Y(our) Space:
Patterns of Community for Seattle Housing

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Abstract

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This thesis argues that a pattern-based approach to the analysis and design of Seattle's housing strategies can address our need to achieve a greater balance between communal and autonomous life. The fabric of Seattle's single-family neighborhoods possess a uniquely diverse and historic character, but overprioritize an autonomous lifestyle, and consequently no longer possess spatial attributes conducive to communal interaction. This prioritizing of autonomy has contributed to issues of density, housing affordability, vehicular dependence, and transient home ownership. The thesis takes the position that communal life is a fundamental element of human health and well being, and that spatial principles that govern our housing fabric can be modified to accommodate communal life while still allowing for personal autonomy and expression. In an attempt to address the issue of communal life at an urban scale, the thesis is founded on design thinking that prioritizes generalizable qualities and repeatable relationships. The project design makes use of structuralist concepts, focusing on the relationship between the individual and the whole. The development of a project-specific communal pattern language provides a succinct set of design principles with which to organize housing at a number of scales. The project thus acts as a model for both housing clusters as an evolving American typology and city blocks organized around shared amenities within each block. The thesis ultimately explores the potential of communally organized space to reform how we identify both as individuals and as participants in our communities.

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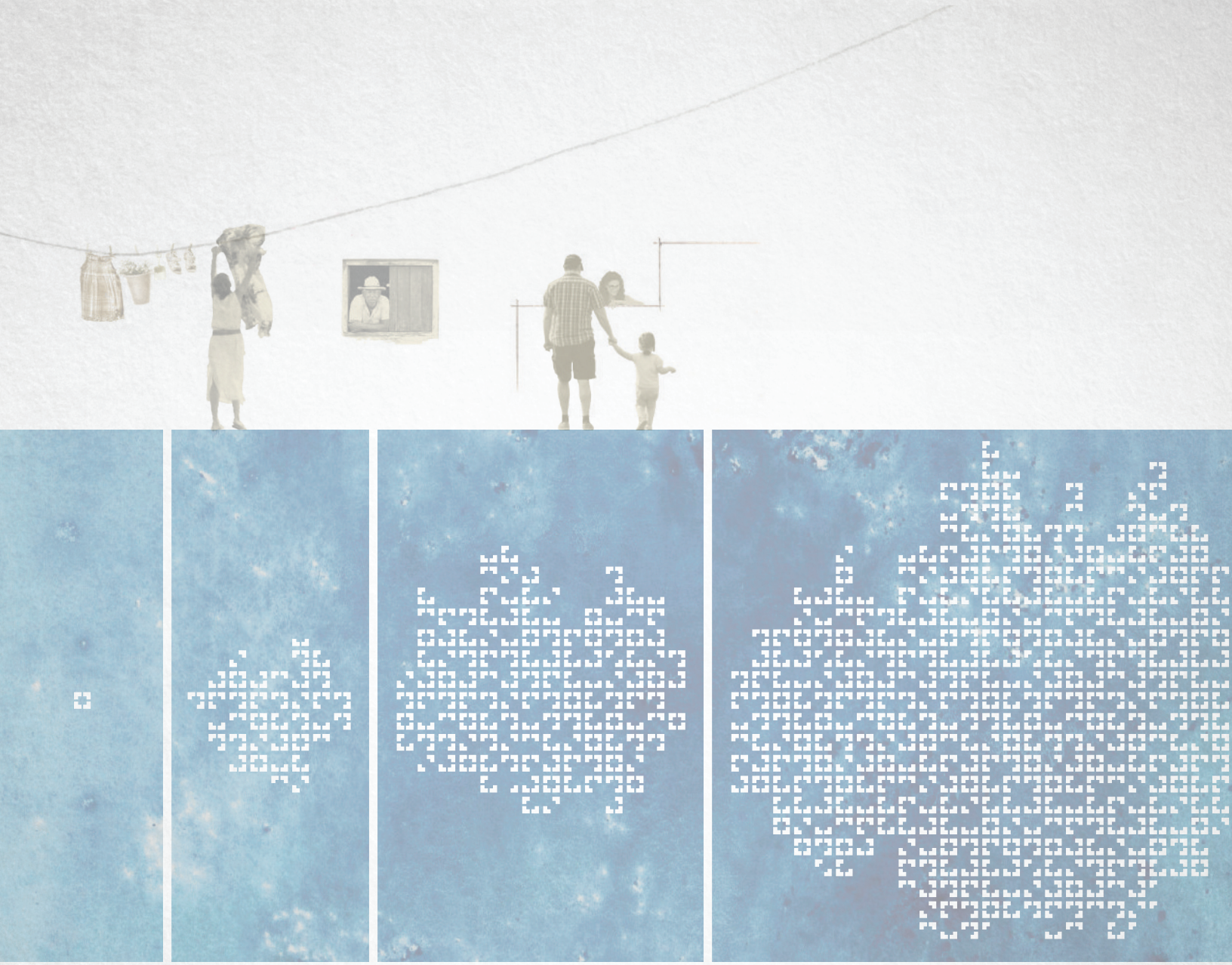

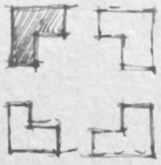

Y(our) Space

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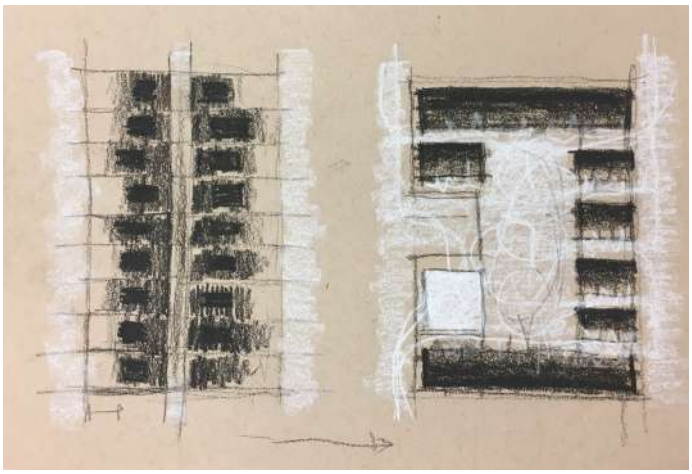
fig. 1 Amphitheater, Arles, Hertzberger
fig.2 Bridge Meadows Housing, Portland



CHAPTER 1

INTRODUCTION

This thesis explores the ways in which the American lifestyle is driven by autonomy, informed by the core cultural value of self-reliance. This value manifests in our lifestyles and built environments, resulting in vehicular dependence and housing typologies that maximize privacy and limit interaction between residents. These effects can be observed in the housing fabric of Seattle, Washington, a city struggling to balance its need for increased density with its sense of character and communal life. Seattle is typical of many American cities, with the relationship between its housing and historic urban grid limiting the capacity for individuals to interact with their community. This issue that disproportionately affects those that cannot operate autonomously, such as children, the elderly, and many non-nuclear families.

fig. 3 Autonomy and Community

The thesis contends that communal life, constituted by the interactions, events, relationships, and emotions that connect a group of people on a daily level, should be treated as a fundamental component of human health and well being, and that our built environment must enable, not inhabit, communal life to develop. A revaluation of how the overall structure of our environments affect human behavior and relationships can help inspire future modes of living that balance the needs of the individual with the needs of the whole. The elevation of communal life to a core design priority will present a number of other urban benefits, including increased walkability, density, and housing diversity. The goal of the thesis is not to present idealized, mass producible forms, but to explore how a pattern-based approach can begin to shift the values that inform our housing designs.

The thesis explores the capacity for Seattle's housing organizations to support communal life through the attributes of their space. In response to an analysis of generalizable qualities within housing, the design project develops a language of communal patterns that can be applied to Seattle housing conditions at the block and cluster scales. These patterns are focused on the attributes of space that are most consistently absent from Seattle housing, including the roles of shared land and light in shaping and facilitating communal activity.

Following a systematic methodology, the project's site is representative of not only typical Seattle housing conditions, but American housing as a whole. The selected block in the Meridian neighborhood of Seattle possesses a balance of traditional formal qualities and site specific conditions with which to test the flexibility of the pattern language. This includes the ability for the patterns to scale outwards from the cluster, employing a fractal strategy of increasingly public communal spaces. The design thus treats adaptation to its site context as a fundamental aspect of the pattern language's implementation. The project limits its design to the primary block, but proposes future expansion of the pattern language into the neighborhood over time, as well as the incremental use of the pattern organization at the neighborhood scale to realize the project's broader urban goals.

fig. 4 There Swept Out of the Sea A Song (series), Rob Stephenson

CHAPTER 2

AMERICAN HOUSING AND VALUES

The purpose of [my work] is neither optimistic not pessimistic. It is to place the much-lauded American values in their proper genetic perspective. When this is done, we find that the best of America is directly linked with her worst, like Siamese twins. The way out of the worst is not to deny it but to recognize it for what it is.

Francis Hsu[1]

As with any city, Seattle's built environment has evolved in response to its unique environmental and social conditions. However, its character as an American city is largely defined by the values that its residents share with the nation as a whole, and the ways in which these values impact the built environment at systemic and personal levels. The thesis contends that the values that govern relationships between the private and the public have a foundational impact on the way space is organized not only in Seattle, but any built environment. The primary purpose of this chapter is to identify these core values that influence American living, and begin to explore how these values manifest within American geography. The approach can be described as anthropological, utilizing observations and anecdotes in order to understand larger cultural trends and patterns of living. Finally, the chapter frames a brief analysis of Seattle housing through these values and their ability to balance autonomy and privacy with communal life.

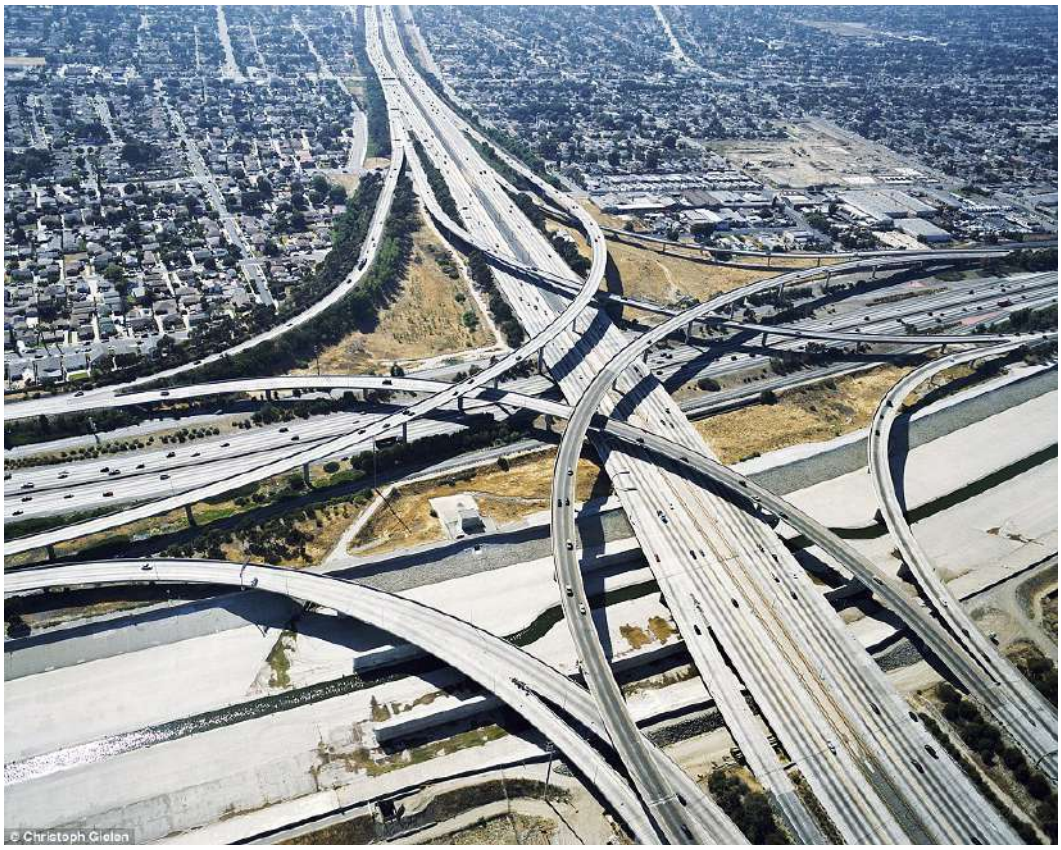


fig. 5 Los Angeles Overpass, Christoph Gielen.

A CORE AMERICAN VALUE

"Suffice it to say here that under this idea [of self reliance], every individual is his own master, in control of his own destiny, and will advance and regress in society only according to his own efforts."

Francis Hsu[2]

Through the development of the field of psychological anthropology, Francis Hsu formulated an overarching theory to explain the cultural values that influence our social, economic, and spatial realms. Hsu attempted to rationalize the myriad of cultural contradictions present in American culture; beliefs in equality and freedom contrast with appeals to uniformity, valuing local government seemingly contradicts with direct action and targeted repudiation of law. While these beliefs are seemingly disparate in nature and scale, Hsu hypothesized the existence of a American core value that could reconcile these elements of American culture; the value of self reliance[3].

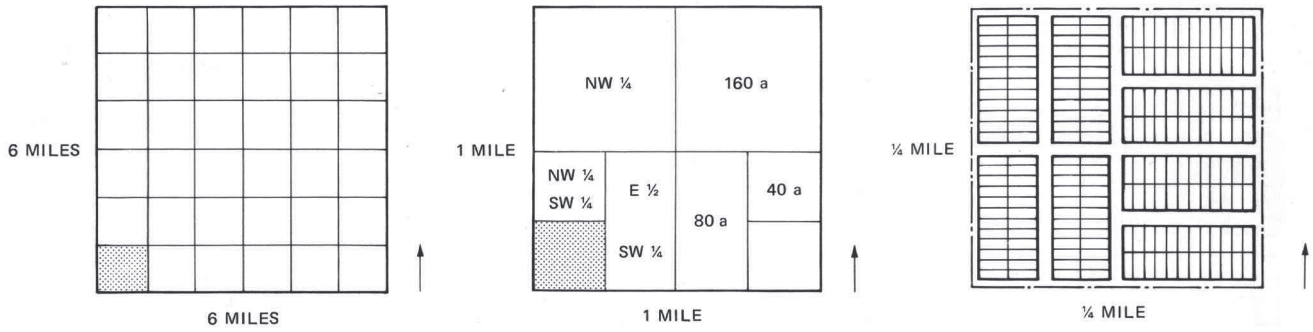
Hsu sought to show how many contradictions within American culture can be tied back to this singular value, and Hsu further hypothesizes that the way self reliance has affected American history is unique based on its young history. Hsu argues that while self reliance is derivative of other values, such as the individualist ideas present in Europe characterized by equal rights to choose one's governance, self reliance is characterized by a persistent need to live ones life with the notion that it is only by one's own efforts that one can both sustain their life and achieve social influence. Self reliance goes beyond a need to exhibit ideological autonomy, and demands that a person be physically and economically autonomous as well. Those who cannot are classified as misfits or dependents.

fig. 6 Wenzhou (series), Xiaoxiao Xu

Hsu notes that the presence of this idealized value is contrary to the reality that most individuals are in fact highly dependent on social structures, citing American systems such as social security, subsidies, welfare, and Medicare. However, the desire to achieve independence remains powerful and persistent throughout one's life. Hsu offers the following comparative example:

> *A man in traditional China where self-reliance was not an ideal may have been unsuccessful in his life. But suppose in his old age his sons were able to provide for him generously. Such a person not only was happy and content about it; he was likely [...] to let the world know that he had good children who were supporting him in a style to which he had never been accustomed. On the other hand an American parent who has not been successful in life may derive some benefit from the prosperity of his children, but he certainly will not want anybody to know about it. In fact, he will resent any reference to it. At the first opportunity when it is possible for him to become independent of his children, he will do so...*
>
> *Francis Hsu* [4]

Hsu describes ideas such as equality, freedom, and self reliance as primarily 'conceived' values, meaning values that are perpetuated due to an assumed positive outcome. In other words, self reliance is valued in America not primarily due to any type of perceivable benefit, but due to an assumption or hope that striving for self-reliance in all aspects of life will eventually lead to a higher quality of life, whether that be heightened physical or economic security, or greater control of interpersonal relationships. This perceived value of self-reliance, coupled with the reality that no one can actually operate completely autonomously throughout the span of their life, is at the root of the perceivable tension within American life, including its housing. Our spatial fabric is organized to maximize the perception of self-reliance, and even cyclically teaches the importance of the value itself. The organization of various styles of housing offer the promise of independence, yet still operate with a dependence on larger social structures.



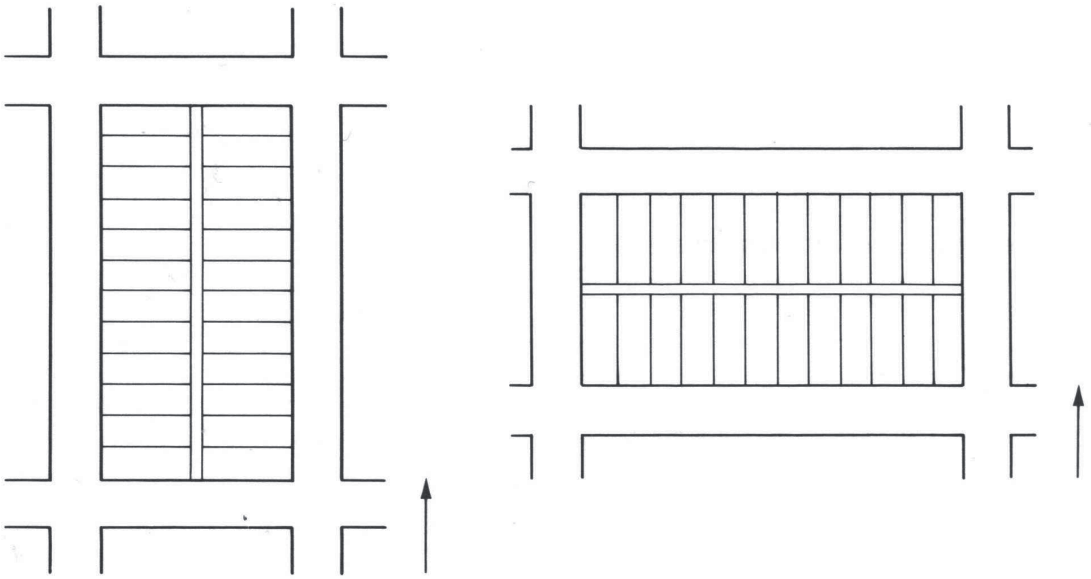


fig. 7 Grid Divisions, Knowles
fig.8 Block Orientations, Knowles

THE AMERICAN GRID

How was this country to be designed, how was it to be divided up? Well the answer that they found was to divide it into a grid system, a system composed of square miles. Everything is a square mile in America. Everything was based on the square. And the square is classically an example of a type of figure of speech… the square means honest, it means commonplace, it means all the things that square means. It means a good citizen.

J.B. Jackson [5]

The values of self-reliance and independence explored by Hsu are perceivable in Americas most foundational spatial structures, including the Jeffersonian grid[6]. Following the Louisiana Purchase in 1803, Thomas Jefferson sought to establish a system of land division in order to encourage expansion that would appeal to settlers' desire for orderly autonomous living. The result was a system originally based on a six mile by six mile square, which was eventually reduced to a single square mile, with each square mile offering further and further subdivisions. Each quarter mile could be subdivided into quarter mile by quarter mile sections, leading to dimensions that we commonly understand as city block, varying in size and orientation. The typical five-acre block has been the unit of American urbanization, with developable areas of roughly six hundred by three hundred feet. Finally, these blocks are further subdivided into individual parcels for development of housing, measuring roughly fifty feet by one hundred fifty feet. Development subsequently infills these parcels, with setback laws varying from city to city.

This system of land division is present in some shape or form in essentially every city west of the Appalachian Mountains, often making up an entire city's transportation and land structure[7]. Critique of the grid itself as an organizing principle is not directly addressed by the thesis, and in many ways is recognized as a largely immutable aspect of American life. However, acknowledging the origins of the grid system serves as an important example of the far reaching effects human values can have on the structural system of cities.

fig. 9 Kansas Crops, NASA

AUTONOMOUS AND VERNACULAR SPACE

What was characteristic of autonomy at its best was that it served a social function. You were given these privileges in return for certain responsibilities which you undertook, whether you were the church, whether you a nobleman, whatever you were, you were in a position to defend people who came to you for defense, came to you for help, came to you for justice. And that was one of the responsibilities of an autonomous space, to provide these services to other people. This seems to have dropped out of the picture to a great extent.

J.B. Jackson[8]

Through his observation of America's impacts on the landscape, American geographer J.B. Jackson developed the term 'autonomous space' to describe spatial organizations that are internally driven and communicate self sufficiency[9]. These spaces are theoretically independent of their surroundings, as though existing as their own nations with their own law. The affect of this autonomous organization is evident in the national grid system discussed earlier. Jackson first proposed this language to describe the advent of the modern office in both suburban and urban contexts, suggesting that many centuries ago, the concept of autonomy served a particular function within societies, but that the dispersion of this ideal to the individual level has perverted its original function. Jackson provides further evidence of this effect by observing the construction of gated communities across America. While these formations are often suburban in location, they can still be found in close proximity of urban cores, and are only possible through a set of values and biases that many Americans accept and share, such as the self-reliance that Francis Hsu defined.

Though Jackson does not directly apply the concept of autonomous space to more integrated examples of urban living, such as single-family housing, the parallels are immediate. A traditional single family house possesses an order and hierarchy that becomes expressed through its use and inhabitation by a nuclear family. Hierarchically sized private spaces, support spaces, communal living spaces, and modes of entry—often through automobile

use—define a particular order and relationship that is autonomous to the outside world. This can also be observed through the siting of home, and the patterns that dictate the relationship between private and public space, such as front yards. The way such relationships are repeated reveals a need for each individual to conceive of their domain as autonomous, and possessing all the types of landscape and space that might be required for life to flourish. Each house as a module of the built environment and is seemingly self-sufficient in the landscape.

> *In essence, I would say that the front yard is a landscape in miniature, a rural landscape in miniature. It is a much reduced version, like something seen through the wrong end of a pair of field glasses, or a spacious countryside of woods and fields and hedgerows and meadows. The front yard is largely a symbolic reference to the landscape that we wish that we lived in. And that we can reproduce on a very small scale, full of art, full of flowers, full of neatness, and reflecting on the quality of the people who are in it. The front yard has become increasingly beautiful and increasingly artificial as America has grown older. The front yard can be said to be a national institution, or national space. That they all look so much alike implies a loyalty to some prototype, or some tradition about how the smaller world should look, the domestic world should look.*
>
> *J.B. Jackson*[10]

This effect is especially apparent in the organizations of typical multi-family housing. Despite an increased sense of proximity in an apartment or condominium complex, the experience of autonomy is even more pronounced and sharply defined. While sharing walls and amenity spaces, most residents are unlikely to associate or identify with neighbors. The balcony becomes the front lawn, as Jackson writes, a tiny symbolic reference to the landscape, or at least a connection with exterior space.

However, Jackson observes the existence of another component of the American landscape which he called ‘vernacular space’[11]; flexible unowned spaces which can be utilized for any purpose that have the potential to foster community. These spaces are often temporary or improvised, such as a parking lots, alleyways, or even a public street or broad sidewalks. What is intriguing to Jackson is not only their flexibility and communal value, but how their presence and use suggests that people harbor a deep seated desire to occupy the public realm and develop communal life, and that through this vernacular space and landscape, planned or unplanned, we come to understand ourselves as part of a community.

fig. 10 Oak Lawn, Illinois (series). Greg Stimac.

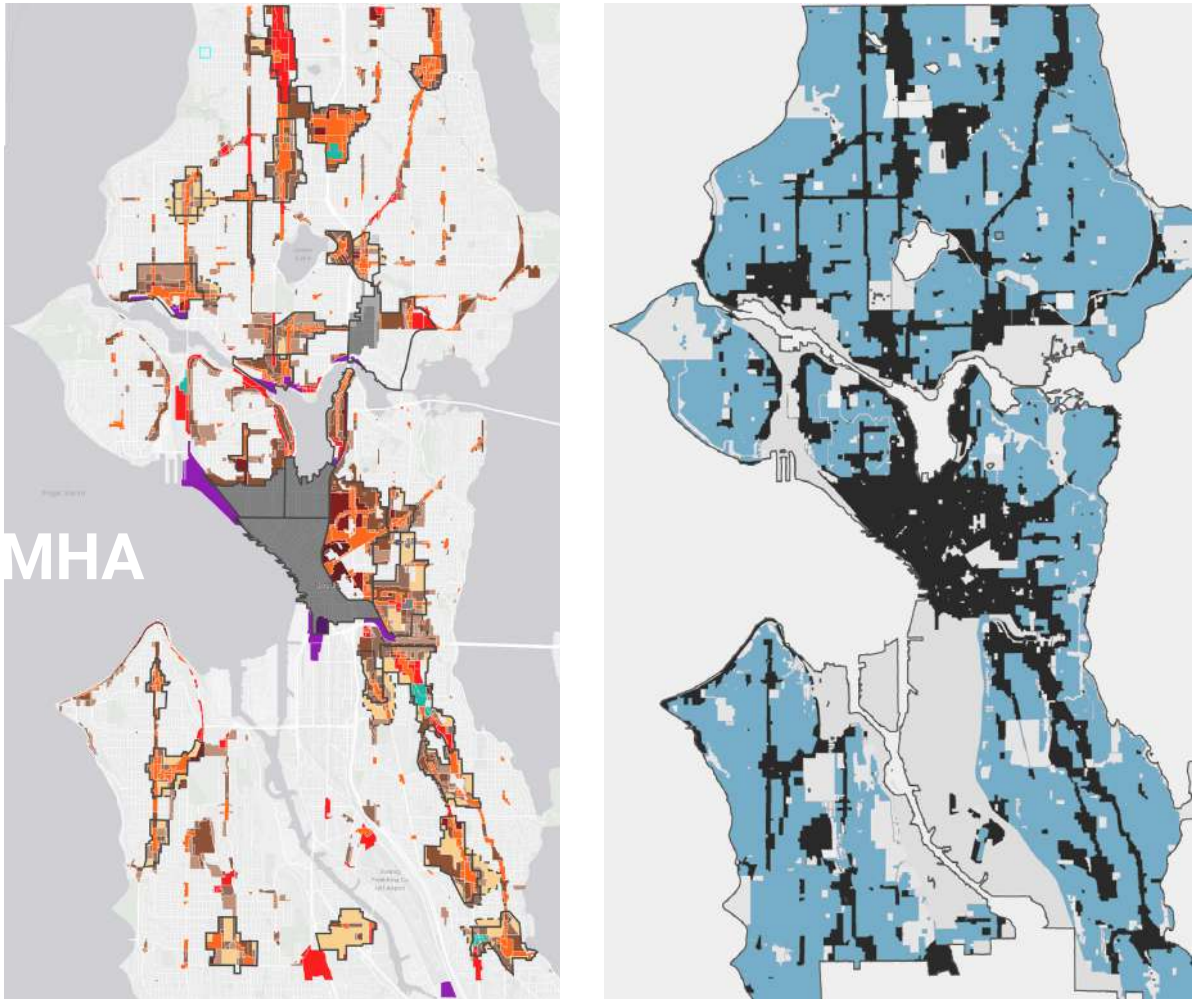


fig. 11 *2019 Seattle Mandatory Housing Affordability and Single Family Zoning*

SEATTLE'S HOUSING ENVIRONMENT

Seattle, Washington is one such city in which these American values and spaces can be observed, particularly with regards to its housing strategies. Like many cities affected by regional expansion driven by economic growth, it is now facing new challenges with regards to housing availability, affordability, and style. These challenges are approached through a range of strategies, including rezoning for higher density within urban cores, as well as lower density strategies at the boundaries of these cores as they expand into the more traditional single-family zones.

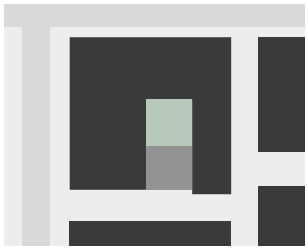
While an in-depth analysis of these challenges and their solutions is not directly within the scope of the thesis, these challenges do exist as a context that the project positions itself within. The choice of site has an impact on the scale of the project; the more generalizable the site condition, the greater the potential impact. With only 5% of growth occurring within single-family zoning that makes up 75% of our residential zoning land[12], the thesis focuses on the exploration of housing approaches that could bring a higher degree of density and communal living within this specific zoning.

HOUSING STRATEGIES

Analysis of Seattle's housing strategies at a formal level reveals many of the values explored by Hsu and Jackson. While the project primarily focuses on the potential for single-family zoning to increase its density with an explicitly communal focus, these housing strategies also clarify the context in which the project will be developed, including issues of scale, character, public private relationships, and access to light and landscape.

Most apartment complexes, designed primarily to maximize unit counts, make honest efforts at providing community spaces. However their placement on rooftops and the ground floor means there is no sense of ownership for most residents, resulting in a lack of informal and formal contact through which relationships between residents can naturally form. Most apartments also suffer from inequitable access to sunlight and air, while also

Apartments - Ravenna



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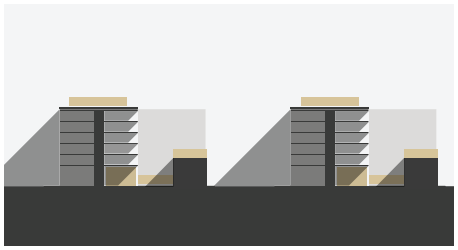

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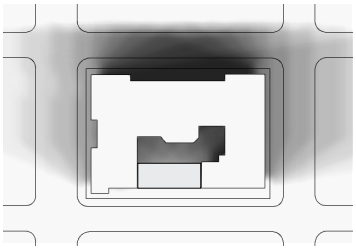
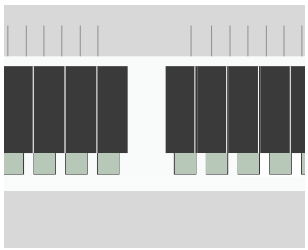


Yearly Solar Exposure

Row Housing - Northgate



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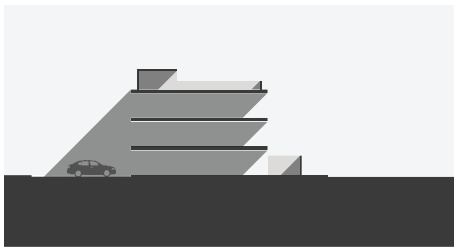

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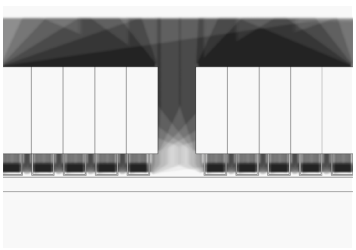
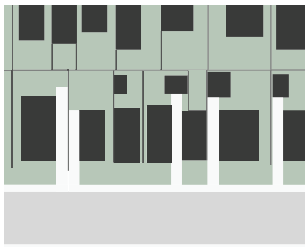


Yearly Solar Exposure

Single Family - Greenlake



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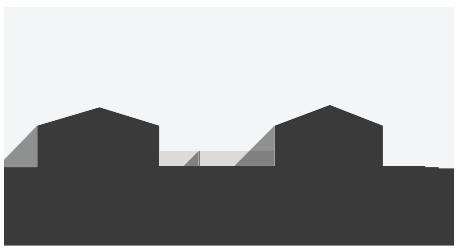

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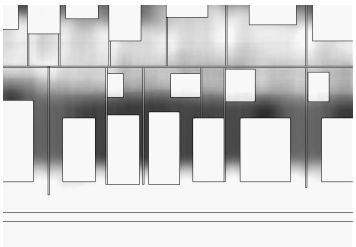


Yearly Solar Exposure

fig. 12 *Apartments, Row houses, and Single Family Diagrams*

negatively impacting the solar access of their neighbors.

Low-rise options like row housing succeed in increasing density and keeping residents close to the street while still offering a sense of private land. However, the land being discreetly divided by privacy fences or dominated by vehicles renders it mostly symbolic. The scale and orientation of outdoor spaces with regards to sunlight can also contribute to their lack of communal life.

Finally, single family housing makes up the majority of Seattle's residential housing fabric. Block size and orientation vary across the city, yet basic organizations persist. Ownership, property lines, and setbacks order these spaces literally and ideologically, and land is again divided into discrete parcels, so each households land is autonomous, both legally and experientially, maximizing privacy and the perception of flexibility for ones own home. Despite concerns abouts preserving a neighborhood fabric, homes in these areas are actually increasing; a trend of demolition of smaller homes followed by maxed out new construction has actually increased the size of the averaged detached home by 31% since 1990[13]. Homes are becoming larger, but still operate within the same value system.

SUMMARY

As Seattle addresses its ability to balance its growth with its identity, cultural values will continue to play a pivotal role in the spatial organization of its housing strategies. Homeowners are offered few alternative options that deviate from the prioritization of autonomy, privacy, and private ownership or occupation, which affects how individuals are able to form and maintain relationships. However, as explored by Hsu and Jackson, people will continue to seek out communal relationships whether the built environment actively encourages it or not, indicating the potential for the design project to envision a built environment balancing the autonomous and the communal. The thesis continues by establishing a theoretical framework and strategy with which to design.

fig. 13 Kuba textile

CHAPTER 3

STRUCTURE, PATTERN, SPACE

If we want a language which is deep and powerful, we can only have it under conditions where thousands of people are using the same language, exploring it, making it deeper all the time. And this can only happen when the languages are shared.

Christopher Alexander [14]

As explored in Chapter 2, the fabric of Seattle's historic single-family neighborhoods carry embodied cultural values, yet no longer facilitate the development of communal relationships. In response to this generalizable condition and analysis of Seattle housing, the thesis adopts a theoretical framework that prioritizes the general over the specific, seeking to understand the organizational strategies that can reestablish a relationship between the individual and the communal. This framework has the added benefit of addressing the chronological aspects of Seattle's growth. How will the ways in which we live, through both housing and the public realm, change over time? Are there ways to structure our environment in such a way that positive community relationships can be balanced with autonomy, regardless of the size or scale of housing? Can housing be approached in such a way that these relationships can create new understandings of program within a residential fabric?

fig. 14 Amphitheater, Arles
fig. 15 Lucca, Italy

STRUCTURALISM: ATTRIBUTES OF SPACE

[Structuralism] addresses the question of how certain general objective principles are interpreted in different situations by individuals or groups along subjective and specific lines. In doing so, it is essentially concerned with how the individual and collective are interdependent and are able to influence one another.

Herman Hertzberger[15]

Dutch Architect Herman Hertzberger contributed substantially to the definition of structuralism, a mode of architectural thinking basing its analysis and design of space on generalizable and characteristic qualities inherent to the structures behind space. The primary goal of structuralist thinking is to utilize fundamental organizations and relationships, which leaves flexibility for the design to adapt to the needs of a variety of users, as well as the fluctuating needs of both the individual and collective over time. As the above quote describes, structural organizations affect the ways in which individual elements can relate. What is preserved through these relationships are the generalized qualities of the built environment, and the powerful and ephemeral meanings and emotions that those forms evoke.

Hertzberger demonstrates this through example; two amphitheaters in Arles, France and Lucca, Italy possess the same characteristic qualities through their archetypal forms and scale as civic monuments. At various points in history, these forms have lost their original function of public spectacle, and have taken on new life as entire small towns living within their walls, or new civic centers supporting both housing and public space. In both examples, the core characteristics of the ovular open space are retained as powerful organizing principles for the building even after the actual use of the building has morphed. The different lives of the building are linked together through a generalizable idea: the defined ovular forms, filled with natural light, support communal spectacle, gathering, and life[16].

This structuralist reading of space provides a lens with which to critically analyze the overarching structures that organize our built environments, one that is immediately

fig. 16 Communal events, Christopher Alexander

applicable to a reading of Seattle's built environment. The American grid and the city block, as Hertzberger notes, is one of the most quintessential examples of such a structure, one that is implemented worldwide partly due to its flexibility and ease of implementation. The American grid finds variability through size, shape, and orientation, yet its core attributes remain constant; the streets that divide private land are public spaces that provide simple and direct navigation of the city. One key attribute that links the private divisions are their outward orientation, offering visual connection to the public sphere.

PATTERNS OF COMMUNITY: EVENTS AND SPACE

> *The people can shape buildings for themselves, and have done it for centuries, by using languages which I call pattern languages. A pattern language gives each person who uses it, the power to create an infinite variety of new and unique buildings, just as his ordinary language gives him the power to create an infinite variety of sentences.*
>
> *Christopher Alexander*[17]

While structuralist principles provide an overarching goal and mode of thinking, pattern languages can provide the specific tools for design. Two texts compiled by Christopher Alexander and his team of architects and geographers approached the study and design of space culturally and systematically; *A Timeless Way of Building* details a strategy of design, while *A Pattern Language* defines the typical problems and spatial solutions that constitute that design strategy. The texts are compelling for two reasons: their observational, anthropological approach to understanding the effect of such patterns of space, and their generalizable nature. Alexander documented spaces at every scale around the world in order to answer two relatively simple questions: what are the patterns of human events that make up healthy communities, and what are the qualities of spaces that facilitate and relate to these events? Alexander argues that the relationship between these events or actions and the space in which they occur are linked, and generating desirable events is an issue of generating the desirable space within a specific cultural context that permits freedom and a sense of place for its users[18].

The use of pattern design is not analogous to modularity or universality as modernist ideals. In fact, Alexander expresses explicit resistance to the idea of modularity purely as a means of producing identical spaces, homes, buildings, or towns. Alexander cites the absence of exact replication in nature, as well as the sense of life and freedom that is lost when individuals do not possess the ability to participate in the design of their environment[19]. Rather, the use of patterns in analyzing and designing space has the explicit goal of ensuring the basic qualities and relationships fundamental to our health and a sense of wholeness for any given group of individuals. The exact combination of spatial attributes or human relationships vary by culture and even individuals, yet overarching characteristics can still be shared, which can manifest architecturally as patterns of shape, size, and scale, and the types of human interactions these factors support.

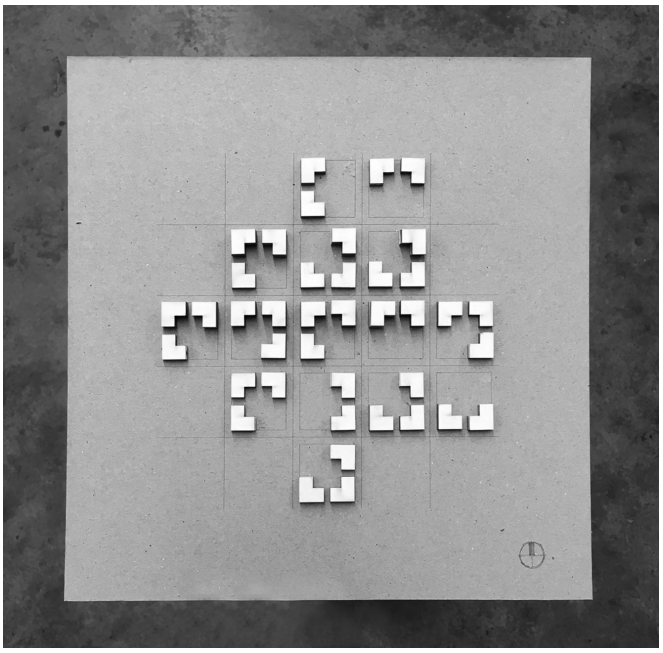
A pattern language, according to Alexander, is not static or permanent. Every culture, community, and individual possess their own pattern language that governs their perceptions, actions, and values. However, as echoed by Hertzberger, the relationship between the individual and the whole are reciprocal, constantly influencing each other and evolving over time. Each person will always have their own personal language, which is just one version of a language shared by a group. Just as with spoken languages, these built environment languages morph to take on new characteristics and patterns, while slowly discarding those that no longer provide value, or those that are creating harmful conditions.

The patterns described by Alexander serve as effective building blocks with which to imagine an evolving character for Seattle housing based on communal interactions, allowing for a large impact to be imagined through a relatively limited set of design guidelines. With over two hundred fifty spatial patterns documented in *A Pattern Language*, not all can be adhered to based on the scale and scope of the project. Thus, the choice of which patterns with which to form a design, how they are modified to suit the project's parameters as a housing project, and the extent to which these patterns are applicable at different scales, is explored further in Chapter 4 and 5.

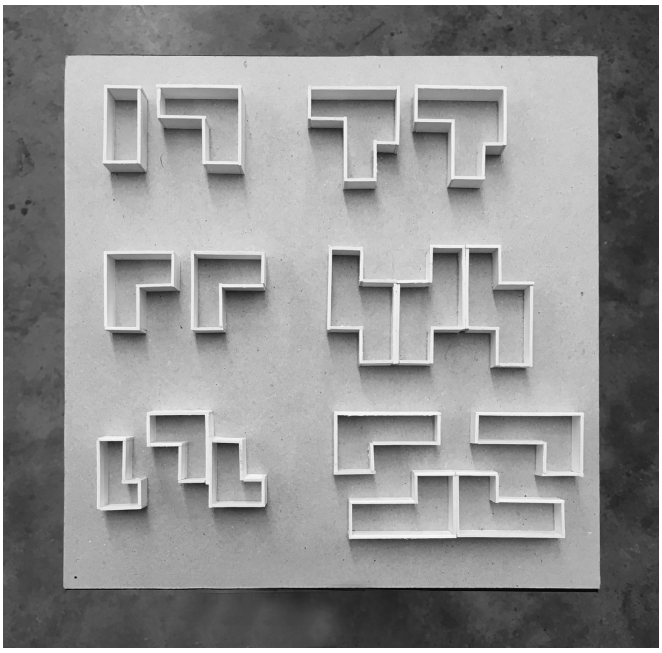
SUMMARY AND GOALS

A single house can be generalized into a block, a block generalized into a neighborhood, a neighborhood into a city, a city into a country. Exact circumstances and cultures lead to unique instances and variations, yet patterns and trends are clearly nearly any scale. The values that a group shares, such as Americans as a whole, inform these patterns. However, the thesis contends that the use of patterns also cyclically affect our values in return, and these patterns can evolve over time. The goal of the project is thus to identify values missing from our patterns of living, such as communal life, and show how further developing our patterns of living can directly address these values.

If the thesis aims to develop a greater sense of communal life in Seattle housing conditions, the design becomes dependent on the definition of desirable events and the spatial patterns that are linked to them. Communal life can described as the formal and informal moments of contact between members of a community. Informal events might include individuals choosing to dwell within a public space, stopping for a short conversation on the way to or from a destination, sharing a communal table for a meal, or even simple visual acknowledgment through positive eye contact and body language. Formal events might include a sharing of tools or labor, daily or weekly home visits, or planned gatherings and celebrations. While many such interactions could describe an already established communal group, the intimacy and scale of moments of community begin as interactions between strangers, developing over time into stronger and more meaningful relationships. These relationships, which the thesis posits are an integral component of human health and well being, are the result of accumulations of positive interactions between individuals, which are interwoven with the spaces and social structures in which these interactions occur.



Block relationships



Unit relationships

fig. 17 Pattern explorations

CHAPTER 4

METHODOLOGY & SITE

FIVE COMMUNAL PATTERNS

Following a theoretical framework of structuralist thinking and analysis of our built environment based on observable, repeatable characteristics, the project develops a language of communal pattern to assess and modify public private relationships within the traditional housing grid. This methodology provides a system of comparison to current patterns of housing while maximizing potential design impact. In the same way that current, repeatable patterns employed in American cities restrict our ability to form communities, a pattern based approach can enable communities to form at larger and larger scales in the city, establishing a foundation for how individuals relate to the built environment. This method of design is inherently egalitarian; its focus is on ensuring baseline access to communal space for each person within a development.

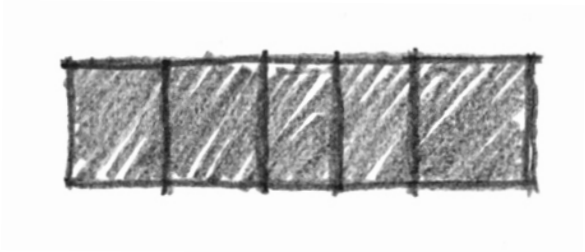
The project defines and connects five core patterns of communal space. The evidence and reasoning for these patterns draw primarily from Christopher Alexander's work, but are modified and combined to form a cohesive set of guidelines for the design project. The pattern set is not comprehensive, and is targeted at the spatial characteristics that are most lacking in Seattle's single family zoning. Further chapters consequently supplement these core patterns with supporting patterns and site responsive design.

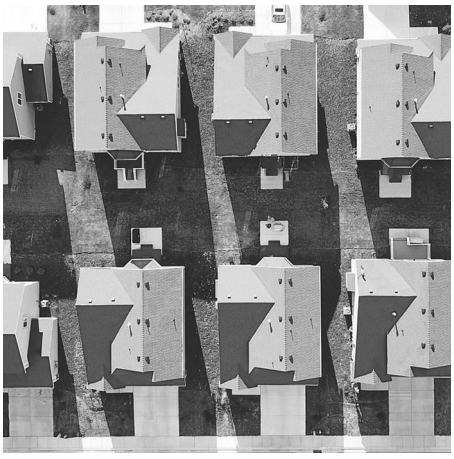
1 Clustered, Connected Homes

The first communal pattern is clustered, connected homes. One of the most fundamental ways in which our built environment teaches us to understand others is through raw adjacency, and all the conflict, resolution, and compromise that comes with it. Christopher Alexander notes that disconnected buildings are both a symptom and a cause of a lack of community, as they teach and allow us to avoid contact with neighbors. This pattern can be observed in cities with a strong public spheres, as Alexander cites a simple study describing how a mere two percent of roman churches are free standing structures[20].

An important difference between cluster housing and Seattle's current housing is the way each housing arrangement succeeds or fails at generating overlapping mental maps of spatial clusters for each of its members. Alexander quotes Herbert Gans' study of a typical New York block tract development. In the study, respondents reported that over ninety percent of their interactions with neighbors were with neighbors immediately adjacent to their home or directly across the street[21]. Alexander attributes this effect to our natural desire and tendency to form tribe-like clusters based on spatial proximity, whether or not the spatial environment enabled or encourage this clustering. The result in traditional single family development is that each house treats itself as the center of its own cluster, and with no shared understanding of cluster dynamics, connections between neighbors become fragile.

As for the idealized size of a housing cluster, Alexander notes the importance of group coherence. Too small a group, and there is not enough exchange of resources or social outlets for conflict resolution. Too large a group, and people lose the ability to identify the group and maintain contact. Alexander is in agreement with modern day cohousing models, suggesting between 5-8 families per group.





Disconnected

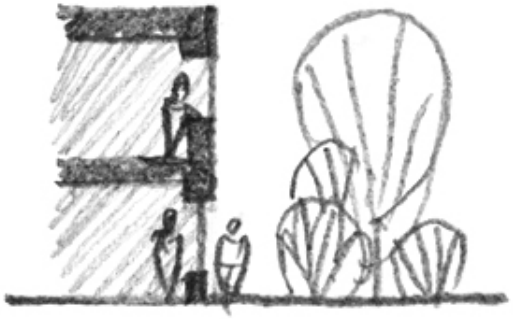
Connected

fig. 18 Disconnected and Connected Homes

2 Low-rise Living

The height of a dwellings plays a crucial role in the health of its inhabitants. Alexander cites multiple studies indicating the adverse effects of tall apartment dwellings, ranging from high occurrence of mental disorders, to poor socialization and lethargy in children who do not have access to the outdoors[22]. Additionally, maintaining a strong relationship between all residents and the ground plane is crucial in establishing both ownership and safety of the land outside the building. Buildings taller than two stories also begin to present solar access issues for nearby spaces. In the context of single family housing in Seattle, this pattern can be supplemented by a recommendation to match the story limits of nearby homes, in this case two to three stories.

While high-rise living is a necessary component of housing availability and affordability in the 21st century, the thesis contends that low-rise living remains a relatively undeveloped typology in American housing when compared to the dominance of single family housing in both urban and suburban areas and the rapidly increasing number of high-density developments in the urban cores. Low-rise living has seen great success in Scandinavian countries as a means of bringing density, affordability, and a sense of communal life to areas that might otherwise take on suburban qualities.



High-Rise Living

Low-Rise Living

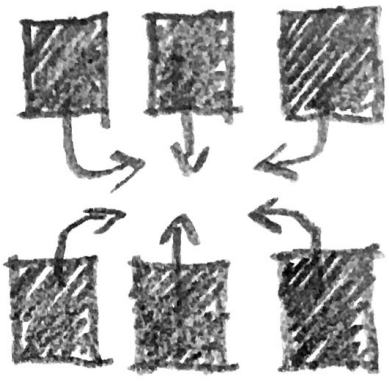
fig. 19 High-rise and Low-rise Living

3 Shared Land

The third pattern, which arguably distinguishes the project's strategy of housing most from current housing strategies, is shared land. Alexander notes that the presence of shared land provides (at minimum) two distinct benefits for both communal and personal life. The first is shared land as a site of informal meeting; community forms through constant informal contact and the subtle negotiation of the space in which these events occur[23]. The measure of success for the project is largely based on whether it can produce such interactions and use.

The second notable use of land is as a site of formal meeting, a space to gather as a community in a space that is understood as shared by the whole group[24]. Before the proliferation of cars, a time in which many cities' street grids were established, street life contributed greatly to this end. However vehicular dependence has greatly reduced the use of the street as a public space. An additional effect that shared land provides is space in which one can identify as individuals while still feeling connected to a larger group. This is especially important in the ability of children to construct mental maps of their built and social environments as they learn to dwell in the public realm.

The concept of shared land is tied to the pattern of connected homes, and communicates and teaches values in a similar, ephemeral way. Shared land as a core element of where we dwell impacts our mental mapping of public and private space, and communicates the existence of a larger sense of relationship between residents. This is in stark contrast to environments are visually and spatially separated, communicating the idea that ones life is independent of other people.



Autonomous Land

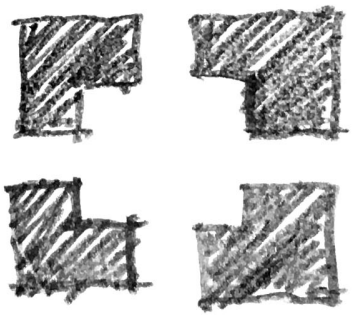
Shared Land

fig. 20 Autonomous and Shared Land

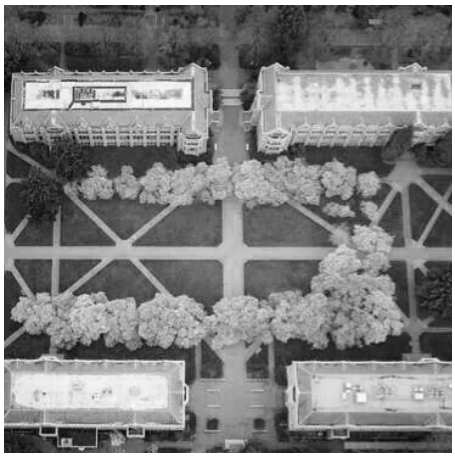
4 Positive Outdoor Space

This pattern is closely linked with observations of human comfort; people will generally feel more comfortable in positively defined spaces than spaces that are open or lack definition. This effect can be commonly observed in many public or semi private spaces, and is related to how people derive a sense of comfort and safety from being able to both mentally map and visually assess a space[25]. The more positively defined a space is, the more likely one is to dwell in it, making it an important element for spaces that seek to create communal interactions. One way of easily achieving this effect spatially is through the creation of concave forms, bounded by at least two roughly perpendicular bounding conditions. The result is a space that generates a sense of safety and manageable mental mapping, an especially important spatial characteristic for public private transitions.

This pattern can be difficult to quantify, as unlike other patterns that can be measured through literal ownership and responsibility (shared land) or direct form (connected home and low-rise living), a space's degree of positive definition exists on a sliding scale. As explored by Alexander, even the smallest level of concave definition can cause people to more commonly dwell in a space, and the materials, size, and orientation of the forms that bound a space can all play a role in the resulting character. The use of this pattern in the communal pattern language will thus generate a great number of variations within the project, yet the core of the pattern remains.



Unbounded Outdoor Space



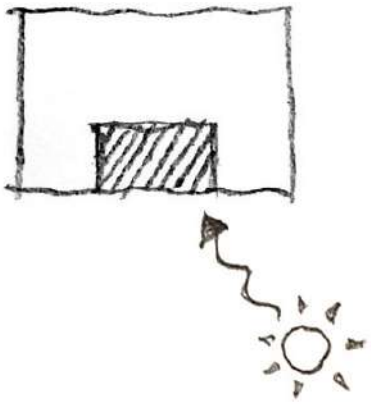
Positive Outdoor Space

fig. 21 Unbounded and Positive Outdoor Space

5 Solar Access

The last of the five patterns is solar access, or in Seattle's case, southern exposure. Despite sunlight being an easily quantifiable quality through light level metrics and energy absorption, an anthropological understanding of the ephemeral benefit of sunlight is perhaps all that is needed to justify its distinction as a core pattern. In all but the hottest climates, the sun is a resource that regulates our circadian rhythms and sense of time, providing light and warmth for the spaces we occupy. Alexander cites a study in Berkeley, California in which ninety percent of homeowners in a neighborhood said they only used the sunny parts of their yards, with not a single respondent citing that they preferred the shady north side of their home[26]. One can draw a simple conclusion from these observations; when all other spatial characteristics remain constant, the majority of people vastly prefer the use of space that is sunny and well lit to space that is dark and shady. In the interest of developing spaces that produce consistent informal and formal use by their owners, the thesis includes solar access as the last of its communal patterns.

While Alexander notes the importance of solar access for both individuals and communities, Architect Ralph Knowles elevates the importance of solar access into the realm of policy, presenting a strategy for limiting the massing of urban buildings. The use of Knowles' solar envelope strategy, based on the precise and geometric nature of solar angles, is predicated on clear definition of what times of the year and day are being designed for[27]. Seattle is known for having a wide range of uniquely interesting sun angles and qualities throughout the year, yet fall, winter, and spring months, due to their lower temperatures, are the times when sunlight actually makes a difference in whether or not we inhabit spaces. In these months, the vast majority of beneficial solar access comes from the south. A southern orientation also possesses the added benefit of more easily controlled solar exposure during summer months.



Dark Space

Sunlit Space

fig. 22 Dark and Sunlit Space

THE COMMUNAL PATTERN LANGUAGE

These five patterns work together to lay the foundation for communal life, and support each other uniquely. For example, clustered dwellings provide positive space, and low-rise living ensures equitable sunlight, and so on. It is important to reiterate that this list is not exhaustive, as the existence of these patterns cannot guarantee community life, nor is it impossible for the community life to develop in the total absence of these patterns.

Knowles' specific study of solar access clarifies an important idea for the project, that the regional codes that define our built environment can be described as patterns, intended to provide a structure of living that can secure a higher quality of life while allowing for the permutations with which we identify. A great variety of spatial arrangements satisfy these patterns, yet each can uniquely adapt to site, the needs of the group, or localized scales and forms. The project continues to move forward by utilizing the pattern guidelines in combination with a typical site condition in which to test the design methodology.

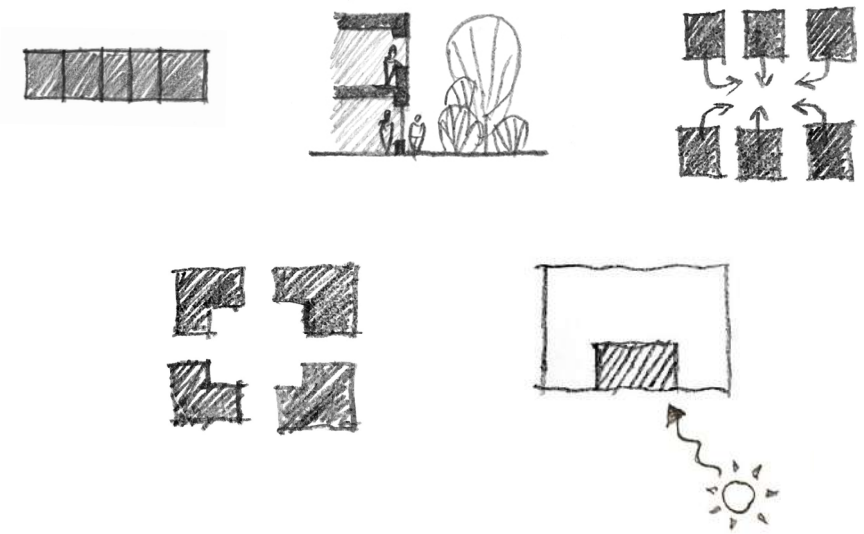


fig. 23 Communal Pattern Language

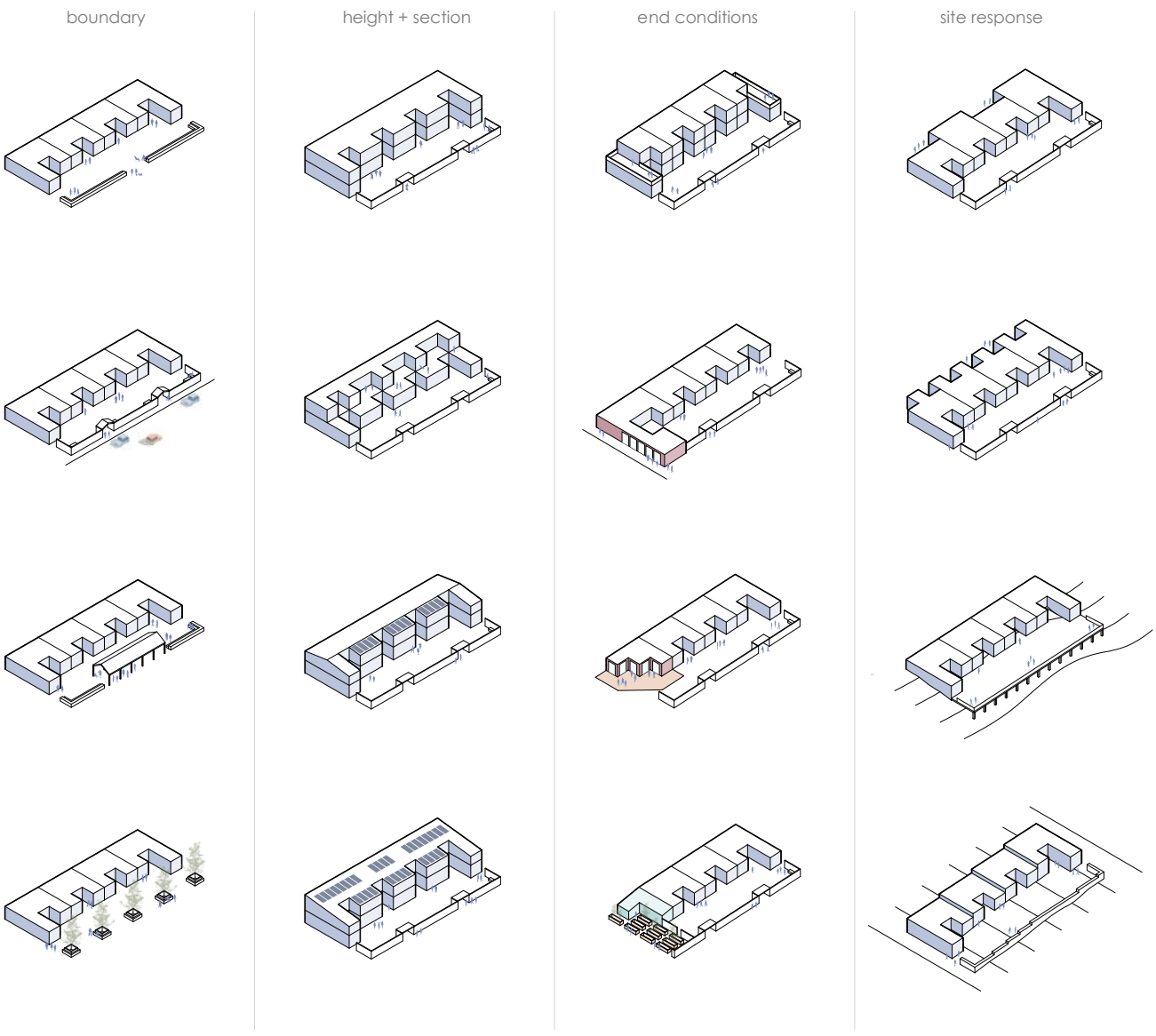


fig. 24 Cluster Variations

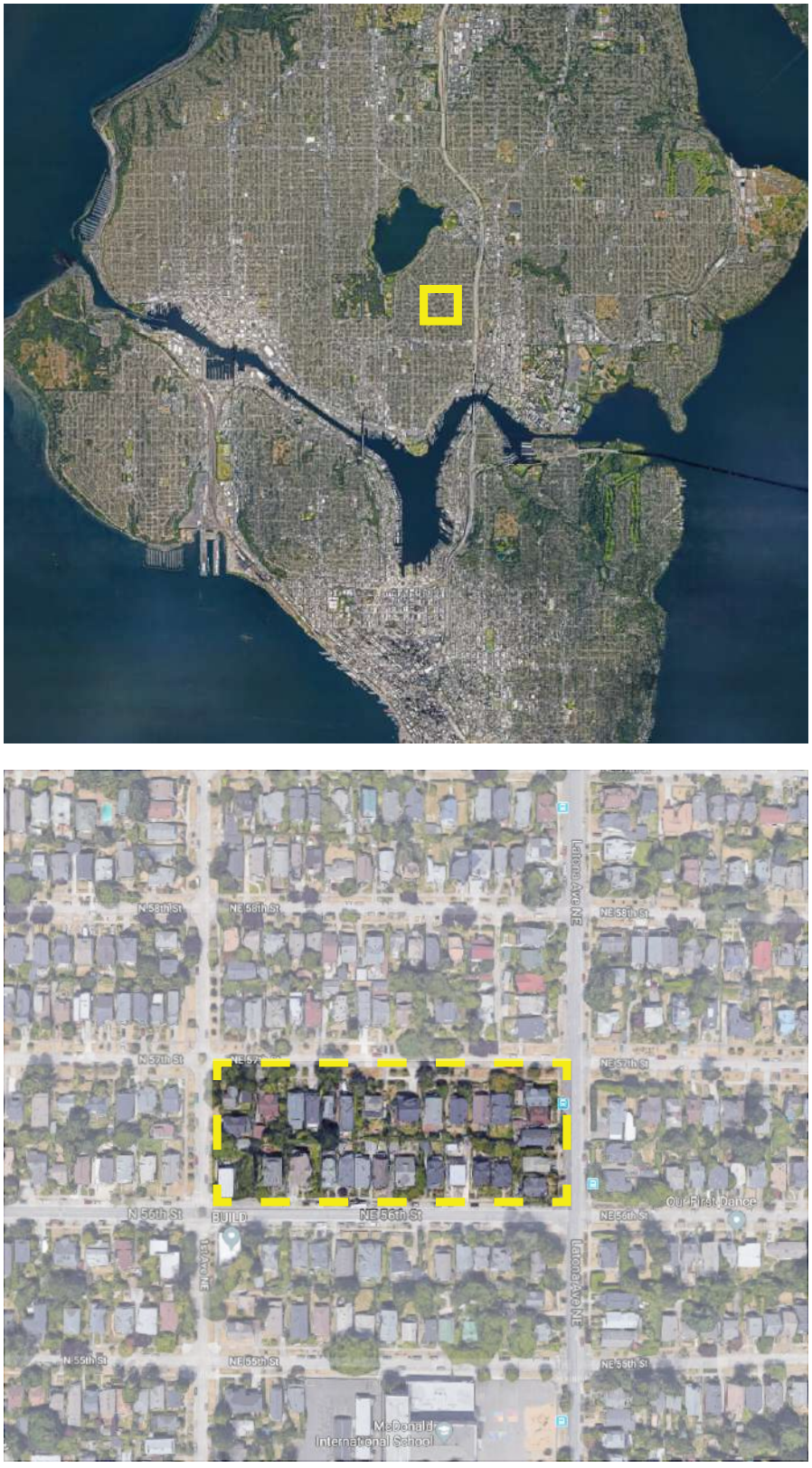


fig. 25 Seattle Vicinity Map and Meridian Site Map

SITE CHOICE AND ANALYSIS: A TYPICAL SEATTLE BLOCK

In its focus on pattern logic, the design proposal makes use of Seattle's traditional single family neighborhoods as a generalizable site condition and reference point to test a design. For this specific project, a site's normalcy is its greatest asset as a means of exploring generalizable, and thus large scale, conditions. To this end, a typical residential block is selected in the centrally located Meridian neighborhood of Seattle to imagine the development of a communal housing typology. The block exemplifies the values present in city's development of residential areas; autonomous development and occupation of small parcels of land, an institutional acknowledgment of the public realm through orientation to the street, and the dominance of the vehicular lifestyles.

The site is representative of many of Seattle's grids that are based on the Jeffersonian grid, as outlined by Knowles, in which a quarter mile plot of land, originally a unit of settlement and agricultural development, is subsequently divided into eight equally sized blocks measuring roughly three hundred feet by six hundred feet. Each block can be oriented in either a east-west or north-south orientation, possesses between twenty and twenty four land plats for use by residential development, and are separated from other blocks by typical public streets ranging from fifty to sixty feet in width.

Commercial

School / Institution

Park

fig. 26 Context and Walkability Site Map

Its dimensions and orientation are commonplace for many of Seattle's oldest and notable neighborhoods, including Ballard, Greenwood, Maple Leaf, and Wedgewood, which corresponds with the time period in which these neighborhoods were developed as Seattle expanded to the north away from its downtown and industrial centers. The block possesses typical adaptations to Seattle's relatively dramatic topographic variation throughout the city, including the use of a man-made plateau for the block housing. Further division of blocks is commonly achieved through a traditional service alley bisecting the block lengthwise. For this particular block, the ends of the alleyway have been capped with housing, and the alleyway in-filled with expansions to private property.

The selected block is centrally located within the Meridian neighborhood, a roughly equal distance to main vehicular arteries and commercial zones. Latona Avenue, a transit oriented street, runs along the east side of the site, while the western side of the site is oriented towards the center of the neighborhood. A number of schools exist nearby, including McDonald International School, Greenlake Elementary, and the Good Shepherd Community Center, making the neighborhood an attractive option for growing families. However, the nearest open park spaces, including the Meridian and Green Lake play fields, exist either outside a five minute walking radius, are cut off by arterial car traffic, or both. The site is thus typical of many Seattle residential blocks; centrally located in the heart of the city and/or neighborhood, but lacking in walkable characteristics with reduced access to communal spaces and amenities.

The site's architecture is typical of older neighborhoods of Seattle, with an abundance of early 20th century craftsman homes, as well as a small assortment of neighborhood businesses. The housing style as a whole can be described as small-scale assemblage. Each home is broken into a number of distinct masses, which breaks down the scale of each form. Porches are consistently oriented towards the street, creating a uniform but patchwork street front. The typical fifteen to thirty foot front and rear setbacks and five foot side setbacks establish voids of generally underused yet symbolic space between properties, yet do work to offer a small amount of daylight and air flow for most homes. The project treats the response to this site texture as a type of pattern in of itself, a sixth pattern with which to design.

fig. 27 Neighborhood Fabric

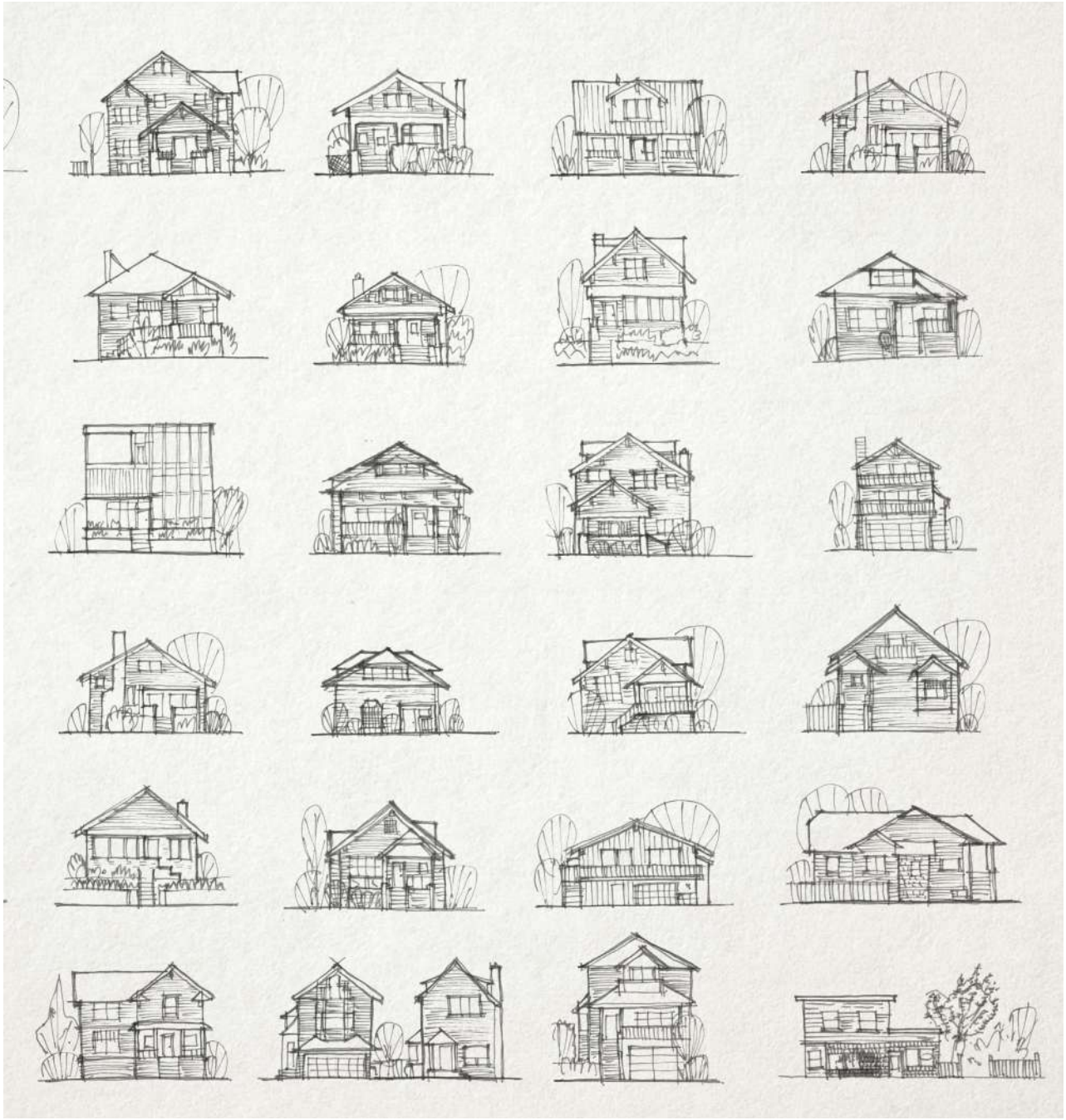


fig. 28 Neighborhood Elevation Study

fig. 29 Bridge Meadows, Portland, Courtyard
fig. 30 Bridge Meadows, Portland, Aerial

CHAPTER 4

DESIGN RESPONSE

PROGRAM DEVELOPMENT

The project aims to develop a housing organization and prototype that utilizes density not as an end in of itself, but a driver for communal life, affordability, walkability and safety. In an effort to explore the social benefits the mixing of users, age groups, and family sizes, the project proposes an intergenerational approach to the design of its housing clusters. This translates spatially into a range of unit sizes, orientations, degrees of privacy, and relationships to the ground plane.

Bridge Meadows Portland, designed by Carleton Hart Architects, is a non-profit housing program that demonstrates the importance of these intangibles, while also providing a model for how such a community can be developed in relatively similar neighborhood conditions to Seattle. While Portland's shorter blocks have already imbued the city with a higher degree of walkability and sense of public life, the project is still notable in its ability to spatially and texturally integrate a higher density, communal driven project into a residential area. Bridge Meadows utilizes similar strategies of clustered dwellings to create various degrees of group identity, while also organizing its housing clusters around a large, prominent shared exterior space for the entire block. Perhaps most importantly, the housing program pairs age in place elderly residents with foster children; elderly residents with an abundance of time and a lack of ongoing external relationships live beside youth in need of parental figures, role models, and a sense of family stability[28].

THE BLOCK AS PATTERN

While the project's hypotheses are primarily tested at the housing cluster level, it addresses the design of an entire block in order to assess the efficacy of its established patterns at a larger scale. This leads to the consideration of a number of block-scale issues, including responses to various street conditions, cluster to cluster relationships, and a range of community amenities serving both the primary residents of the block, as well as the greater neighborhood. These community amenities, including both interior and exterior spaces, adhere to the same pattern language guidelines in terms of their shared ownership and use, bounded nature, and appropriate access to sunlight, but are scaled to incorporate the larger community groups that utilize them. The result is an organization of spaces throughout the block organized based on a hierarchy of open shared spaces; from private space, to semi-private space, to semi-public space, and finally to the fully public realm.

Another housing project, Jørn Utzon's Kingo Housing located in Helsingør, Denmark, demonstrates the use and benefits of many of the same spatial arrangements of shared space and light. While the Kingo Housing project exists within a contrasting rural site condition, its treatment of landscape, in relation to both its housing and edge conditions, are applicable to the project proposal. Landscaping at the site's edge provides a buffer and threshold for the housing clusters, while large open areas at the center of the site act as a shared resource for the community, both at a cluster scale and the entire site. This results in a rural character in what is in reality a semi-urban residential area of the city. Additionally, the use of a sunlight-oriented, pattern based approach to the design of the homes, combined with the increasing scales of grouping, leads to a housing typology that is egalitarian and communal, layered with unique moments of public and private relationships[29].

Communicating similar values and strategies as the Kingo Housing project, the design positions dense housing clusters around the block's perimeter to maintain street presence while delineating communal space at the site's center. The goal, in contrast to the typical single family block conditions analyzed in Chapter 2, is to test the feasibility and social impact of the inclusion of a hierarchical understanding of shared space within a single family block. The project utilizes a fractal logic of open space, with smaller private spaces acting as a boundary for cluster level open space, which further acts as a boundary for block level open space.

fig. 31 Kingo Housing Plan, Jørn Utzon

SITE RESPONSES

With a primary goal of the project being the demonstration of the feasibility of integrating higher density cluster housing within a single family context, the project treats responsiveness to site as a critical supporting pattern of design. This includes formal and programmatic designs to address the site's various edge conditions, as well as analysis of the neighborhood scale and fabric to inform the massing and character of the proposal.

The site's east edge is set by Latona Avenue NE, a more commuter oriented street that carries car, bus, and bike traffic to the Greenlake neighborhood's commercial core to the north. This commuter focus informs a strategy of establishing a primarily visual relationship along this edge, capping each cluster that fronts the street with a publicly facing porch and vegetated setback, typical of the single family homes fronting the street. The topographic shift from the sidewalk to the interior of the block works to delineate public and semi-public spaces, contributing to a welcoming threshold experience entering the site from the east that will be utilized by users of the bus routes that runs along Latona Avenue.

The site is bounded to the north and south by NE 56th and 57th, which possess typical levels of street parking and traffic, with 56th being wider due its use as a primary access street to the Meridian neighborhood's small commercial core to the west. Parking spaces for each unit are designated along these streets, defined by added planting strips on 56th, as well as spaces cut into existing planting strips on 57th. The northwest corner of the block has a more neighborhood scale orientation and character; the project thus proposes the corner as the site of a greenhouse and p-patch, providing a communal function for the block while offering a welcoming entry to the site for visitors from the greater neighborhood. The southwest corner has already begun to develop as a neighborhood scale commercial corner, including commercial space on the main block, commercial space across the street to the south, and cafes and restaurants within walking distance to the west. The project design includes the retention of the existing mixed use building, with the addition of additional mixed use buildings to form a small retail courtyard, activating the intersection and acting as semi-formal pedestrian entry to the site oriented towards the McDonald International School one block south.

1. Cluster
2. Cluster Shared Land
3. Common Room
4. Block Shared Land
5. Rental Units
6. Commercial Courtyard
7. Greenhouse and P-Patch

48,000 sqft - Existing Coverage
31,000 sqft - Proposed Coverage

+13% Open Space

Est. 75 people - Existing Density
Est. 150+ people - Proposed Density

+100% People Housed

fig. 32 Project Site Plan, Block Scale

Proposed Greenhouse

Existing Home (SE corner of 57th St. and 1st Ave)

Existing Home (NE corner of 57th St. and 1st Ave)

Existing Commercial (West of Site)

Existing Commercial (NE corner of 56th St. and 1st Ave)

Existing Commercial (SE corner of 56th St. and 1st Ave)

Neighborhood Amenity

Neighborhood Frontage

Designated Parking

Proposed Planting Strip

Existing Homes (east side of Latona Ave)

Existing Homes (east side of Latona Ave)

1. Cluster
2. Cluster Shared Land
3. Common Room
4. Block Shared Land
5. Rental Units
6. Commercial Courtyard
7. Greenhouse and P-Patch

fig. 33 Project Site Responses

CLUSTER DESIGN

The project utilizes the communal pattern language outlined in Chapter 4 to establish the massing of its basic cluster organization. The use of the pattern language is intended to be flexible, such that many possible arrangements and articulations of housing satisfy its parameters, as one could imagine the use of the same pattern language resulting in very different forms as it is applied within unique contexts throughout Seattle's residential areas. However, the project utilizes its specific site conditions and programmatic goals to move forward with a single cluster design in order to measure the pattern language's success at the cluster and block scales.

The massing strategy begins by clustering two-story massing blocks together along an east-west axis (1), sized to provide for roughly five to eight families, per the pattern language. This axis immediately ensures strong solar access both for each unit and the future communal space directly to the south. The massing blocks measure fifteen feet wide, as both a reflection of the neighborhood scale, as well as being an efficient size for modular development or traditional framing. A lowering of alternating modules to one story increases the amount of light available to all remaining units (2) and increasing solar access for exterior spaces directly north of the cluster. This also has the benefit of reducing the perceived scale of the cluster, while also providing a greater flexibility in adapting to topographic conditions, as each mass can have an independent relationship to the ground plane. Laterally shifting alternating modules begins to form thresholds that delineate individual ownership through positive shaping of space (3). This again decreases the perceived scale of the cluster to the neighborhood level by reducing the potential for long uninterrupted building facades. This shift grants the internal rooms of each dwelling—especially the more privately oriented rooms to the north—increased access to multiple directions of light, leading to more well lit interior spaces throughout the day and year. Finally, the protrusion of the end units provides definition for a cluster level open space (4). While this does slightly decrease the solar equity of the cluster's internal units, the project pushes the issue of positively defined space and its role in the formation of communal identity. This also has the benefit of creating increased opportunities for unit diversity.

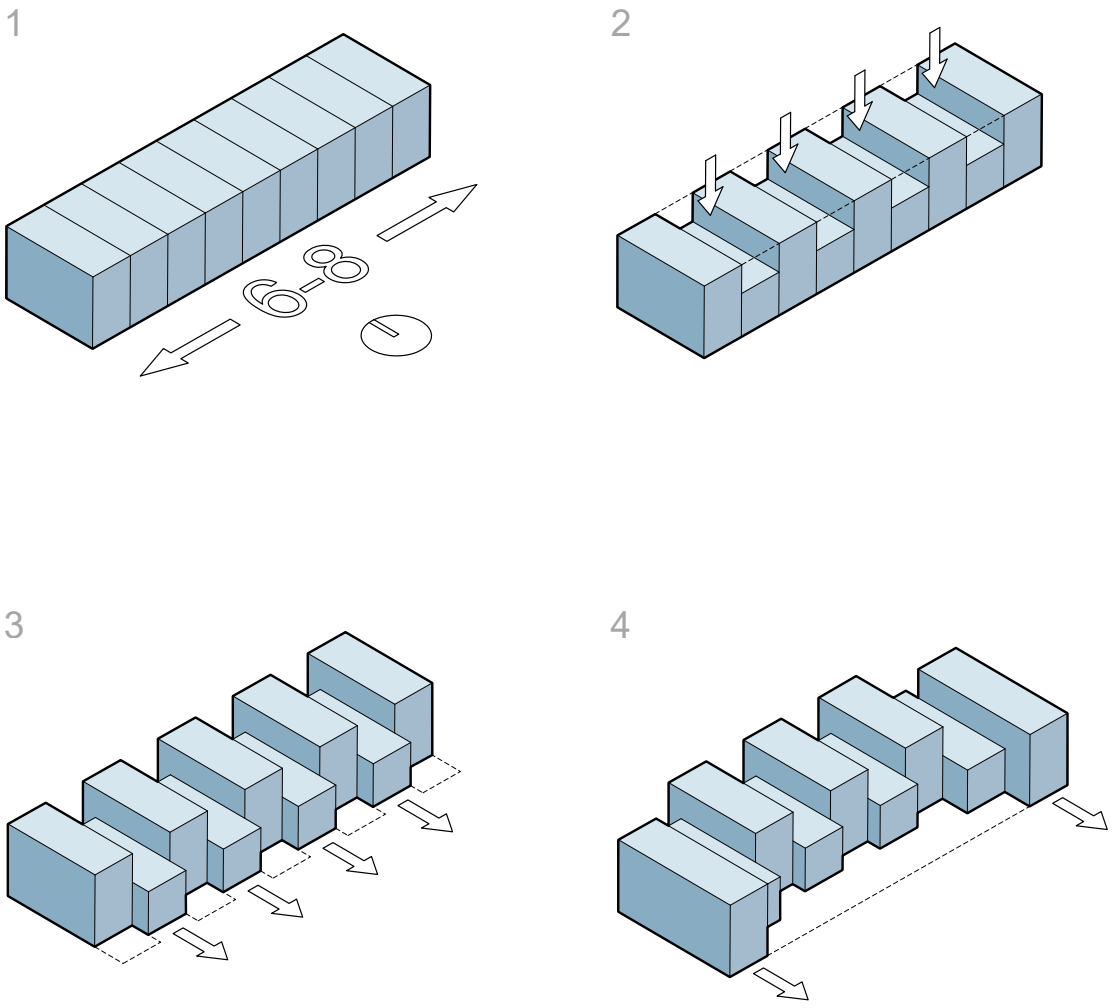


fig. 34 Cluster Massing Diagram

The resulting form is then articulated in response to site context and programmatic goals. This process begins with the adoption of pitched roofs that reflect the neighborhood context, providing many of the same benefits such as photovoltaic and drainage opportunities, as well as a further reduction of scale (5). Roof pitches alternate direction, taking on the assembled character of the neighborhood.

Two story forms are further articulated through large cuts into the two-story masses, driven by solar access of spaces to the north (6). The result are forms reminiscent of the solar zoning envelopes of Ralph Knowles, in which solar geometry is clearly readable in the building's form. Roofs take on the character of a modified hip gables, another form typical of the surrounding craftsman homes.

Finally, the resulting massing is divided into a collection of four unit types of various size and relation to ground plane (7). These include larger end units for families, medium sized ground floor units for elderly residents or small families, a two-story townhouse style home appropriate for couples, as well as multiple small studios for students. The unit diversity promotes intergenerational living exemplified in Bridge Meadows, Portland, in which the diverse social resources and needs of different users can provide both mutual benefits for a community and increased presence and activity throughout the day.

The design of each housing cluster can be understood as two interlocking components: the connected cluster of dwellings, and the exterior land that is owned and shared by the cluster. The scale and shape of both the homes and their exterior spaces are driven by site efficiency and access to sunlight. Block dimensions regulate the number of alternating clusters and open spaces that can be organized onto the site along the north-south axis.

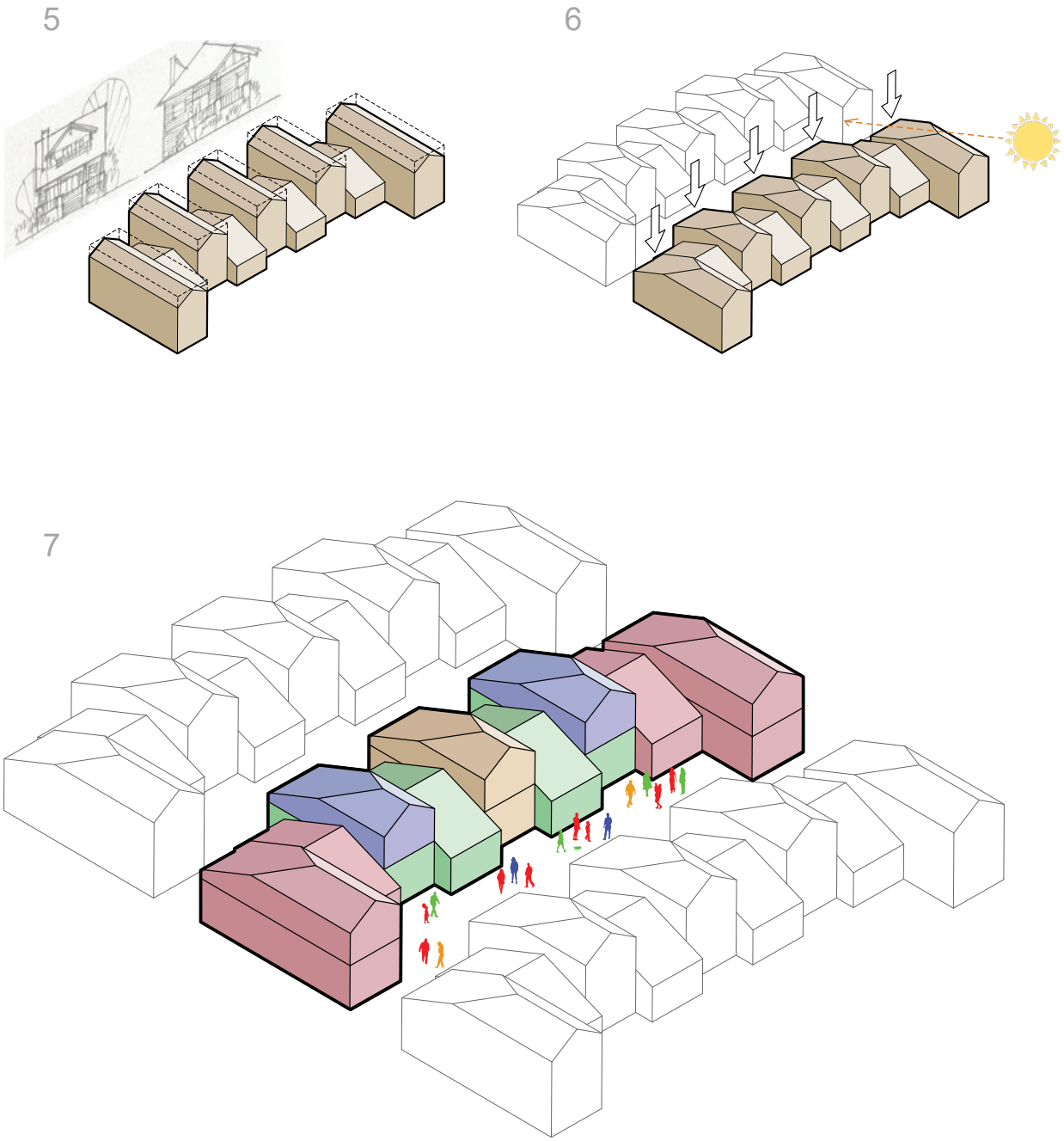


fig. 35 Cluster Articulations Diagram

fig. 36 Northern Site Entry

CLUSTER EXPERIENCE

Use of a five to ten foot vegetated setback mediates the relationships between the backside of clustered homes, comprising mostly of bedrooms, and the public sidewalks which is kept at a walkable scale. Housing clusters are approached through a series of bisecting pathways that connect to the public sidewalk, treated with similar materials and scale, designating them as semi-public spaces. Topography again works to demarcate a public-private threshold. End units from each cluster take on added covered porches, reducing the sense of scale to provide an engaging and welcoming entry.

With site parking being consolidated to street parking—at a rate of one parking stall per unit—the main entry for the cluster becomes the south side shared space of each cluster, with the exception of end units, which can also be entered via the added porches. Ground plane materials create a gradation of privacy, with the interior block walkways transitioning to a finer grain paving for use by the cluster, which connects to a raised deck that connects all units at their entry points. Seating planters mark the points of transition between each ground plane, and provide spaces for chance meetings and informal gathering. A strip of turf is shared by all dwellings of the cluster as a safe space for children to play, as well as a sunny space for meals and small gatherings. High-use, social spaces such as kitchens are oriented towards the shared exterior space to provide more frequent informal contact between neighbors. Conversely, private spaces such as bedrooms and service spaces are oriented towards the north side of clusters, with added vegetation acting as a buffer for privacy. The upstairs floors (including studios), utilize private balconies to the north to create a passive sense of connection between clusters.

The size of the exterior space, including the semi-public pathways that define them, are driven by seasonal sun angles. As detailed in the project goals and pattern language, the presence of direct sunlight plays a role in not only the human health of residents, but the health of a communal space. In Seattle's mild coastal climate, solar access is most critical in the fall and spring seasons; their lower overall temperatures and lower light levels make access to sunlight an actual determining factor in whether people choose to utilize exterior space as part of their daily life. Conversely, summer months possess an overabundance of sunlight, while winter months are too cloudy and cold to generate consistent use of exterior space. The project takes these parameters into account in the spacing and scale of its exterior space by setting the distance between housing clusters such that exterior spaces receive full sun exposure during the most critical months.

fig. 37 Roof and Landscape Plan

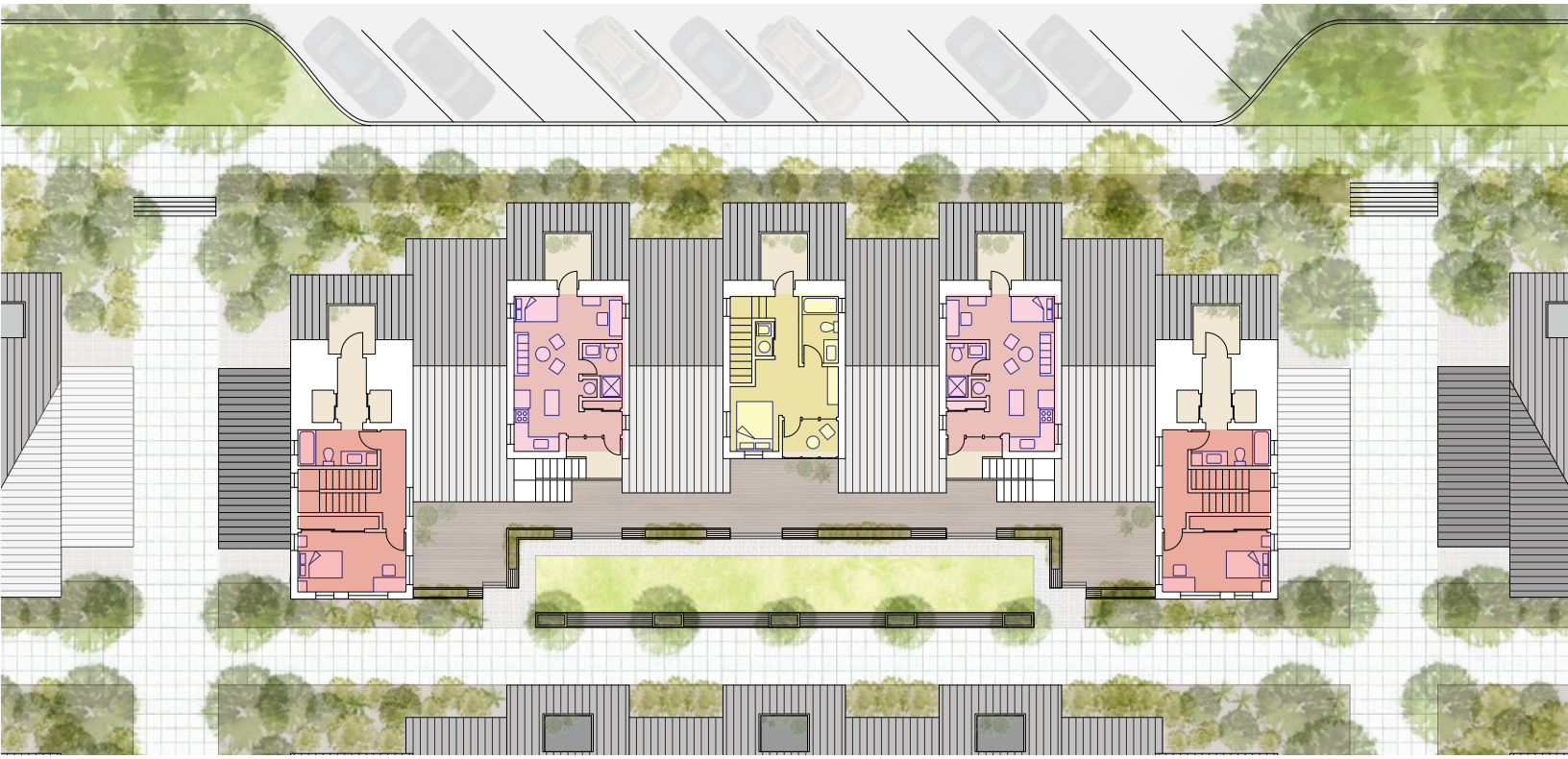


fig. 38 Ground Floor Plan
fig. 39 Second Floor Plan

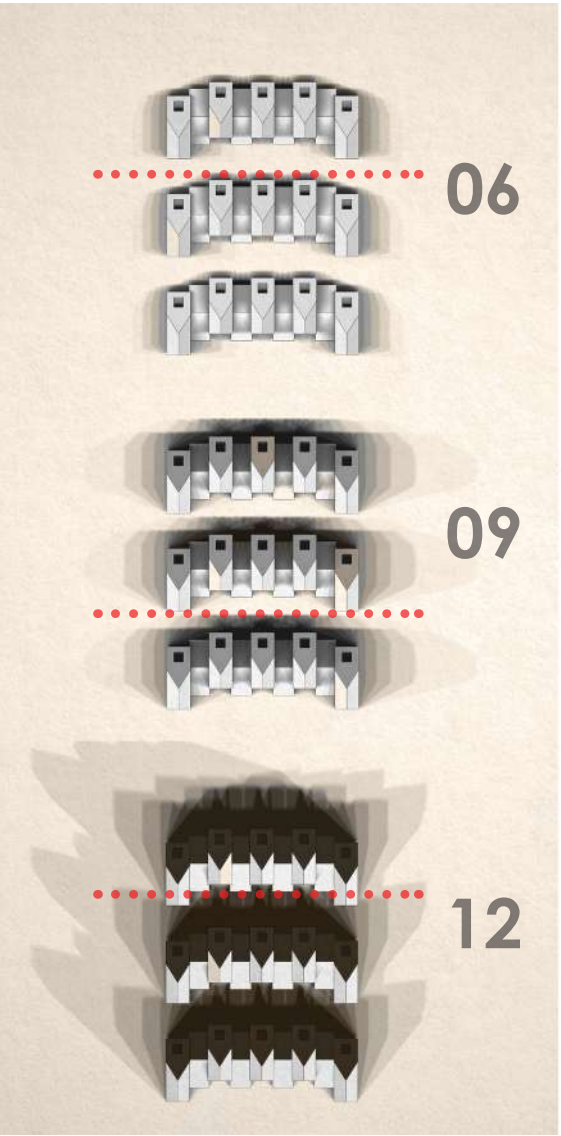


fig. 40 Solar Exposure Study (Summer, Fall, Winter)
fig. 41 Cluster Section Perspective


SHARED LAND
CLUSTER


0
5
10
15
20

fig. 1 Cluster Shared Space

fig. 43 Block Shared Space

SHARED BLOCK SPACE

The program of the block's central space is collectively owned, and is intentionally flexible, both on a block by block basis, as well as over time as the needs of the block change. The use of a pattern approach suggests that this space will vary substantially in size and purpose from block to block. For this particular block, the project tests the potential of three community specific amenities in the center of the block; a large common room suitable for indoor events, a small turfed area for play and outdoor events, and a small cluster of compact one story rental units for guests. The community spaces are physically open to the semi-public pathways that bisect the site, inviting chance passings between residents while also providing spaces to dwell and gather.

The amenities follow the same logic of the dwellings themselves, taking on pitched roofs to ensure sunlight for units to the north while reflecting a neighborhood language. A large covered deck fronts the community room that spills out west towards the field, receiving an abundance of light in the evenings, when social gatherings often occur. The turfed area is similarly bounded by a low planter bench, providing a range of spaces in which to dwell in both sun and shade. The form of the common room communicates a more direct sense of shelter, being usable year round during any weather conditions. The communal spaces are fronted by a number of housing clusters to the north and south, suggesting the use of vegetation and planter seating as a visual buffer and delineation of ownership.

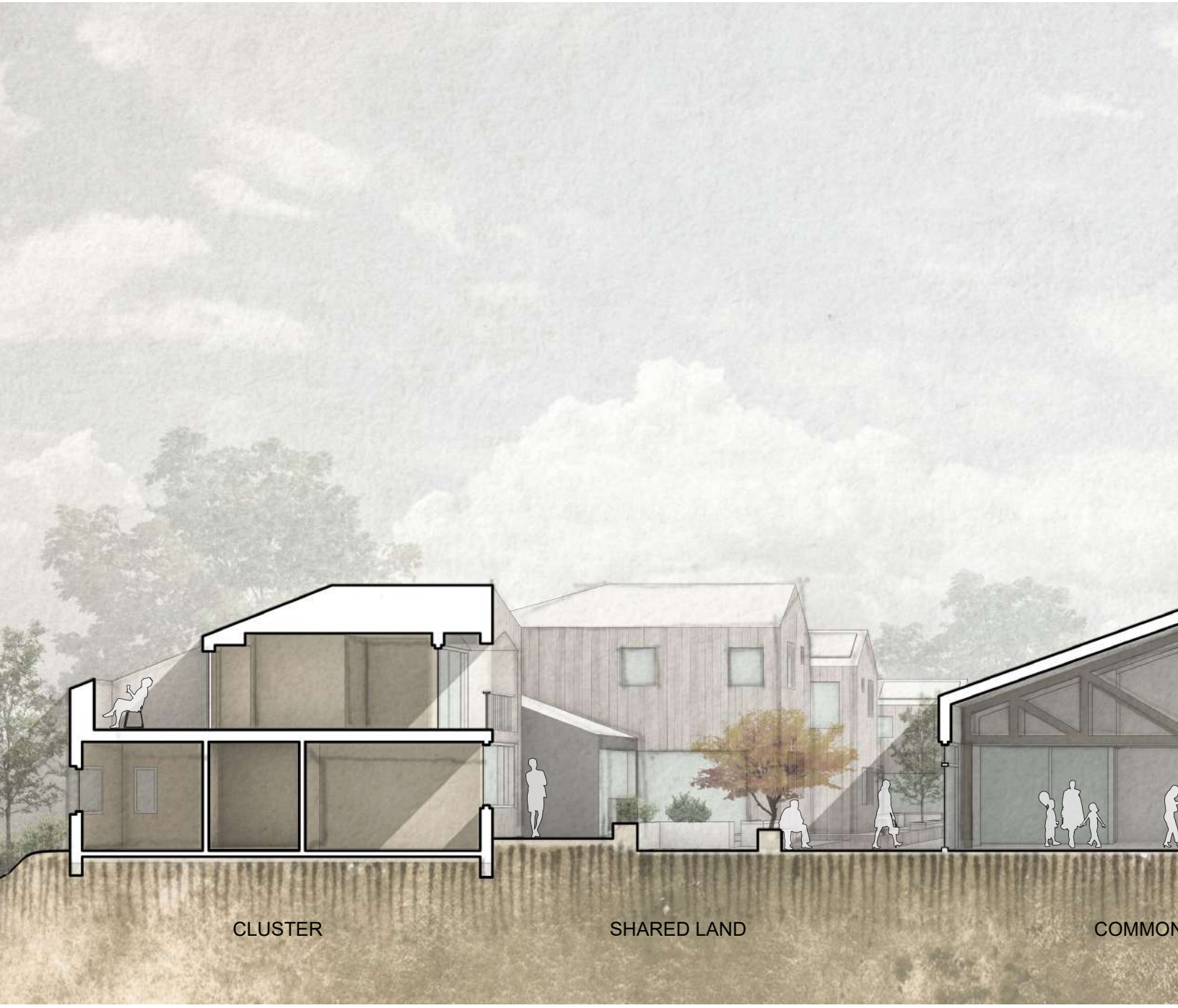
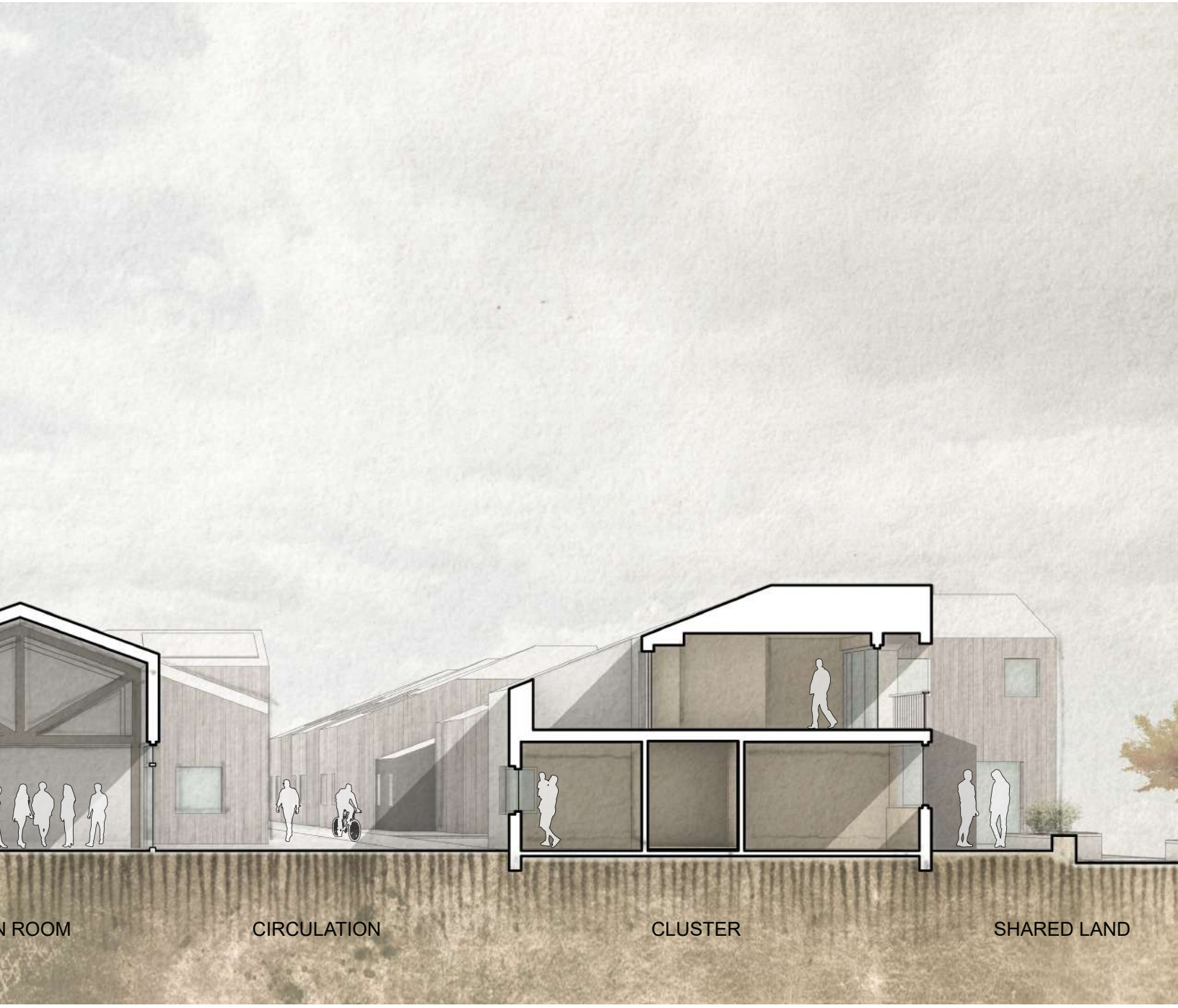


fig. 44 Site Section Perspective through Common Room


N ROOM
CIRCULATION
CLUSTER
SHARED LAND


0
5
10
20
50

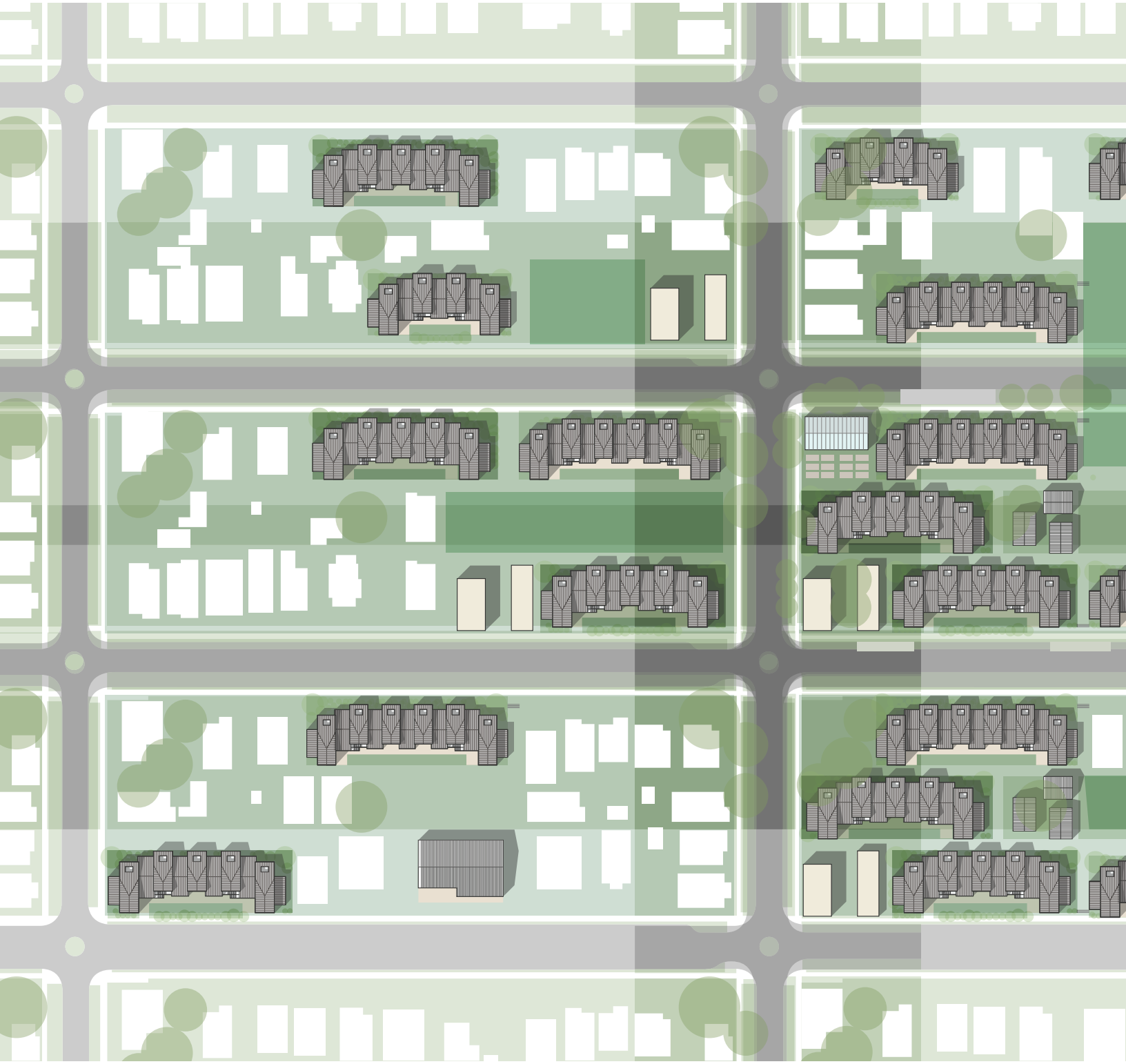
fig. 45 Block Common Room

BEYOND THE BLOCK

While the thesis limits itself to the spatial and organizational design exploration of a single block, a number of important questions remain for future study. While the envisioning of an entire block community persists as a long term vision, can each cluster operate independently in order to build the pattern language organization over time? What additional patterns would need to be developed in order to mediate these transitions? The design project was restricted to a single block with a fixed orientation, but the Seattle landscape is populated by a wide range of block orientations and shapes. How adaptable is the pattern language to these variations, and how can new ideas about neighborhood program enrich the design's vision and goals? Lastly, what are the limits of the pattern language at the largest urban scale? How far can the pattern logic expand, and can it be integrated into the current landscape in a way that begins to recapture the structural grid itself as shared public space?

fig. 46 Pattern Growth for a Block

fig. 47 Block Variations



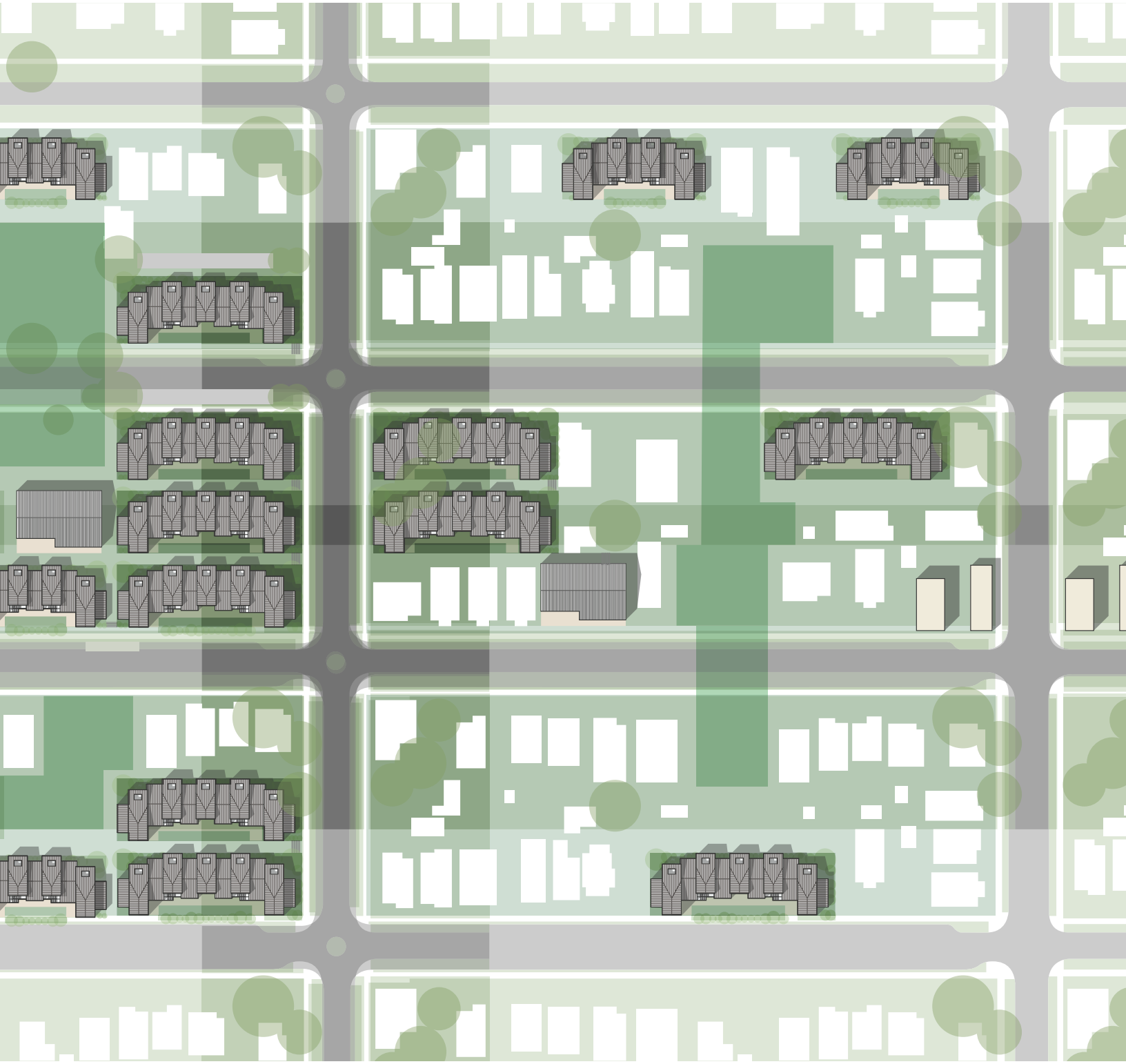


fig. 48 Neighborhood Block Pattern

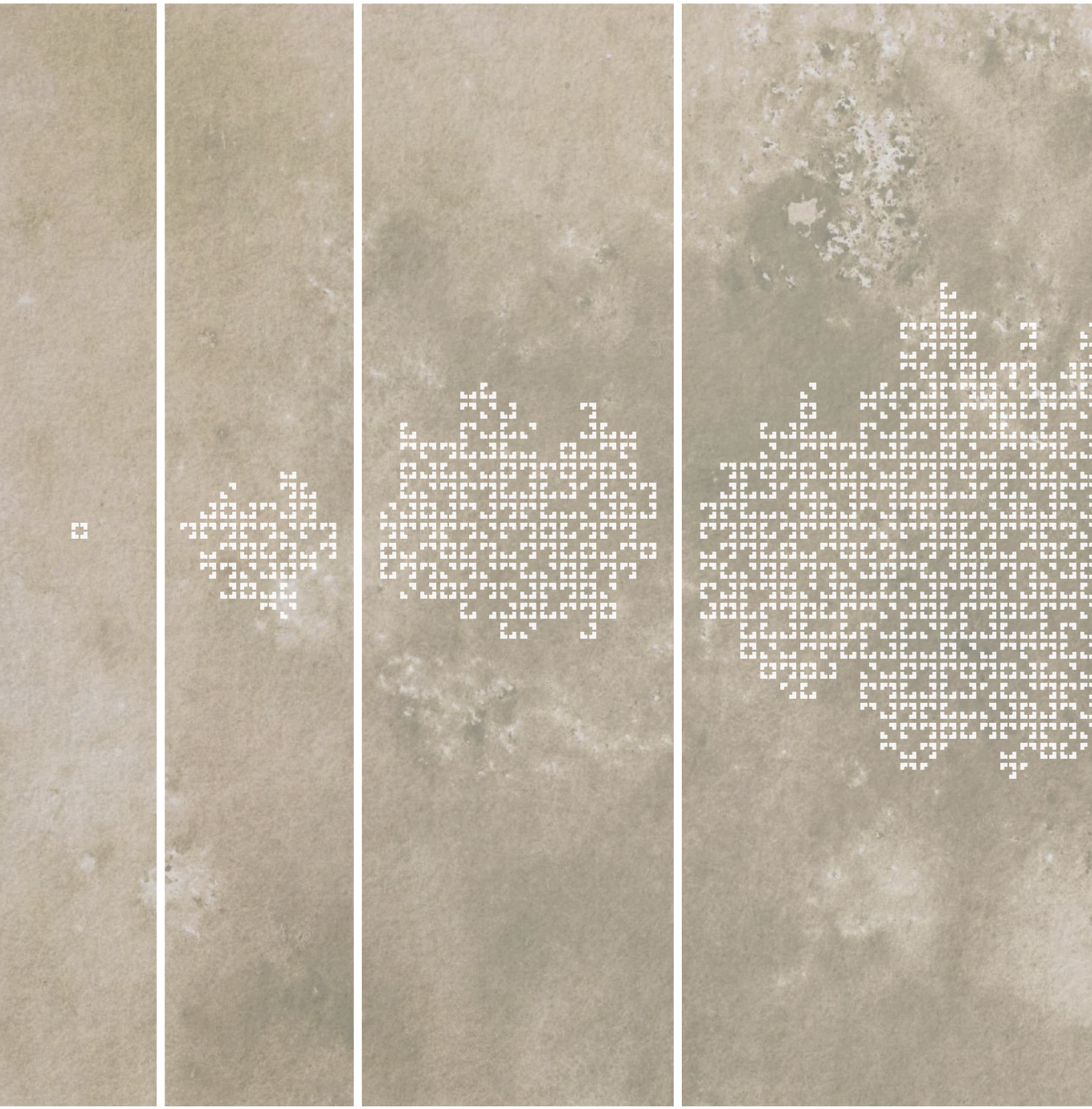


fig. 49 Urban Pattern

CHAPTER 5

CONCLUSIONS

... This in a sense is a vernacular point of view. That there is nothing sacred about the grid, or the house, or the piece of land [...] We are beginning to be revert to a different idea that space has no inherent character but how we use it.

J.B. Jackson[30]

This thesis has argued that a pattern-based approach to analysis and design of Seattle's housing strategies can address our need to achieve a greater balance between communal and autonomous life. The fabric of Seattle's historic single-family neighborhoods provide a cherished and historic sense of character and diversity, but as technology has impacted changing lifestyles, this fabric no longer possesses attributes conducive to communal interaction, nor are they growing at a fast enough pace to support Seattle's housing demands. The values embedded into our housing strategies, manifesting at both the systemic level through municipal code and the individual level through autonomous attempts at separation, are in contention with values of communal life. The thesis has discussed how such urbanistic issues can be approached systematically, and how a shift in values towards shared ownership of space can be supported within the Seattle grid while still accommodating our desires for privacy and self expression.

What was found during analysis of Seattle housing, as representative of American housing, was a clear prioritization of autonomous living at nearly every scale and typology of housing. Apartments, townhouses, and the single-family home are lacking in communal spaces that are scaled and organized to consistently facilitate both informal and formal contact between residents. Exterior spaces are typically divided into functionally symbolic parts. The only spaces that might produce communal interactions are particular areas of the ground plane, namely the public sphere, yet their reduced scale and persistent occupation by vehicles make them poor spaces for dwelling and social interactions, prompting the design project's reorganization of the single-family block strategy to explore

the potential of communal space internal to a block. This decision marks a potential new direction for the project by addressing the ability of streets themselves to be restructured or organized in parallel with the reformulation of the block, re-elevating the role of the street to a truly public, walkable space, while greatly increasing the potential for individual blocks to form visual and spatial relationships across streets.

The use of structuralist and pattern language within the design project are effective tools for relatively rapid exploration of housing through the establishment of core relationships between the home, cluster, and block. However the use of structuralist principles suggests that the resultant forms of the design project as a 'clustering of clusters' could permit a range of future uses, such as businesses or studios, that can operate within the same organizing principles. Continuing with the value of flexibility, while the project utilized a restrained visual aesthetic to bring focus to the spatial organization, the communal pattern language would also benefit from the explicit inclusion of user input and inhabitation as a core pattern, highlighting the importance of variability and expression at all scales. The communal pattern language might also expand to specifically address the more nuanced experiential quality of thresholds between various scales of community, most notably spaces that exist between the private and the semi-private, which play a significant role in the efficacy of residential projects.

This design has attempted to integrate a relatively dense approach to housing into a traditional housing fabric. The approach is explicit regarding its deviation from typical single-family development, as well as its choice of a centrally located neighborhood as a site of study. The thesis contends that such an exploration plays a role in both evaluation of our current housing guidelines and strategies and the imagining of solutions for an increasing need and desire for communal relationships. Seattle housing demands and affordability issues will continue to challenge our future lifestyles and social dynamics, which ultimately revolve around the value of private and public ownership, and the relationship between the individual and communal. The project has developed as a means of exploring how Seattle can adapt to these futures through simple, timeless observations on how people find happiness, comfort, and a sense of place in their built environments.

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END NOTES

1 Hsu, Francis L.K..Psychological Anthropology: American Core Value. Cambridge, Massachusetts: Schenkman, 1972. Print. p. 261.
2 ibid. p. 250.
3 ibid. p. 248
4 ibid. p. 250
5 Marino, Claire, and Mendelsohn, Janet. Figure in the Landscape: A Conversation with J.B. Jackson. Documentary Education Resources, 1987. Video.
6 Knowles, Ralph. Sun Rhythm Form. Cambridge, Massachusetts: MIT Press, 1981. Print. p. 34
7 ibid. 35
8 Marino, Claire, and Mendelsohn, Janet. Figure in the Landscape: A Conversation with J.B. Jackson. Documentary Education Resources, 1987. Video.
9 ibid.
10 ibid.
11 ibid.
12 Rosenberg, Mike. “Seattle’s housing crunch could be eased by changes to single-family zoning, city report says.” Seattle Times. 03 December 2018.
13 ibid.
14 Alexander, Christopher. The Timeless Way of Building. New York: Oxford, 1979. Print. p. 241
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16 ibid. 37
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18 ibid. p. 91
19 ibid. p. 144
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21 ibid. 199
22 ibid. 177
23 ibid. 337
24 ibid. 337
25 ibid. 519
26 ibid. 514
27 Knowles, Ralph. Sun Rhythm Form. Cambridge, Massachusetts: MIT Press, 1981. Print. p.4.
28 “Bridge Meadows, North Portland.” <https://bridgemeadows.org/our-work/north-portland> Date: 10/15/2019
29 Analysis drawn from direct personal observation.
30 Marino, Claire, and Mendelsohn, Janet. Figure in the Landscape: A Conversation with J.B. Jackson. Documentary Education Resources, 1987. Video.

FIGURE LIST

APPENDIX: PROCESS

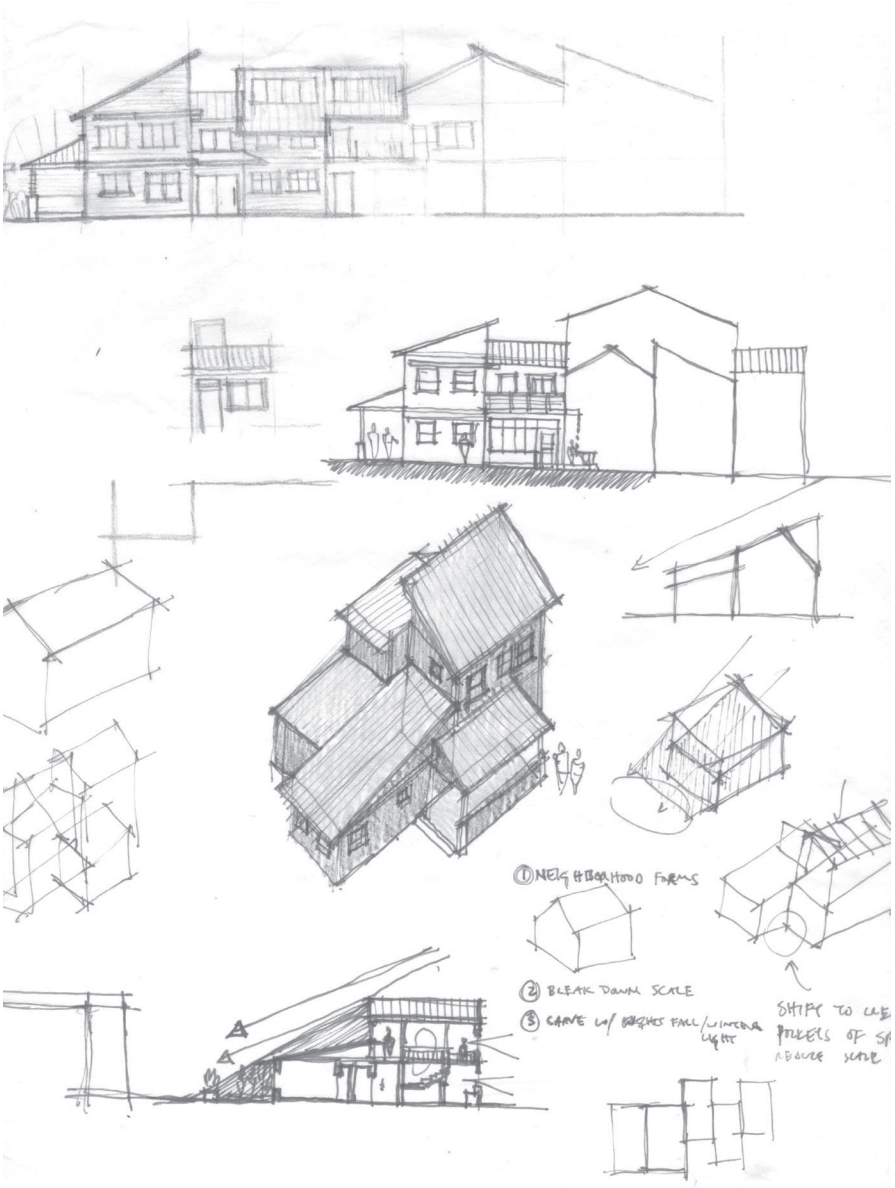

fig. 50 Assemblage

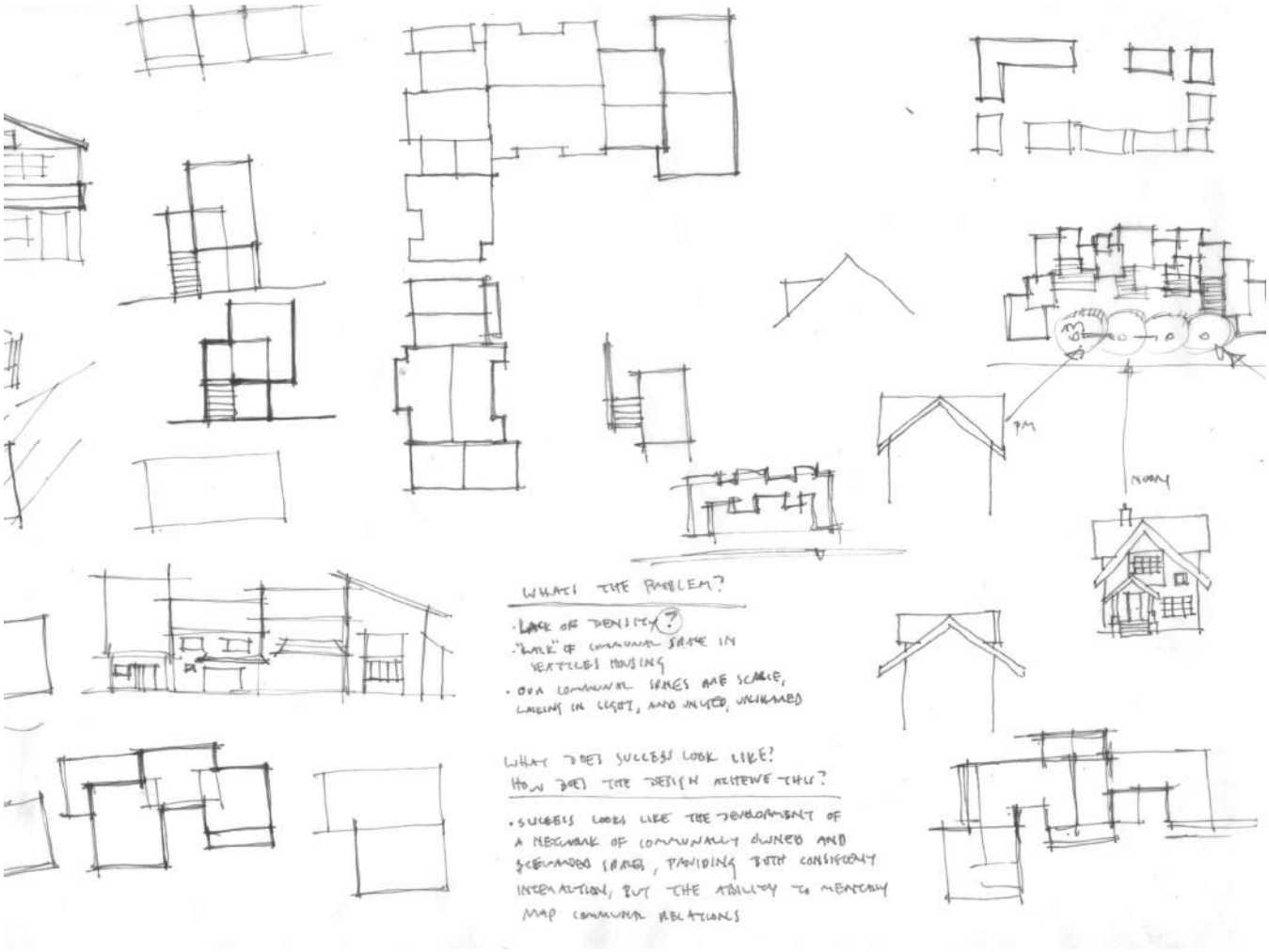

fig. 51 Cluster Variations

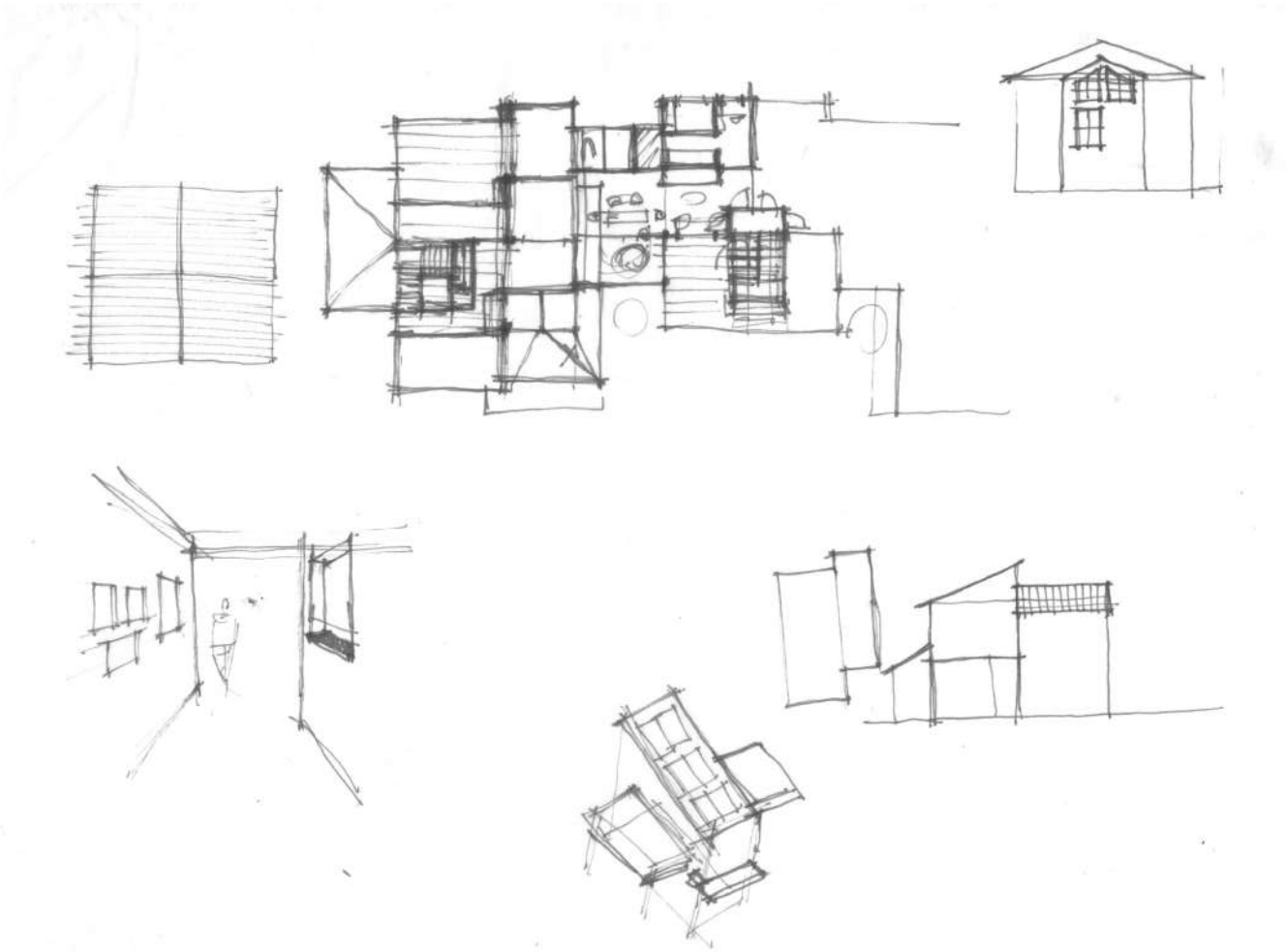

fig. 52 Floor Plan Explorations

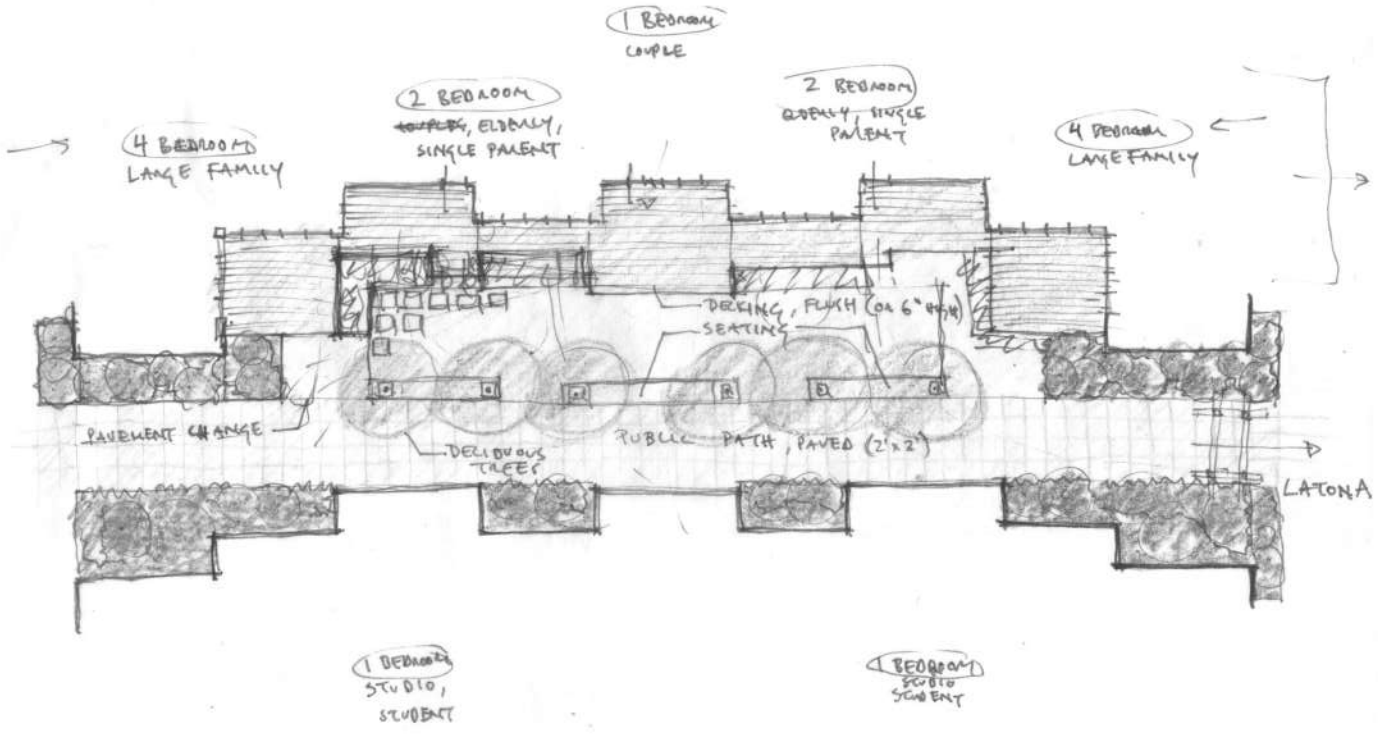

fig. 53 Shared Space Landscaping

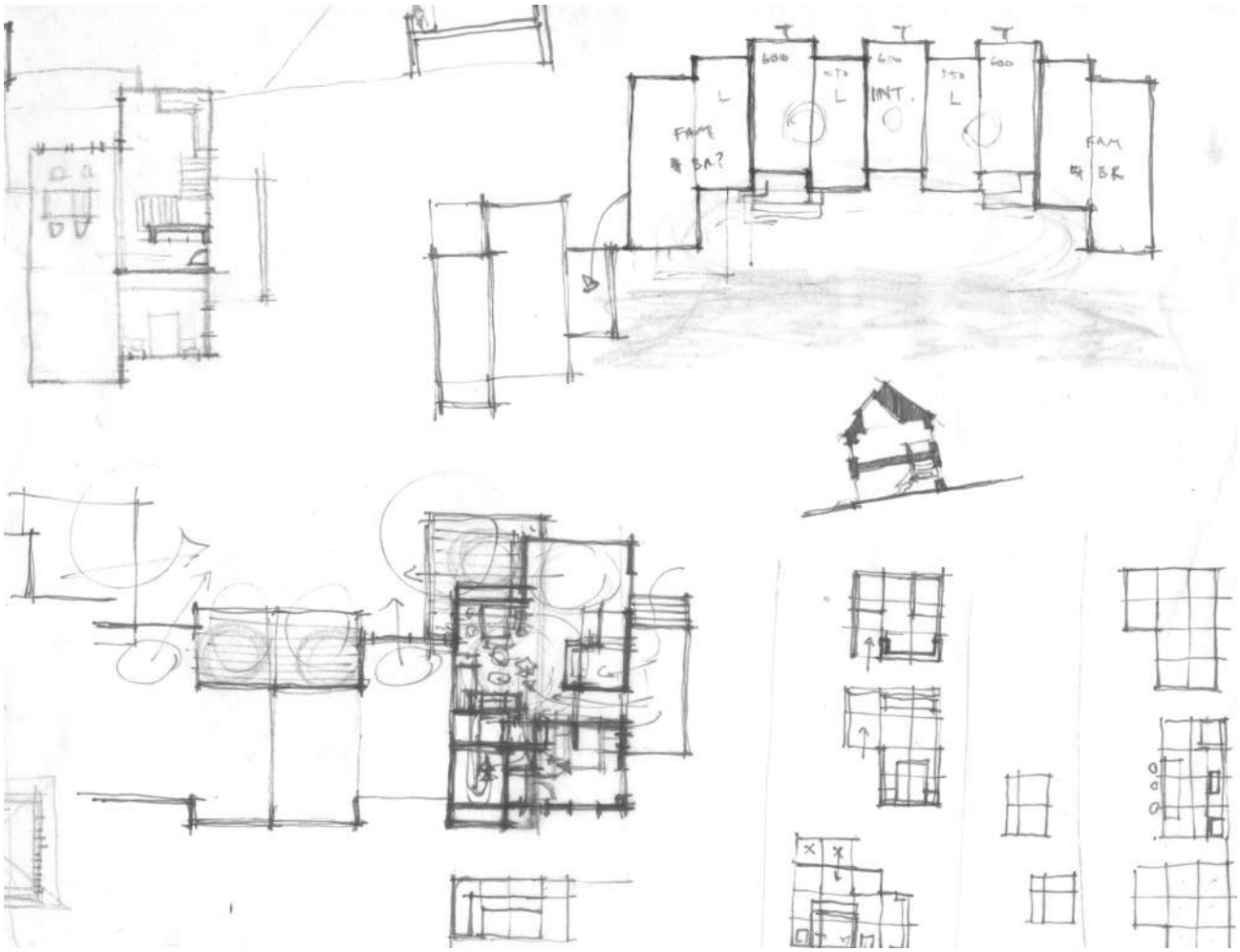

fig. 54 Modulation

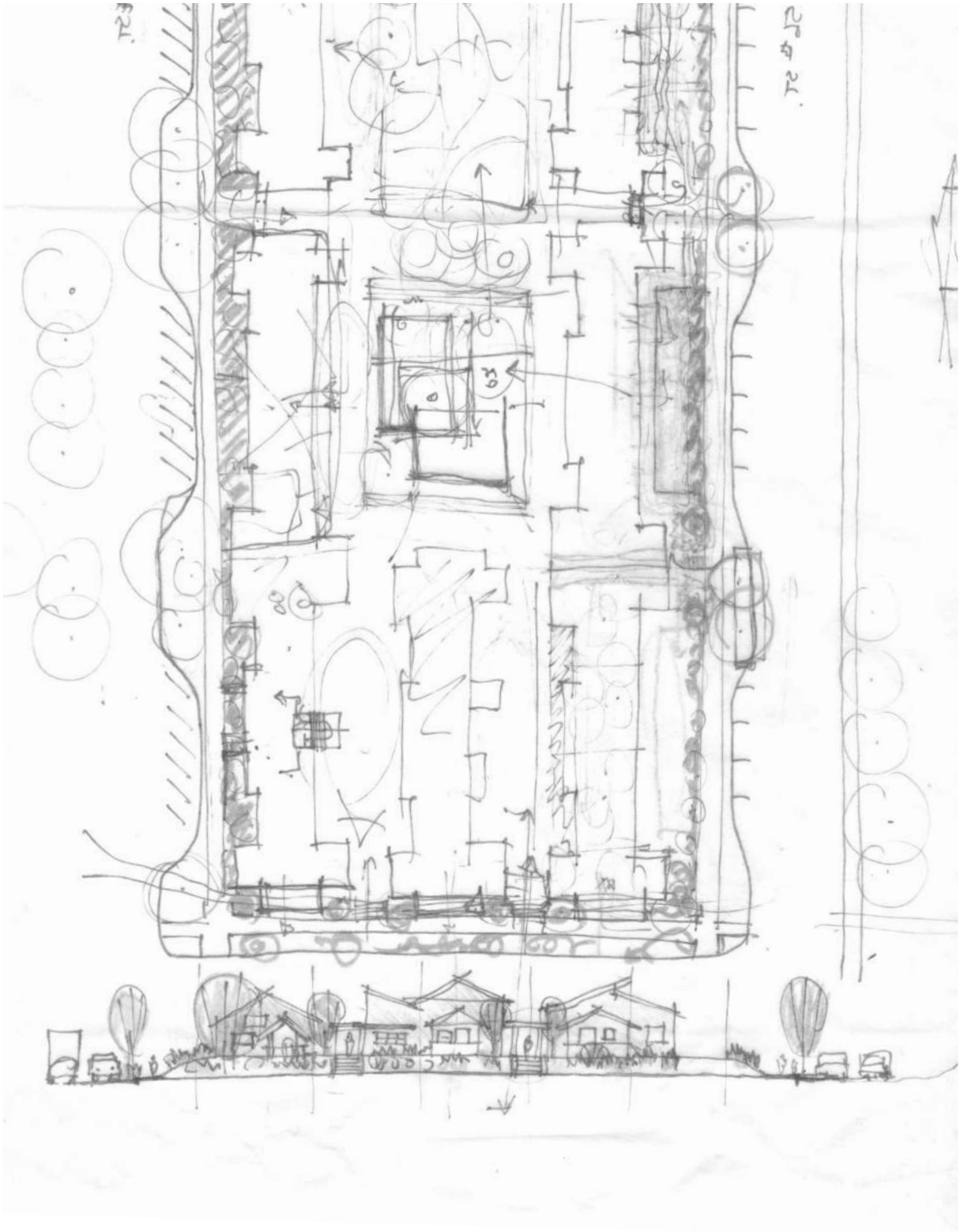

fig. 55 Site Planning and Responses

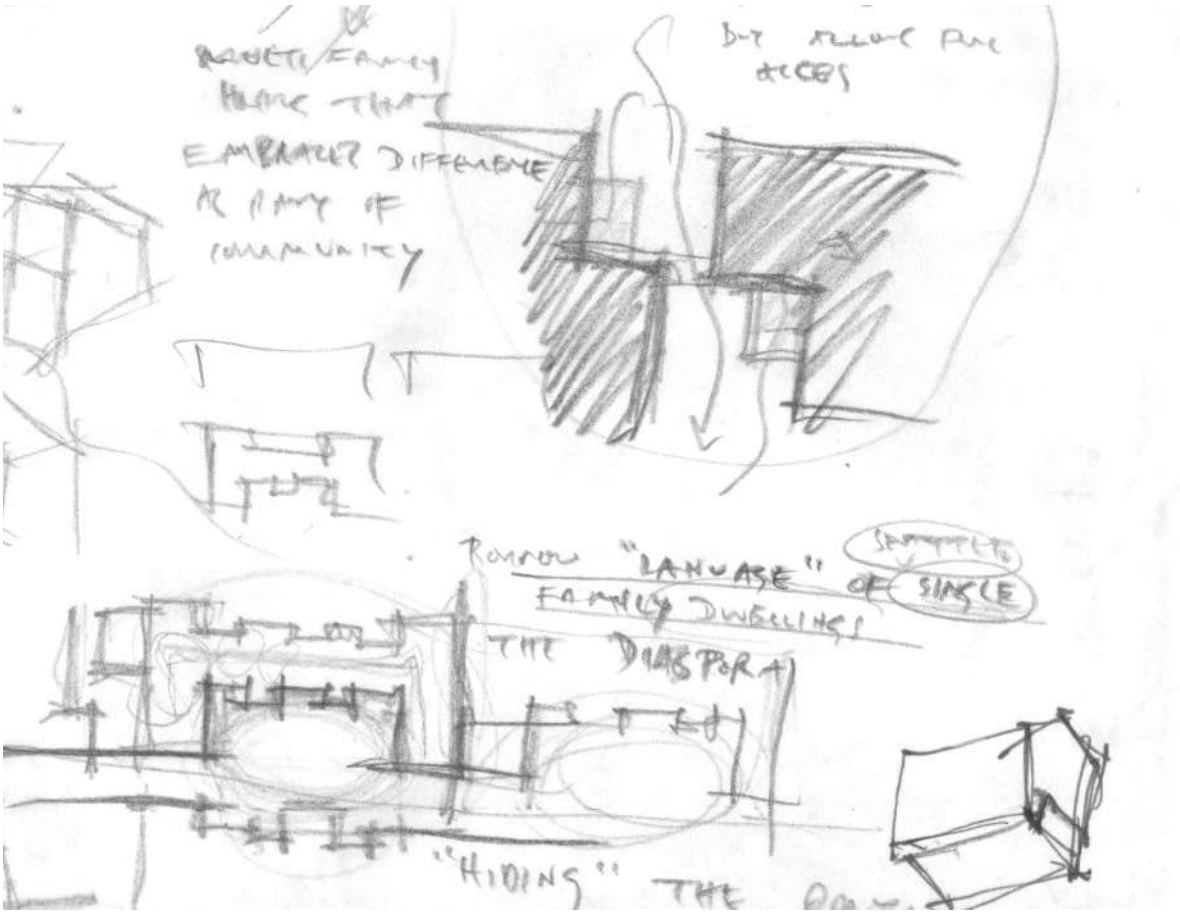

fig. 56 Communal Patterns

fig. 57 Cluster Formations

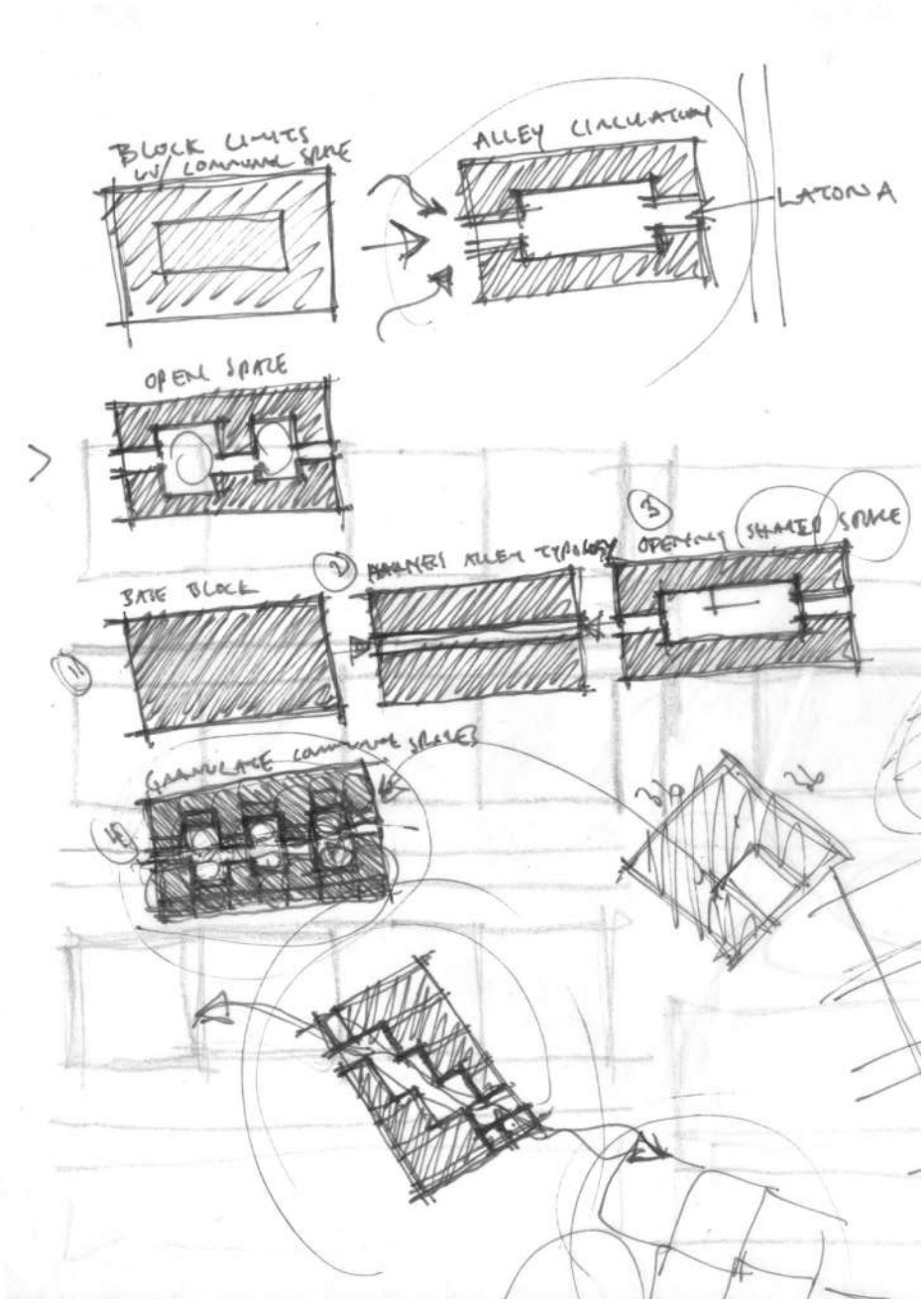

fig. 58 Block Logic

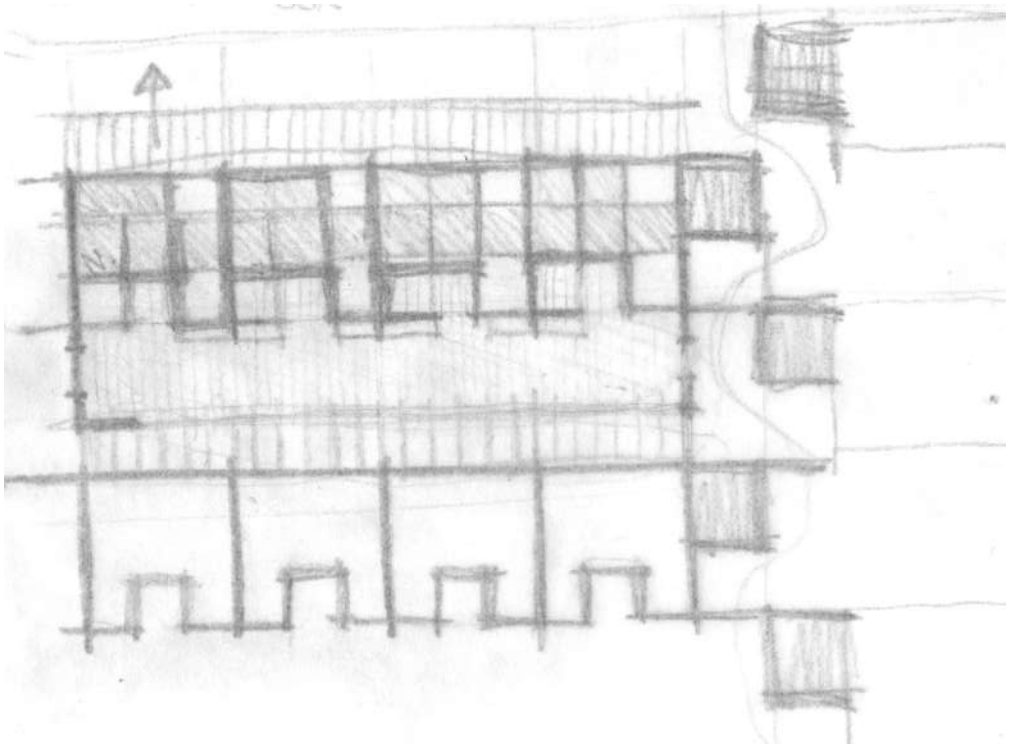

fig. 59 Unit Relationships

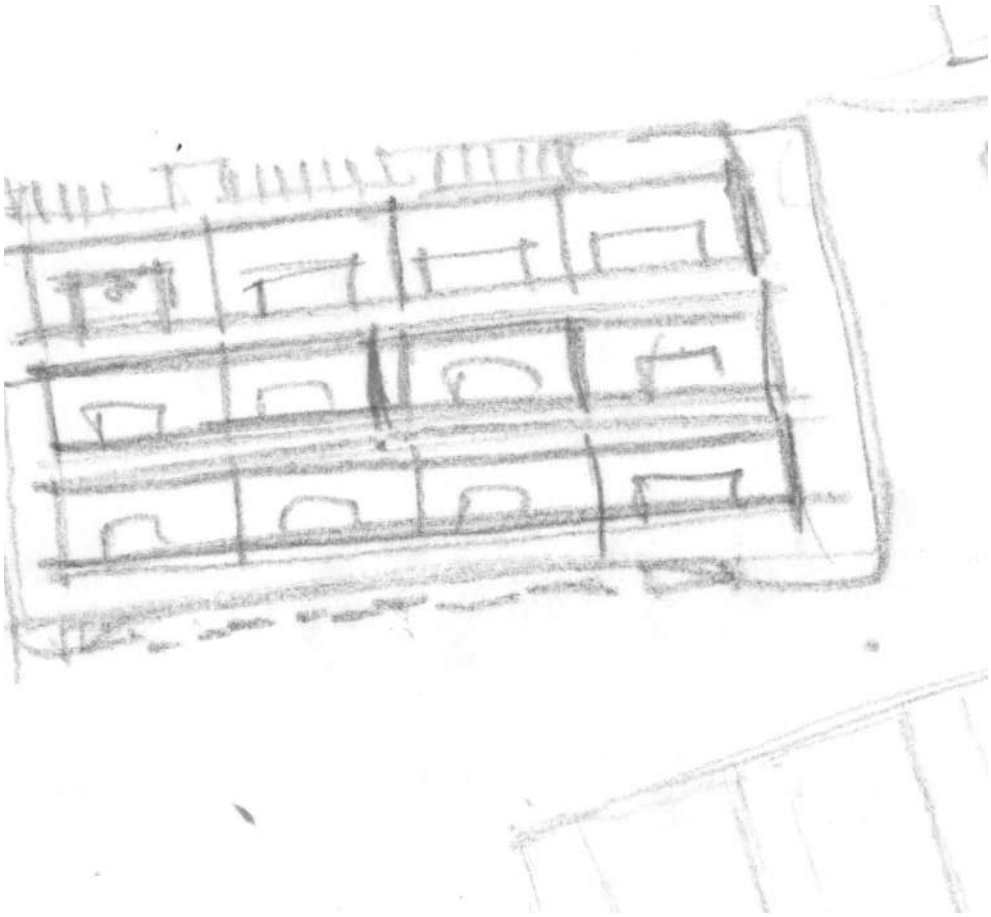

fig. 60 Timeless Housing

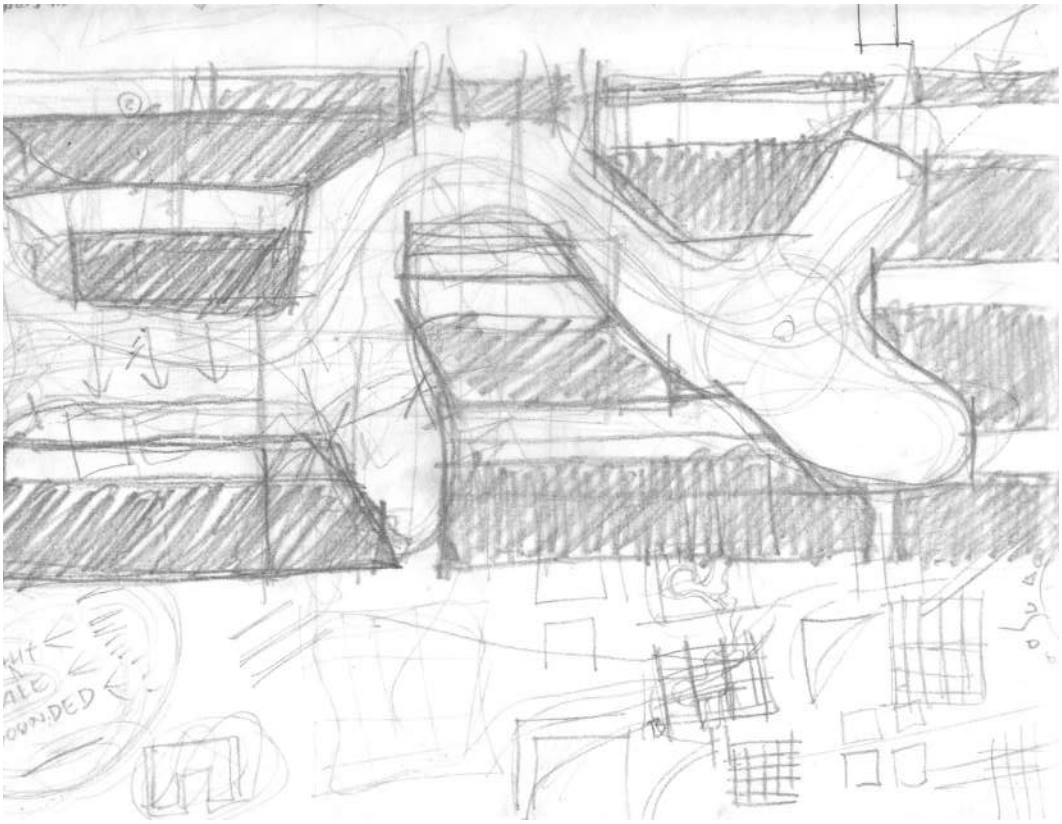

fig. 61 Shared Space Landscaping

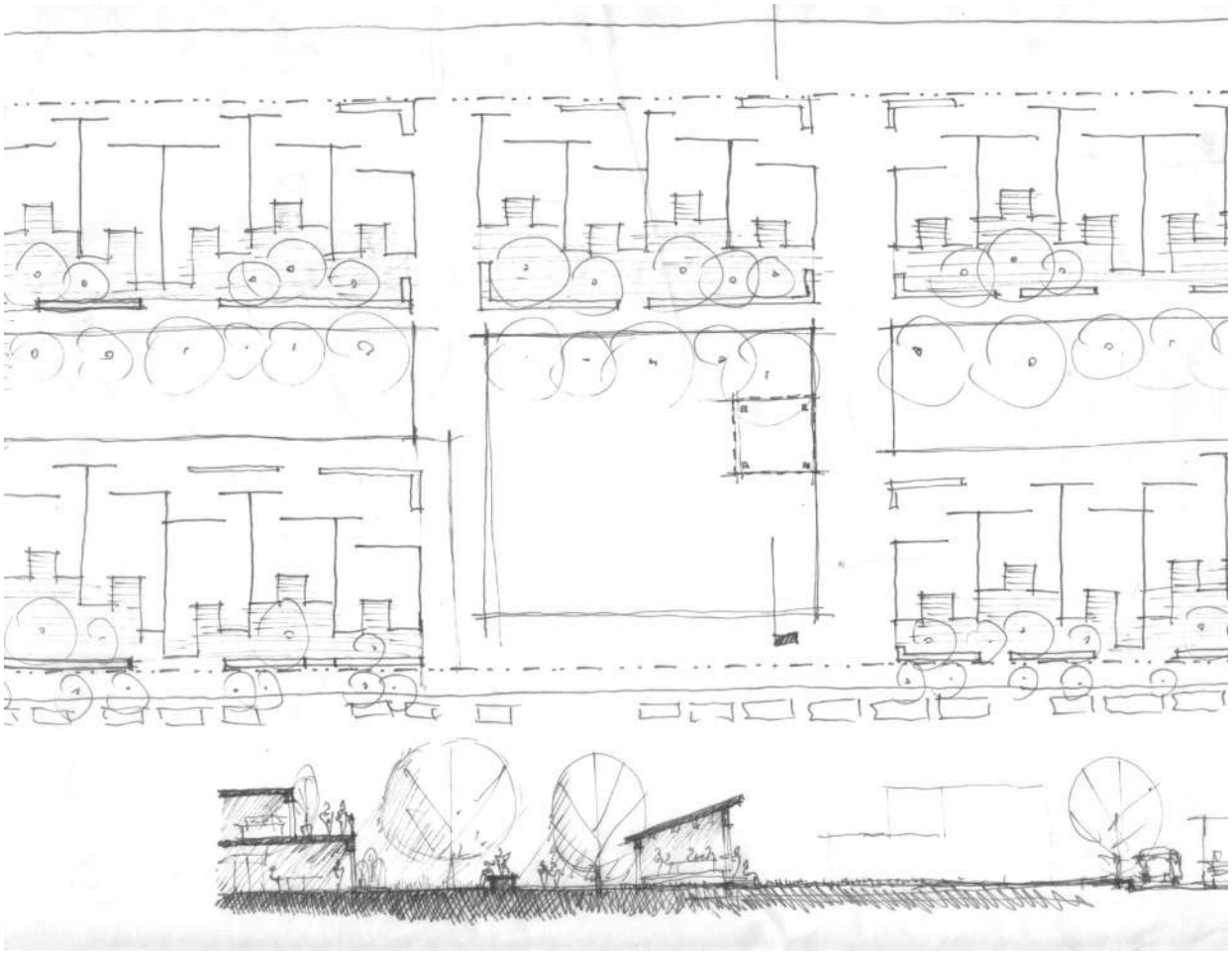

fig. 62 Site Planning

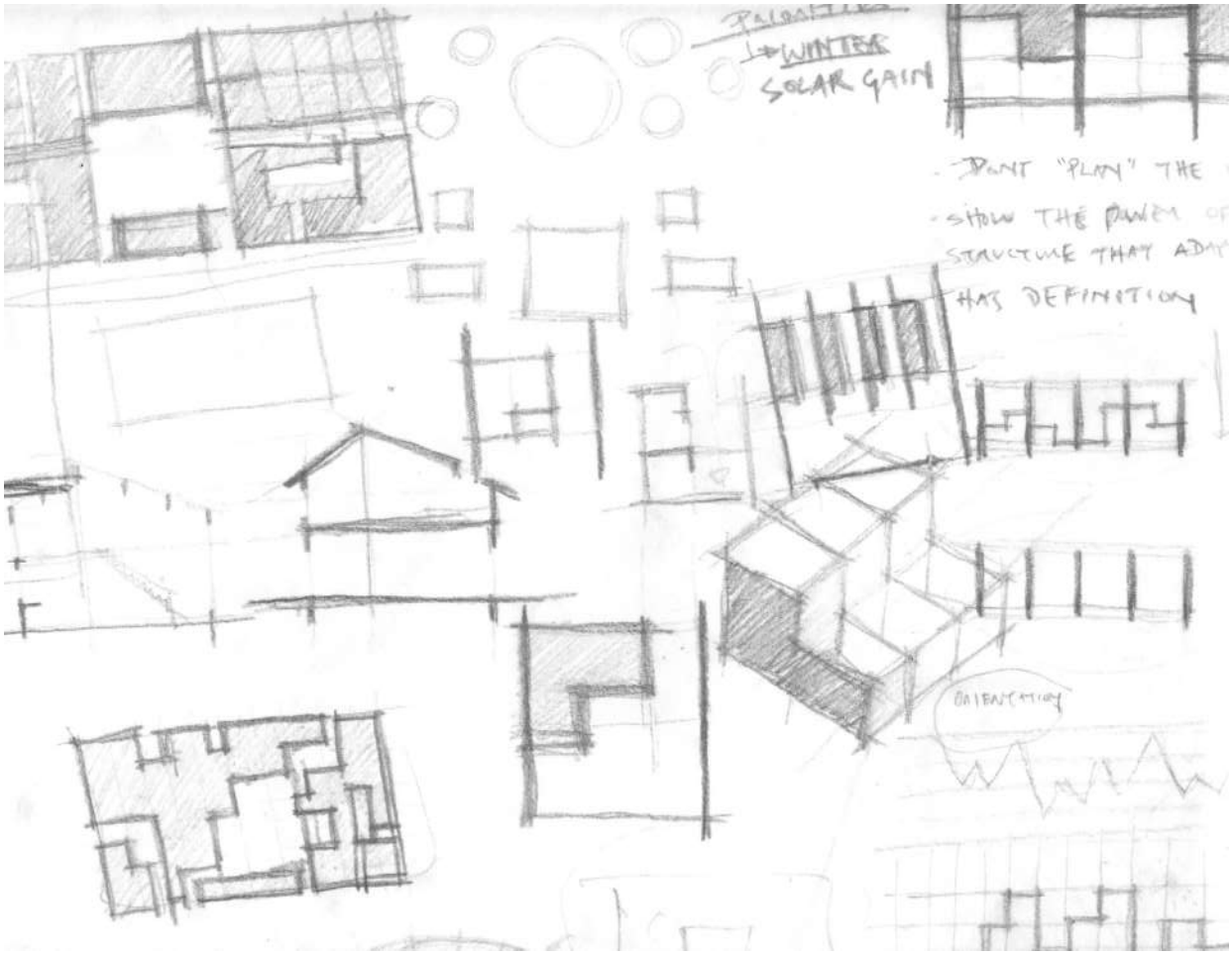

fig. 63 Modules of the Whole

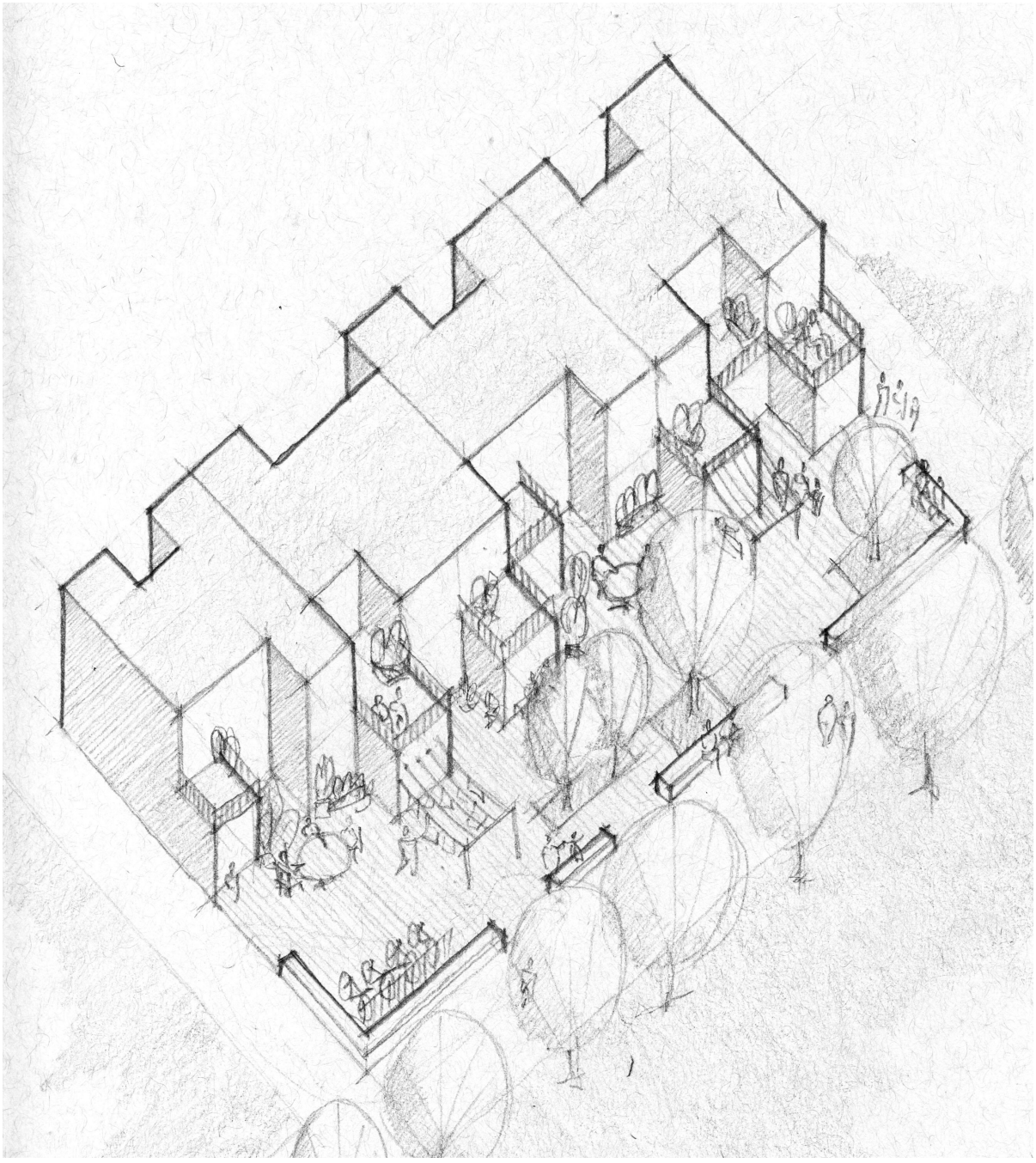

fig. 64 Cluster Variation