

# Therapeutic Parking:

A study of how the language of therapeutic design informs the redesign of the  
Georgetown University Hospital main parking garage.

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**Design thesis submitted to the faculty of the Virginia Polytechnic Institute and State University  
in partial fulfillment of the requirements for the degree of**

**Master of Landscape Architecture  
In  
Landscape Architecture**

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(ABSTRACT)

A successful landscape is one that allows people to feel comfortable within that landscape. Many people who live in an urban environment use gardens and parks as a way to balance their lives from the hard edge of what the world requires of them. That balance adds to the level of comfort and a decrease in stress. My thesis is to create a parking garage with that balance. A balance of hardscape with softscape, of practical uses with amenities, and of current methodology with progressive ideology. It will integrate parking and gardens, the static with the transitional. The proposal will create a balance between parking spaces where time is measured in hours with garden areas where time is measured in seasons. Thomas Jefferson said, "It takes time to persuade man to do even what is for his own good." This thesis is an example of that. Something that will take time for people, companies, municipalities and governing bodies to aspire to but that will, ultimately, be to the benefit of everyone.



## Table of Contents

I.	Thesis Proposal and Abstract	2
	Thesis intention	
	Thesis questions	
II.	The Site	7
	Site introduction	
	Existing conditions	
III.	Discovering the program	12
	Natural light	
	A “break-through”	
	Planting levels	
	Balance	
IV.	Design solutions	19
	Overall layout	
	Sections	
	Sections light study	
	Elevations	
	Elevations planting	
	Plaza design—East to West	
	Sketches	
V.	References	40
VI.	Vita	43

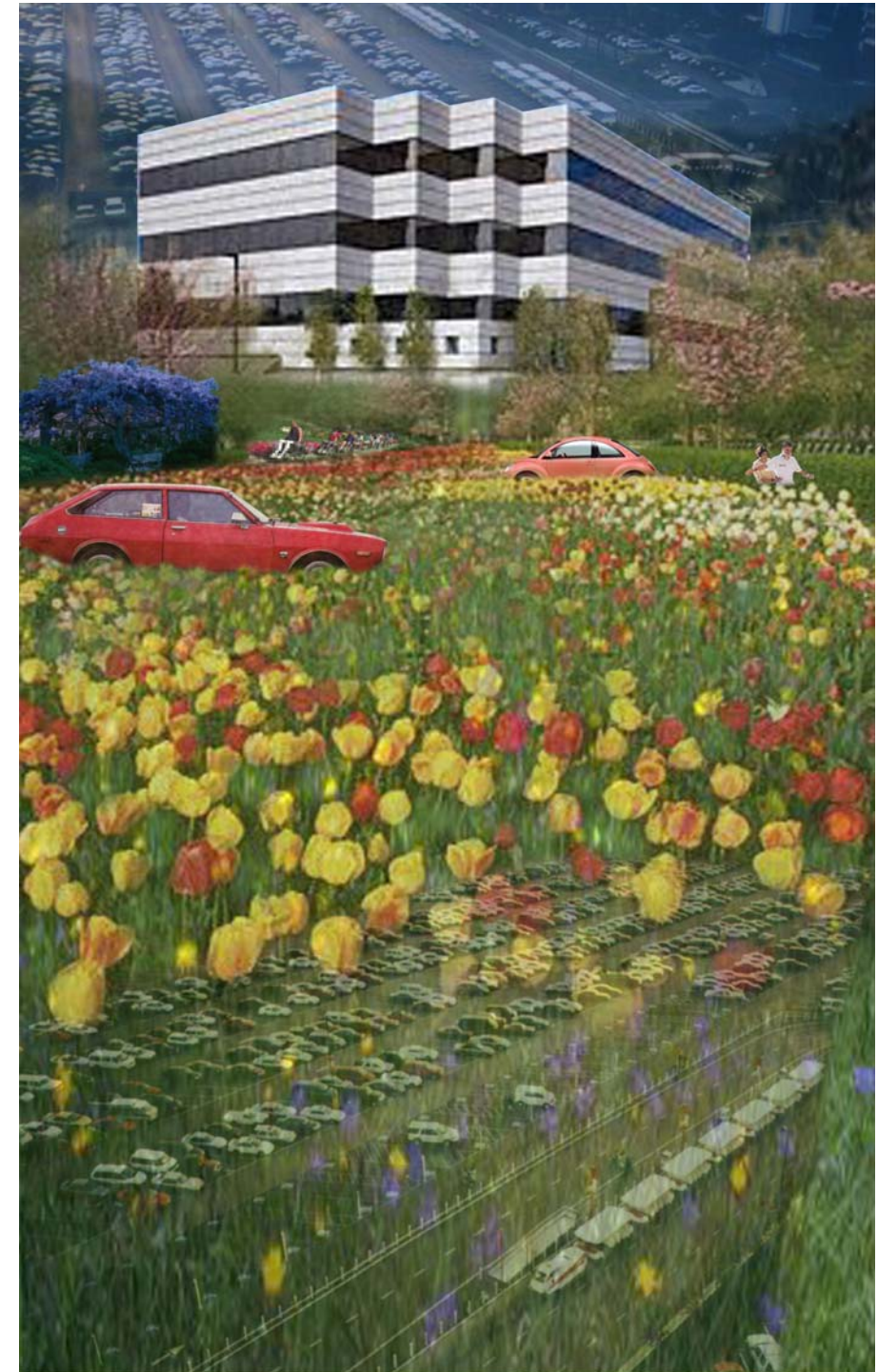
## Thesis Question / Intention

How can a parking lot act as a first defense to minimizing the stress induced when approaching/entering a medical/clinical facility? Can the “park” be put back into parking? Where is the line drawn between a car park and a people park? Can a therapeutic landscape be integrated into a parking lot and can that idea extend beyond the parking lot?

This design thesis is an exploration of one way to design a parking lot so that it acts as more than a space for the temporary storage of automobiles. In medical and clinical facilities, as in any other facility, the parking lot is often designed for the sole function of storing a car. The pedestrians that bring the cars to the lot are considered only in the respect of maintaining some level of safety. I believe part of the design of a lot should be to incorporate the pedestrian and the vehicle and to give them equal importance.

In experiential terms, the parking lot acts as a first and last impression for the people using it. It is not often recognized as part of that experience because it acts peripherally. People don't think of it as part of a destination. In terms of a therapeutic landscape, the parking lot can add or detract, subconsciously, to the stress related to a visitation or stay at a medical facility. By designing with therapy as an idea, rather than a function, the parking experience and the experience at the facility as a whole can be a positive one.

My intention is to create a design that incorporates pedestrian use and vehicular function. To create a parking lot that is not only pedestrian friendly but in the case of medical facilities (or other parking applications) an experience that helps to reduce the stress associated with the visit. My idea of parking would not require screening because it is integrated into the larger landscape.



## Dedication

To my mother and my father, Alice and Terry Meyerhoff.

Both of them have come to a place where disease dictates their lives. It was with the knowledge that this day would come that helped inspire me to be a landscape architect and choose the type of thesis work I did.

Mom and Dad,  
for the fact that you have always been there whenever I had a need, thank you and I love you.

## Acknowledgements

I would like to say thank you to Prof. Ron Kagawa, my committee chair, for supporting me in my thesis work as well as having enough faith in my graduate career to select me for special projects and internships beyond the classroom.

Thank you to Prof. Dean Bork for his support and dedication to myself, my classmates and to making the graduate program the most rewarding and fulfilling experience possible.

A special thank you to both Prof. Susan Piedmont-Palladino and Prof. Paul Emmons. As architectural professors, they brought a new perspective on landscape architecture and allowed for an experience that felt like it was peers exchanging ideas as much as one of guidance.

Thank you to Heather Barber for being a cohort and confidant. For allowing me to discuss ideas, making me feel smarter than I may actually be, easing the stresses of graduate school and being the type of friend that lasts a lifetime.

Lastly, my warmest and most sincere gratitude to Theresa Phipps without whom I may never have gotten through my first semester much less the entire graduate process.

# The Site





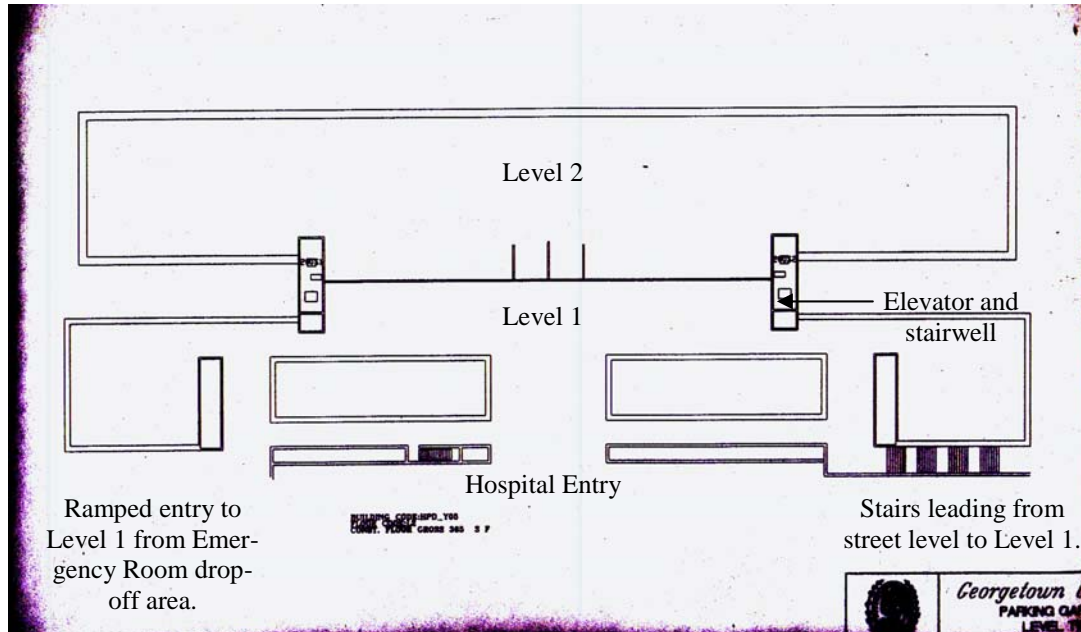
The site is the parking garage for Georgetown University Hospital, highlighted in red on the line map of Georgetown, located on the west side of Washington, D.C.

Above right is an aerial view of the hospital campus.

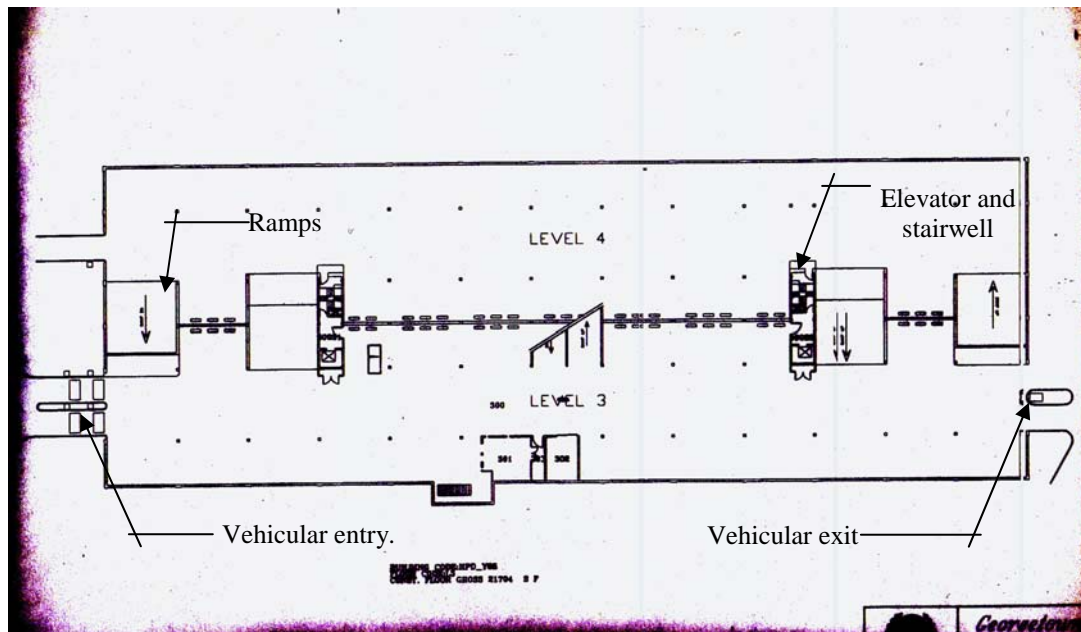
Below is an enlarged aerial view of the parking garage adjacent to the main entrance of Georgetown University Hospital.







This is a scan of the original architectural construction documents showing Level 1 (the main entry plaza) and Level 2 which is currently reserved parking. There is a two-way ramp allowing vehicular access to the second level from the third level which is where the vehicle entry to the parking garage is located.



This is a scan of the original architectural construction documents showing Level 3 and Level 4. There is a two-way ramp in the center from Level 3 to Level 2 which is reserved parking. The other ramps shown are painted to be one-way traffic though used as two-way.







The images to the right are the existing conditions on the main entry plaza. The top image taken on the far eastern side looking west/south-west taken mid-afternoon in spring. As is evident, there is some seating but limited shade. During the summer months, this area gets extremely hot and uninviting.

The middle image is the central plaza. The photo was taken from the western elevator entrance looking east. There are some raised areas of lawn and a few trees. More inviting but lacks any type of view or visual interest.

The bottom image is from the eastern plaza looking north to the second level which starts the parking levels. This level is currently solely for the use of doctor's. On many visits to the site, the parking lot has never been to even half capacity.



The images above and below show the existing entrance on level three. In the existing design, six levels of the garage are below grade with no natural light.





The image to the right is the second level facing east. This area, doctor's parking only, seems to rarely be used to capacity.

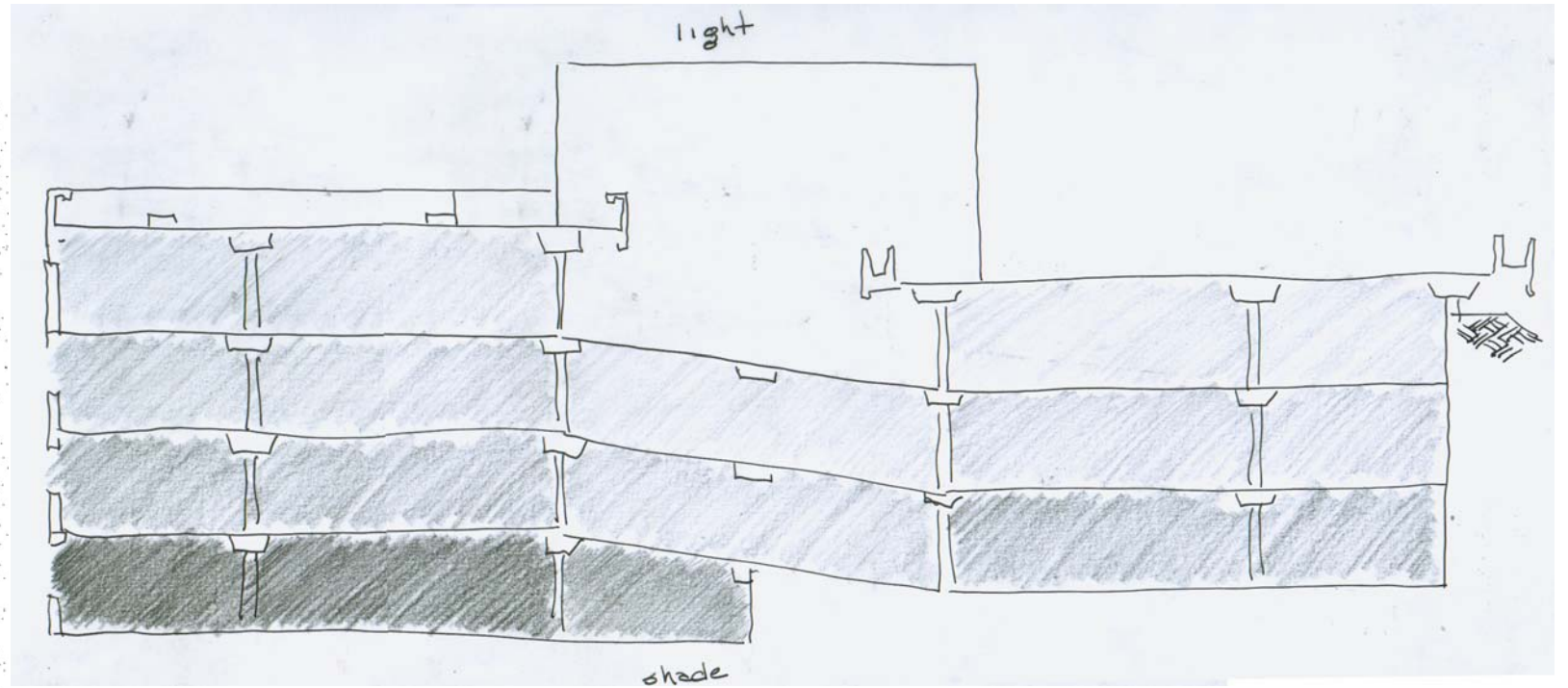
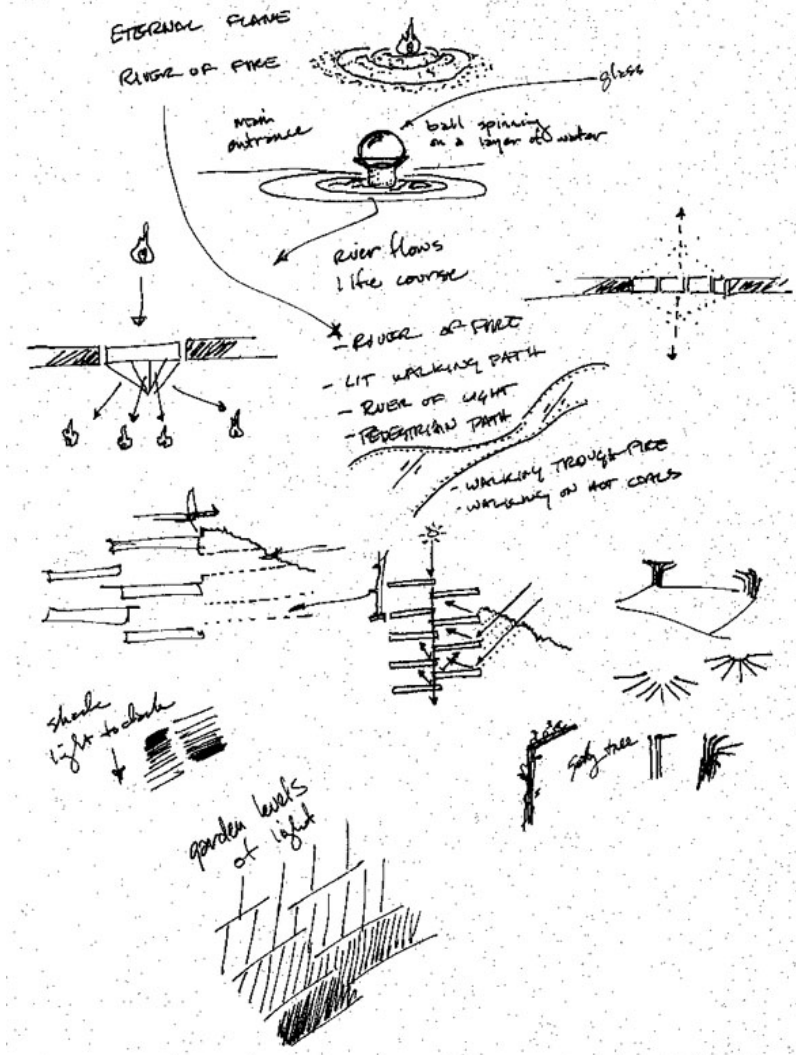
The bottom left image is the street level on the north side of the parking garage. While it is nicely planted with trees, the trees are being used as a way of screening the structure. That, as well as sloping the grade up the exterior wall of the garage "hide" the parking. Unfortunately, in hiding the structure it created an ominous mass adjacent to pedestrians as well as a difficult site to keep irrigated and planted. The photo shows evidence of soil erosion as well as areas where the lawn has failed to grow because of the erosion.

The bottom right image is taken on the fourth level looking towards a secondary exit which is right before the main vehicular entrance. On this level the light does filter in but, coming from a single area creates visual hotspots. Because the levels are all walled, it also gives the sense that one is enclosed with a single source of escape, like being in a well. Below this level the natural light becomes very limited or nonexistent.



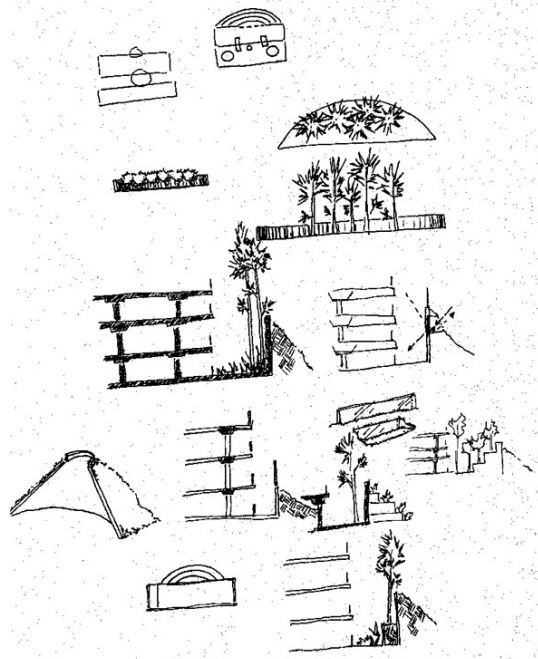


# Discovering the Program

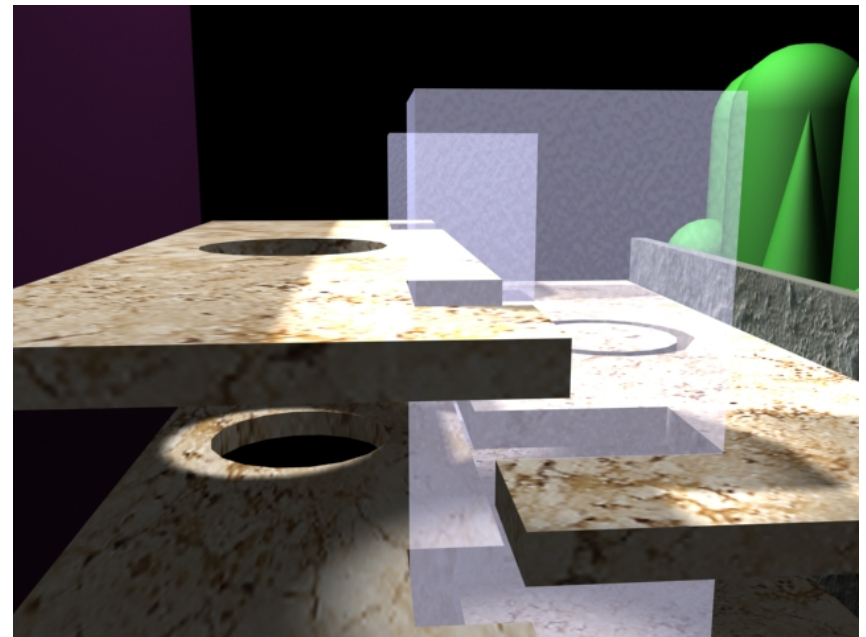
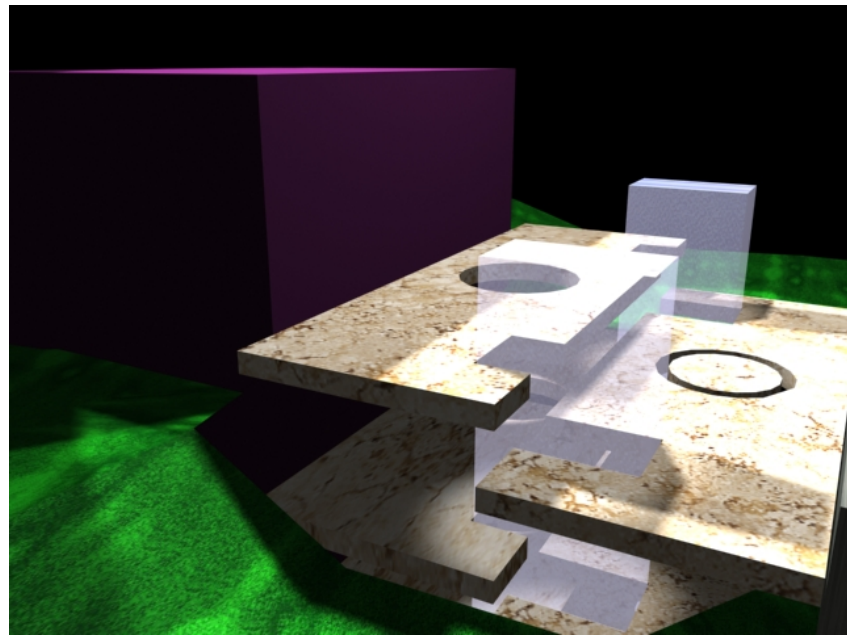
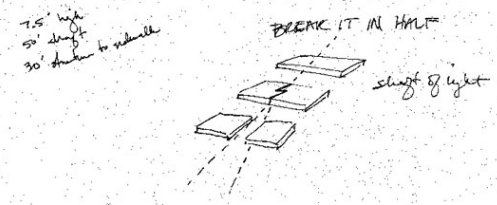
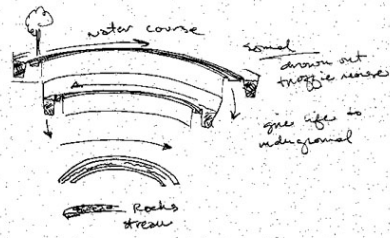


The above sketch is a section of the existing conditions with a study of how light levels could vary from level to level.

The first movement I wanted to make within the garage to make a more inviting experience was to bring in more natural light. With more than half of the garage below grade there was a tremendous need to bring in natural light and, with it, fresh air. While artificial lighting allows for safety and a consistent level of light at all levels, part of the natural light experience is that the different levels read as different places within the environment of the garage. During the mid-day heat in summer, a cooler, darker destination at a lower level may be a more welcome space but still give the feeling that one isn't confined in a sterile concrete box. Natural light allows for the sense that the outside is still accessible.

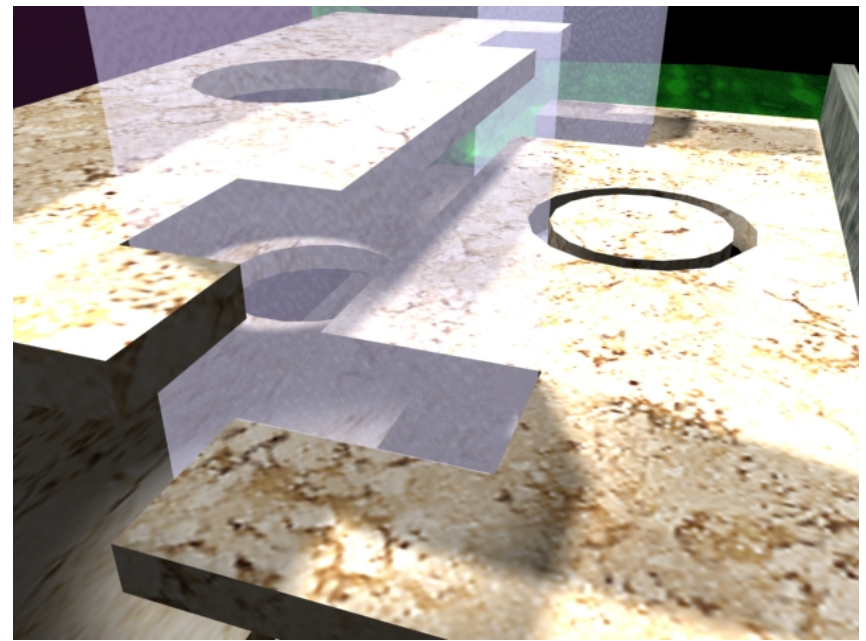


roofs — concrete / glass (recycled)

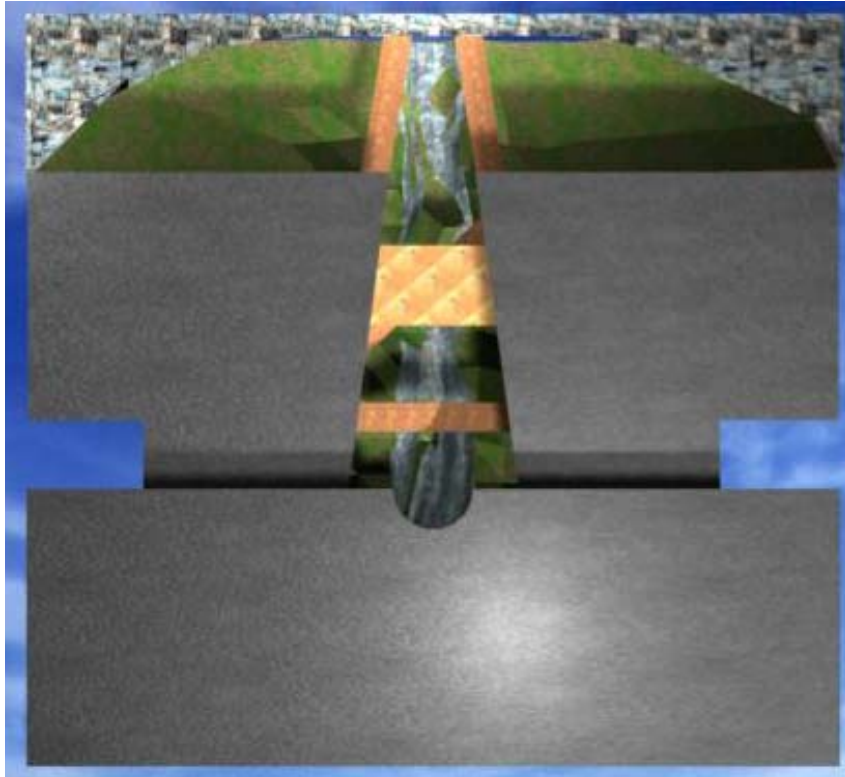


With the intention of bringing in more natural light, the initial design concepts began with breaking holes into the structure in centralized areas rather than just on the periphery. This allowed for light to filter down through the levels in core areas creating different intensities of light and shadow.

This also included reconstructing the existing elevator structures from all concrete to using more glass so as to allow both natural and artificial light to filter through the shafts.

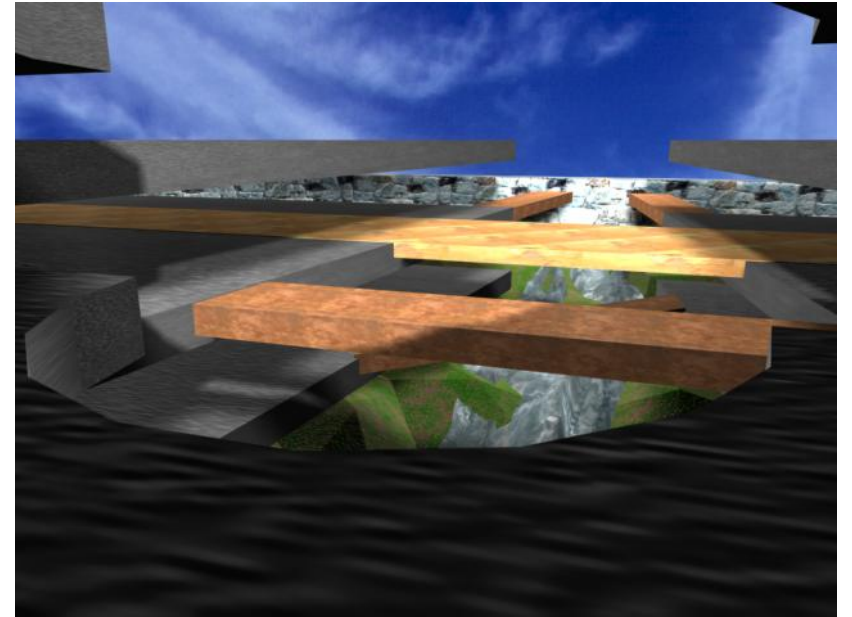
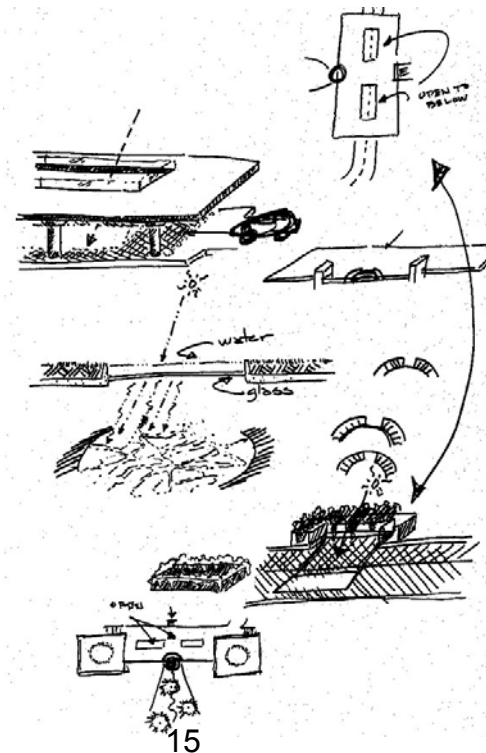
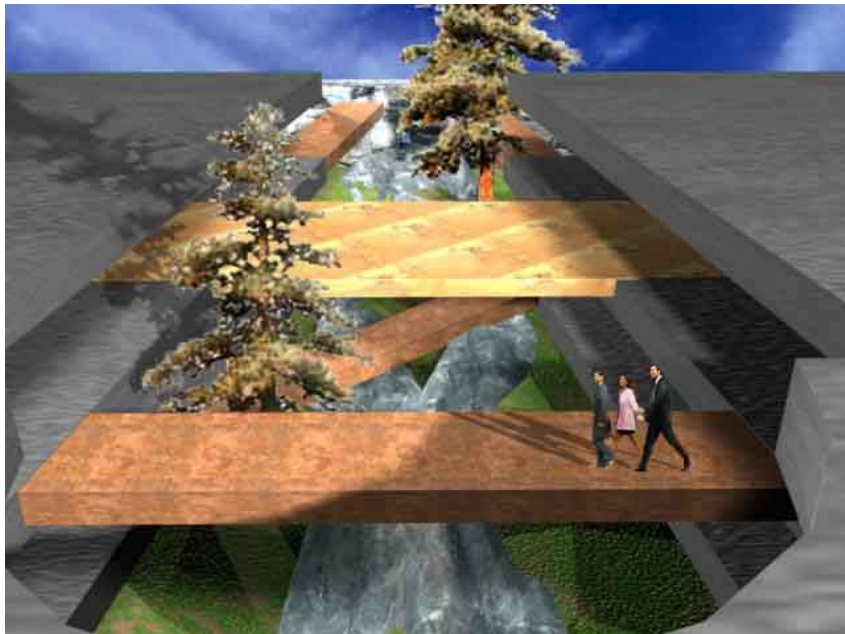




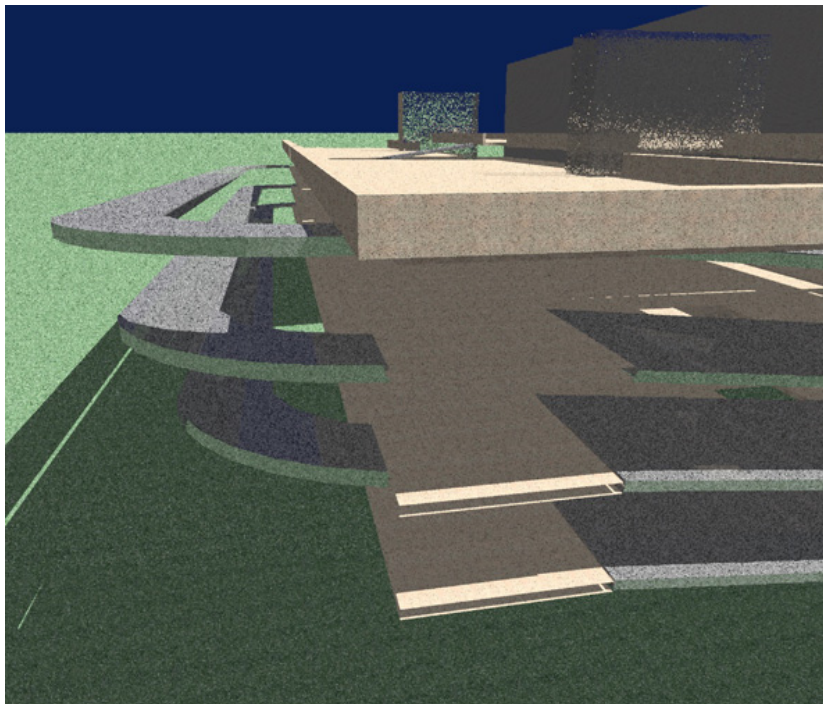
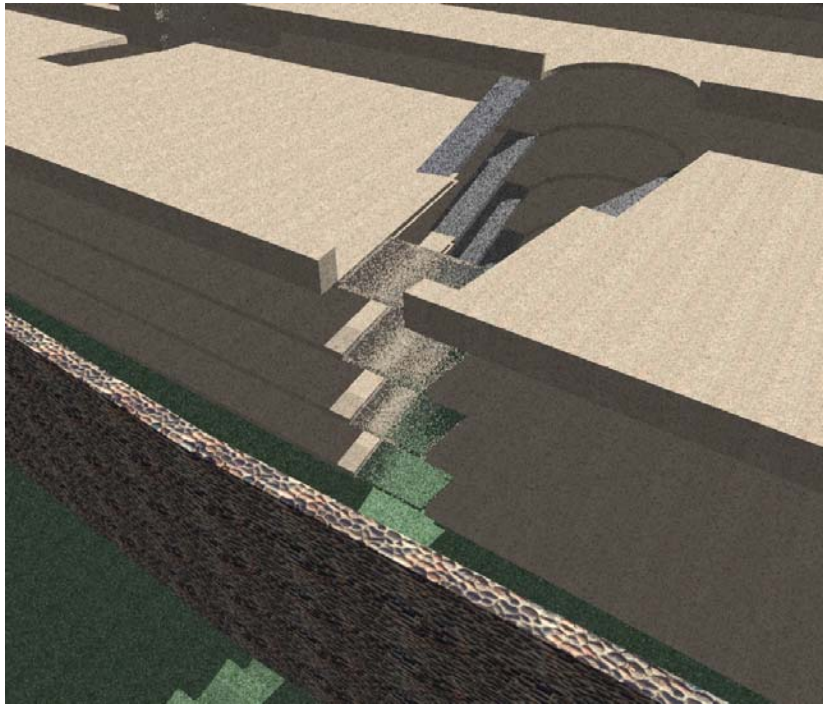


The idea of breaking through the garage to allow light evolved into making a larger break centrally through the structure. Creating this break also allowed for other destinations to be created within the garage. Destinations other than the plaza at the entry of the hospital or the car in its parking space. It created different levels of interest as well as different perspectives depending on the ultimate destination.

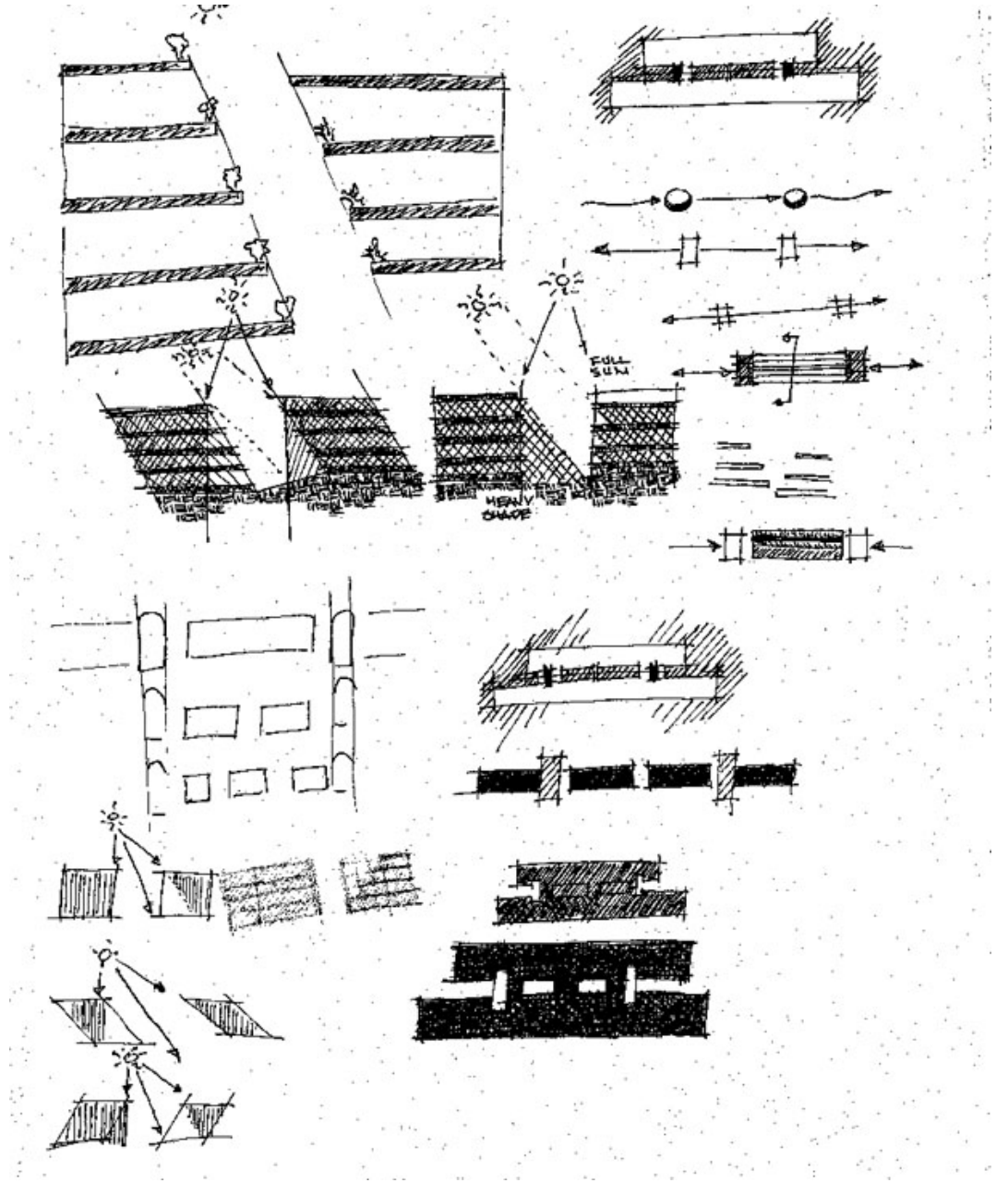
Initial images created an opening in the garage that ran north-south and created pedestrian bridges that were separated from vehicular bridges. The "valley" floor contained tree plantings and a creek bed fed by a re-circulating "waterfall" at the northern most end, adjacent to the roadway.



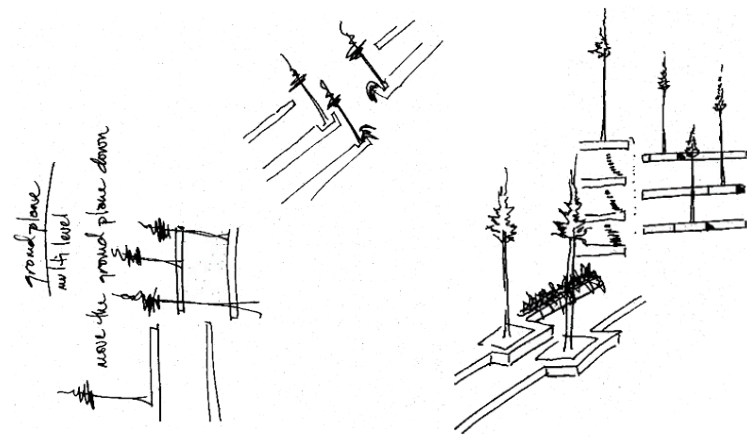




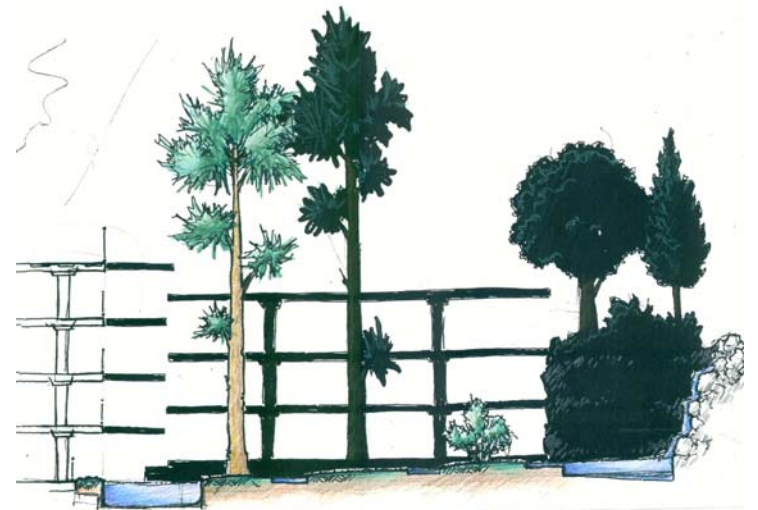
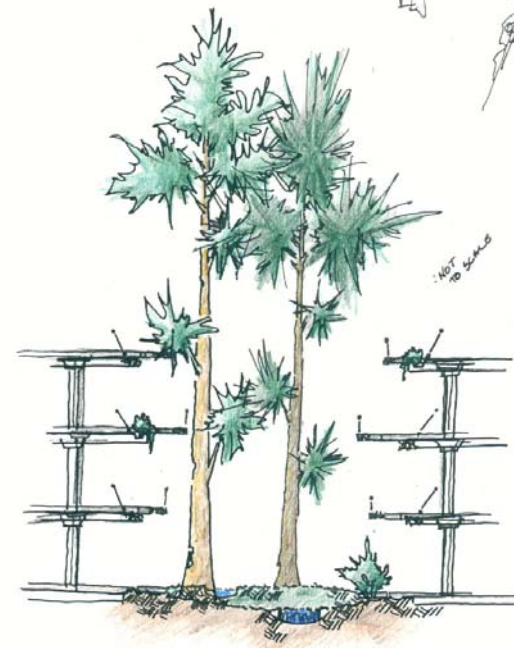
While the North/South break in the garage levels allowed for pedestrian traffic along bridges and a new ramp system (as seen above left) it meant redirecting the vehicular circulation. The idea was to take the vehicle ramps along the back of the garage on the street side. This proved to be a challenge and the decision was made to maintain the current traffic patterns and instead redirect the axis of the break to run East/West between the elevators.







Creating the break through the garage allows for different experiences. Plantings at the bottom of the break, as well as on the different levels gives the visitor a way of experiencing the tree canopy or the garden level from a new perspective. Depending on the visitors own ideas of comfort, safety and desire for isolation, the different levels afford the opportunity.





## Different Level of Experience

These pictures represent some design principles that were incorporated into the final parking garage design. This includes raised beds that allow accessibility for people of different ability and mobility. There are beds at a height that would be accessible by someone confined to a wheelchair or beds raised up for access by someone standing who may have difficulty bending over.

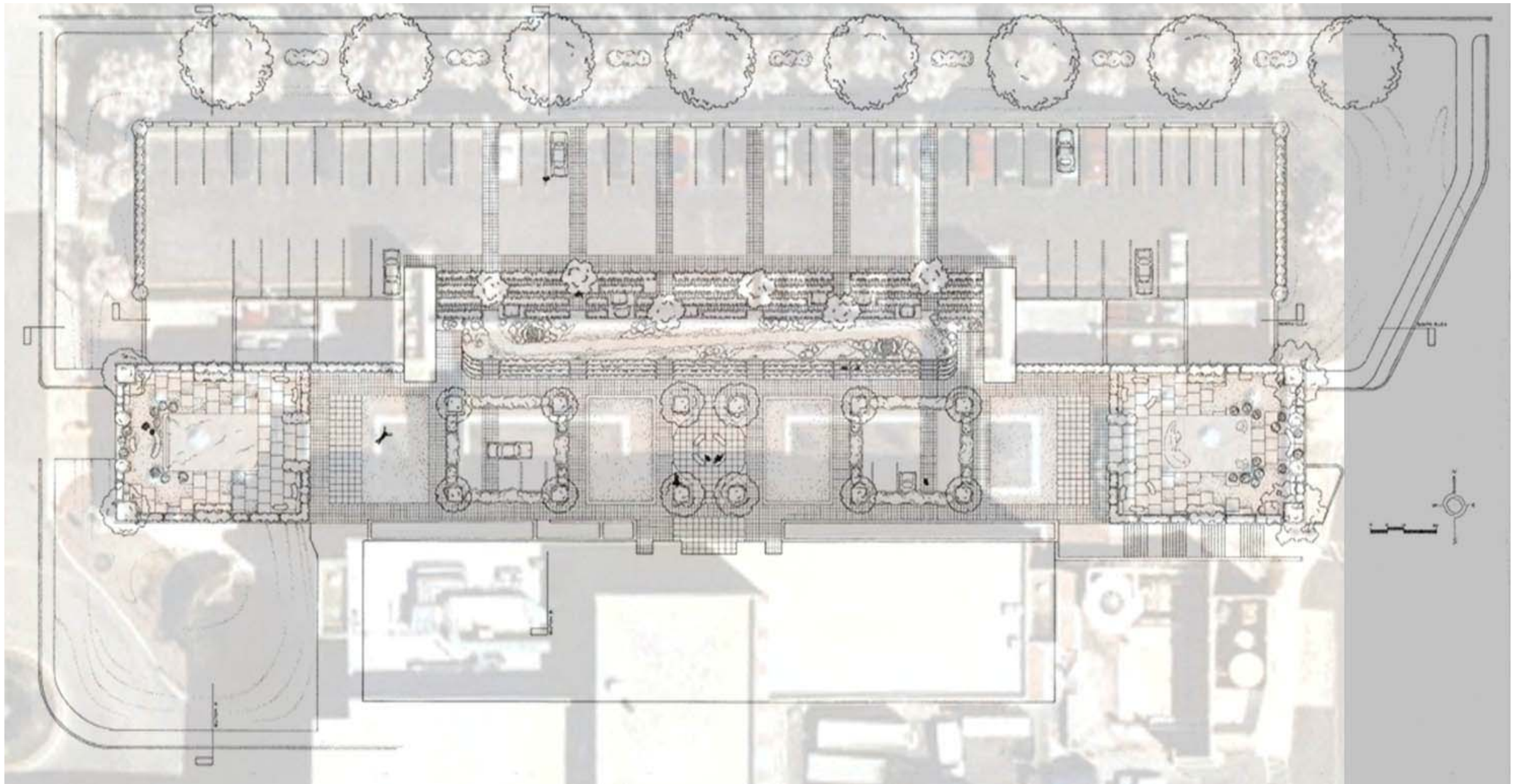
The image below shows a raised lawn to allow the luxury of relaxing on a lawn without the difficulty of getting up and down that might be experienced by the elderly, handicapped or someone recovering from an illness or surgery. It is at seat height to allow easy maneuverability from a wheelchair.

All of the elements are to allow for a hands on experience. Part of the therapy is not just looking at a landscape but being able to experience it with all the senses available, including touch.



# Design Solutions





Final design overlaid existing site conditions.



Raised pavers to help indicate pedestrian crossing and encourage slowing vehicles down.

Parking spaces "within the garden".

Area excavated to the lowest level to allow for light and fresh air.

Space to allow for solitude and reflection.

Decomposed granite trail .

North Elev.

South Elev.

Raised lawn for accessibility.

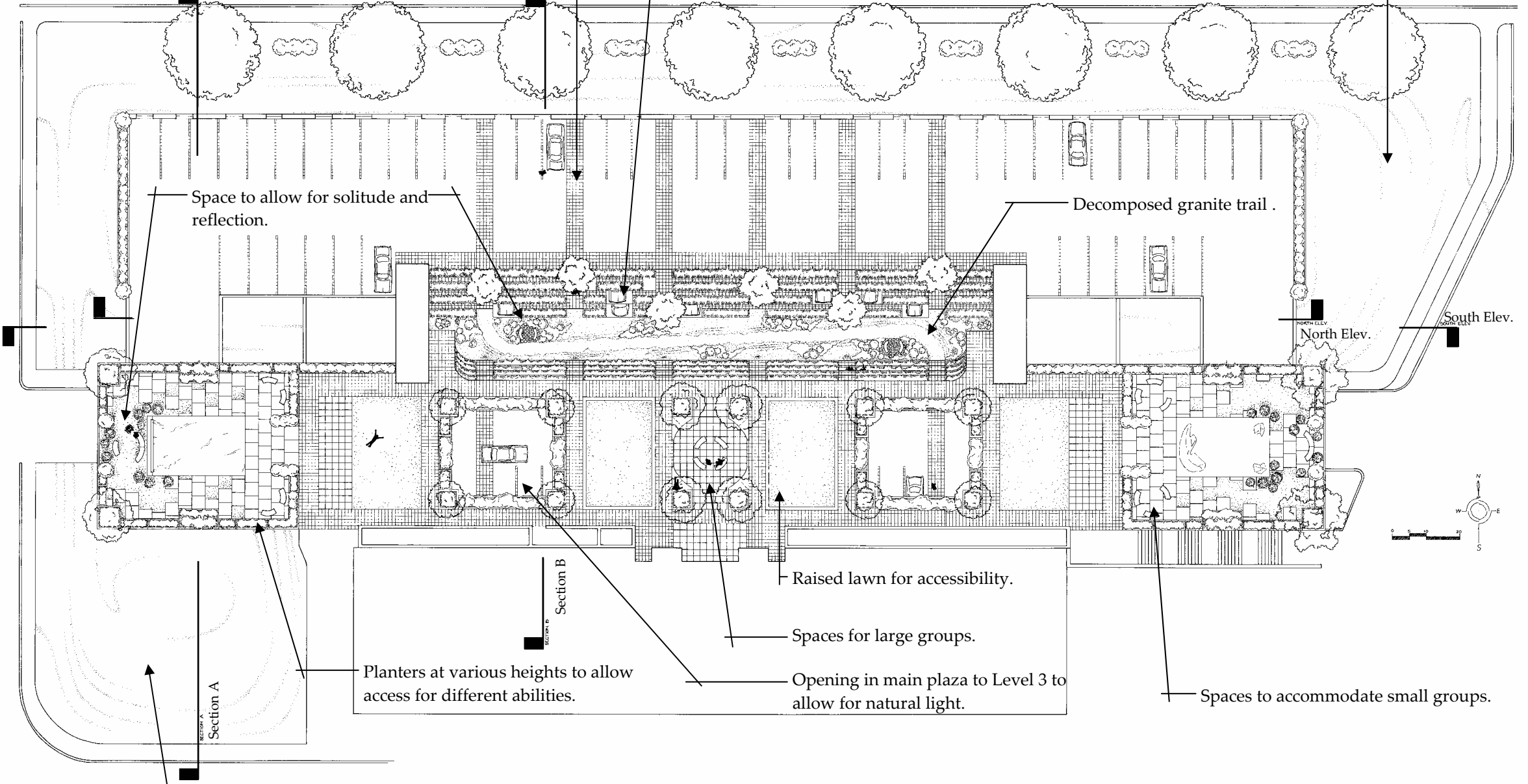
Spaces for large groups.

Planters at various heights to allow access for different abilities.

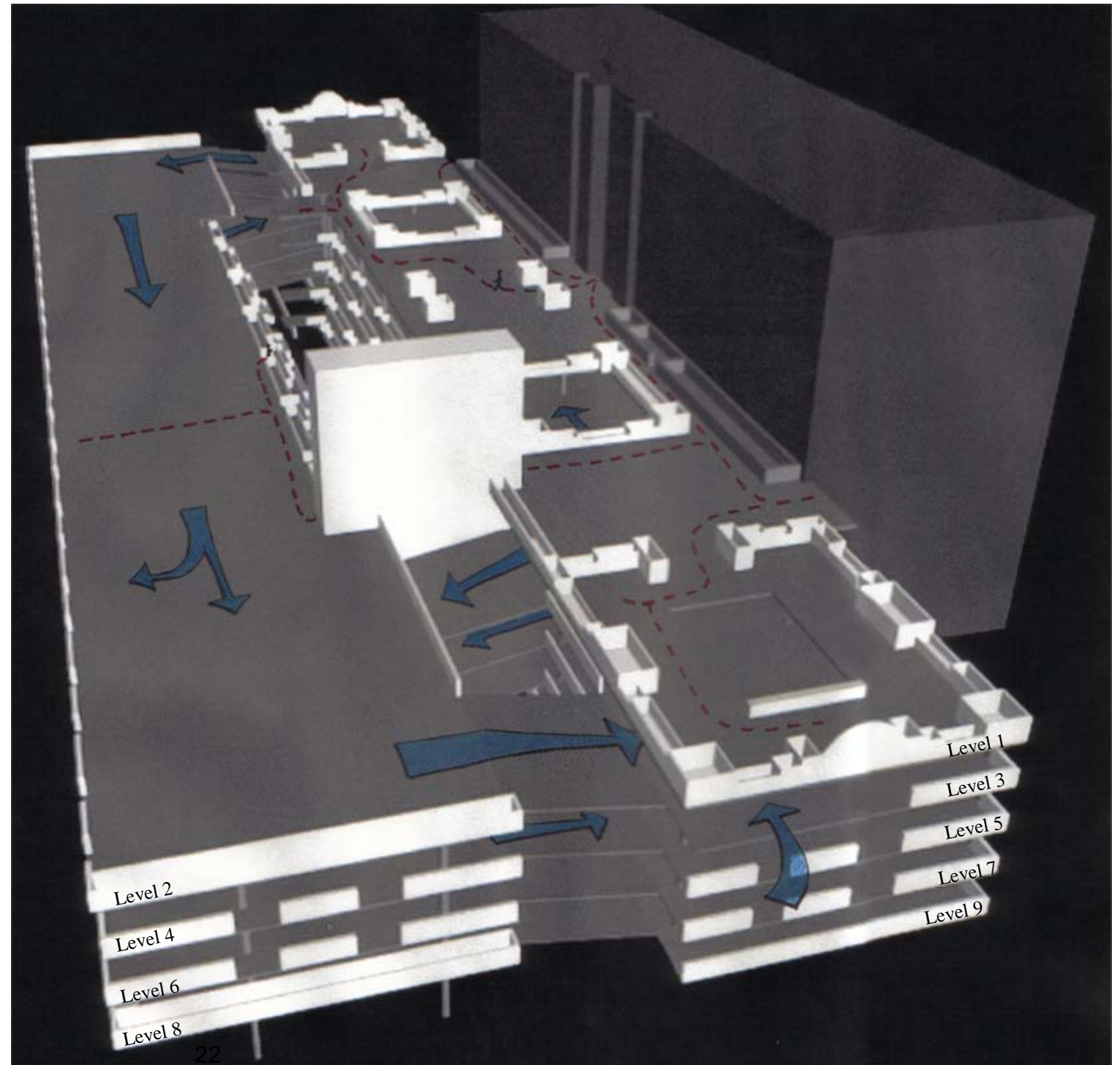
Opening in main plaza to Level 3 to allow for natural light.

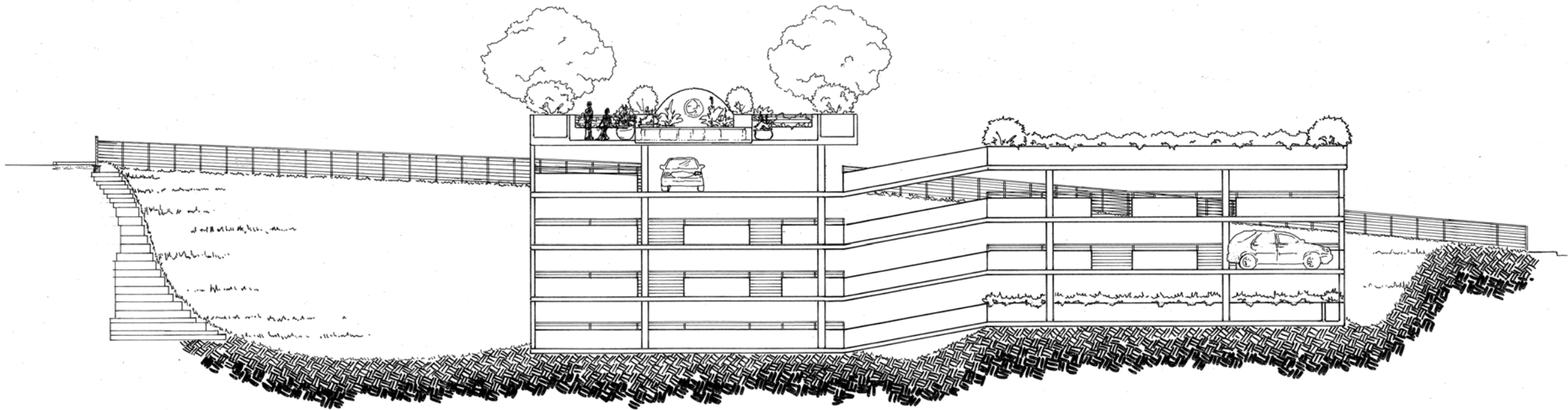
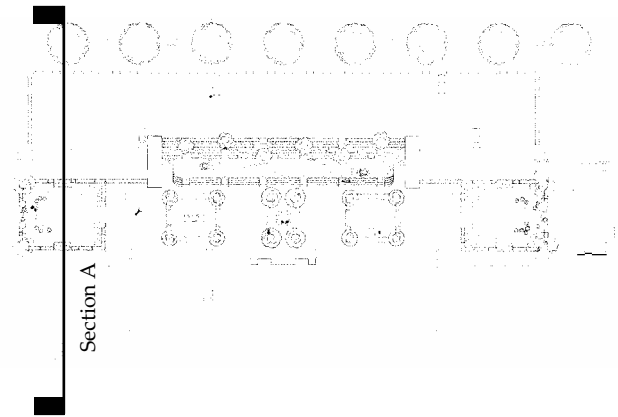
Spaces to accommodate small groups.

Area excavated to the lowest level to allow for light and fresh air.



The image to the left shows the proposed plaza and central “valley” design and represents the vehicular and pedestrian circulation. The circulation for vehicular traffic remained the same from existing to proposed design with the entrance and exit on level three. The pedestrian circulation retained most of the same paths allowing for small changes due to openings within the main entry plaza. Additional pedestrian areas were created by the open tiers between the elevator structures. This allowed for people to use these tiers as overlooks as well as creating a small, “private” path at the bottom of the “valley”.

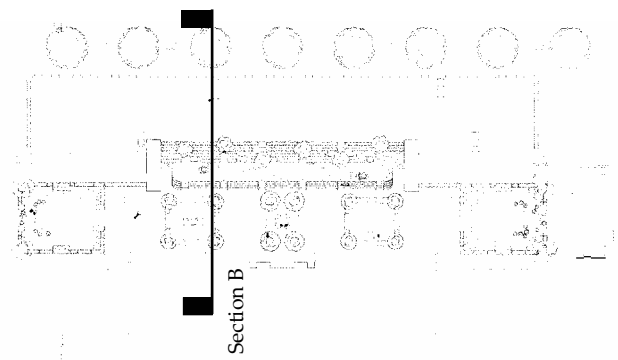




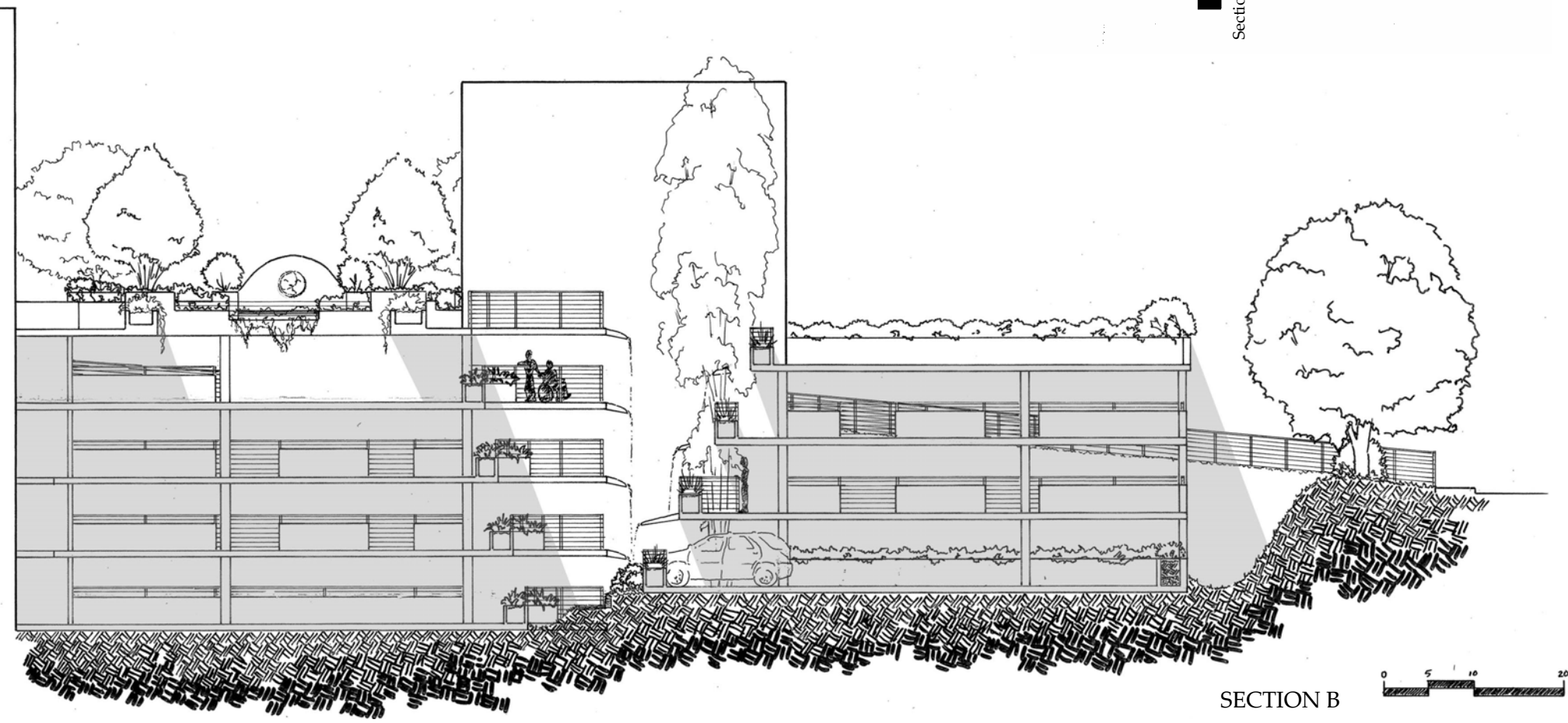
SECTION A



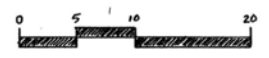




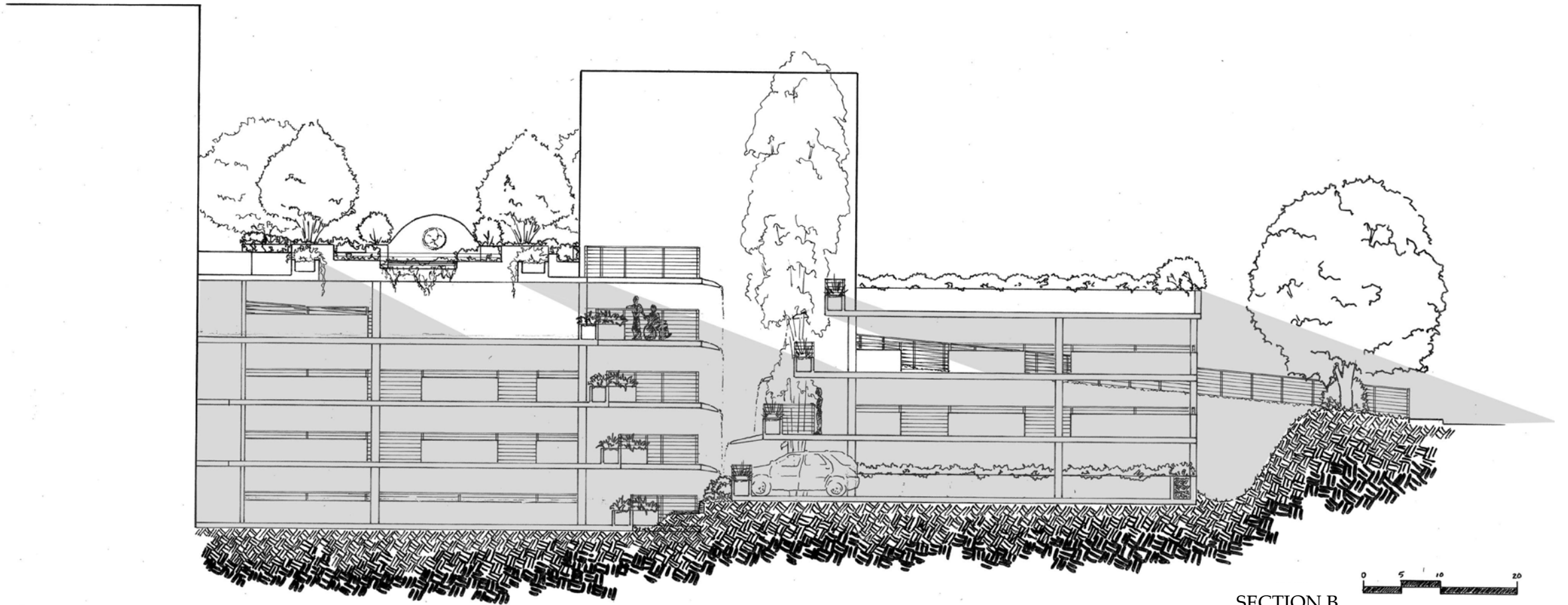
Section B



SECTION B



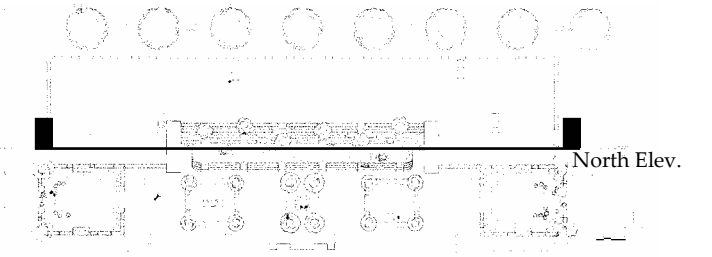
Shadow study for  
12:00 p.m., June 21.



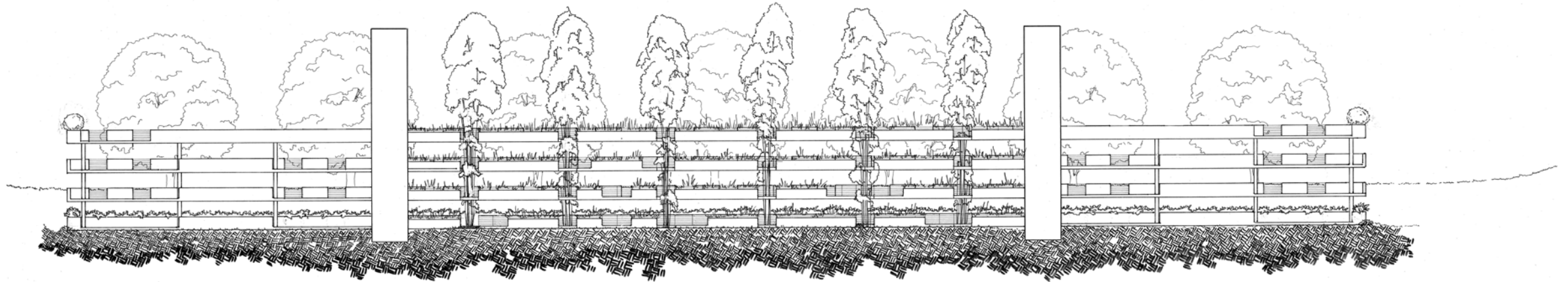
SECTION B

Shadow study for  
12:00 p.m., December 21.





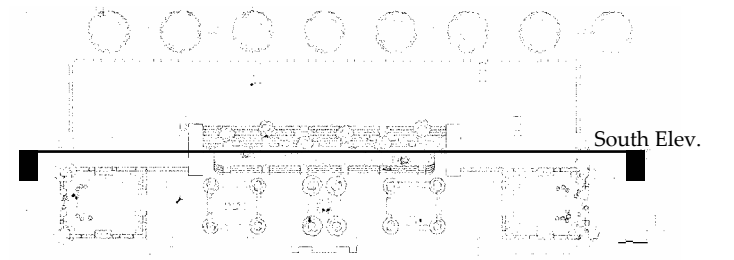
Key Map



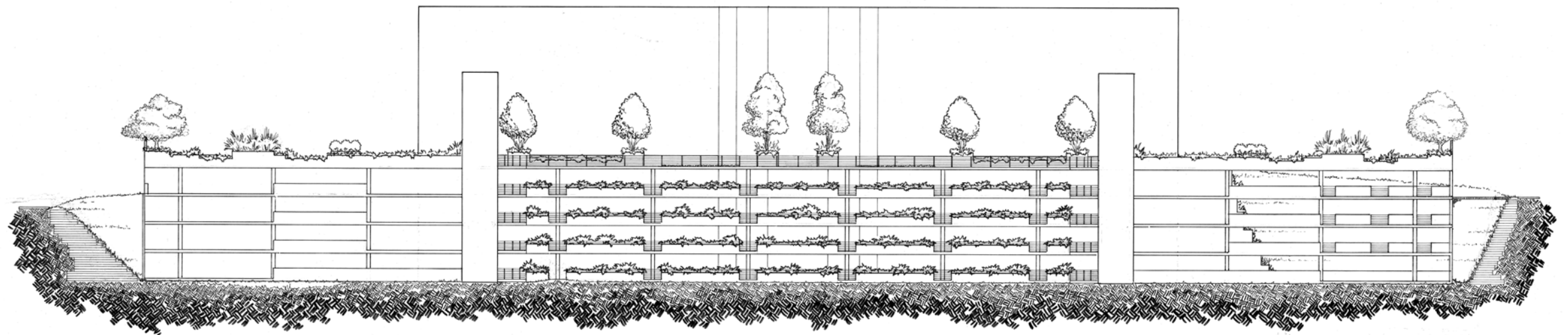
NORTH ELEVATION



In the North elevation, clumping bamboo is planting to break through the different levels. They are also layered so that depending on the level the person is on, there are views from in front of, under, or within the canopy. Within this elevation, parking spaces have been integrated to give the sense of parking in the more natural spaces.



Key Map



SOUTH ELEVATION

The South elevation gives a preliminary view to the plaza level as well as changes in color of the layered hosta beds.

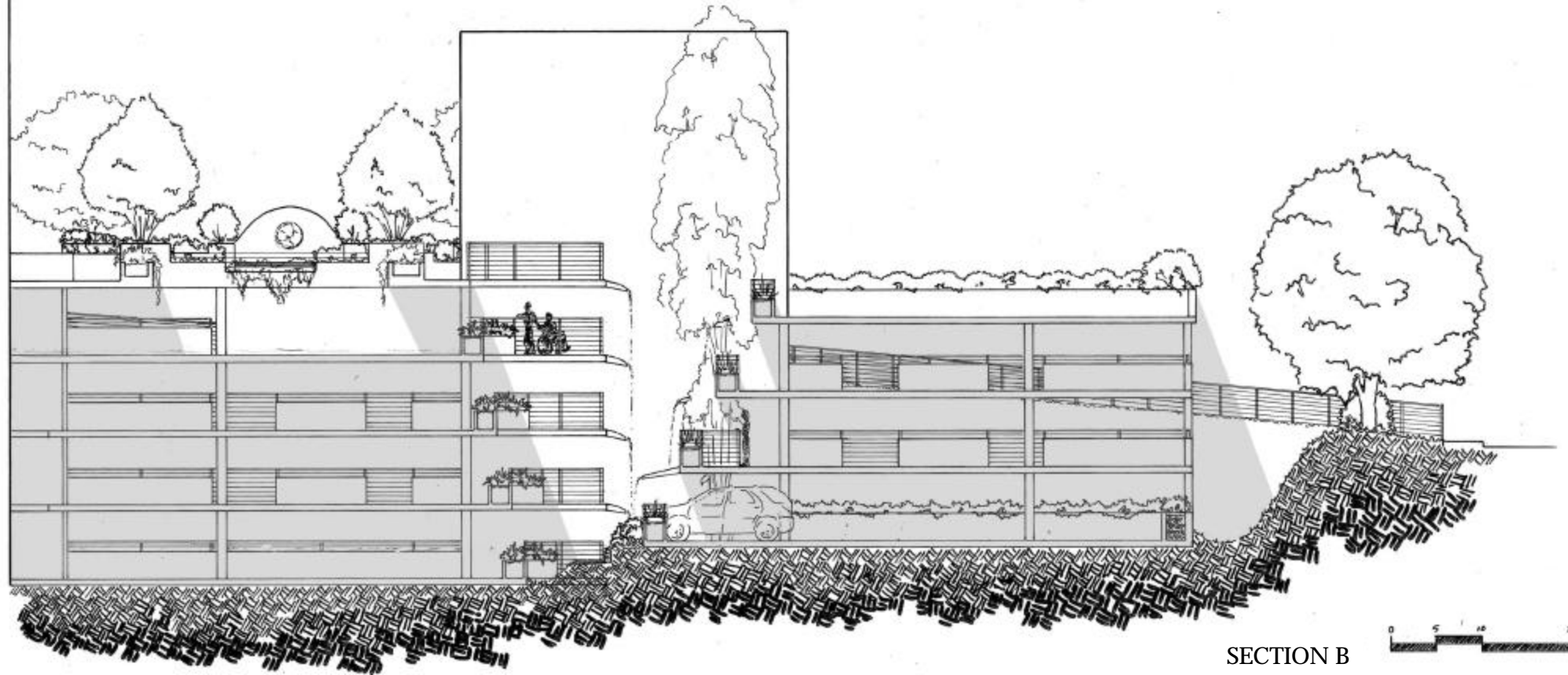




The northern elevation of the canyon, finding itself in full sun for most of the year, has been planted with large assortment of different lavenders. Lavenders have long been a staple in holistic herb gardens for its wonderful scent and its reputed medicinal qualities, most notably its tension-relieving attributes.

As with the hosta across the canyon, the lower tiers are a concentration of the “bluer” varieties though the blue reveals itself most obviously in its flower. As the tiers rise, the flowers bloom in shades of purples and lavenders and, at the top tier, white-flowering varieties. Again, this adds to the sense of rising toward the brighter levels of the garage. The texture of the lavenders is a direct contrast to the broad leaves of the hosta.

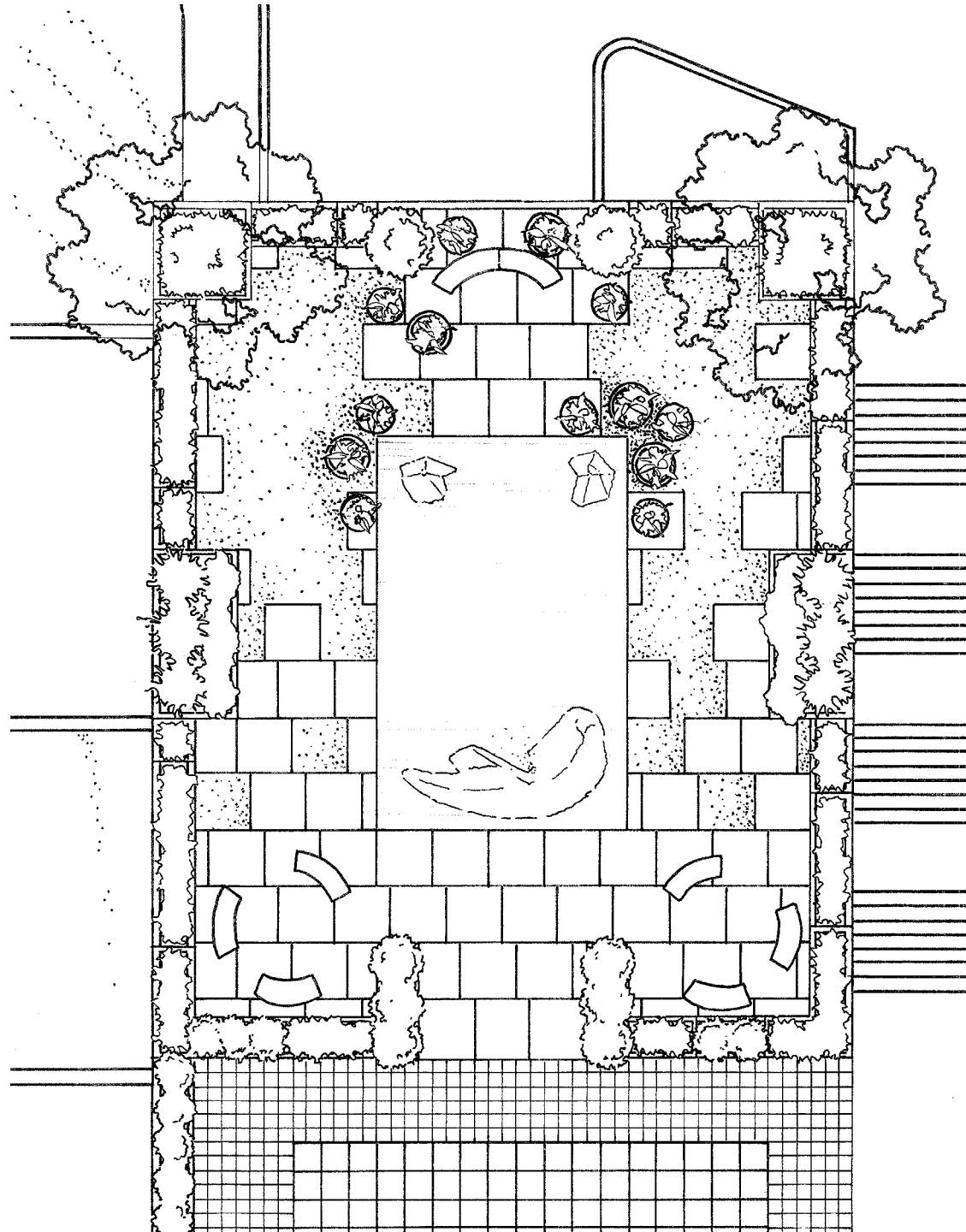
Adding to the texture of the lavender, there are spaces where clumping bamboo breaks through the multiple garage levels. The bamboo canopy extends from lower, newer growth to the higher, older growth and allows the users, depending on the parking level, to have a different understanding of the ground plane and tree canopy. The lavender planters also have parking spaces breaking through to allow the garage and garden to feel more integrated.



SECTION B

Shadow study for  
12:00 p.m., June 21.





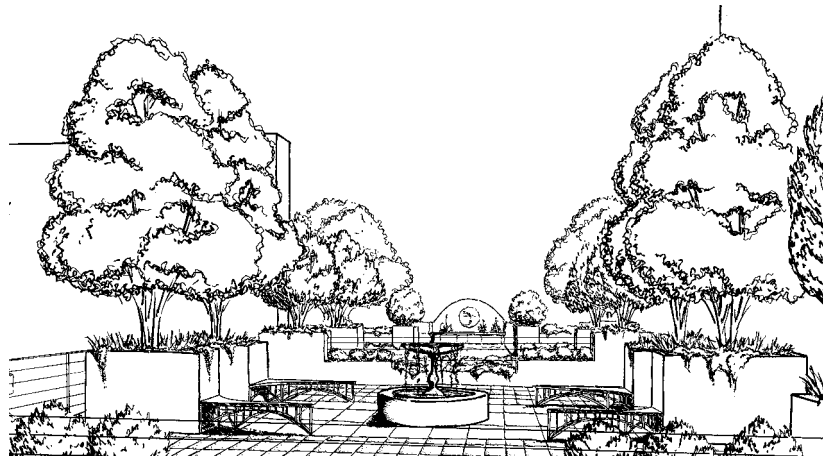
The eastern garden of the hospital's entry plaza is considered the "morning garden". The plantings are a mixture of different shades of warm hues. These hues can be found in new growth, summer foliage, fall color and blooms throughout the year.

As the sun rises in the east the vibrant colors accentuate the sense of warmth and newness that the morning sun reveals. Its vibrancy adding a sense of passion and drive to continue through the day.

This peripheral plaza allows for small group gatherings or for solitary contemplation. A shallow pool is sloped so that people can walk or wheel into the water. The plant boxes of varying heights around the plaza help make it feel like an enclosed space while giving access to people of different abilities.



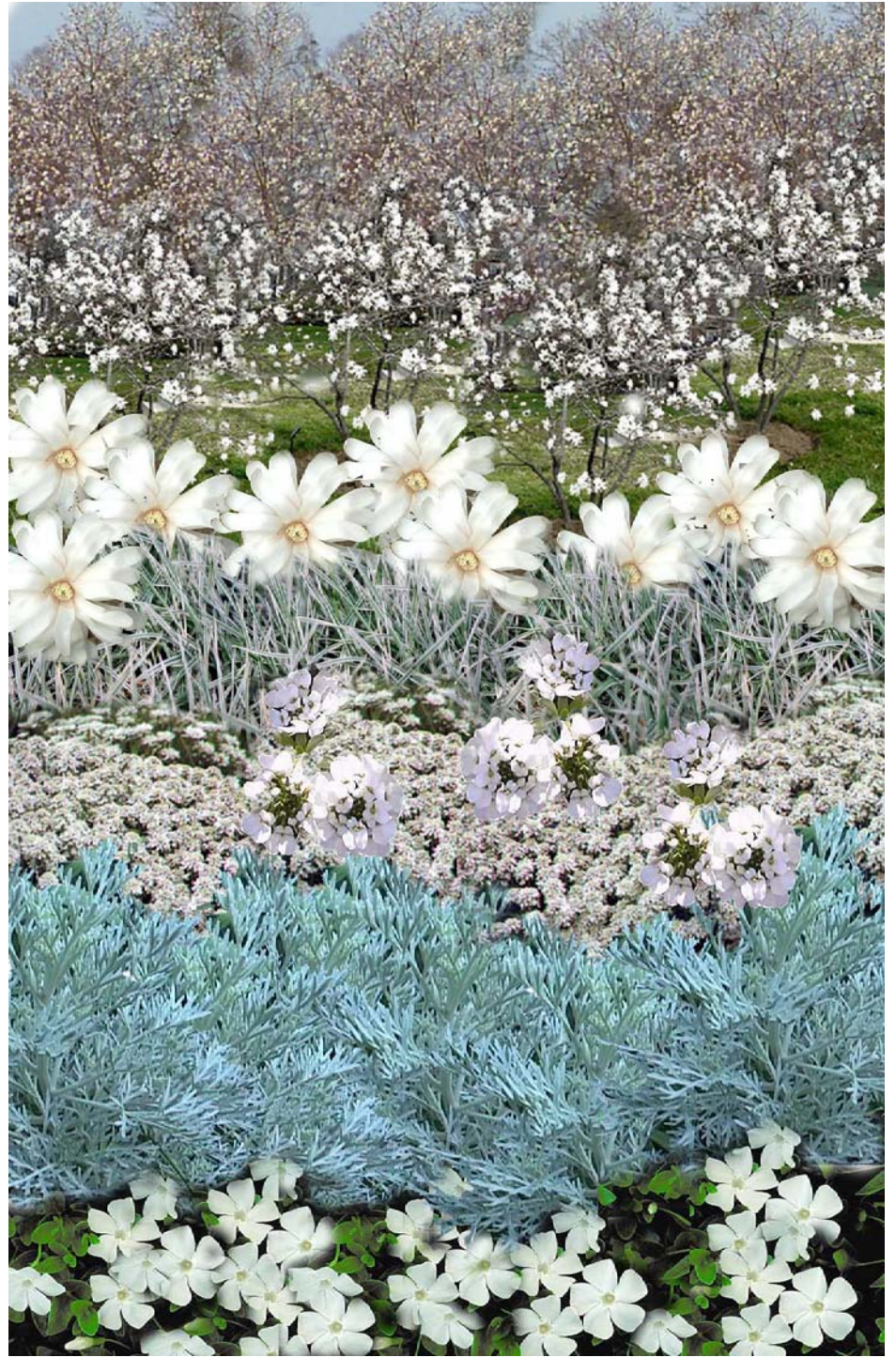
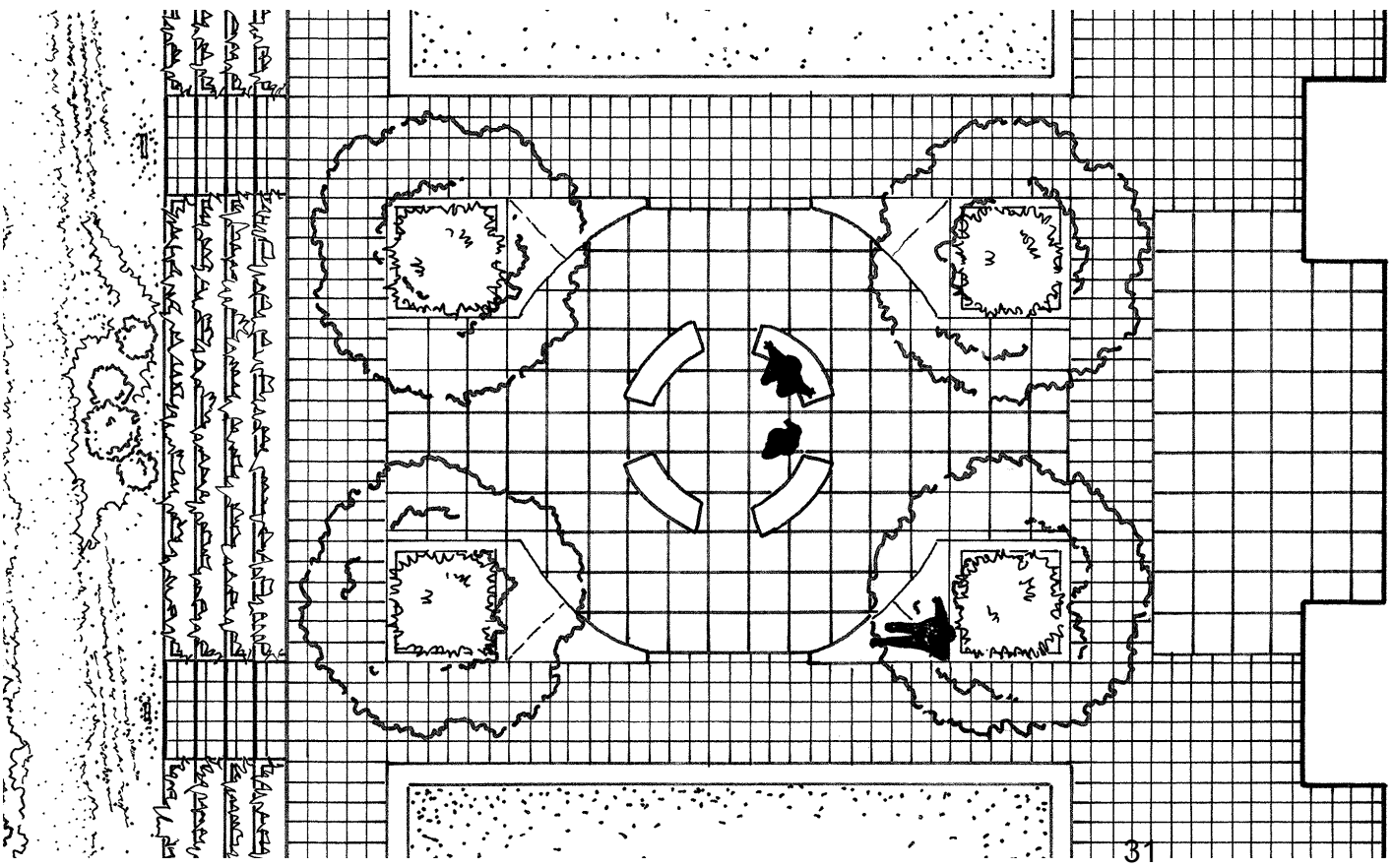




In the central garden of the plaza, lightness and a sense of purity is reflected in the plantings. All the plants within this central space have blooms of white while much of the foliage has silver tones.

The tree plantings between the “morning garden” and the central garden bloom pink as a way of transitioning from the warm hues to the neutrality of white. Likewise, the transition trees between the central and “evening” gardens bloom shades of lilac.

The plantings all have forms that are airy, light, and fine textured. This airiness adds to the openness of the central plaza as a space that can be utilized by larger groups of people.



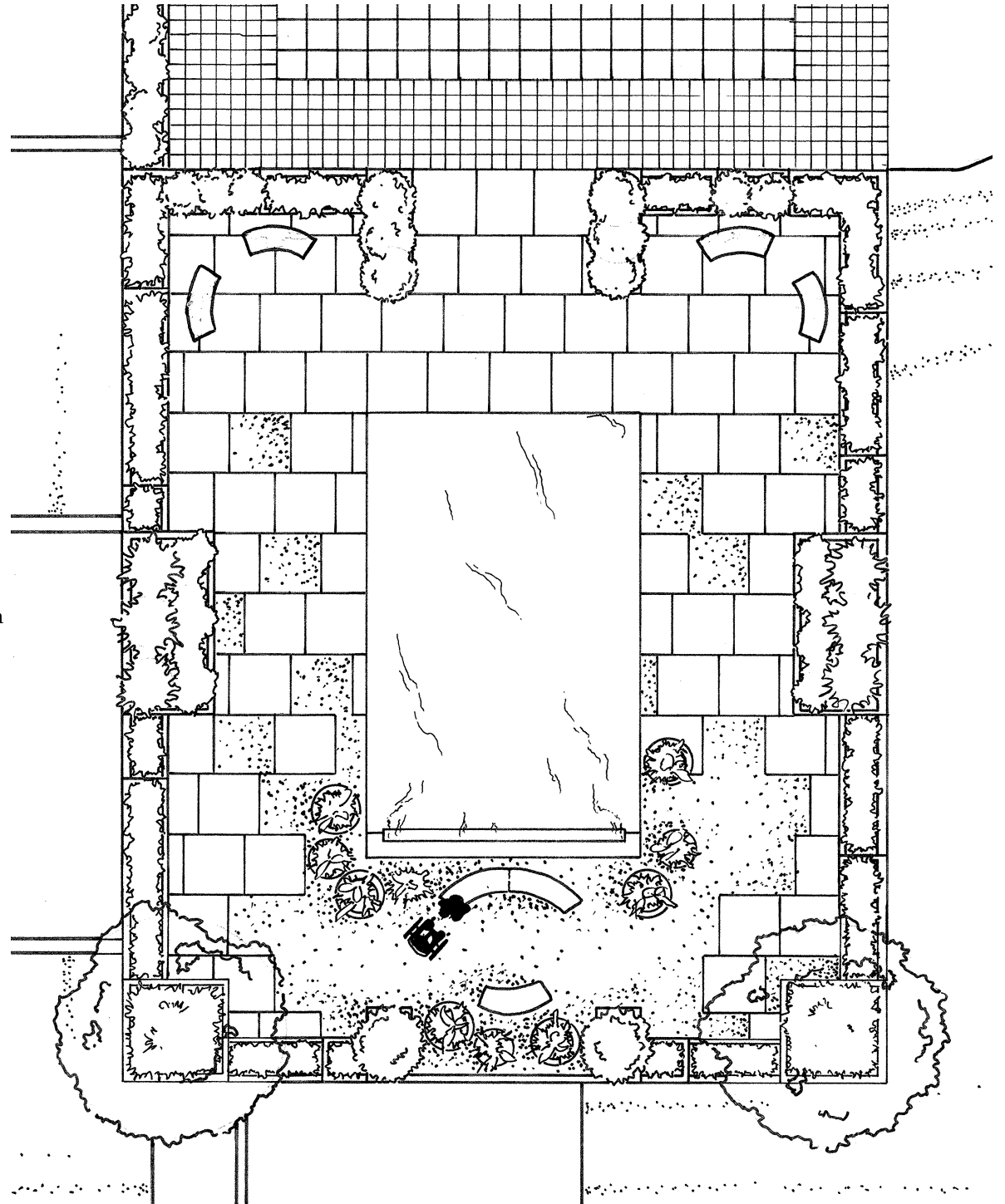




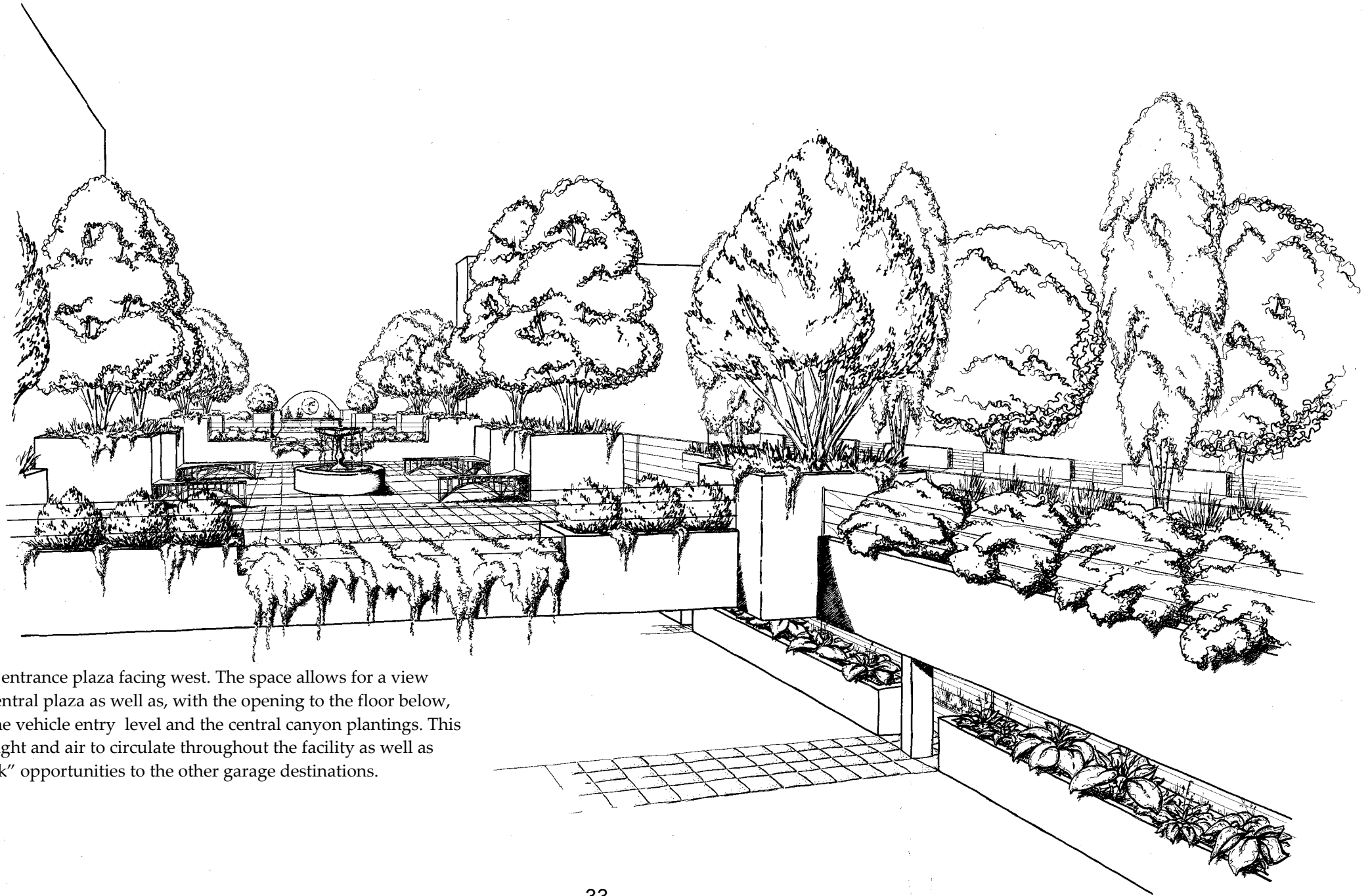
The western garden of the hospital's entry plaza is called the "evening garden". Plantings in cool hues dominate this space. Leaves covered in fine silver-hairs, tones of deep-green to black foliage, blooms in shades of cool blues, purples, whites.

As the sun sets in the west, these hues add to the sense of the cooling down of the day while the silver foliage within the garden grabs and reflects the remaining light. The soothing dark tones represent a calm ending while the moments of reflected light maintain a sense of hope in the darkness.

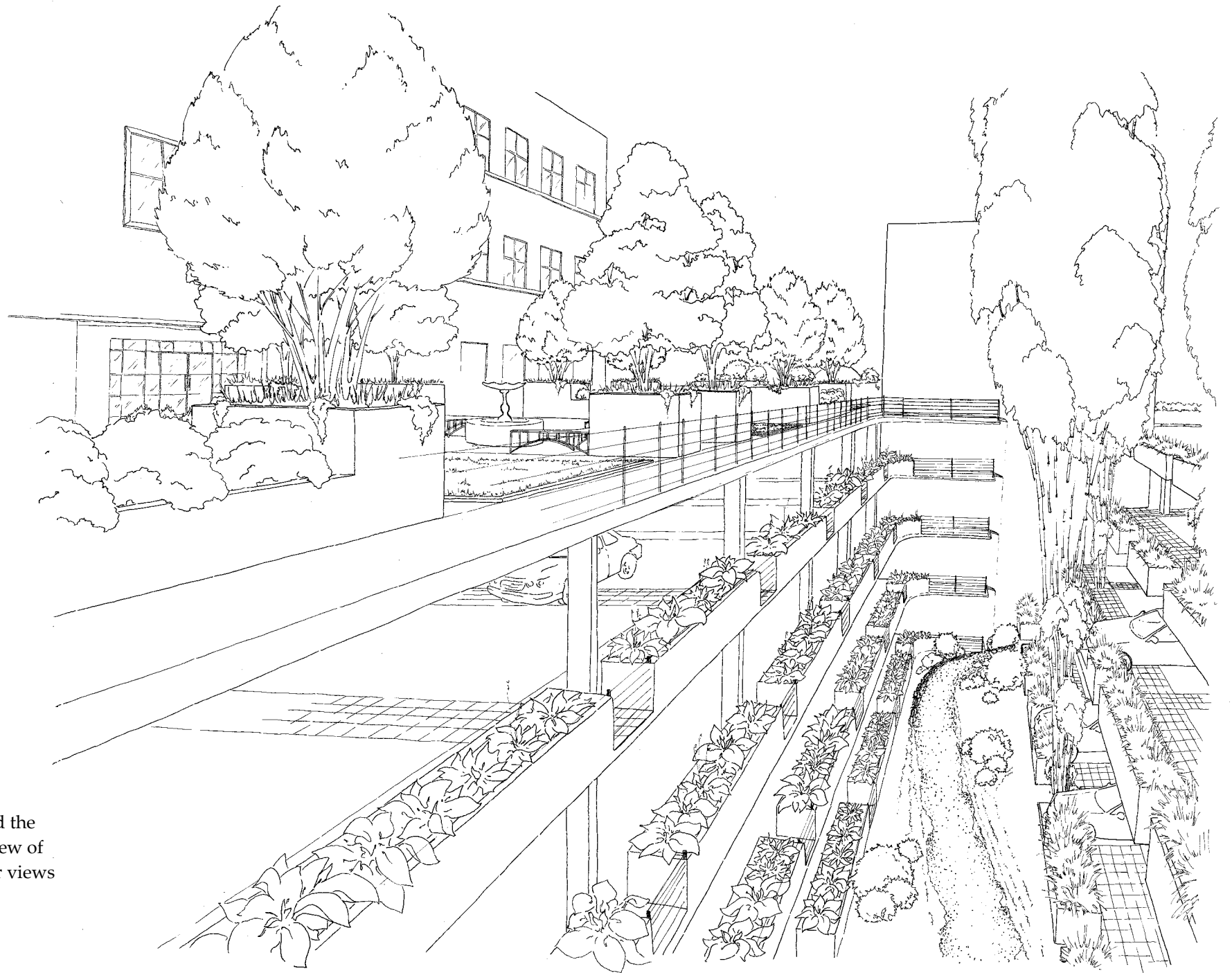
This plaza, as with the East side, allows for small groups or seclusion. The slow flowing pool adds a soothing sound and a reflective quality.







View of the main entrance plaza facing west. The space allows for a view throughout the central plaza as well as, with the opening to the floor below, visual access to the vehicle entry level and the central canyon plantings. This allows for more light and air to circulate throughout the facility as well as provide “overlook” opportunities to the other garage destinations.

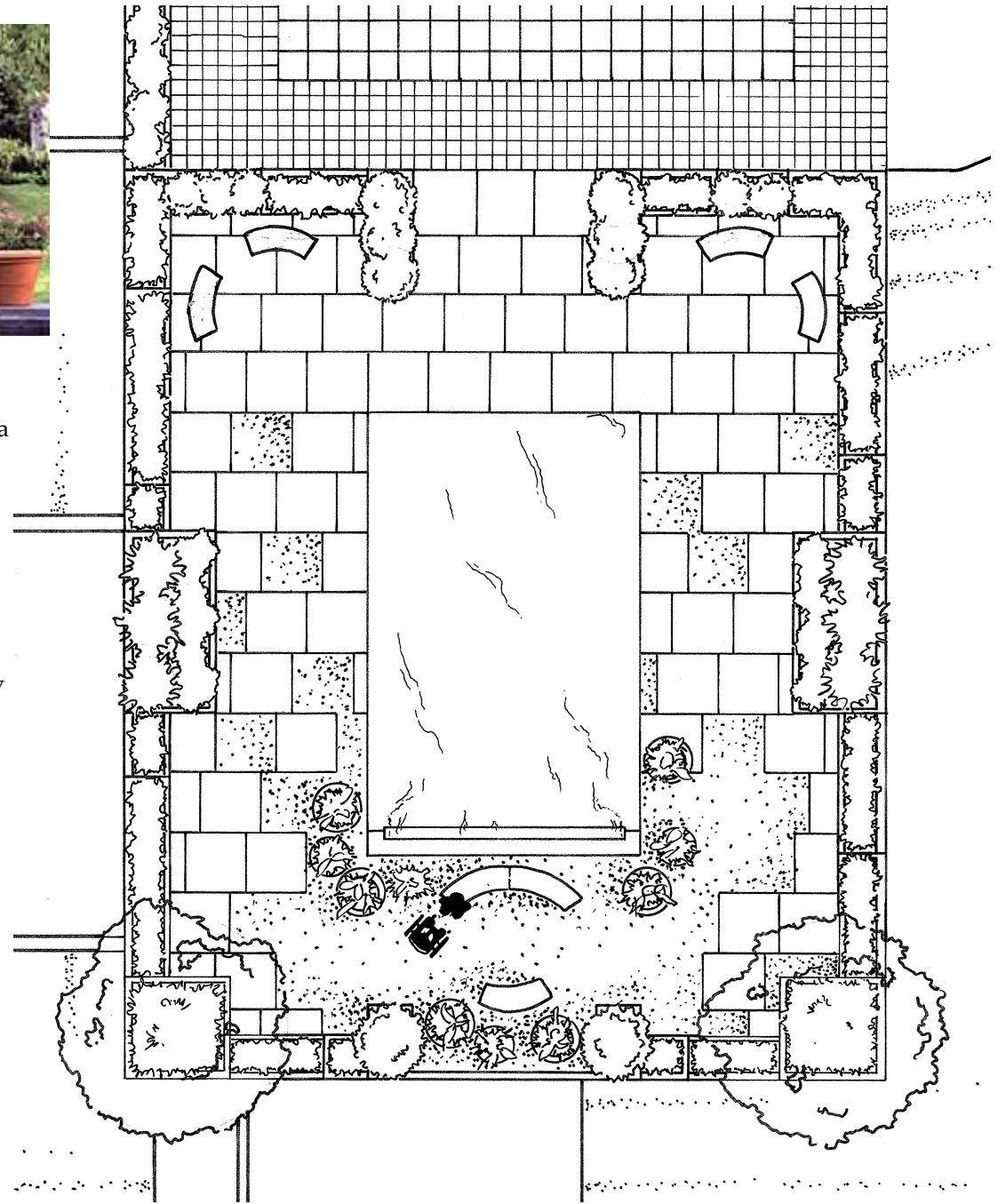


View from the elevator tower looking west toward the main plaza entrance. This allows for a overlook view of the canyon plantings and path. While allowing for views there are opportunities to feel a sense of seclusion.



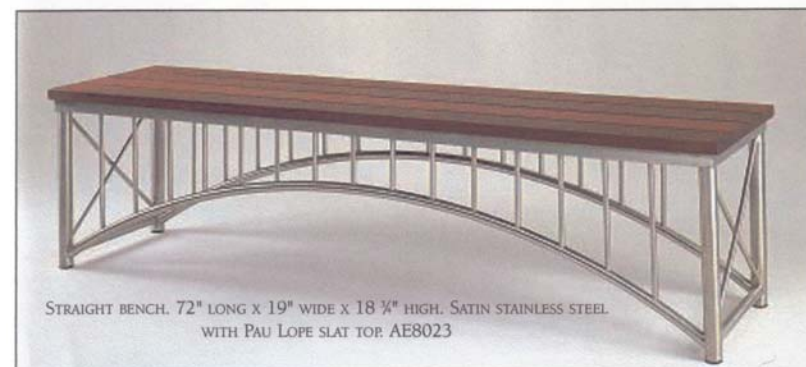
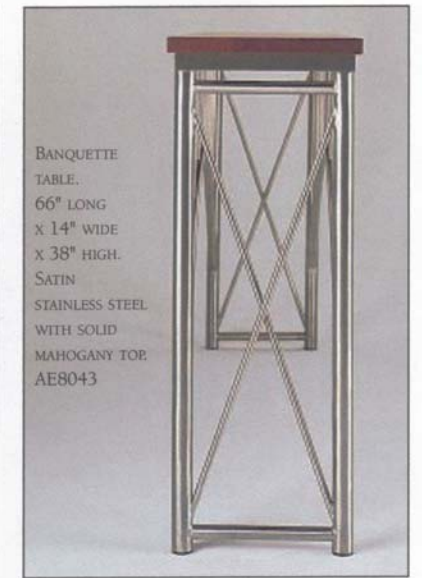
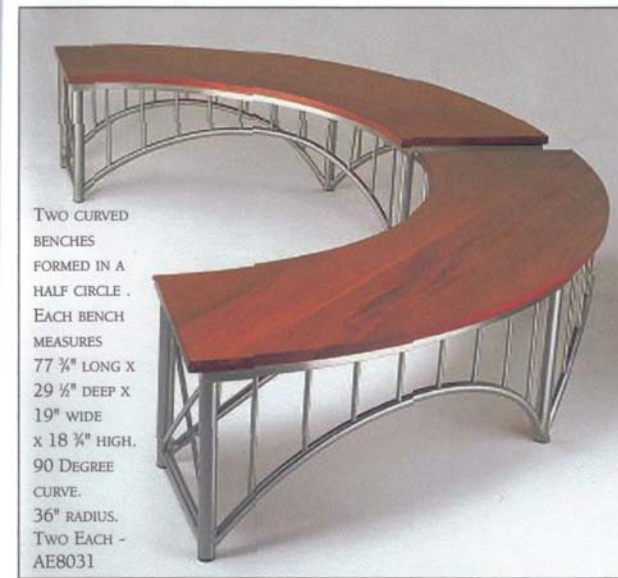
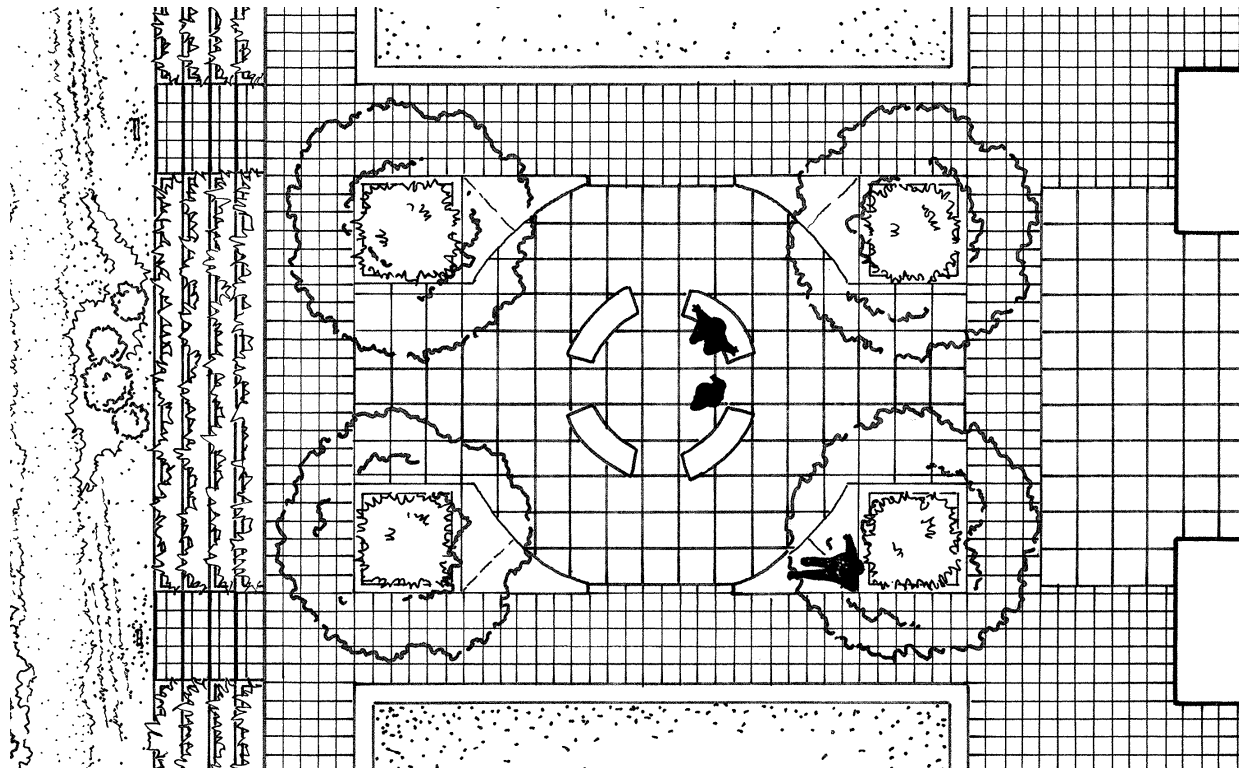


The alternating of large pavers with lawn acts as a transition from a more public space to more private. The potted plants, while a larger scale, allow for more seasonal plantings and give the sense more of a personal garden one may have at home.

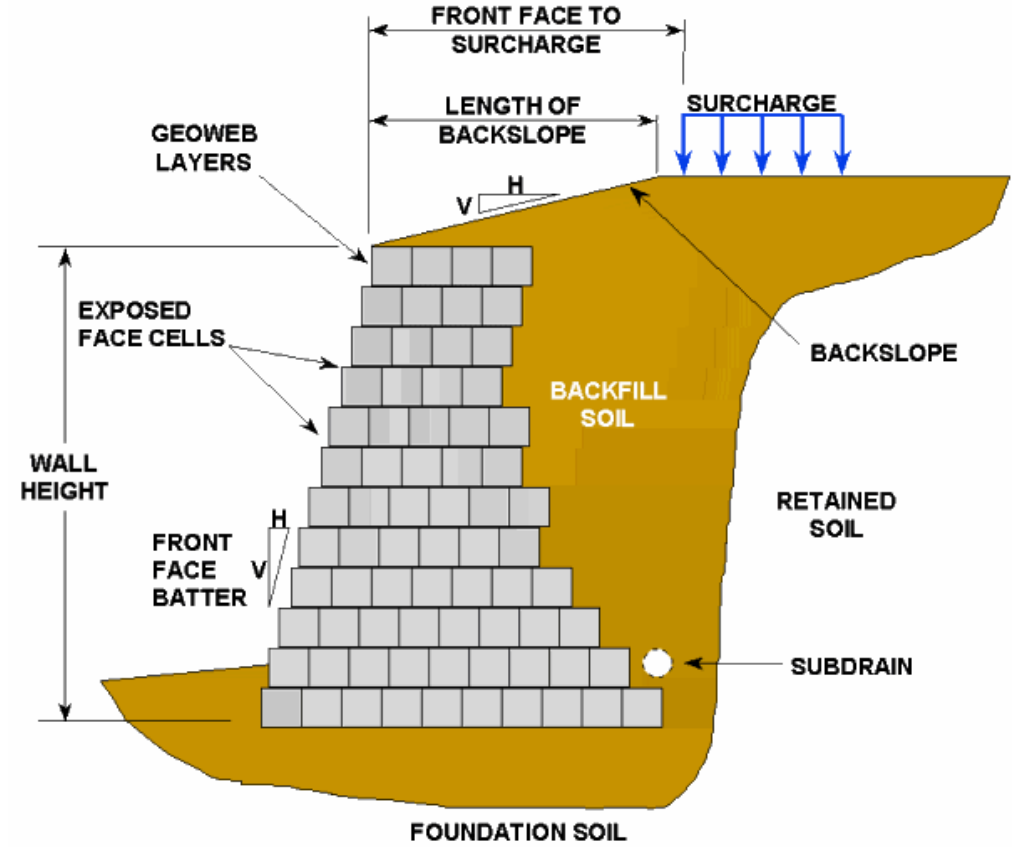




The selection of this bench was to work with the idea of the garage redesign. The supportive structure is light and open while the curves allows for it to be configured for small gatherings. In the central plaza, the curve also mimics the configuration of the space. This bench would be the inspiration for custom benches adjacent to the tree planters at the corners of the plaza. With the rectilinear movements of the garage, pavers and delineation of spaces, these benches help to balance the straight lines.





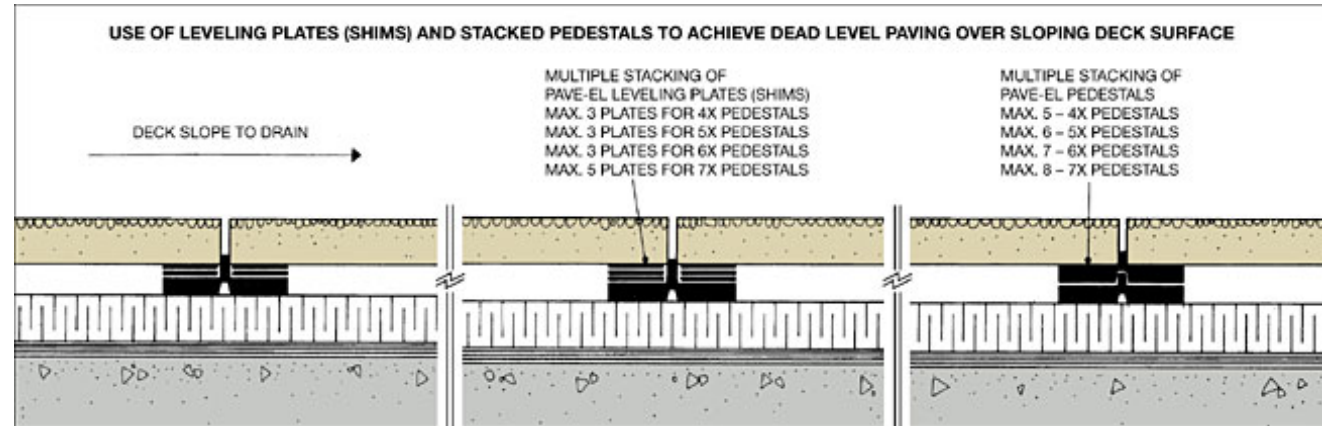
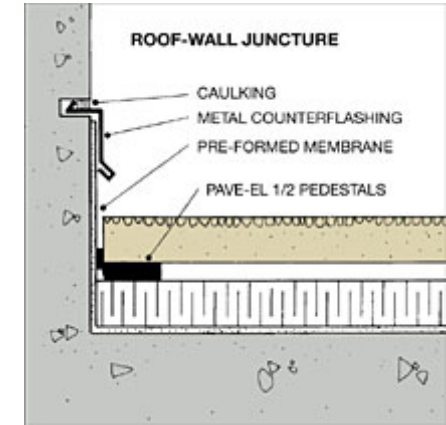
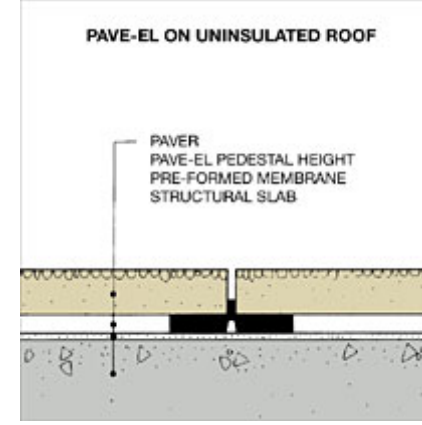
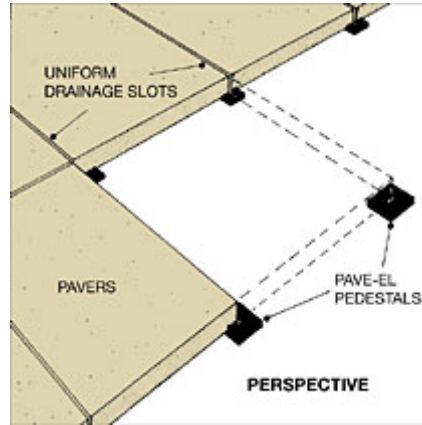


Opening the ground around the garage to the lowest level created the desired allowance of light but posed another problem of how to maintain it. The first option would be to build a concrete wall. It would still allow light but conflict with the intention of creating a more welcoming space, even at the lowest levels.

A geotextile would be used to act as a stabilizer that could be planted. The pictures to the lower left and lower right show applications after plantings have started to establish.







Manufacturer details of how the paver system is applied to an existing roof. The garage plaza, while not technically a roof, would receive the same application. These pavers would allow for drainage to happen between the pavers and the garage surface.





Hermes Headquarters, Tokyo. Photo by Michel Denance.

Hermes Headquarters, Tokyo. Photo by Michel Denance.



Tacos Metals, Press Image

The images at the left show how the structures housing the elevators and stairwells could be reconstructed or retro-fitted using glass block. This would allow for light to penetrate in during the day and outward during the evening. It also helps to bring the scale of the structures down.

While not specifically addressed in the redesign process, a possibility for the hospital entry would be to use a glass canopy. This keeps with the idea of allowing sunlight through and for structures to seem lighter. This same idea could be used to create a covered walk from the elevators to the main entry. It would allow the structure to be less intrusive on the plaza design.



Artistic Railings, Inc., Press Image

Railing Works., Press Image



To keep the garage levels open for light and air large sections of the concrete walls were removed and replaced with cable rails. Aside from just allowing light, it also allows for clear visibility. There are no heavy posts or rails to obstruct views from the various levels into the central "valley".



# References

### Therapeutic Landscapes

Barrett, Marilyn. *Creating Eden: the garden as a healing space*. San Francisco: HarperSanFrancisco, cc1992.

Chicago Horticultural Society, Horticulture Therapy Dept. *Horticultural therapy for nursing homes, senior centers, retirement living*. Glencoe, IL: Chicago Horticultural Society, c1981

Gerlach-Spriggs, Nancy. *Restorative gardens : the healing landscape*. New Haven, CT : Yale University Press, 1998.

Hawkins, Kenneth, (Kenneth Blair). *The therapeutic landscape : nature, architecture, and mind in nineteenth-century America*. Rochester, N.Y. : Dept. of History, College of Arts and Sciences, University of Rochester, 1991.

Marcus, Clare Cooper. *Healing gardens: therapeutic benefits and design recommendations*. New York: Wiley, c1999.

Minter, Sue. *The healing garden: a natural haven for body, senses, and spirit*. Boston: Charles E. Tuttle, 1995.

Olszowy, Damon R. *Horticulture for the disabled and disadvantaged*. Springfield, Ill. : Thomas, c1978.

Squire, David. *The healing garden : natural healing for mind, body, and soul*. Lincolnwood, Ill. : Contemporary Books, 1998.

Stoneham, Jane. *Landscape design for elderly and disabled people*. Woodbridge, Suffolk, UK : Garden Art Press, 1996.

Tyson, Martha M. *The healing landscape : therapeutic outdoor environments*. New York : McGraw-Hill, c1998.

Williams, Allison. *Therapeutic landscapes : the dynamic between place and wellness*. Lanham New York ; Oxford : University Press of America, c1999.

### Parking Lot Design

Childs, Mark C. *Parking Spaces: a design, implementation, and use manual for architects, planners, and engineers*. New York: McGraw-Hill, 1999.

McCluskey, Jim. *Parking: a handbook of environmental design*. London: E. & F.N. Spon, 1987

Miller, Catherine G. *Carscape: a parking handbook*. Columbus, IN: Published for the Irwin-Sweeney-Miller Foundation by Washington Street Press, c1988.

Robinette, Gary O. *Parking lot landscape development*. Plano, TX: AGORA Communications, 1994.



## Resort Design

Architecture & Interior Design Library. *Clubs and resorts : designing for recreation and leisure*. Glen Cove, NY : Architecture & Interior Design Library ; New York, NY : Distributor to the trade in the USA and Canada, Rizzoli International Publications, c1993

Huffadine, Margaret. *Resort design : planning, architecture, and interiors*. New York : McGraw Hill, c2000.

## Articles

Bennett, Paul. "High-Rise Paradise - A new resort in the Bahamas elevates the beach resort and theme-park casino prototypes to dizzying proportions, while evoking the mythic city of atlantis." *Landscape architecture* 2000. Volume 90, Number 2: pp. 70

O'Connell, Kim A. "A Desert Hue - Las Ventanas al Paraiso evinces a new standard in resort design. Not content to add another tropical resort to southern Baja, the designers instead paid homage to the desert." *Landscape architecture* 2000. Volume 90, Number 1: pp. 46

Oelrichs, Ian. Hindu Holiday: "Bali resort rescues folkways along with the environment." *Landscape architecture* 1992. Volume 82, Number 8: 37-39

Sutton, Jonathan Stone. "Amelia Island Revisited - A look at how this resort area has weathered a McHargian masterplan". *Landscape architecture* 2000. Volume 90, Number 1: pp. 112

Sutro, Dirk. "Ecomofort: A luxe resort in the Virgin Islands tries to be "green"." *Landscape architecture* 1992. Volume 82, Number 8: 48-49

## Landscape Design

Greenbie, Barrie B. *Spaces : dimensions of the human landscape*. New Haven, Conn. : Yale University Press, c1981.

Potteiger, Matthew. *Landscape narratives : design practices for telling stories*. New York : J. Wiley, c1998.

Spirn, Anne Whiston. *The language of landscape*. New Haven, Conn. : Yale University Press, c1998.

Thompson, Ian H. *Ecology, community, and delight : sources of values in landscape architecture*. London ; New York : E & FN Spon, 2000.

Weilacher, Udo. *Between landscape architecture and land art*. English Basel ; Boston : Birkhäuser, c1996.

## Internet Sources

[www.railingworks.com](http://www.railingworks.com)

[www.artisticrailings.com](http://www.artisticrailings.com)

[http://www.architectureweek.com/2002/0911/design\\_1-2.html](http://www.architectureweek.com/2002/0911/design_1-2.html) — For Hermes store in Tokyo, Japan.

[www.tacometals.com](http://www.tacometals.com) — For glass canopy.

[www.envirospecinc.com](http://www.envirospecinc.com) — For Pave-El, stone and paver pedestals.

<http://www.sspco.org/earthretention.html> — For earth retention GEOWEB system.

## Vita

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Marc Bradley Meyerhoff is the youngest son of Terry and Alice Meyerhoff. Born in Joliet, Il he has a Bachelor's of Liberal Arts in theatre. Prior to returning to graduate school he lived in Chicago regularly working as in actor in various stage productions.

While in graduate school, he was with Lee and Liu Associates of Washington D.C.. After leaving Washington D.C. he moved to Weimar, Texas where he worked for himself for a year and a half as well as working under contract for the Office of James Burnett. In December of 2003 he took on a full time position with TBG Partners in the Houston office. TBG Partners is the largest Landscape Architecture firm in Texas with offices in Austin, Houston, Dallas and San Antonio.