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TITLE: Architecture as Mediator: Reconnecting Body, Mind & Spirit

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Architecture as Mediator:
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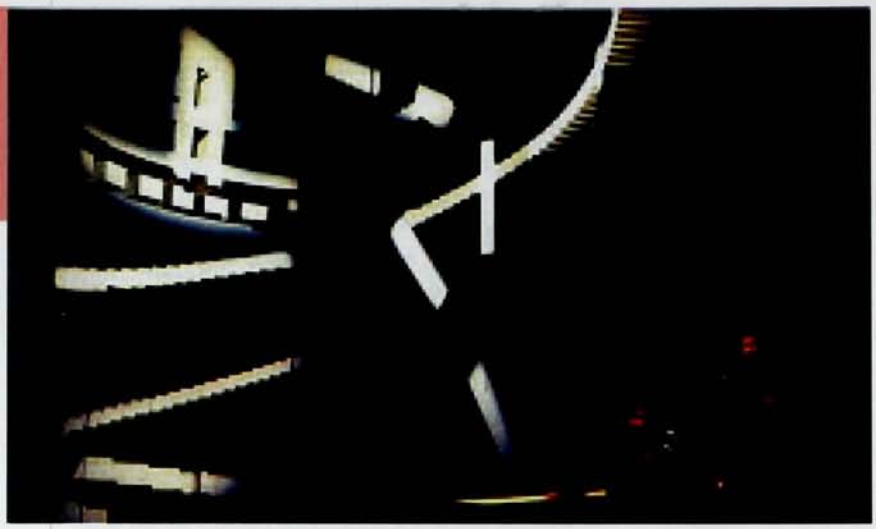
Table of Contents

Abstract

This thesis is based on the premise that our physical environment has the capacity to affect and improve our state of well-being. The body and mind are interconnected as demonstrated by biology. As an extension of our mind, the spirit is also connected to the mind and body. All three constantly inform and redefine each other. Architecture is a physical and phenomenological entity and can participate in that interaction, encouraging a sense of spirituality or a higher level of consciousness.

Sensual experience of a space gives the space a more permanent presence in our memory and includes our bodies as an integral part of the site. Sensual linkages between the natural environment, built environment, and our own bodies creates a more complete understanding of the order of our world and the interactions within it, which in turn helps us to know ourselves.

The phenomenological quality of a space affects our emotional state through a heightened awareness of our self and of life beyond our self. "Sacredness is found in everyday architecture when we bring our attention to this life-giving force, opening ourselves to receive its inspiration, peace, and renewal within the cluttered house of the world."



The dramatic light and shadow of a theater stage set.

Project Summary

Modern science demonstrates that our physiological and psychological systems are infinitely intertwined. The profession of psychiatry, which is a collaboration of psychology and pharmacology, is an example of this connection. The mind, with its psychological and cognitive processing, is uniquely human. As an extension of our psychology, the soul is also uniquely human. It is an intangible and eternal energy that animates consciousness and extends beyond our physical boundaries. All belief systems; religious, mystical, agnostic, or scientific, recognize this basic concept despite differences in naming conventions. Spirituality, in the context of this thesis, is knowledge of one's self, knowledge of the world around, and understanding one's place in the world. Through spiritual experience and harmony between the body and mind, self-realization is achieved leading to more focused and productive lives. [1]

Architecture has the ability to connect the body, mind, and spirit thus enhancing human spirituality. Architecture acts as a physical media, heightening our sensory perceptions of sight, sound, smell, taste, and touch. All humans interact with and alter their environment. [Re]discovering the world through our senses is an affirmation of life, within us and around us.

Architecture is also a framework that articulates structures, gives significance, relates, separates and unites, and facilitates and prohibits. [2] Acting as an editor or choreographer, architecture provides a new way of seeing. Spiritual architecture, according to Lawlor, "reconnects the needs of your soul with the buildings and landscapes that shelter you. It link[s] the energies that animate [our] thoughts and actions to those that craft chairs, construct houses, and build towns." [3]

> *"A great building—like great literature or poetry or music—can tell the story of the human soul."*
>
> *- Daniel Libeskind*

Finally, architecture is a phenomenological mediator. Spirituality is often described in terms of revelation or epiphany, which could be enhanced by an architecture that maintains a sense of mystery. The gradual transition between light and shadow mentally blurs the transition between the worldly and metaphysical realms, and the patina of natural materials such as wood, stone, and metal evokes a sense of time and mortality.

Lighting emphasizes the architecture complimenting the heightened emotion of the human experience

We all share the fundamental capactiy to shape and be shaped by our environment, to leave our imprint and be imprinted upon. Human spirituality connects and unites the global community, and as such, nurturing spirituality is a relevant and essential goal that should be central to the making of shelter. Therefore, an appropriate circumstance for spiritual architecture is a wellness center, which would use alternative medicine and holistic healing to promote physical, mental, and spiritual health. This building would attempt to ensure that "the stages of transformation through which the psyche journeys - the pain of separation, the search for meaning, the trials of the path, and the resolution of unity - are reflected in the environments that shelter and sustain." [4]

Juhani Pallasmaa wrote, "we are in constant dialogue and interaction with the environment, to the degree that it is impossible to detach the image of the Self from its spatial and situational existence," or in the words of Noel Arnaud, "I am the space where I am." [5] The body exists in physical space, the mind in emotional space, and the soul in ephemeral space. As a spatial construct, architecture has a unique opportunity to inform and redefine the very being of its inhabitants.

Architecture acts as a spiritual facilitator in three ways; as a physical media, as a framework for our world view, and as a phenomenological mediator. Architecture is a physical and tangible thing, therefore it is accessed and experienced through sensory perception. Sensual exploration is how we learn about and become more acutely aware of the self and the world. Smell is associated with the faculties of memory, sight with spatial understanding, hearing with a sense of time, and touch with immediacy. [6]

Since each sense provides different information, it is logical to think that a richer and more complete experience can be achieved through the stimulation of multiple senses. This type of space would be arousing and exciting, quickening both the heart rate and speed of thought. However, there is also a need for more calming spaces. The human nervous system is more attuned to change than steady states. [7] Each sense is sharper when targeted alone or in contrast to another. Any change in sensory input is a type of threshold. In this way, a shift between spaces acts as a renewal mechanism, similar to the role of coffee beans in a perfume shop.

Sensory experience is also life affirming. "As with all our senses, there seems to be a simple pleasure that comes with just using it...just to notice…[and] know it is good to be alive." [8] Architecture often relies solely on the visual aesthetic, but spiritual architecture transforms the inhabitant from a visual spectator into a haptic participant. Pallasmaa warns against viewing architecture from a distance, encouraging us instead to view our environment through peripheral vision with our body as the site and the self as the center. [9] Hearing further enhances this centering as the buildings return sounds and our ears receive them. [10]

For the majority of human existence, the body itself has been the basis for measurements and proportions. The ancient units of the finger, palm, foot, cubit, and braccio are examples of this. Vitruvian and Renaissance studies of human proportions further emphasize the natural tendency to engage the world through our bodies and senses. Architecture gives space and time a human measure. A culture is often described in terms of its pace of living. In order to maintain a constant "speed of life," if the time spent in spaces is static, then the size of a space must change. Conversely, if the size of spaces remains constant, then the time spent there must conform.

speed = spatial dimension/time

Architecture also facilitates spirituality as a frame for our world view. Lawlor explains that "you enter this temple [of inspiration] by discovering a new way of seeing, one that reconnects the needs of your soul with the buildings and landscapes that shelter you." One of his stories explains this relationship.

> Stooping to draw water with a bamboo ladle, they noticed an opening in the trees that provided a vision of the sparkling sea. In that humble position they awakened to the relationship between the cool liquid in the ladle and the ocean in the distance, between their individuality and the ocean of life. [11]

Through physical and visual connections, architecture begins to reveal and clarify the complex interdependencies that order and structure the universe. Architecture can also frame our behavior. When humans are deep in thought or experiencing intense emotions, such as when crying or laughing, their vision is naturally unfocused. [12] Through the manipulation of view corridors and materiality, architecture can create spaces with a haziness that may stimulate inwardly focused thought.

Nature framed within the window reminds the inhabitant of the world beyond and the architecture's placement within the world

On the other hand, Heschong contends that "we need an object for our affections, something identifiable on which to focus attention." [13] Architecture as a frame can articulate a visual and experiential hierarchy. It is both physically and mentally orientating, allowing us to think and focus clearly. It provides the conditions for daily living, and provides a conceptual and material structure for societal [14] institutions.

The third way in which architecture facilitates spirituality is as a phenomenological mediator. Environmental conditions are strongly linked to culture, history, memory, and emotion. Sensory information creates the ambiance, or spirit of a place, which influences our state of mind in that particular environment. Not only do we anticipate those same feelings when we return to a space, but if those conditions are repeated elsewhere, similar feelings will be conjured there as well. Examples of this phenomenon are the Finnish saunas and Japanese baths. "Heightened experiences of intimacy, home, and protection are sensations of the naked skin," referencing our time in the womb. [15] Therefore, the sauna and public baths became the sites for rituals involving purification, marriage, birth, and death. [16] Other examples are kneelers used during Communion or the palpable odor of "home" that hits us like a wall with the opening of the front door of a house.

Architecture associates itself with spiritual revelation and epiphany through the physical unfolding and revealing of spaces. "A piece of architecture has to maintain its impenetrable secret and mystery in order to ignite our imagination and emotions." [17] The mystery of spirituality is that it is invisible and intangible. Architectural elements such as wind chimes or fabric canopies can make the invisible forces of the wind audible and visible. This experience makes the possibility of experiencing other invisible forces more plausible. The contrast between light and shadow and the blurring that happens in the transition can mentally

blur the boundary between the worldly and metaphysical realms. "Architecture strengthens the experience of the vertical dimension of the world. At the same time as making us aware of the depth of the earth, it makes us dream of levitation and flight." [18] The roof and foundation are a physical and mental bridge between the earth that provides for our bodily needs and the image of life beyond.

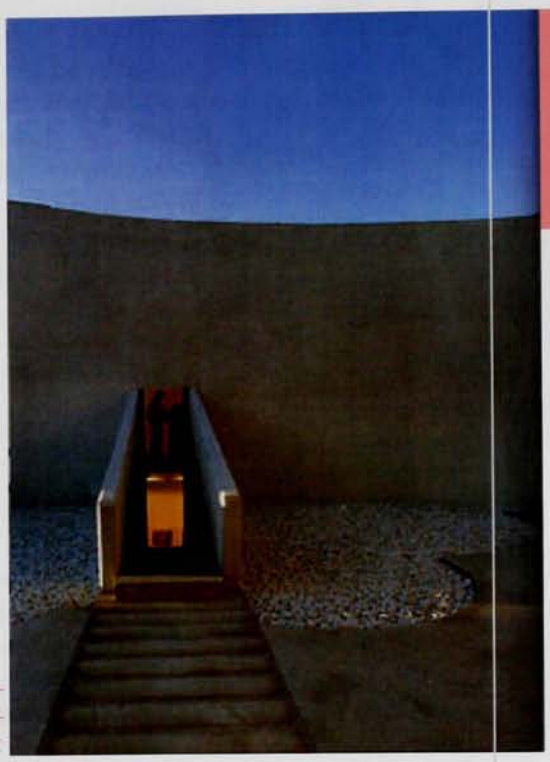
Architecture can also serve as a manifestation of time, recognizing the existence of humans as historical beings and their mortality. As a critique of the impermanence of contemporary architecture, Pallasmaa warns that "as time loses its duration, and its echo in the primordial past, man loses his sense of self as a historical being." [19] The use of natural materials, such as wood, metal, and stone can regain a sense permanence. These materials have been used by humans since the origin of their existence, and their presence alone is a reminder of that fact. These materials also develop a patina over time, further enriching the experience of time and mortality. Although our "fear of the traces of wear and age is related to our fear of death," it is important to our spirituality to recognize the cycle of life we are all a part of. [20] Buildings are a tactile connection to the inhabitants who are using it with you as well as the generations of the past and future.

"Buildings and cities enable us to see and understand the passing of history, and to participate in time cycles that surpass individual life." [21] Lawlor describes the spiritual journey in four stages; the pain of separation, the search for meaning, the trials of the path, and the resolution of unity. [22] Architecturally, separation occurs at thresholds. The boundaries of the site, the building envelope, entrances, and transitional spaces are all points of threshold. The initial threshold should be one of contrast, marking the shift into a spiritual space of refuge. Once that separation is made, however, gradual transitions encourage a more holistic experience. The search for meaning on our path is a process.

Heschong states that "the association of comfort with people and place is reinforced by the ritualized use of a place. Through ritual, a place becomes an essential element in the customs of a people." [23] It is typical for destination spaces to be given architectural attention and detail, but a spiritual architecture also values the support spaces and circulation spaces as an integral part of the process. Being aware of the effort and preparation that precede an end result translates into many facets of life. Life is a journey of problem solving. Finally, humans are social beings existing as a result of a social union. In order to achieve the resolution of unity, "feeling good together, and being aware of it, creates a certain social bond. It is as simple as, 'Yes, we have felt happy and alive together. We are friends.'" [24] Spiritual architecture deliberately and programmatically allows for and encourages social interaction.

An appropriate program, as a vehicle for spiritual architecture, is a wellness center. This center would utilize alternative medicine and holistic healing to promote physical, mental, and spiritual health. It would be a "refugium," described by Kurt Forster as a "shelter of a social rather than merely physical kind." [25]

The wellness center would focus on five therapy types; authentic movement, manual therapy, energy work, meditation, and sensual therapy. Authentic movement involves activities such as yoga, pilates, tai chi, feldenkrais, and rhythm and movement. In authentic movement, the body is the site and the self is the center. Through rhythmic breathing and intense, purposeful poses, strength, flexibility, and circulation are improved. This cleanses the body and allows more oxygen to the brain for clarity. [26] Manual therapy is all the variations and forms of massage. Massage pushes and pulls the physical boundary line of the self, the skin, allowing for a more fluid and metaphysical sense of self. Energy work involves the laying on of hands generating heat for



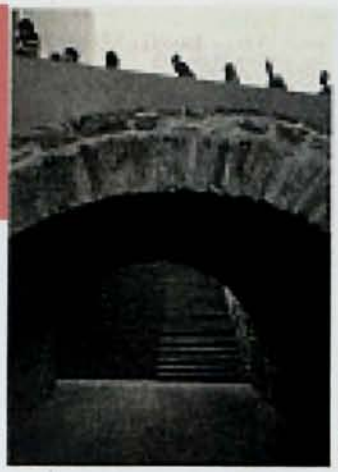
A simple entry sequence made up of path, opening, and descent. Meanwhile, a glimpse of the buildings users create anticipation for the newcomer

healing purposes. According to Heschong, "to be close to someone is to share in their warmth, both physically and emotionally." [27] Meditation is an inwardly focused mental escape. "A practitioner faces life not as a victim, but as a master, in control of his or her life situations, circumstances, and environment," says yoga guru Iyengar. [28] Sensual therapy employs aromatherapy, sound therapy, color therapy, herbal medicine, and bathing activities. As mentioned earlier, sensual experiences help individuals to explore and understand their environments, their own bodies, and the interaction between them.

In order for spiritual architecture, and a wellness center in particular, to make the greatest impact in people's lives, an urban working environment is a preferable site. In this type of environment "financial tensions, emotional upheavals, environmental pollution, and a sense of being overtaken by the speed of events have all increased the stress of daily life." [29] In the relative time frame of human existence, we have only lived in dense conglomerations for a fraction of our history. Humans are much more adapted to natural environments, and as a result cities have a greater per capita proportion of mental health problems. [30]

In response to this condition, the wellness center should also include natural elements in the environment. Studies have shown that views of nature prevent illness and expedite recovery from illness and stressful situations. [31] Psychologists have also found that interaction with nature provides cognitive freedom, ecosystem connectedness, growth, health, and self-control. [32] John Muir expressed this more poetically when he said, "nature's peace will flow into you as sunshine flows into tress. The winds will blow their own freshness in to you and the storms their energy, while cares drop off like autumn leaves." [33] It becomes necessary then for architecture to provide natural lighting and ventilation. Gardens and outdoor spaces provide more direct views and interaction as well.

The soul is an extension of our mind,



The interesting intersection of a ritualistic path and a circulation route. Notice that the ritualistic path is given precedence over the other.

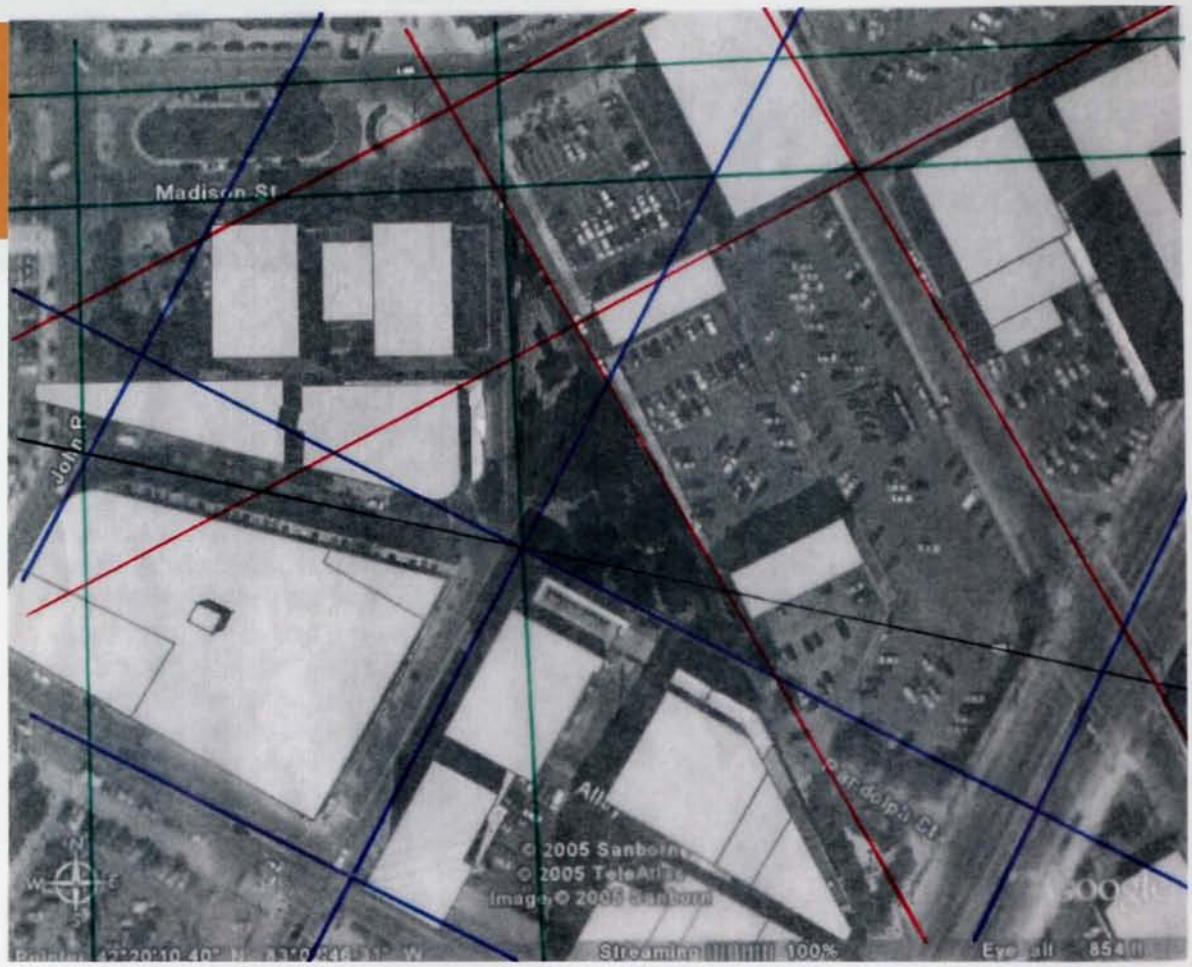
and therefore, in connection also with our bodies. Spiritual growth and experience is dependent upon mental and physical health as well. Architecture provides for bodily needs but is also a physical manifestation and vehicle for the life forces that permeate our lives. "Sacredness is like the breath that constantly sustains our life without our being aware of it. The sacred is found in everyday architecture when we bring our attention to this life-giving force, opening ourselves to receive its inspiration, peace, and renewal within the cluttered house of the world." [34] This thesis project is an initial attempt to incorporate spiritual space into everyday architecture, encouraging wellness of the whole person for every person.

"The material realization of a project is crucial. We wanted materials that...show signs of age and history."

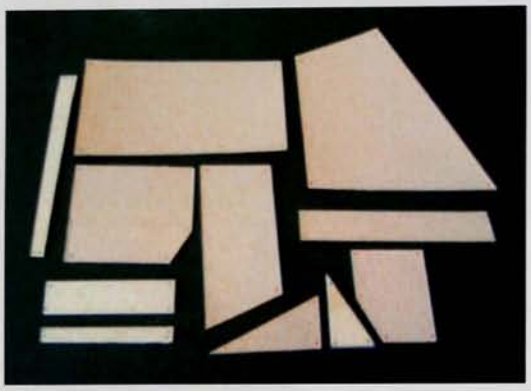
-Steven Holl

Sketch Problem

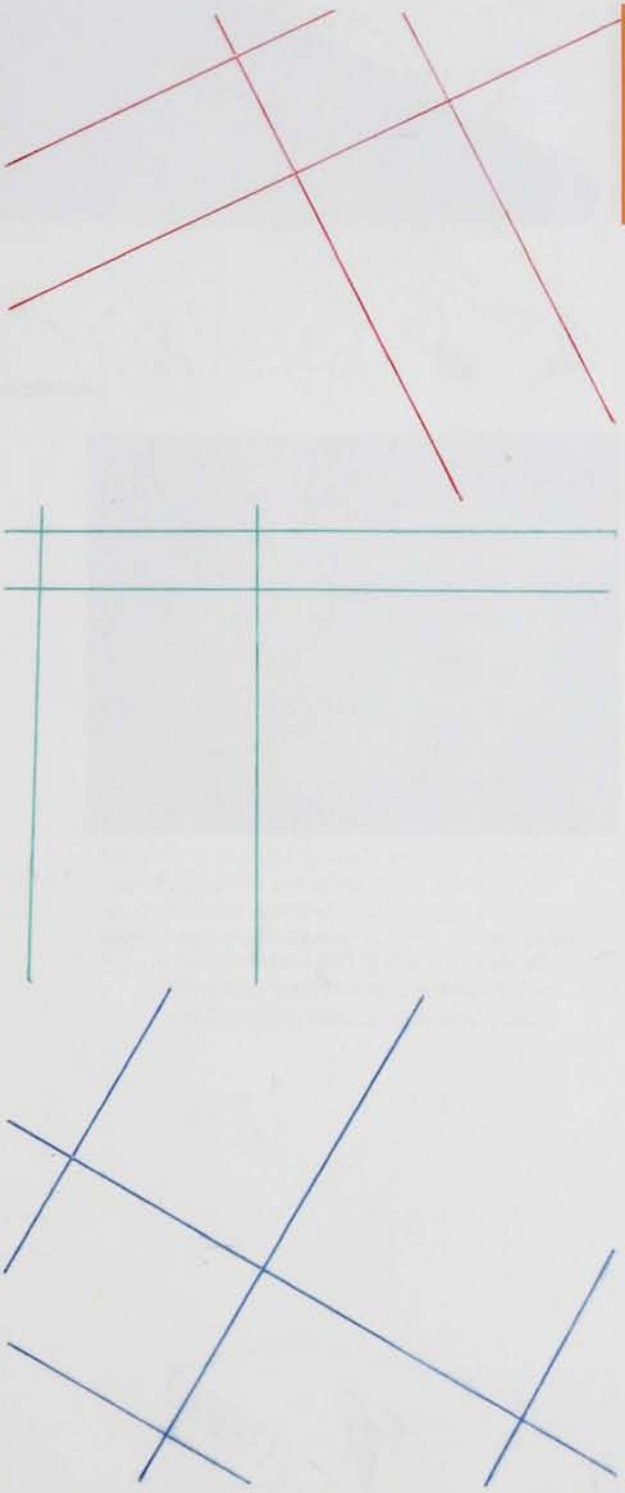
The sketch problem was entitled "Playhouse," and was sited in Harmonie Park in Detroit, MI. The program was to be an informal performance space and recreational area. The idea guiding the design was that of each inhabitant being both the viewer and the object on display.

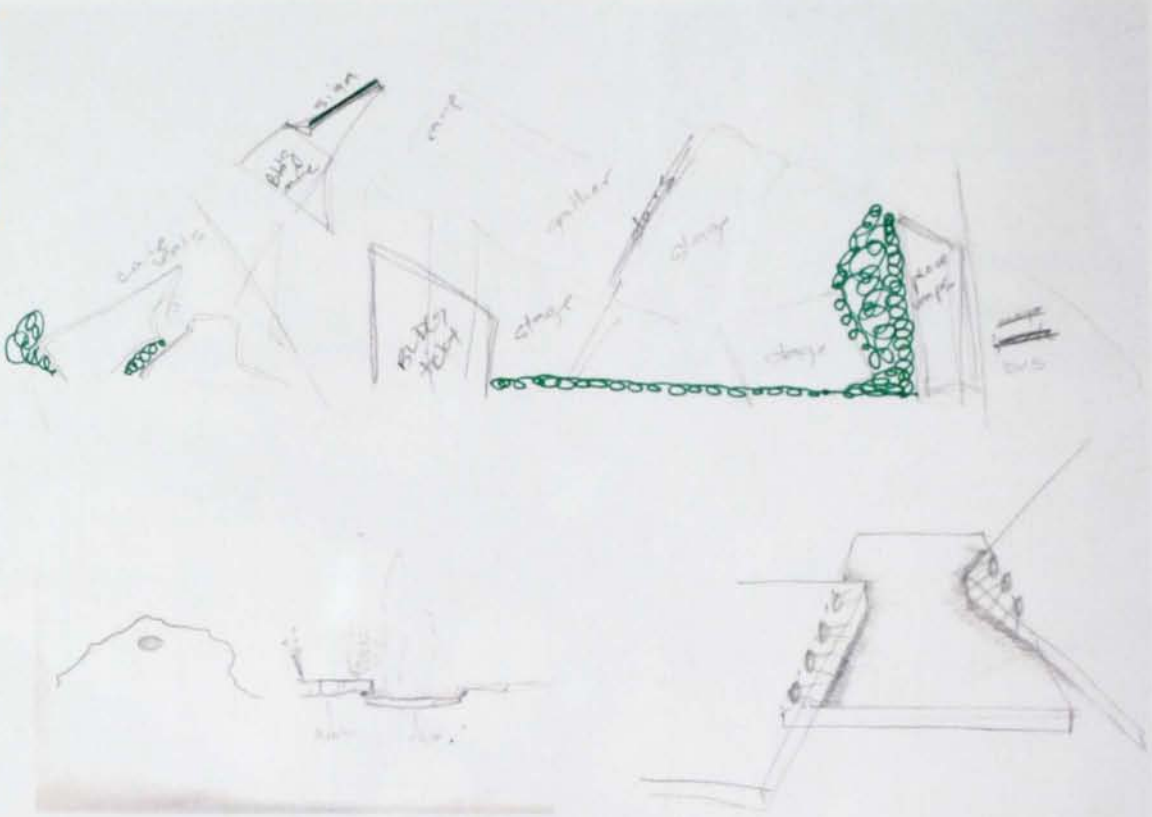


Three street grids overlay to form the triangular plot of Harmonie Park. The design began by analyzing each grid separately.

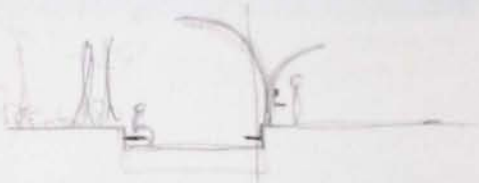


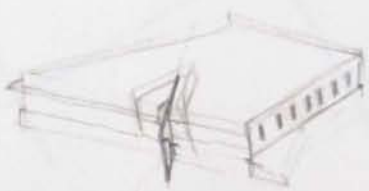
Shapes were then extracted to create the site plan. Each grid was representative of a different elevation level. Shapes from each grid were also arranged to be perpendicular to their respective grid.

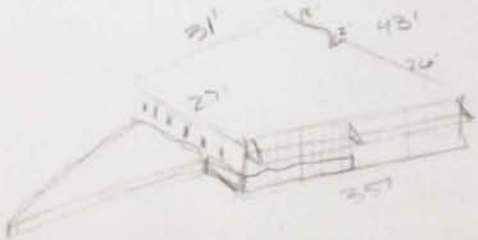


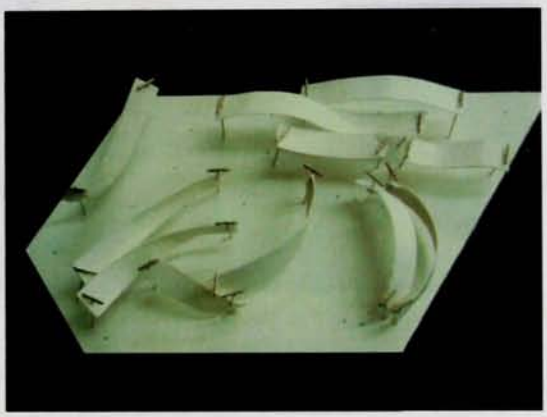


The height change between levels provided lighting opportunities, gathering spaces, and less intrusive architecture

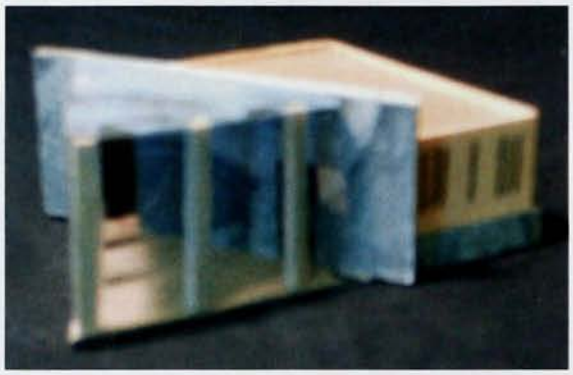






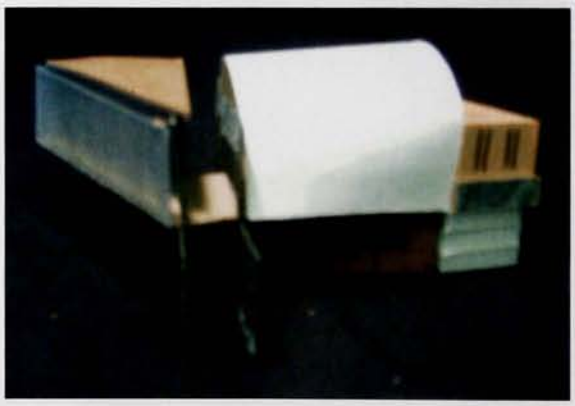


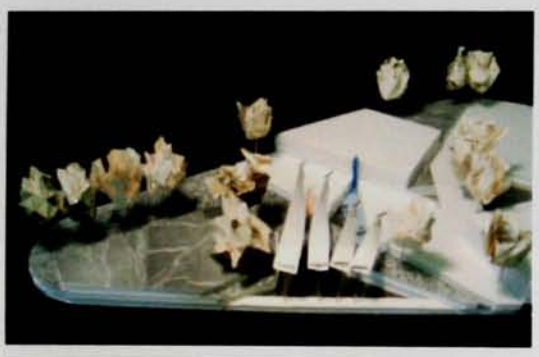
Some form of shading and overhead coverage was necessary. I identified three areas where canopies were needed, and overlaid a weather map to derive the flowing pattern of their layout



The café has a more private indoor area for poetry readings or live music. The glass eating area has a think layer of water on the roof filtering the light into the space.

The theater house has a ticketing area sunken below grade. At grade a circulation corridor separate the storage and rehearsal areas from the enclosed viewing room.

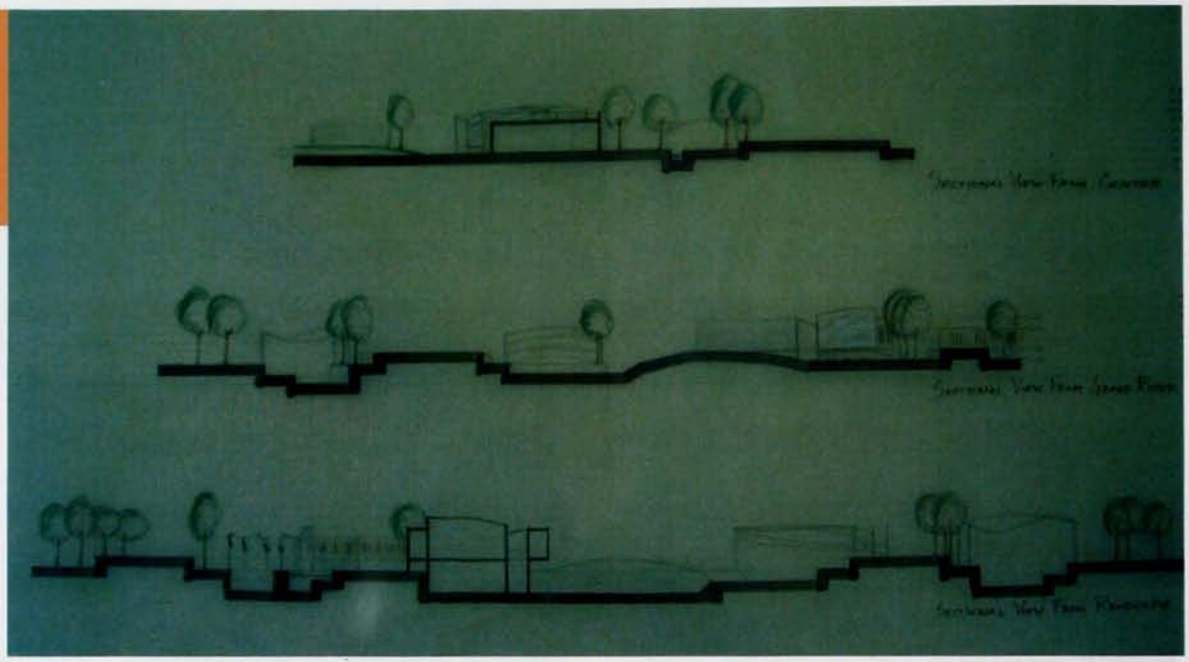




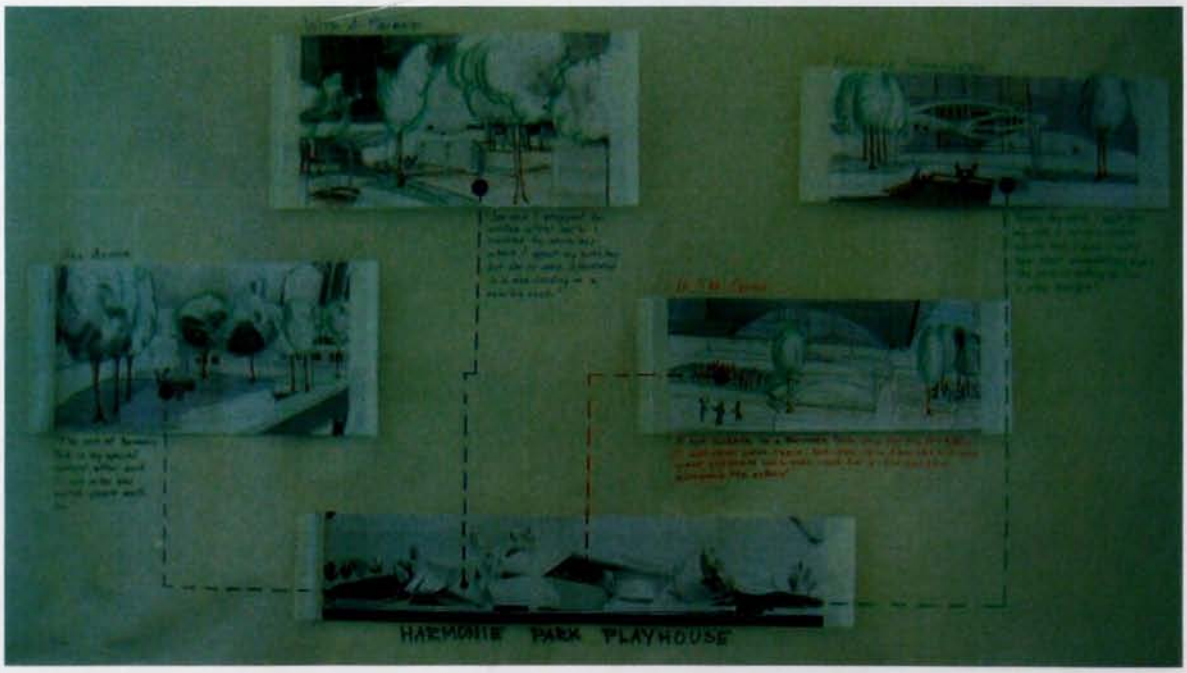
Just outside the café, a water feature separates the outdoor eating area from the more private gathering spaces.

A grassy knoll provides a seating area for viewing one of three different stages at various levels.

A sunken court with built-in seating serves as a meeting point or rest stop for those in the area.



Sections through the site demonstrate the changes in elevation throughout the "playhouse" above while vignette sketches below provide an example of the various types of interactions which may occur in the setting.



The site analysis process began with choosing several sites that possessed physical or cultural traits which complimented the thesis ideas.

The Chicago site was a culturally and religiously diverse community in the northern region of the city. The lot was near a commercial strip and park allowing for a contrast in privacy, sounds, smells, and sights within a small area.

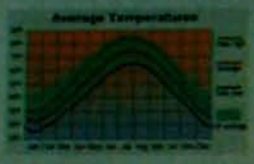
The Grand Rapids site was in the financial district of the historic downtown. A hospital, park, and various cultural and educational institutions were all easily accessible and visible. This could potentially create some visual connections between body, mind, and spirit through careful framing.

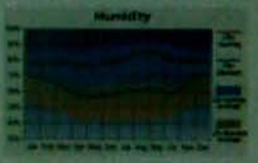
The Royal Oak site was a parking lot surrounded by health services and small businesses. A single empty lot offered the building a street presence without overwhelming the surrounding smaller structures. Across the road, a cemetery served as a reminder of human mortality.

After considering sites in Chicago, Grand Rapids, Royal Oak, I finally chose a site in downtown Detroit. The site for the project is on the fringe of the Detroit central business district. Located on the south side of Michigan Ave. and straddling Washington Ave., the project is within walking distance of numerous office buildings and is easily accessible by both the People Mover and automobile. The intention is for the project to serve as a refuge or oasis from the stress and chaos of an intense work environment in order to heighten the contrast between the metaphysical aspects of the project and the everyday world. I also chose this site and placed my building on it in this way for another reason. Spiritual spaces often evoke a sense of mystery. The infill slots and ability to wrap around the back of existing buildings means that the project is never seen or understood as a whole, but rather unfolds as you move through it. Courtyard spaces defined by the building reinforce the inward focus of the thesis.

site analysis: chicago, il

northwest corner of peterson and lincoln
west ridge community





latitude: 42.00 N — longitude: 87.69 W
land area: 3.53 sq. miles
elevation: 596 feet

real estate (2003):
- single family detached: 186 @ $315,000 ea.
- single family attached: 328 @ $160,000 ea.
- 74 new construction building permits
- 119 rehabilitation building permits

median house value: $189,474

total housing units: 26,533
- owner occupied: 12,097
- renter occupied: 13,394
- vacant: 1,042
- single family units: 6,040
- multi-family units: 20,333
- average monthly rent: $645

median household income: $41,144
- $50,000+: 46%
- $35,000-50,000: 18%
- $15,000-: 14%
- $25,000-35,000: 11%
- $15,000-25,000: 11%

average household size: 2.83
average family size: 3.49

transit info:
- CTA elevated train stops: 0
- bus stops: 8
- cars/household: 1.26

crime (last two weeks): 25
- 17 property
- 4 person
- 3 undetermined
- 1 person (domestic)

population (2000): 2,896,016 (city-wide)
73,199 (community)

density (2000): 8,006.3/sq. km (community)
- children: 22.8%
- seniors: 13.8%
- family households: 22.8%
- one-person households: 8.8%

- white non-hispanic: 49.7%
- asian: 22.5%
- hispanic: 15.5%
- black: 7.0%
- other: 7.0%

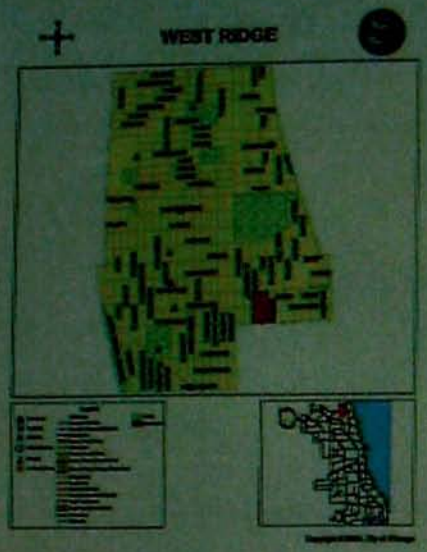
population (25+):
- high school diploma: 10,682
- bachelor's degree: 10,919
- graduate degree: 6,393
- unemployed: 1,941

mean travel time to work: 33.0 min.

Once historically significant, the Chicago site with now home to blue-collar families and senior citizens. Acres of flat, were both nearby and environmentally needed in the area.

site analysis: chicago, il

northwest corner of peterson and lincoln
west ridge community



midwest's largest hasidic community
korean immigrant community
jewish
croatian catholic
islam
hinduism
sikhism

3 senior apartment projects (388 units) in last five years
tax increment finance district (T-77)

24 schools
8 parks
artisan shopping center
indian boundary park & cultural center
proposed bike route along lincoln

A combination of schools, churches, parks, shopping districts, cemeteries, and major traffic routes were located to determine positive and negative stress points in the neighborhood.

site analysis: grand rapids, mi

body: Spectrum Health

mind: Grand Rapids Community College
Kendall College
Grand Rapids Art Museum
Van Andel Institution

spirit: St. Mark's Church
Catholic Information Center
Immanuel Lutheran Church

nature: Crescent Park

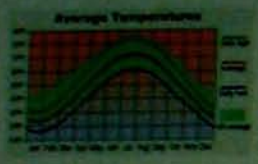
Programming representative of the body, mind, and spirit were already present in the Grand Rapids site. A project in this area could become a physical connection between them.

The immediate business district would not only provide a user group, but was also an area under architectural improvements as part of a city master plan.

Alleyways and entrances to the lot provided framed views. An architectural framework which worked in conjunction with these could be useful to a person trying to orient themselves in the grand scheme of things.

site analysis: royal oak, mi

northwest corner of catalpa and main



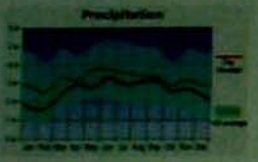
latitude: 42.50 N
land area:
elevation:

longitude: 83.15 W
11.8 sq. miles
670 feet

single-family new house construction building permits:

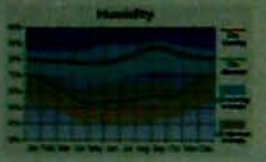
2000:	16 @ $120,700 ea.
2001:	17 @ $157,900 ea.
2002:	26 @ $118,500 ea.
2003:	52 @ $190,500 ea.
2004:	136 @ $134,300 ea.

median house value: **$150,900**



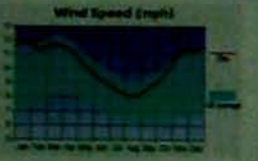
median household income: **$52,252**

educational, health & social services	19.1%
manufacturing:	17.8%
professional, scientific, management, admin. & waste management	16.1%
retail trade:	11.0%



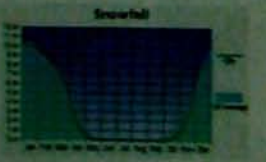
crime index (2003): 695.6 u.s. average: 329.7

- 9 murders (15.0/100,000)
- 42 rapes (69.9/100,000)
- 52 robberies (86.6/100,000)
- 1,508 assaults (2510.7/100,000)
- 275 burglaries (457.9/100,000)
- 1,078 larceny counts (1,794.8/100,000)
- 155 auto thefts (258.1/100,000)



population (2004):	58,573
males:	48.8%
females:	51.2%
median age:	36.9 yrs.

white non-hispanic:	93.9%
black:	1.5%
hispanic:	1.3%
native american:	0.7%



german:	22.9%
irish:	17.1%
english:	14.6%
polish:	11.8%
italian:	7.6%
french:	5.1%

foreign born:	6.3%
europe:	2.8%
asia:	1.7%
north america:	1.3%

population (25+):

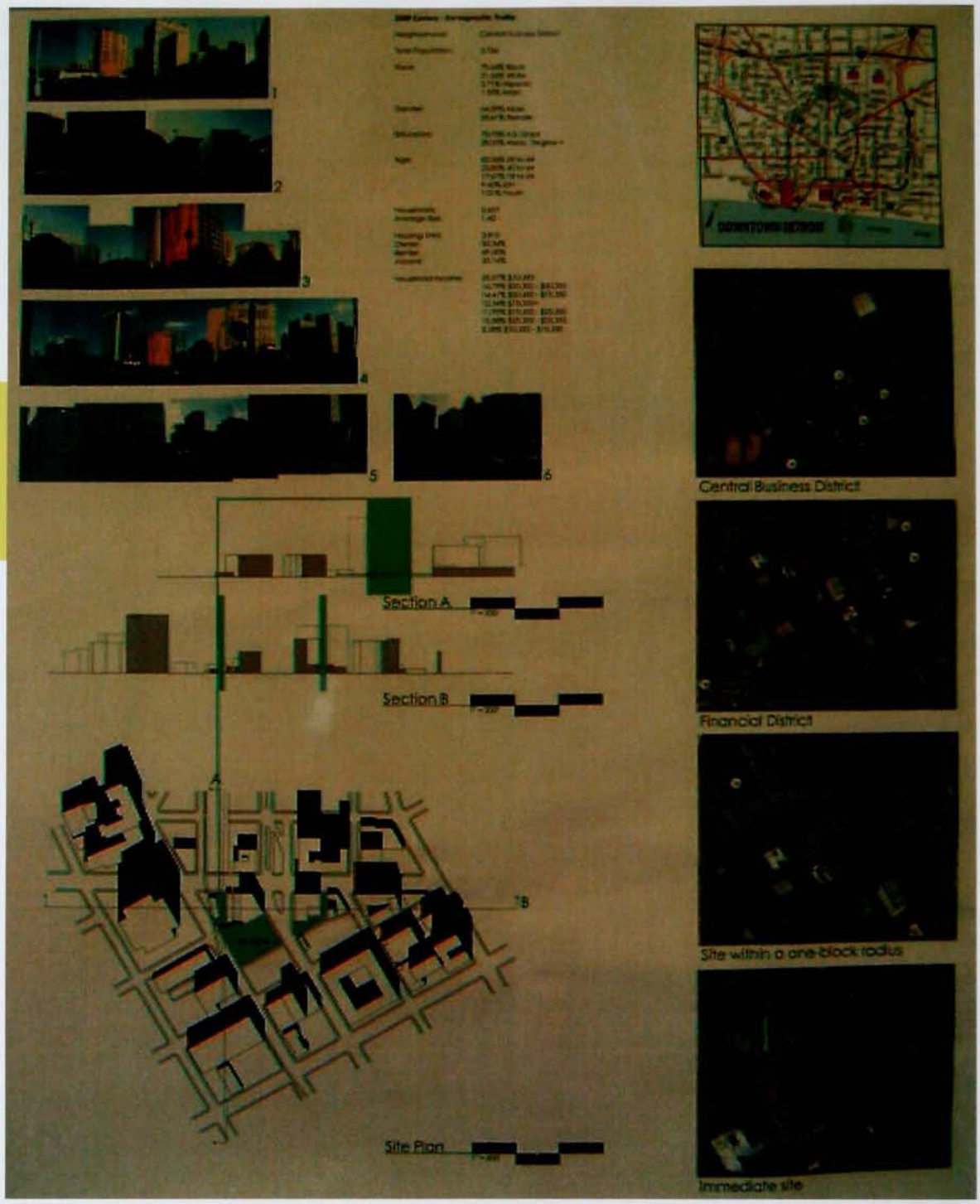
high school diploma:	91.5%
bachelor's degree:	39.9%
graduate degree:	14.0%
unemployed:	2.4%

mean travel time to work: 22.5 min.

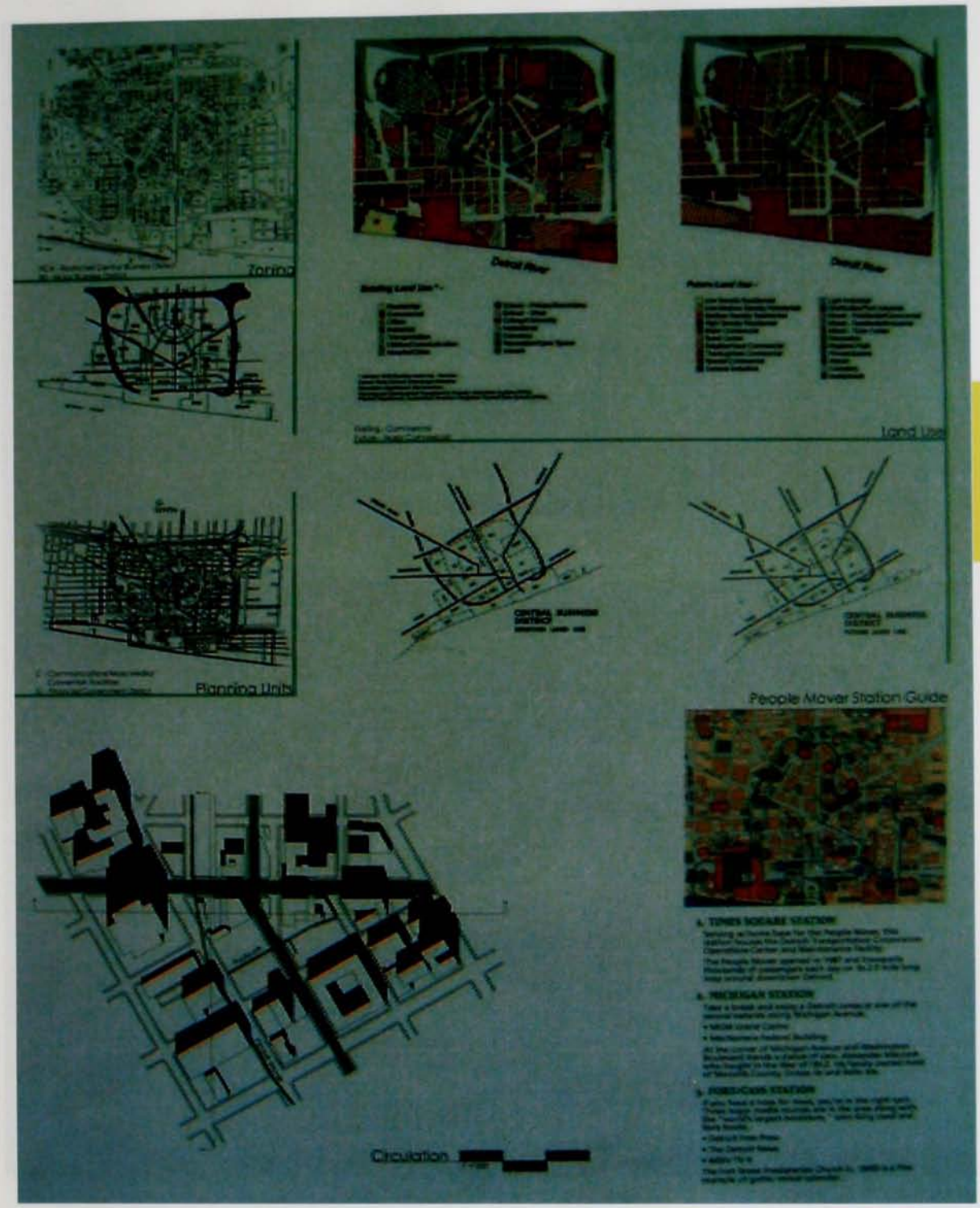
population (15+):

now married:	47.1%
never married:	33.7%
divorced:	11.5%
widowed:	6.9%
separated:	0.8%

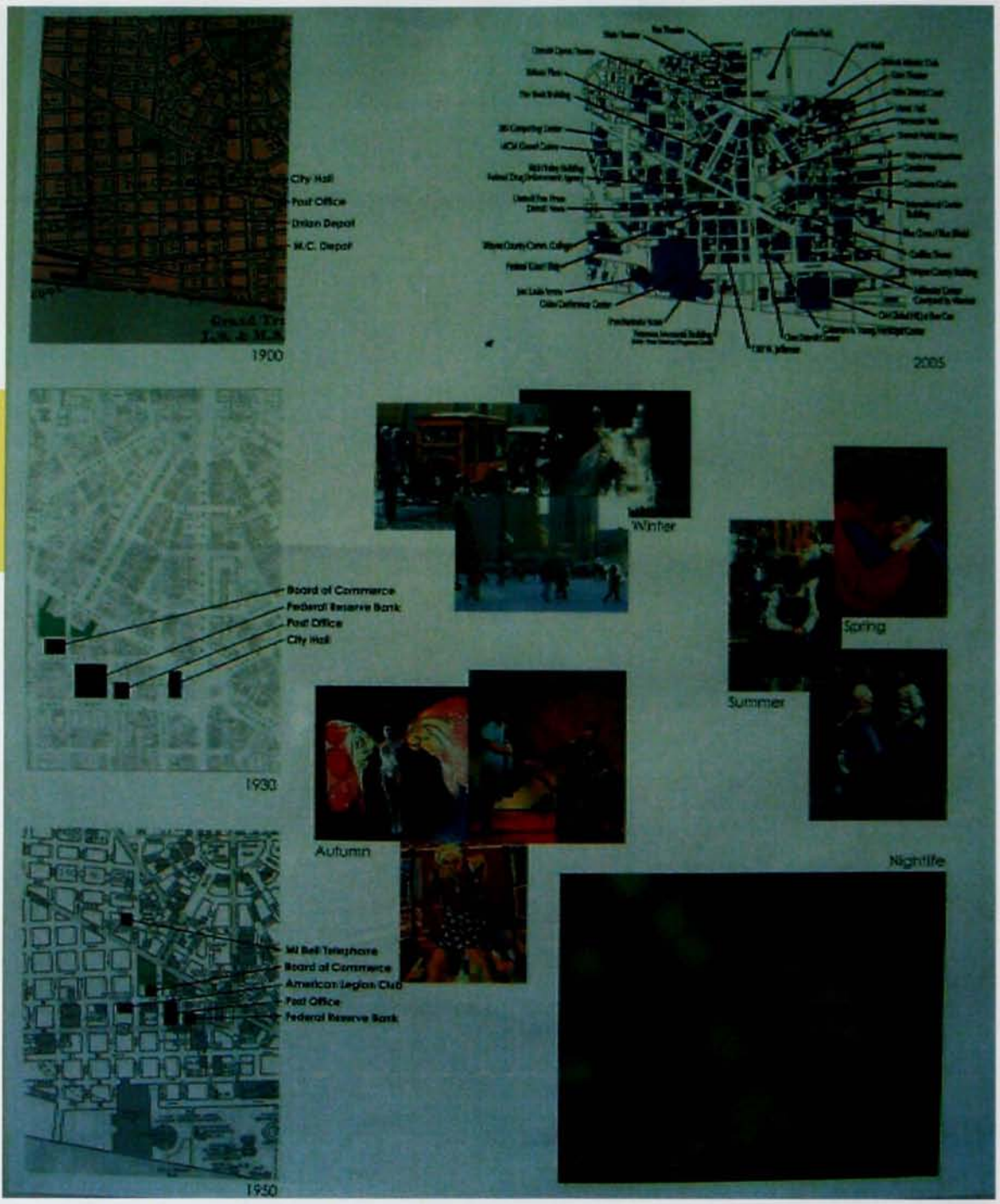
An active community dedicated to culture and the arts would likely appreciate the endeavor of this thesis.



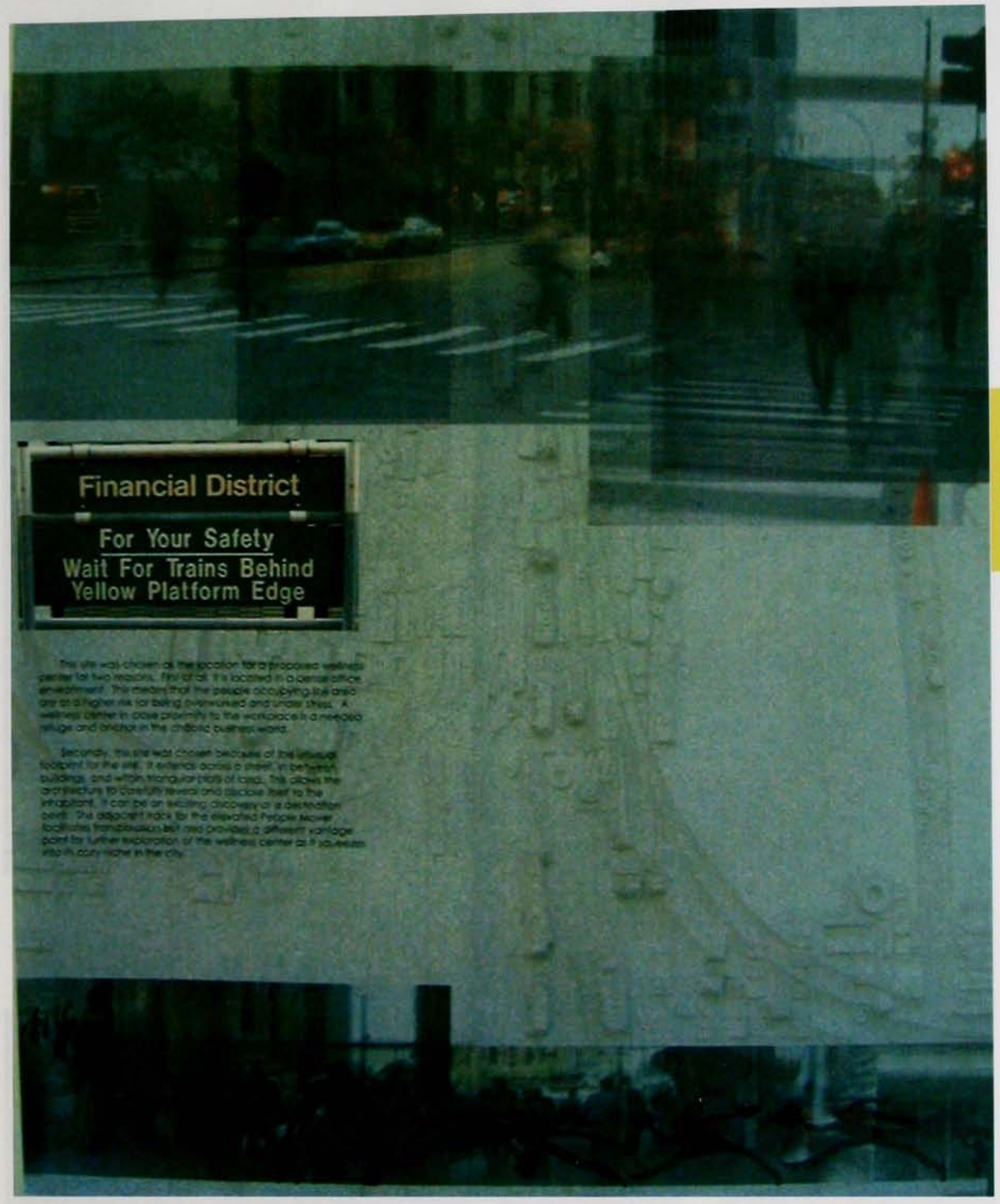
Views into and out of the site, which is located on the south side of Michigan Ave. on either side of Washington Ave. The infill sites are highlighted in Section B.



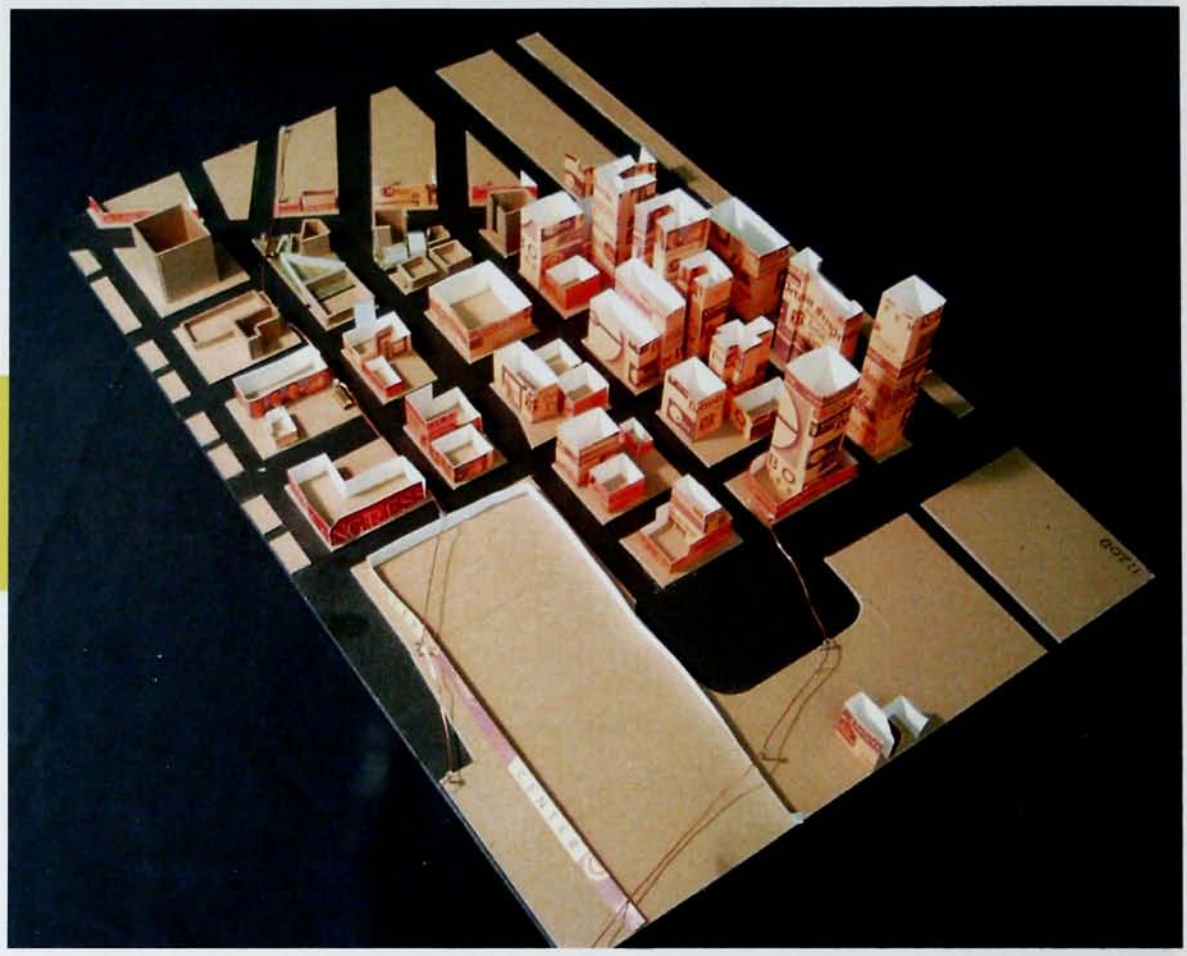
Located in a commercial business district, the site is accessible by Jean from Michigan Ave. and Washington Ave., by the People Mover which has a station adjacent to the site, and by foot only a few minutes walk from the financial district.



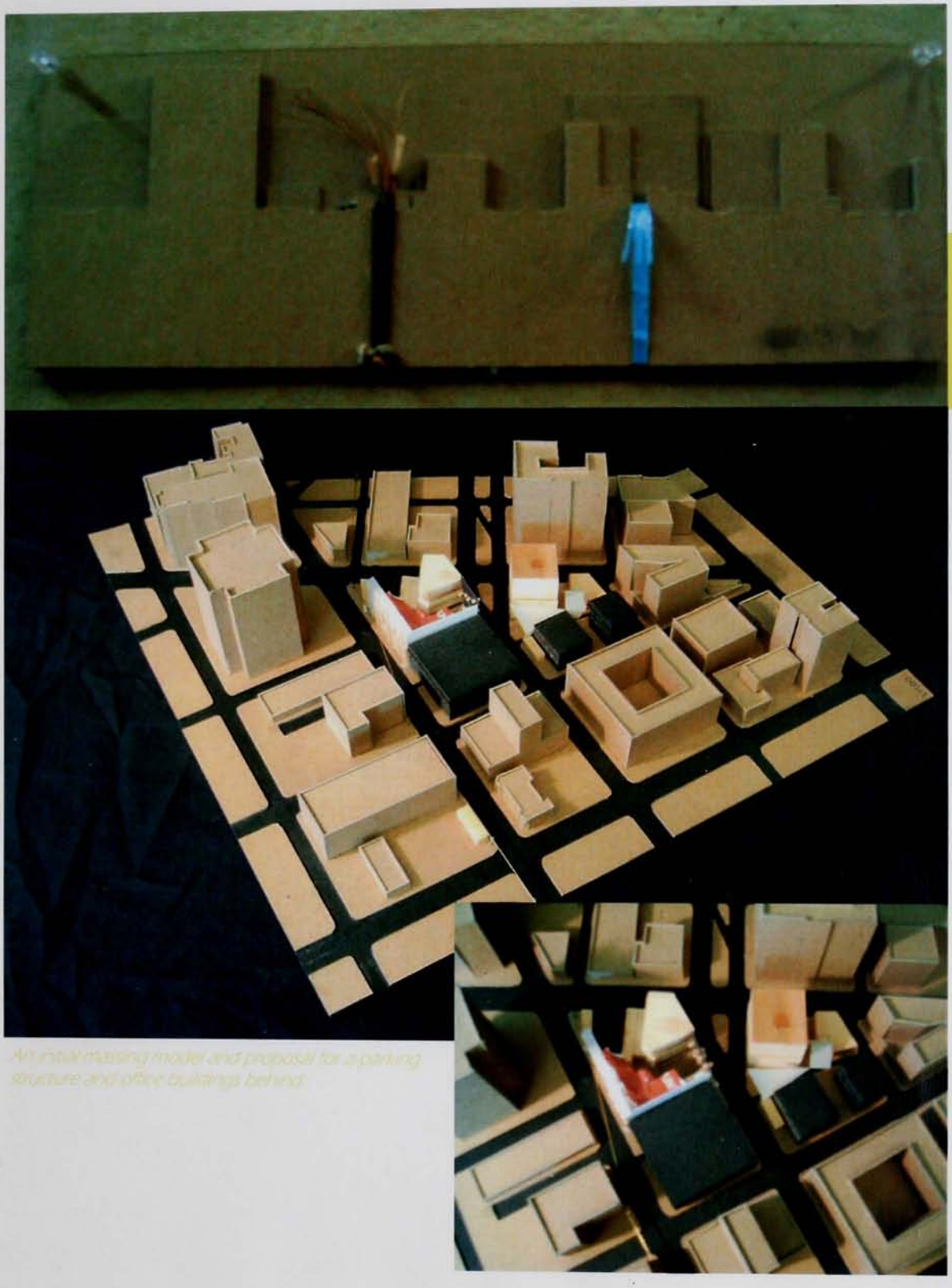
Since the turn of the century, the site has continually evolved in density, with a wide variety of activities and nightlife available year round.



I documented the rush of workers on a weekday morning at a nearby crosswalk. As people rushed to the office or had a quick smoke, I realized how ferocious their lifestyle was.



Site model emphasizing context



An urban massing model and proposals for a parking structure and office buildings behind.

Precedent Analysis

Throughout the design process, inspiration was drawn from idea precedents, program precedents, tectonic precedents, and other small precedent studies.

The idea precedents were the Vals Baths by Peter Zumthor (Vals, Switzerland, 1997) and the Jewish Mueum by Daniel Libeskind (Berlin, Germany, 2000).

The tectonic precedent is the Chapel of St. Ignatius by Steven Holl (Seattle, WA, 1997).

The program precedents were the Bath Spa by Nicholas Grimshaw (Bath, U.K., 2005) and the Cranbrook Athletic Complex Williams Natatorium by Todd Williams and Billie Tsien (Bloomfield Hills, MI, 2000).

Precedent Studies

Idea Precedent
Vals Baths - Peter Zumthor

The Vals Baths are an appropriate precedent for this thesis because of the use of similar program and the use of natural materials. The architecture acts as a simple backdrop which frames views within and out of the building.

Natural materials, such as the wood floors, bear the imprint of human use fading gradually with time.

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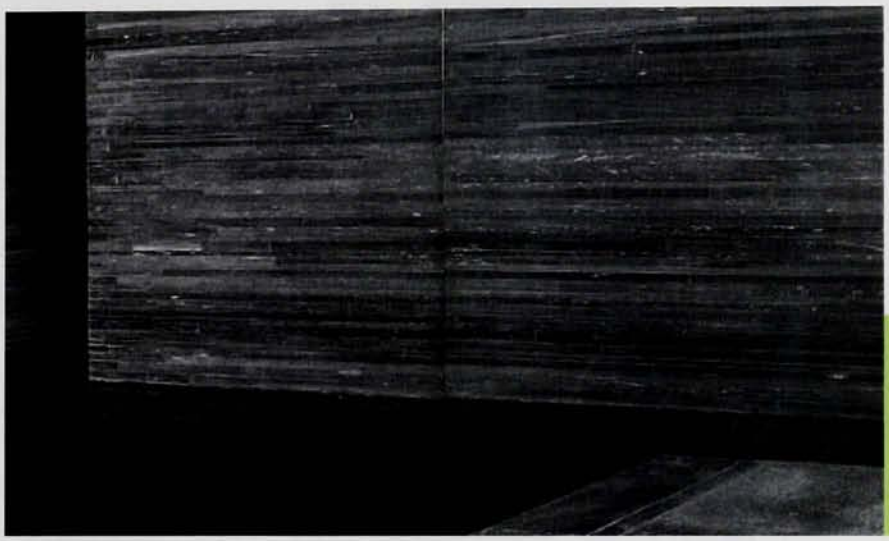
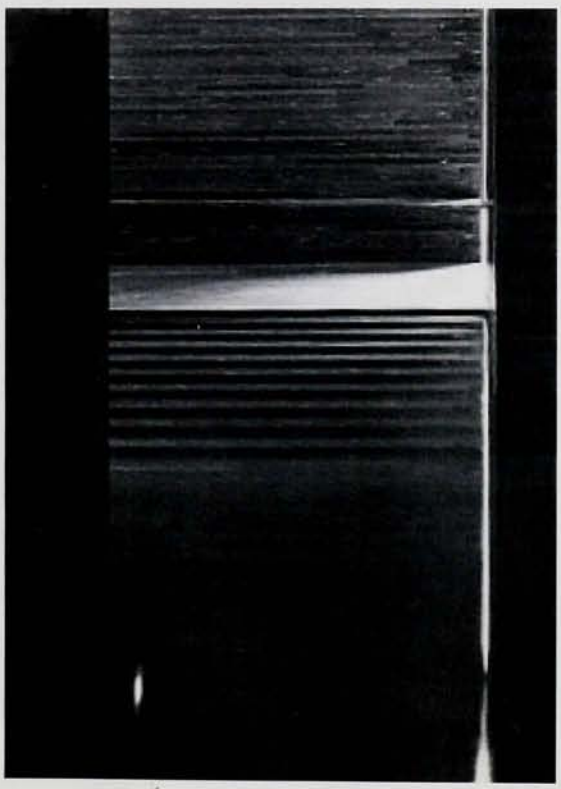
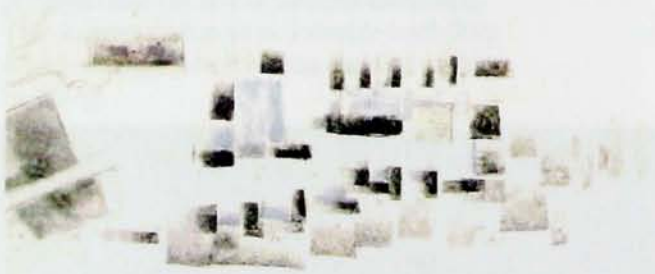
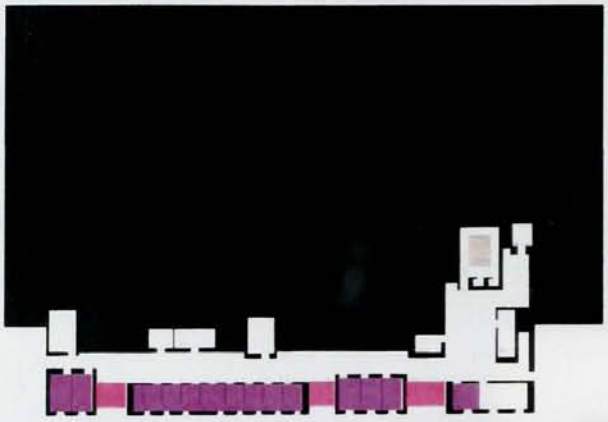
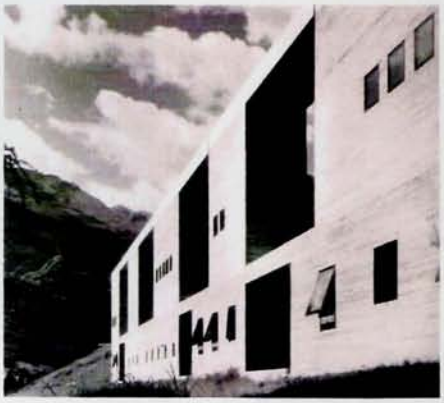






In the Thermal Baths at Vals, Zumthor incorporated many of the concepts in my thesis. The architecture is a simple backdrop made from natural materials and the connection between the surrounding environment and various activities is strengthened by carefully framed views.

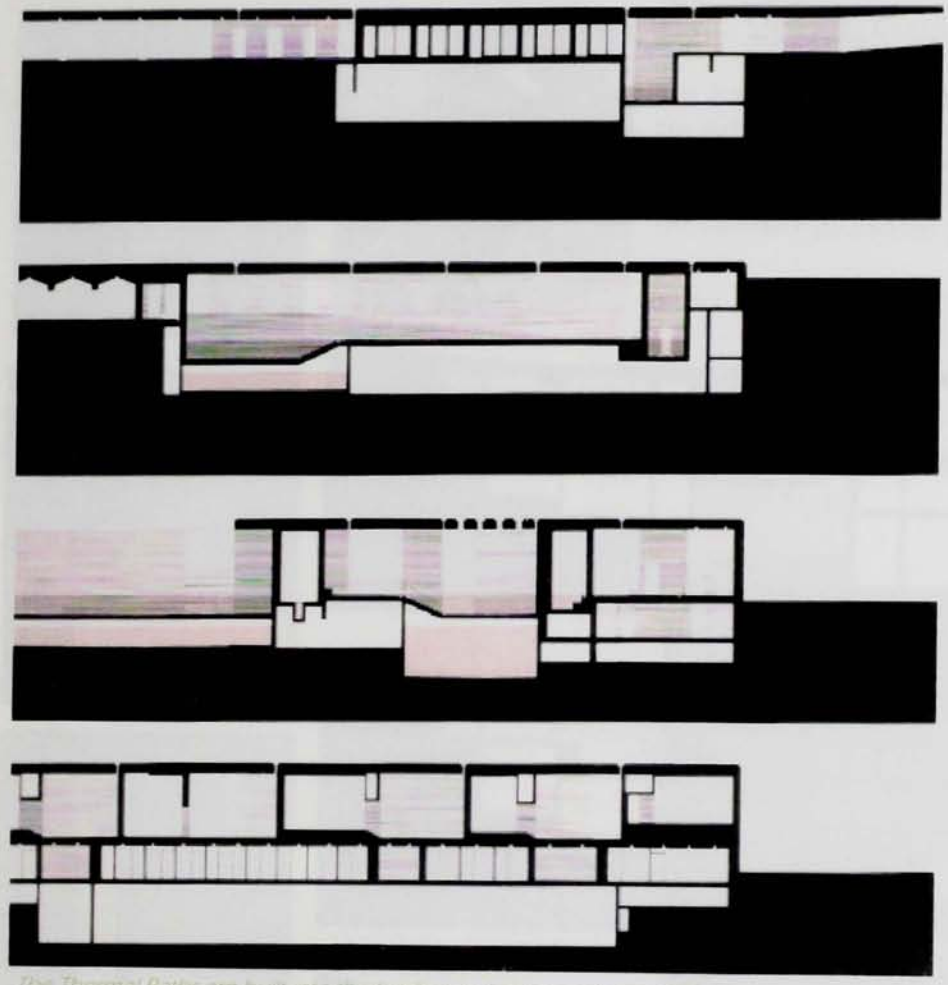




meditation

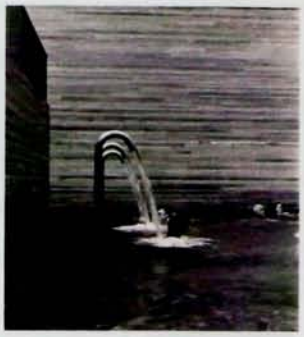
bathing

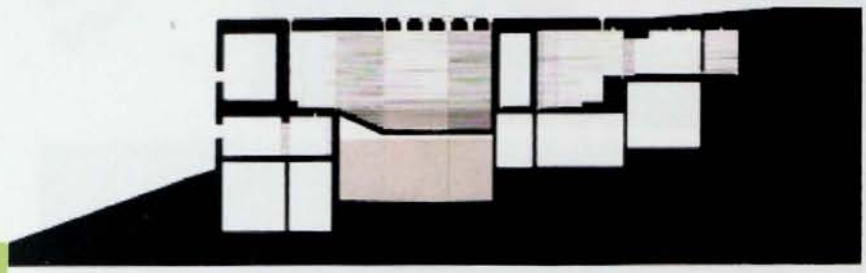
massage

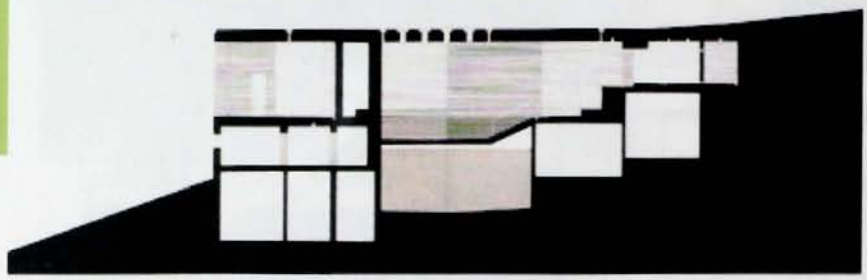


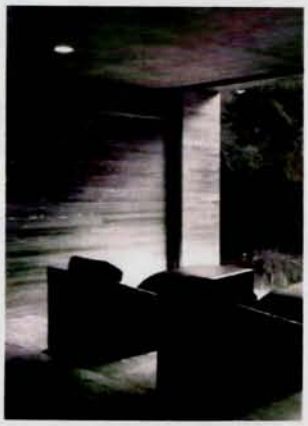
The Thermal Baths are built into the landscape, leaving only the roof and south elevation completely exposed to the elements. Slots and punctures in the roof plane allow light to subtly penetrate the interior while also making reference of the structure's order to those walking across the grass that covers it. The resulting play between light and shadow blurs the boundaries between spaces, experiences, and people which create an ephemeral atmosphere.

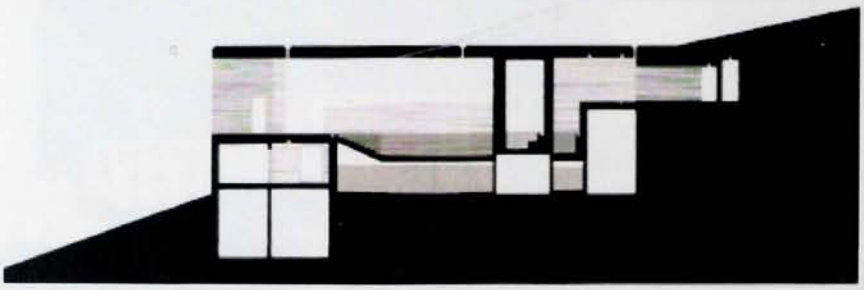
From the wet footprints which slowly fade from the floors to the water gushing against your skin to the steam slowly rising from the warmth of the bath, the Vals Baths are truly a haptic experience. As you relax in a reclining chair, the vista of the woods and mountains beyond remind the users where the hot springs and building materials came from.

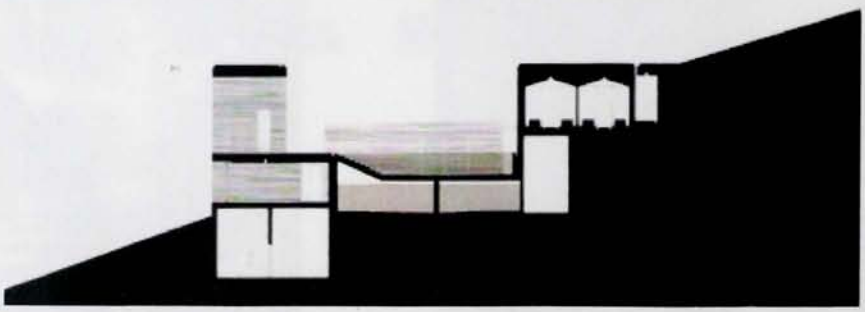






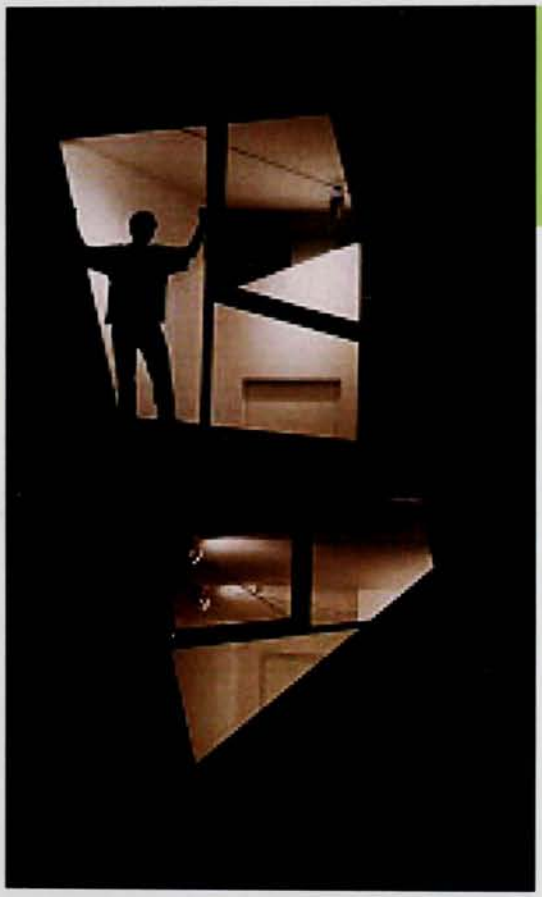




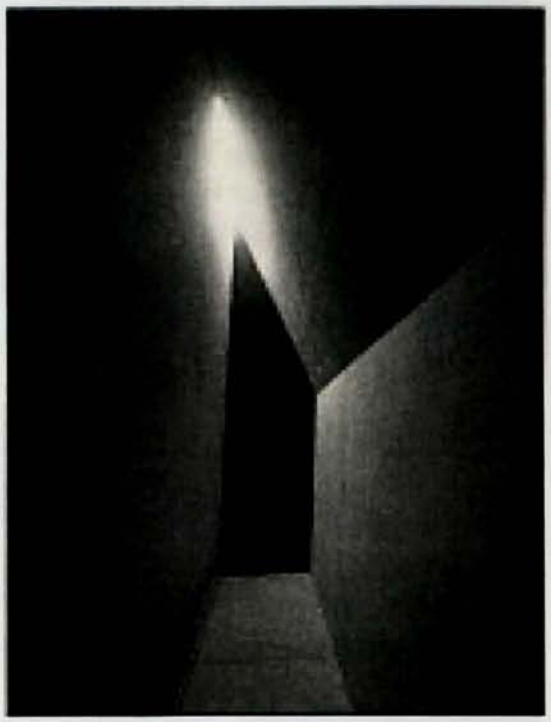


Idea Precedent
Jewish Museum - Daniel Libeskind

The Jewish Museum emphasizes the role of the path and the journey. Spatial moments of density and void evoke mental and emotional responses that reflect the message of the architecture and the program it houses.

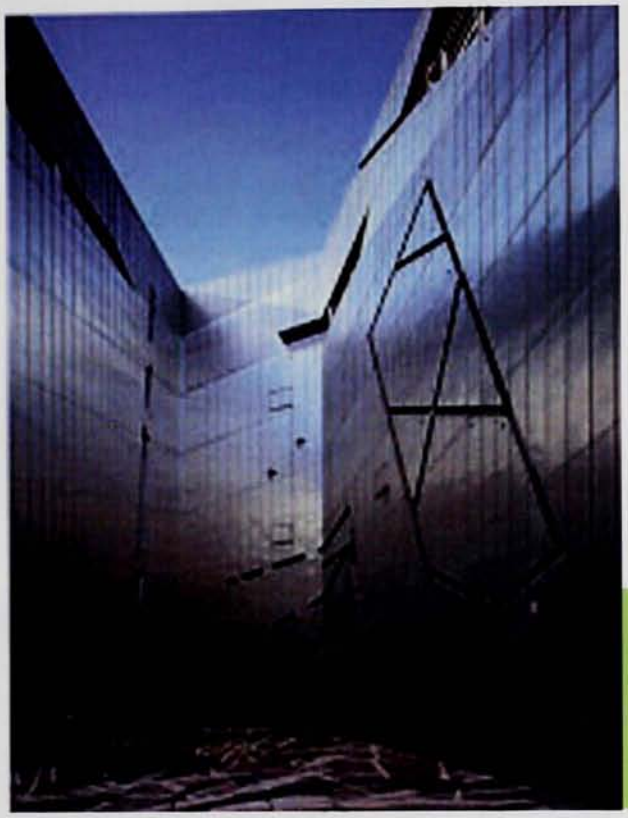


A lighted window acts as a frame for the individual's view outward as well as the world's view of the individual



Above are pictured some of the voids which appear periodically throughout the building. Below lighting emphasizes the dramatic linear path which leads the inhabitant through the building. All of the images demonstrate the ephemeral quality Libeskind achieved with light.

The fragmented aesthetic of the museum leaves the visitor feeling disoriented and uneasy. It is a physical manifestation of the message of the museum.



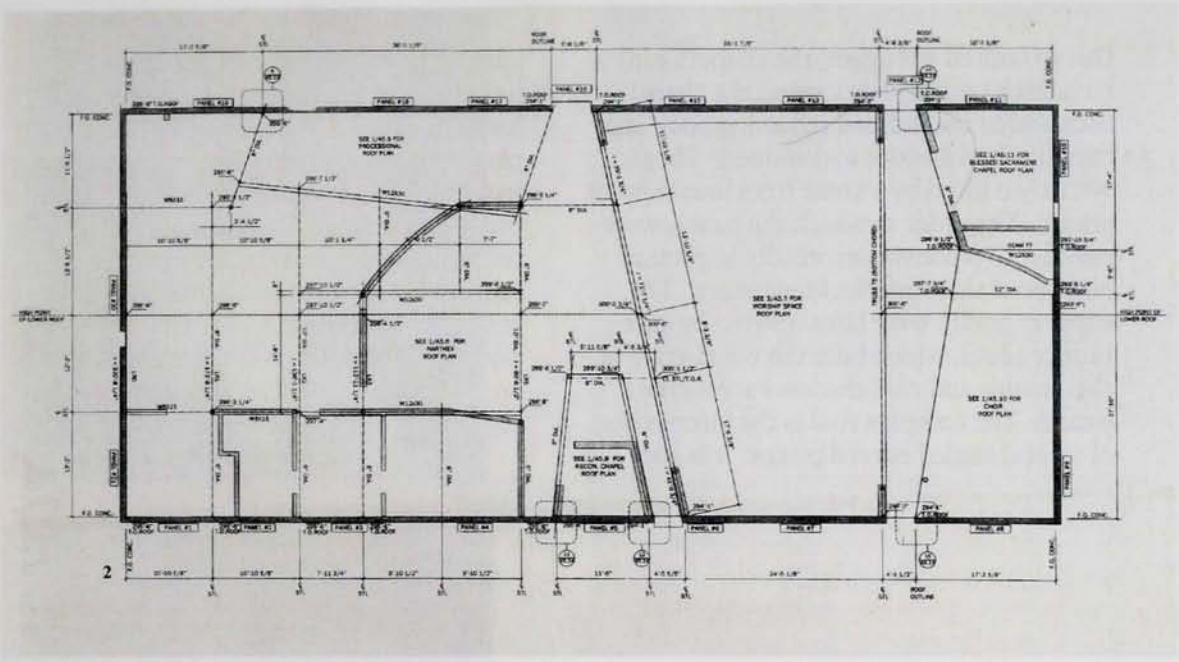
Precedent Studies

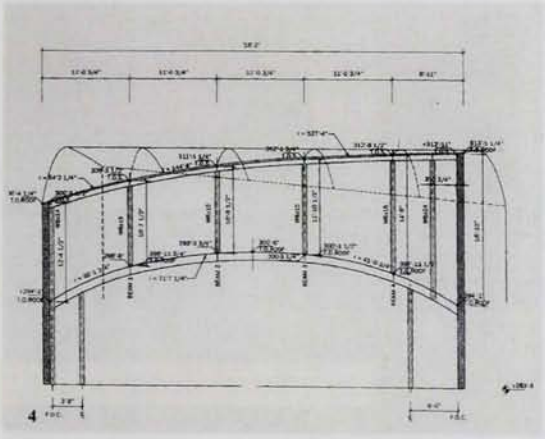
Tectonic Precedent
Chapel of St. Ignatius
1997
Seattle, Washington
Steven Holl Architects

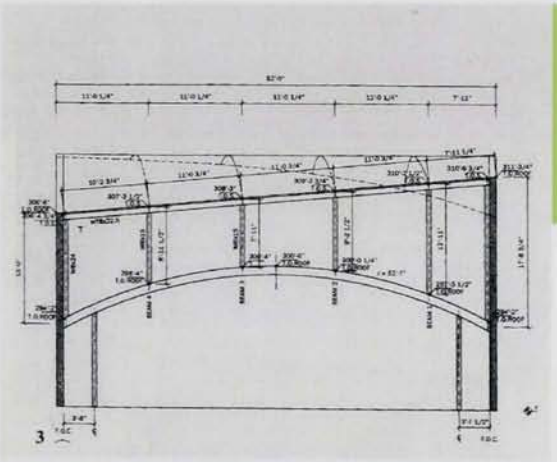
The Chapel of St. Ignatius is described as "seven bottles of light in a stone box." Twenty-one tilt-up concrete panels interlock to create the stone box, while thirty-eight tons of structural steel roof framing form the light scoops.

"The whole building was horizontal, then 24 hours later, like an apparition, it rose." *-Steven Holl*

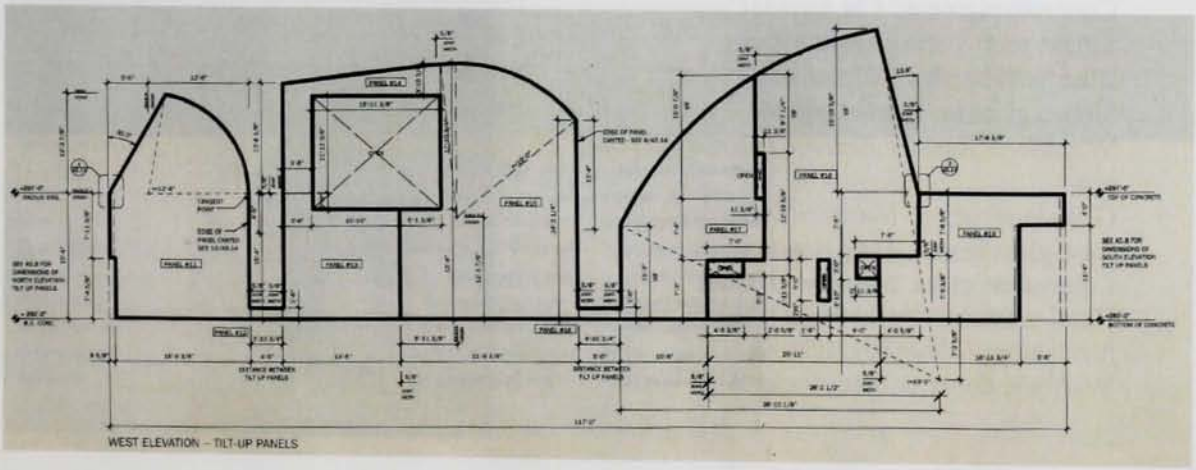
The rolled pipe and tube sections of the steel roof framing are set in place while the concrete panels that support it are temporarily braced.







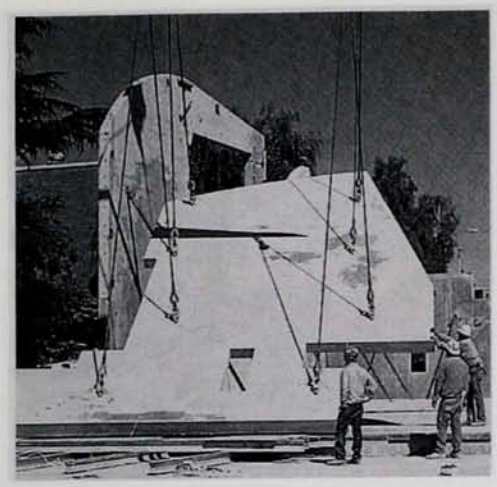
Top: roof plan; above: sections showing steel frame; below: elevation showing tilt-up panels

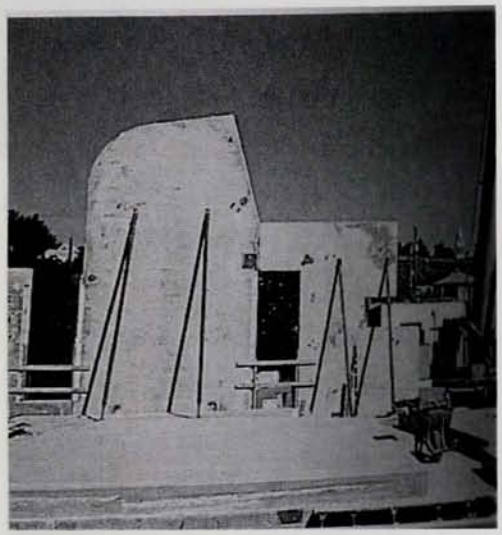


Due to limited site space, the chapel's 8-10 inch thick panels were cast on the chapel floor and in the unfilled reflecting pool, and then finished smooth and stained. They were then lifted by a crane from four support points. The order in which the panels were raised into place was especially important because of their interlocking nature. The support points were later covered by cast bronze plugs, which bore the wood grain of their molds and cast shadows across the panels. The complex roof is the intersection of several angled curved pieces. It is supported at 256 bearing pockets that were cast into the concrete panels. The pre-cast walls had to be braced until the entire roof was in place for stability. On top of the steel framing, 10 inches of roofing assembly protect the pre-weathered solid zinc sheathing from corroding. The assembly includes metal decking, rigid insulation, waterproofing, channels, plywood, and felt. For acoustical purposes, the focal points of the curved ceilings are either below floor level or above ear level.

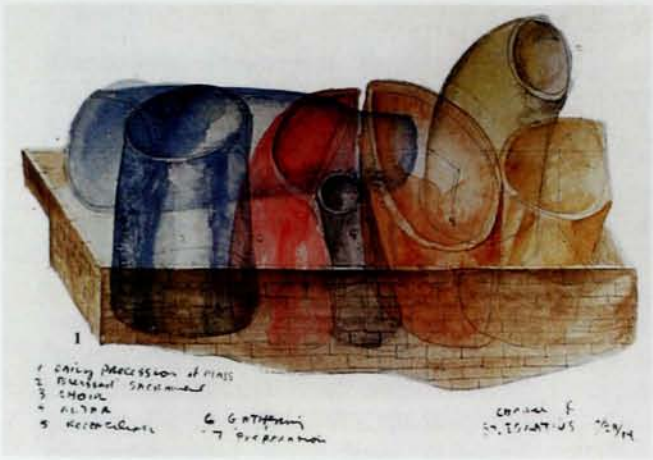
Interlocking panels form window openings. Bronze plugs cover crane pick-up points.

Structural steel roof, tubes: *United Iron Works, MKE Detailing*
Concrete pigment: *L.M. Scofield Co.*
EPDM roof: *Carlisle Syntec Systems*
Zinc "roof bottles": *Rheinzink*
Sloped glazing: *EverGreenHouse*
Windows: *Kawneer, Fleetwood Aluminum Products*
Glass laminating: *Northwest Industries*
Cast-glass lenses: *Doug Hansen*
Colored art glass: *Spectrum Art Glass*
Hand-carved entry doors, baptistery, altar furnishing: *Salmon Bay Millwork*
Vestibule doors, cabinetwork: *W. W. Wells*
Door pulls, metal finishes, metal work: *David Gullassa & Co.*
Integral-color concrete floor: *Emil's Concrete Construction Co.*
Scratch-coast plaster: *O'Malley Brothers' Plastering Co.*
Pews, presider's chair, cantor's stand: *Solid Visions, Inc.*
Exterior lighting: *Bega, McPhilben, Norbert Belfer*
Interior lighting, controls: *Halo, Leviton*
Custom glass sconces, pendant fixtures: *Preston Singletary, Norman Courtney*
Narthex carpet: *V'Soske*





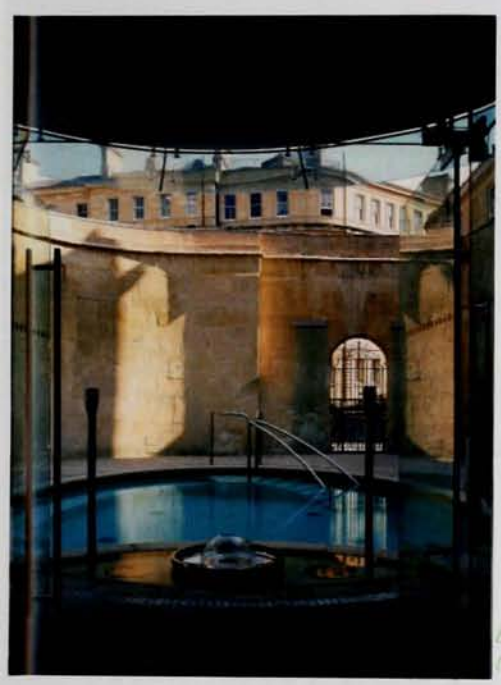
Concrete panels being tilt-up and braced during construction and the final product above



The effect is described as seven colored bottles of light

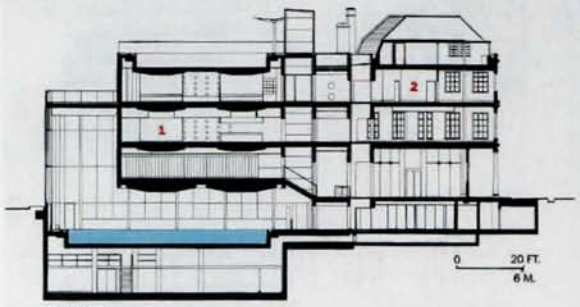
Program Precedent
Bath Spa
2005
Bath, United Kingdom
Nicholas Grimshaw & Partners

The Bath Spa is an addition to the historic thermal baths, which are famous to the area, and were renovated as part of this renewal project. Great care has been taken to frame views of the historic architecture through his new addition and vice versa. The effect is an ephemeral space separate from the realm of time but unique to a particular place. Water activities take place at the base and on the roof while a glass façade and mezzanines allow light to filter completely through the building. At night, the Bath Spa glows like a beacon.

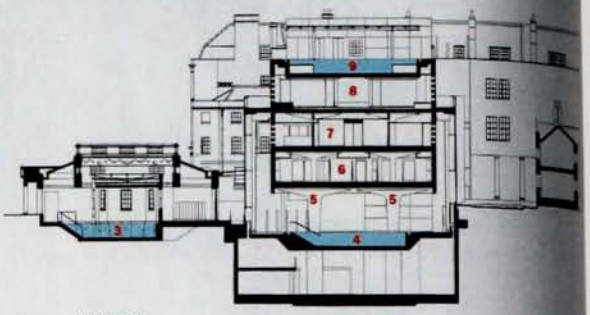


Both day and night, lighting plays an important role is the perception of this building

Site plan in historic Bath, U.K.

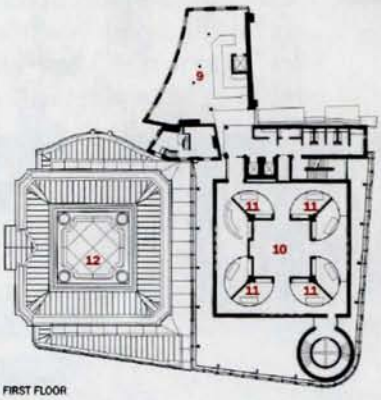


SECTION A-A

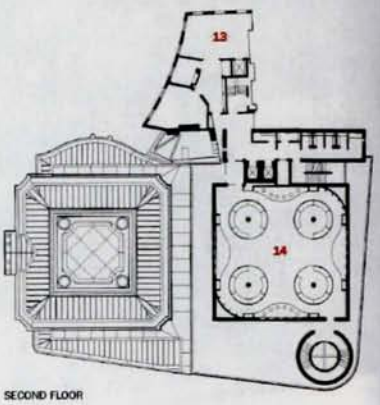


SECTION B-B

1. *New Bath Spa*
2. *7/7A/8 Bath Street*
3. *Hot Bath*
4. *Main spa pool*
5. *Mushroom columns*
6. *Changing rooms*
7. *Gymnasium/treatment rooms*
8. *Steam rooms*
9. *Rooftop pool*

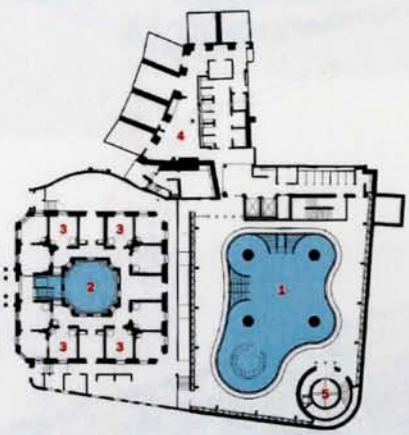


FIRST FLOOR

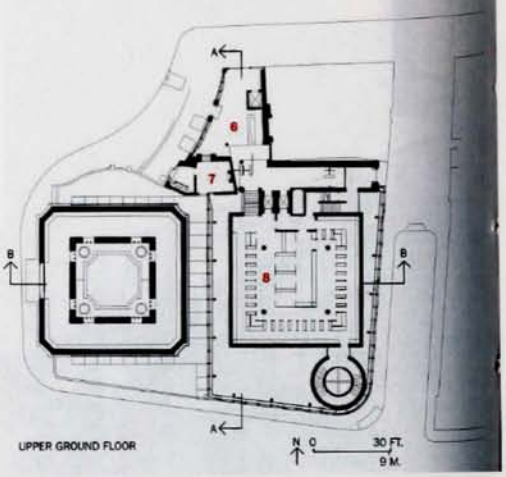


SECOND FLOOR

1. *Main spa pool*
2. *Hot Bath*
3. *Treatment rooms*
4. *Staff area*
5. *Service tower*
6. *Entrance/reception*
7. *Gift shop*
8. *Changing rooms*
9. *Restaurant*
10. *Gymnasium*
11. *Massage rooms*
12. *New glazed roof*
13. *Offices*
14. *Steam rooms*



LOWER GROUND FLOOR

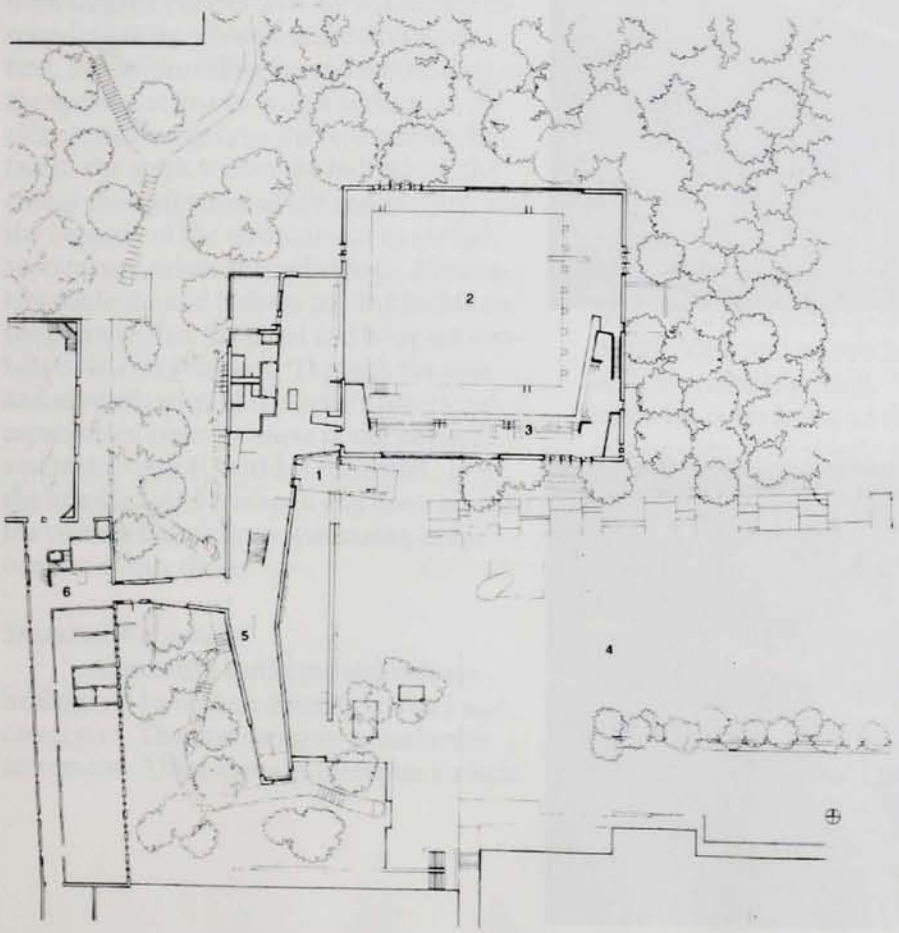


UPPER GROUND FLOOR

Water appears at both the ground floor and as a rooftop pool

Program Precedent
Cranbrook Williams Natatorium
2000
Bloomfield Hills, MI
Todd Williams Billie Tsien & Assoc.

The Williams Natatorium is a relevant precedent for this thesis because of its use of water as a therapeutic element. Architecturally, the long circulation ramp extends the notion of "journey," while the use of wood, concrete, glass, and ceramic tile allow the building to blend into its natural surroundings. Those surroundings are visible both through the tall, narrow wooden louvers along the walls and the two large oculi in the ceiling, all of which allow for natural lighting and ventilation.



The simple shape of the auditorium is linked to the rest of the school by a long ramp system. Together, the two elements create an outdoor court as well.
Above: the louvers let in the sight and smell of the pine trees just outside.

One of the oculi in the roof that allows for natural lighting and ventilation

The path to the natatorium is emphasized by the long ramp as well as the linear lighting above

The wood creates warmth and contrasts with the concrete, both of which bear the imprint of wet feet. Glass creates a visual lightness and allows light to pass more freely throughout the space.

Project Program

Project Identification

In order to promote spiritual experience and growth through architecture, the circumstance that will embody the thesis is a wellness center utilizing alternative medicine and holistic healing practices. Programmatically, this project will simultaneously stimulate and exercise the body, mind, and spirit. Architecturally, it will encourage interaction with others and with the built and natural environments.

Articulation of Intent

Architecture, as a spiritual mediator, seeks to reaffirms life and the human spirit through the engagement of our sense in rediscovering the world, both tangible and intangible, around us. Architecture can also create opportunities to step outside our everyday mindsets and experience the world from another perspective. By sensitively responding to its physical and cultural context, and by providing for and responding to the specific activities which occur in it, architecture strengthens the relationship between the spirit within the individual, the energy that animates all life and activity, and the capacity of the environment to shelter, sustain, and orient the individual. Alternative medicine and holistic healing builds on the premise that the mind and body are connected in every respect. Through the care and maximization of the body's functional capabilities, consciousness of the physical and metaphysical world is enhanced. It is the knowledge of one's self and one's place in the cosmos that defines spirituality in the context of this thesis.

Enumeration of Actions

Alternative medicine and holistic healing can be broken down in to five basic categories. The first category is authentic movement. These types of therapies include tai chi, yoga, pilates, feldenkrais, and rhythm and movement classes. The second category is sensual therapies. Aromatherapy, sound therapy, color therapy, and herbal medicine are all part of this category as well as bathing activities. The third category is manual therapies. Chiropractic therapy, craniosacral therapy, rolfing, and all forms of massage are included in the manual therapies. The fourth category is energy work. Therapies such as acupuncture, shiatsu, reiki, and reflexology are included in energy work. The fifth category is emotional/mental therapies. Meditation, relaxation, breath work, imagery/visualization, hypnotherapy, emotivation, and path work are forms of this type of therapy.

Authentic movement therapies encourage blood circulation, which in turn stimulated brain activity that is clear and focused. Purposeful, rhythmic poses also lead to meditative states that foster reflection and examination of self. Authentic movement therapy is a group activity and requires a firm flat surface in an open space. In order to ensure proper execution of each pose, the space should also be well lit so the instructor can see participants clearly. Some variations of these therapies take place in water so a pool with open air capability will be provided, and an outdoor therapy space will be available as well. These activities strive for inner focus, so the architectural setting should be simple and soothing. Noise and views may be a distraction, so roof openings or slots in the walls would allow shafts of light and cooling breezes in a less distracting manner.

Sensual therapies utilize smell, hearing, sight, and taste to capitalize on the mental associations and natural medicinal effects of essential oils, music, color, and herbs. Sensual therapies will take place on a group level but at a smaller scale than authentic movements, making a flexible space more

efficient. Its reliance on sensual stimulation implies a more dynamic and complex space, with a variety of textures, colors, sounds, and views. Outdoor and winter gardens with flowers, herbs, a water element, and small wildlife would comprise some of the sensual therapy spaces because of the smells and sounds they can provide. A lap pool, whirlpool, steam room, and sauna will complete the sensual therapy spaces. The architecture will loosely designate stations for each sense. The floor, walls, and ceiling should be dynamic, questioning traditionally flat and orthogonal surfaces. Views of the lively activities of the community should be visible.

Manual therapies and energy work relies on the therapeutic touch. The physical connection between two individuals combines with the release of tension in muscles and joints to generate physical and emotional warmth. Manual therapies and energy work occur at an intimate one-to-one level. Small warm spaces that are dimly lit and contain soft, smooth materials provide a sense of enclosure and protection and allow for total relaxation. Each suite will have a private indoor area for actual execution of the therapies as well as a small outdoor space with greenery and views for relaxation before or after therapy.

Emotional/mental therapies exercise the power of the mind to create feeling of serenity, empowerment, and awareness that enable individuals to lead focused, ambitious, and productive lives. Emotional and mental therapies, with the exception of path work, are stationary exercises. These therapies will occur in small groups. Architecturally, the floor, wall, and ceilings should be a continuous surface, undulating to provide surfaces conducive to standing, sitting, and lying. This will demonstrate the continuity and flow the meditation practitioner is seeking in life. Views of the outside world are permissible, but unlike sensual therapy, these views should be less active, making vistas of the skyline or green spaces more appropriate. These activities also often take place with the eyes closed so a naturally lit space will be less invasive. Again, the focus of inward reflection calls for an architecture that is a simple backdrop and the range in size of participant groups requires flexibility. However, path work takes place in a labyrinth or obstacle course, so an outdoor course will naturally allow for spaciousness and ventilation. The outdoor therapy space, however, will need some shelter from intense sun and wind conditions as well as precipitation cover. This space should also be only partially visible, perhaps through the use of vegetation.

In addition to therapy spaces, there will be several smaller gathering spaces throughout the program. These spaces can function for exhibition, special events, casual socializing, or as a lobby. Each will reference the other gathering spaces and also map time and seasons through sunlight. General circulation spaces will be wider and taller than typical corridor designs, with the architecture emphasizing the rhythmic and uninterrupted path as a form of spiritual journey. Authentic movement and water areas will be equipped with locker rooms while manual therapy and energy work spaces will have private dressing rooms. Sensual and emotiona/mental therapy spaces will have communal bathrooms available. Support spaces and storage rooms will accommodate each activity space as well. The administration functions will be located near both main entrances, employing an open office plan for the encouragement of collaboration among employees.

Site Criteria

In relation to surrounding development, the wellness center should be in a dense business district. This would allow the building to serve as a refuge, or "oasis," before or after work or during lunch hours.

The home is already considered a safe haven by most people, but knowing one could escape the intensely stressful work environment throughout the day would be appealing. The variety of activities and space requirements contained in this program and the intent to incorporate natural phenomena all within a compressed urban site suggests a primarily vertical structure. The surrounding site should allow the project to either isolate and/or reveal itself as necessary as part of the spiritual journey. It should also be in a position to be discovered accidentally by a commuter or someone leisurely passing by, allowing the wellness center to reach an even greater audience for the purpose of spiritual nourishment.

Authentic Movement

A. Quantities required

1. Unit capacity	20 occupants
2. Number of units	10 units
3. Net square feet per unit	1000 sf/unit
4. Total net area	10,000 sf

B. Purposes/functions

A public and collective space that serves as a point of release, an opening up from smaller, tighter spaces.

C. Activities

classroom space for tai chi, yoga, pilates, feldenkrais, and rhythm/movement

D. Spatial relationships

A relatively large, uninterrupted space with high ceilings for leaping. Should be partly visible from the exterior and contiguous spaces to promote anticipation and interest.

E. Special considerations

Wood floors to absorb the shock of movement and impact.

F. Equipment/furnishings

Benches for water bottles and towels, sound system, mats, resistance bands, exercise balls

G. Behavioral considerations

Inward focus requires simple backdrop.

H. Structural systems

I. Mechanical/electrical systems

well lit and ventilated

J. Site/exterior environment considerations

Ability to be lit and ventilated naturally, no clear expansive views out but partial visibility from the exterior.

Manual Therapy

A. Quantities required

1. Unit capacity	2 occupants
2. Number of units	10 units
3. Net square feet per unit	200 sf/unit
4. Total net area	2,000 sf

B. Purposes/functions
A private one-on-one space full of intimacy.

C. Activities
Chiropractic therapy, craniosacral therapy, rolfing, and all forms of massage.

D. Spatial relationships
Restricted from other users' views, low ceiling

E. Special considerations

F. Equipment/furnishings
Massage table, sideboard for oils and towels, padded bench for changing

G. Behavioral considerations
Warm temperature, colors, and materials. Should feel cozy and protective on an individual scale.

H. Structural systems
Sound insulation

I. Mechanical/electrical systems
Adjustable indirect lighting

J. Site/exterior environment considerations
Access to covered private outdoor space with plants

Energy Work

A. Quantities required

1.	Unit capacity	2 occupants
2.	Number of units	10 units
3.	Net square feet per unit	200 sf/unit
4.	Total net area	2,000 sf

B. Purposes/functions

A private one-on-one space for re-energizing.

C. Activities

Acupuncture, shiatsu, reiki, and reflexology.

D. Spatial relationships

Restricted from other users' views

E. Special considerations

F. Equipment/furnishings

Padded table for recipient to lay/sit on, sideboard for supplies, padded bench for changing

G. Behavioral considerations

Should feel light and airy with indirect natural lighting and natural ventilation

H. Structural systems

Sound insulation

I. Mechanical/electrical systems

Adjustable indirect lighting

J. Site/exterior environment considerations

Access to covered private outdoor space with plants

Sensual Therapy

A. Quantities required

1. Unit capacity	10 occupants
2. Number of units	10 units
3. Net square feet per unit	500 sf/unit
4. Total net area	5,000 sf

B. Purposes/functions
Private space for collective sensual stimulation.

C. Activities
aromatherapy, color therapy, sound therapy

D. Spatial relationships
ability to be partitioned into smaller spaces for individual use as well

E. Special considerations

F. Equipment/furnishings
essential oils, projector and screen, sound system

G. Behavioral considerations
stimulating colors, textures, and views

H. Structural systems

I. Mechanical/electrical systems
well ventilated, adjustable lighting

J. Site/exterior environment considerations
ability to be naturally lit and ventilated, views of urban activity and liveliness

Herbal Cafe

A. Quantities required

1. Unit capacity	50 occupants
2. Number of units	1 units
3. Net square feet per unit	2500 sf/unit
4. Total net area	2500 sf

B. Purposes/functions

Public collective space for nourishment and the flushing and cleansing of the digestive system.

C. Activities

Herbal medicine, teas, tonics, raw juices

D. Spatial relationships

Two-way visibility of street and outdoor garden to entice newcomers and provide views.

E. Special considerations

Drop-off area for delivery of food and kitchen supplies

F. Equipment/furnishings

Kitchen appliances, prep counters, bar seating, tables and chairs, checkout point

G. Behavioral considerations

Relaxed atmosphere with seating conducive to socializing

H. Structural systems

I. Mechanical/electrical systems

Good kitchen ventilation and lighting, frequent/readily accessible plugs at counter level

J. Site/exterior environment considerations

Paved area for outdoor patio seating when weather permissible.

Emotional/Mental Therapy

A. Quantities required

1. Unit capacity	5 occupants
2. Number of units	10 units
3. Net square feet per unit	250 sf/unit
4. Total net area	2,500 sf

B. Purposes/functions
Private area for small group to obtain mental escape and focus

C. Activities
Meditation, relaxation, breath work, imagery/visualization, hypnotherapy, emotivation

D. Spatial relationships
ability to be partitioned into smaller spaces for individual use as well

E. Special considerations

F. Equipment/furnishings
Benches and mats for different seating options

G. Behavioral considerations
Inward focus requires simple architectural backdrop and soothing natural views

H. Structural systems

I. Mechanical/electrical systems
Adjustable indirect lighting

J. Site/exterior environment considerations
ability to be naturally lit and ventilated, partial visibility between therapy space and exterior and other user spaces

Bathing Activities

A. Quantities required

1. Unit capacity	10-50 occupants
2. Number of units	4 units
3. Net square feet per unit	500-2500 sf/unit
4. Total net area	4,000 sf

B. Purposes/functions

Public collective space for relaxation, exercise, and socializing

C. Activities

Lap pool, whirlpool, steam room, and sauna.

D. Spatial relationships

Ability of lap pool to be either open air or enclosed in inclement weather and partially Shaded from direct sunlight. Other bathing spaces serve a smaller group and are enclosed.

E. Special considerations

Monitored entrances to regulate users

F. Equipment/furnishings

Cabanas for changing and rinsing, lifeguard station, storage for cleaning supplies, lounge chairs

G. Behavioral considerations

Therapeutic rather than merely recreational use. Use of lighting, fountains and non-generic furniture can help maintain that focus. Wood and stone floors that show wet imprints

H. Structural systems

Retractable roof system, and concrete in-ground pool basin

I. Mechanical/electrical systems

Water safe lighting, industrial plumbing for filling and draining pools.

J. Site/exterior environment considerations

Ability to be open air, visibility of lap pool by pedestrians.

Administration

A. Quantities required

1. Unit capacity	15 occupants
2. Number of units	3 units
3. Net square feet per unit	750 sf/unit
4. Total net area	2250 sf

B. Purposes/functions

Public collection space that serves to welcome and direct users as well as manage building

C. Activities

Reception, office space, conference rooms, gallery space

D. Spatial relationships

Good visibility from entrance, ability to be partitioned into smaller work spaces

E. Special considerations

Wall surface for artwork

F. Equipment/furnishings

Desks, tables and chairs, computers, phones, repro machines, filing cabinets

G. Behavioral considerations

Open , non-hierarchical floor plan and organized work surfaces with natural daylight and ceilings higher than the typical 8 foot office module

H. Structural systems

I. Mechanical/electrical systems

Ambient lighting and task lighting at desk and counter levels

J. Site/exterior environment considerations

Reception portion should be visible from street and easily accessible

Special Event Spaces

A. Quantities required

1. Unit capacity	100 occupants
2. Number of units	2 units
3. Net square feet per unit	2500 sf/unit
4. Total net area	5000 sf

B. Purposes/functions

Public collective space to accommodate informative as well as celebratory functions. Center for interaction between regular users as well as community members.

C. Activities

Exhibitions, fundraisers, lectures, parties

D. Spatial relationships

Large uninterrupted space, two-story volumes

E. Special considerations

Storage for tables and chairs, wall surface for artwork, accessible by service trucks

F. Equipment/furnishings

Podium, tables, chairs, wood dancefloor, sound system, acoustical monitors

G. Behavioral considerations

Unique fixtures and rich colors and materials to promote the festive atmosphere

H. Structural systems

Glazing systems, cantilevered floors in one-story areas

I. Mechanical/electrical systems

Ability to heat and cool a large volume of space, adjustable lighting, sound system

J. Site/exterior environment considerations

Should be visible from street with expansive views outward to participate in nightlife help promote programs

Exterior Activity Spaces

A. Quantities required

1. Unit capacity	10 occupants
2. Number of units	5 units
3. Net square feet per unit	500 sf/unit
4. Total net area	2500 sf

B. Purposes/functions
Private collective space to provide fresh air and sunshine in good weather.

C. Activities
Authentic movment, manual therapy, energy work, sensual therapy, and emotional/mental therapy

D. Spatial relationships
Accessible from circulation spaces with view of courtyard garden

E. Special considerations

F. Equipment/furnishings
Benches, mats, shading devices

G. Behavioral considerations
Scaled for small groups, limited access from public spaces due to inward focus of some activities

H. Structural systems
Cantilevered patios

I. Mechanical/electrical systems
Outdoor lighting

J. Site/exterior environment considerations
Visual and sound insulation from street

Pathwork Course

A. Quantities required

1. Unit capacity	2 occupants
2. Number of units	1 units
3. Net square feet per unit	1000 sf/unit
4. Total net area	1000 sf

B. Purposes/functions

Mental and physical exercises used to participate in the spiritual journey and mark levels of achievement

C. Activities

wayfinding, problem solving, physical exercise

D. Spatial relationships

Loosely defined series of "rooms" that present new challenges and provide privacy

E. Special considerations

Monitored entrances and ability to view entire course from observation deck for safety purposes

F. Equipment/furnishings

Obstacle course equipment, wood chips for impact absorption

G. Behavioral considerations

Grand scale to evoke sense of challenge and important to spiritual education

H. Structural systems

I. Mechanical/electrical systems

Outdoor lighting, drainage system

J. Site/exterior environment considerations

Visible to pedestrian traffic but from a distance to avoid distraction

Winter Garden

A. Quantities required

1. Unit capacity	20 occupants
2. Number of units	1units
3. Net square feet per unit	1000 sf/unit
4. Total net area	1000 sf

B. Purposes/functions
Public collective space that provides sights, smells, and sounds of nature, natural air purification system

C. Activities
Bird and butterfly house, aromatherapy, herbal medicines

D. Spatial relationships
Two and three-story volumes to allow for plant growth and animal mobility, visible Several levels of the building

E. Special considerations
Screening system to contain birds and butterflies

F. Equipment/furnishings
Benches, planting beds, storage for gardening tools

G. Behavioral considerations
Colorful, odorous plants and animals that stimulate and excite

H. Structural systems
Solar glazing system

I. Mechanical/electrical systems
Irrigation system and temperature control sytem

J. Site/exterior environment considerations
Visible from street although plant life limits views outward

Outdoor Garden

A. Quantities required

1. Unit capacity	20 occupants
2. Number of units	1 units
3. Net square feet per unit	1000 sf/unit
4. Total net area	1000 sf

B. Purposes/functions

Public collective space for relaxation and social gathering, central to act as orientation device

C. Activities

Picnics, games, reading, and other recreational acitivities

D. Spatial relationships

Enclosed by wellness center and existing neighboring structures, outdoor spaces from various floors step back as they get higher

E. Special considerations

Visible from entrance but easily identified as part of wellness center rather than a public park

F. Equipment/furnishings

Benches, paved walkways along building and near entrances

G. Behavioral considerations

Deciduous plant life that changes according to season yet some coniferous plant life To maintain greenery during winter months, colorful and odorous flowering plants

H. Structural systems

I. Mechanical/electrical systems

Irrigation system and outdoor night lighting

J. Site/exterior environment considerations

Tall scale of enclosed urban environment requires plants adapted to shade

Locker rooms

A. Quantities required

1. Unit capacity	10 occupants
2. Number of units	20 units
3. Net square feet per unit	500 sf/unit
4. Total net area	10000 sf

B. Purposes/functions
Public collective space for therapy preparation

C. Activities
Bathroom functions and changing

D. Spatial relationships
Open flow but restricted views of toilet and changing areas

E. Special considerations

F. Equipment/furnishings
Sinks, countertops, toilets and toilet stalls, benches and lockers

G. Behavioral considerations
Having two smaller locker rooms per floor helps maintain privacy

H. Structural systems

I. Mechanical/electrical systems
Plumbing, ventilation and vanity lighting over sinks

J. Site/exterior environment considerations
No views in or out and no access from exterior

Support Spaces

A. Quantities required

1.	Unit capacity	2 occupants
2.	Number of units	10 units
3.	Net square feet per unit	100 sf/unit
4.	Total net area	1000 sf

B. Purposes/functions

Private individual space for employees and instructors. Serves as preparation room, private consultation room, and floor monitoring station

C. Activities

Observation, meeting, thought-gathering

D. Spatial relationships

Views of circulation spaces and restricted rooms such as mechanical and storage

E. Special considerations

Completely enclosed to allow for doors with locks

F. Equipment/furnishings

Bench or chairs and desk with chair, shelves, task lighting, phone

G. Behavioral considerations

Should communicate authority of inhabitant, simple and efficient furnishings

H. Structural systems

I. Mechanical/electrical systems

Security system access and intercom system

J. Site/exterior environment considerations

Natural lighting preferable as work motivator

Storage Spaces

A. Quantities required

1. Unit capacity	2 occupants
2. Number of units	10 units
3. Net square feet per unit	100 sf/unit
4. Total net area	1000 sf

B. Purposes/functions
Private individual space that serves to keep activity areas free of clutter yet well equipped

C. Activities
Equipment and furnishing storage for adjacent activity spaces

D. Spatial relationships
Located near support space and main circulation route for easy access

E. Special considerations
Must be fully enclosed for security purposes

F. Equipment/furnishings
Shelving and bins for organization

G. Behavioral considerations
No views in for security purposes

H. Structural systems
Fire-rated walls since connected to mechanical room

I. Mechanical/electrical systems
Good direct lighting to ensure visibility

J. Site/exterior environment considerations
No views between storage space and exterior and no access from exterior

Circulation/Gathering Spaces

A. Quantities required

1. Unit capacity	20 occupants
2. Number of units	10 units
3. Net square feet per unit	1000 sf/unit
4. Total net area	10,000 sf

B. Purposes/functions

Public collective space for movement and social interaction

C. Activities

Talking, meeting, walking, viewing other activity spaces

D. Spatial relationships

Separated from activity spaces mostly through material differentiation, open flowing circulation

E. Special considerations

F. Equipment/furnishings

benches

G. Behavioral considerations

In areas where it is separated from activity spaces by walls, slots and small openings can still provide clues as to what is happening on the other side of the wall

H. Structural systems

I. Mechanical/electrical systems

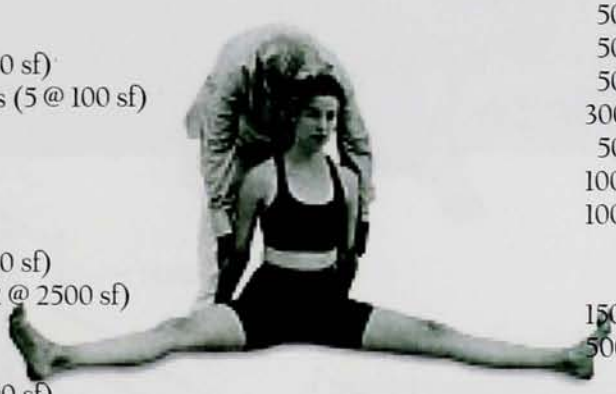
Track lighting for artwork

J. Site/exterior environment considerations

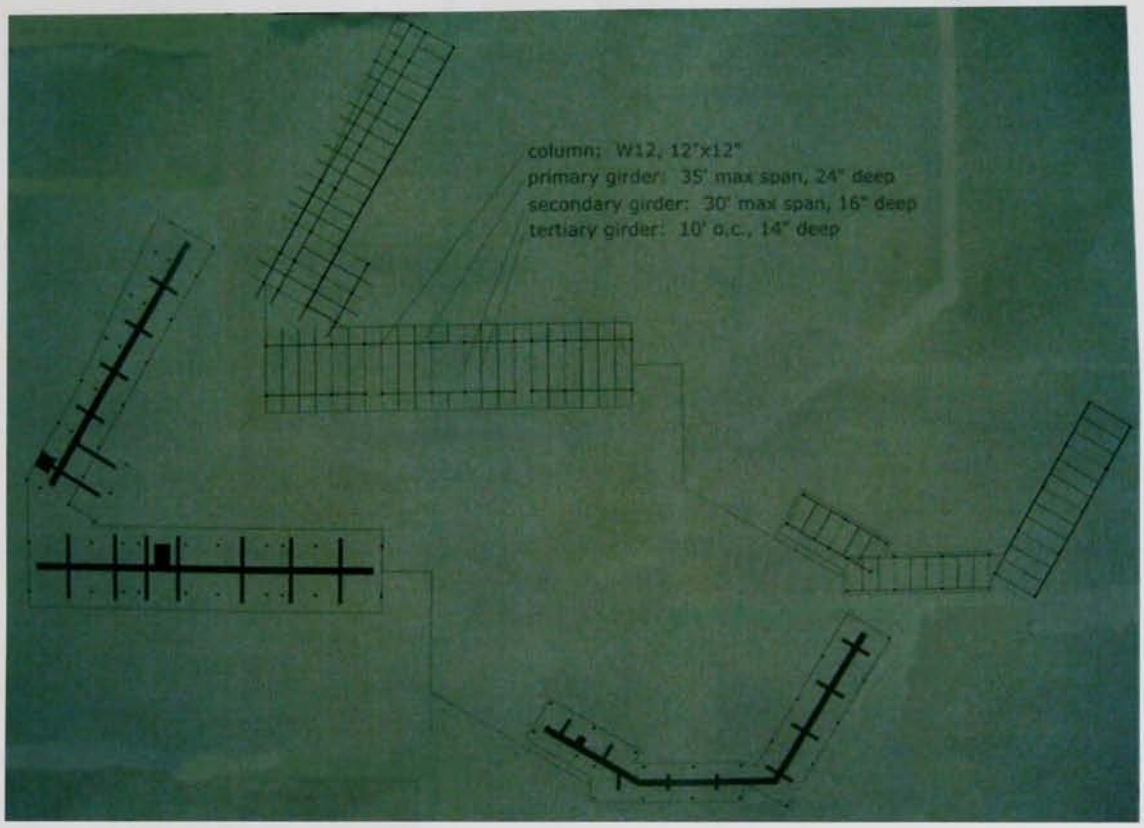
When located on edge of building circulation can shift between exterior and interior corridors

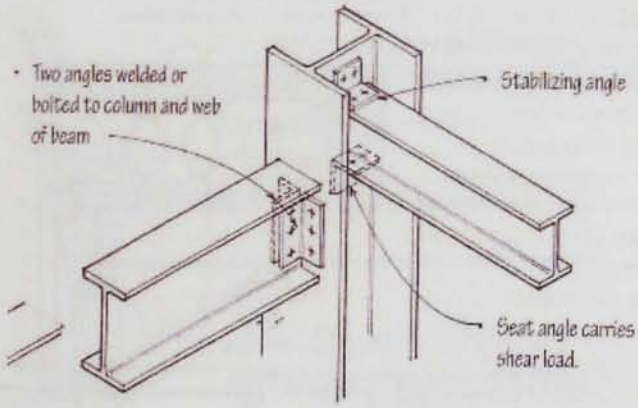
Program Quantitative Summary

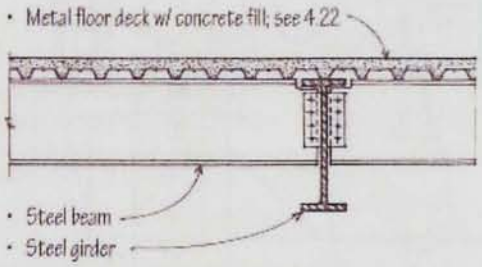
Authentic Movement	
Movement Spaces (10 @ 1000 sf)	10000 sf
	10000 sf
Manual Therapy	
Therapy Spaces (10 @ 200 sf)	2000 sf
	2000 sf
Energy Work	
Work Spaces (10 @ 200 sf)	2000 sf
	2000 sf
Sensual Therapy	
Therapy Spaces (10 @ 500 sf)	7500 sf
Herbal Café	5000 sf
	2500 sf
Emotional/Mental Therapy	
Therapy Spaces (10 @ 250 sf)	2500 sf
	2500 sf
Bathing Activities	
Pool	9500 sf
Whirlpool	2500 sf
Steamroom	500 sf
Sauna	500 sf
Locker Rooms (2 @ 1500 sf)	500 sf
Private Dressing Rooms (5 @ 100 sf)	3000 sf
Support (4 @ 250 sf)	500 sf
Storage (4 @ 250 sf)	1000 sf
	1000 sf
Administration	
Office Stations (10 @ 150 sf)	6500 sf
Special Event Spaces (2 @ 2500 sf)	1500 sf
	5000 sf
Exterior Spaces	
Activity Spaces (5 @ 500 sf)	5500 sf
Pathwork Course	2500 sf
Winter Garden	1000 sf
Garden	1000 sf
	1000 sf
Utility Spaces	
Mens Room (10 @ 500 sf)	12000 sf
Womens Room (10 @ 500 sf)	5000 sf
Support (10 @ 100 sf)	5000 sf
Storage (10 @ 100 sf)	1000 sf
	1000 sf



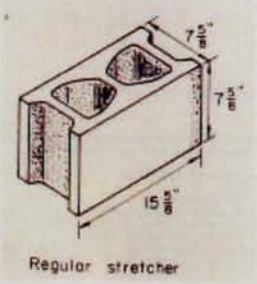
Subtotal	57500 sf
Circulation/Gathering Spaces	10000 sf
Mechanical (15 @ 100 sf)	1500 sf
Total Programmatic Area	74500 sf
Interior	69000 sf
Exterior	5500 sf
Parking (3 spaces/1000 sf = 270 spaces)	81000 sf

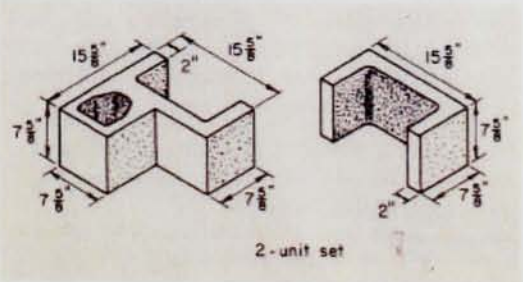


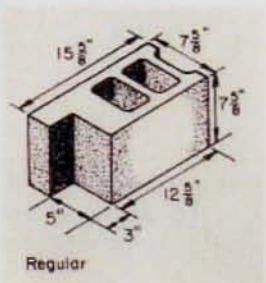


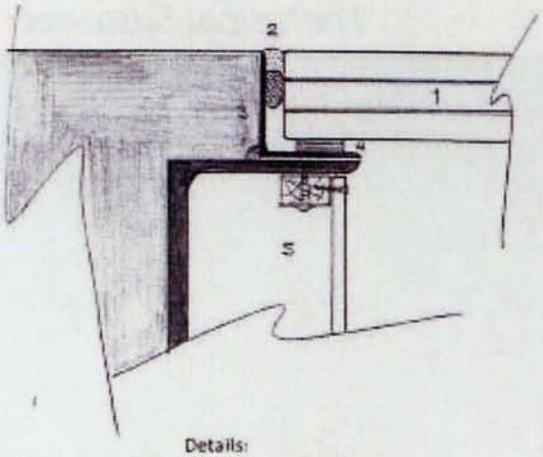


Steel frame column and girder system hidden in non-load bearing concrete block walls with rough aggregate. Metal decking with concrete topping and wood floors in movement spaces.





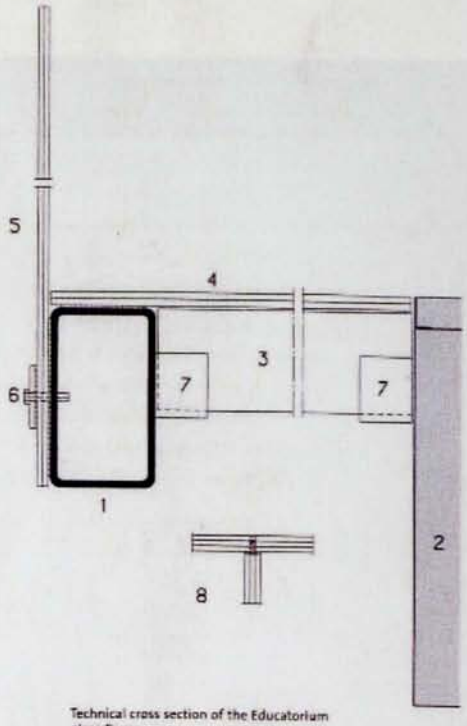




Details:

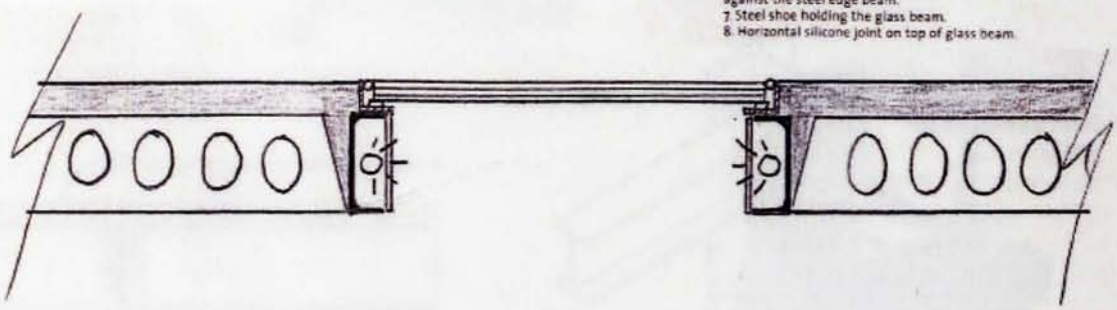
1. Glass panel (load-carrying).
2. Silicone joint.
3. Steel angle.
4. Neoprene pad.
5. Light in channel.

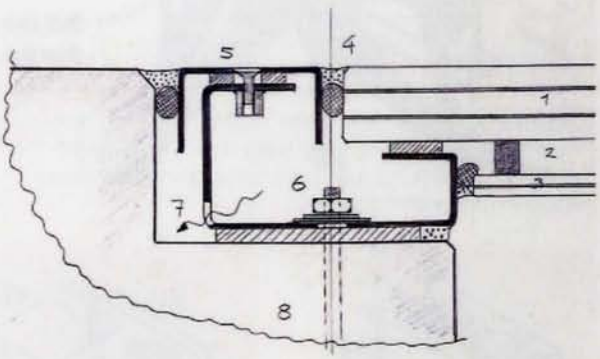
Structural glass panels in corridor: above, along wall, right, at railing, and below, in the middle of the floor.



Technical cross section of the Educatorium glass floor.

1. Edge beam, steel hollow section.
2. Concrete floor forming the other edge of the glass floor area.
3. Glass beam.
4. Glass floor panels.
5. Glass balustrade clamped against the steel edge beam.
6. Steel-bolted connection clamping the glass against the steel edge beam.
7. Steel shoe holding the glass beam.
8. Horizontal silicone joint on top of glass beam.

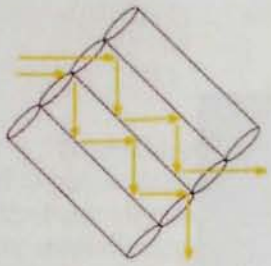




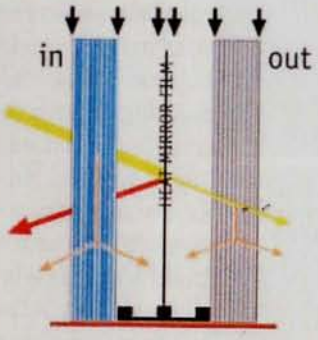
An efficient solution for guaranteed water tightness of the support detail of an exterior glass floor.

1. Glass panel (load-carrying).
2. Cavity.
3. Glass panel (insulating).
4. Silicone joint (first line of defence).
5. Top stainless steel inverted channel profile.
6. Connecting stainless steel profile.
7. Drain to gutter (external).
8. Connection to concrete floor.

Weatherproof sealing system in 'skylit' underground tunnel under Washington Ave.

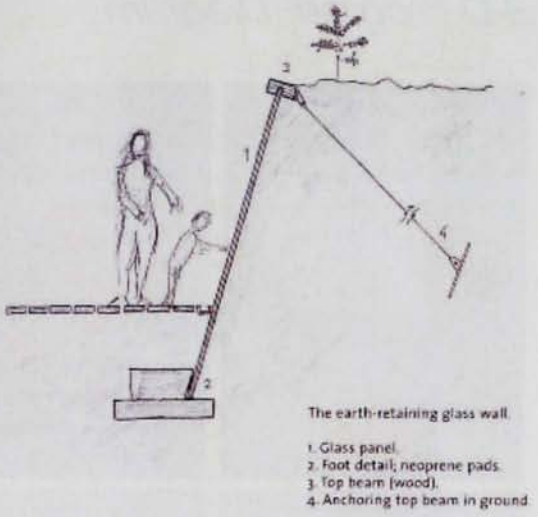


Light-guiding Insulating Glass



Heat Mirror Insulating Glass

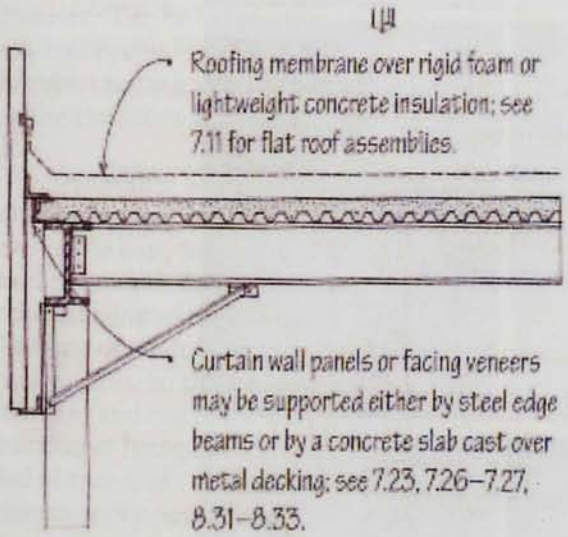
Light and heat refracting translucent glass panels on exterior façade



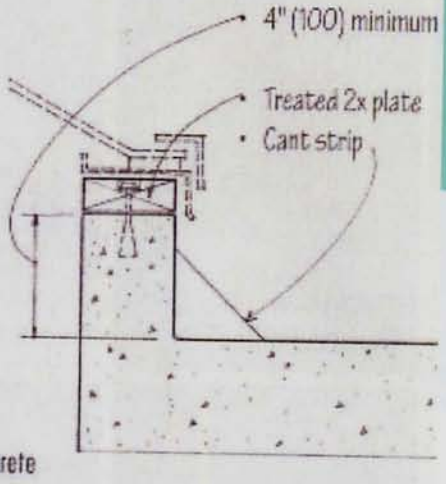
The earth-retaining glass wall.

1. Glass panel.
2. Foot detail; neoprene pads.
3. Top beam (wood).
4. Anchoring top beam in ground.

Glass retaining wall in sunken bathing pavilion



Detail of curtain wall panel system as it meets the flat roof membrane system



3-D Program Diagram

Design Process

Several issues and ideas have continued to permeate and drive the design process as the basic ideas outlined in the thesis became more developed as I confronted the actual design of physical space. First of all, as a physical media, architecture and the body are constantly informing and redefining each other. Our contact with the world takes place at the boundary line of the self, our enveloping membrane. The floor is one surface which the body is most often in contact with, making it important to this project. For example, wooden floors in movement spaces receive impact well, heated concrete slabs enhance the thermal experience of the baths, and glass evokes a feeling of flotation in circulation and meditation spaces.

Another way in which the building participated in this engagement with self and surroundings is through an interpretation of threshold. Manual therapies push and pull that boundary line of ht self, so those program spaces were placed along the perimeter. The building envelope in those areas was opened up and pushed inward and outward, creating a sense of depth and blurring the transition between inside and outside.

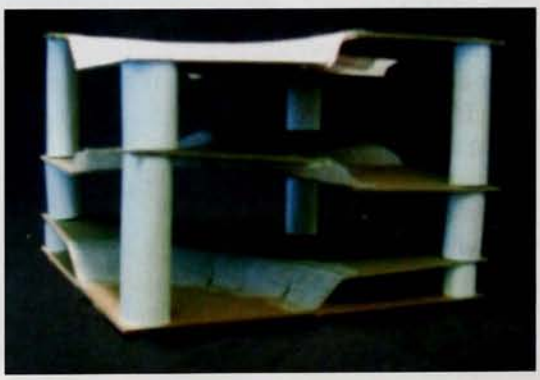
Attention was also given to coordinating sight lines during circulation with views of the exterior environment. This was meant to create a deep visual threshold, extending the immediate realm of the individual to that of others, both internally and externally. Also, on the bathing side, ramps down into and out of the building reinforce the action of being submerged in water. The ritual of that entry and exit strengthens the connection of a person to a place, expanding our concept of threshold. The bathing pavilion is also a series on flat roof planes that appear to hover above the glass walls below because the supporting columns are set back from the edge. This diversifies the threshold of where the ground plane ends and the building begins since it is partially sunken in the ground.

The materiality of the architecture also plays an important role in our phenomenological understanding of place. Stone, brick, metal, and wood express their origin and permanence in time through the patina of wear. This reminds us of our own history and of our fleeting moment in the continuum of time.

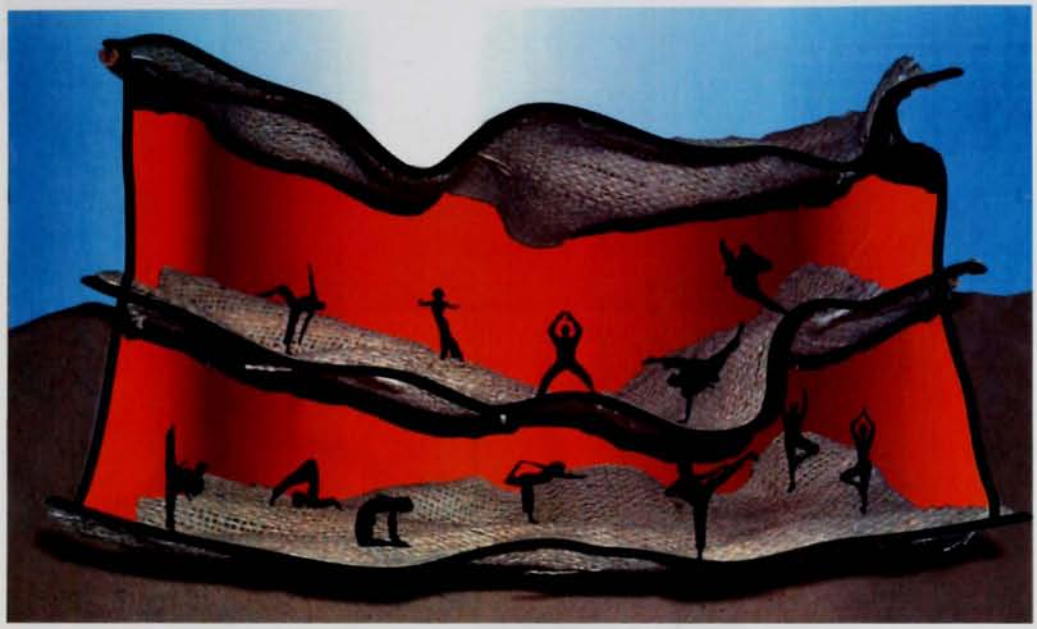
The building also hopes to respond specifically to nuances of framing the control of vision that have the potential to impact the building's inhabitants in a way that is more profound than just providing "good views." For example, translucent glass was also used widely. Its purpose is to simulate the unfocused vision experienced during heightened emotional states such as when laughing, crying, or deep in thought. Multistory spaces and openings in the roof and floor allow for a broader range of perspectives and the ability to "see" the world from a variety of viewpoints. For instance, if a person is standing on a balcony with a clear view of the trees below while their hand rests on the smooth finish of a wooden rail, they might begin to appreciate the relationship between humans and the natural world in a new way. Outdoor spaces with natural elements were included because of their associations with growth and health and also as moments of restoration where one can effortlessly take in an external condition. As a framework for the building, the strong linear horizontal and vertical planes provide stability, continuity, and simplicity in the background.

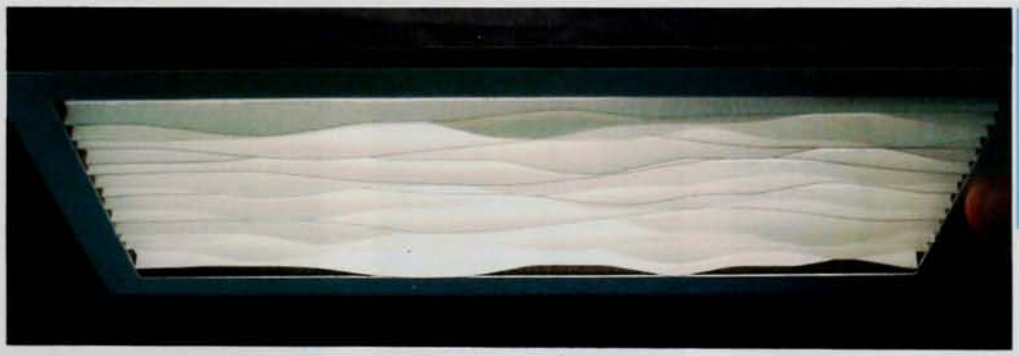
Finally, spaces that move us on a deeper level often have a sense of mystery to them, characterized by shadows or light from unknown sources. In addition to the issues I have mentioned that deal with the control of light, the project as a whole also strives for that sense of mystery by its placing and massing on the site.

Exploring the idea of the floor, walls, and ceiling as a continuous surface that is more responsive to the way our bodies move.

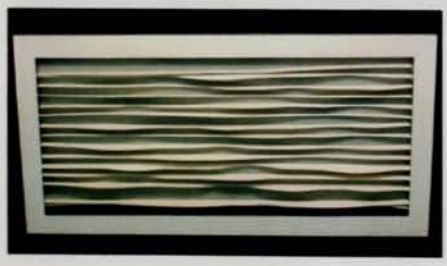


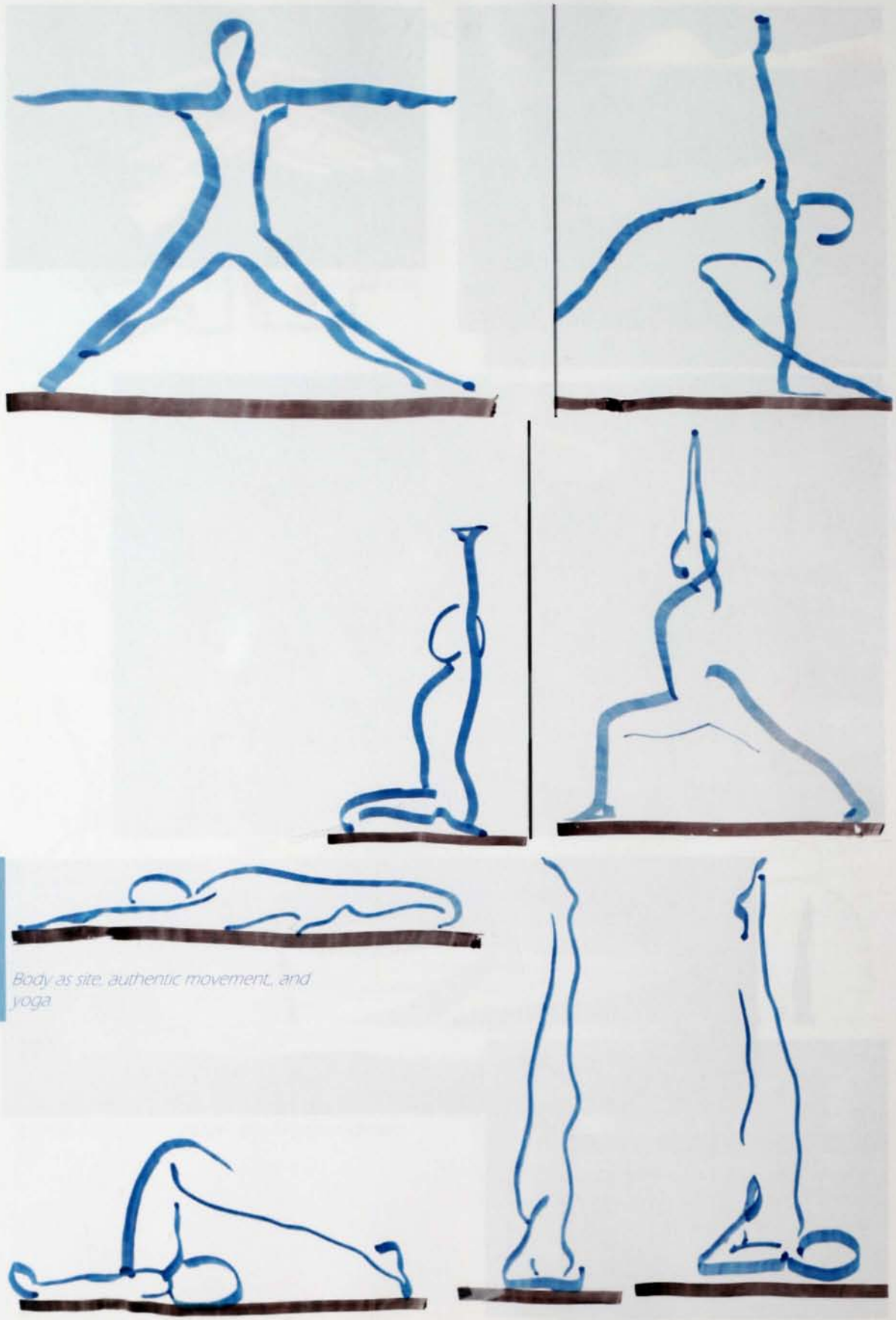
Idea best suited for authentic movement spaces

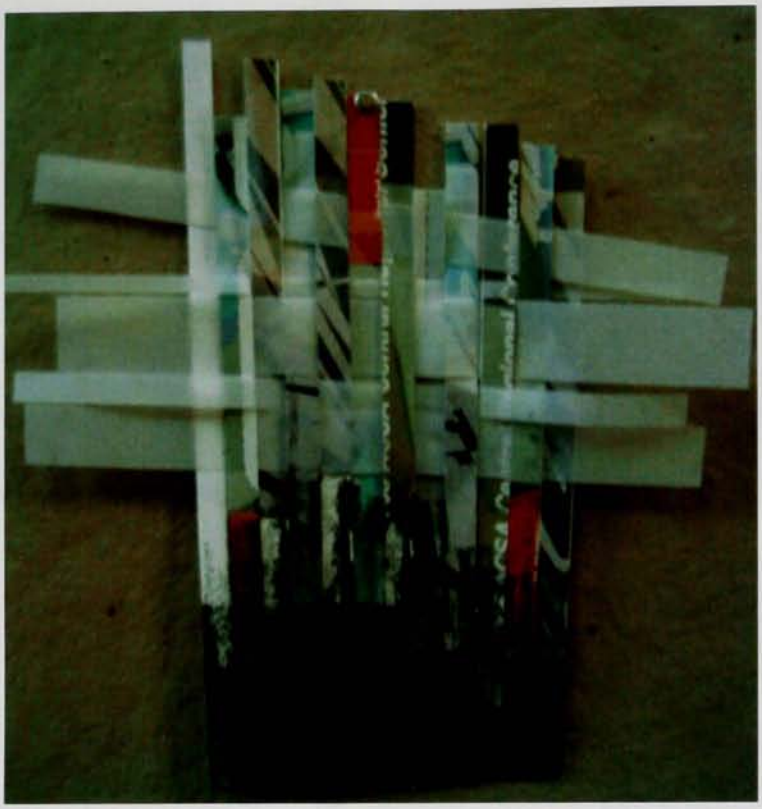




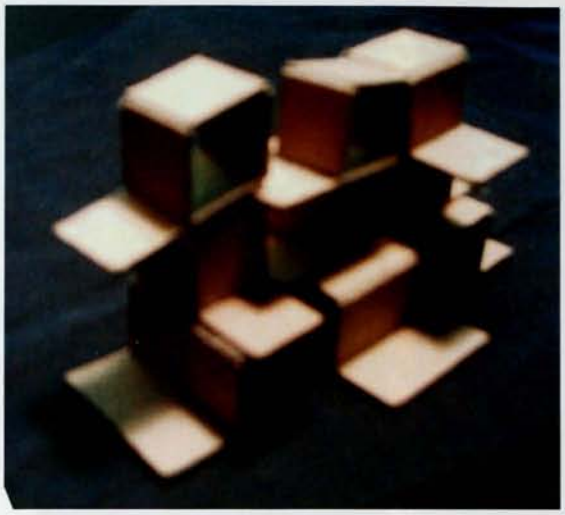
Transforming the idea into an architectural element

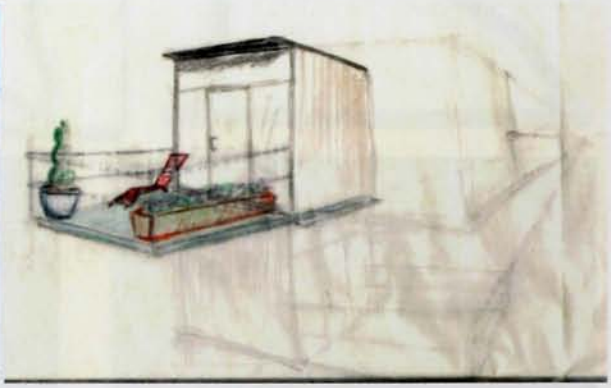


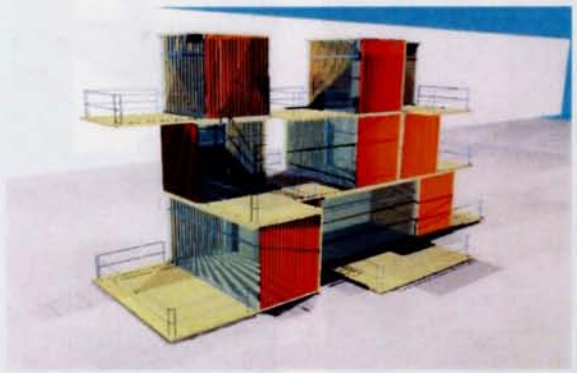




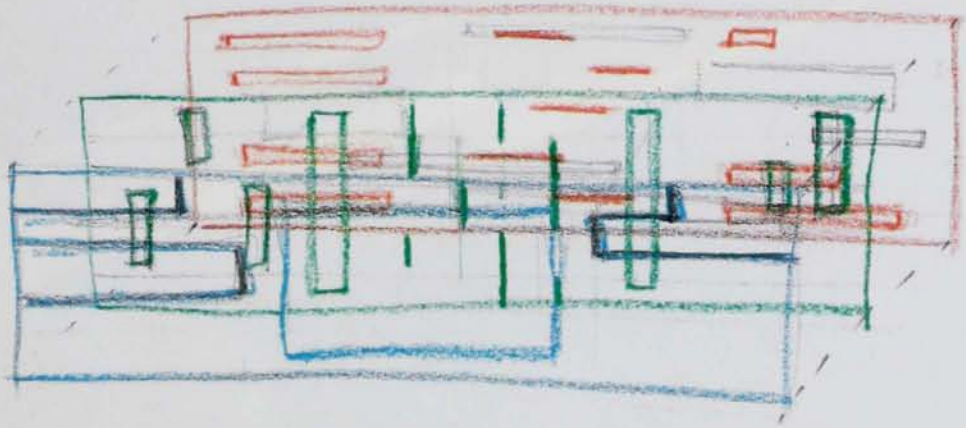
Light, shadow, silhouettes... maintaining a sense of ephemeral mystery.



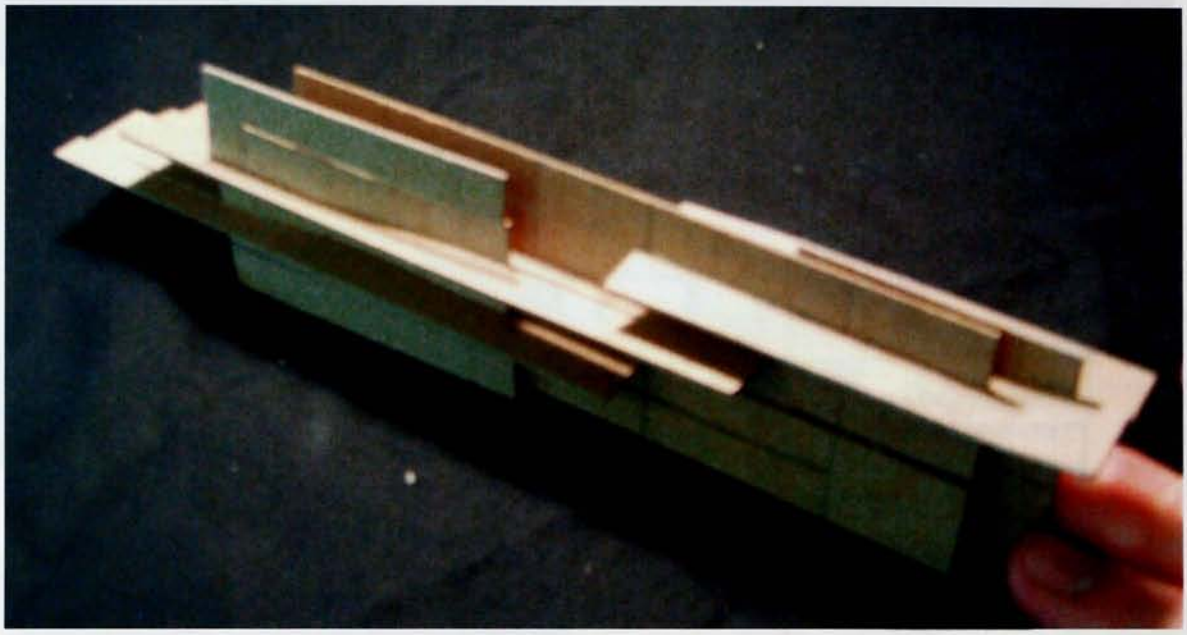


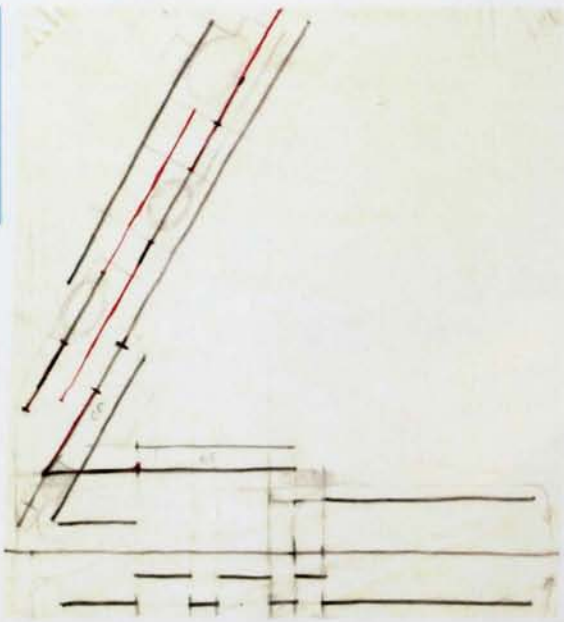


Manual therapy and energy work spaces require more privacy, but an individual may still want access to outdoor or semi-public spaces. Breaking the rooms into components made the facade an inhabitable space with depth.

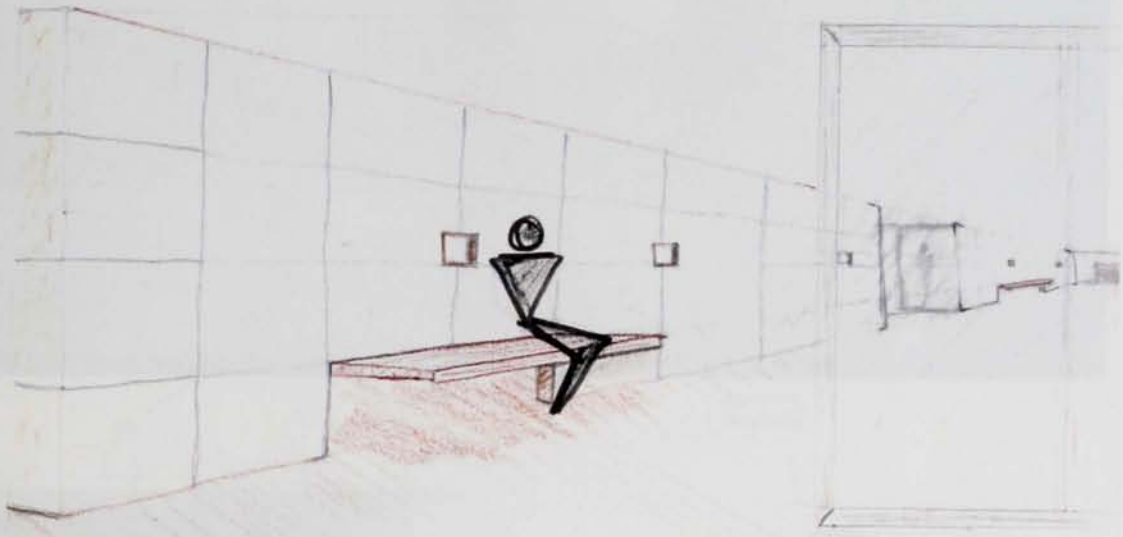


I began thinking about the skin of the building as a series of layers, with varied levels of opacity, visibility, and access to the exterior.

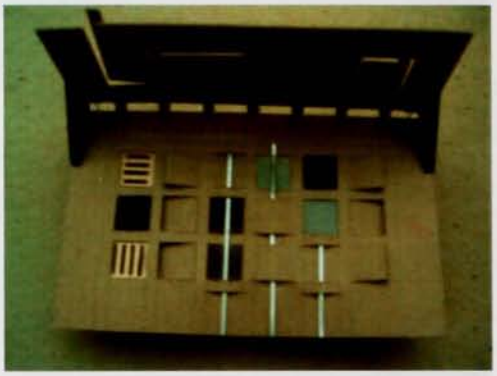


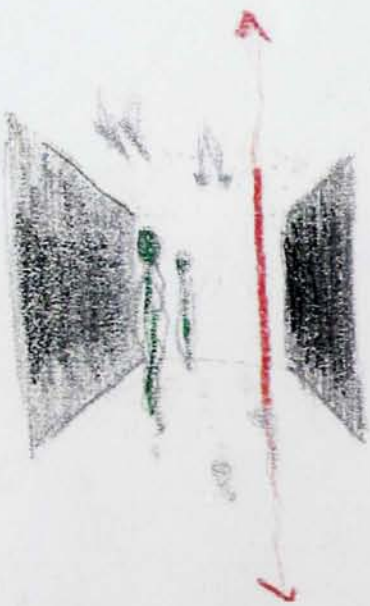


I felt the architecture should remain simple since the focus should be inward, meditative, and calming. By using curves, and later planes, I tried to devise a way for space to naturally open up and tighten to allow for different spatial needs by program. I wanted as few doors as possible.

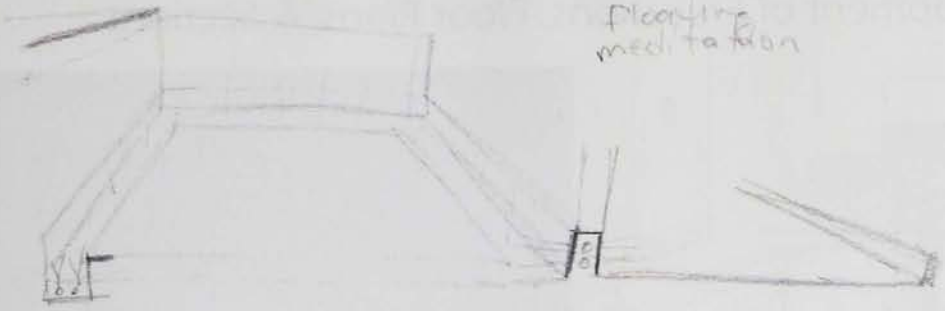


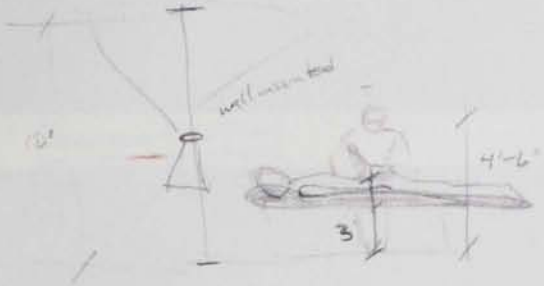
The building then became a series of intersecting horizontal and vertical planes which were the framework for understanding the building and would house the steel frame structure as well.

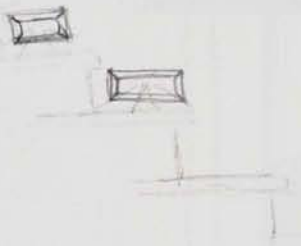


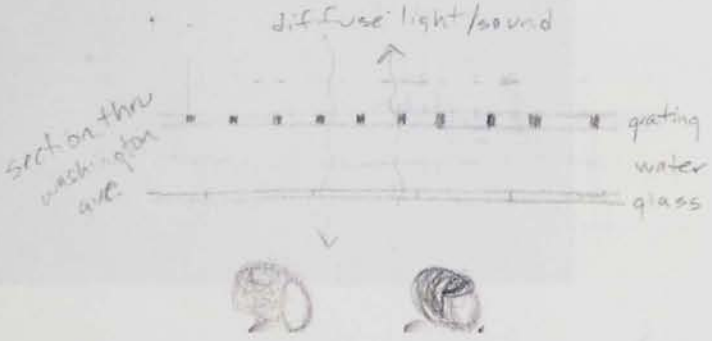


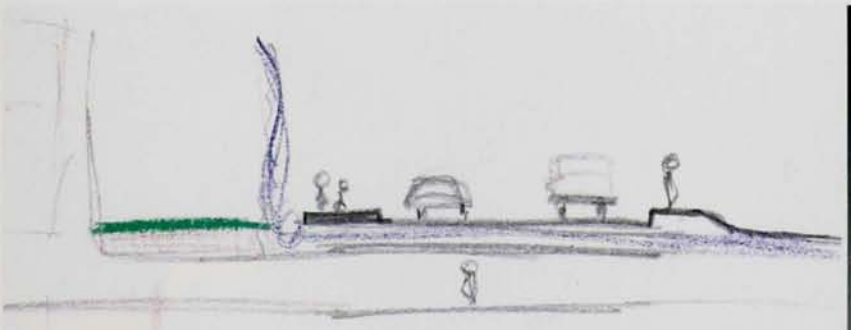
In order to create a sense of the metaphysical, I wanted to use light in ways that would insinuate floating or ascension, so discrete openings and floating planes were a series of investigations I pursued.





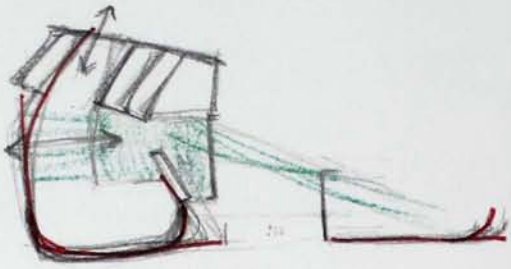


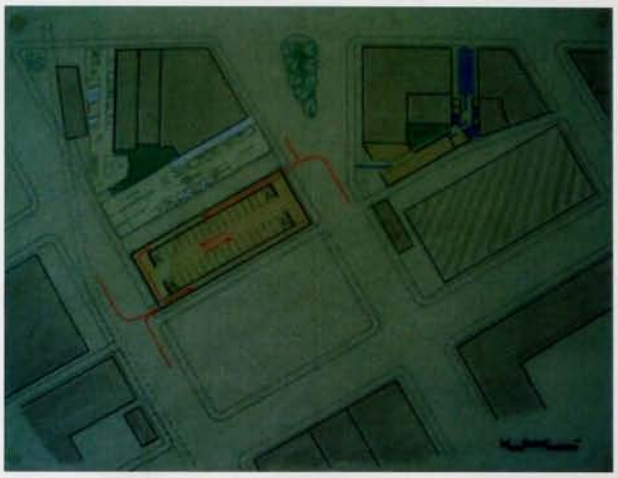


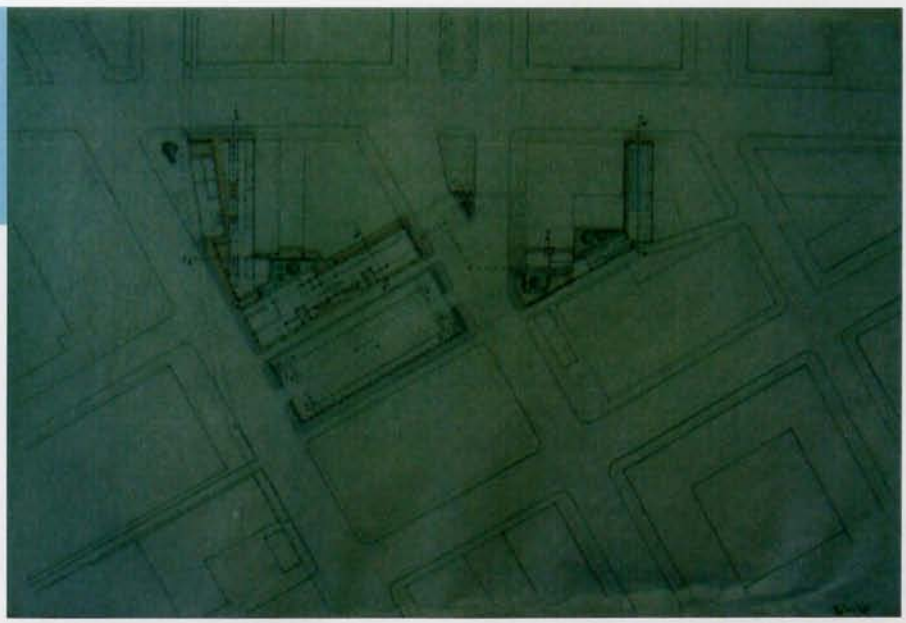


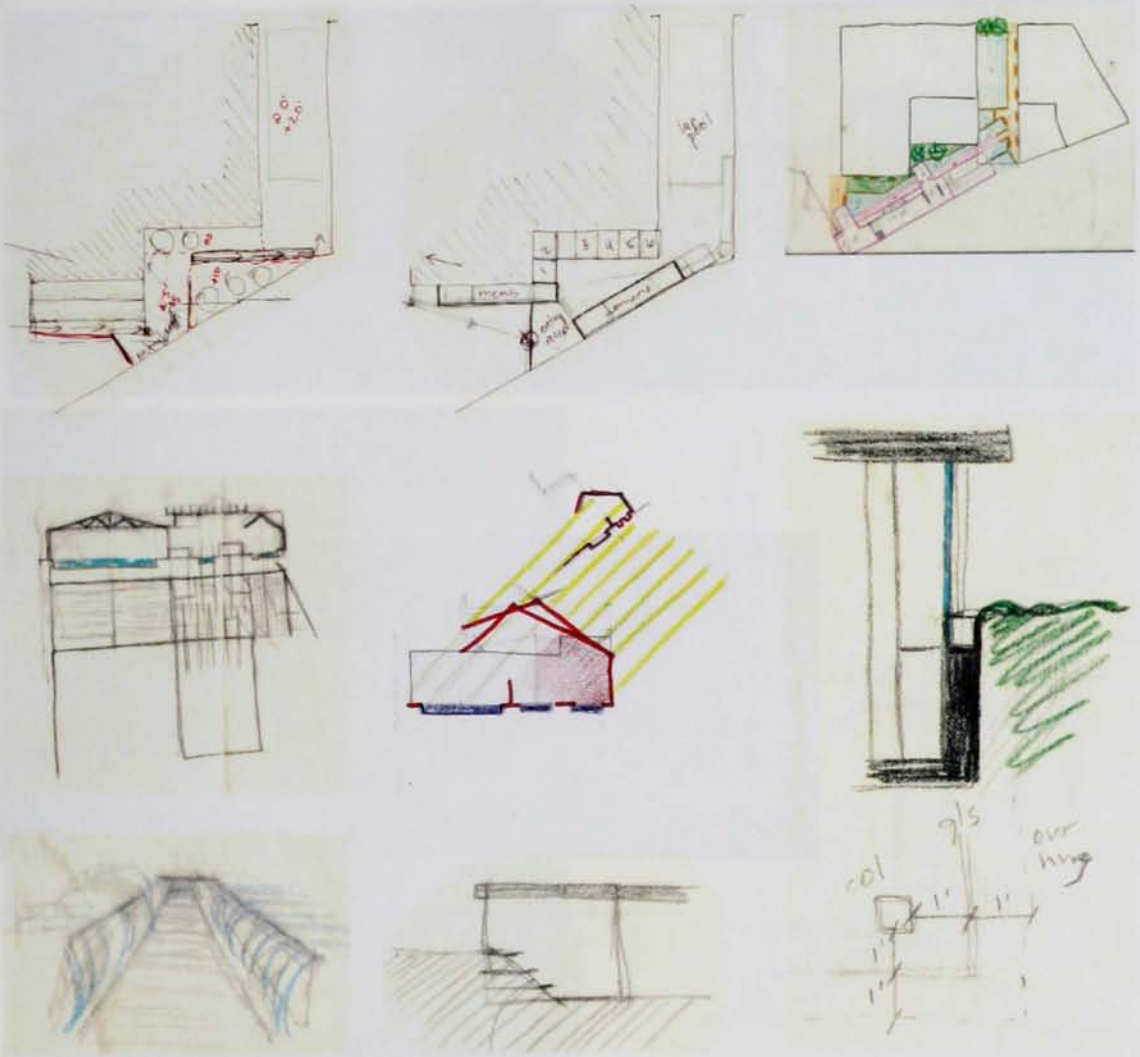
The study of lighting, floating, and ascension eventually manifested into an underground tunnel connecting both sides of Washington Ave. and glass panels in the floor around the strong vertical planes.

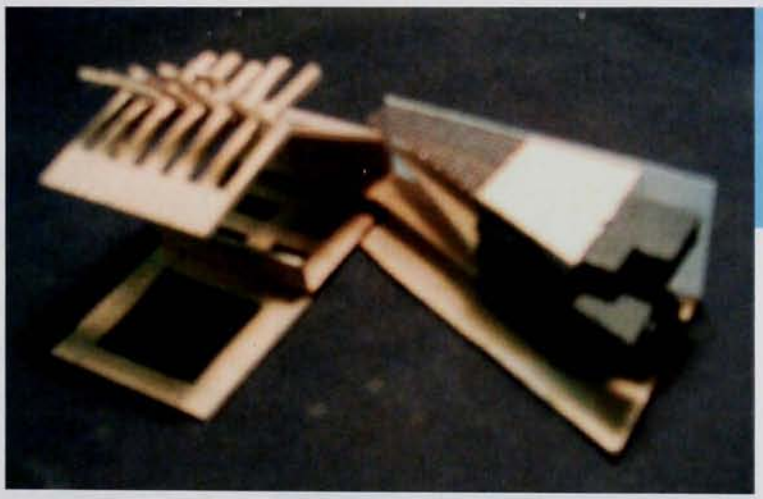
Development of Elevations, Floor Plans, & Sections

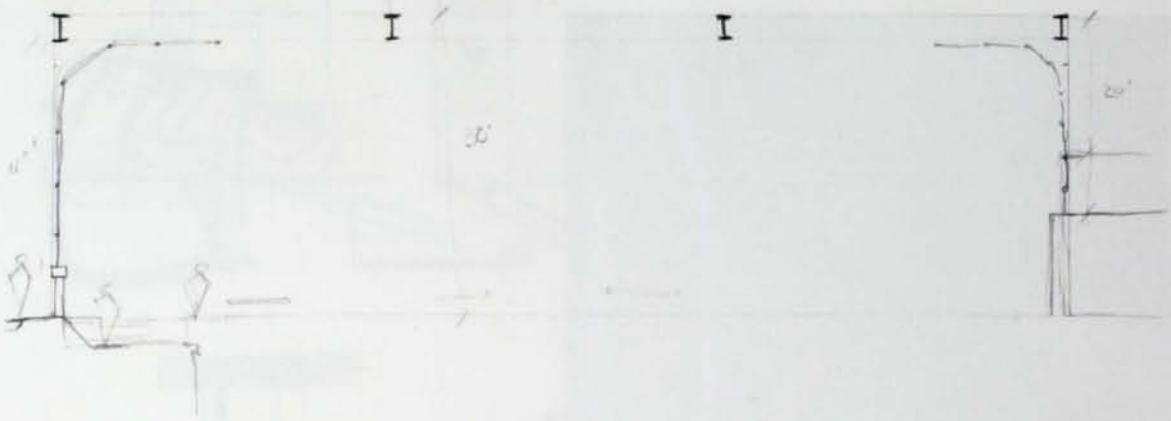


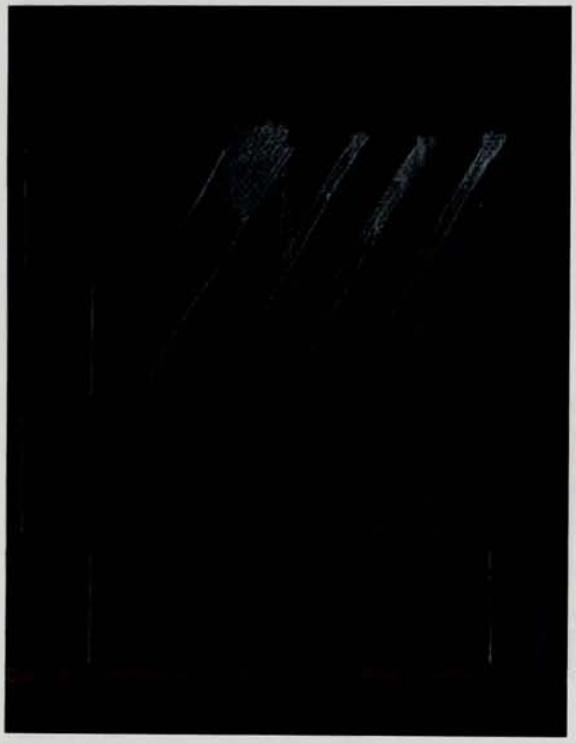


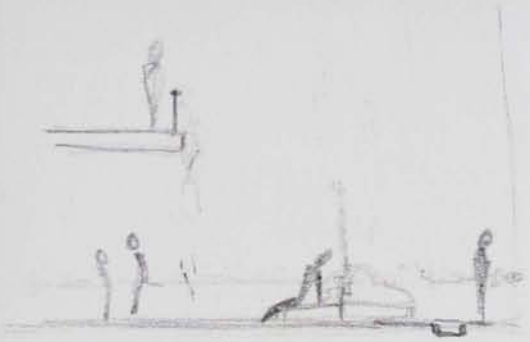


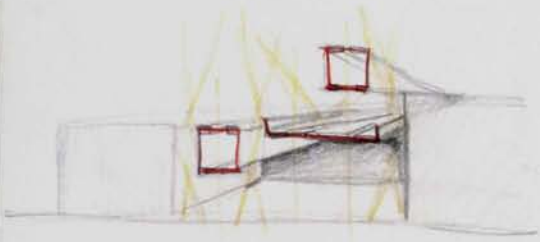


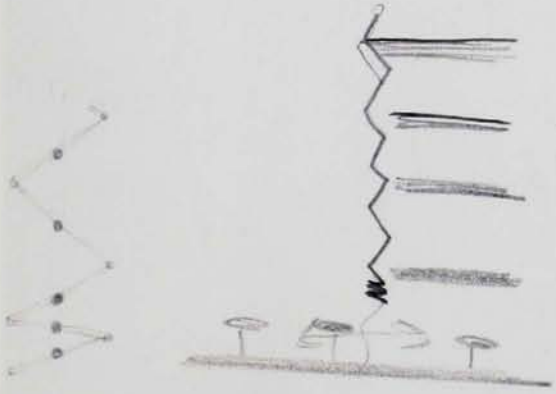


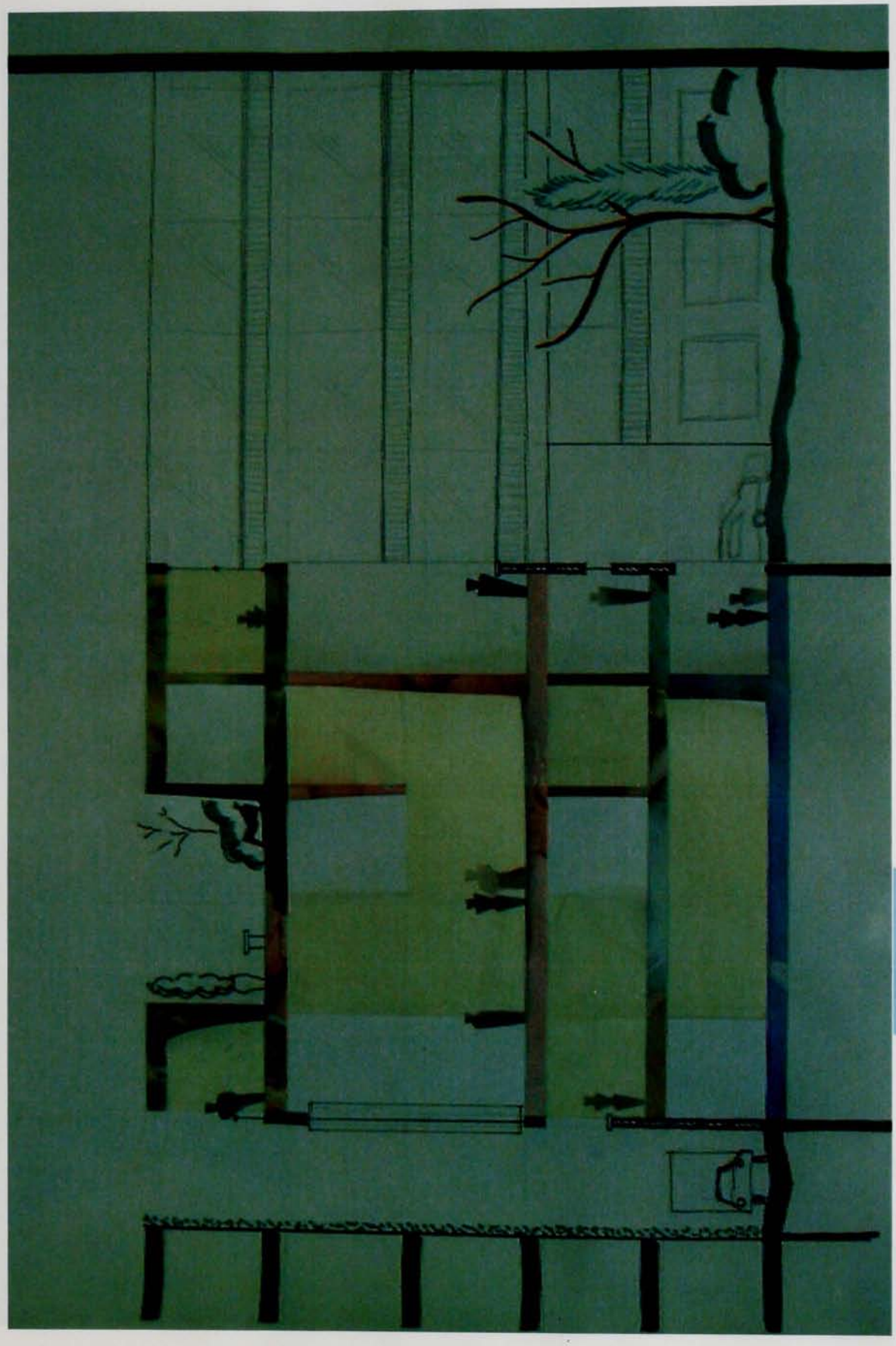


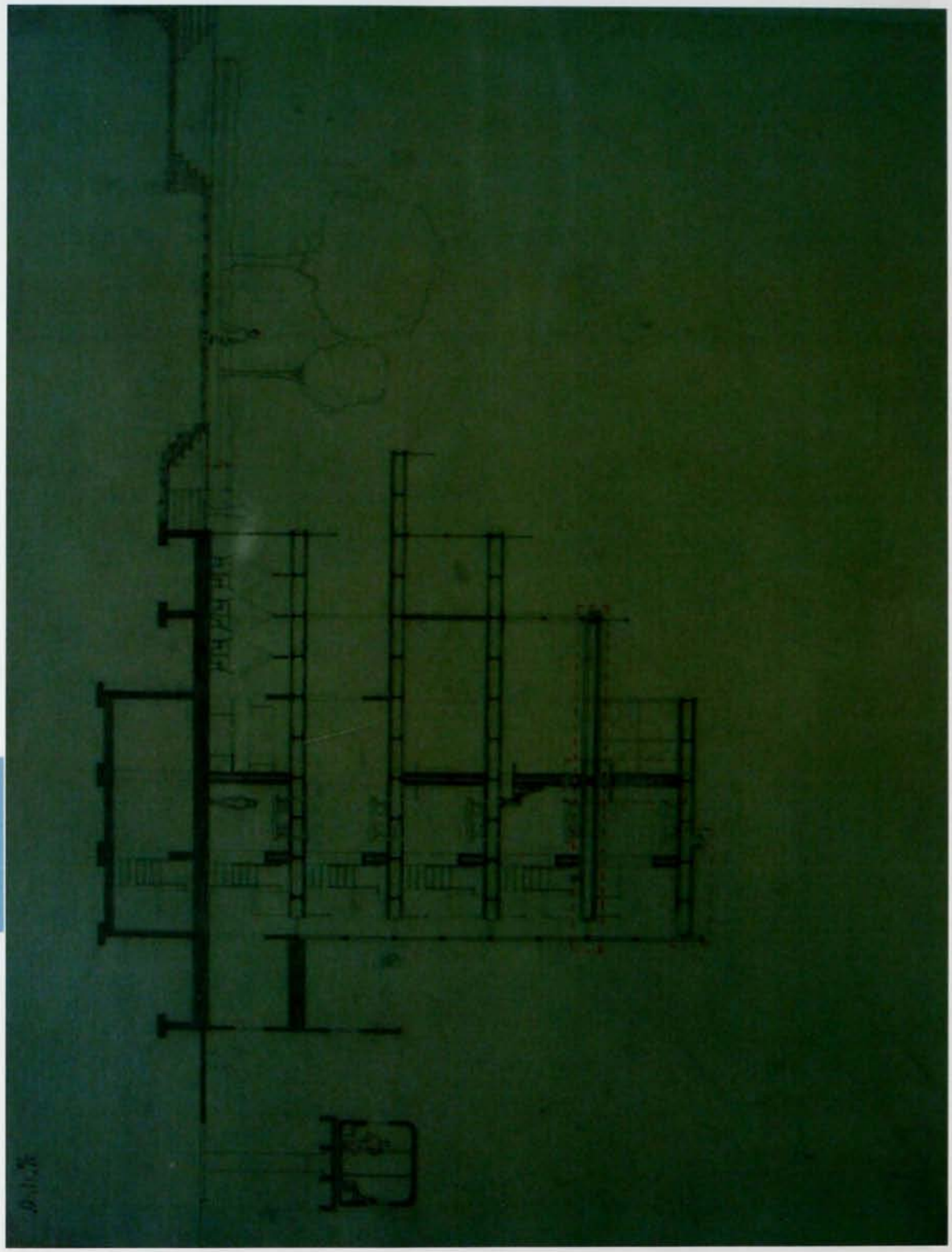


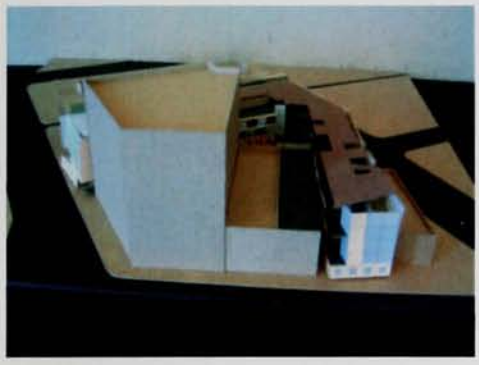










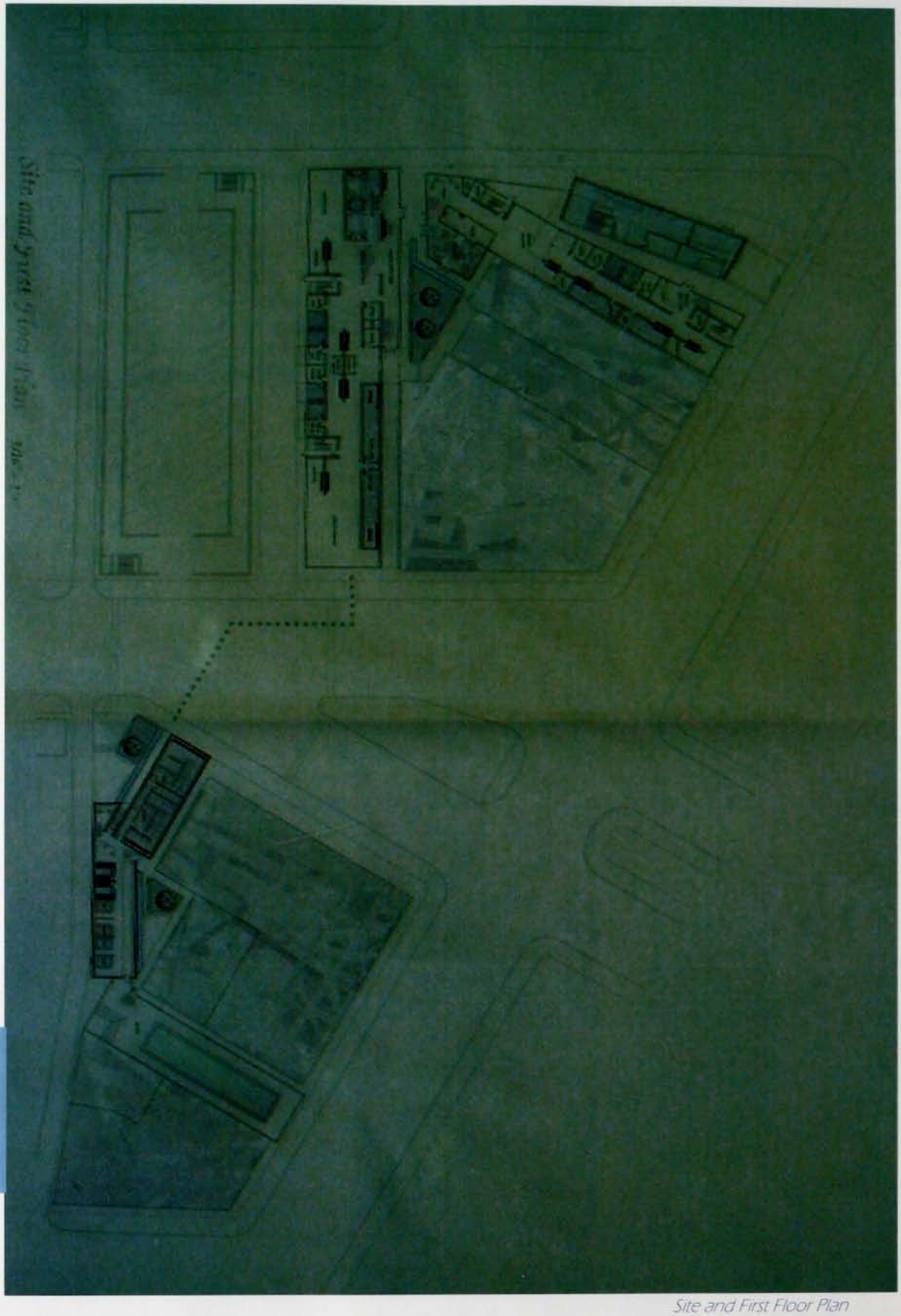


Final Design

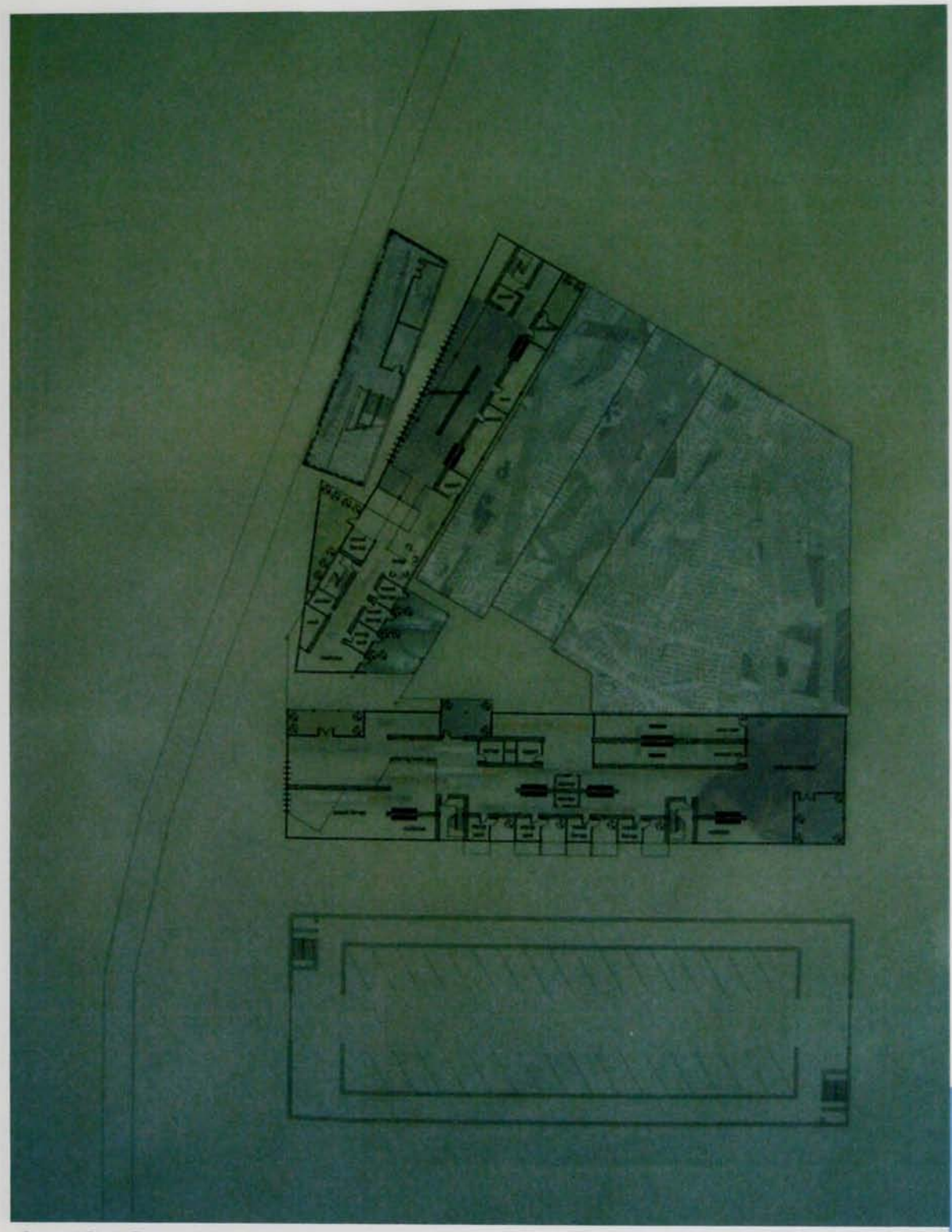
The primary entry is from Cass Ave. Two secondary entrances are on Michigan Ave. near the People Mover and on Washington Ave. into the bathing pavilion. More private entrance corridors facilitate accessibility into the bathing areas off of Michigan Ave. and into the primary courtyard from Washington Ave.

The bathing areas are on one level. A person descends into the reception area and can either turn back into the changing rooms or proceed to the sauna, steam room, and sequential temperature pools or back up a ramp and into the lap pool area.

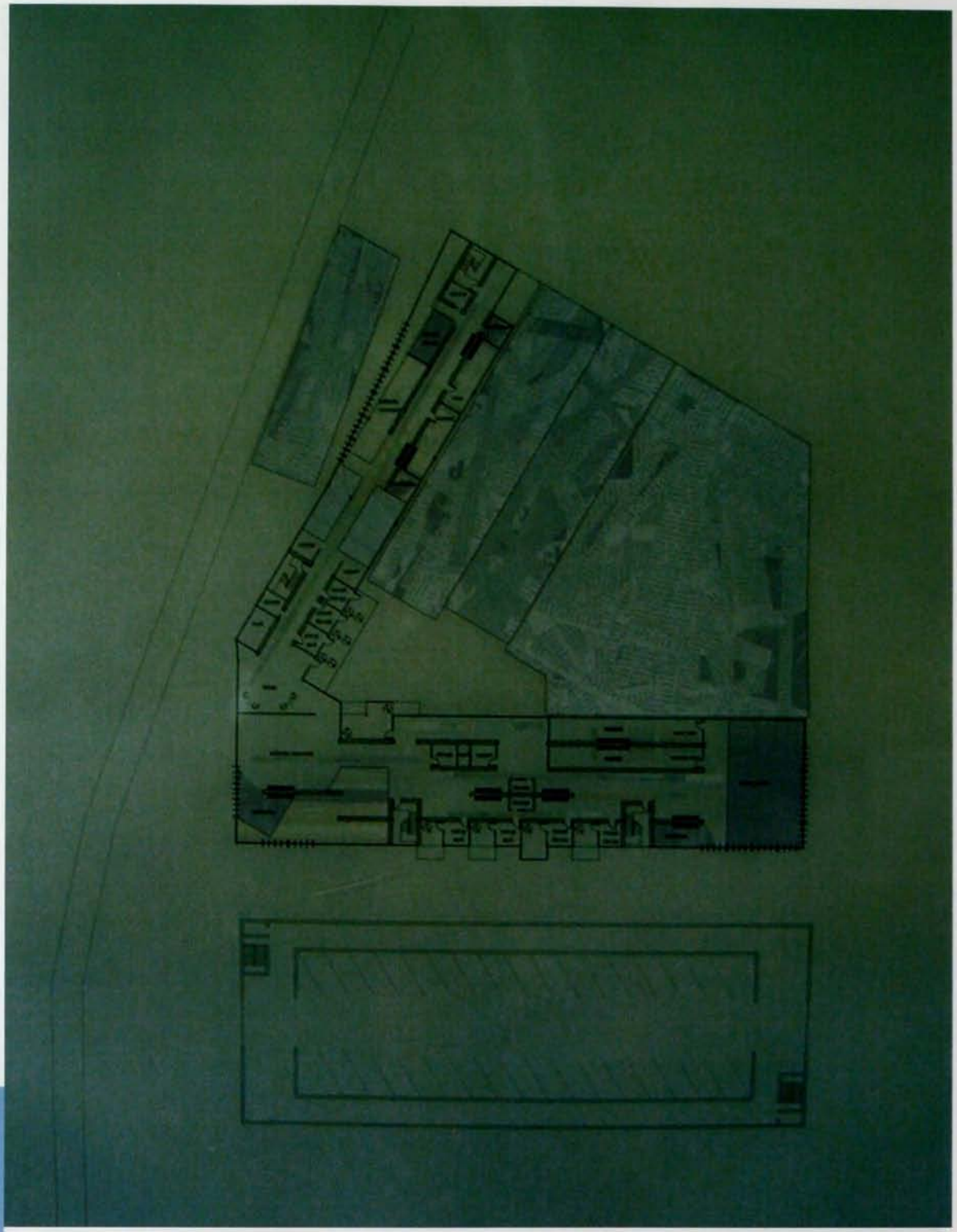
From Cass Ave. a person can enter to the right into a reception/gallery space or the left into the herbal café or straight through into the courtyard. Each of these two arms has two circulation towers, changing rooms, and one of each therapy space. Beginning on the third of five floors, the arms are connected. The administration space and an event space are also included on the first two floors of the southern arm. Facing the parking structure to the south and along the façade near the People Mover, private balconies accommodate manual therapy and energy work spaces. More public balconies occur at the joining of the two arms and face the interior courtyard. A three-story winter garden occupies the east end of the southern arm facing Washington Ave. Additional two-story spaces occur between the second and third floors and between the fourth and fifth floors.



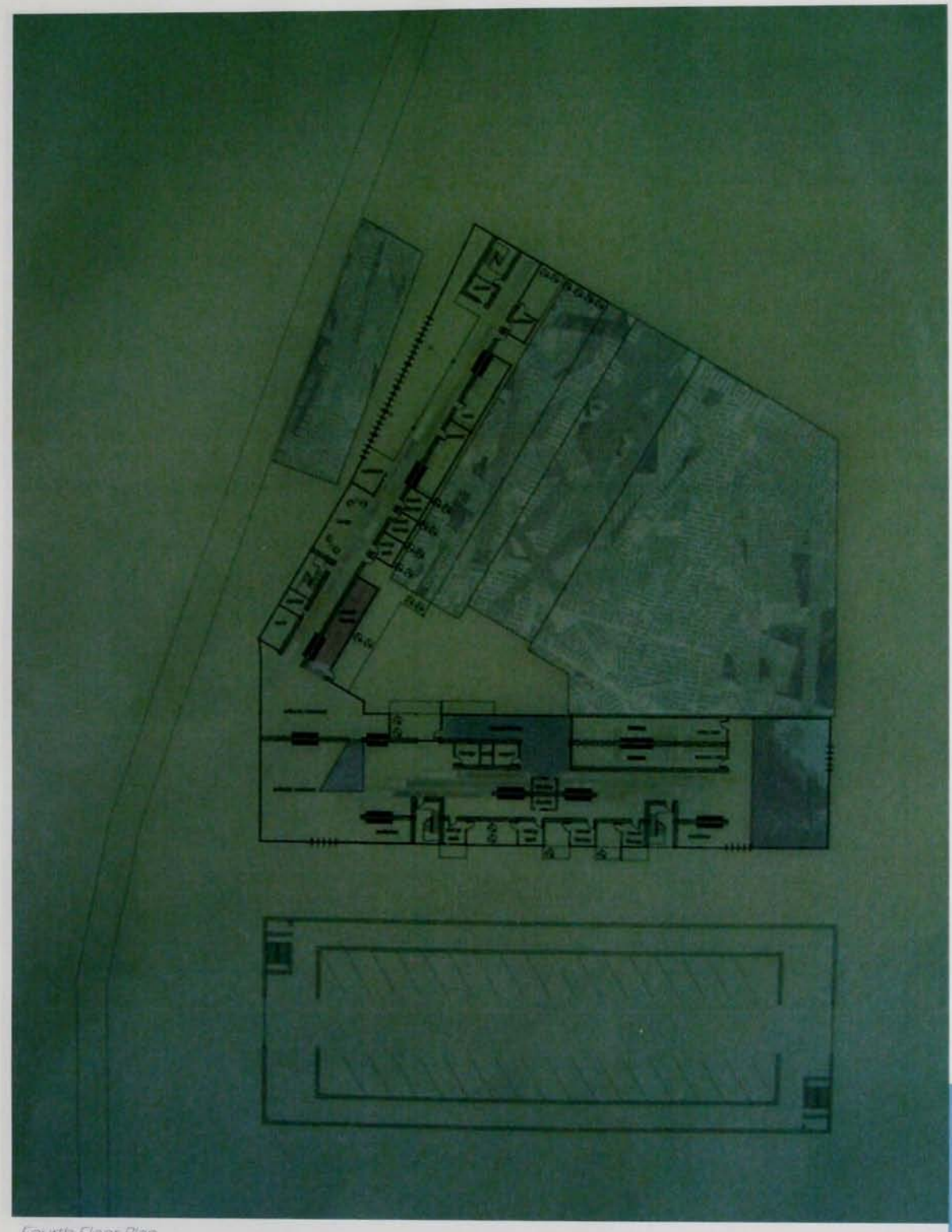
Site and First Floor Plan



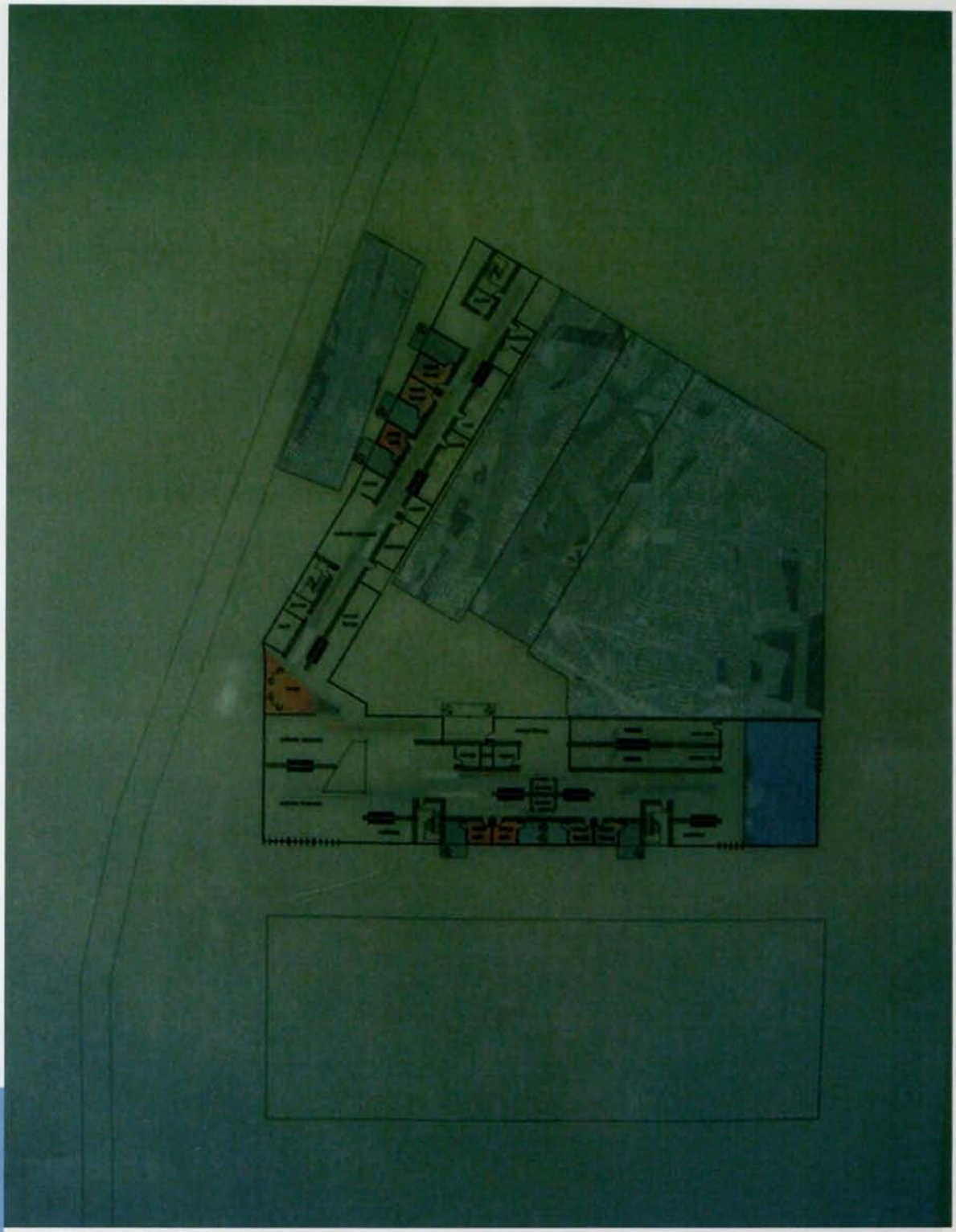
Second Floor Plan



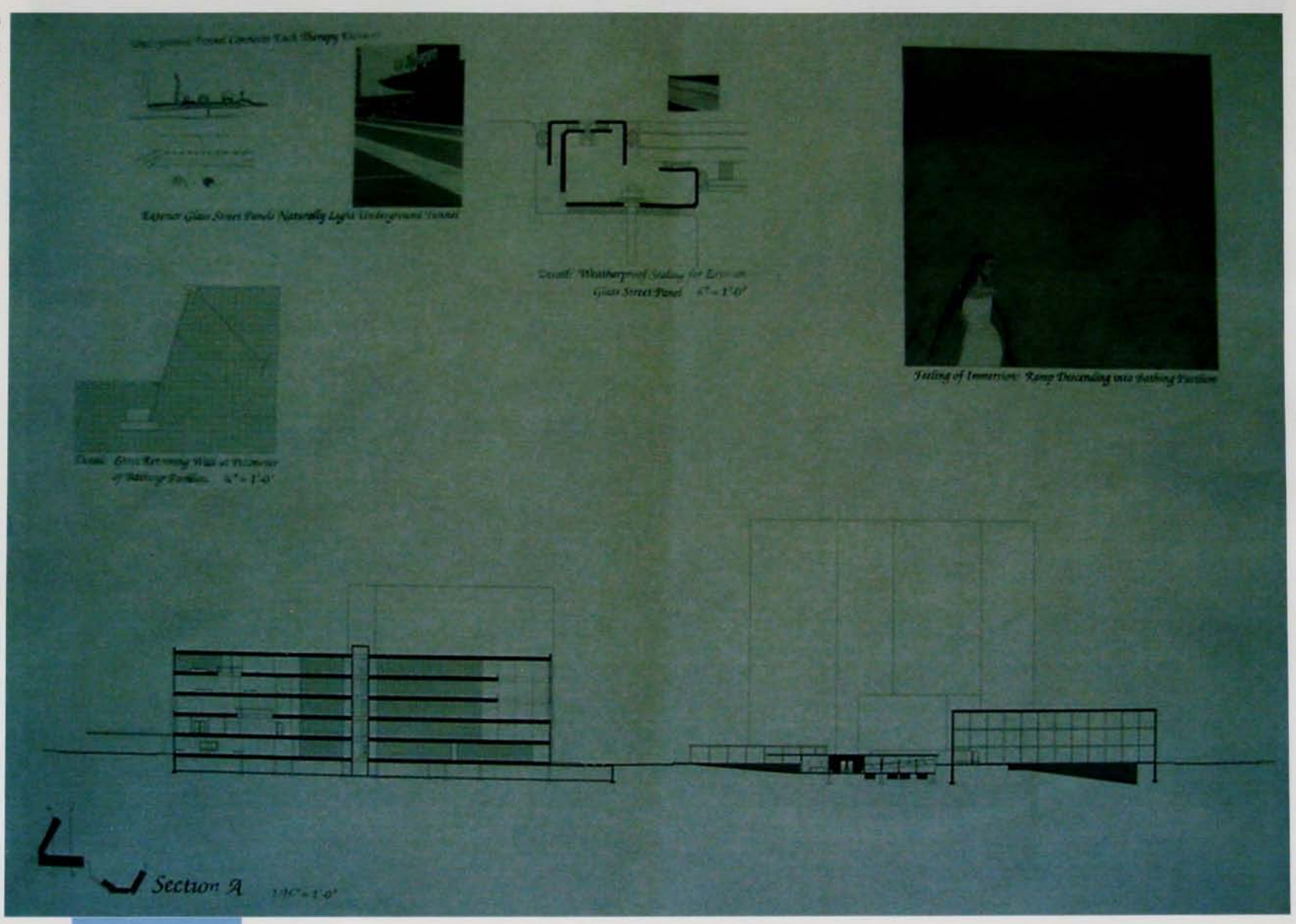
Third Floor Plan



Fourth Floor Plan



Fifth Floor Plan

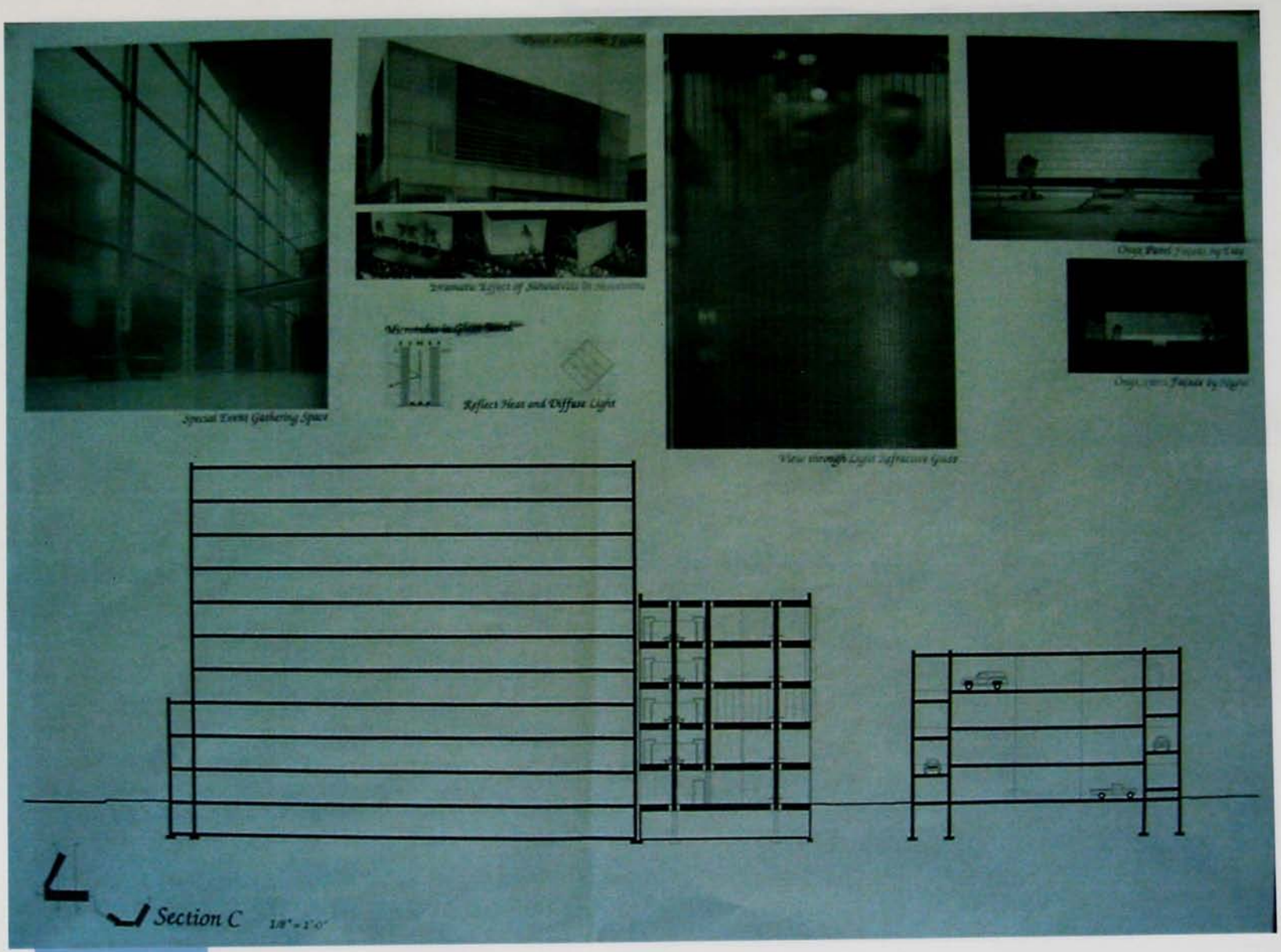


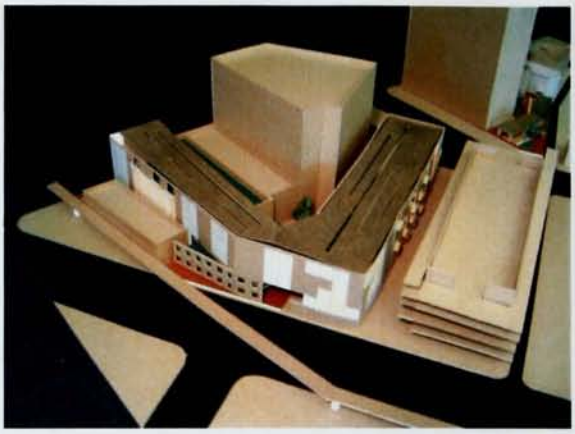
Exterior Glass Street Panels Naturally Lights Underground Tunnel

Detail: Weatherproof Siding for Exterior Glass Street Panel 6"=1'-0"

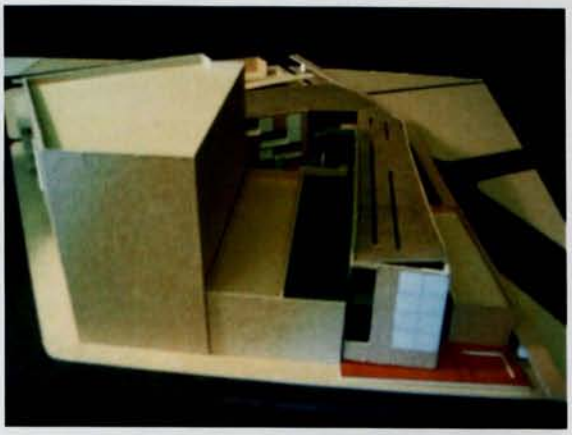
Feeling of Immersion: Ramp Descending into Bathing Pavilion

Section B

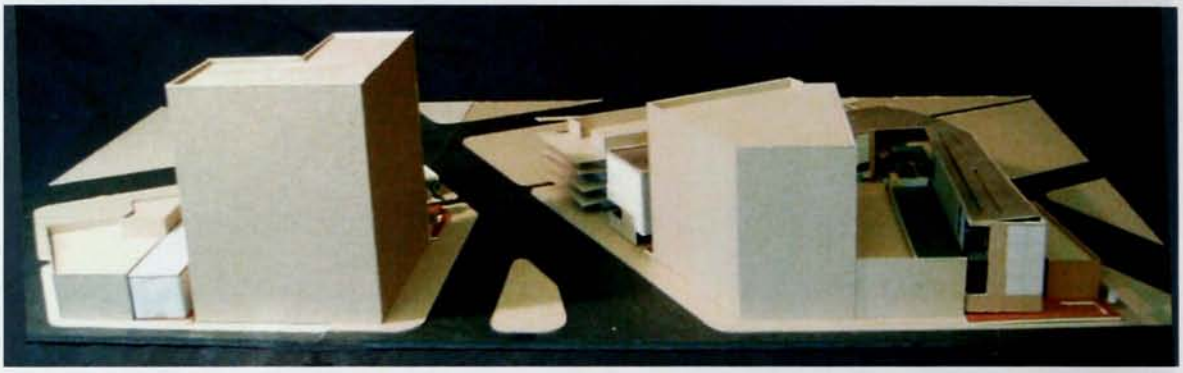

Special Event Gathering Space
Reflects Heat and Diffuse Light
Section C 1/8" = 1'-0"



View from Cass Ave.

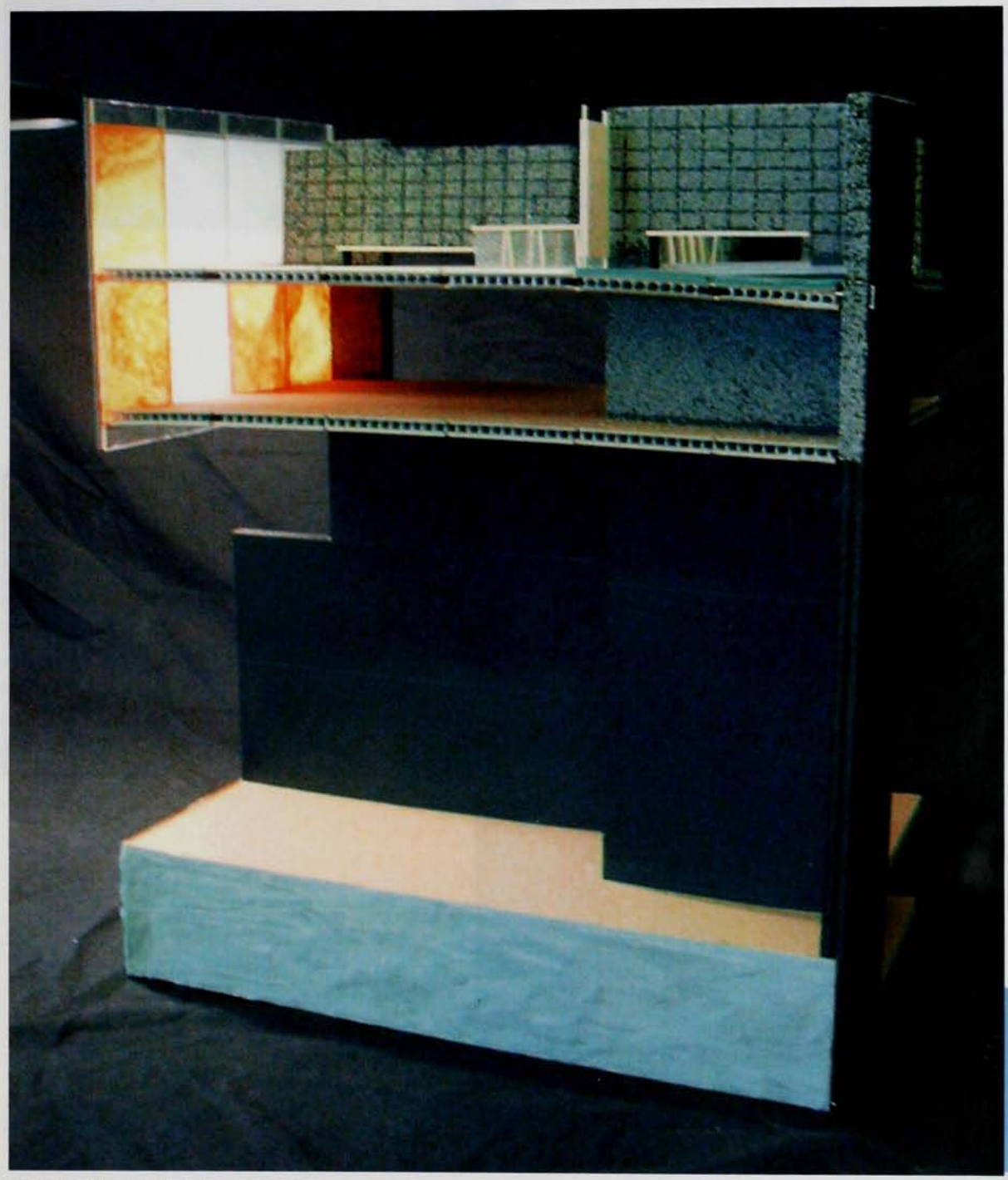


View from Michigan Ave.

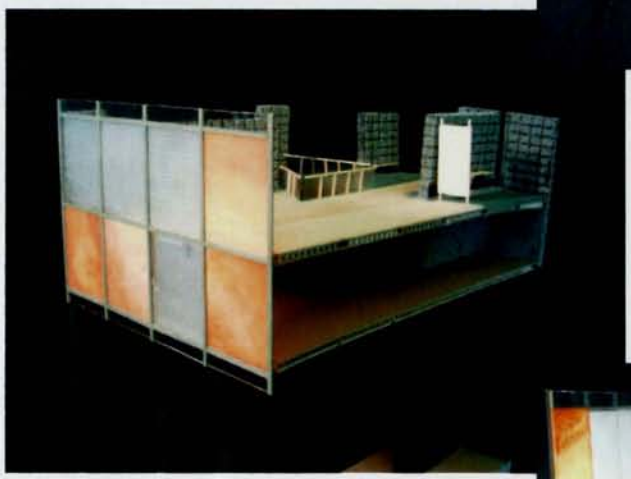


View from Michigan Ave.

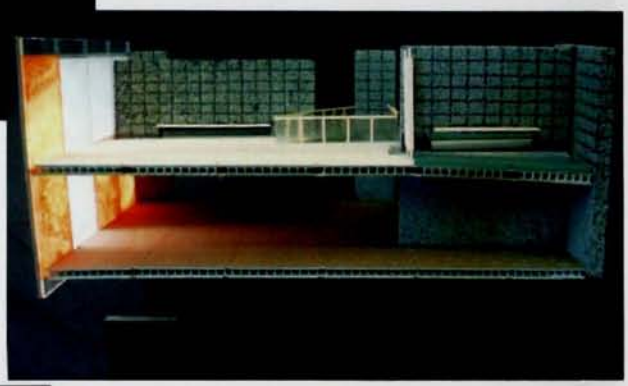
Final Model--aerial



Section Model at Southwest Corner



Exterior view of façade panels



Light filtered through onyx and translucent glass panels.

Summary

I feel that the project is most successful from a theoretical standpoint. For example, the strong horizontal and vertical planes create a simple framework to start from and the notion of spaces naturally opening up and tightening as one proceeds through the building seems to work well with the thesis.

However, I was not happy with the way this limits the complexity the sections can achieve and the specificity with which the type of space can be designed. I also found it difficult to find a balance between a simple and consistent façade treatment that still provides moments of special interest or surprise. Finally, although the naturally lit underground tunnel does connect each portion of the project, a stronger connection at street level would be desirable.

1 Iyengar, B. K. S. Yoga: The Path to Holistic Health. New York: Dorling Kindersley, 2001, p 10.
2 Pallasmaa, Juhani. The Eyes of the Skin: Architecture and the Senses. West Sussex: John Wiley & Sons, 2005, p 63.
3 Lawlor, Anthony. Temple in the House: Finding the Sacred in Everyday Architecture. New York: G. P. Putnam's Sons, 1994, p xi.
4 Lawlor, p xi.
5 Pallasmaa, p 64.
6 Heschong, Lisa. Thermal Delight in Architecture. Cambridge: The MIT Press, 1999, p 28.
7 Heschong, p 19.
8 Heschong, p 18.
9 Pallasmaa, p 16.
10 Pallasmaa, p 49.
11 Lawlor, p ix.
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13 Heschong, p 35.
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30 Gifford, Robert. Environmental Psychology: Principles and Practice. Victoria: Optimal Books, 2002, p 275.
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32 Gifford, p 387.
33 Gifford, p 381.
34 Lawlor, p xi.

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Norberg-Schulz, Christian Genius Loci: Towards a Phenomenology of Architecture. New York: Rizzoli, 1979. The relevance of this book is summed up in the author's quote, "architecture represents a means to give man an existential foothold...environment in fluences human beings, and h needs symbols, that is works of art which represent life situations." While I am wary of the term "symbol," I believe it can be interpreted as physical qualities that evoke memory. Norbert-Schulz describes meaningful architect ture as that which provides orientation and identification, a sense of "being-in-the-world," as Heidegger would say.

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Sack, Robert. A Geographical Guide to the Real and the Good. New York: Routledge, 2003. Sack's argument is that "it is good to create places that increase our awareness of reality and increase the variety and complexity of that reality." He believes there is a connec tion between what is reality and what is morally good. "Place-making" is how humans explore their environment. By shaping the environment, humans are determining what reality should be, and therefore are determining what is good. Sack studies historical events which are objectively immoral and the environments they from to test his theory.

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