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ARCHITECTURE OF CONNECTION
A Mixed-Use Housing Strategy for Building Urban Community

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Abstract

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This thesis proposes that a more community-oriented housing type, informed by cohousing, student housing, and German *baugruppen*, is an important response to the social isolation brought by increased urban density, less public social space, and current demographic trends that increase the likelihood of our living alone. In an effort to strengthen social networks at multiple scales, this thesis proposes an urban housing community with extensive shared space as well as spaces that are open to and shared with the public.

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INTRODUCTION

Domestic building efforts in the United States have, since World War II, been focused on the private, not the public realm, primarily creating comfortable suburban cul-de-sac developments and high-rise condominium and apartment towers which have isolated us from our neighbors and the greater public. What used to be a shared dream for the ideal city has become a more personal dream for a better, more private home. This dearth of strong physical communities affects us negatively in myriad ways: when we are young and beginning families we have little help in navigating the new terrain of childcare. When we are older and need help with everyday tasks such help can be difficult to find. When we know our neighbors we take better care of our communities and those communities have less crime;¹ when we know our neighbors we can share resources, providing both economic and environmental advantages. And social science researchers have determined that chronic loneliness is a health risk on par with obesity and high blood pressure.²

Current housing options have not changed along with our changing demographics: more of us live alone than ever before,³ and we are also living farther from where we were born, and thus from our families.⁴ Less able to depend on spouses or family members, our friends and neighbors are increasingly important, and yet the spaces in which to build and strengthen these important relationships are few. As our urban populations increase in density and we continue to lose vibrant urban social spaces to ever more (much needed) housing, perhaps the only way to accommodate both needs is to join them: to learn to see our places of residence also as potential social centers. The Danish-led practice of cohousing, a form of semi-communal living, as well as student

housing, which typically emphasizes shared amenities and social spaces, can serve as helpful guides for how we can live in a more community-centered way. And housing projects that create public space for the neighboring community to also enjoy can serve as guides for how our residential buildings might act also as urban social centers.

This thesis proposes that a more community-oriented housing type is an important response to increasing social isolation and that without interventions such as these, isolation will become a larger issue as cities such as Seattle experience increased urban density and try to house more people without considering spaces for the building of social networks. The proposed design project is sited in the Pioneer Square neighborhood of Seattle, which is in the early stages of a renaissance, bulging with start-up companies but lacking adequate housing. This thesis proposes an urban housing community in a mixed-use building complete with a co-working space and café that are open to the public—a “great good place,” as termed by Ray Oldenburg, which is integral to strengthening community.

The scope of this thesis investigation begins with a chapter devoted to exploring the current primacy of private over public spaces in the United States, the social isolation resulting from this, and the affects of this isolation. Chapter two will explore design responses to this growing isolation, focusing primarily on the practice of co-housing. Considerations regarding the design of private and public space, especially important in the design of semi-communal housing, will follow in chapter three. Chapter four will look at architectural precedent studies from other housing typologies, and chapter 5 will summarize and conclude the theoretical investigation. Part two will describe the resulting design project with chapters on the design methods, site analysis, building program, and ultimate design.

Part 1: THEORETICAL INVESTIGATION

Ch.01 SOCIAL ISOLATION AND THE NEED FOR COMMUNITY

“So many of life’s problems would be softened if we had three or four exceptional friends living within a two minute radius.”

Alain de Botton⁵

Semi-communal living has not been as readily accepted in the United States as in other parts of the world, due in part to an American creed of individualism which yields a need for private and complete ownership of space far away from others—a vestige of the homestead on the prairie. With this mindset, the designs of our private spaces have thrived and been consistently promoted over public or even privately shared space. G.I.s returning from WWII were encouraged to become homeowners through low-interest, zero down payment home loans, and with that began the growth of the suburbs. As Andres Duany, Elizabeth Plater-Zyberk and Jeff Speck discuss in their book *Suburban Nation*, we have mastered the private cul-de-sac, but in doing so have ignored the public spaces that provide structure to our social lives. As Duany summarizes it, “...community cannot form in the absence of communal space.”⁶ This lack of importance placed on social spaces has been detrimental to our ability to form communities, and thus detrimental to our social well-being. Robin Evans describes this in more violent terms: “The cumulative effect of architecture during the last two centuries has been like that of a general lobotomy performed on society at large, obliterating vast areas of social experience.”⁷ What used to be a shared interest in the public realm has become, more commonly, an individual focus on private

ownership. The vision of the ideal city has been usurped by a vision of the ideal home. We are living ever more isolated lives and this affects us in surprisingly measurable ways.

Social scientists have begun to study the adverse health effects of our less frequent face-to-face social interaction. Social isolation has been determined to be “on a par with high blood pressure, obesity, lack of exercise or smoking as a risk factor for illness and early death.”⁸ Loneliness raises levels of stress hormones and increases inflammation all over the body, and it makes people react more strongly to negative events and to pain. Dozens of studies have shown that the more we are integrated into our community, the less likely we are to experience ailments as varied as colds, cancer, and depression.⁹ Loneliness has even been tied to cognitive decline.¹⁰ People are social by nature, and our physical well-being is clearly tied to the strength of our social bonds.

Additionally, the focus on privacy and isolation is unsustainable in our fast-growing world. Vince Graham, founder of the I’On Group, a planning and urban design firm focused on neighborhood building, spoke at the National Association of Home Builders in 1997, arguing, “If what you are selling is privacy and exclusivity, than every new house is a degradation of the amenity. However, if what you are selling is community, then every new house is an enhancement of the asset.”¹¹ People and the potential relationships they bring should be seen as a more important asset to a home than privacy and exclusivity, and we may be entering a period in which that is the case. Sociologist Robert Putnam in his book, *Bowling Alone: The Collapse and Revival of American Community*, discusses the deterioration of the American community at length, but ultimately takes an optimistic view of the future. “As mobility, divorce, and smaller families have reduced the relative importance of kinship ties, especially among the more educated,” he proposes, “friendship may actually have gained importance in the modern metropolis.”¹² How then can we design spaces for these friendships to begin, and to thrive?

Ch.02 STRATEGIES FOR BUILDING COMMUNITY

On the urban planning level, one notable response to our failing communities has been New Urbanism. New Urbanism advocates mixed-use, walk-able neighborhoods with generous civic spaces and open green spaces for community members to share, enjoy, and socialize in.¹³ Yet New Urbanism has also been reasonably accused of being reactionary, attempting to return to the ideal small town of a past time and neglecting current trends of increasing urban density and the decreasingly common nuclear family. Given such trends, a more forward-looking approach is necessary. The philosopher Max Lerner, in his 1957 book, *America as a Civilization*, argued, “the question is not whether the small town can be rehabilitated in the image of its early strength and growth—for clearly it cannot—but whether American life will be able to evolve any other integral community to replace it.”¹⁴ One attempt to form such an “integral community” has been cohousing.

Cohousing concentrates many of the community ideals of New Urbanism into a single cluster of dwellings, and differs from other housing types foremost in the shared commitment its residents have to creating and maintaining a strong residential community. Yet the communities are not entirely communal. According to the Cohousing Association of the United States, it is important that the physical design of cohousing communities “encourage both social contact and individual space.”¹⁵ Therefore cohousing communities consist of self-sufficient private homes or apartments with the added benefit of common facilities typically including a common house, courtyard, and open green space that the residents share ownership and maintenance of. Architecturally, the common house is the defining element of a cohousing community. Its

size is generous in proportion to the individual residences and its location within the community is centralized. The common house typically includes a large dining space and lounge area, a kitchen, guest accommodations, workshop areas, childcare areas, and laundry. Most communities share meals a few times each week and residents take turns preparing them. Primarily, the community members work together to maintain the physical and social aspects of the community.

The practice of cohousing began in Denmark in 1964. Called *bofællesskaber* in Danish, which translates to “living communities,” cohousing was begun by the Danish architect Jan Gudmand-Høyer when he and his family and friends decided they wanted a housing option that was neither an isolated single-family home in the suburbs nor an isolated apartment in the city. They were inspired, in part, by Thomas More’s book, *Utopia*, written in 1516, which describes a city made up of small cooperatives that shared common spaces and meals. After Gudmand-Høyer completed his first complex, called Hareskov and sited on the outskirts of Copenhagen, he wrote an article titled “The Missing Link Between Utopia and the Dated One-Family House.” Upon its publication in 1968, Gudman-Høyer received hundreds of letters from Danes expressing interest in living in a similar community. This began the cohousing movement, which continues to thrive in Denmark.¹⁶

In the early 1980s, American architects Kathryn McCamant and Charles Durrett closely studied and promoted Danish Cohousing in their book, *Cohousing: A Contemporary Approach to Housing Ourselves*. Though its popularity is nowhere near that of *bofællesskaber* in Denmark, communities continue to spring up across the United States, and Washington is second only to California in numbers of existing cohousing communities, with 20.¹⁷ One successful community here in Seattle is Jackson Place Cohousing, begun in 1998,¹⁸ and plans are currently in the works for a cohousing proj-



ect in Capitol Hill, being designed by Schemata Workshop.¹⁹ Both of these examples are interesting not only for being local, but also for being urban and fairly high-density. The vast majority of cohousing developments are suburban or even rural, which tends to separate cohousing communities from the wider population. This adds to a public perception of them being exclusive, and of having a dimension of political extremism. Placing a cohousing community in an urban setting may help to increase awareness of its benefits and allow the practice to grow. In addition, urban cohousing can begin to attract different people than the suburban variety: a younger group who wants a stronger residential community but also desires an active, urban environment.

One very successful model of an urban cohousing community is Swan's Market Cohousing in Oakland, CA, completed in 2000 and designed by Michael Pyatok (figures 1-3). This project is said to be the most urban cohousing example in the country, sitting a block from a major subway hub and 12 minutes by subway from San Francisco. It is significant largely for the strength of its connection to the larger community. The large site, which previously held a grand farmer's market hall, takes up an entire city block and includes not only a cohousing community of 20 units and a 3,500 square foot common house, but also affordable rental housing, retail spaces, restaurants, professional offices, and the Museum of Children's Art. The diversity of the site's offerings, in addition to the architecturally interesting adaptive reuse of a historic market site, brings countless tourists and locals to the site, increasing the exposure of cohousing communities. The Swan's Market cohousing units are owned, but also commonly sub-leased by their



Fig. 1 (previous page): View of "Swan's Walk," the public walkway inside Swan's Market that also serves as a pedestrian street for the cohousing community surrounding it (courtesy Pyatok Architects).

Fig. 2 (top): Ground floor plan of the entire complex which includes cohousing ("condominium"), rental apartments, retail, and a small museum (courtesy Pyatok Architects).

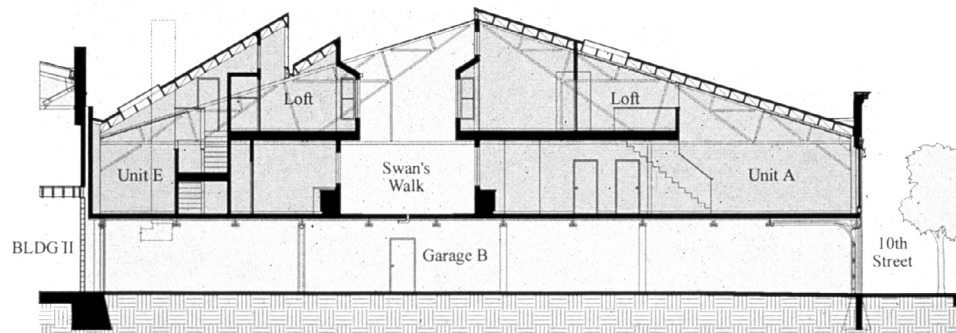


Fig. 3 (bottom): Section showing the relationship of cohousing units to interior street. The mix of uses on the site makes a street which might have felt too private become instead a social center for the whole neighborhood (courtesy Pyatok Architects).

owners, creating greater diversity of residents than might exist were they not leased out. The building has been a great success and the units are consistently filled.²⁰

Though primarily driven by economic forces, the German practice of *baugruppen* is another model of community-driven housing worth mentioning. Less strict in its definition than cohousing, a *baugruppe* (literally, “building group”) may consist of two families, or may be much larger scale with a variety of unit types and sizes. Families and individuals come together to buy land and hire an architect cooperatively, saving money through the elimination of a developer while still achieving a level of architectural personalization typically reserved for a single-family, architect-designed home. Though some spaces may be shared, there is not a defined common house as there is in cohousing. Yet a *baugruppe* is still able to engender a similarly strong community among its members through the trust and participation required to get such a joint undertaking constructed. Perhaps this model, with less organized social activity, would be more palatable to Americans while still having the social benefits of cohousing.

Cohousing is sometimes critiqued along with New Urbanism for being a regressive, conservative movement that attempts to return to an idealized time that never truly existed. But the idea behind cohousing is primarily forward-looking: in a time when we are more likely than ever to live far from our family members, it is up to us to actively create the neighborhood environment we desire as social beings, while being simultaneously aware of the importance of our private spaces, and the personal concept of home.

Ch.03 PRIVATE VERSUS PUBLIC SPACE:

Design Considerations for a Community-Focused Housing Typology

“There is no private life which is not determined by a wider public life.” George Eliot²¹

The importance of one’s home as a fundamentally private space where one can retreat from the world and spend time with one’s family or with oneself is not challenged by the practice of cohousing. Private space remains important, and its close proximity and shared importance with communal space in cohousing might in fact serve to highlight its private nature. As Robert Gutman notes in *People and Buildings*, “the dissociation ritual presupposes (and sustains) the social relation.”²² The experience of private space creates a desire for and appreciation of social space, and vice versa.

The spaces within a cohousing community can be split into four types along a gradient from most private to most public: fully private space, boundary and circulatory spaces between the private and shared space, fully shared space, and finally spaces that are open to the public. This chapter will look at each area individually and then reflect on the sum of the parts.

Private Space

A 1994 survey conducted by *Metropolis* magazine asked readers, among other things, what home meant to them, and what space in the home they remembered most fondly from childhood. The bedroom, described as a space of privacy and creativity, came in first but was followed closely by the kitchen, a space remembered fondly for nourishment both physical and psychological.²³ The kitchen is an important part of



Fig. 4: A shared planter box of herbs divides two backyard spaces, Jernstøberiet cohousing, Roskilde, Denmark (image by the author).



Fig. 5: A shared rose bush divides two backyard spaces, Jernstøberiet cohousing, Roskilde, Denmark (image by the author).

a home, harkening back to the primeval hearth, and although the common house of a cohousing community often contains a shared kitchen, it is important that each individual unit also have its own. During an interview late in his life, Louis Kahn was asked his thoughts on cohousing communities, which were emerging at the time. Though intrigued by the concept, he was adamant that each home should have its own private kitchen, not only a communal one, referring to the kitchen as a family's "religious place:"

...the rooms which are common must not take something away from that part which you consider your own, the place where you are not answerable to any rules or regulations which are implied in the common rooms. There must be a place where you can make your own cup of tea. ...You cannot take away that which is the memory of a house, of *your* home. You can forget maybe your bedroom, you could even forget sometimes your living room, but you can't forget your kitchen. The memory aspect is tremendously important. Also there is the aspect of invitation, which is lost if your kitchen is lost. ...I would like you to think about the religious place of each family. I think one of the most religious of rooms is the kitchen... I really think the kitchen must be your own kitchen.²⁴

Most families spend more time in their kitchens than in any other room of the home,²⁵ and so to maintain the strength of the family bond, as well as the ability to invite others over for food and drink in the privacy of one's home, it is important that it remain a private, personalize-able space.

Yet within the private home, the kitchen is more public than the living, sleeping and bathing rooms, so its placement is important to consider. In the cohousing community of Overblikket in Birkerød, Denmark, each of the 15 homes were designed with their kitchens overlooking the common pathways. Because kitchens are so often occupied, this placement allows for plenty of eyes on the central shared space, providing security for the children playing there, as well as a sense of connection to the community.

And as an added benefit, this layout allows the more private spaces, the sleeping and living rooms, to fall in the rear of the home, looking out on the occupant's more private exterior space. In a more communal environment, such considered placement of the most private and more public spaces is essential.

The Space Between

Also important is the design of the circulatory spaces that lead to and pass by the private home. "Post-occupancy research indicates that the success of clustered housing depends more on how the spaces *between* buildings are handled than on interior design."^{26,27} Residents want to feel a strong sense of separation between the public and private areas, and tend to prefer that visitors "pass through a series of zones or filters that make them more and more aware that they are entering a private domain as they approach the dwelling."²⁸ Dorit Fromm refers to such filter zones as "soft edges," important for encouraging "a flow from the private spaces to the semiprivate porch and front yard... allow[ing] residents a place to sit, stand, or work and still be connected to common activities going on around them."²⁹ People might not actively choose to take part in social activities every day even in a cohousing community, but "designs that emphasize gradual transitions among private, common, and public areas increase social opportunities" at all times, and can help to strengthen ties in any community.³⁰

In the design of a typical condominium or multi-family housing project, the border zones between public and private clearly emphasize the delineation of these spaces using, for example, solid walls facing a hallway, or tall hedges and fences facing a shared outdoor path. In a cohousing community these lines are drawn more subtly. At the Jernstøberiet community in Roskilde, Denmark, how the backyard lines are drawn is left up to each resident. Though a few choose to have hedges, others share



Fig. 6: A raised lawn and garden delineates private space from public, Munksøgård cohousing, Roskilde, Denmark (image by the author).



Fig. 7: A covered, unconditioned space that serves as entry and communal area for the Jernstøberiet community, Roskilde, Denmark (image by the author).



Fig. 8: Recessed, private entries off of the central courtyard space, Blikfanget cohousing, Birkerød, Denmark (image by the author).

a “property line” made of rosebushes or herbs, benefitting residents on both sides of the line (figures 4, 5). At the community of Munksøgård in Roskilde, Denmark, a simple but effective strategy is employed of raising the ground level of the homes and private entryways in relation to the public paths. Without creating a harsh boundary, it is clear where the public should walk and where they should not (figure 6).

How each home is entered, and from where, is another important element. At Jernstøberiet the units are entered from a centralized, interior shared space. Although they lack a private entry area the units have extensive outdoor space in the back, which is only visible to one or two immediate neighbors. With the entry zone as the most public part of the home, opportunities more easily arise for casual meeting—for seeing neighbors as they grab their mail, or as they play a game of Ping-Pong in the communal zone (figure 7). The communities of Overblikket and Blikfanget, sharing neighboring land in Birkerød, Denmark, are also arranged in this way, with entries off of a central courtyard and private spaces to the back (figures 8-10).

By comparison, at the community of Lange Eng in Albertslund, Denmark, the relatively small entry zone is the more private exterior space, and the “backyard” for the units is a large, shared courtyard (figure 11). This provides minimal private exterior space, and given that all 54 of the units look out onto it, the courtyard has a fish-bowl-like quality. The community is currently largely families with young children, so their wish was to have as much shared open space as possible in which their children could play under many watchful eyes. As the residents age, however, this may prove to be a less desirable layout than that of Jernstøberiet and Overblikket.

The location of public pathways around the property also deserves attention. If neighbors frequently pass too closely to one’s home, a sense of privacy may be lost. This was initially a problem at Lange Eng until the residents constructed decks off the

backs of their homes to keep passersby a little farther away (figure 12). In contrast, the public paths around Jernstøberiet are narrow, tree-lined, and set back from the units' backyards such that they preserve privacy for the units while also providing a surprising sense of privacy for the walker. A resident might even choose to relax in this seemingly public zone, as a hammock has been hung between the trees (figure 13).

Shared Space

Clare Cooper Marcus' book, *Housing as if People Mattered* provides much practical advice on the design of clustered housing. Regarding the provision of shared open space, a common cohousing amenity that typically includes gardens and children's play areas, "recognition of a common open space as the indisputable territory of a group of dwellings provides, for many residents and their children, a needed sense of place and belonging."³¹ As for the location of such space within the overall design she says, "...a greater territorial sense can develop if residents frequently walk through communal spaces on their way to parking, laundry, recreational facilities, and so forth."³²

Important elements to consider in designing the shared spaces are their size in comparison with private homes, their location and accessibility from units, and their components. The common house typically includes a large kitchen and dining area, a living room, kids or teen rooms, guest accommodations, laundry, storage, and often a "swap room"—a room to discard unwanted items and find a treasure that was tossed by someone else. Primarily, though, the common house should be a place of activity. If the common house is the center of activity for the community, "it will keep [the] community alive."³³ Keeping the common house such a place of activity means keeping the activities it houses community-oriented. The personal recreation facilities that are common in condominiums—swimming pools, saunas—are less of a priority for co-



Fig. 9: Private entries off the central courtyard space, Overblikket cohousing, Birkerød, Denmark (image by the author).



Fig. 10: Private backyard space, Overblikket cohousing, Birkerød, Denmark (image by the author).

housing projects.³⁴

The architect Herman Hertzberger has written often about the importance of designing spaces meant to encourage social interaction. “What we need to find,” he implores, “are...spaces that enlarge the chances of encounter and have a catalyzing effect on seeing and being seen, and so contribute to expressing what it is that brings people together...” He argues that in designing such spaces, one should especially consider “strategic sight lines, places for sojourn and intersections of circulation routes articulated by inserting voids, landings, bridges, light and dark places, transparency, views out, views through and screens to conceal and protect.”³⁵ And he argues further for the celebration of such spaces in the overall building organization: “For a building’s construction it is essential...that the main loadbearing structure not only follows the collective space but expresses this with maximum clarity. For if anything requires expressing in architecture...it is the idea of collective space.”³⁶

Appropriately, the design of the cohousing common house is typically meant to express the hierarchy of public and private space. The common house is larger in size than any individual dwelling and is most often placed in a location that residents will naturally pass near or through, en route to their home. It might be designed to display the goals the residents have for their community, such as openness and inclusivity, or to display goals such as low energy usage and the use of recycled materials, as the members of Denmark’s Munksøgård community did (figures 14, 15).

Finally, shared spaces can expand beyond the common house, especially when they are supporting a larger group of residents. The community of Munksøgård is made up five smaller communities, each with about 20 homes. Each cluster has its own common house, so to encourage larger scale interaction between clusters Munksøgård has additional shared spaces for all to use. This includes a café, run by a resident and open



Fig. 11: “Backyard” space is a shared courtyard at Lange Eng cohousing, Albertslund, Denmark (image by the author).

only on Sunday mornings for coffee, cake, and newspapers. It is one of most popular spots for the community to meet, even more so than the communal dinners, perhaps because of its greater informality. In addition, the community runs a small grocery, a bike repair shop, and has rentable workspace available to its residents. This community is quite rural and its shared spaces cater only to its large community of about 100 residents, but if it were located in an urban environment, these shared spaces could perhaps do more: connect the community with the locals as well as with each other.

Public Space

Although cohousing communities readily open up their property to the public for tours and events, spaces designed to be open to the public year-round are rare. Yet some spaces that are commonly shared in cohousing communities would make sense to be opened to the public if the cohousing community were located in a dense, urban area. The swap room, for example, could be set up as a for-profit thrift store—an ongoing garage sale for the residents. The shared workspaces could be open to the public, perhaps giving first right of refusal to the residents for a desk space and then offering remaining spaces to the community. This could work in conjunction with a privately run coffee shop, or perhaps one that raises money for the house. The café / co-working space could become an informal, comfortable, intellectually stimulating location in which to socialize with one’s neighbors, those from both within and without the housing community. In this way, it can become a much-needed “third place,” as described by Ray Oldenburg in his book, *The Great Good Place*. Third places “are those to which one may go alone at almost any time of the day or evening with assurance that acquaintances will be there.”³⁷ Oldenburg argues that, “without such places, the urban area fails to nourish the kinds of relationships and the diversity of human con-



Fig. 12: Decks were built later to keep travel away from the private homes and provide a bit more privacy. Lange Eng cohousing, Albertslund, Denmark (image by the author).



Fig. 13: Some public pathways around the property are narrow, providing a bit of privacy even in the public realm. Jernstøberiet cohousing, Roskilde, Denmark (image by the author).

tact that are the essence of the city. Deprived of these settings, people remain lonely within their crowds.”³⁸ Oldenburg considers the ideal “third places” to be bars, cafes and other locales for informal socializing that are near enough to one’s home such that they are convenient to get to, and so one is likely to know many of the other patrons. What if such a place were in the residential building, itself? If it is in a populous area, such a “third place” can cater to the building’s residents as well as a local crowd, and bring them together.

The Sum of the Parts

The contrast between the various spaces helps to strengthen each one. As Dolores Hayden notes in her 1984 book, *Redesigning the American Dream*, “for private space to become a home, it must be joined to a range of semi-private, semi-public, and public spaces, and linked to appropriate social and economic institutions assuring the continuity of human activity in these spaces.”³⁹ She looks at Thomas Jefferson’s design of the “academical village” at the University of Virginia as an exemplary model of collective living. Jefferson based his design on the Carthusian monastery of Pavia, near Milan: “an archetypal expression of the relationship between privacy and community” with private cells for each monk linked by a generous arcade to a communal dining room, church, and large estate where they grew food. “Using this monastic model, Jefferson’s design of the academical village still stands as one of the most important American architectural statements about how to link individuals, households, and workspaces.”⁴⁰ Jefferson designed this village almost two centuries ago, in 1819, and it still stands as a rare example of such thinking. It also shows us that housing for students has always been about linking the private and the communal, and such projects can greatly inform the design of any community-focused housing.



Fig. 14: Exterior view of the Munksøgård common house, built with straw bale and local timber. (image by the author)



Fig. 15: Interior view of the Munksøgård common house, built with straw bale and local timber. (image by the author)

Ch.04 Lessons from Other Housing Typologies:

“The architecture I aspire to is one that is able to encompass the poetry of society and of living together; in other words, it must provide the right spatial conditions for social life.” Herman Hertzberger⁴¹

The Tietgen Dormitory // Lundgaard and Tranberg Architects // Copenhagen, Denmark

Perhaps the most common form of collective living in the United States currently is housing for students. And as student housing is commonly located near other dormitories, on or near a college campus, such buildings commonly have well-developed public spaces, too, meant to link the residents of one dorm to those of another. Typically requiring financial and spatial efficiency, such buildings are also very dense. For these reasons, looking to well-designed student housing for clues to designing an urban, mixed-use cohousing community makes sense. And one of the most inspiring designs for student housing in recent years is the Tietgen dormitory in Copenhagen, Denmark.

Designed by Lundgaard and Tranberg and completed in 2006, the Tietgen dormitory sits in the Ørestad neighborhood of Copenhagen, an area flush with students. The building houses 360 students and extensive shared spaces within 288,000 square feet. The plan is circular, with a generous interior courtyard (figure 16). The architects explain the circular form as a “symbol of equality and the communal,”⁴² which is then contrasted with projecting volumes on the upper levels which express the individuality of the residences, and give the building an overall diagram of “the meeting of the collective and the individual.”⁴³

The entire ground floor (figure 16) is outfitted with generous shared space for

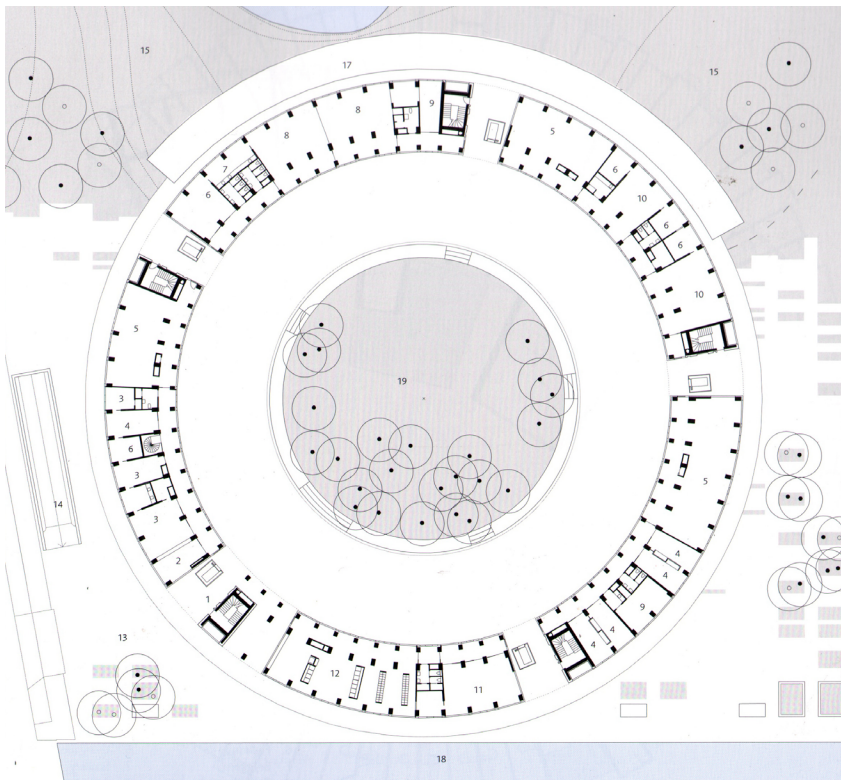


Fig. 16: Ground floor plan showing the openness on this public level (image courtesy Lundgaard Tranberg architects)

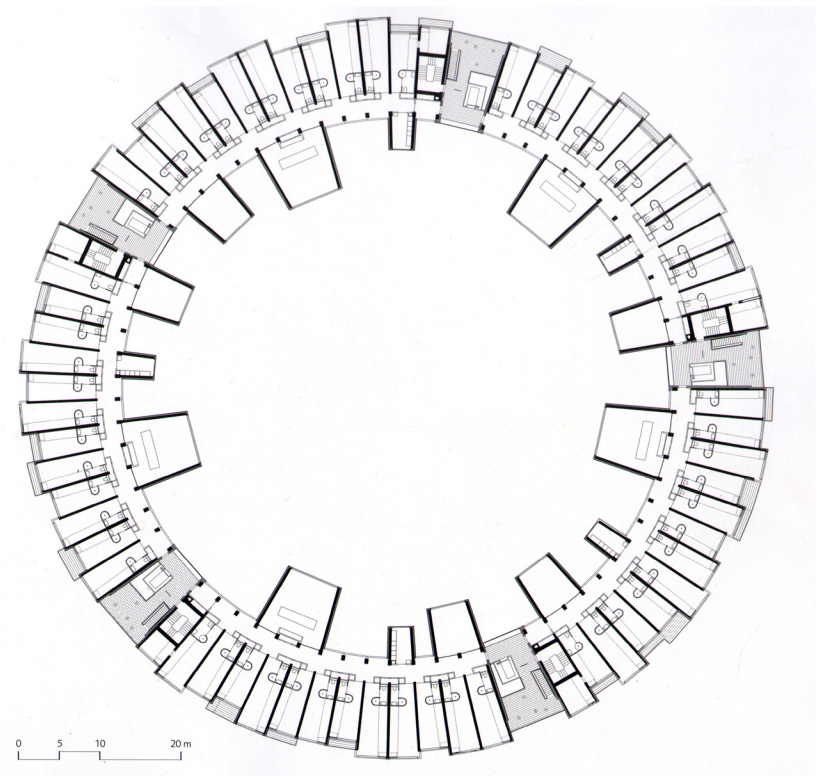


Fig. 17: Typical upper level floor plan showing compartmentalization and the projection of various spaces (image courtesy Lundgaard Tranberg architects)

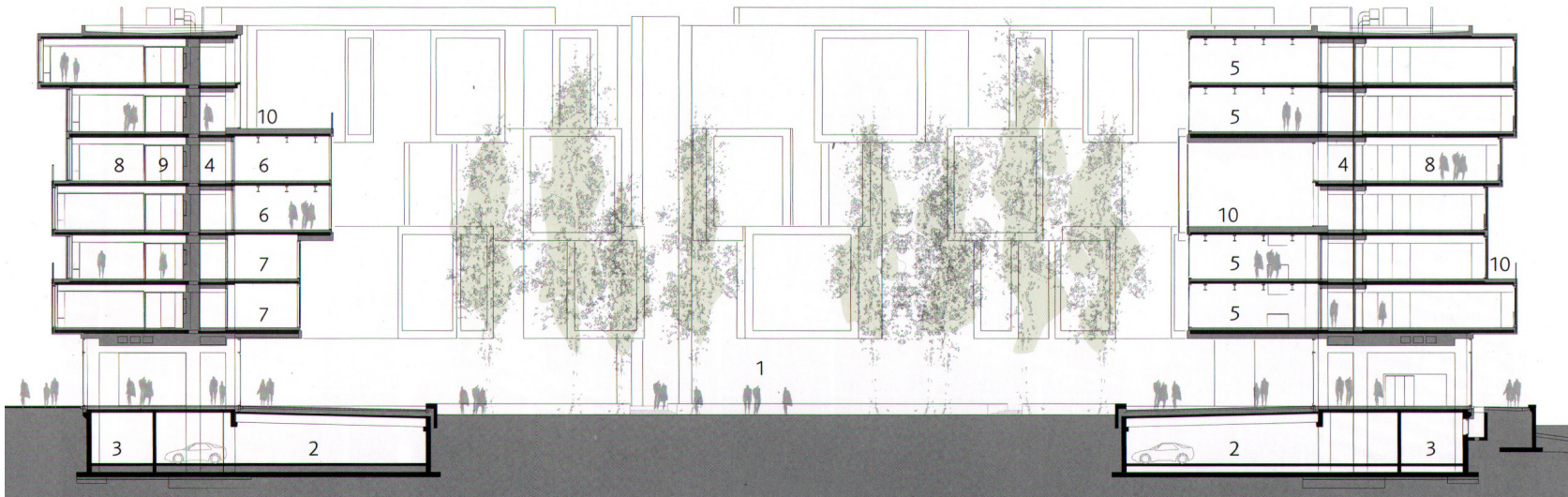


Fig. 18: Site section showing proportion of space given to communal uses (ground floor, plus projections towards the courtyard) versus private (projections away from the courtyard). (image courtesy Lundgaard Tranberg architects)

the residents. Shared functions on this floor include a large assembly room that can be divided into three smaller spaces, a computer room (figure 20), a quiet reading room, two music rooms (one with a grand piano, one with a drum set), three dedicated workshops (sewing, woodworking, bike shop), a gym, laundry and bike storage, and of course the large courtyard, which is used for parties and music shows in nice weather (figure 21). The residences, all located on the floors above, are divided into clusters of twelve, and each group shares additional common spaces that surround it: a kitchen and dining room, a general purpose common room, and an outdoor deck space (figures 17, 18). These upper floor common spaces project their volumes towards the courtyard, and are visible and easily accessible from the continuous circulation route around each floor (figure 19). The residences, on the other hand, project their volumes towards the outside of the circle, giving the residents some privacy as well as views of the surroundings.

The Tietgen dormitory is exemplary in its reinforcement of the building's internal community through form and layout. But to see how form and layout can enforce a connection between a building's residents and the exterior community it is beneficial to turn to another, increasingly common, housing typology, explored in recent years by the architect Lorcan O'Herlihy: multi-family housing with on-site public space.

Habitat 825 & Formosa 1140 // Lorcan O'Herlihy Architects // Los Angeles, USA

As the architect Lorcan O'Herlihy writes in his essay *Towards New Models of Social Connectivity*, "American society commonly assumes that land is private unless it is specifically made public."⁴⁴ In his work, he tries to combat this through supporting the larger community as much as possible within the confines of a single, private project. To create public spaces that successfully and safely allow for community interaction



Fig. 19: Circulation space is open to common spaces, not private spaces (image courtesy Lundgaard Tranberg architects)



Fig. 20: A shared workspace on the ground level (image courtesy Lundgaard Tranberg architects)



Fig. 21: A well-used community courtyard (image courtesy Lundgaard Tranberg architects)

he prescribes “visual connections to a public space, achieved either through adjacencies in program, or a program that filters or feeds people from one space to the other through public space.”⁴⁵ Both of these concepts have shown up in his work.

In Habitat 825, a 19-unit multi-family housing project completed in 2007, massing is composed of two L-shaped bars that create a central shared open space. This space also maintains a connection to the public space outside the courtyard, serving as a continuation of the public street (figure 22). Benches are placed along landscaped walkways, creating a small urban park and pleasant space from which each residence can be entered individually.

In the Formosa 1140 project, completed two years later, O’Herlihy’s exploration into incorporating public space went even further. The building takes the common courtyard building typology and shifts the exterior shared space to the outside of the building, creating a park that occupies approximately a third of the total site. This move also condenses the residences into a linear, single-loaded, bar with each given “park frontage” and cross-ventilation. The use of perforated metal screens and exterior circulation space help create a buffer zone between the public and private space, as well as soften the impact of the harsh western sun on the residences (figure 23). The park is open to the public, and its location fully outside the building, in comparison to its location in Habitat 825, makes this more easily understood and accessible. In Los Angeles, such public spaces are few and far between, and this project hopes to encourage more private projects to include similar public spaces within their footprints. Through cooperation with and financial incentives given by the city of Los Angeles, the goal is to ultimately create a patchwork of small public parks across the city in this way.

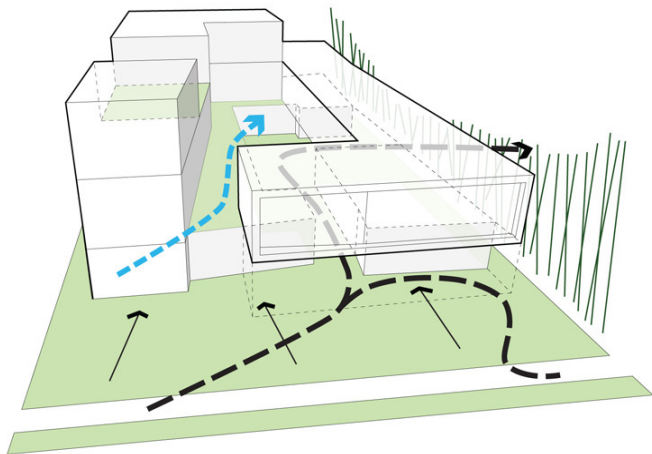


Fig. 22: Habitat 825 site massing diagram showing public green space extending into the site (image courtesy LOHArchitects)



Fig. 23: Formosa 1140’s perforated screen facade with public park in the foreground (image courtesy LOHArchitects)

Ch. 05 Conclusions

“What should young people do with their lives today? Many things, obviously. But the most daring thing is to create stable communities in which the terrible disease of loneliness can be cured.” –Kurt Vonnegut⁴⁶

This thesis proposes that a more community-oriented housing type is an important response to increasing social isolation and that without interventions such as these, isolation will become a larger issue as cities such as Seattle experience increased urban density and try to house more people without considering spaces for the building of social networks. As we continue to lose social spaces to ever more much needed housing, joining our places of residence with new space for social interaction is an imperative. And a housing concept that joins cohousing, with its focus on the internal residential community, with an additional focus on the external community through rentable co-working space, café space, and other uses to draw the public in, can help to build social networks on multiple scales and with a greater variety of people. The design project described in Part 2 attempts to show how this might work, on a real site in Seattle’s Pioneer Square neighborhood.

Part 2: DESIGN PROJECT

Ch.06 DESIGN PROJECT METHODOLOGY

Design investigation goals

The general goal of this design investigation is to study how architecture can help to strengthen community. As a result of the preceding research, the design project also has the following, more specific, goals:

- 1 Show that community-focused housing can be dense and vertical;
- 2 Create spaces for residents to share, building an internal community;
- 3 Create spaces for residents and the public to share, increasing diversity and increasing the visibility of this housing type;
- 4 Create a variety of unit sizes to encourage residents to stay as their space needs change, thus making them more likely to invest in the community;
- 5 Be aware of the need for small-scale, social but intimate settings; and,
- 6 Create gradients of public to private that can be sensed, but are not off-putting.

Site Selection Criteria

As noted in part one, cohousing communities tend to be in rural or suburban areas and for this reason are typically inward-facing, often giving off an unintended air of exclusivity. Keeping such communities out of the larger public eye does little to promote them, and for this reason a primary criterion for the site is that it be located in an urban area with plenty of existing foot traffic. However, aiming to entice users

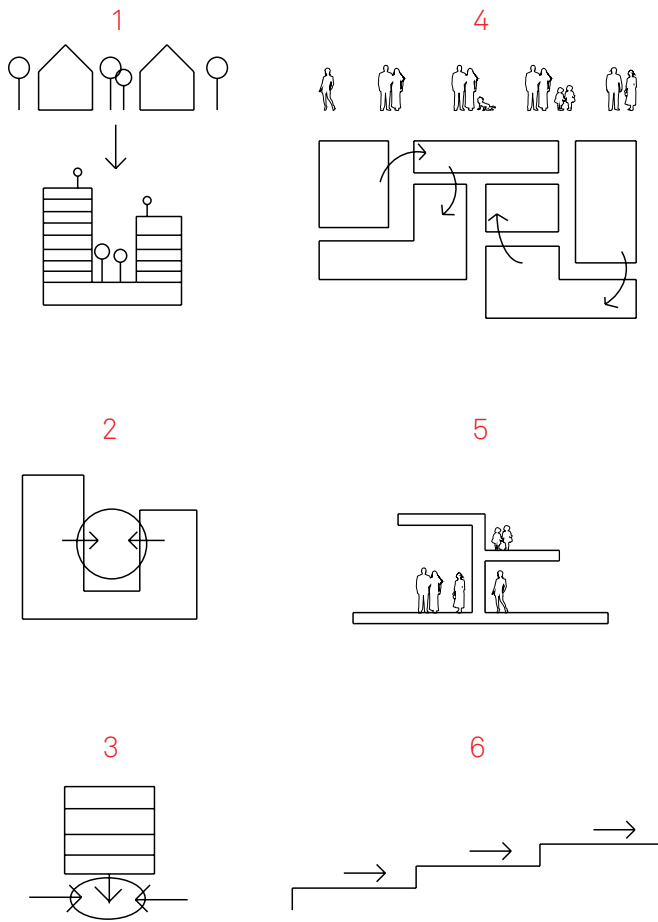


Fig. 24: Design project goals

with a variety of familial circumstances also means considering the needs of parents and children, who typically desire extensive open play space. For this reason a medium-density urban area with plenty of nearby public park space, as well as room enough on the site for additional exterior space is ideal. Furthermore, with the goal of enticing young professionals and keeping them interested in the community over time, it is important that the area be relatively cheap at the moment but on an upward swing: an area with exciting possibilities.

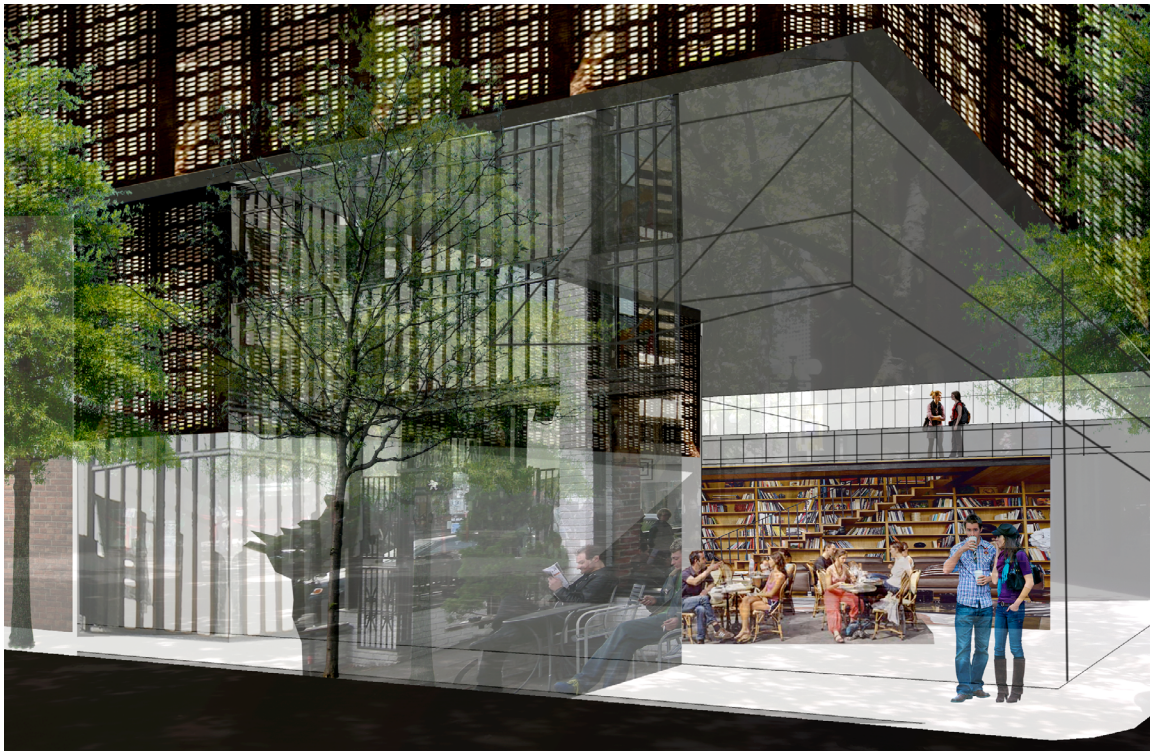


Fig. 25: “Visioning image,” done early in the design process, imagining how the public space within the building should extend into its surroundings, and how a mezzanine coworking space can feel connected to a more public cafe below

Ch.07 ANALYSIS OF THE SITE

The selected site sits at the northeast corner of South Washington Street and Occidental Avenue South in Seattle's Pioneer Square neighborhood (figure 26). Fitting the site selection criteria, Pioneer Square is urban, but less dense than the neighboring Downtown and International Districts. The site itself is located across from a public park and adjacent to a pedestrianized, tree-lined park street. Currently a parking lot, the corner site is 120 feet by 110 feet with a party wall condition to the north, and an alley to the east (figures 28-30).

The neighborhood, one of the oldest in the city and retaining a defining historic character, has been downtrodden in the recent past but is in the early stages of resurgence. Start-up technology companies are flocking to the area due to its cheap rents and availability of loft space (figure 27). Restaurants and bars have followed, with many new establishments opening in just the last few months, including a high profile restaurant that has brought foodies from other parts of Seattle to Pioneer Square to eat. Seattle Met Magazine recently called Pioneer Square "Seattle's resurging-est of neighborhoods," and this resurgence will only continue in coming years as planned infrastructural changes to the area are completed.⁴⁷ A streetcar with planned completion in 2014 will strengthen the area's connection to the Capitol Hill and First Hill neighborhoods, and after the removal of the Alaskan Way Viaduct in 2015, the Seattle Waterfront Plan will strengthen Pioneer Square's relationship to Elliott Bay. South Washington and South Main Streets are highlighted to become main pedestrian routes to the water, and a small beach area is even planned for just two blocks west of the site (figure 31).



Fig. 26: The chosen site in Pioneer square, Seattle, shown in relation to its neighboring districts of downtown, the International District, and SODO. Thicker lines denote main vehicular routes.

But despite this resurgence, market-rate housing is hard to find in Pioneer

Square (figure 32). The vast majority is subsidized or low-income, and an inordinate number of parking lots remain un-built upon due to stringent height requirements for the historic zone, which keep most new development from being economically viable for developers.⁴⁸ This makes it ideal for a resident-funded project such as cohousing typically is, as opposed to a speculative one.

Finally, the site is located within the Pioneer Square Mixed historic district (PSM 100-120), which has a 120-foot height limit for residential construction, as well as stringent requirements that new construction correspond closely to the existing historic fabric. The Pioneer Square Historic District guidelines issued by the city of Seattle state that “new construction must be visually compatible with the predominant architectural styles, building materials, and inherent historic character of the district.”⁴⁹ For the purposes of this thesis the height restriction will be accepted, and careful consideration will be given to how the design project fits aesthetically into its surroundings, but the stricter historic district requirements will not be followed.



Fig. 27: Recent influx of start-up companies to Pioneer Square (image courtesy Colliers)

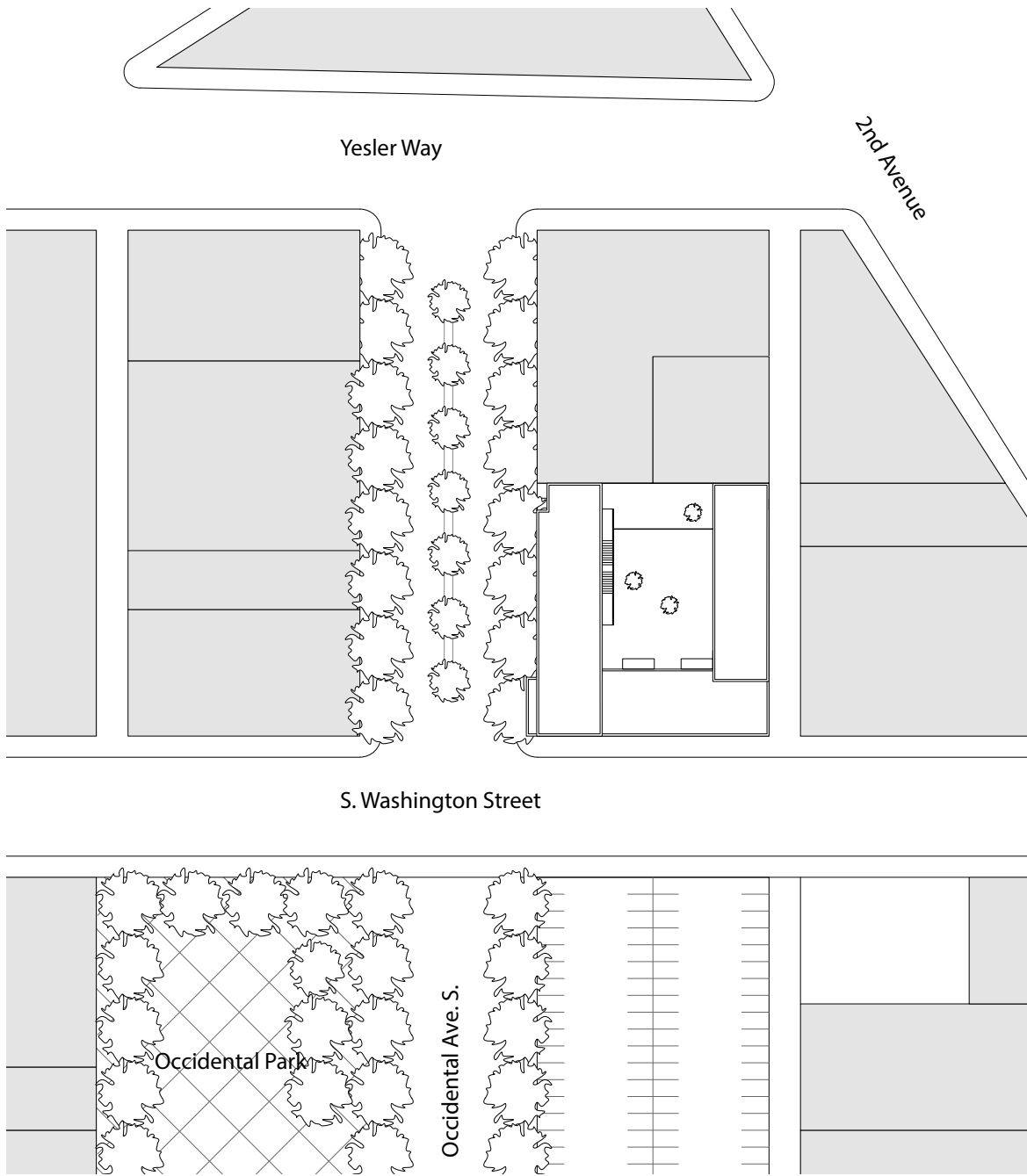


Fig. 28: Site plan



Fig. 29: View of project site, looking north (image by the author).



Fig. 30: View of project site, looking northeast (image by the author).

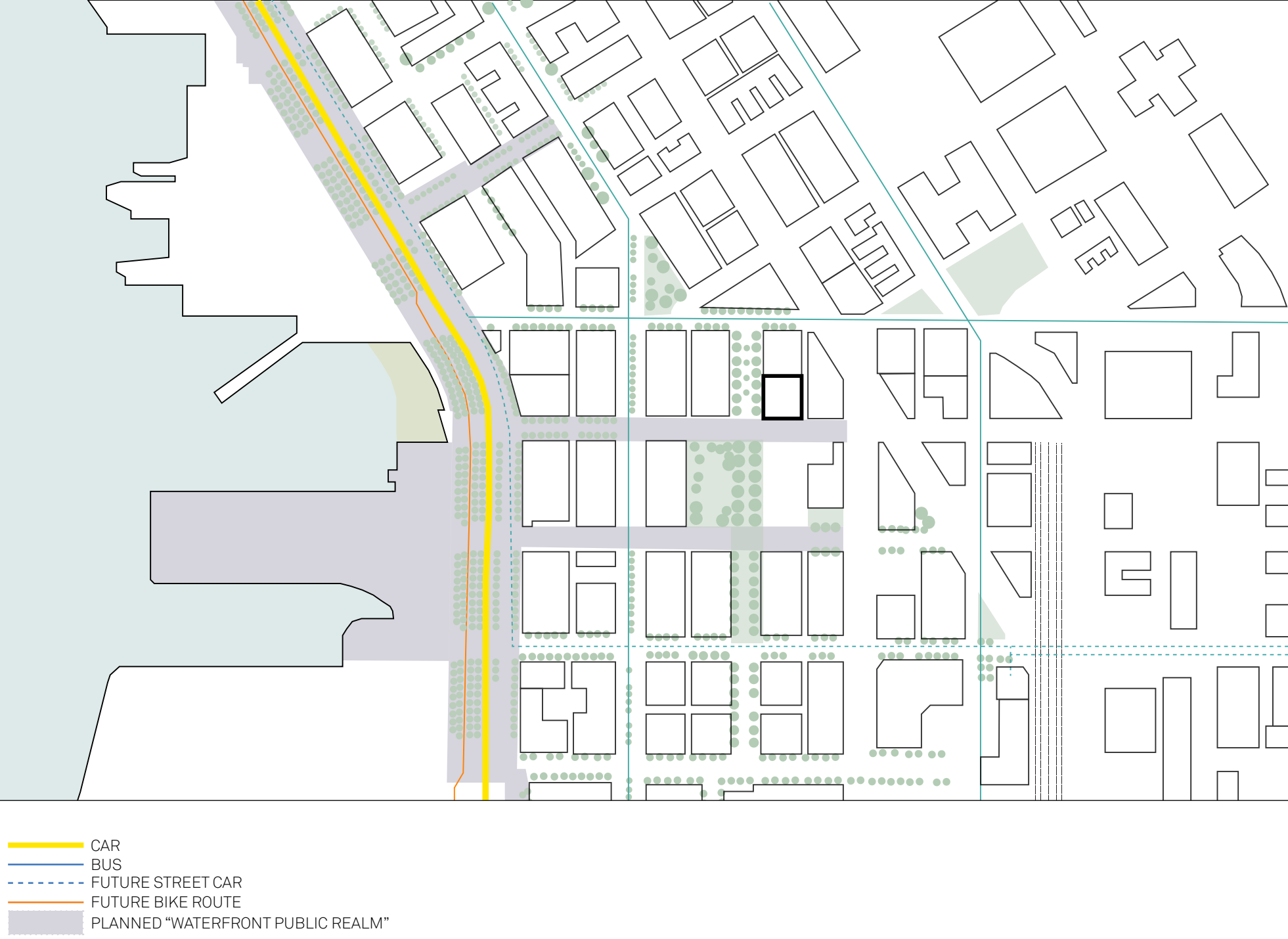
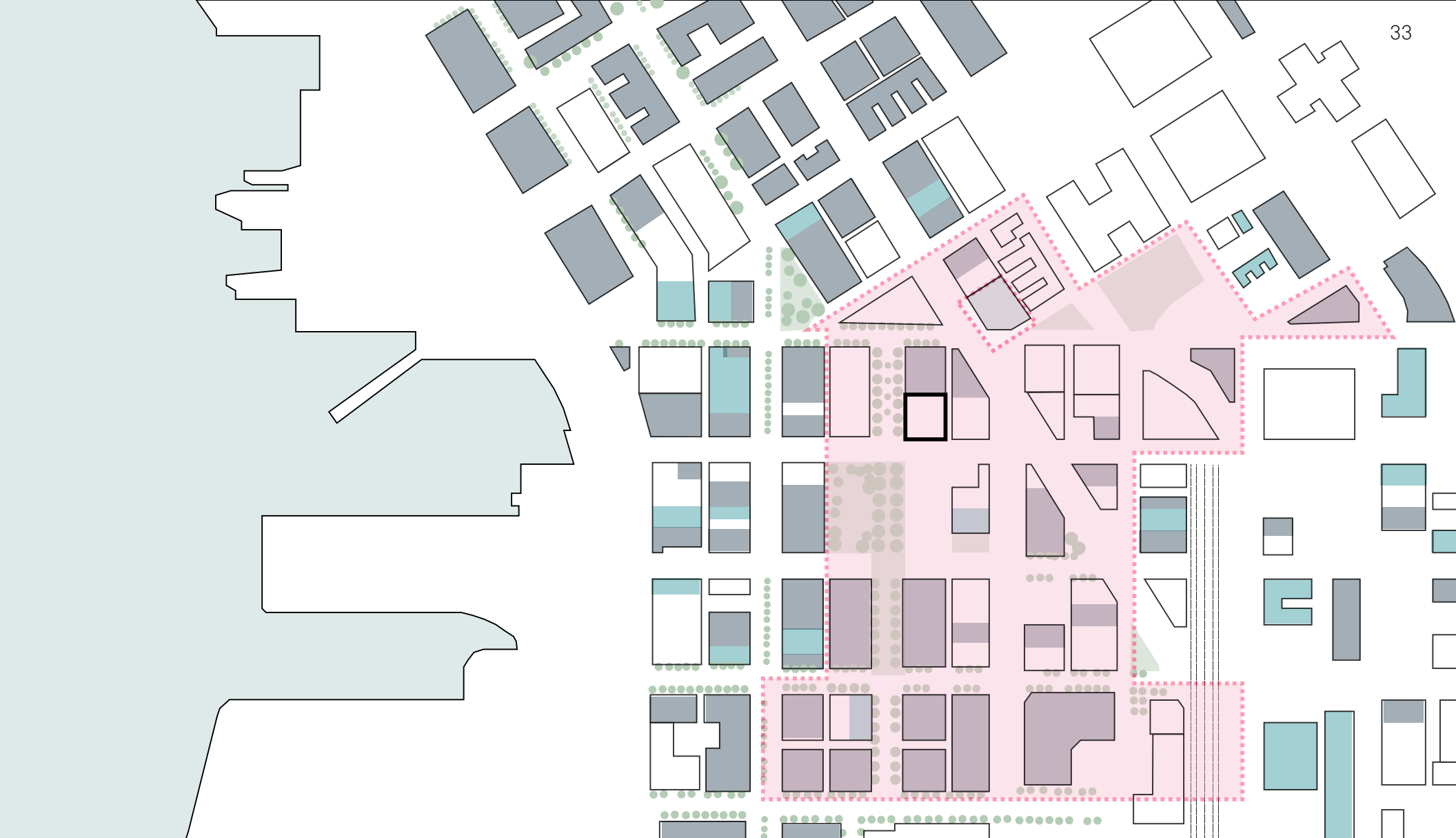


Fig. 31: Site map showing current and future infrastructure in the area



- EXISTING OFFICE SPACE
- EXISTING MARKET RATE HOUSING
- "PSM 100/100-120"

Fig. 32: Site map showing the lack of housing in the area, and the applicable zoning

Program Overview

The program is divided into three zones: the private zone, encompassing individual living units; the shared zone, including all programmed and un-programmed shared spaces for the housing community; and the public interface zone on the ground level and mezzanine level.

Private Zone

The community consists of 40 residential units. 32 of these are market-rate, owned units ranging from 355 square foot studios with sleeping lofts to 1,330 square foot two bedroom apartments. The remaining eight units are subsidized artist live/work lofts that are rented. Incorporating a mix of rental and owned units achieves the resident investment that is typical from condominiums with the benefit of greater diversity and some resident turnover.

At minimum, each unit contains a small kitchen, a bedroom or sleeping loft, a full bathroom, a small living/dining area and some storage. The hope is to give residents the ability to cook as they wish in the privacy of their homes, but by providing relatively small dining and gathering space larger gatherings will extend out to the shared spaces. Each unit also has a small amount of private exterior space that does not face communal areas: a place to sit and enjoy the sunlight without the gaze of constant passersby. As the units get larger, bedrooms and additional storage are added. In a nod to changing demographics that includes smaller family sizes, three-bedroom units are not available. However the units are typically laid out in an alternating arrangement, with one-bedroom units adjacent to two-bedrooms, so that if residents wish to have

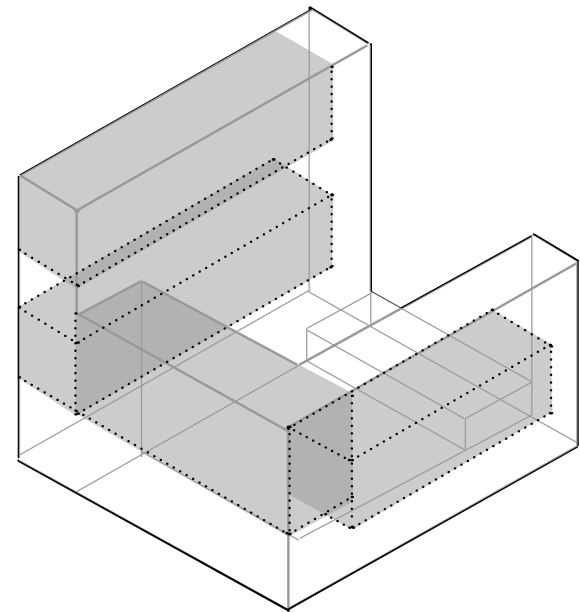
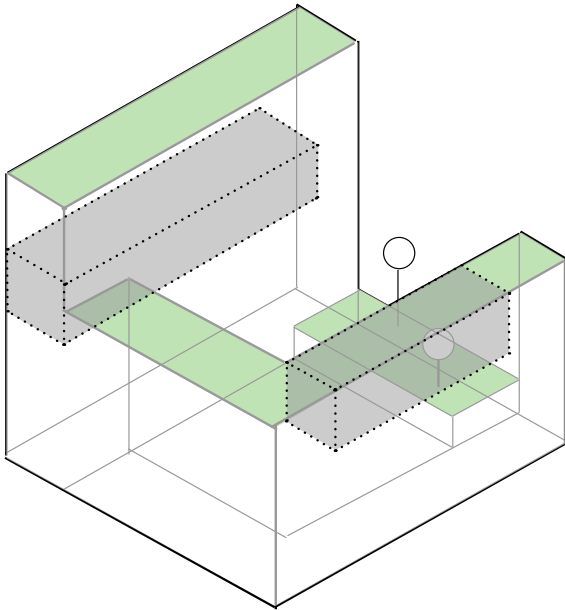


Fig. 33: diagrammatic locations of private zones within the building

Fig. 34 (next page, top): diagrammatic locations of shared zones within the building

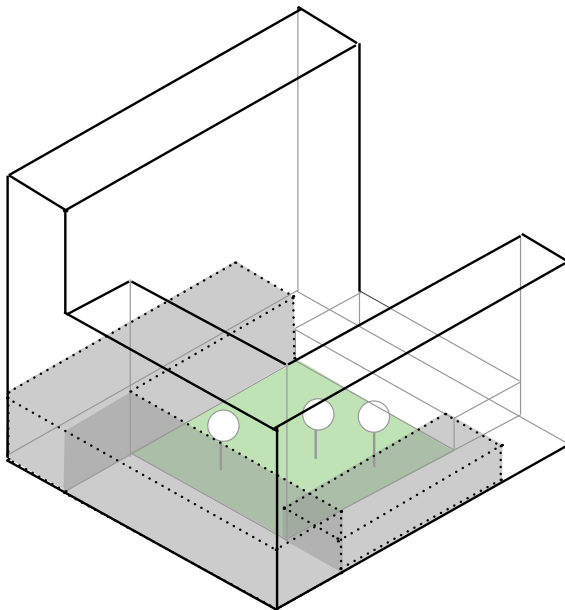
Fig. 35 (next page, bottom): diagrammatic locations of public zones within the building

more than two bedrooms, these units can be more easily combined.



Shared Zone

These areas of the design can be broken down into spaces for shared living, shared making, and shared growing. Shared living spaces include a large kitchen and dining space for group events, such as holiday meals, a lounge and library adjacent to this space, an exercise room, and three guest bedrooms. The shared making space is a workshop, a space like the typical home garage, with tool-share. And shared growing spaces are on the roofs, where residents are given allotments for vegetable or flower growing. Small, un-programmed shared spaces are also scattered throughout the building, adjacent to the main circulation path, to encourage informal interaction between neighbors.



Public Interface Zone

This programmatic component is meant to increase the visibility of community-focused housing as well as create an active street-level zone for a building that sits in a pedestrian-friendly urban area. The zone consists primarily of a large café space that is open to the public. A public courtyard is adjacent to this café, providing outdoor seating as well as a space that can be used for larger events, such as music or film shows. A gallery space, for showing the work created by the artists living above it, also adjoins this courtyard, allowing larger art shows to spill out into this space. A co-working space that accommodates the residents foremost, but also provides space for others who wish to rent it, overlooks the café on a mezzanine level. Finally, a laundromat is incorporated into the café space, for use by the residents foremost, but also by the public. The sizes of each programmatic component are tabulated below.

Total Programmed Space			
	Size (sf)	Amount	Total
One bedroom unit	575	17	9,775
Two bedroom unit	1,330	8	10,640
Studio with sleeping loft	355	6	2,130
Artist live/work loft	480	8	3,840
Communal Spaces:			
“Common house” (dining, Kitchen, general living area)	2,100	1	2,100
Workshop / “garage”	1,660	1	1,660
Exercise Room	680	1	680
Guest accommodations	180	3	540
Circulation	2,890		2,890
Public Interface Zone:			
Co-working space	3,680	1	3,680
Café/laundromat	5,000	1	5,000
Gallery	1,200	1	1,200
Miscellaneous			
Storage, loading, mailroom	1,850		1,850
Total Interior Space			45,985 sf
Exterior space			
Gardens & p-patches, Exterior circulation and Informal gathering space	11,730		
	12,810		
Total Exterior Space			24,540 sf

The Users

The only defining characteristic of the building residents is a desire for a more community-focused housing experience. They wish to have their own private space, but also wish to invest in extensive shared spaces, and wish to contribute to and gain from a strong residential community. The residents are divided into owners, potentially sub-lesers, and artists who rent the subsidized live/work lofts. Other building users include freelance workers and members of small start-ups who rent coworking space, locals and tourists who patronize the café, visitors to the art gallery, including those taking part in First Thursday art walks in Pioneer Square, and locals who patronize the laundromat, enjoying some coffee and conversation as they wait for their clothes to dry.



Ch.09 THE DESIGN

Building Form

The creation of the building form is explained visually in figure 37. First, the building mass is lifted, giving the bottom levels a feeling of openness and public accessibility through extensive glazing and open space. Above this, the residential units are placed in an L-shape, along the southern and western edges, providing them with the best solar access and views of Elliott Bay. The live/work lofts are located on the alley allowing the creative activity within them, and the associated gallery on the lowest level, to enliven the alley in coordination with the existing Pioneer Square alley network. Next, the mass is lowered to allow more sun to penetrate the courtyard, and finally the live/work mass is pulled back, creating a slot that encourages public flow into the courtyard while also encouraging activation of the alley.

Building Layout

The ground level is comprised primarily of the public café, which hugs the corner but allows for passage through the building to the public courtyard at multiple points (see figure 38 for the ground level floor plan). A double-height, covered breezeway at the northwest of the site serves to bring the public into the central courtyard, while also dividing the public and private building entries. The gallery space is located along the alley with the artist lofts above it.

One level up, the coworking space overlooks the café, and a small garden space for the residents overlooks the public courtyard below (see figure 39 for the level two plan). When this outdoor space is used for events, the raised level can become a stage, or films can be projected behind it onto the party wall. From this garden, residents

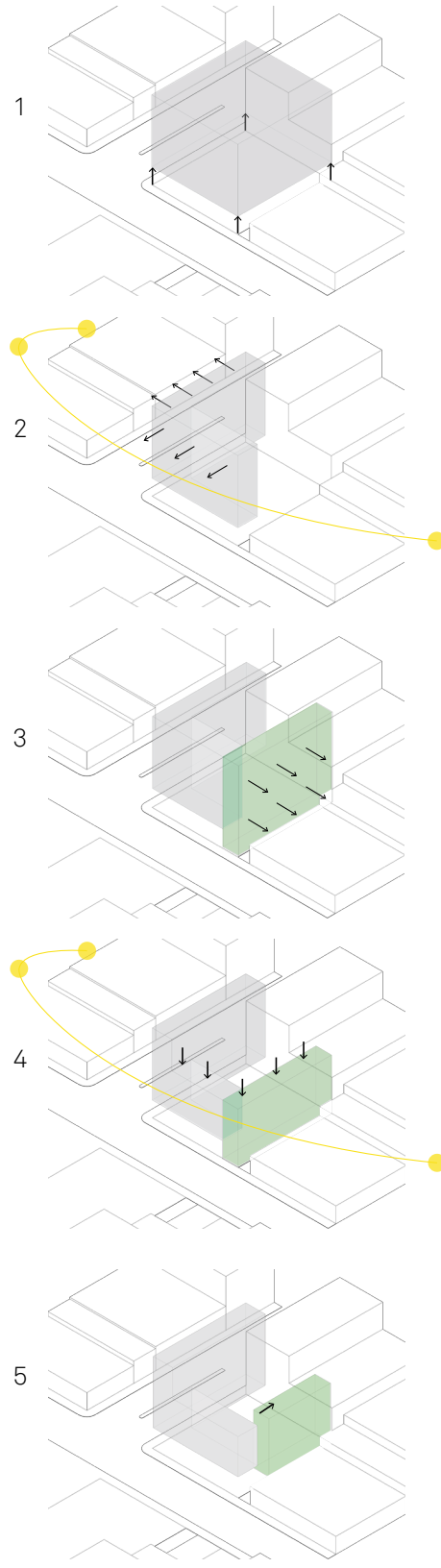


Fig. 36 (previous page): View from Occidental Park

Fig. 37 (this page): Diagrams showing progression of the building form

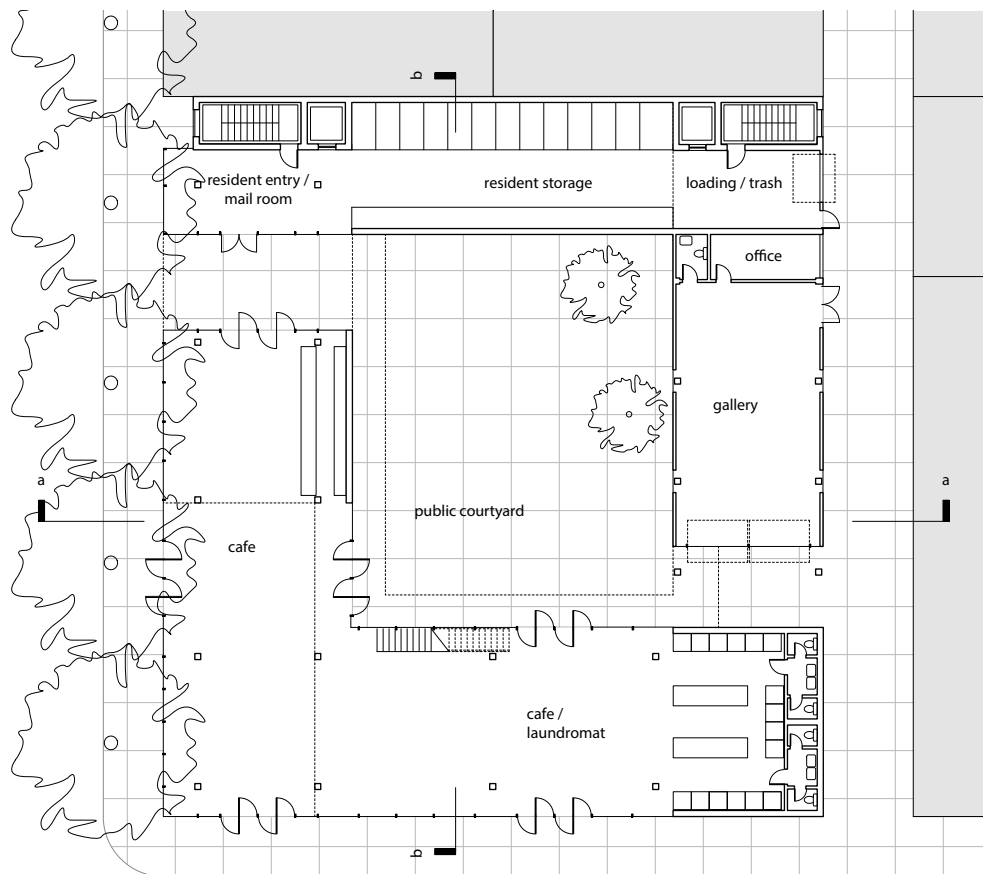


Fig 38: Ground floor plan

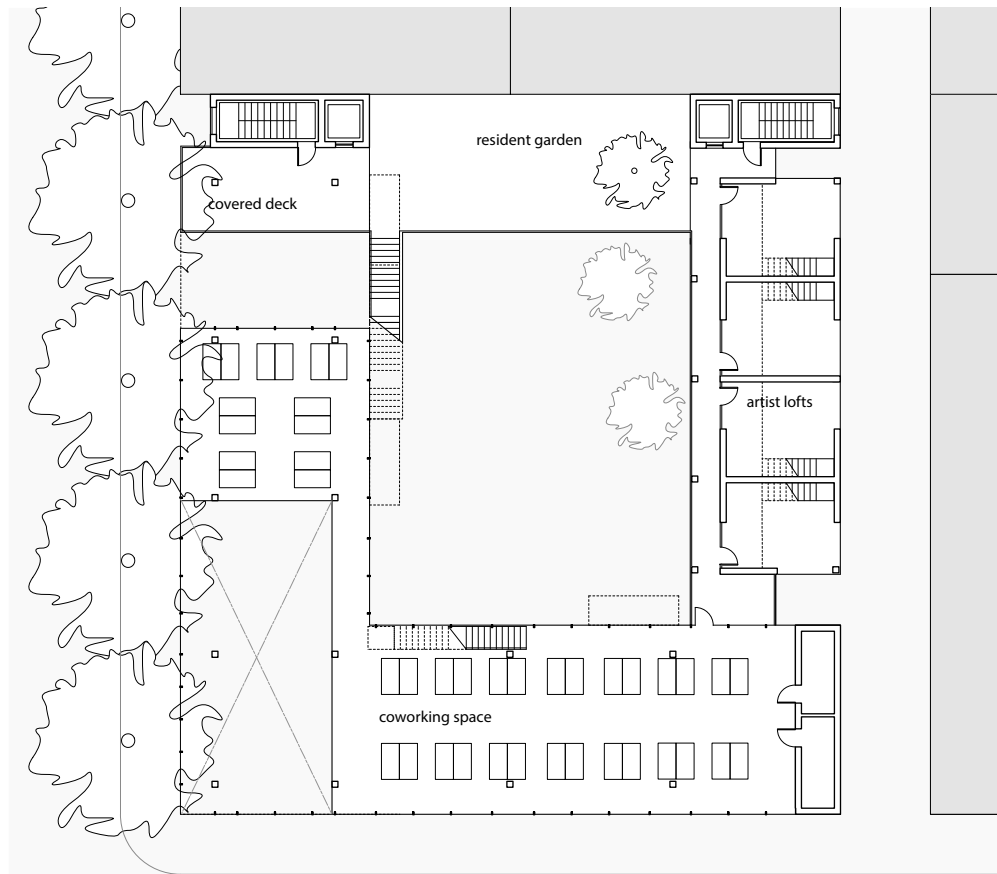


Fig 39: Second floor plan

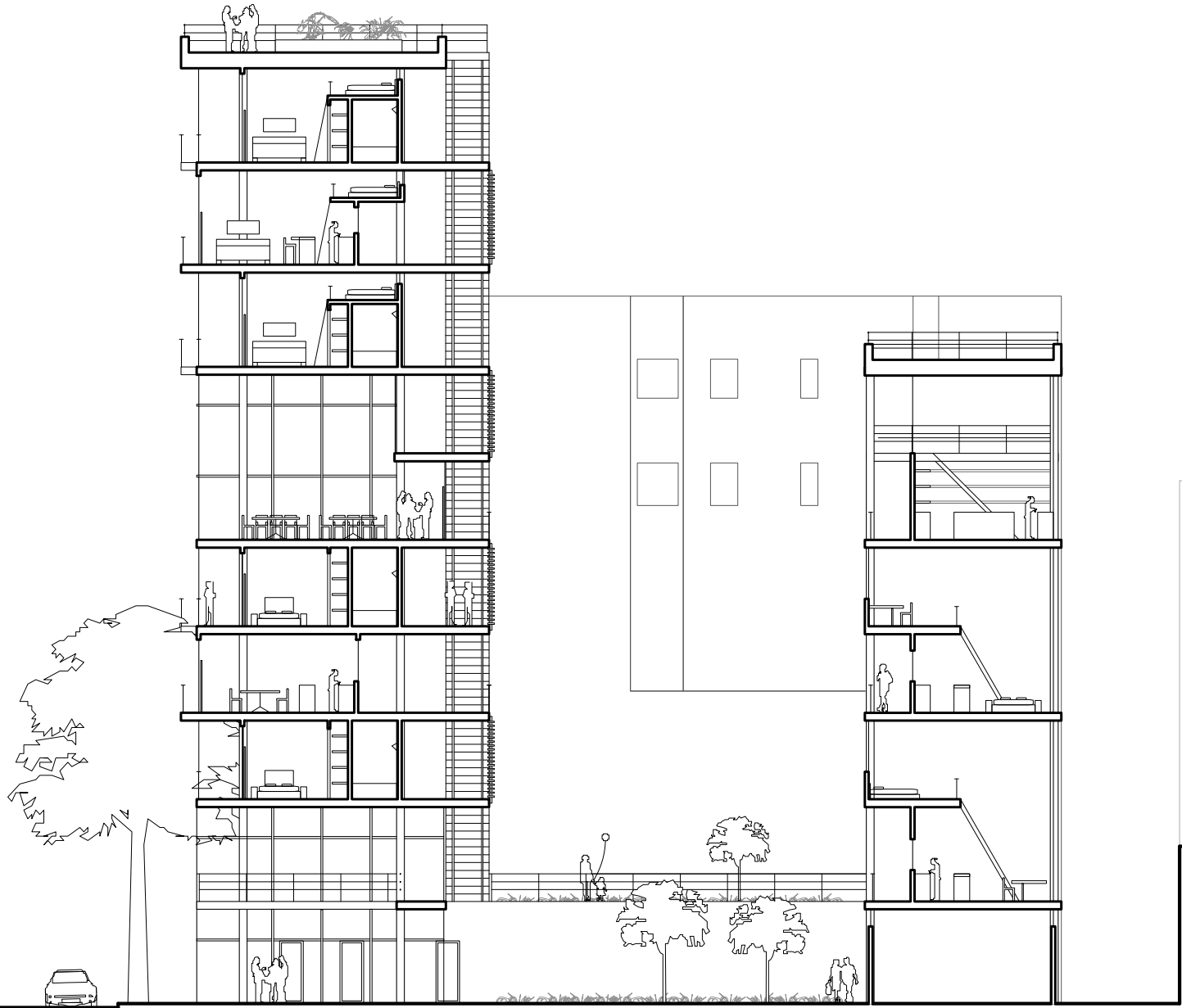
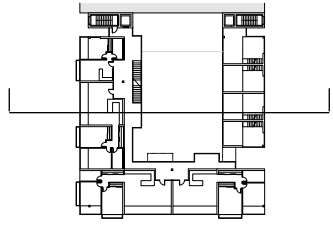


Fig 40: Section A-A (looking north)

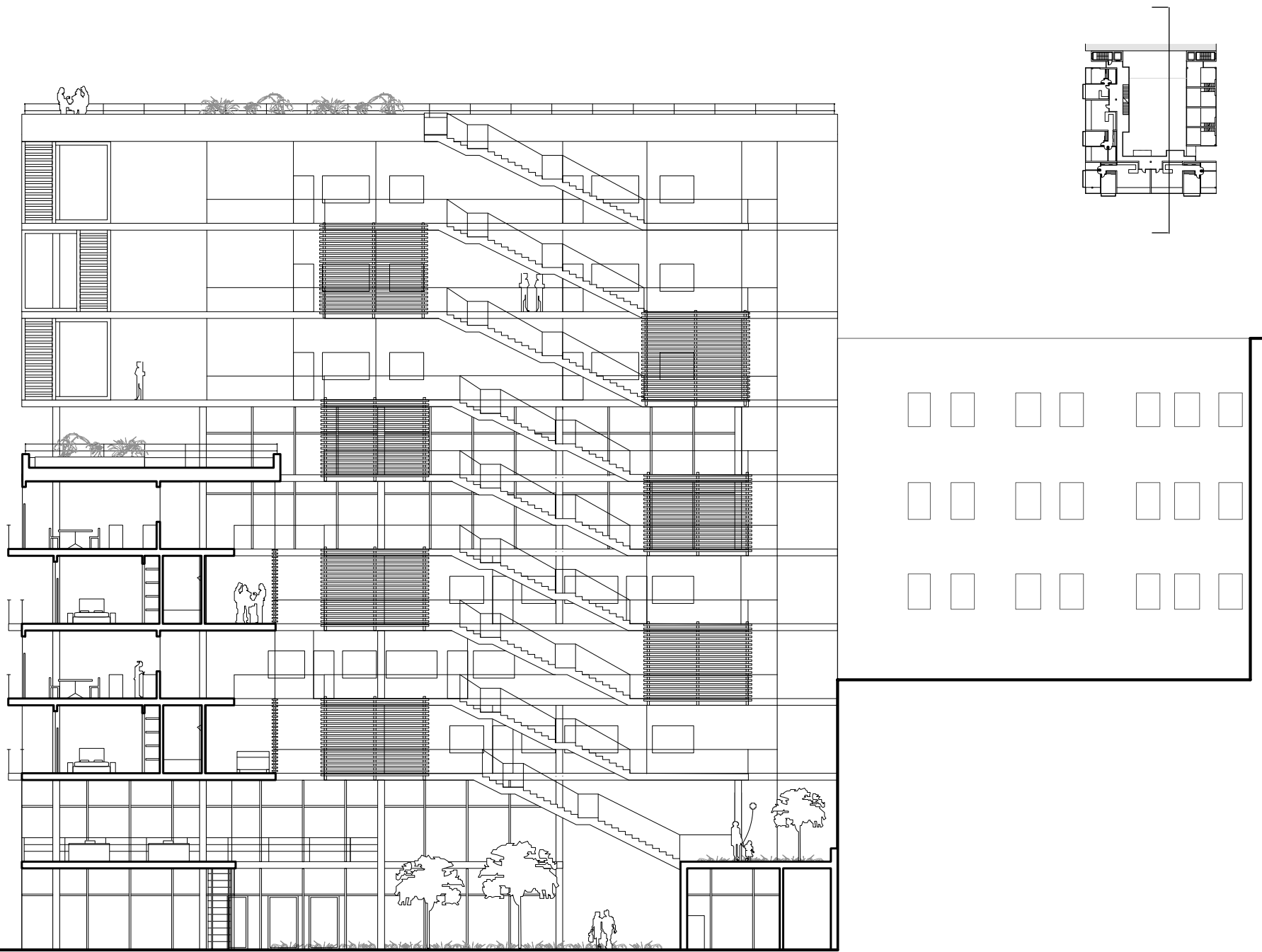


Fig 41: Section B-B (looking west)

access the exterior stair that leads to the residences.

In laying out the living units (see figure 42 for typical residential level plans) steps were taken to soften the transition between public circulation and private living space. Unit entries are recessed, creating a thicker threshold and giving the feeling of a front stoop. Within the units, kitchens are located near the entries, with glazing allowing for visual connection from the kitchen back to the courtyard space. As was seen in the cohousing communities visited, placing the kitchen—a part of the home that is typically least private and most frequently occupied—here allows for more eyes on the circulation spaces, making them safer and giving the building the feel of a residential street. Moving away from the entries, the spaces in each unit become more private, with living spaces and bedrooms given private decks or Juliette balconies along the outer edge of the building.

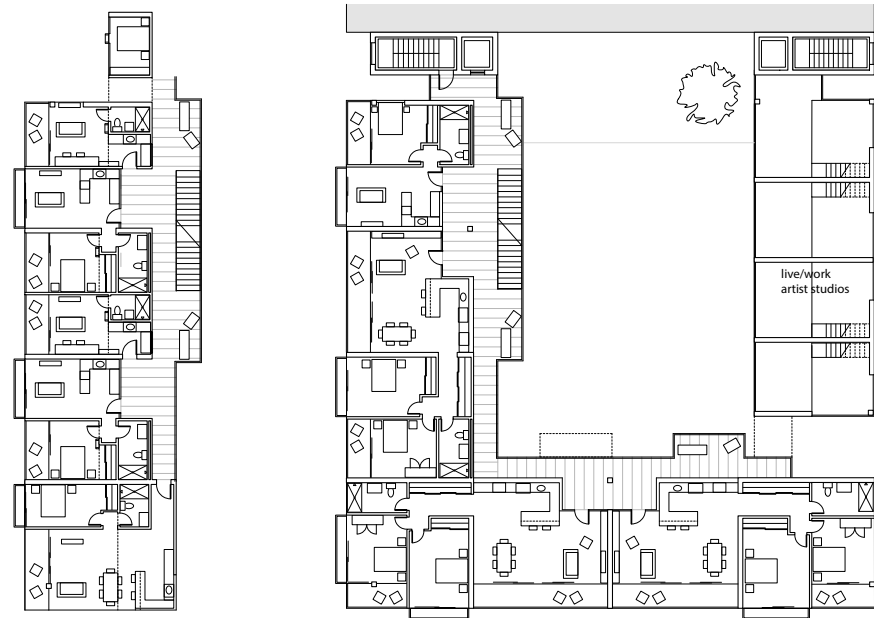


Fig 42: Typical residential floorplans



Fig 43: Looking towards the double-height breezeway with the cafe to the right and resident entry on the left

Offset from the recessed residential entries, small areas for informal congregation are located along the circulation path. These spaces have wood screening elements that give them a sense of enclosure while maintaining views in and out of them. At times when more openness is desired, such as when the courtyard below is used for events, these screening elements can be opened. The relationship between these semi-private spaces and the private dwellings, as well as the larger more public spaces, can be seen in figure 47, a close-up detail of the building section.

Located in the vertical center of the building are the primary shared spaces for the residents. On the sixth floor is a large kitchen and dining area, which is adjacent to a double-height library and lounge. Guest bedrooms are to the south, and above these are an exercise room and exterior deck. This deck leads to the roof of the southern end of the building, on which residents have their garden plots. Finally, above the artist

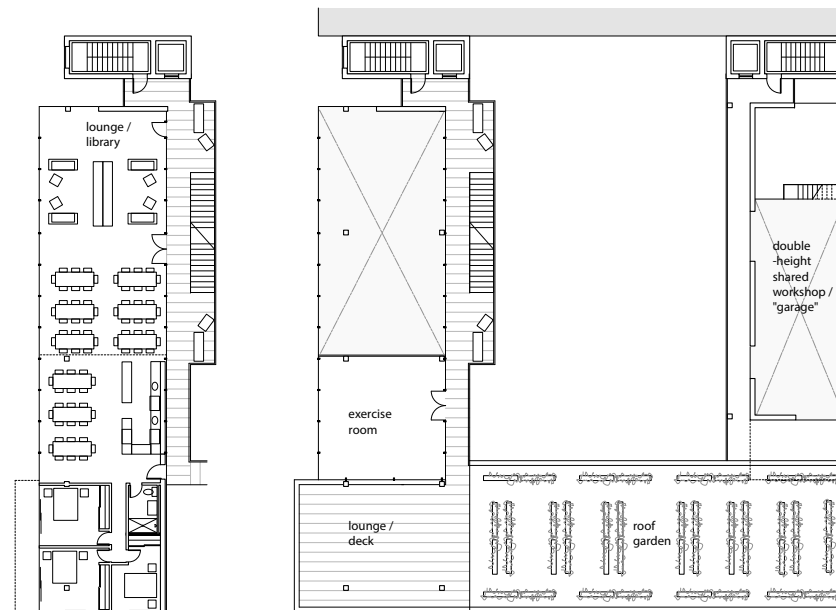
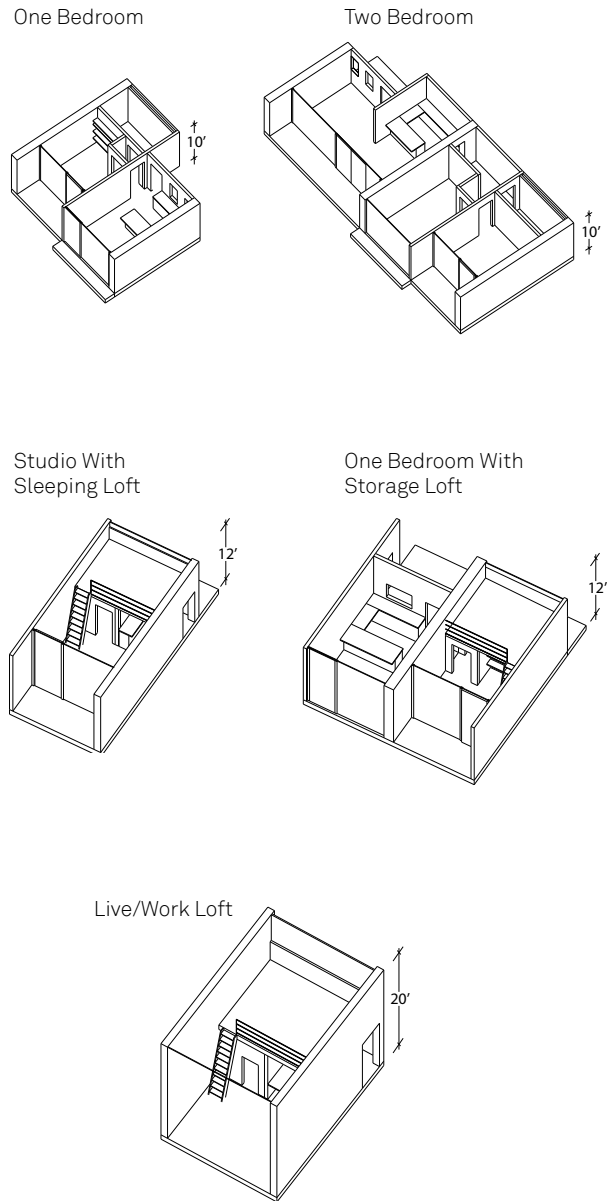


Fig 44: Shared level floorplans



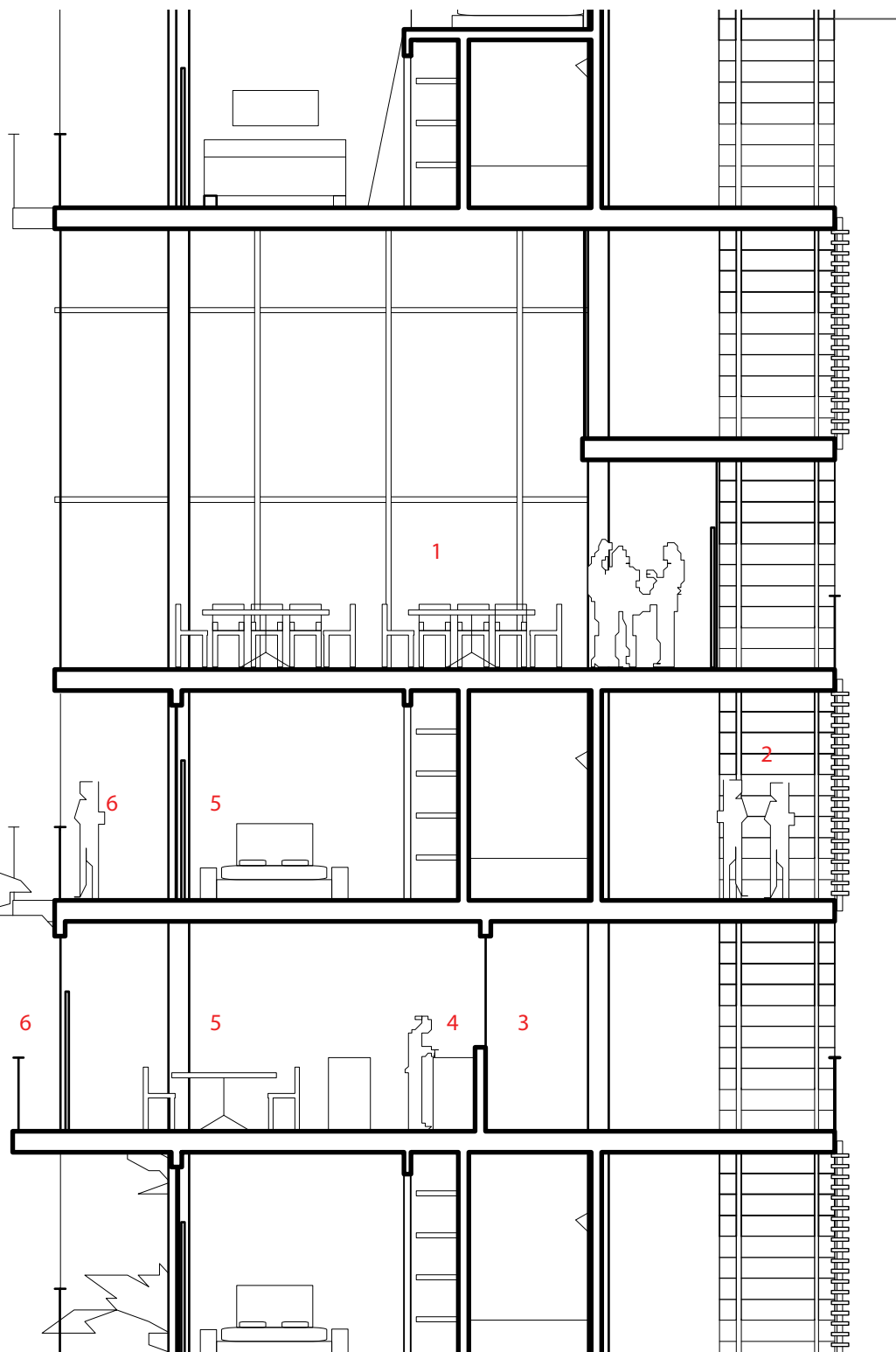
Fig 45: Looking down into the courtyard from the artist lofts



lofts and following in their theme of making is the resident “garage” space, a workshop with tool sharing (see figure 44 for plans of these shared spaces).

The building elevations (figures 50-52) show how the building relates aesthetically to its neighbors. Looking at the Occidental Avenue South elevation, the rhythm of the building’s openings can be seen to relate to the rhythm of the neighboring, historic building: both buildings are divided horizontally, with bands of differently sized window openings in the more private spaces clearly differentiated from the larger, more public levels. The South Washington Street elevation shows the lowest part of the building, the south, fittingly located between the two lowest neighboring site buildings. And finally the building’s alley elevation displays a different character, appropriate to the alley, with the art lofts having a much larger, less delicate, grain than the other residential units.

Fig 46: Unit variety



- 1 Large social gathering space
- 2 More intimate gathering spaces off of main circulation
- 3 Recessed unit entries
- 4 Kitchens facing the shared courtyard
- 5 Living spaces and bedrooms facing private balconies
- 6 Private balconies

Fig 47: Building section detail

Ch.10 CONCLUSIONS

“I could readily live in a social area such as this. ...It tells me that more can be done with the architecture of connection.” -Louis Kahn⁵⁰

I grew up in a neighborhood of closely spaced homes with generous porches and neighbors often outside, chatting with one another and waving hello to passers-by. Four good friends lived within two blocks of me; all I had to do was walk down the street when I wanted to see them. From this setting I went on to college where I lived in a wonderful cooperative dormitory in which I had a private room, but could join friends in shared areas within the home whenever I wished. Following these experiences I have lived in cities, which through their density offer so many benefits, yet I find I miss the day-to-day informal interaction with friends and neighbors that I now lack. Discussions with friends and peers have indicated that others feel the same, desiring a more social living experience—admittedly, perhaps, a sort of grown up dorm living experience. But in visiting Danish cohousing communities I learned it was not only my demographic: there, those starting families after moving long distances from their own parents are forming residential communities to help each other navigate parenthood. And baby boomers, needing more help as they age but not wishing to live in retirement homes, as well as frequently divorcing late in life and desiring a renewed social atmosphere, are also commonly drawn to such a housing type.

This project began with the desire to incorporate the lessons of cohousing and student housing into a more dense, urban situation—to show that the benefits of small neighborhood living do not have to be specific to small neighborhoods. This began as an inwardly focused project, considering how a dense apartment building can create an internal community. But after visiting many suburban cohousing communities the



Fig 48: View inside shared dining, lounge area

question of how to also incorporate such a housing type into a city, and design it in such a way that could allow its benefits to spread instead of being so narrowly felt, became more interesting to me.

This aspect of the project was also interesting to the jury at the final review of the design, and great comments were made about how to improve this public interface. Ideas about greater specificity for the interior courtyard, which I had previously considered just a “garden,” were proposed, offering that it be an area for film screenings, music shows, and overflow from the adjacent art gallery. I have since incorporated these ideas into the design.

Ultimately this project attempts to be a strategy for dealing with increasing urban density while maintaining and strengthening social connections. Instead of designing private homes and apartments that aim to separate residents from their cities, this project proposes that private homes be more embedded within these cities—that having other people close-by is an advantage of cities, not a detriment. These ideas are of course not new, but they continue to be ignored as developers routinely minimize social spaces within residential buildings in order to fit more, or larger, units. Perhaps if more community-focused housing projects begin to be built, funded most likely by the constituents who will live in them, city governments will recognize the social, and thus health, benefits of such living and provide financial incentives for more such projects to be built. This is not unheard of—it already happens widely in Germany, as their *bau-gruppen* have proliferated and proven widely beneficial to their residents, their cities, and the economy. Now: to begin this process here.



Fig 49: View of courtyard as public event space



Fig 50: Occidental Ave. S. elevation (looking east)



Fig 51: S. Washington St. elevation (looking north)



Fig 52: Alley elevation (looking west)

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- 21 Qtd. in Dolores Hayden, *Redesigning the American Dream: The Future of Housing, Work and Family Life*. New York: W. W. Norton & Co., 1984: 61
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Fig. 53



Fig. 54

Figs. 53-56: model photos of building and surrounding site



Fig. 55



Fig. 56

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- 28 Jan Gehl, 1977, qtd. in Clare Cooper Marcus and Wendy Sarkissian, *Housing as if People Mattered*. Berkeley, CA: University of California Press, 1986: 78
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- 33 Chris Hanson, *The Cohousing Handbook*, Vancouver, BC: Hartley & Marks, 1996: 132
- 34 Chris Hanson, *The Cohousing Handbook*, Vancouver, BC: Hartley & Marks, 1996: 132-3
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- 36 Herman Hertzberger, *Articulations*. Munich: Prestel Verlag, 2002: 44
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- 39 Dolores Hayden, *Redesigning the American Dream: The Future of Housing, Work and Family Life*. New York: W. W. Norton & Co., 1984: 125
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