

***THE VARIED EXPERIENCE OF PEDESTRIAN MOVEMENT IN COMMUNITY LIVING***

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***THE VARIED EXPERIENCE OF PEDESTRIAN MOVEMENT IN COMMUNITY LIVING***

Thesis submitted to the faculty of Virginia Polytechnic Institute and State University  
in partial fulfillment of the requirements for the degree of:

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**ABSTRACT:**

The project is about the integration of public and private space with the experience of the streetscape. It questions the boundaries of habitable space and invites the activity of the street - bazaar, boulevard, and alleyway - into the routine of daily life. The hard line between public and private is blurred.

This idea is explored through the development of a livable block in Eastern Market, Washington, DC.

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## INTRODUCTION

In 1922, Le Corbusier proposed Ville Contemporaine – a modern city for three million people. In it, Le Corbusier famously segregated commercial use into a strict orthogonal downtown center, and pushed residential space to the outskirts of the commercial zone. Central to this scheme was the celebrations of efficiency and transportation. The skyscrapers were interwoven with transportation hubs, trains, walkways, and even an airport. This glorification of technology and efficiency, however, only served to separate and isolate pedestrians from the city they inhabit.

As per art critic Robert Hughes in the series *The Shock of the New* :

“...the car would abolish the human street, and possibly the human foot. Some people would have airplanes too. The one thing no one would have is a place to bump into each other, walk the dog, strut, one of the hundred random things that people do ... being random was loathed by Le Corbusier ... its inhabitants surrender their freedom of movement to the omnipresent architect.” (1)

Although the strict segregation of the Villa Contemporaine scheme has not been widely adopted, the creation of isolated spaces and unrelated sites is common. In many modern developments, living space, commercial zones, recreational areas, and work places have become separate spaces in the built environment. As a result, the street has become the utility of Le Corbusier’s vision – a tool for efficiency of movement.

The street is no longer a public zone of interaction and socialization. The street has been given over to the car, now used for passage rather than an extension of habitable space. Neighborhoods have lost their identity and have become isolated and private nodes in a series of interconnected locales.

However, if the street is viewed as something different, as a place for interaction and habitation, it is possible to create neighborhoods that combine the activity of the public – marketplace and social stimulant – with the routine of daily life. Community identity can be reestablished by those who use it for living, working, and recreation.

This thesis is an attempt to explore the role of the street as a diverse and varied extension of living space rather than as strict utilitarian infrastructure.



Figure 1 - Street as a utility



Figure 2 - Street as a living space



Figure 3 - Villa Contemporaine

Figure 1 - <http://nparekh.wordpress.com> . Fair use determination attached.

Figure 2 - [http://www.123rf.com/photo\\_9455636\\_traditional-italian-street-with-clothes-hanging-out-to-dry-between-old-houses-somewhere-in-venice.html](http://www.123rf.com/photo_9455636_traditional-italian-street-with-clothes-hanging-out-to-dry-between-old-houses-somewhere-in-venice.html) .

Figure 3 - <http://www.borxu.com/cmap/default.html> 1. *The Shock of the New*, Robert Hughes. BBC Documentary, 1980 - Fair use determination attached.

## SITE

The project site is located in Washington, DC on Pennsylvania Avenue between 7th and 8th streets and adjacent to the historic Eastern Market area. The site is currently occupied by Hine Junior High School which is scheduled to be demolished in the near future. There are several existing developer proposals for this plot.

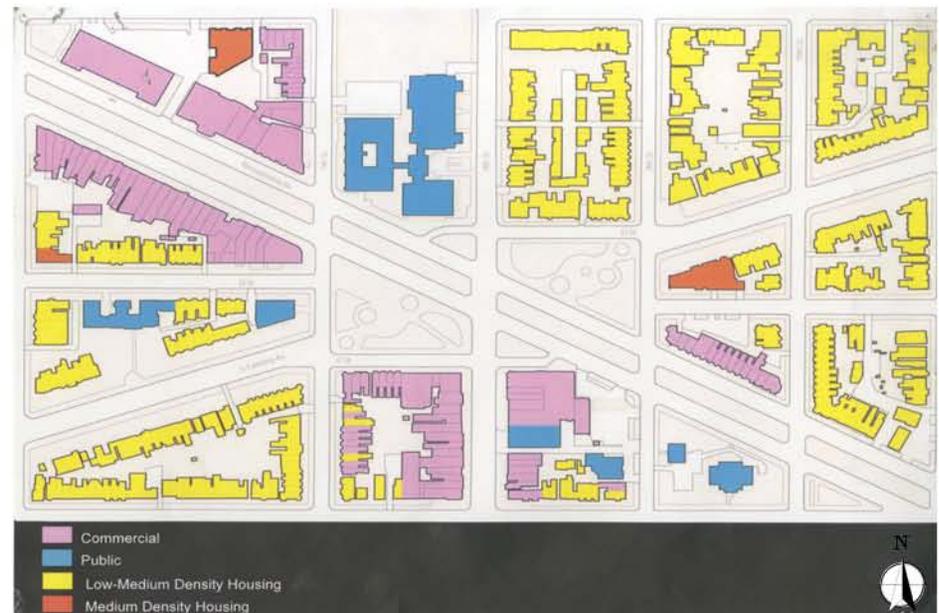
The Eastern Market neighborhood is a small community within Capitol Hill and is home to one of the oldest and most diverse flea markets in the country. The market attracts many people throughout the year and serves as the main public function of this community. The market is within walking distance of the United States Capitol building and is accessible from the Washington Metro transit system.

The block between 7th and 8th street serves as a transition zone between commercial and residential zones. To the West of the proposed site (7th Street side), the urban development exists mainly as commercial and office buildings. To the East of the proposed site (8th Street side), the urban fabric is mainly residential buildings in the typical Washington, DC rowhouse style. As a result of this zoning, the majority of people approaching the site from the metro prefer the route along 8th Street as it is more populated and active.

Pennsylvania Avenue is a large boulevard that cuts across the regular grid of the city and is a main thoroughfare that makes this neighborhood different from others around it. The width of the street and its diagonal directionality through the grid creates an impressive uninterrupted view to the Capitol Building from many blocks away. The angled street also created many natural “corner parks” along the route where building sites become too narrow to build on which increases the open feeling of the boulevard.



**Figure 3 - Eastern Market, Washington, D.C.**

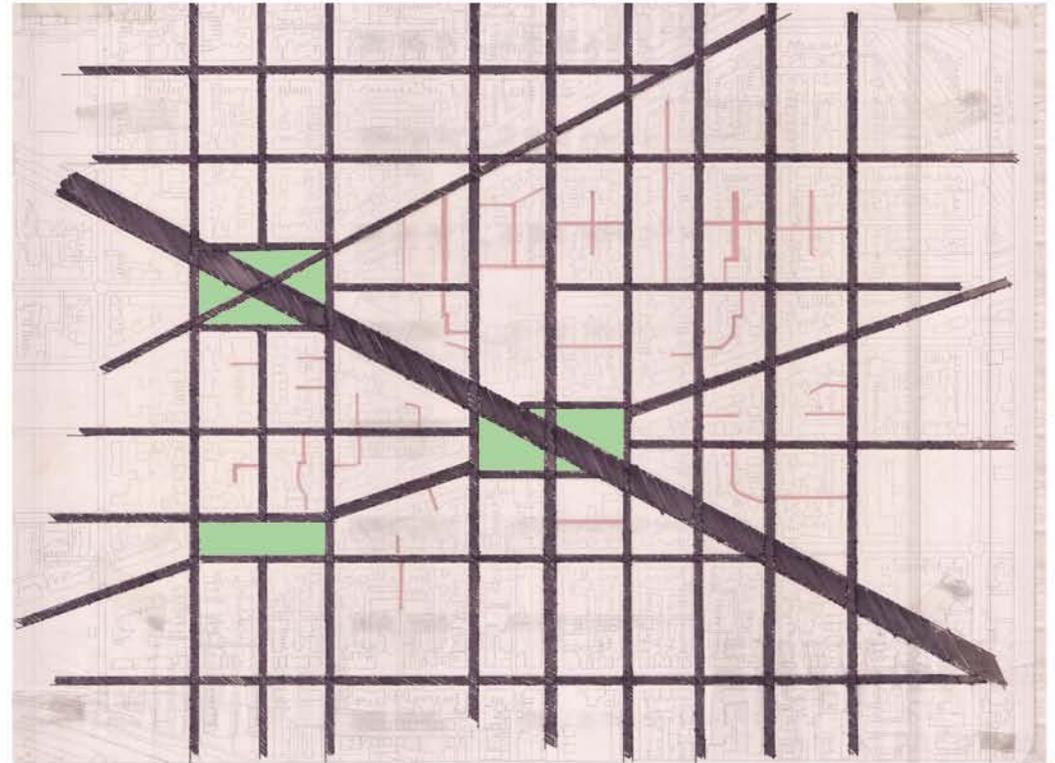


Building Analysis around the Eastern Market Neighborhood

## SITE ANALYSIS

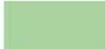
The Eastern Market neighborhood has many alleyways, squares and parks. These three elements created the basics for my thesis.

Bringing all these elements into the thesis site helped to carry the pattern of the surrounding neighborhood into the design.



Street analysis at the Eastern Market neighborhood



-  Alleyways
-  Streets
-  Parks and Squares

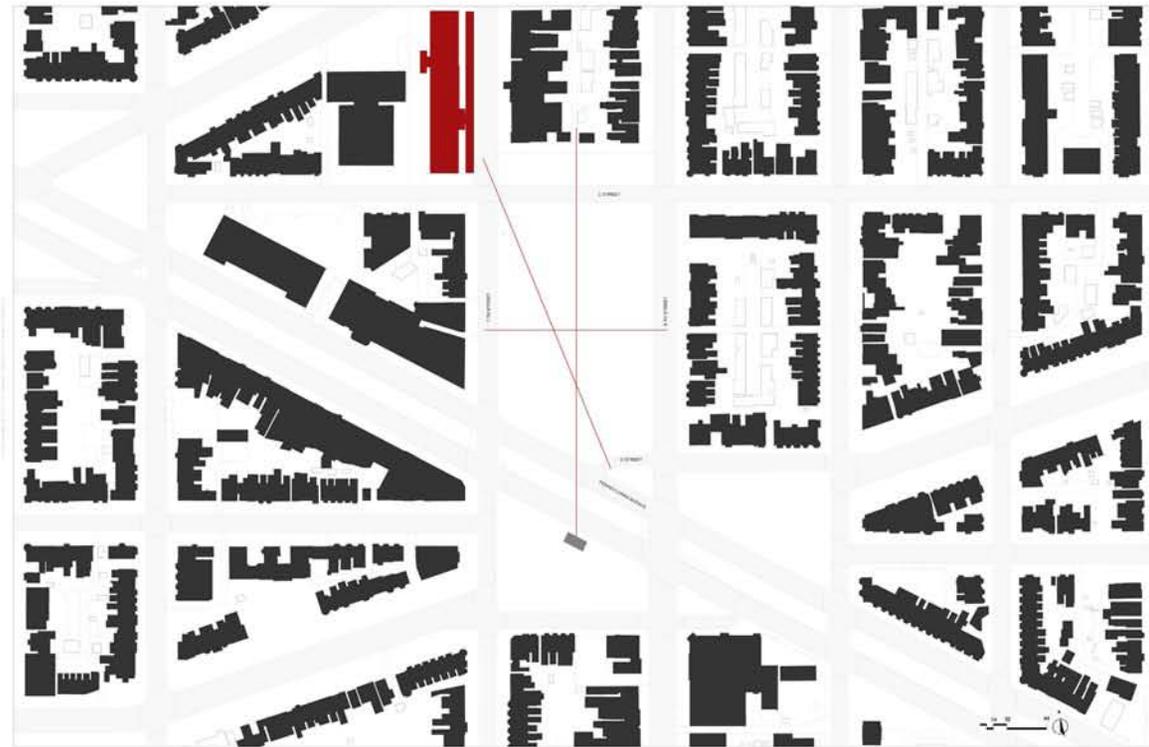
## DESIGN PROCESS

The site design concept is driven by three major axes<sup>7</sup>. Each axis is derived from the existing site conditions and that of the surrounding urban fabric. By bringing the adjacent elements of the neighborhood through the new site development, a sense of continuity with the surroundings is achieved through inclusion.

The first major axis occurs through the middle of the site and occurs in the North-South direction. This axis is an extension of an existing alleyway to the north and provides a direct line of sight through the site to the metro station. This North-South axis belongs to the larger grid of the city and works within the site to transition from the commercial scale to the West, to the residential scale to the East.

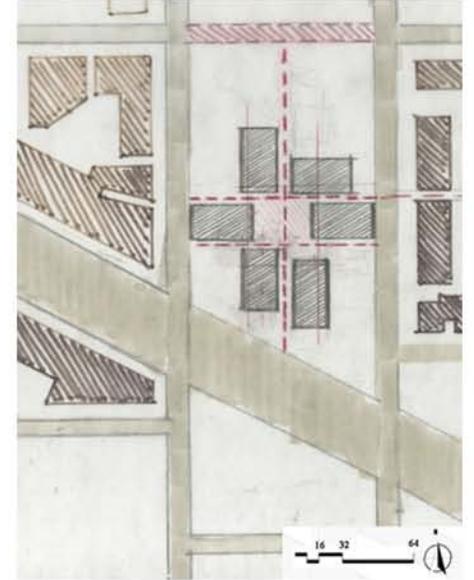
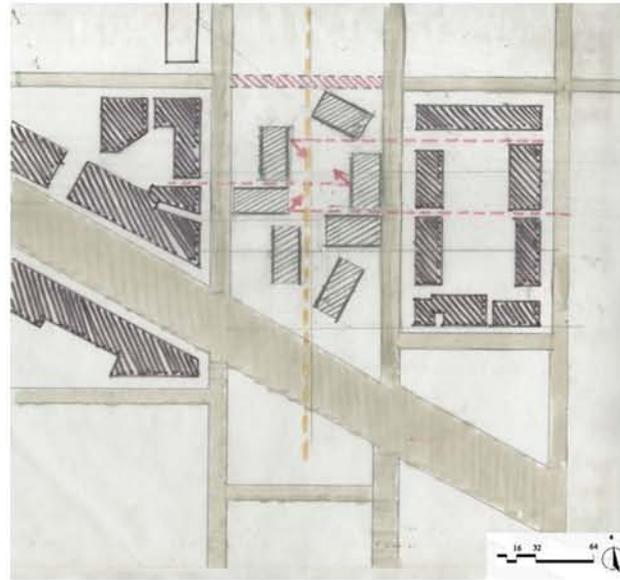
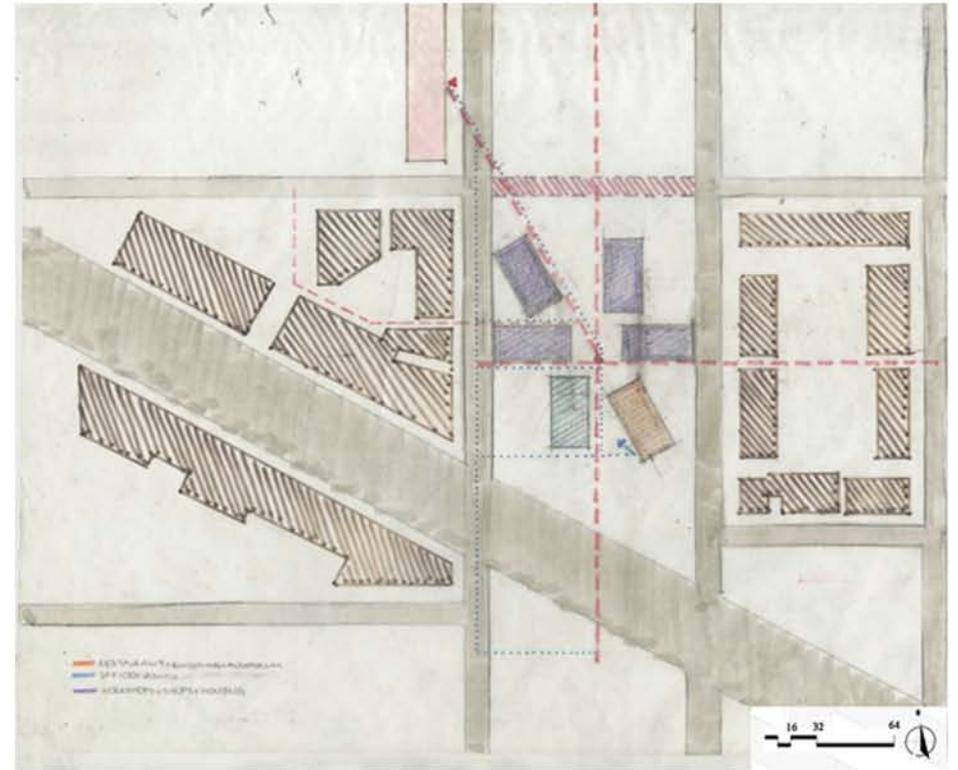
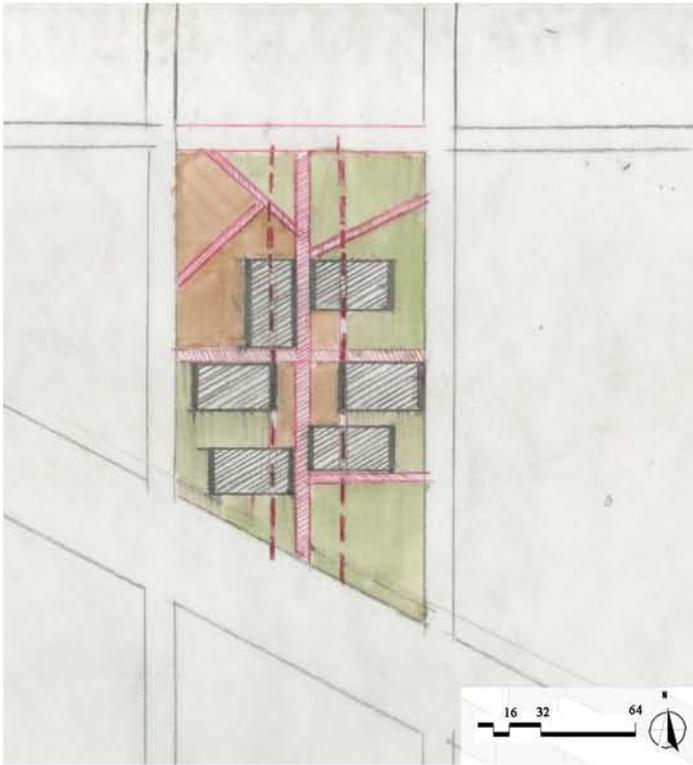
The second axis on site is also part of the larger city grid, and runs in the East-West direction. This axis is also derived from an existing alleyway on both blocks to the East and the West. This path serves as an interior passage through the site and provides a more private connection between 7th and 8th streets. This axis is derived from the common minor alleyways found in typical city blocks.

The third axis is a wide diagonal pedestrian path through the site that directly connects the site to Eastern Market. This interior “boulevard” mimics Pennsylvania Avenue and its grand procession to the national Capitol Building. The path creates both a physical and visual connection to Eastern Market for the user with uninterrupted views and inviting width for movement and activity.

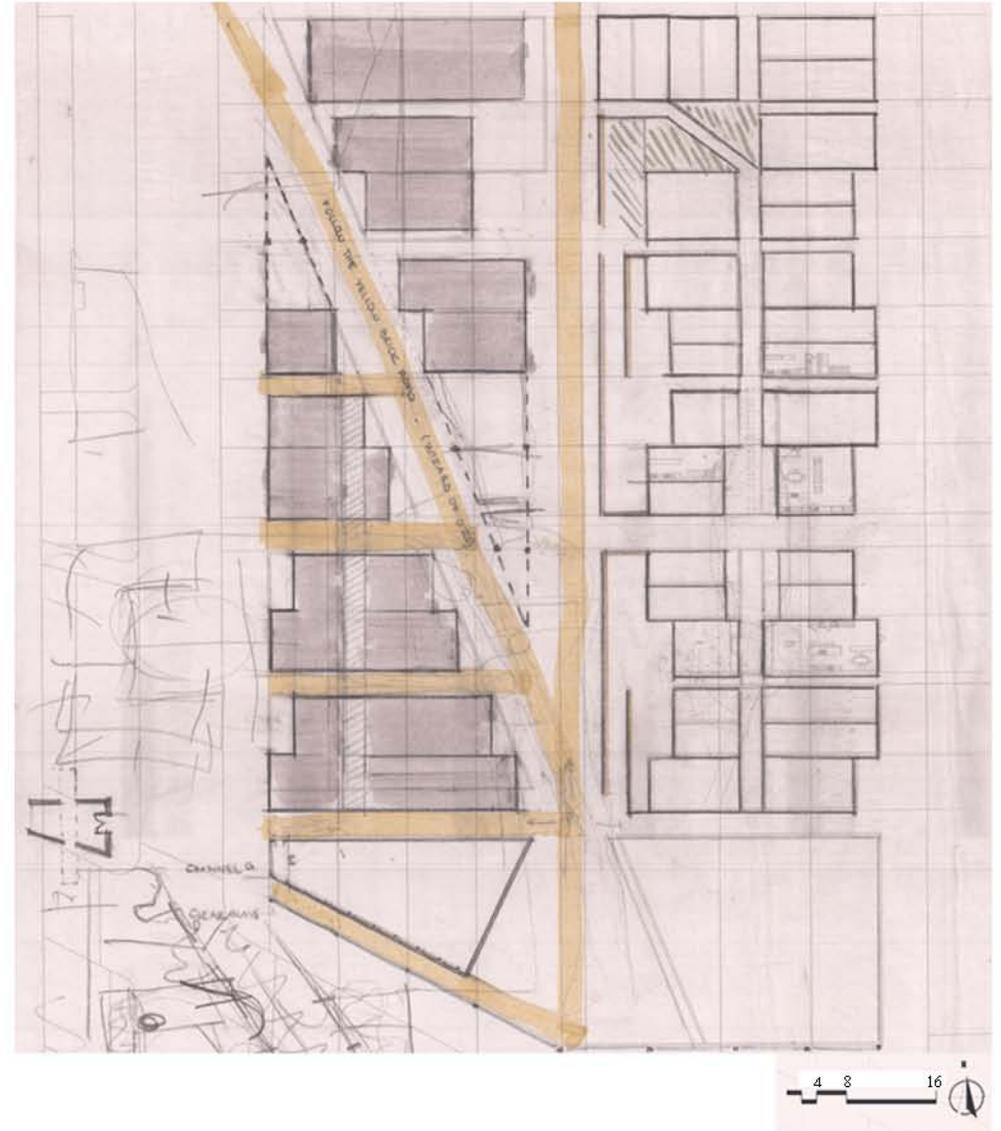


Three axes

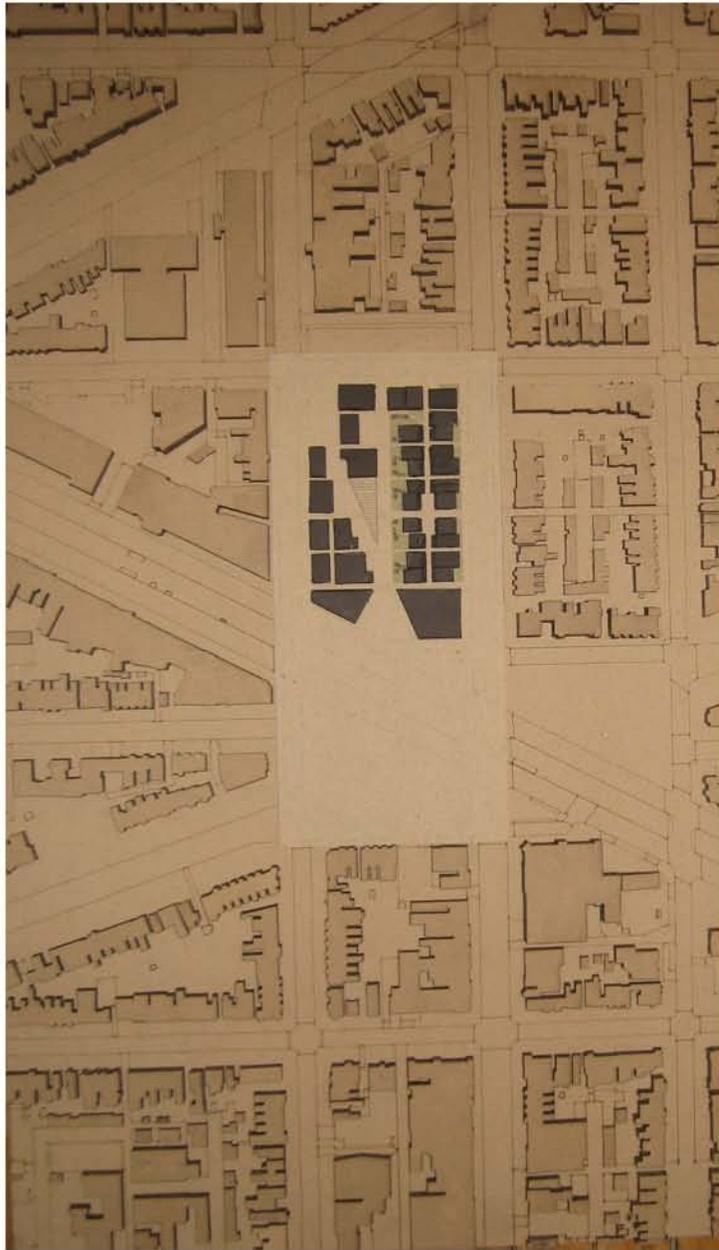
# EARLY SITE PLANNING SKETCHES



## EARLY SITE PLANNING SKETCHES



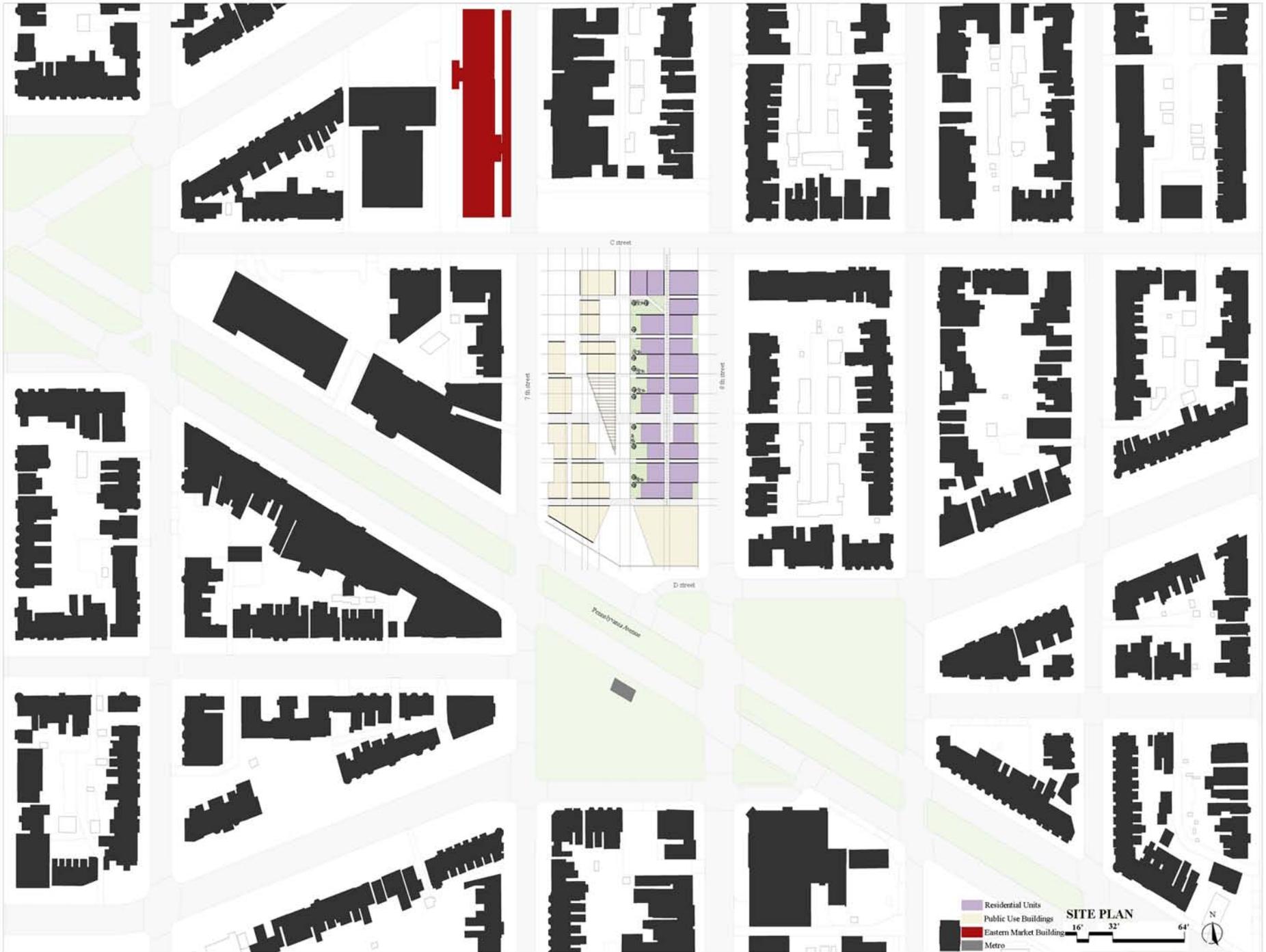
## FINAL DESIGN

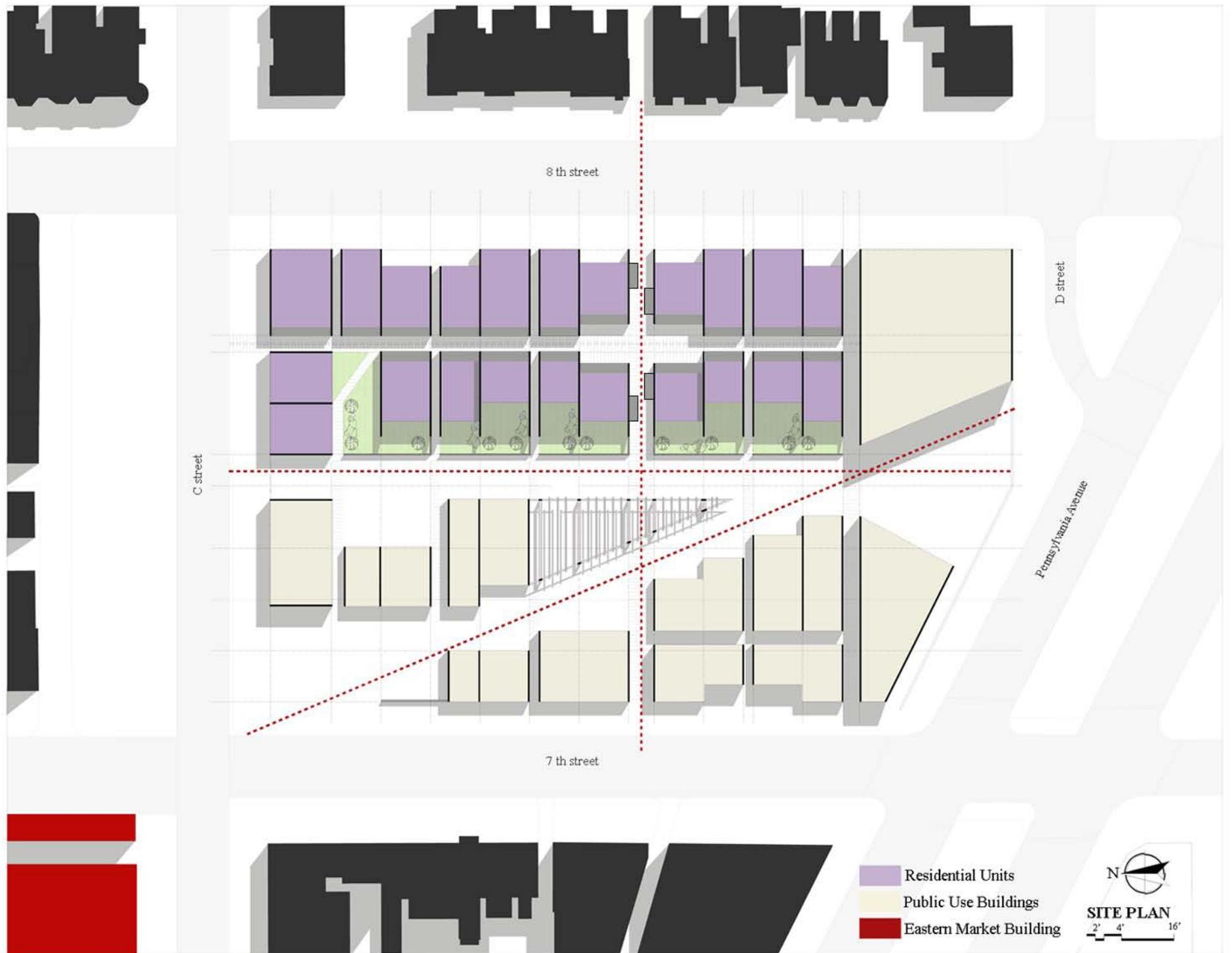


Site Model



Conceptual Site Model





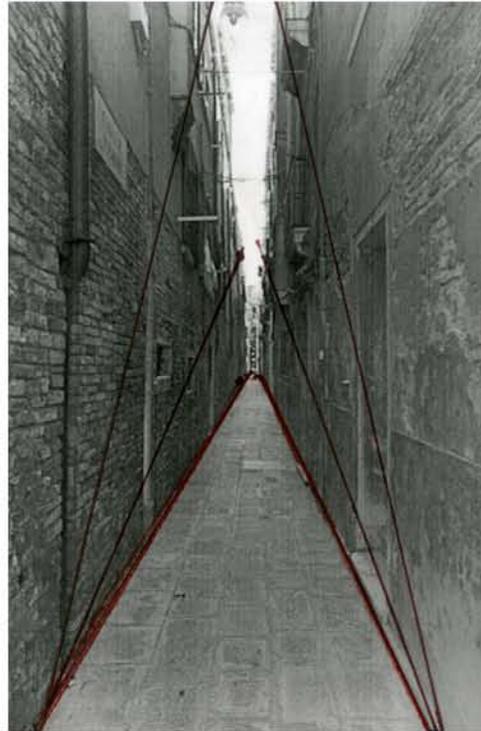
## DESIGN PROCESS - RESIDENTIAL UNITS

Within the residential zone, the individual units have been separated and the typical interior corridor between units has been moved to the exterior. This provides more daylight to each unit and creates a zone of interaction and activity between them. To further increase daylighting, and to visually reinforce the perspective along the now exterior corridor, the unit walls have been angled back along the façade.

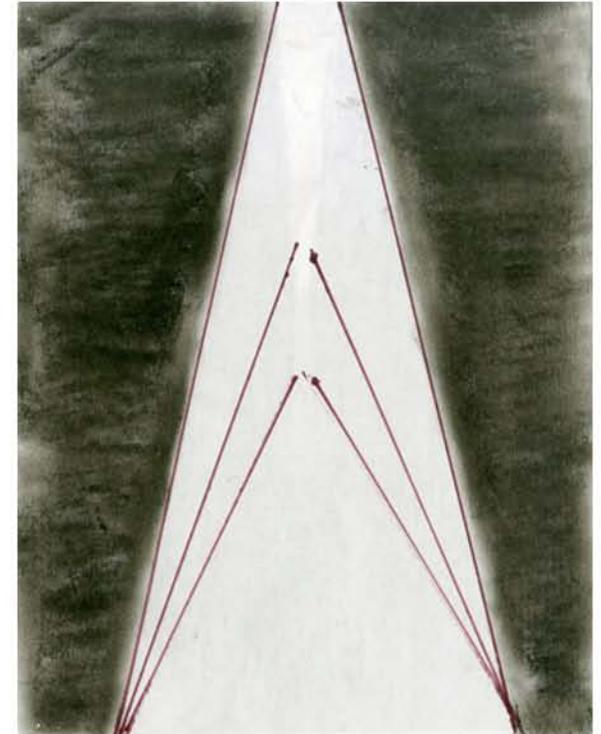
The angled façade walls are inspired by the visual perspective created by a typical street. In narrow streets and alleyways, the perspective is tall and tight which creates a feeling of enclosure. However, with wider streets and boulevards, the perspective created is open with the emphasis on the void space and the sky. Walls angled toward the user create spaces that are more private, whereas walls angled away from the user enforce the feeling of open public zones.

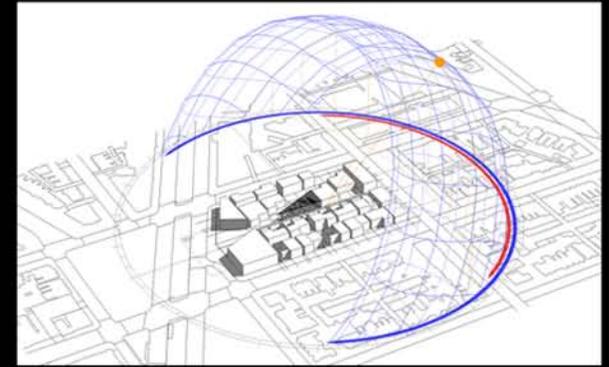
Based on this concept, the main “boulevard” through the residential units uses walls that angle away from the user, allow more light into the space and promote activity and interaction. Smaller and more private pathways through the site use walls angled toward the user, and establish boundaries into more private zones.

A sun-study analysis shows that angled walls will receive more sunlight during winter months than vertical walls. The analysis shows a peak sun angle of 75 degrees during the summer, and 27 degrees in the winter. To follow the angle, but maximize usable floor space, a 75 degree angle was used.

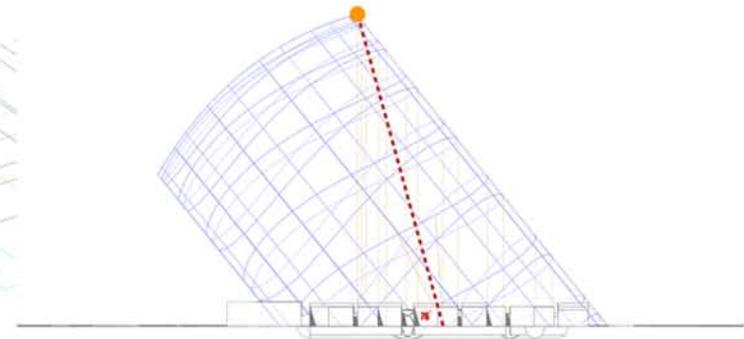
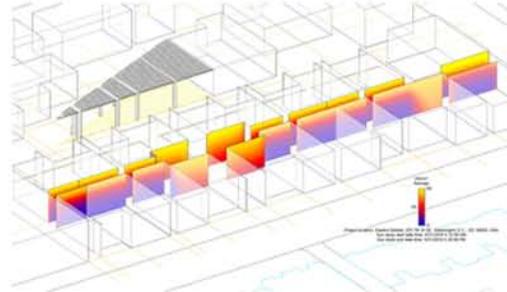
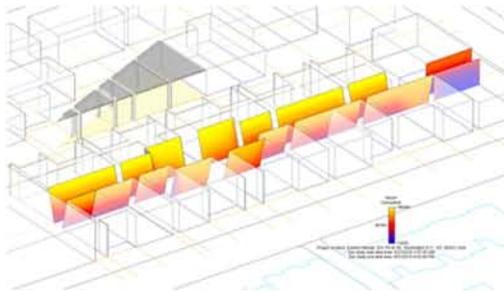


Perspective at alleyway

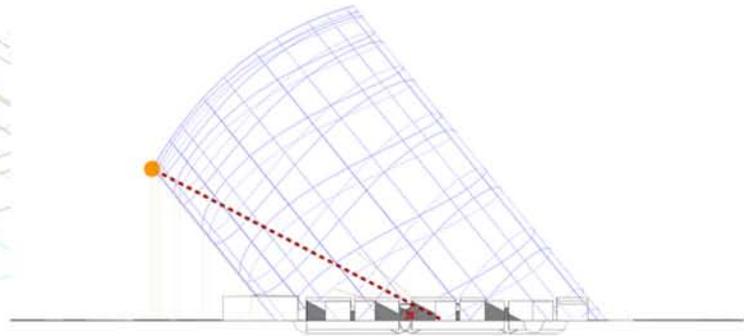
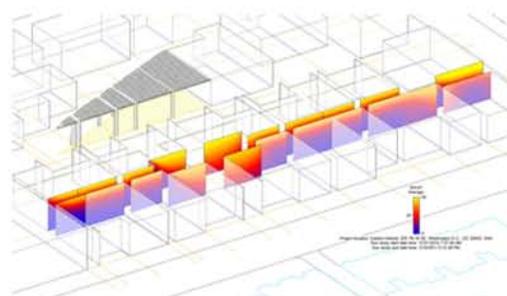
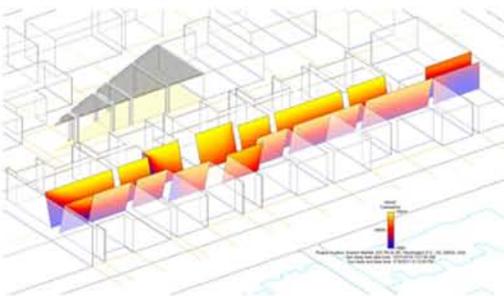




**SUN STUDY - SUMMER SOLSTICE**



**SUN STUDY - WINTER SOLSTICE**



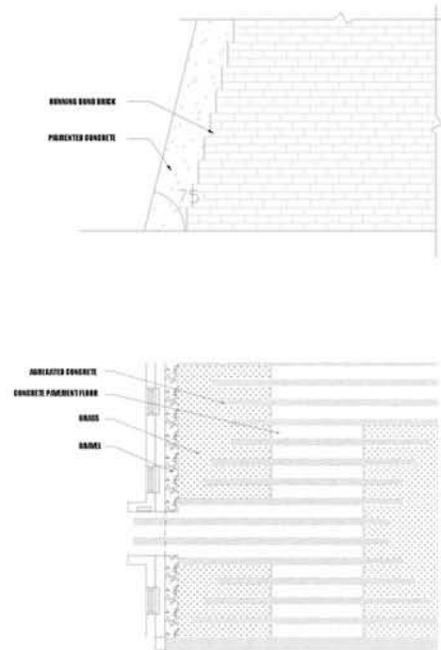
## DESIGN PROCESS - RESIDENTIAL UNIT MATERIALS

On site, there are several different types of housing units provided in order to accommodate a diverse range of families and lifestyles. This will help to create a more varied community within the development.

Each unit is provided with two distinct entrances, similar to that of typical rowhouse design in Washington, DC. However, instead of opening into an alleyway as is typical, the rear entrance opens onto a lively street – either 8th Street or the angled boulevard internal to the site.

The walls between residential units and public space are situated to provide privacy without feeling imposing. The wall height is determined by human scale in relation to a person standing at their porch.

To blend with the material aesthetic of the surrounding neighborhoods, the base material for the residential units is brick with precast concrete frames and accents. However, to celebrate the changing angles of the walls, a new material – cor-ten steel – is used to differentiate the surfaces. When the angle of the wall changes, the material changes accordingly.



Material board



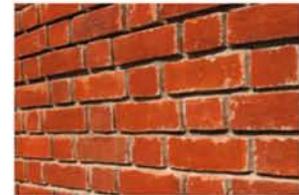
CONCRETE PAVEMENT FLOOR



PIGMENTED CONCRETE



GRAVEL / GRASS



BRICK WALL



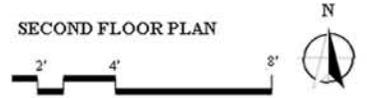
AGREGATED CONCRETE

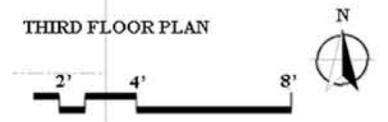
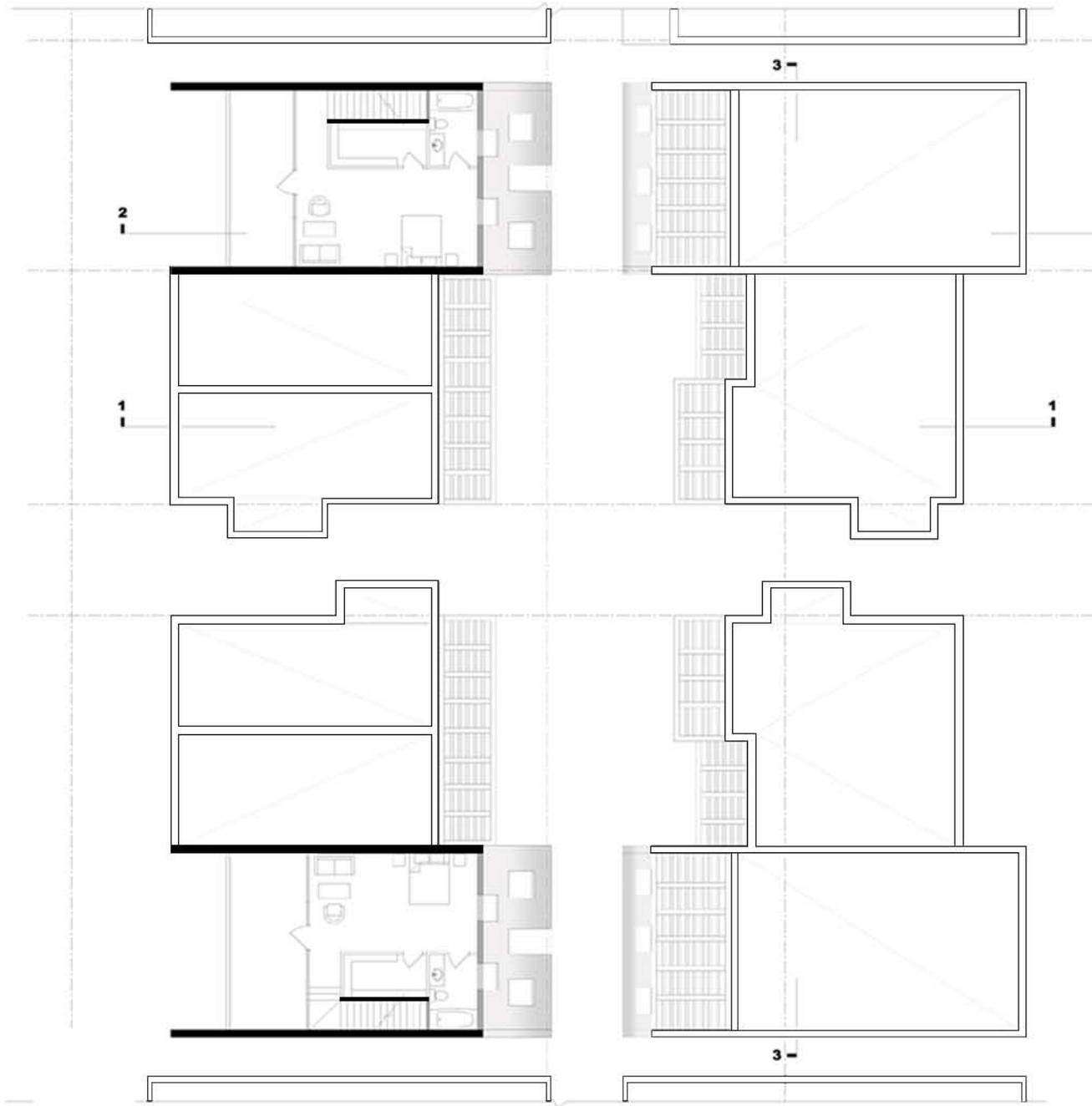


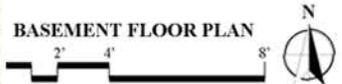
PERFORATED COR-TEN STEEL PANELS

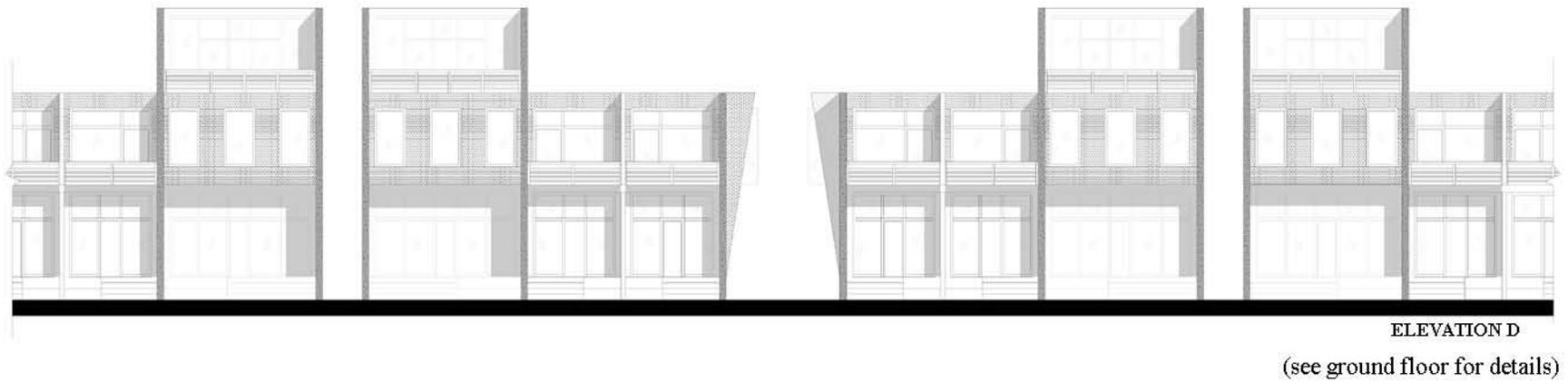
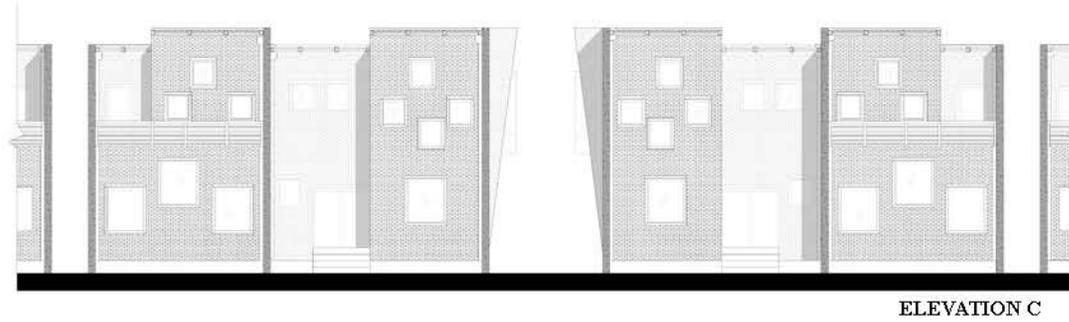
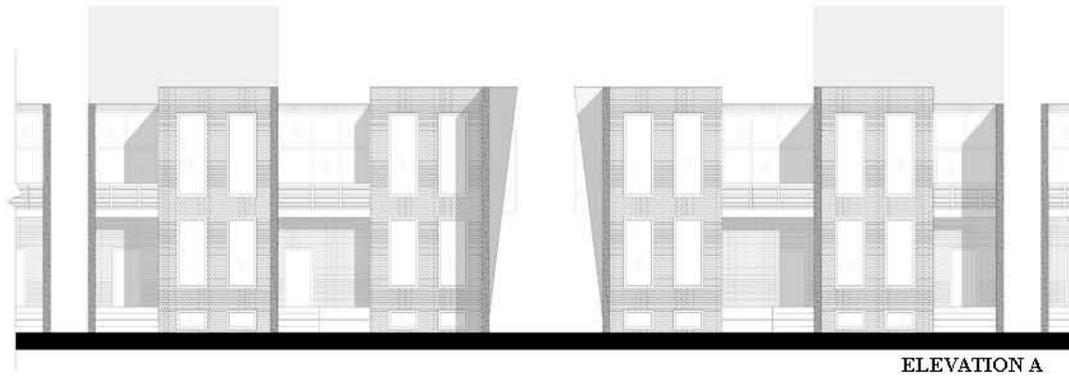


GROUND FLOOR PLAN





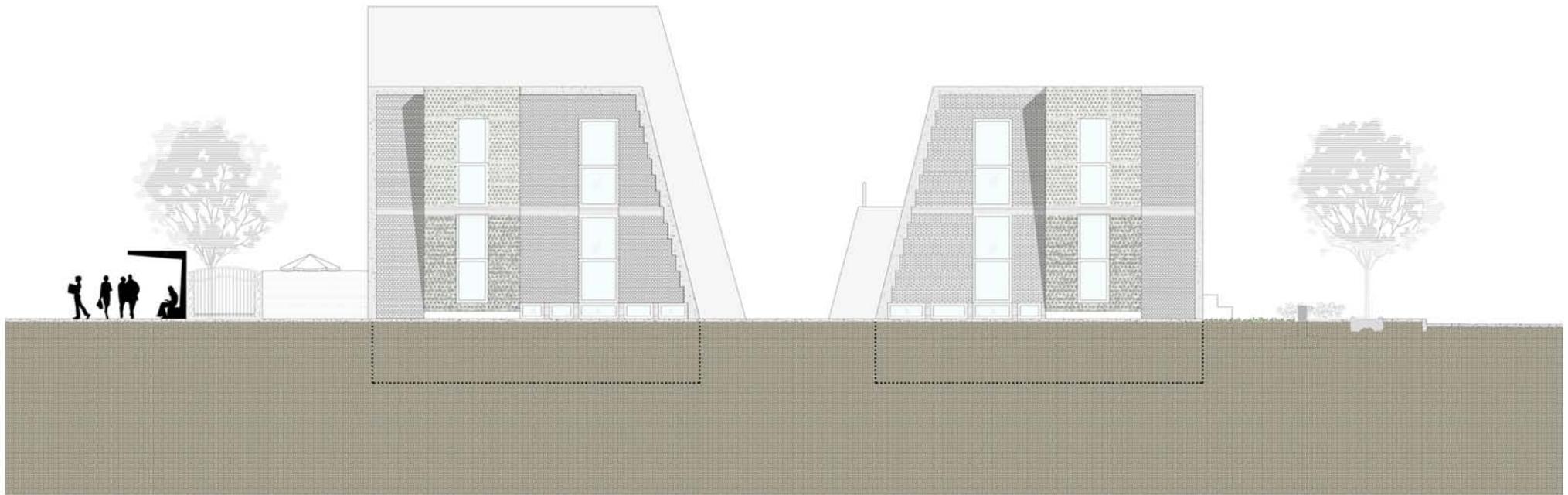




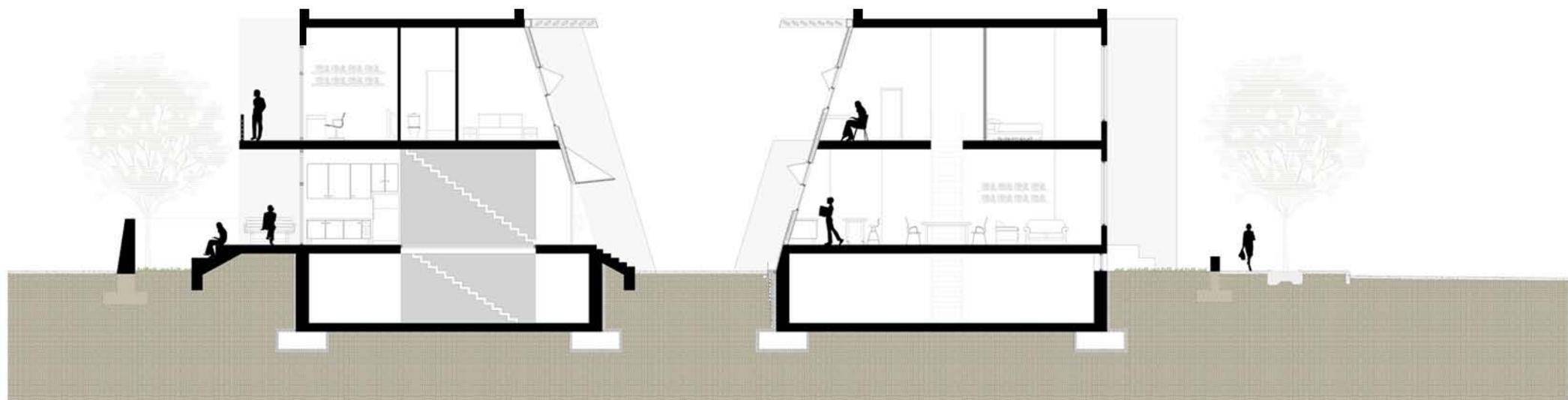
PARTIAL ELEVATIONS  
 2' 4' 8'



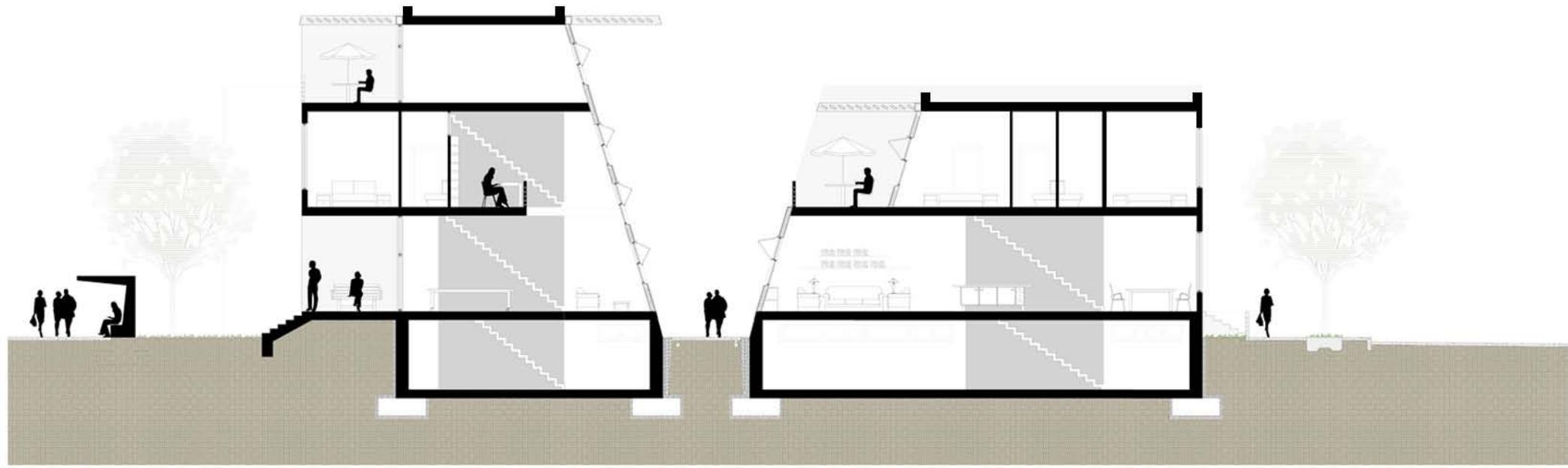
ELEVATION B - B  
2' 4' 8'



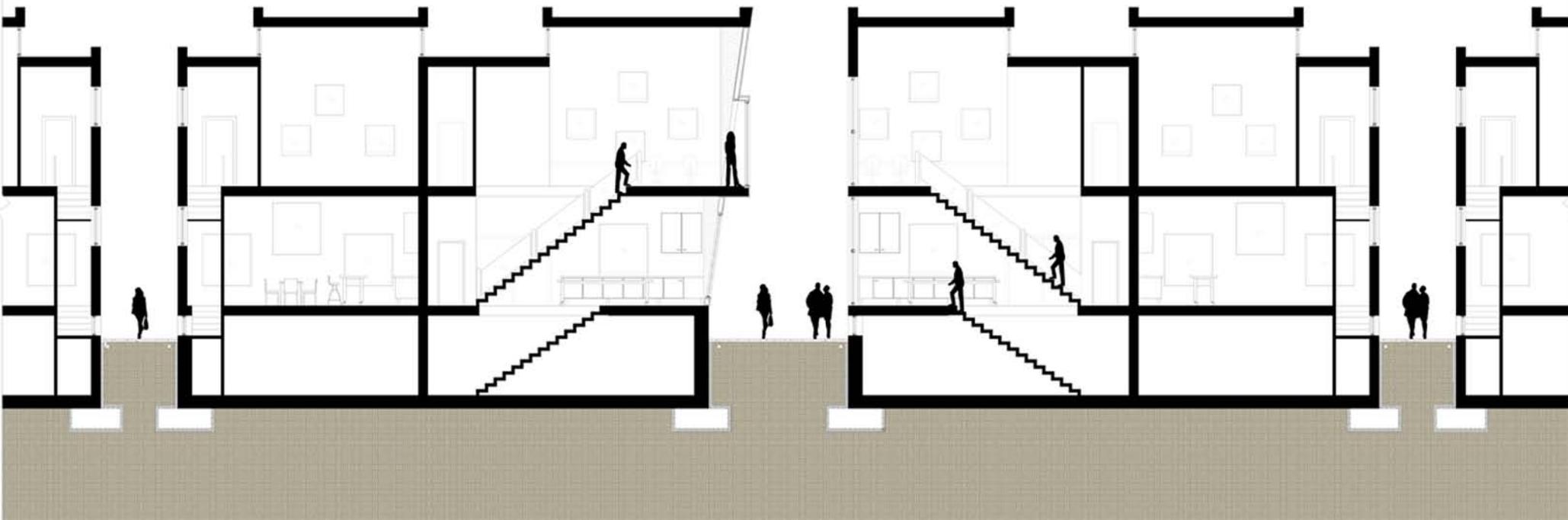
PARTIAL ELEVATION B - B  
2' 4' 8'



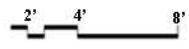
SECTION 1 - 1  
2' 4' 8'

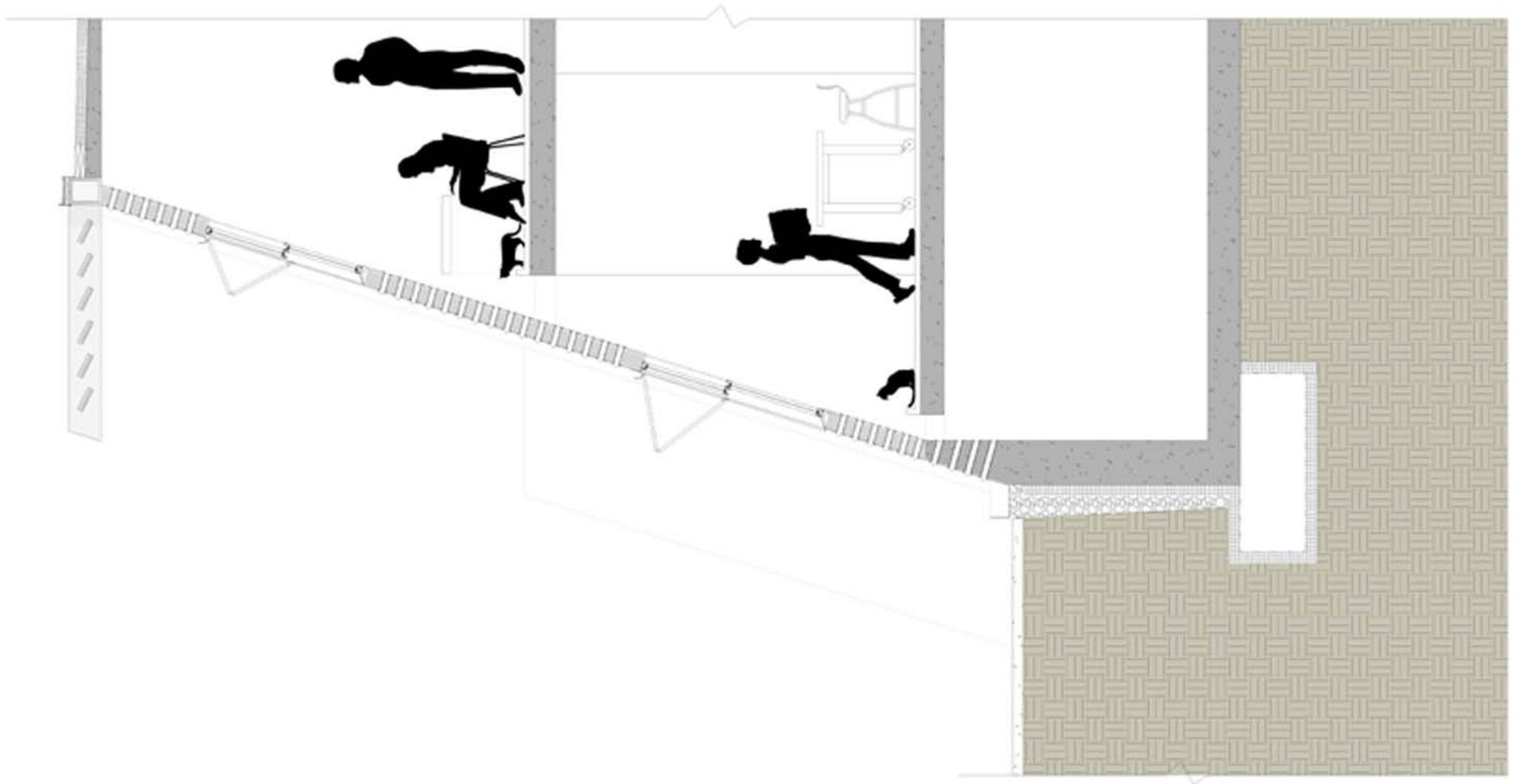


SECTION 2-2  
2' 4' 8'



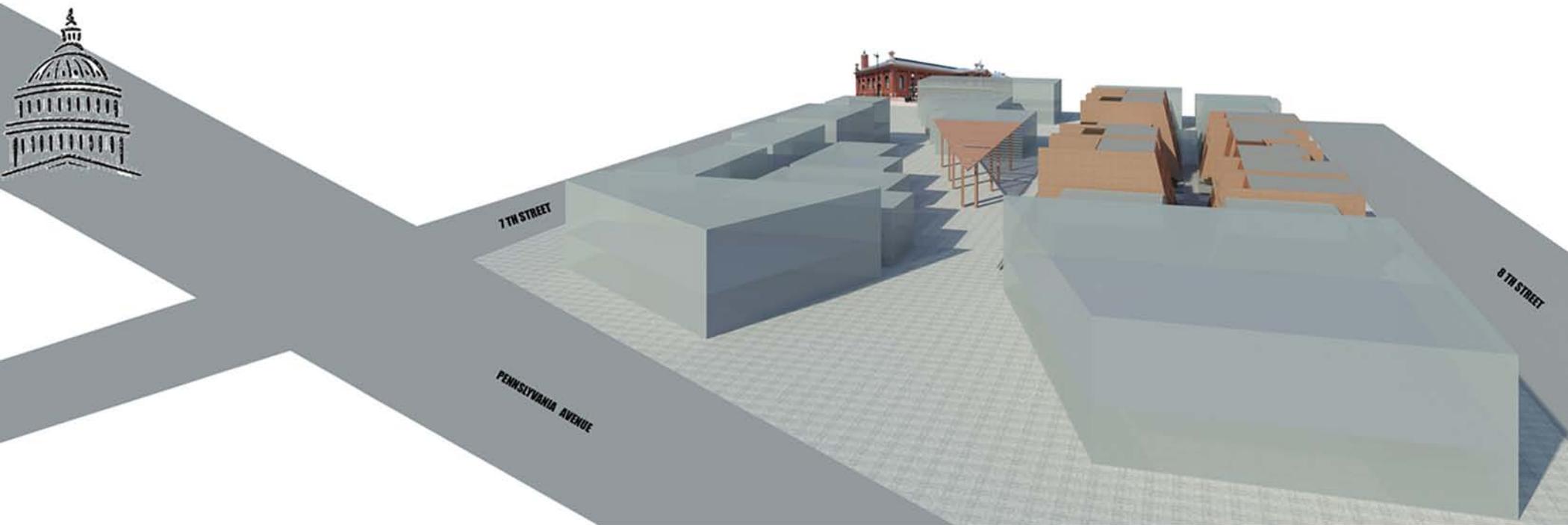
SECTION 3-3





SECTION DETAIL



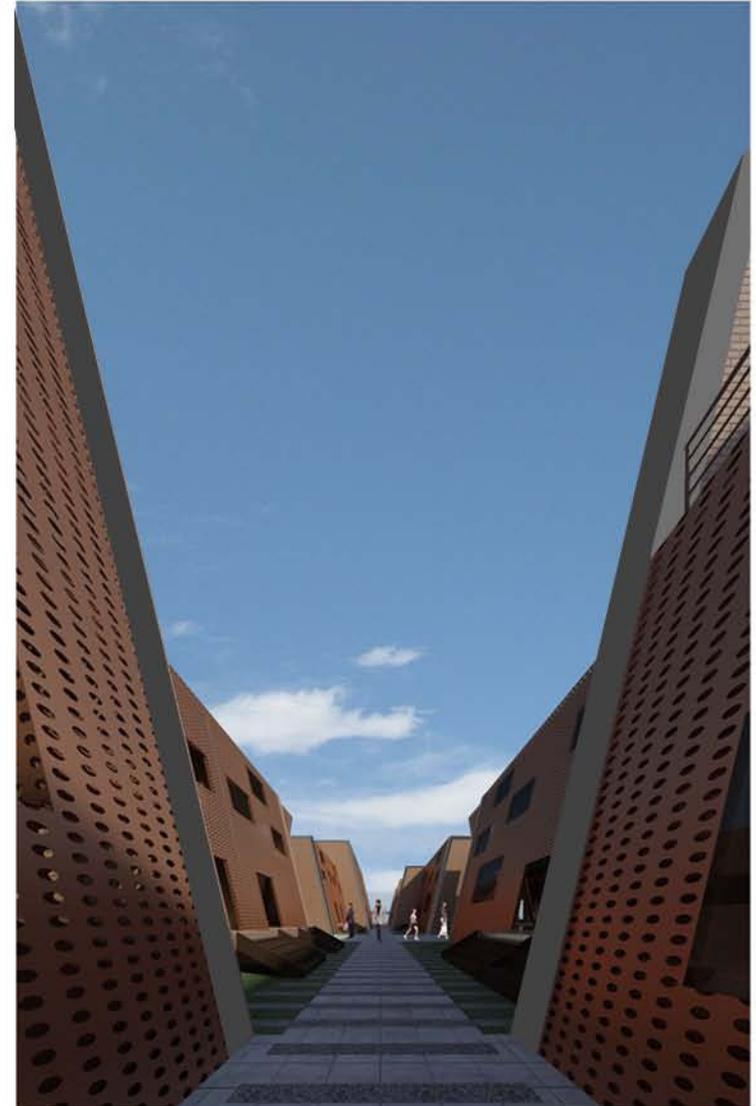




**Front Elevation Illustration**



**Residential Street Illustration**







**Public Street and Public Square Illustration**



Rear Side of the Residential Elevation and Alleyway Illustration

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You all make my experience at WAAC much more enjoyable and memorable . Thanks for all your support and friendship.

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