RECIPROCATION

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ABSTRACT

If we recognize architecture as a built environment then we must also recognize it as a primarily static condition. Despite its affects on the present, architecture is primarily a response to the past. The past tense of the word "built" also implies this relationship and while buildings exist in the present, their conception remains in the past. The most change that any architectural project will endure is during the design process. Once built however, architecture transforms from a kinetic set of ideas to a static manifestation of form and materials.

There is a distinct opposition between the static condition of architecture and the kinetic condition of its inhabitants. While buildings are not typically subject to change, people are in constant motion both physically and mentally. This relationship creates ample opportunity for people to become complacent to their environments especially compared to other circumstances. The impact of experience from even the most stimulating architecture will *eventually* begin to depreciate if its environment remains static and especially through constant interaction.

This thesis aims to humanize the built environment by recognizing people as its primary subject and by reciprocating their kinetic condition. By challenging the built environment through the pursuance of a kinetic condition, architecture shall not only re-stimulate its inhabitants but also create a more symbiotic relationship between people and their environments.

THESIS STATEMENT

This thesis aims to address the relationship between a given environment and its inhabitants. More specifically, it aims to address the built environment and the psychological impact it has on the most important subject of architecture, its people.

There is an interesting relationship between the built environment and its inhabitants, partly due to the static condition of architecture. Despite its affects on the present, architecture and its conception exists primarily as a response to the past. The past tense of the word "built" also implies this existence. The most change that any architectural project will endure is during the design process. Once built however, architecture transforms from a kinetic set of ideas to a static manifestation of form and materials. With the exception of renovations, demolition and the inevitable aging of materials, in general, architecture and therefore the built environment is not subject to change.

This is in direct opposition to the most important subject of architecture, its people. Unlike the built environment, humans exist as a kinetic condition and are in constant motion. More importantly, however, is the psychological kineticism of humans and our constant ability to become more accustomed to our surroundings. However, this relationship also creates ample opportunity for people to become complacent to any given environment, especially to one with which they constantly interact. The impact of experience from even the most stimulating architecture will eventually begin to depreciate if its environment remains static and especially through constant interaction.

The psychological implications caused by the relationship between the built environment and the kinetic condition of humans creates a desire for kinetic environments – to discover and create spatial conditions that will address the conditional difference between humans and their surroundings. Such environments would embrace psychological kineticism thereby acknowledging people as the primary focus in architecture and will be designed in an effort to resist complacency by engaging people both in perception and experience.

One example of such an environment is a sketch problem that included the redesign of Capitol Park located in downtown Detroit. This urban landscape serves primarily as a bus transportation hub for the city and therefore, houses many typical modular bus shelters. These glass box shelters in corporation with the psychological kineticism of its users serves as a supreme example of how complacency is easily achieved. Such conventional spaces that are so commonly interacted with, combined with the act of waiting especially heightens a sense of complacency allowing little to no psychological engagement for the user.

Therefore, the first step in this sketch problem was to redesign the modular bus shelter with an emphasis on responding to the user's natural psychology by creating a form that was actually kinetic and could physically deviate between two different positions. The physical ability to take on more than one form allows users to experience the shelter through two different interactions thereby causing the user to perceive and experience the act of waiting in a more psychologically engaging manner.

However, while this design might be deemed successful for an individual shelter, it is not as successful in engaging the user with the entirety of the site, which includes six separate bus stops. Therefore, the second step in this sketch problem was to create a design that would incorporate the shelters with all of Capitol Park in a cohesive manner. The mode of achieving this included designing simple moveable components that could be arranged cohesively throughout the park to form the shelters, rather than focusing on designing separate and individual modules for each bus stop. The physically kinetic nature of these components and the ability for them to move what would be randomly also allows for the shelters to take on a more sculptural form. Through the unconventional use of form and materials coupled with the shelters' ability to physically change, Capitol Park would become a more engaging environment by responding to the users' psychological kineticism and allowing them a different perception of the space.

Another example of physically kinetic forms can help to achieve a beneficial difference in perception is Christo and Jeanne Claude's artwork installation in New York City's Central Park in February of 2005. The project is an example of how kinetic forms can successfully respond to the psychological kineticism of a user. The Gates was an artwork installation composed of 7,500 sixteen feet tall by six to eight feet wide saffron colored gates that adorned twenty-three miles of pedestrian pathways in the park. "Envisioned as an expression of joy and beauty," the artwork installation "celebrated both the organic beauty

and varied topography of Central Park as well as the grid structure of surrounding city blocks." [1]

The Gates is a project that emphasized the importance of the human subject in an existing environment. The purpose of architecture is often defined as accommodating a set of activities, and while the installation responds to the existing pathways in Central Park – it does not offer any additional program or function to the environment. However, it did successfully offer visitors to experience Central Park through a different and therefore more psychologically engaging perspective.

However, formal gestures need not be as grand as The Gates in order to be engaging. Urban Threads is an example of an artwork installation that was subtler in form but also transformed public space to convey a meaning other than just its own existence. The installation curator, Janet McGaw chose nine sites in Melbourne and worked in collaboration with women who have experienced homelessness. The basis of the installation involved transforming these nine sites in a manner that would exploit homelessness, using architecture to make visible the distress of this social and economic condition.

One of the installation's series entitled WAR(d)robes involved transforming the side of buildings into a backdrop for exploiting and calling attention to the condition of homelessness. The women in collaboration with the project produced a number of garments that were made from donated clothes and reconfigured with scissors and cable ties. "The garments were hung, some together in a few of the city's closet-like antespaces, and some separately in front of existing floodlights

to create moving, shadowy silhouettes on temporary billboards at night." [2] This series of installations is an example of how spaces cannot only be transformed in an unconventional manner to engage observers, but also to convey and call attention to a specific meaning that would otherwise not be observed.

With an emphasis on the built environment and constant interaction, exists the dense urban condition in which this thesis chooses to explore in reciprocating psychological kineticism. The dense urban environment creates an extremely interesting condition in relation to the dynamism of activity that takes place in the city. One of the greatest characteristics of the urban environment is its sense of scale, in space and population as well as in its intensity of constant physical kineticism. This is not to say that the built environment itself is kinetic, but rather its inhabitants who are in constant physical motion due to the functional aspects of the city.

One interesting paradox of the dense urban condition is a concept that may be referred to as overload. This concept is related to the scale of the city and its production of extreme stimuli and complexity, in which people inevitably experience a sense of psychological overload in response to their surroundings and are forced to adapt through their actions. John Helmer of Harvard University and author of Urbanman: The Psychology of Urban Survival states:

"The concept has been implicit in several theories of urban experience. In 1903 George Simmel pointed out that, since urban dwellers come into contact with vast numbers of people each day, they conserve psychic energy by becoming acquainted with a far smaller proportion of people than their rural counterparts do, and by maintaining more superficial relationships even with these acquaintances." [3]

"One adaptive response to overload, therefore, is the allocation of less time to each input. A second adaptive mechanism is disregard of low-priority inputs. Also, a city dweller blocks inputs by assuming an unfriendly countenance, which discourages others from initiating contact. Such actions…simultaneously protects and estranges the individual from his social environment." [3]

The dense urban condition is extremely interesting in regards to the idea of psychological kineticism because one would not anticipate that it be possible for people to become so disengaged in such a physically kinetic environment. One would also not anticipate the effects that such an environment has on social interaction. However, as Nels Anderson, author of Urban Sociology writes:

"The factor in urban dynamics of greatest interest to the sociologist is inter-human stimulation. Riding on a subway train moving at a rapid rate is one kind of stimulation. But riding on a train crowded with people, all eager to arrive somewhere in the minimum of time, is another, and a more significant type of stimulation. The paradoxical fact of the subway crowd…is that very little communication takes place between its units. People ride so closely packed together as to render individual movement impossible, but they do not speak. They are not unaware of each other, but their mutual influence is transmitted without direct communication. Physically they are

THESIS STATEMENT

jammed against one another to the point of discomfort, and not so much as by the glance of an eye do they draw near to each other as social beings." [4]

The psychologically static condition of disengagement in the physically kinetic context of the city is why this thesis chooses to work within the context of the dense urban environment. One may recognize a metaphorical correlation to physics in such an environment, in regards to the psychology associated with riding in a vehicle. When one accelerates, one feels the essence of movement; however, when one reaches and stays at a constant speed, this feeling is lost and one becomes disengaged with the essence of movement. What happens then is the experience of perceiving the environment pass one by without actually being engaged in it or in other words, the perception of a kinetic condition as static. It is not until the vehicle begins to decelerate, that one's psychology engages this kinetic condition once again.

This thesis aims to embrace psychological kineticism within the built environment and the dense urban condition by transforming existing spatial conditions in recognition of people as the primary focus of architecture. Through the use of unconventional conditions, whether it be physically static or kinetic, the aim is to create psychologically kinetic spatial conditions within the urban fabric that will allow for alternative perceptions as well as for the opportunity for people to become more engaged with their surrounding environment.

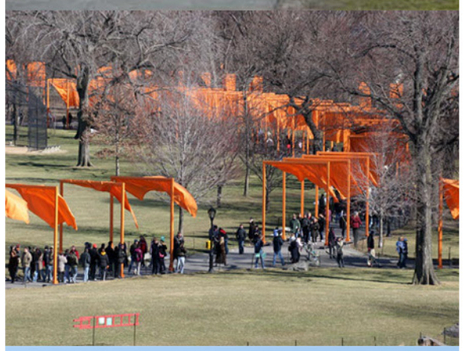
1. Strauss, Anne L. Christo and Jeanne-Claude – The Gates – Central Park, New York City 1979-2005 TASCHEN, 2005: 4 and 39

2. McGaw, Janet. "Urban Threads." Journal of Architectural Education 59.4 (2006): 12-18.

3. Helmer, John, ed. Urbanman: The Psychology of Urban Survival. New York: The Free Press, 1973: 3

4. Anderson, Nels. Urban Sociology. New York: Alfred A. Knopf, Inc., 1928: 207

PRECEDENT



Christo and Jeanne-Claude's Gates was an artwork installation located in Central Park, NYC. While it was only showcased for two weeks from February 12th – 27th in 2005, the design and manufacturing process took 26 years to complete.

The installation was composed of 7,500 – 16' tall by 6'-8' wide saffron colored gates that covered 23 miles of pedestrian pathways in the park.

"Envisioned as an expression of joy and beauty," the Gates "celebrated both the organic beauty and varied topography of Central Park as well as the grid structure of surrounding city blocks." [1]

The Gates is a project that emphasized the importance of the human subject in an existing environment. The purpose of architecture is often defined as accomodating a set of activities, and while The Gates responds to the existing pathways in Central Park - it does not offer any additional program or function to the environment.

However, it did offer the ability for visitors to experience Central Park through a different and therefore more stimulating perspective. The Gates serves as a successful example of how the repetitive employment of even a single component can alter a space and respond to the kinetic nature of humans, engaging Central Park visitors both physically and more importantly, psychologically by allowing a different interpretation and experience.

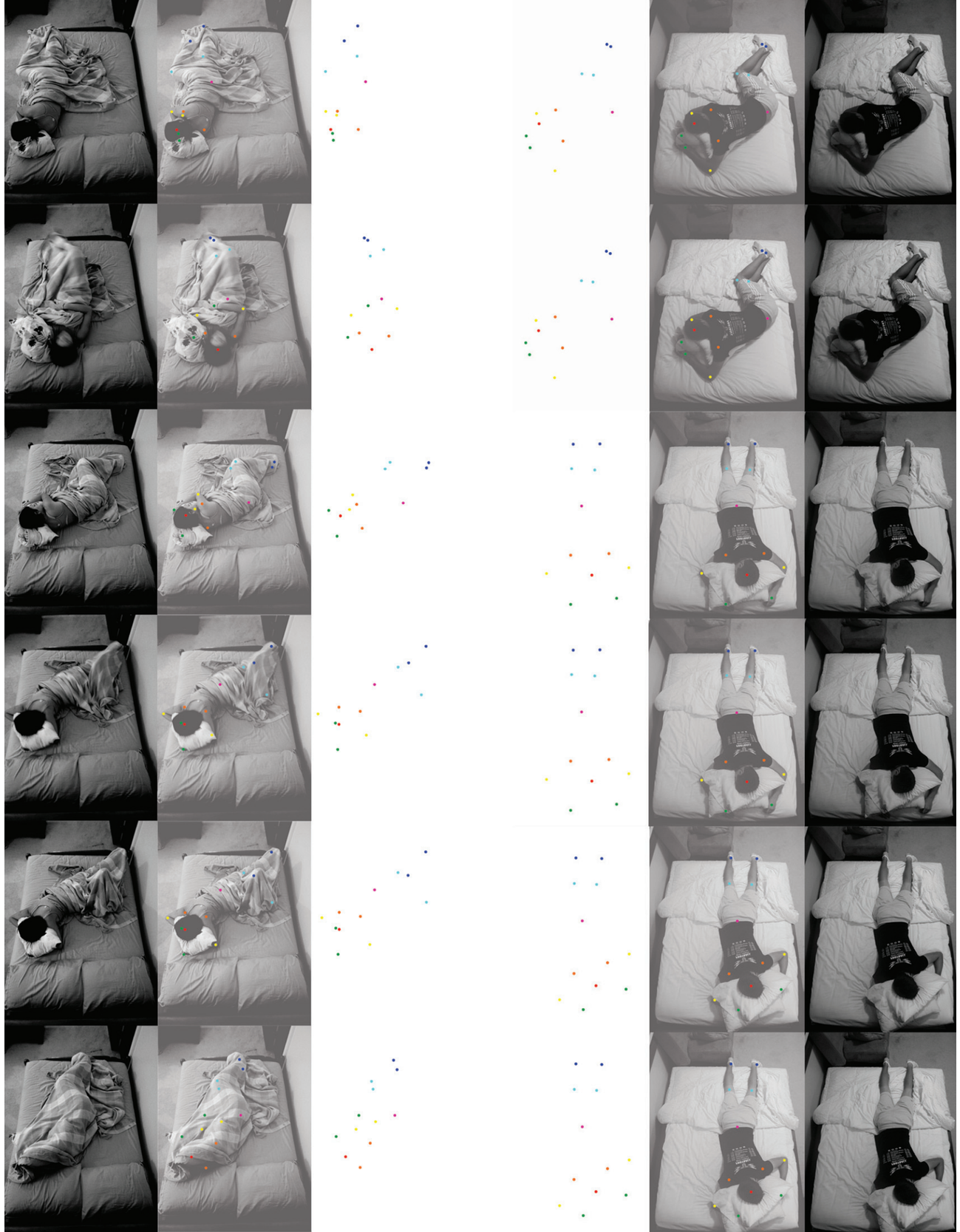
1: Strauss, Anne L.
"Christo and Jeanne-Claude - The Gates - Central Park, New York City 1979-2005"
TASCHEN (2005): 4 and 39

SKETCH PROBLEM ONE

Sketch Problem One involves the documentation of human activity.

Part one depicts the kinetic condition of humans through the physical movement involved in opening and utilizing an umbrella.

By recording prior movement in each subsequent photograph, one can easily perceive the temporality of human movement.



Part two also depicts the kinetic condition of humans. However, this study seeks to document how temporality varies according to the individual.

Through the mapping of basic anatomy by assigning colors, one can more clearly distinguish the variances between both individuals – both in movement and in time.

SKETCH PROBLEM TWO

Sketch Problem Two involved the redesigning of an urban landscape in downtown Detroit: Capitol Park.

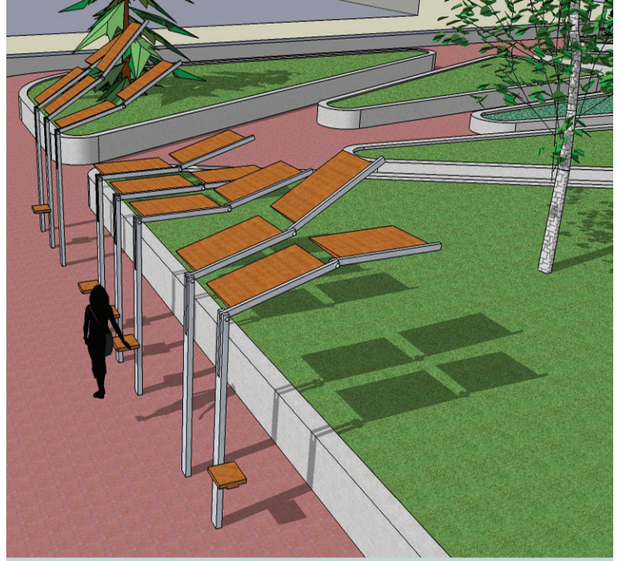
SKETCH PROBLEM TWO

Capitol Park acts as one of downtown Detroit's primary bus transportation hubs, housing many typical modular bus shelters.

Therefore, the first attempt to redesign Capitol Park involved reinventing the bus shelter module through the use of physical kineticism. The ability to take on more than one form successfully allows visitors to experience the bus shelter through two different interactions.

However, the negotiation between seating and shelter was unsuccessful. Also, the simple replacement of existing bus shelters with this kinetic module does not appear to be a successful redesign for the entire space.

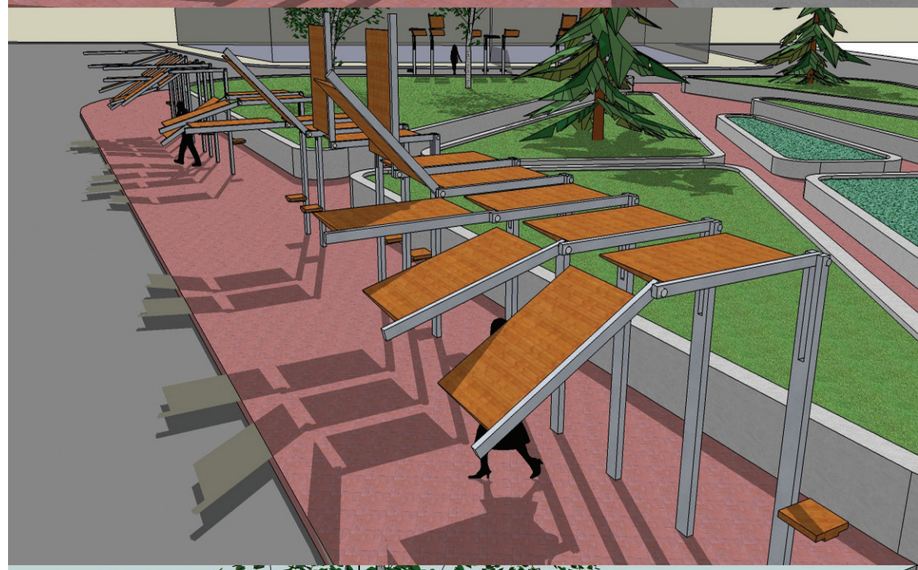
SKETCH PROBLEM TWO



Part two of this sketch problem involved a complete redesign of the site utilizing the repetition of individual kinetic components that can act both as a means for seating as well as for shelter.

The kinetic nature of these components and the ability for them to move randomly also allows for these components to take on a more sculptural form and together respond to the site in a more cohesive manner.

This ability for the environment to change and reinvent itself along with introducing varying ledge heights and greenscape helps to create a more engaging environment for its visitors, both physically and mentally.



PROGRAM.SITE STATEMENT

As stated in the thesis statement, this thesis chooses to work within the dense urban environment in an effort to re-stimulate its inhabitants through the creation of spatial conditions that will offer users a different perception of these areas, and therefore a better understanding and appreciation for the urban condition in general.

There are two main ideas rooted in changing the perception of chosen sites within this environment:

The first is to physically remove people from, or situate them differently within the chosen context, allowing them a heightened perception of the existing condition.

The second idea is for people to actively participate, physically and therefore mentally, in an unconventional use of the existing condition.

The key idea is that perceptive spatial conditions can be redefined not only by altering the space themselves, but also by altering the position or attitude of the user.

SITE ANALYSIS

The specific context that this thesis chooses to work within is the River North neighborhood located in downtown Chicago; more specifically, Grand Avenue, Illinois and Hubbard Streets between Michigan Avenue to the east and Orleans Street to the west. This context was chosen for its diversity in scale and spatial conditions. Michigan Avenue is one of the densest and busiest streets in Chicago and creates a double level condition, where the avenue exists at a higher elevation than the rest of downtown. It is also a very strong consumer promenade with tall scale structures that some tourists may consider to be true downtown. However, downtown actually continues to unravel to the west, all the way to Orleans Street – where the density starts to let go and building heights are more fluctuating.

SITE ANALYSIS

Within this neighborhood, six specific sites were selected in an effort to represent "typical" conditions that one may encounter throughout the city. These sites included the Michigan Avenue and Illinois Street intersection, a parking lot nestled in between two buildings, an alley with an existing fire escape, a boulevard, a site in which the elevated train runs through, and an underground el station. The intention is to alter these sites through architectural interventions, not only to resist complacency and the monotony of city life, but also to offer people a different perception of these conditions and therefore also, a more mentally aware perception of their overall context.

Michigan Avenue looking north.

Michigan Avenue looking west and
down onto Illinois Street.

Michigan Avenue looking west
to Illinois Street.

Illinois Street looking east
at Michigan Avenue.

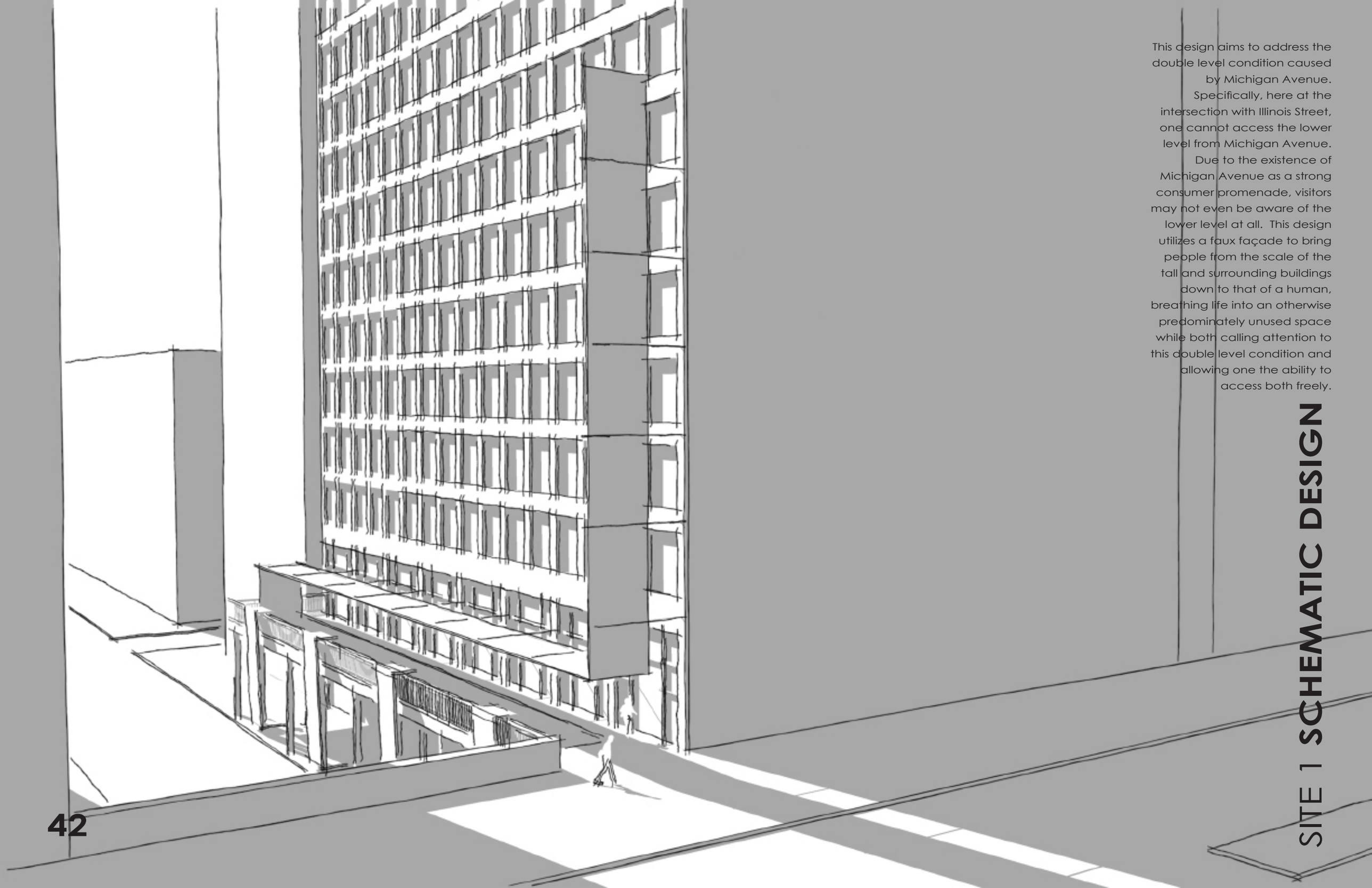

verizon wireless
TRANSPORTER 3
Parking
1800
ORIGINATING
NEVER
IMITATING.
THE
ORIGINAL
SPICED
NAVY RUM

SITE 3

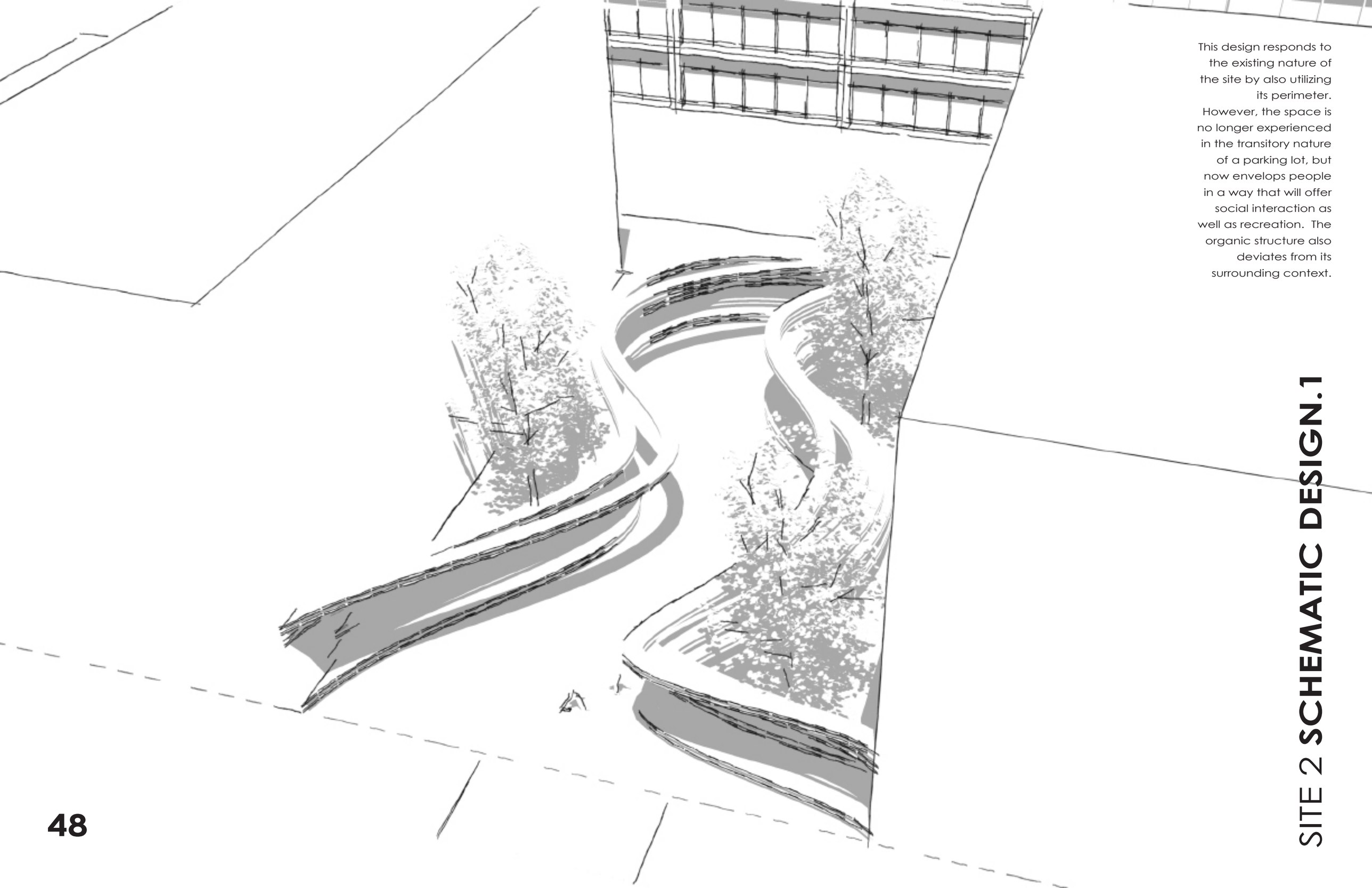

Camilles
Camilles
118 4


English


L
Lake

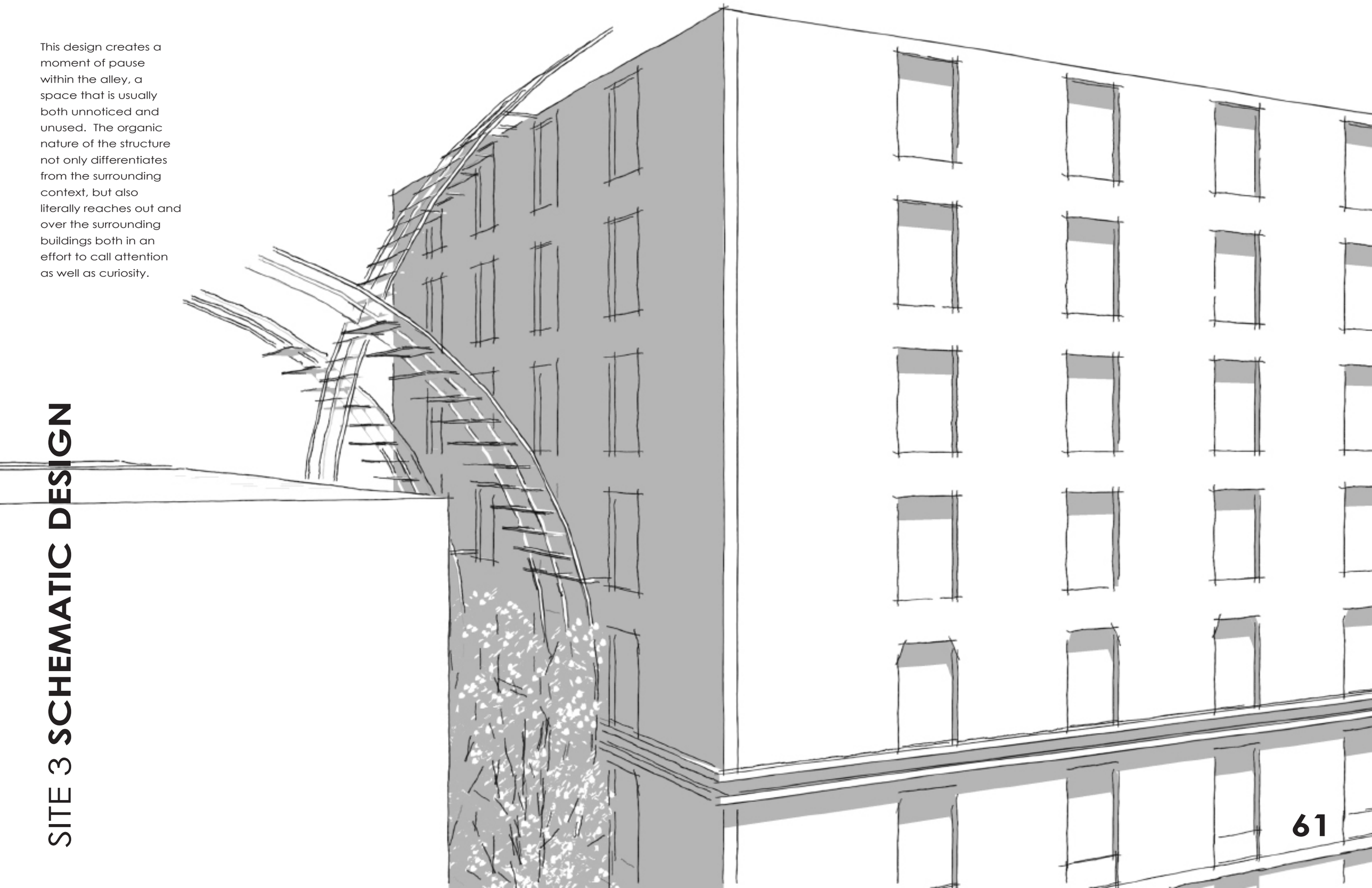


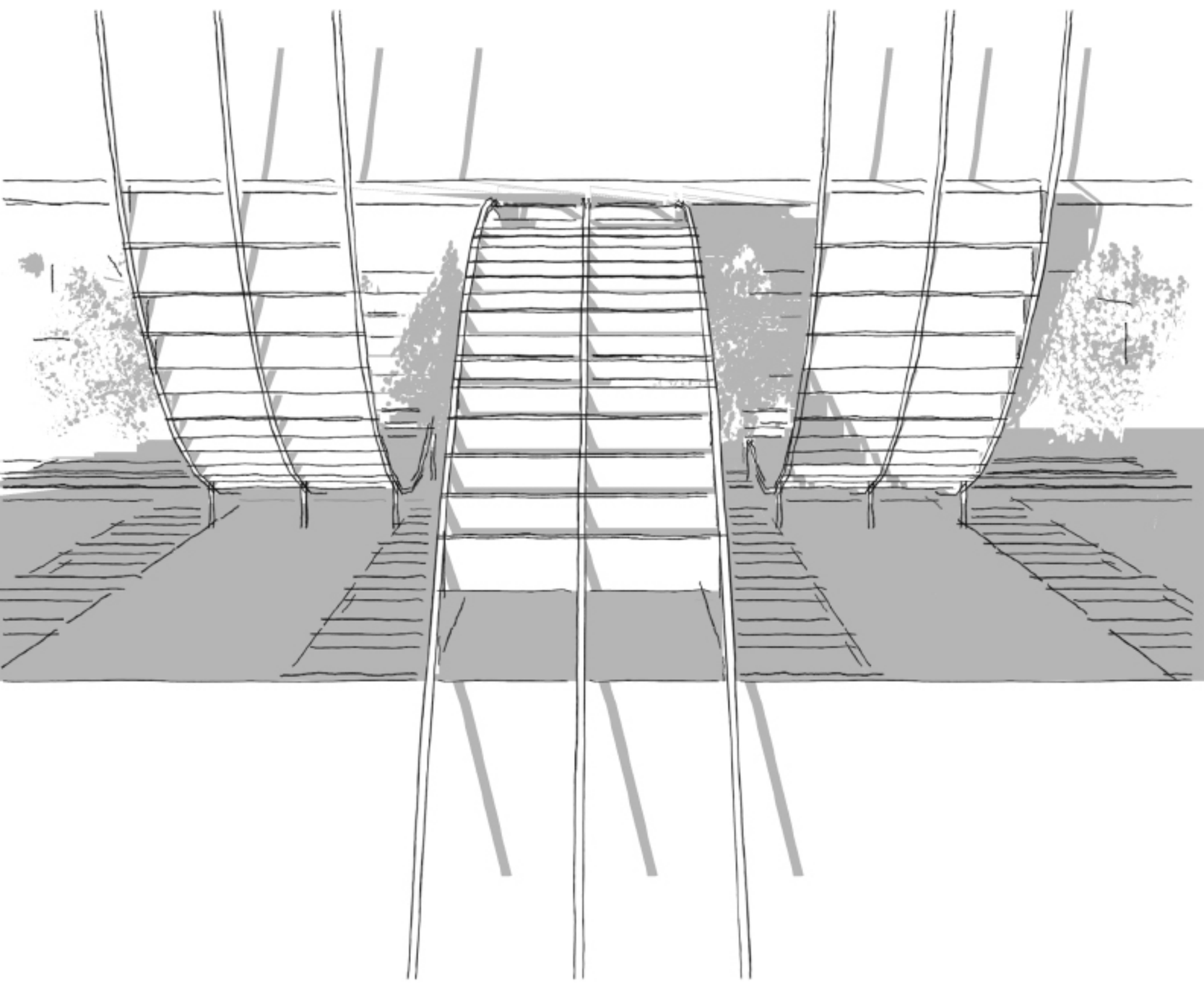
This design aims to address the double level condition caused by Michigan Avenue. Specifically, here at the intersection with Illinois Street, one cannot access the lower level from Michigan Avenue. Due to the existence of Michigan Avenue as a strong consumer promenade, visitors may not even be aware of the lower level at all. This design utilizes a faux façade to bring people from the scale of the tall and surrounding buildings down to that of a human, breathing life into an otherwise predominately unused space while both calling attention to this double level condition and allowing one the ability to access both freely.

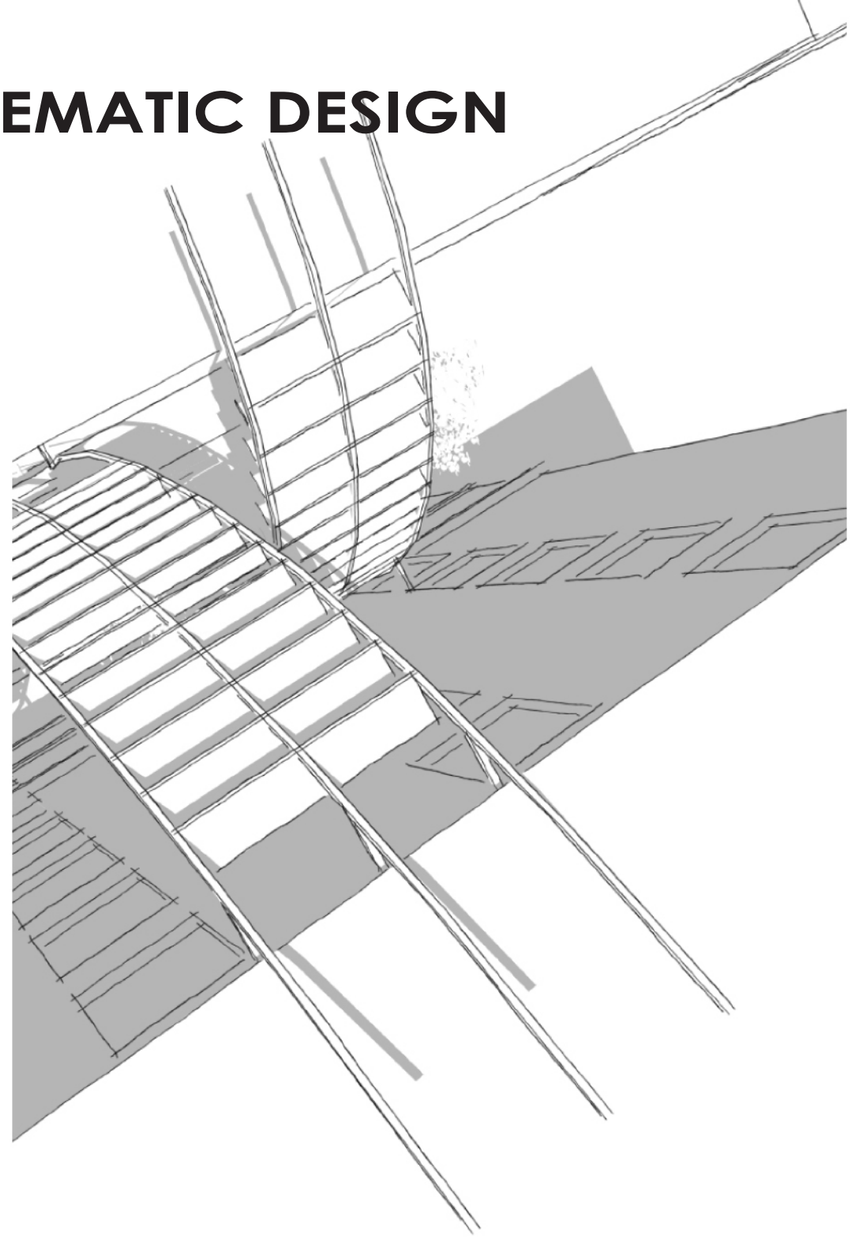


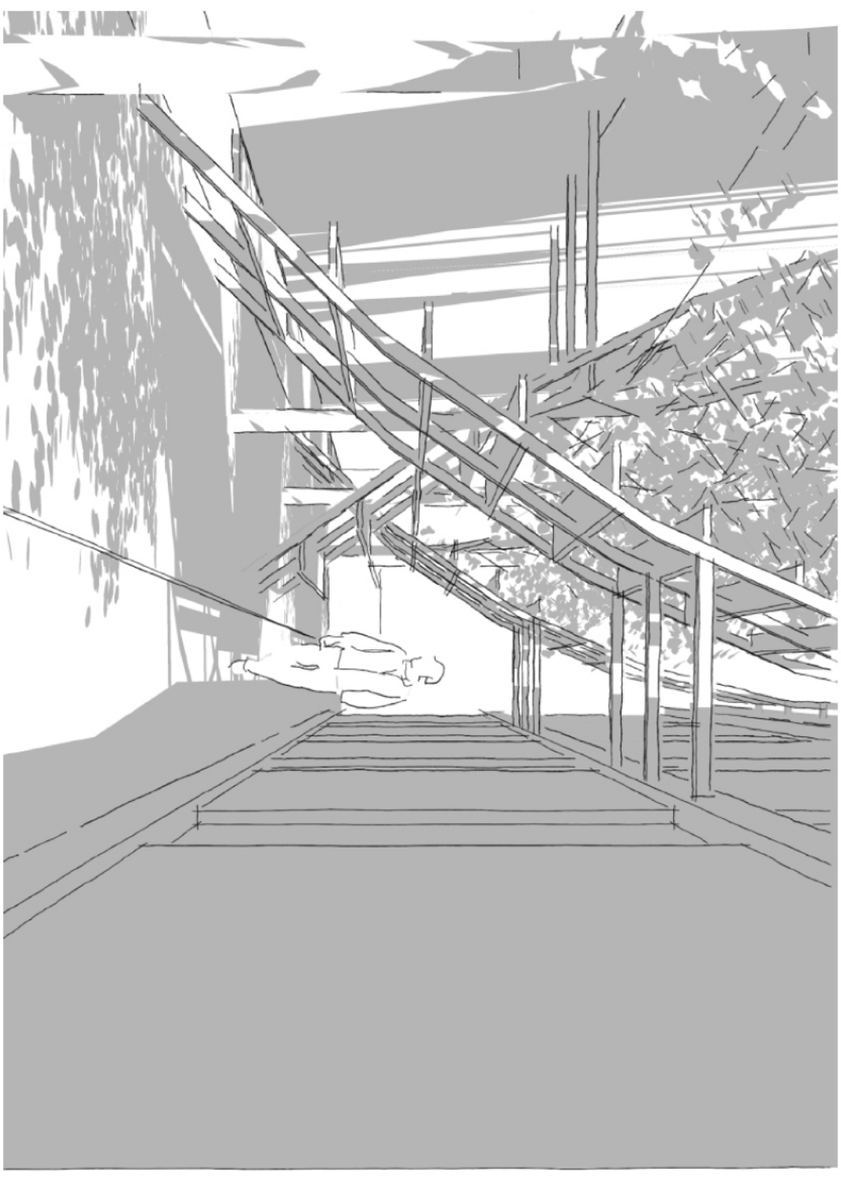
This design responds to the existing nature of the site by also utilizing its perimeter. However, the space is no longer experienced in the transitory nature of a parking lot, but now envelops people in a way that will offer social interaction as well as recreation. The organic structure also deviates from its surrounding context.

This design creates a moment of pause within the alley, a space that is usually both unnoticed and unused. The organic nature of the structure not only differentiates from the surrounding context, but also literally reaches out and over the surrounding buildings both in an effort to call attention as well as curiosity.

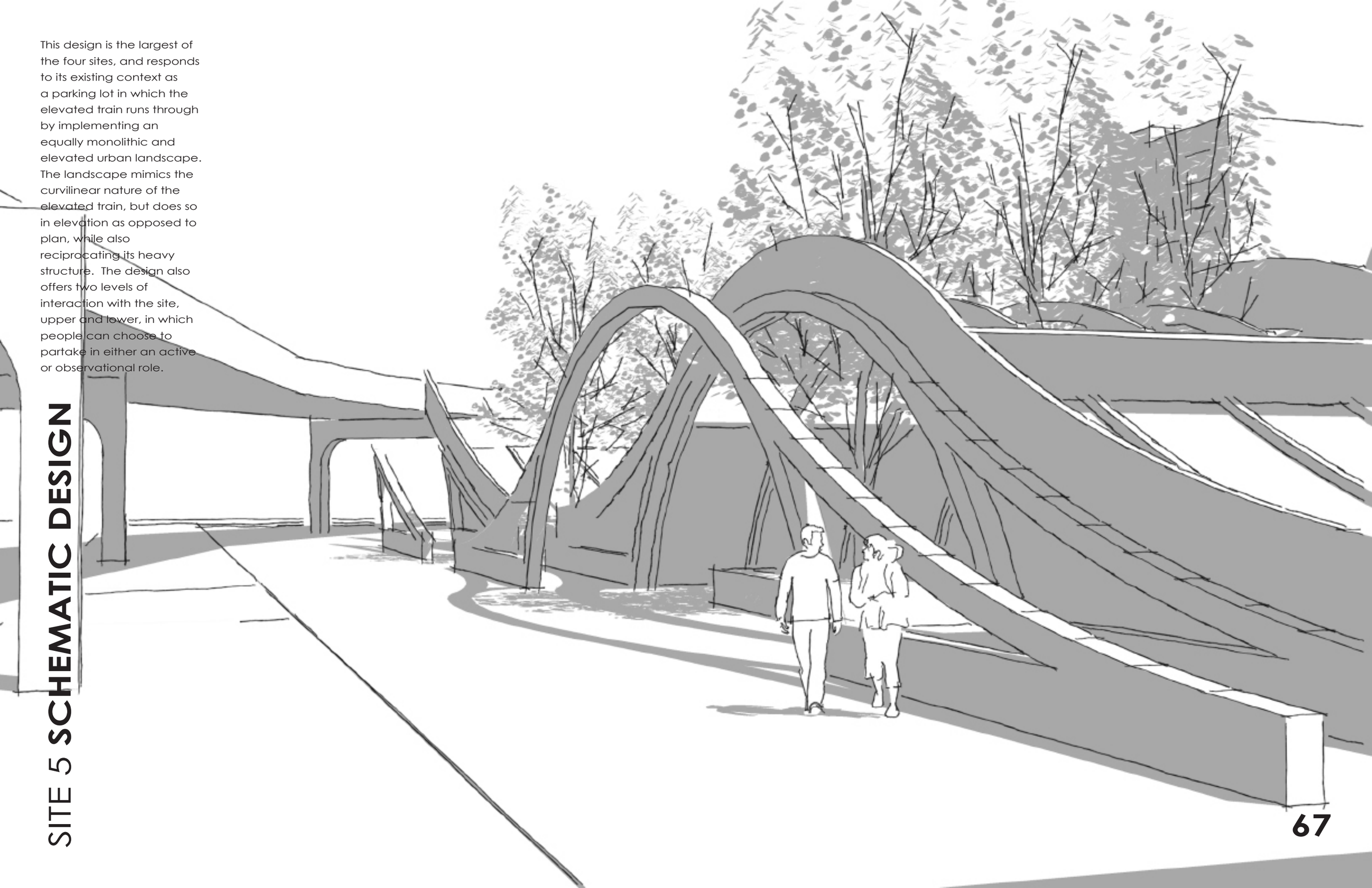




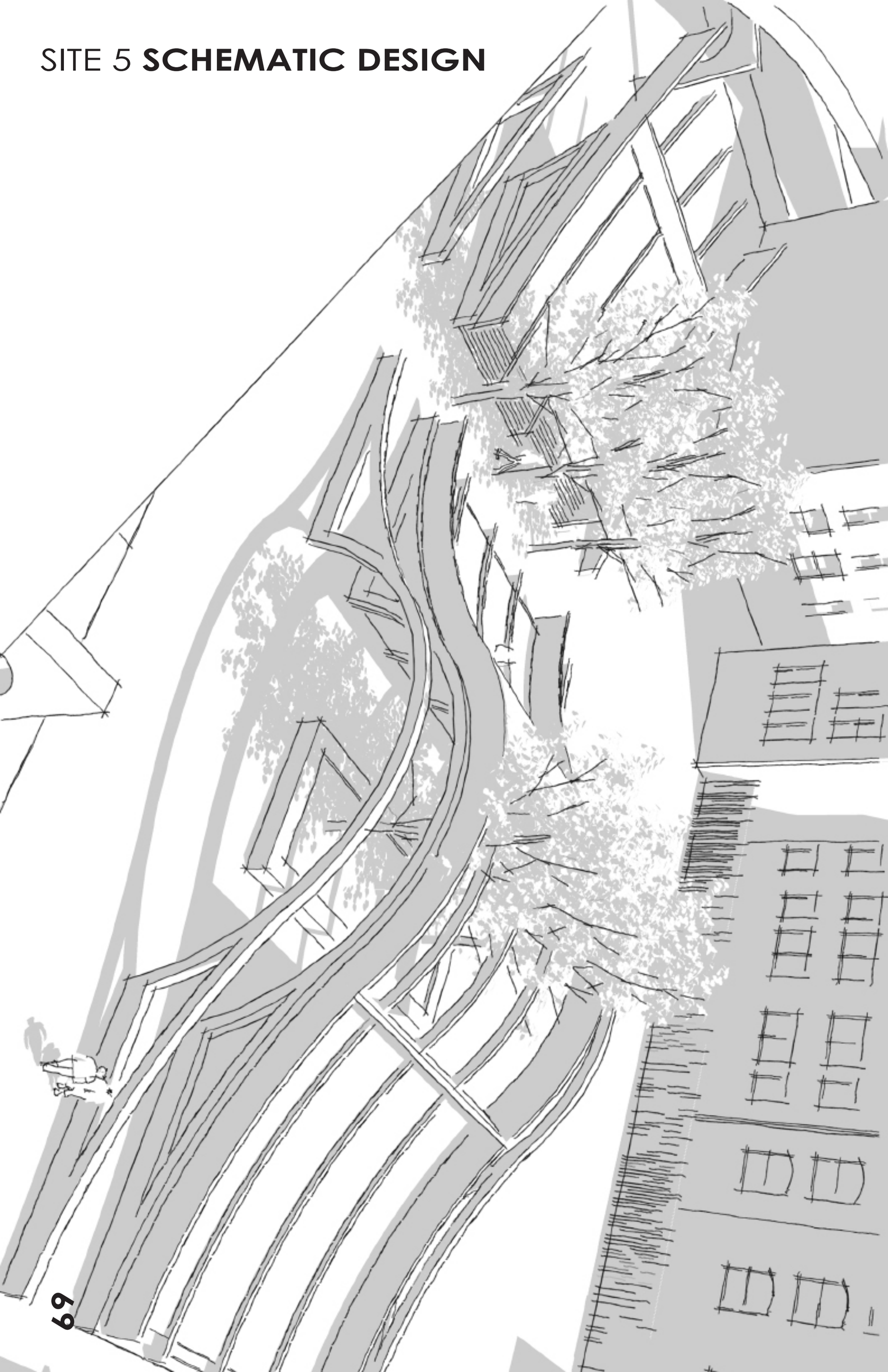




This design is the largest of the four sites, and responds to its existing context as a parking lot in which the elevated train runs through by implementing an equally monolithic and elevated urban landscape. The landscape mimics the curvilinear nature of the elevated train, but does so in elevation as opposed to plan, while also reciprocating its heavy structure. The design also offers two levels of interaction with the site, upper and lower, in which people can choose to partake in either an active or observational role.



SITE 5 **SCHEMATIC DESIGN**



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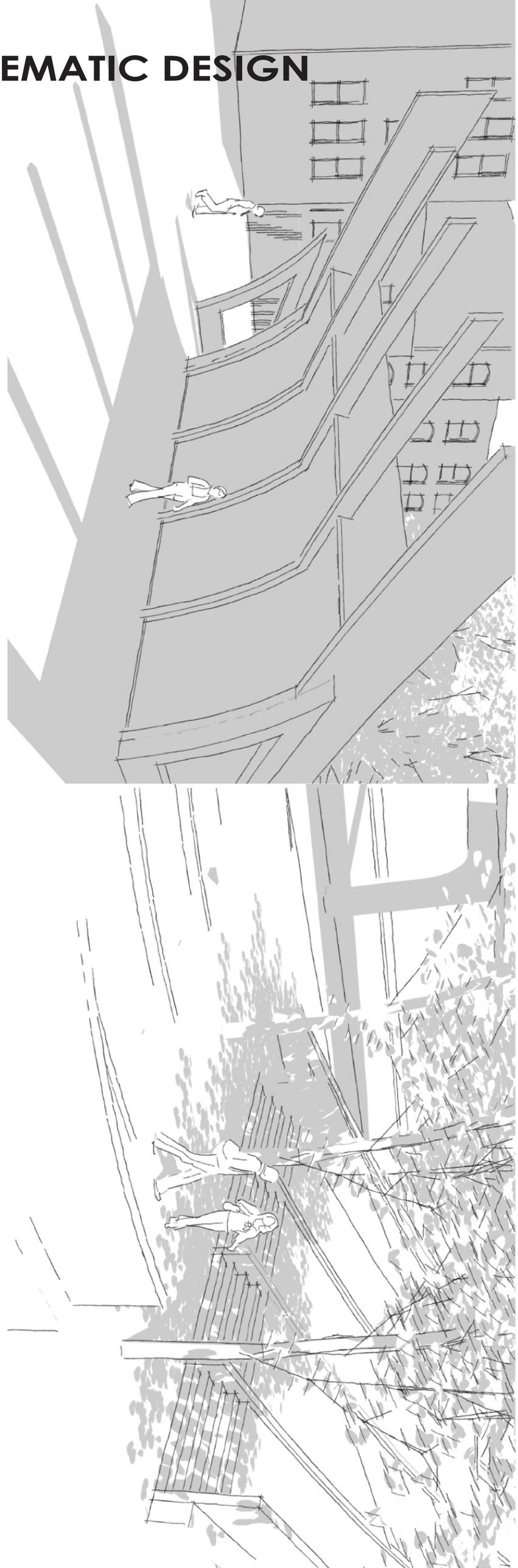
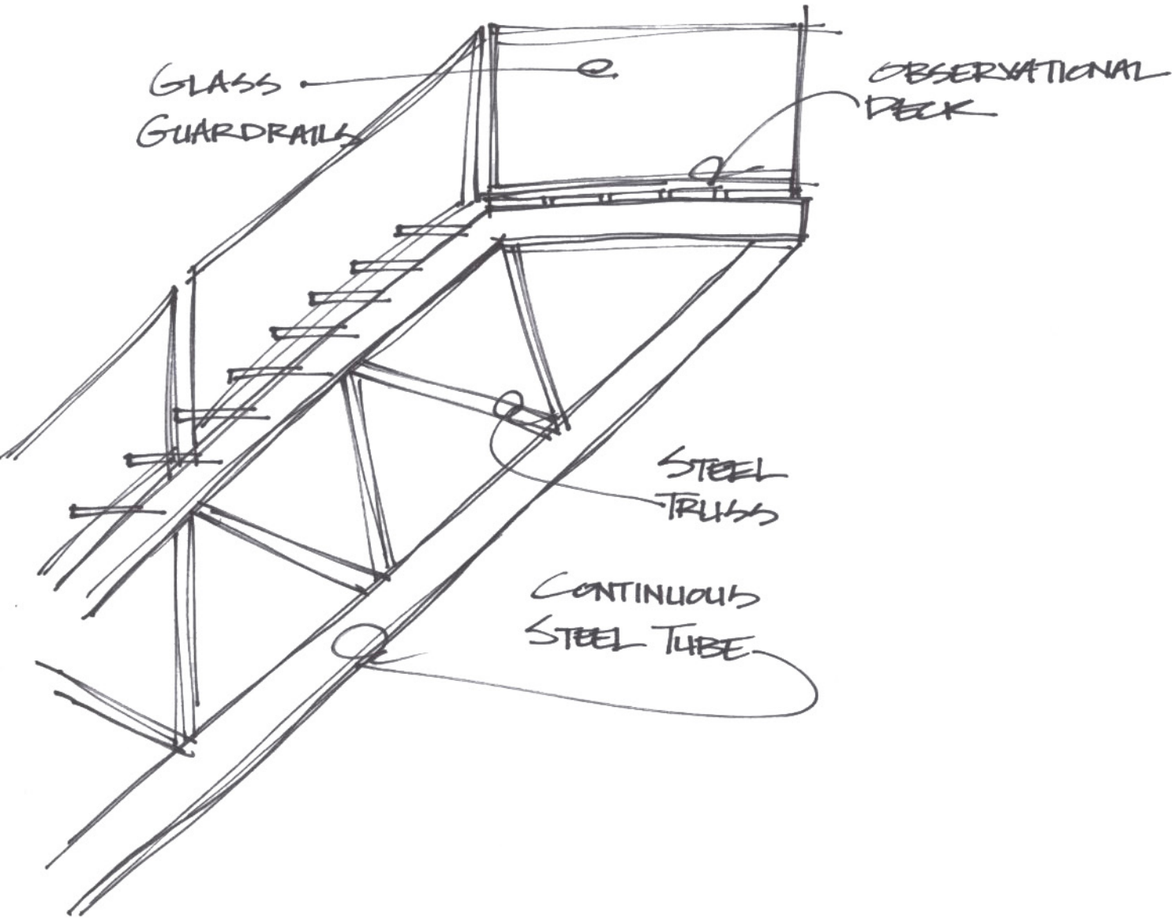
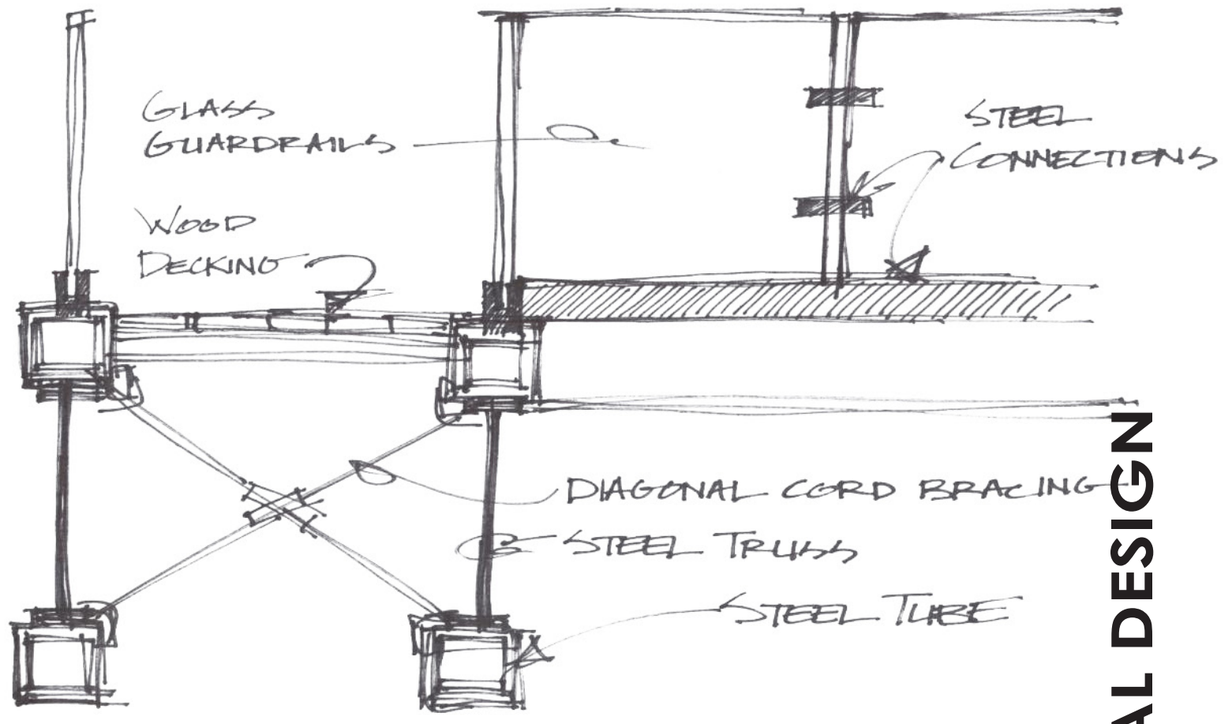


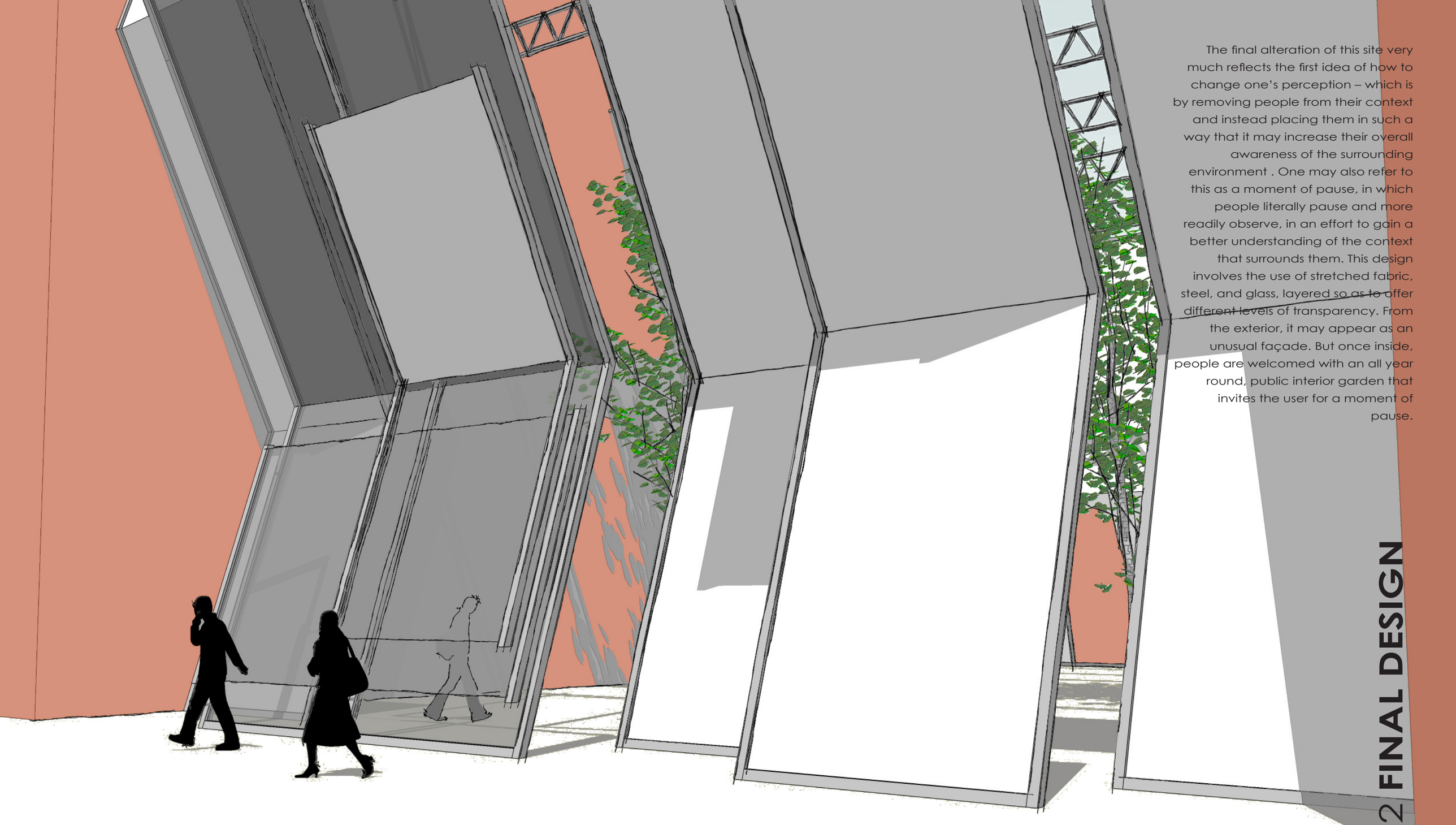
SITE 1 FINAL DESIGN

This design also offers accessibility between the upper and lower levels, but does so in a way that will more successfully exploit the double level condition through a stair that will extend past the elevation of Michigan Avenue.

The stair leads to an observational platform seventeen feet above the crowded sidewalks of Michigan Avenue. From this vantage point, the user will now gain a new perception and therefore a better understanding of the context. He/she will not only perceive the immediate site differently, but also gain insight of what lies beyond Michigan Avenue, specifically the neighborhood to the west.

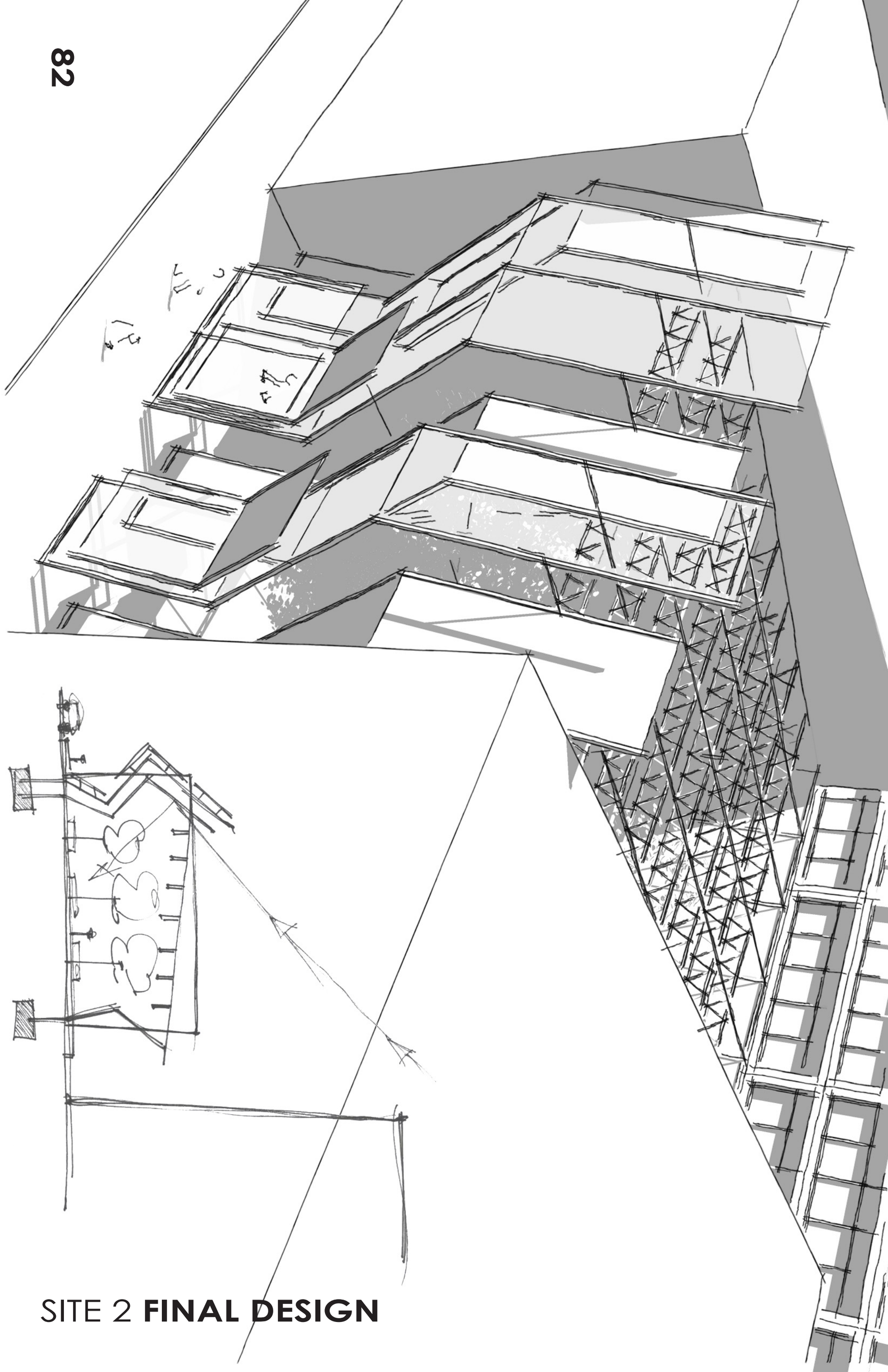

GLASS GUARDRAILS
OBSERVATIONAL DECK
STEEL TRUSS
CONTINUOUS STEEL TUBE


GLASS GUARDRAILS
WOOD DECKING
STEEL CONNECTIONS
DIAGONAL CORD BRACING
STEEL TRUSS
STEEL TUBE



The final alteration of this site very much reflects the first idea of how to change one's perception – which is by removing people from their context and instead placing them in such a way that it may increase their overall awareness of the surrounding environment . One may also refer to this as a moment of pause, in which people literally pause and more readily observe, in an effort to gain a better understanding of the context that surrounds them. This design involves the use of stretched fabric, steel, and glass, layered so as to offer different levels of transparency. From the exterior, it may appear as an unusual façade. But once inside, people are welcomed with an all year round, public interior garden that invites the user for a moment of pause.

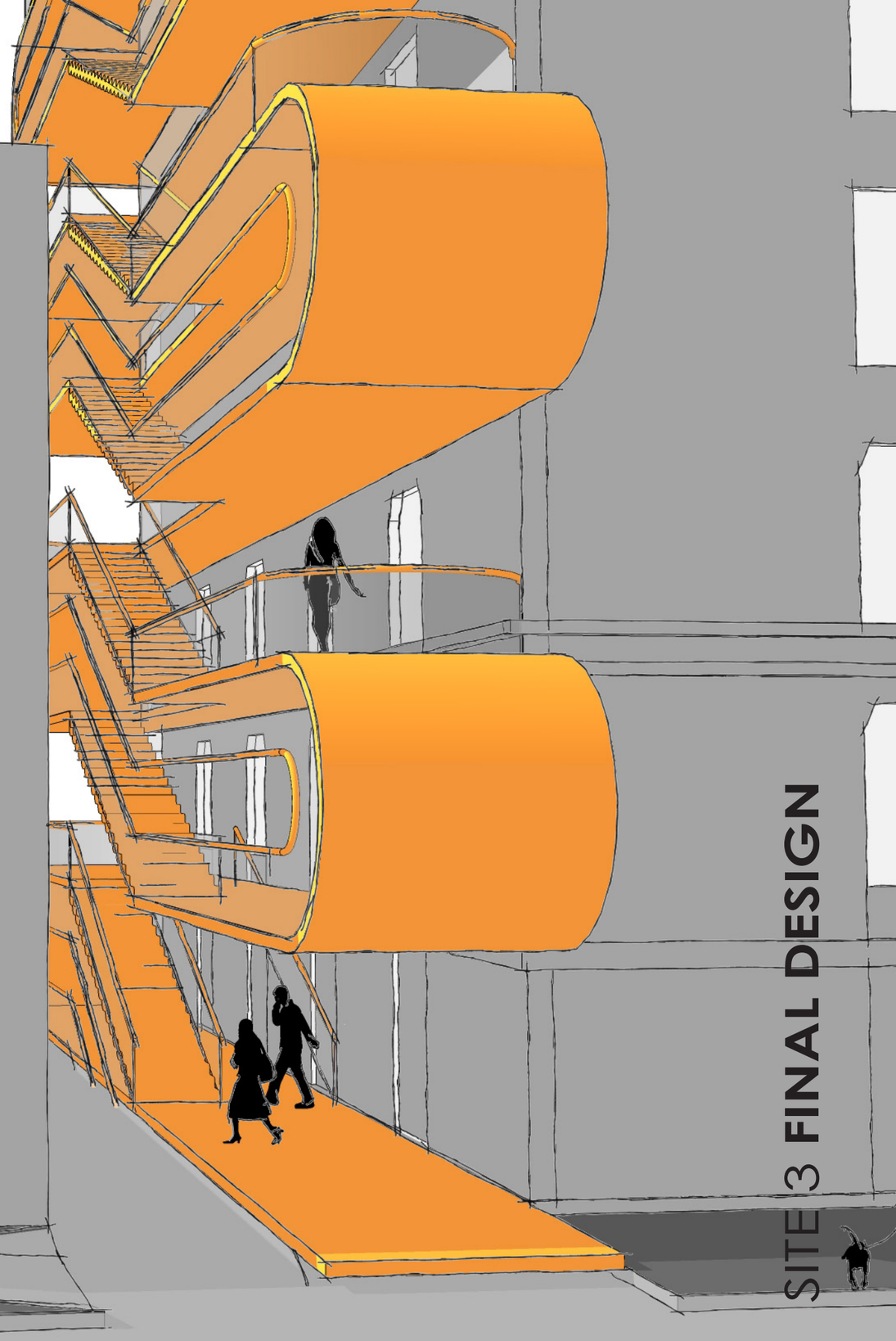
Upon acceptance, people will not only enjoy the urban oasis but also start to understand the exterior condition through a heightened perception. Now encouraged to stop and stare, or listen, the movement of passerbys and vehicles are now on display – their visual impact fluctuating as they pass by the varying transparencies that compose the structure. And because vision is somewhat obscured, auditory perception, once in the background, is now more consciously comprehended as the city's soundtrack.

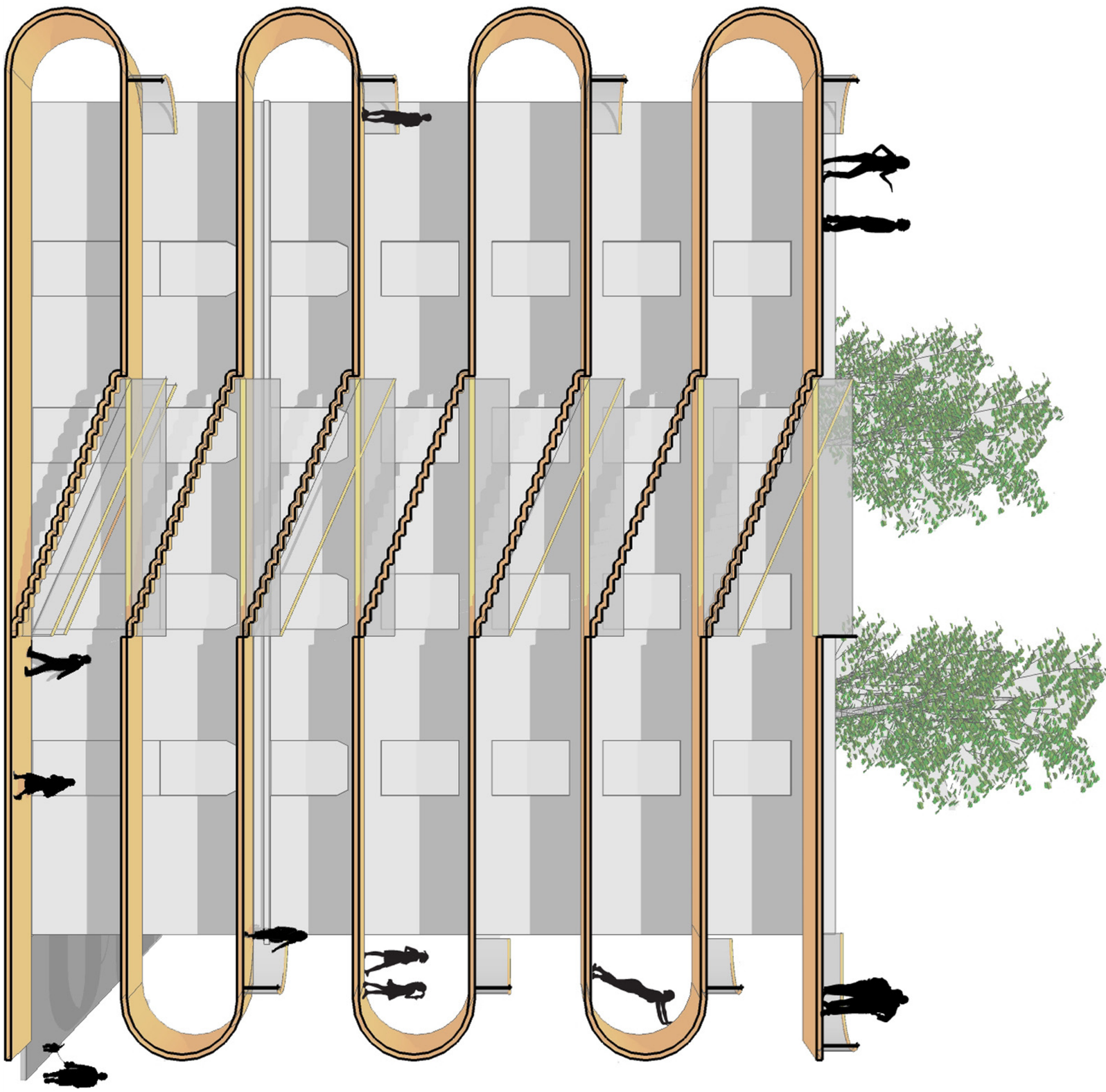


SITE 2 **FINAL DESIGN**

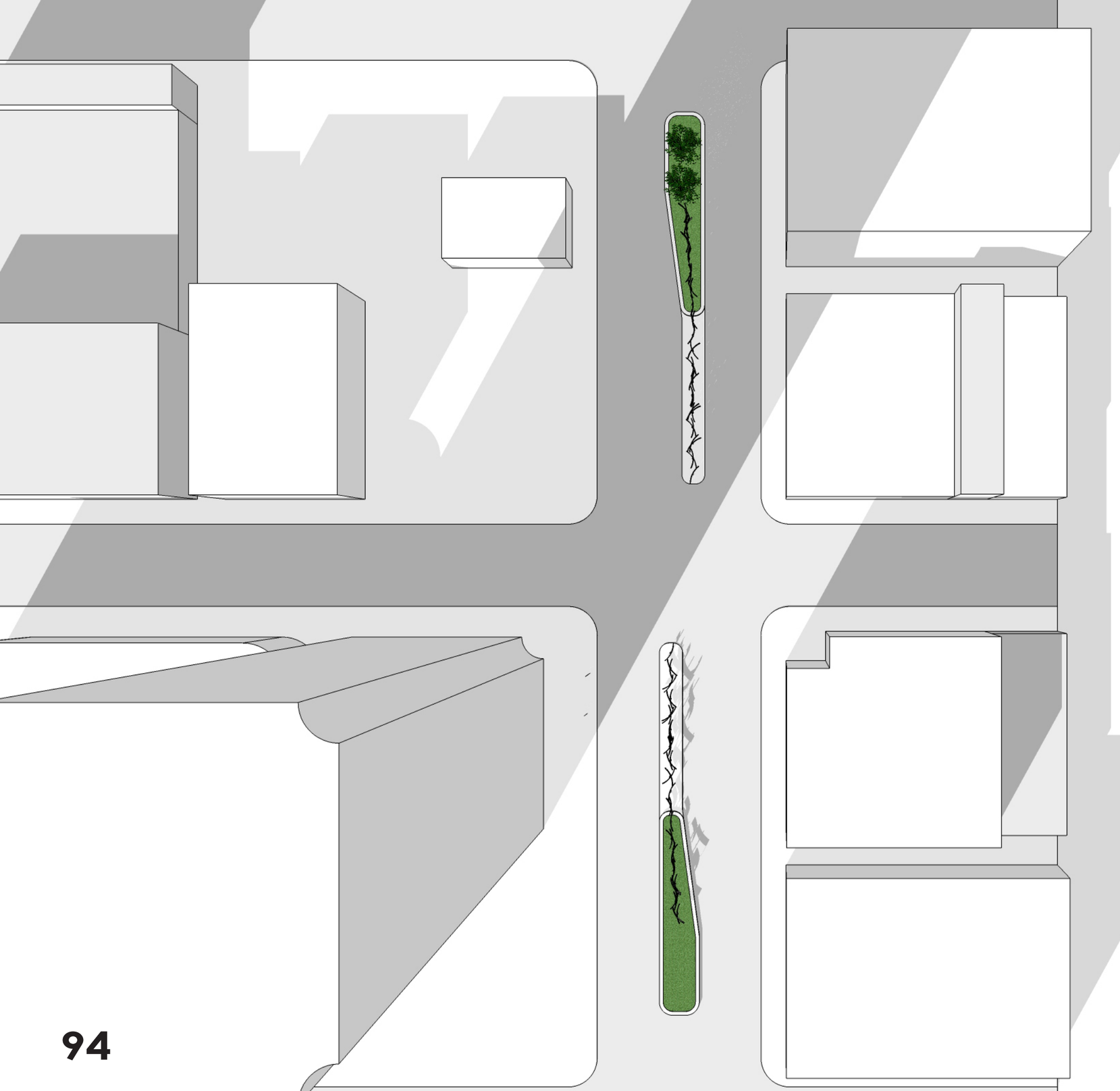
The alley itself is an interesting condition because it's one of the most unnoticed and unused public spaces within the city. And yet it also offers one of the most natural opportunities for a moment of pause within the urban environment. The problem of course is that no one wants to pause in an alley. However, the context can be incredibly serene, quiet, and even meditative.

The final design involves exploiting the alley's void space through the design of an unconventional fire escape that integrates form, function, public space, and perception. The user's perception would not only be affected however, but the observer's as well. As one walks down Hubbard Street, he/she would notice a curvilinear form jutting out of the void space, calling attention to it. And stairs that open up to the street side, encourage people to experience the alley's redefinition. Inside, users can choose to pause at either end of the fire escape in areas that can be referred to as public escapes. These are areas that will not interfere with the fire escape's function, where people can reflect, lounge, or congregate. It also gives people the opportunity to escape the public arena while still physically be a part of it.

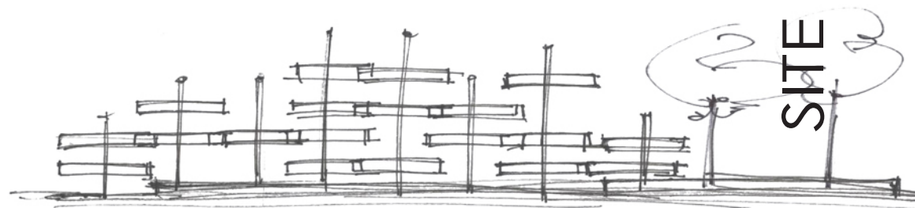




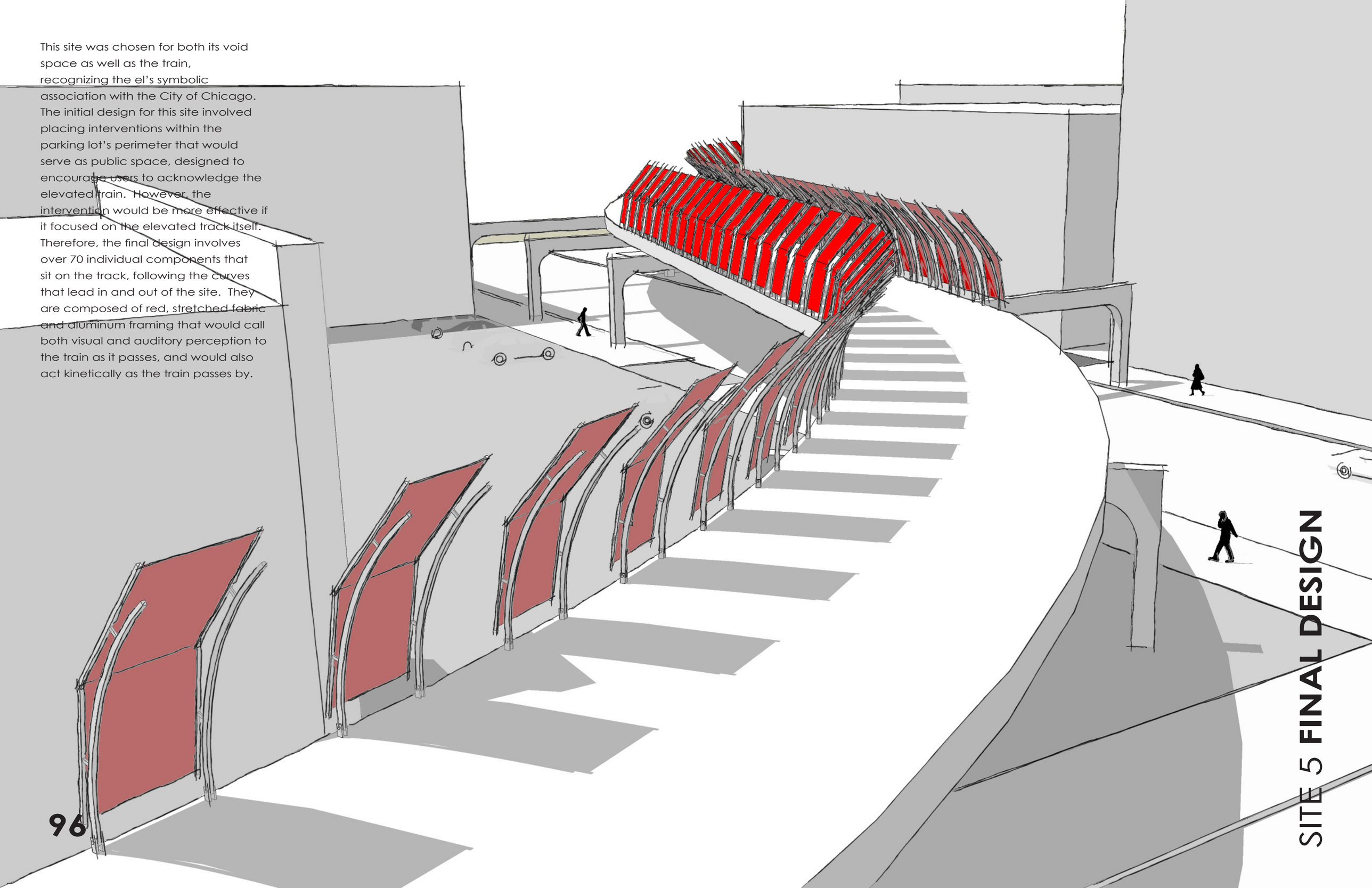
SITE 3 **FINAL DESIGN**



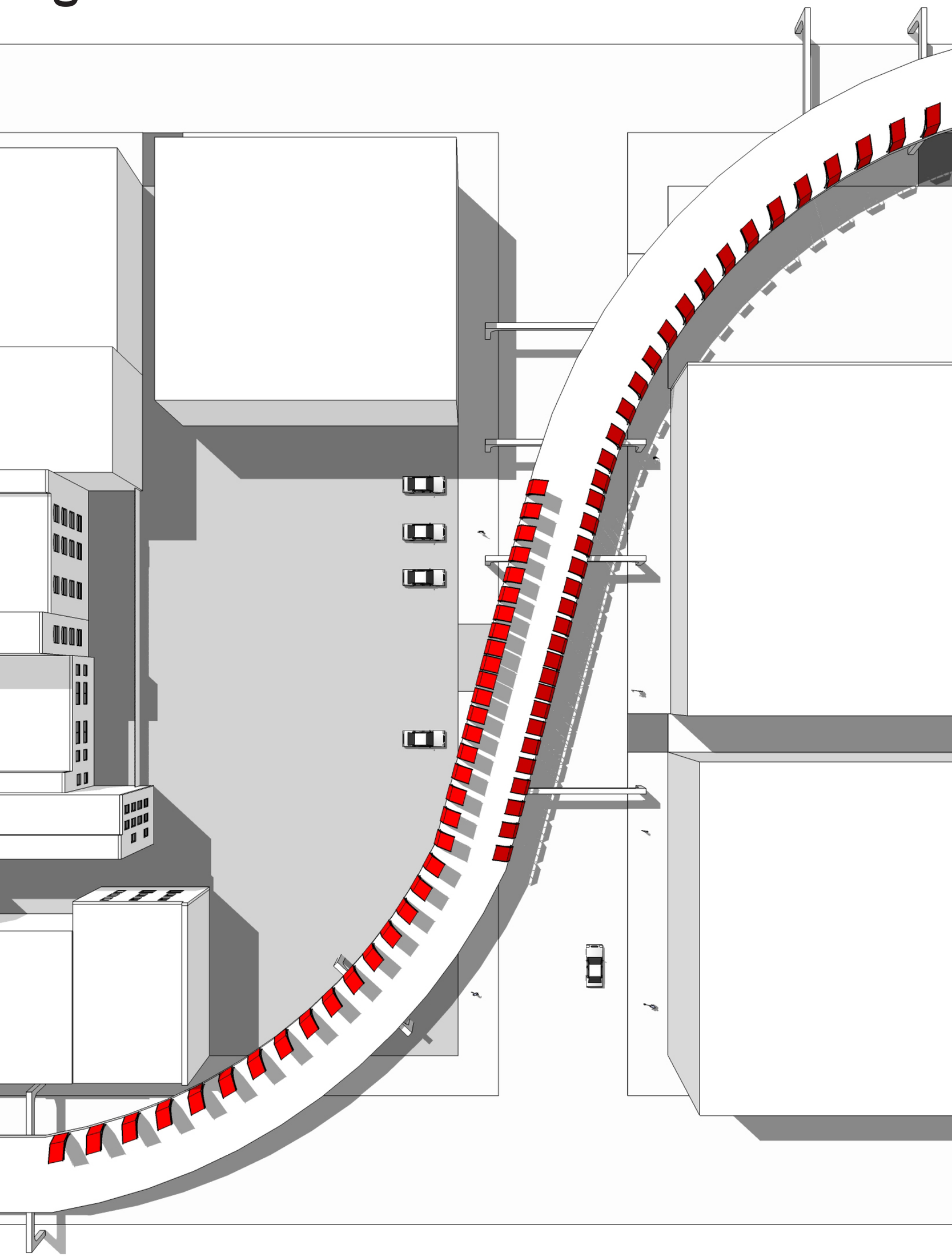
The boulevards represent another typical condition that can be found in the urban environment, the most significant aspect of which is the stop and go traffic of passing vehicles. And it's this motion that the intervention chooses to exploit. The design involves altering the existing boulevards though the addition of kinetic components. The moveable parts of these components are lightweight and designed to rotate as they catch the wind from passing vehicles. They also physically overlap each other so that the movement of one will influence the next, and so on – in the same manner that vehicles influence each other in stop and go traffic. Thereby, increasing people's awareness of the street's commotion.



This site was chosen for both its void space as well as the train, recognizing the el's symbolic association with the City of Chicago. The initial design for this site involved placing interventions within the parking lot's perimeter that would serve as public space, designed to encourage users to acknowledge the elevated train. However, the intervention would be more effective if it focused on the elevated track itself. Therefore, the final design involves over 70 individual components that sit on the track, following the curves that lead in and out of the site. They are composed of red, stretched fabric and aluminum framing that would call both visual and auditory perception to the train as it passes, and would also act kinetically as the train passes by.



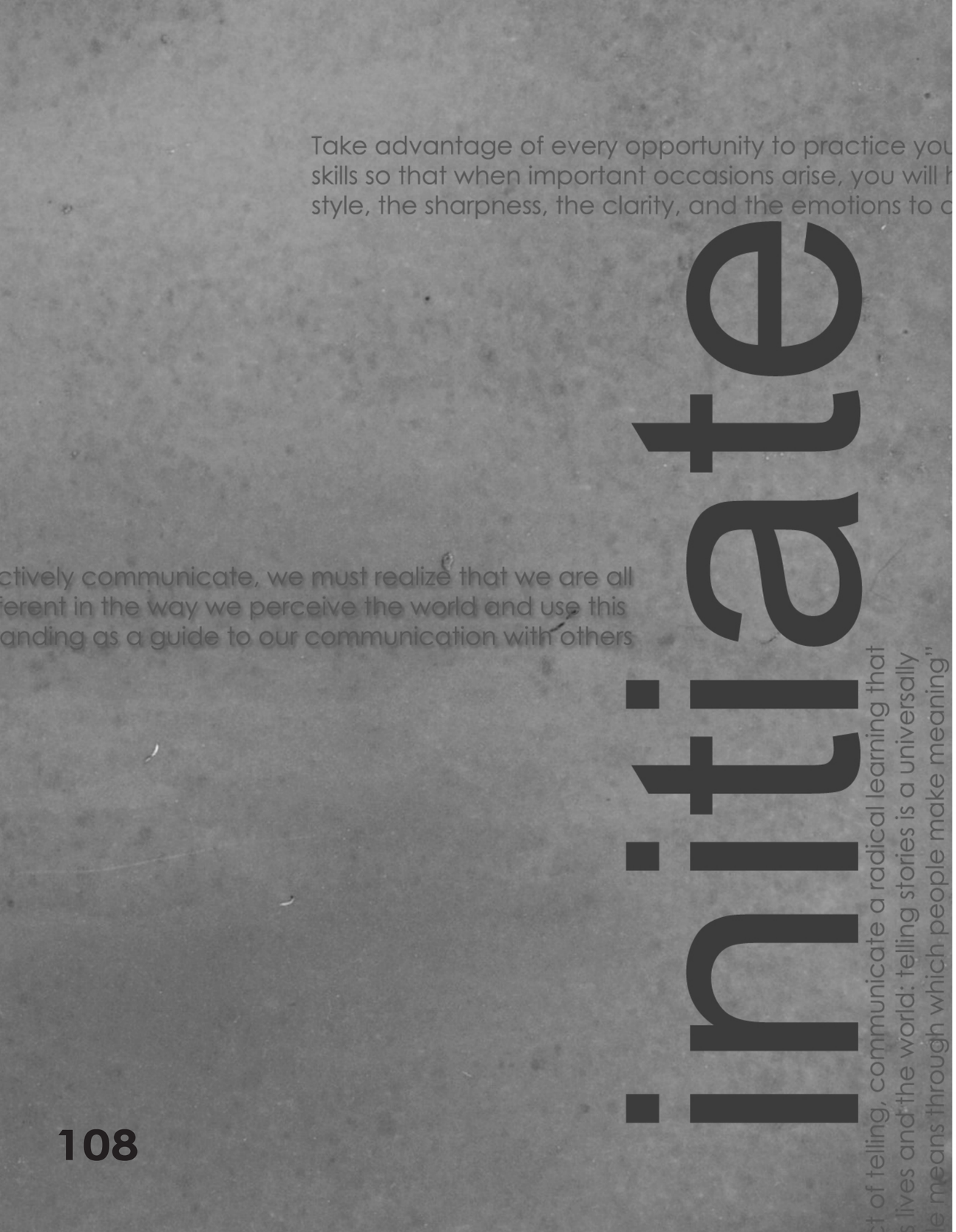
SITE 5 **FINAL DESIGN**



SITE 5 **FINAL DESIGN**

KINETIC MODULES
STRETCHED FABRIC
LIGHTWEIGHT ALUMINUM FRAMING
RAILS

communicate



The final site concludes with an underground el station located beneath the intersection of Grand Avenue and State Street – a truly typical condition of Chicago. For this site however, the intervention does not focus on changing people's perception of the el train or even of the space itself. Instead, it chooses to focus on changing people's perceptions of each other, due to the existing social conditions of the space

Therefore, three design efforts are used, all of which aim towards creating interventions that would help encourage and foster communication between people using the el station. The first is to project film footage onto the walls of the tunnels that will display individual faces of people. This is because when people are waiting, the tunnel itself appears to be where most people look in order to avoid communication with others. Through the use of video, the intervention does not force people to communicate with each other, but they are still making eye contact with faces in the videos. They are also given the opportunity to look a complete stranger in the eye while also observing their facial expressions and movement. This is not something that many urbanites do, and so perhaps it will encourage them to interact more frequently with other urbanites.

The second component that gives users an added opportunity for social interaction is a seating arrangement that will challenge people's anonymity. Currently, there are only a few benches located in the middle of the station facing the tunnels. However, this new seating arrangement would not only include additional seating, but would be comprised in such a way as to encourage social interaction. Even the non-verbal act of sitting next to or facing someone can be considered as interaction, and is the first step of communication.

The third design component involves the floor, because this is obviously another surface that people rest their eyes on in order to avoid contact. The same idea of encouraging communication applies here as well. Instead of staring at a blank floor however, there would now exist a concrete surface in which people would see words such as react, respond, initiate, participate and socialize engraved in the floor. There would also be quotes about communication scattered around the surface in smaller text as well. Quotes such as:

"By the very act of telling, communicates a radical learning that changes lives: telling stories is a universally accessible means through which people make meaning."

And… "Take advantage of every opportunity to practice your communication skills so that when important occasions arise, you will have the gift, the style, the sharpness, the clarity, and the emotions to affect other people."

Even if these interventions do not encourage some people enough to interact with others within the site, perhaps it will at the next el station, or any other urban context, which would still deem the interventions successful.

CONCLUSION

The main intention of these interventions is to alter people's perception of space in an effort to resist complacency. However, this is not to say that Chicago or any other urban fabric lacks dynamism or interest. The neighborhood is no doubt an active environment. But that is exactly the reason for these interventions: by changing someone's perception of a condition, they become more aware of it, and therefore – have a better opportunity to appreciate it.

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