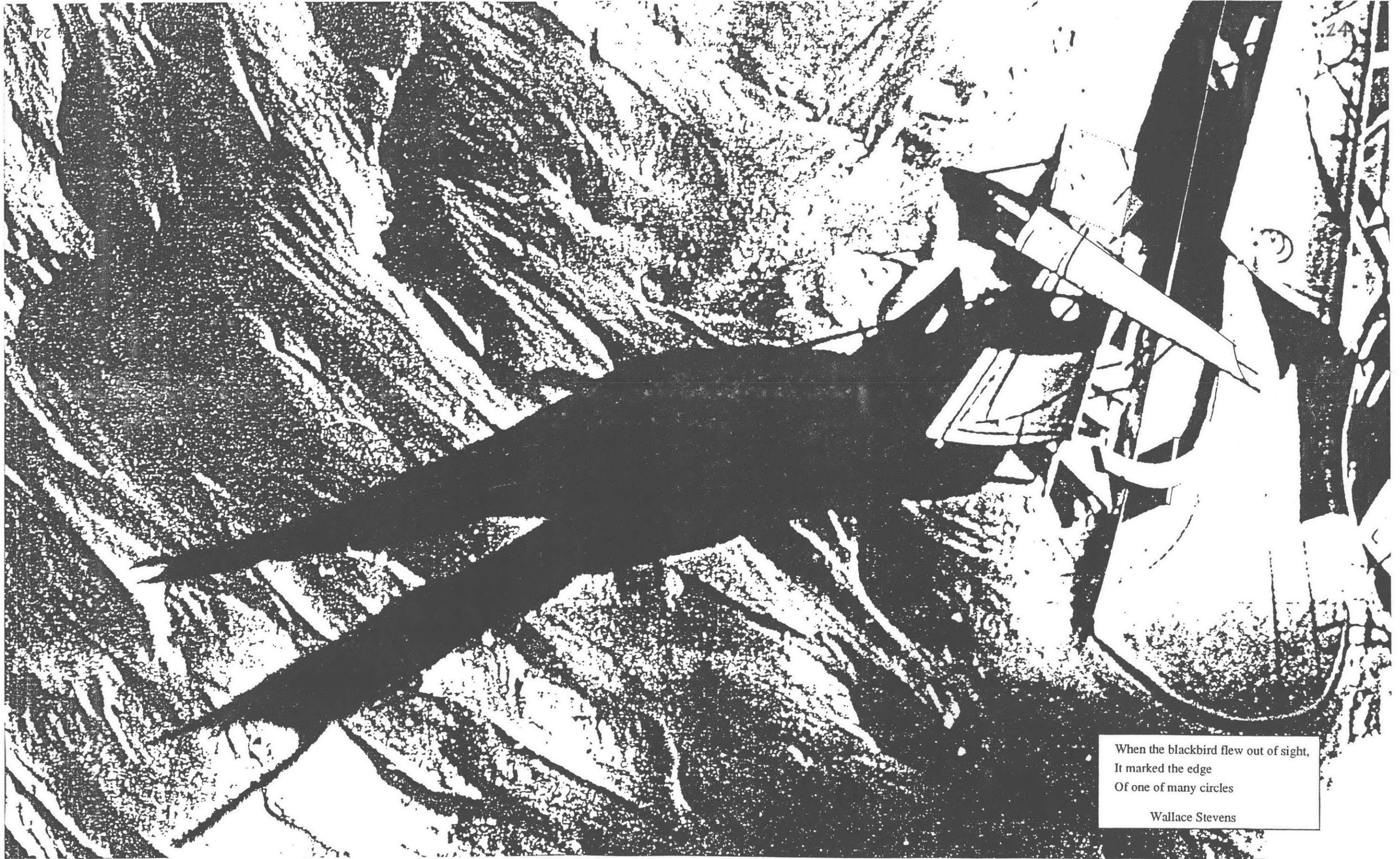
Directly adjacent to the spectator seating, and overlooking the diving tank is a building housing exercise, training, and weightlifting facilities. The three classroom spaces can be seen forming a metafigural courtyard of sorts facing the main competition pool and the entrance.

A large mezzanined space beginning at 11 feet above The Plane contains office, administration and conference spaces. Entrance is via a stair up through a hole in the 130 foot long slab. The length of the building facing The Wall is a great curve moving away from The Wall toward the entrance. These spaces have access out to the roofdeck gardens above the classrooms which move untouched underneath.

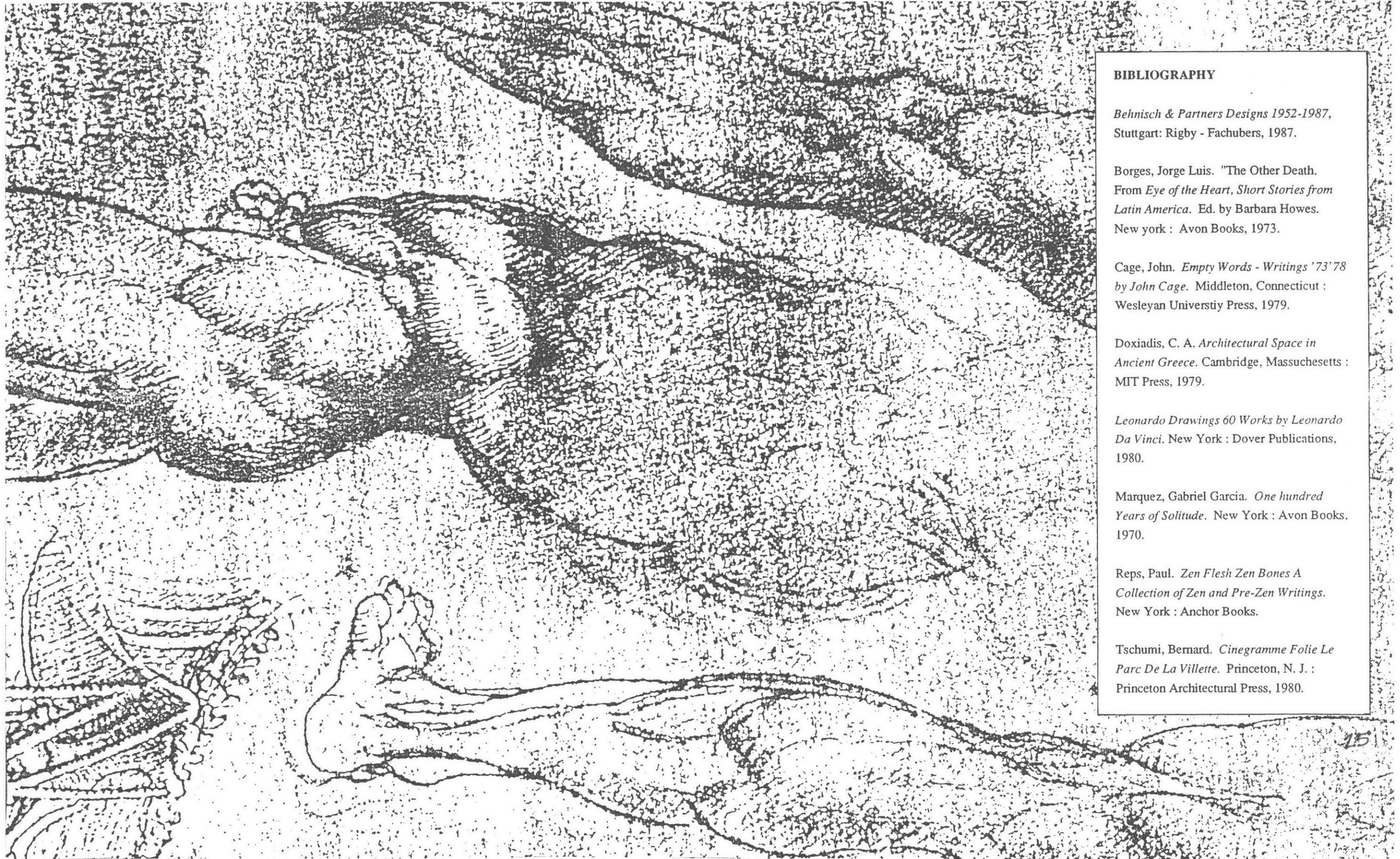




The end of the site, which is visible from the first entrance to the site, is marked by a ramp flying up over a reflecting pool and The Wall to reach a cafe and meeting place on a promontory. The view is unobstructed over a 270 degree arc. Displaced from The Plane, the cafe and its sundecks are supported on columns in order to make the least impact on the land.



When the blackbird flew out of sight,
It marked the edge
Of one of many circles
Wallace Stevens



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