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Deformalising Formal Settlements

RE-IMAGINING THE DENSIFICATION OF SUBURBIA

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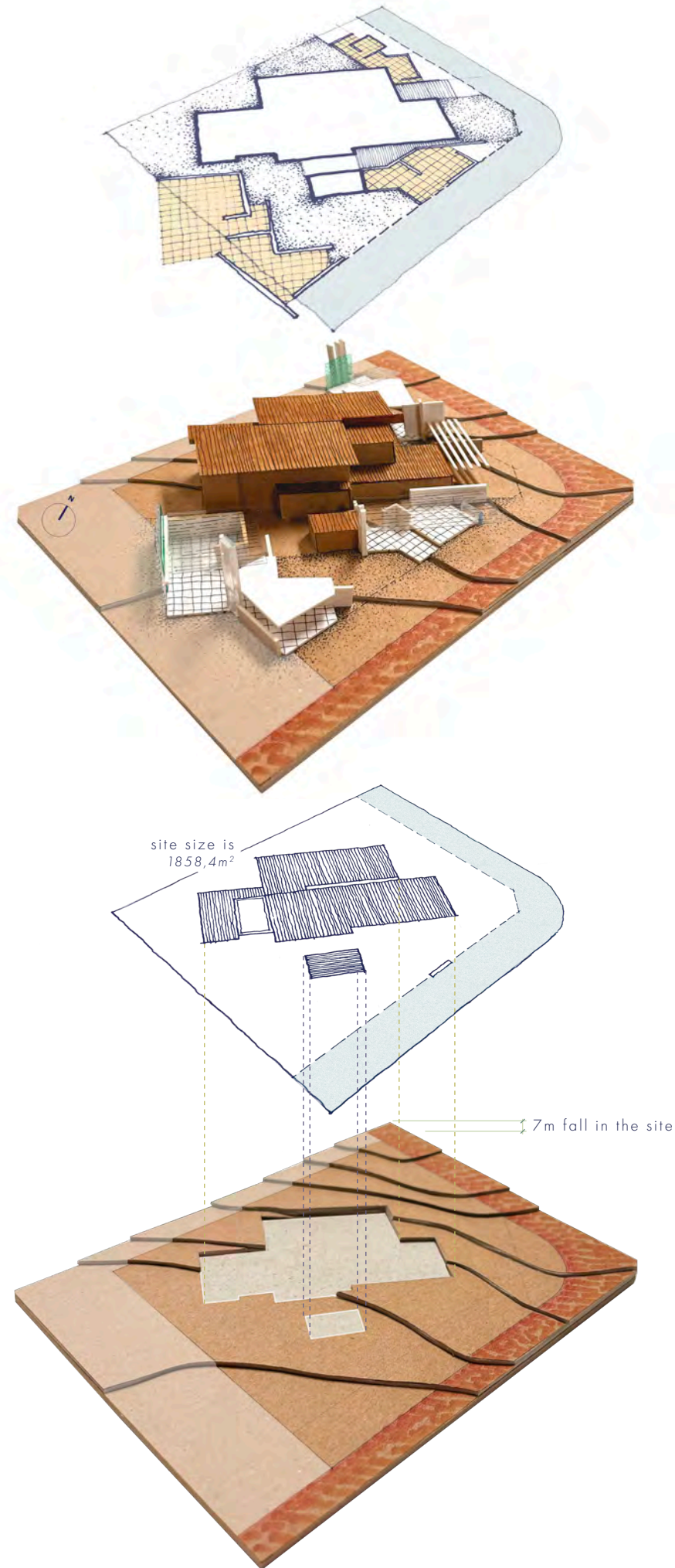
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CURRENT RESIDENTIAL CONTEXT

the suburban dream:

What does suburbia mean to you?

Is it the quintessential American dream with white-picket fences, well-kept lawns, single-family homes in the centre of spacious yards, serene streets bathed in the comforting glow of a spring evening? In South Africa, it takes a different form, with single-family houses boasting amenities like a braai, swimming pool, and a large backyards. Neighbourhoods are lined with substantial masonry walls along shady streets, gated communities with controlled access points are common, with limited public transportation options available, and pedestrians navigating routes ill-suited for walking. Serene images of suburbia often exist more in our imagination than in reality (Nhunebrown, 2010). Society tends to romanticise suburban living as an ideal setting for family life and comfort. However, in reality, suburbs have evolved into homogeneous environments that standardise everything from stores to streets, maintaining a division between residential and commercial activities.

Suburban developments have grown exponentially, characterised by vast housing projects featuring identical homes and static green spaces. Suburbia has become the prevailing way of life, and while many appreciate it, it poses sustainability challenges.

Critics like James Howard Kunstler have labeled suburban sprawl as one of the most destructive and resource-misallocating development patterns in history (Nhunebrown, 2010). The promise of a happy family life, job security, and material comfort in the suburbs is, unfortunately, only accessible to those with financial means. To accommodate suburban migration, modern subdivisions and strip malls are often constructed on an unattractive, inhuman scale (Nhunebrown, 2010).

This pilot project explores opportunities for suburban densification, allowing up to three additional dwellings, inspired by the new bylaws in the City of Johannesburg's 2018 Land Use Scheme. The proposed project follows a three-step process (planning process, prototypical project, and policy recommendations), which includes addressing legislation, policies, land use, zoning, and design codes; through the experimentation of an academic pilot project; and considering possible policy changes informed by the project. The goal is to achieve a more finely grained network within the residential planning structure, enabling dynamic densification of suburban residential areas.

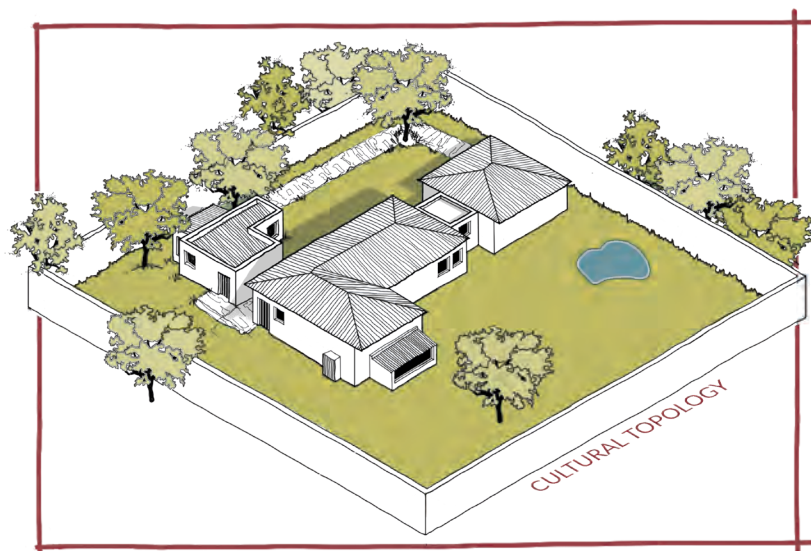


Figure 1. Shows the typical aspirational goal of many families to live in the picturesque suburbs.

THE NEED TO DEFORMALISE

densification for new emerging suburban forms:

The growing demand for densified suburban living stems from expanding city centres, placing increasing pressure on adjacent suburban areas to accommodate a higher population density. Unfortunately, this trend often results in a lack of affordable housing within reasonable commuting distances. Densification is noticeable along major transport routes, as exemplified by Pretoria's Lynnwood Road, where older single-family homes are being replaced by multi-story apartment buildings to address the influx of students and housing demand. Suburban developments frequently follow static planning frameworks that fail to account for socio-cultural nuances that define a neighbourhood. The reality of choices and opportunities then are seen to be limited because "notions of necessity" prevail instead of facilitating social richness within the urban and suburban fabric (van Rensburg, R. J., & Da Costa, M.-A., 2008).

The project seeks to design a reality where urban and suburban forms adapt to changing societal needs, with a focus on accommodating diverse cultures and promoting inclusivity and community. The approach involves open-ended, activity-driven inquiries to encourage a sense of community ownership and improvement, as neighbourhoods evolve to include more economic enterprises. There is a growing prevalence of gated communities that limit entry to shared and recreational spaces. Nonetheless, the enduring issue of inequality in South African cities like Tshwane continues, with remnants of historical spatial barriers and financially exclusionary elements still in place.

Ideally, suburbs should offer a dynamic and rich social and architectural fabric with diverse building types and social interactions. However, in the South African context, collective ownership practices often fall into a grey area, leading to issues with the maintenance and care of public spaces. To develop more sustainably, a self-organisational, bottom-up approach is needed to redefine suburban fabric and densification practices. This approach allows for continuous adaptation to changing needs, as seen in informal settlements, which are examples of social self-organisation in response to evolving citizen requirements (P. Silva and H. Farrall, 2016). In their paper: *Space*

as ritual: contesting the fixed interpretation of space in the African city, van Rensburg and da Costa, explain that within the African context, all space is perceived public until it is defined as private for ritualistic activities. When compared, to the European view, all space is committed to private ownership and specific space is allocated for public use through regulated physical boundaries (van Rensburg, R. J., & Da Costa, M. A., 2008).

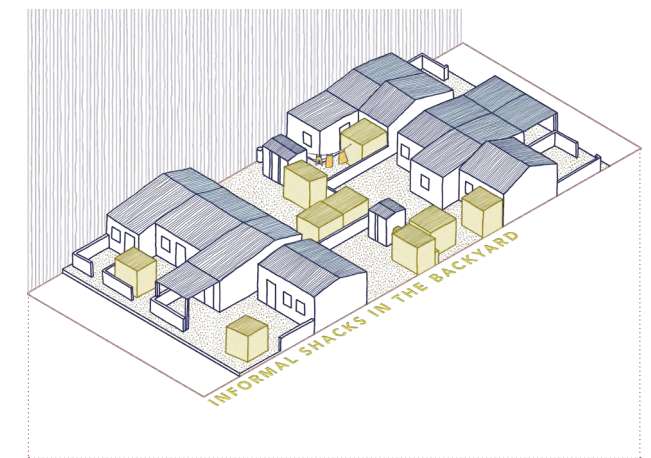


Figure 2. The emergence of informal "backyard shacks" in low-density residential areas as a response to the need for more densified residential areas. This is a rudimentary example of social self-governance employed by the community in response to the issue of low-density living environments.

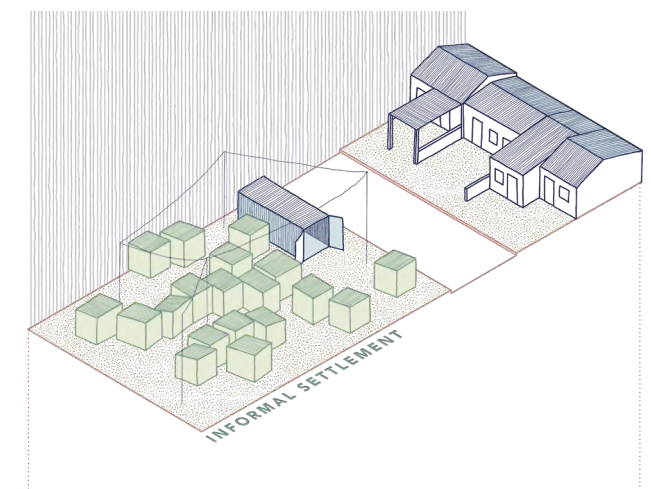


Figure 3. Informal settlements are emerging more frequently due to prevalent remnants of historical spatial barriers and financially exclusionary elements involved in suburbia.

AIM OF THE INVESTIGATION

densification for new emerging suburban forms:

The composition of established neighbourhoods is gradually evolving to incorporate more economic activities. Older suburban areas have largely remained unchanged, characterised by low-density development and uniform activities. These traditional suburbs typically feature single-family homes enclosed by imposing boundary walls, reflecting planning practices dating back to the colonial era in the 1900s. Present-day society and urban planners have started the process of densifying suburban regions across the country. However, this densification often occurs in isolation, with a focus on individual properties, resulting in houses turning their backs to the street and a lack of communal living spaces.

Corporate housing developments, both in new and existing suburban areas, often lack variety and neighbourhood character, creating a sense of alienation among residents as buildings appear as isolated architectural entities (van Rensburg, R. J., & Da Costa, M. A., 2008). The challenge lies in finding a way to revive the "health of village life," characterised

by a connection to nature and neighbourly relations while benefiting from proximity to urban amenities (Lock, D., 1977).

Densification, as advocated by Patrick Geddes, should not involve erasing the existing community and starting anew (Lock, D., 1977). Instead, it should recognise the inherent potential of economic and social activities within the current context. The key is to enrich the area through thoughtful planning, preserving socio-economic capital and embracing existing conditions, philosophies, and innovative strategies. This approach aims to create an authentic, place-specific expression that respects the social, cultural, political, and economic diversity of South African cities. It seeks to establish a generative "patterned language" inspired by Christopher Alexander's principles, fostering community involvement and generating alternatives that honour the existing context. The proposed project explores the potential for a network of small businesses and diverse residential options along a green pedestrian corridor in suburban areas.

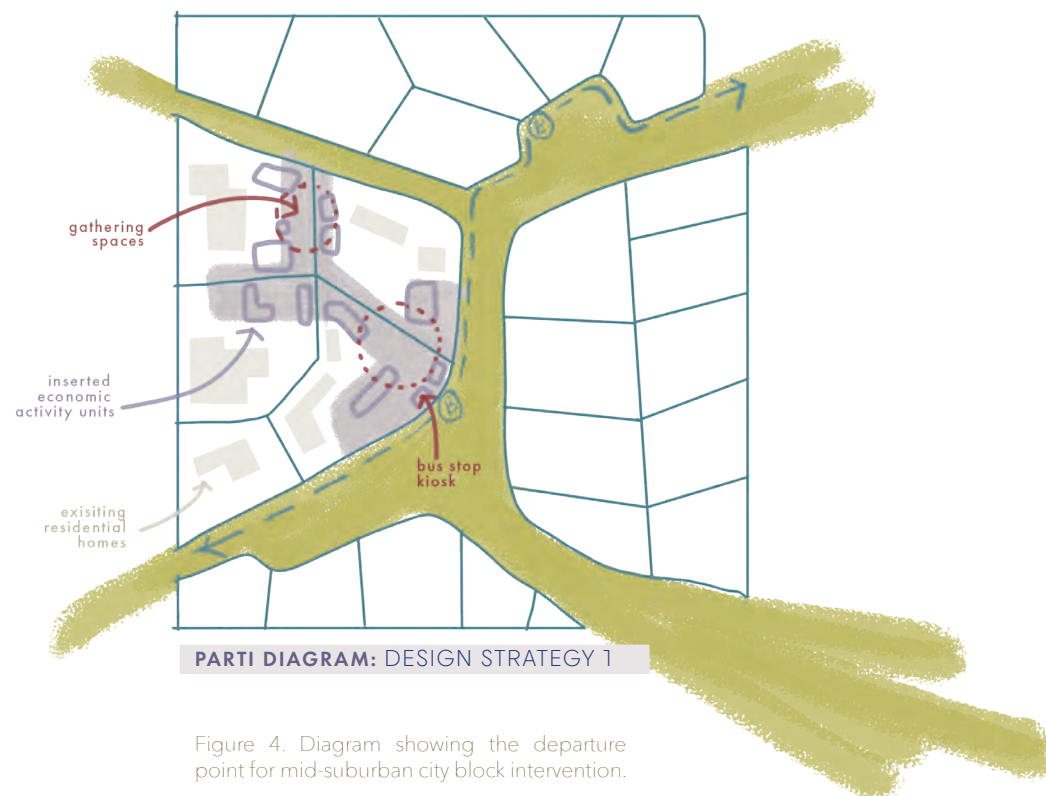


Figure 4. Diagram showing the departure point for mid-suburban city block intervention.

Design Problem:

How should interstitial inter-suburban areas be densified while facilitating cultural and socio-economic sustainability in neighbourhoods and communities located in formalised settlements?

Design / Project Intention:

This project serves as a demonstration of the potential to densify and pedestrianise the uniform suburban landscape. It specifically examines residential blocks that predominantly serve a single purpose. The investigation assesses the suitability of these residential blocks to integrate into proposed semi-public and public green networks connecting suburban areas. The design intention is to reimagine suburbia as a focal point for public life, especially in areas lacking communal outdoor spaces.

On a neighbourhood scale, the project offers an opportunity to design with a clear vision of architecture rooted in the identity of each residential area, emphasising place-making and local craftsmanship. As a pilot project, it can catalyse the incorporation of international building technologies, ideas, and scientific advancements while integrating vernacular materials and building forms. The project's aim is to create a dynamic landscape that allows

for future expansion, benefiting all residents in suburban areas.

In contrast to the Western worldview, which often emphasises individual pursuits, this design proposal places a focus on solidarity, communitarianism, and participation, in line with an African worldview (van Rensburg, R. J., & Da Costa, M. A., 2008). The scheme is designed for a human-centred society, emphasising values such as togetherness, harmony, and sharing.

The differences between African and Western philosophies can be indicated as follows:

African philosophy	Western philosophy
Together	Alone
Mind	Material
Whole	Pieces
Past	Future
Harmony	Control
Share	Accumulate

The choice to follow an African worldview promotes social cohesion, building strong relationships and a sense of community among residents, fostering social capital such as neighbourhood watch patrols, ultimately enhancing the project's momentum (Lymath, A. 2013).

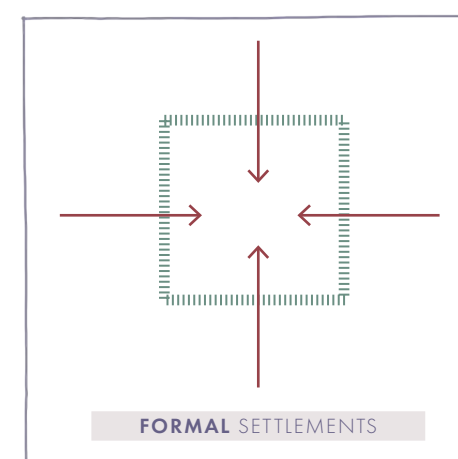


Figure 5. illustrates the common scenario in formal settlements where properties are oriented inwards.

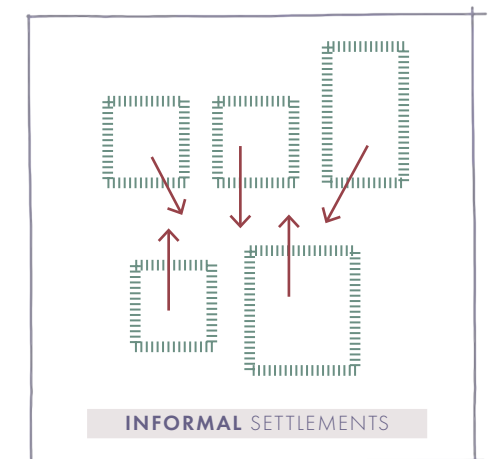


Figure 6. Demonstrates that informal settlements effectively utilize the street space for public activities, presenting a valuable lesson that formal settlements could adopt.

SITE SELECTION



Figure 7. Illustrates that Menlo Park, as a suburb, is conveniently located near the city center, making it well-positioned within the region requiring densification to meet the demand for more concentrated living conditions.



Figure 8. Depicts a map revealing substantial green spaces in the vicinity of the study area. Regrettably, the majority of these spaces are private, such as the Pretoria Country Club located to the west of the study area.

The process of selecting the study area was intricate, driven by the complexities associated with suburbia. The study was inspired by the new bylaw introduced in the City of Johannesburg's (CoJ) Land Use Scheme in 2018, which allows residential areas categorised as residential 1 to construct a third dwelling on a single property without the need for subdivision or rezoning, aiming to promote entrepreneurial activities within suburban areas. Consequently, the chosen study area had to comprise of residential properties with sufficient space for up to three dwellings on a single property. The decision was made to work within the City of Tshwane Metropolitan Municipality to demonstrate the applicability of the CoJ's bylaw in this municipality as well. This pilot project advocates for expanding the bylaw to encompass not only dwellings but also the potential for small-scale commercial activities, focusing on the opportunity for suburban transformation both programmatically and economically. This transformation aims to introduce a new way of living, mixed-tenure communities, and a socio-economically and culturally sustainable social fabric.

The site selection criteria included:

1. A neighbourhood predominantly inhabited by middle-income families.
2. Residential plots with sufficient space around single-family homes to accommodate up to 2 additional dwellings.
3. Convenient access to transportation routes, including public transport and vehicular networks.
4. Close proximity to existing commercial activities in the area.
5. A medium to large residential block to allow for the insertion of a finer-grained pedestrian corridor.
6. Located within a school district.
7. Nearby public green spaces like parks, rivers, and community sports fields.
8. A suburb on the verge of transitioning into a mixed-use area, ripe for new development.

Menlo Park, in Pretoria, was selected as the prototypical suburb for the study due to its ideal location in proximity to the city and surrounding neighbourhoods, well-established transportation connections, and the presence of existing commercial activities. The suburb primarily features low-density residential properties. Menlo Park was established in 1954 as the most eastern suburban extent from the city. The suburb is less than 4km away from the University of Pretoria's Hatfield Campus and is well located to national highways. The project is located between the areas of Maroelana and Hazelwood, both located within the Menlo Park suburb.

Notably, a significant portion of the population in the City of Tshwane falls within the working-age bracket of 18 to 64 years old, with Ward 82 in Region 3, where Menlo Park is located, boasting 83% of its population within this age range (Statistics South Africa, 2021). This suggests that the chosen study area has an actively engaged population in economic activities, making the addition of a new small-scale economic layer well-suited and advantageous for suburbia.

A study by BusinessTech in 2023 revealed that South African cities like Pretoria, Cape Town, and Bloemfontein experience severe traffic congestion. Residents in Pretoria spend an average of 145 hours (equivalent to 6 days) in rush hour traffic to cover a mere 10 kilometres



Figure 9. Displays stylized images representing the suburban environment under investigation in the design project. These stylizations emphasize common elements found in suburbia, such as spacious verges that are well-maintained and often serve as parking spaces.

in 16 minutes (Writer, S. 2023). This emphasises the need to decentralise economic activities and workplaces to reduce commuting times. Longer commuting times are associated with negative effects on commuters' well-being, both socially and psychologically.

Life in suburbia is not without concerns, with the constant threat of falling victim to criminal activities. As a result, there is a need to design a safer environment. The existing lexicon of densification within this context requires reevaluation and innovation.

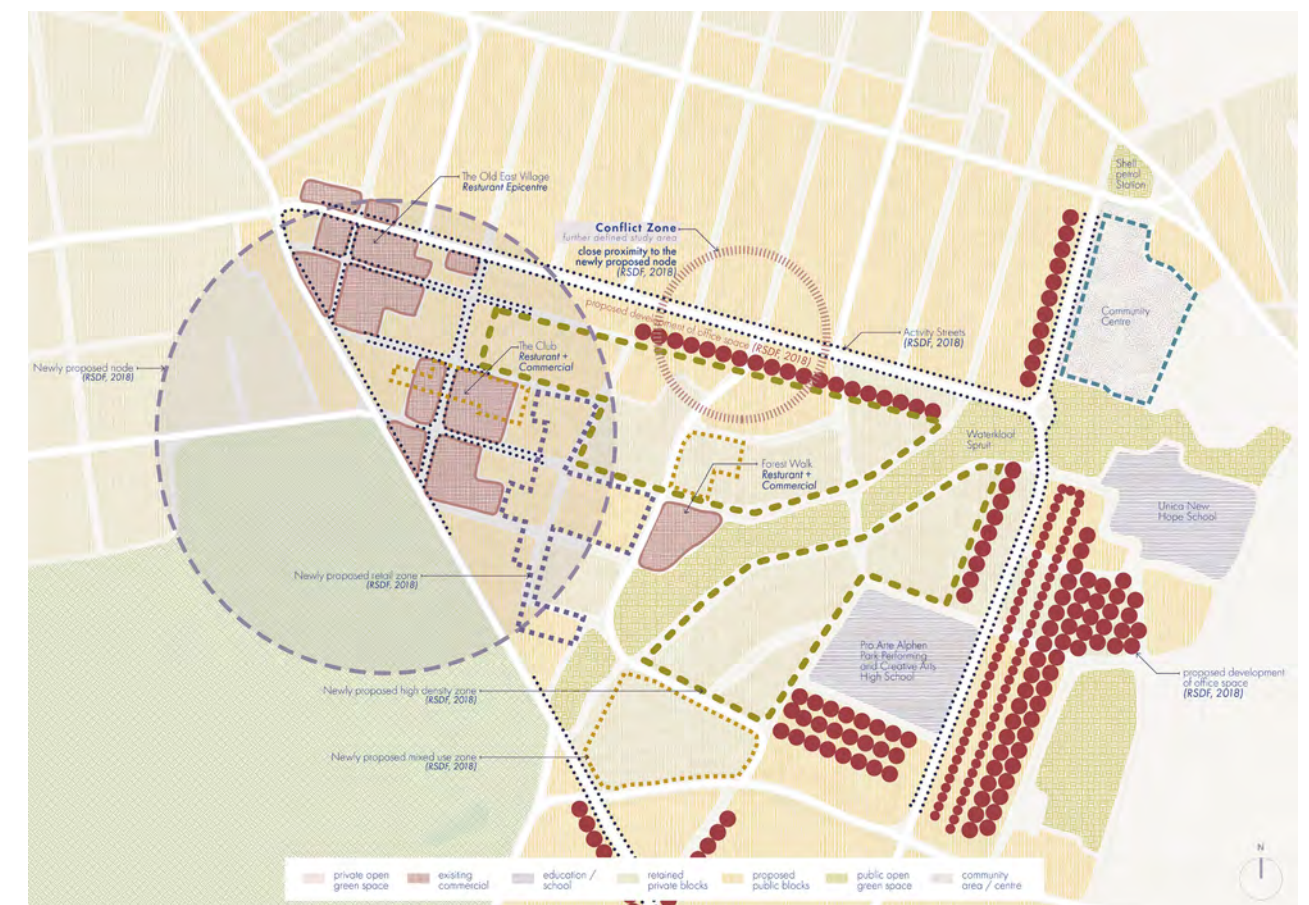


Figure 10. Mapping of the study area in Menlo Park, superimposed with the RSDf 2018

SCALE + PROGRAMME INSERTIONS

designing a safer neighbourhood:

The proposed infill structures and densified pedestrian corridors have been meticulously designed and thoughtfully considered to ensure that the newly created suburban space embraces and honours the rituals of everyday life (van Rensburg, R. J., & Da Costa, M.-A., 2008). The design approach is rooted in activity-driven solutions aimed at addressing spatial challenges within suburbia and empowering its residents. The architectural concept for enhancing Menlo Park seeks to foster an environment that accommodates multiple identities within the reimagined inter-suburban context. The residential landscape of Menlo Park has evolved into a stagnant and repetitive setting.

In South Africa, there is a pressing need for a suitable spatial strategy tailored to suburbanised environments that transcends Eurocentric spatial models, paving the way for the development of a viable postcolonial planning framework.

Key aspects include:

1. Implementation of mixed tenure opportunities.
2. Embracing an economy of scales.
3. A prominent focus on public green spaces as a communal expression of health and inclusivity.

In envisioning a comprehensive framework for the transformation of suburbia, it is essential to extend considerations beyond conventional planning theories. The scope of evaluating new and adapted structures transcends immediate impacts, delving into the lifecycle dynamics and enduring societal contributions to the neighbourhood. Adopting an industrial perspective, the examination encompasses not only the physical longevity of the constructions but also the intricate relationships cultivated among residents and users interacting with the built environment. This perspective reflects on the socio-cultural activities enabled by the

new development while envisioning future possibilities. The concept of architecture for disassembly is one way in focusing on the transfer or reduction of embodied energy within existing structures. Recognising that a building's lifecycle comprises both economic and physical aspects, design for disassembly addresses obsolescence levels entailed in decommissioning buildings for upgrades, replacement, or modernisation (Crowther, P., 1998). Contemporary building design often prioritises economic returns within a predetermined investment period, but recognising the prolonged physical lifespan of structures calls for a reevaluation of this paradigm. Inevitably, each building reaches a juncture at the conclusion of its economic lifespan, historically resulting in demolition, a sequence of events driven by various factors. The envisioned project seeks to create structures that can dynamically adapt to evolving needs without necessitating demolition.

building undergoes a form of demolition. The extent of material wastage during this demolition phase is influenced by the challenges encountered in disassembling and separating the components used in the building's construction. This often leads to high material wastage rates and a missed opportunity to harness the embodied energy within the building (Crowther, P., 1998). Disassembly and separation, when achieved, tend to be a time-consuming and inefficient process, making it economically unviable. Therefore, strategic design for disassembly becomes essential for implementing environmentally sustainable building systems. The core idea is to overcome or reduce obsolescence, extending to material selection and assembly methods. Prioritising lightweight materials enhances opportunities for reuse and recycling, contributing to the concept of an "economy of material." As an illustration, buildings initially designed as single-storey structures with robust foundations can accommodate up to two additional storeys in subsequent phases, aligning with the goal of incorporating small-scale economic activities into the suburban fabric and transitioning them into mixed-tenure residential units in later transformations.

The following are potential factors contributing to the sequence leading to demolition:

Building Obsolescence occurs in 5 ways: (Crowther, P., 1998).

1. **Locational obsolescence:** building's function is no longer appropriate or needed in its current location.
2. **Functional obsolescence:** the building's function is no longer needed within society.
3. **Technical obsolescence:** the building can no longer attain expected performance standards.
4. **Physical obsolescence:** the building or its components have fallen below acceptable standards of safety or amenity due to deterioration.
5. **Fashionable obsolescence:** the building no longer meets current standards of style and trend.

For example: buildings designed as single storey, during phase 1, will have foundations significant enough to carry up to 2 additional storeys above once further phase developments occur. Initially the programmatic goal is to include small scale economic activities into the sterile suburban fabric but further transformation goals include translating these economic units into mixed tenure residential units.

Once a state of obsolescence is reached, the

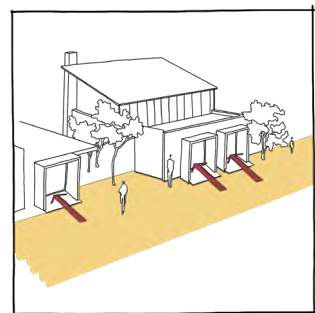


Diagram 11:
Entrances to buildings clearly readable from pedestrian ways

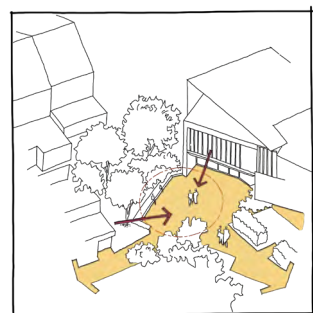


Diagram 12:
Pedestrian walkways + greater environment overlooked by surrounding buildings

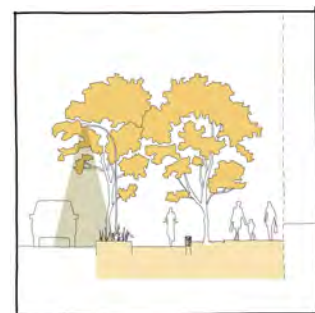


Diagram 13:
Lighting requirement to ensure visibility for pedestrian movement

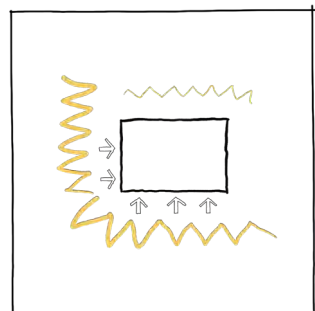


Diagram 14:
Multi-sided experience of the building, no inactive frontages

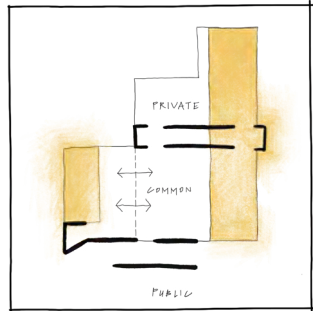


Diagram 15:
Transitional zones, the need for soft and hard edges within the building

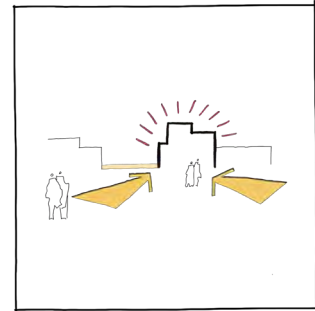


Diagram 16:
Building legibility from a distance

PLANNING PRECEDENTS

organisational precedents + planning frameworks:

1. The Village Precinct:

Situated in Menlo Park, The Village on 16th Street signifies Pretoria's recent evolution of residential homes into a novel economic activity typology, offering options for dining, beverages, and recreation. Creating an open-air environment conducive to public living, the development showcases a variety of restaurants and a selection of small retail stores.

In the context of phasing densification process, the investigation involved a comparison between the proposed project and the Old East Village (referred to as the Village), where the Village primarily houses food and hospitality businesses. In contrast, the proposed project integrates various functions, including residential, commercial, healthcare, and office spaces, creating a diverse neighbourhood environment. Its primary aim is to bring suburban life into the public realm by incorporating small design elements in the street environment, such as bollards, shading, crosswalks, seating, and vegetation to mitigate the scales between users and the buildings.

While the Village relies on vehicular transportation, its parking provisions become overwhelmed during meal times, leading to haphazard parking that hinders pedestrian activities. The Village's expansion exacerbates vehicular congestion, prompting considerations of more compact developments to better accommodate visitors. In this regard, the ongoing expansion strains infrastructure and disrupts peaceful suburban living for residents.

In contrast to the Village's centralised commercial development approach, the proposed project offers a gradual transition, impacting social and cultural adaptation. A phased development approach enables a slower transformation, fostering user and resident ownership. The Village experiences reduced activity outside of meal times, particularly in the evenings, which raises safety concerns for adjacent residential areas. However, the Village's innovation in socialising outside central malls is promising for similar suburban revitalisation projects.

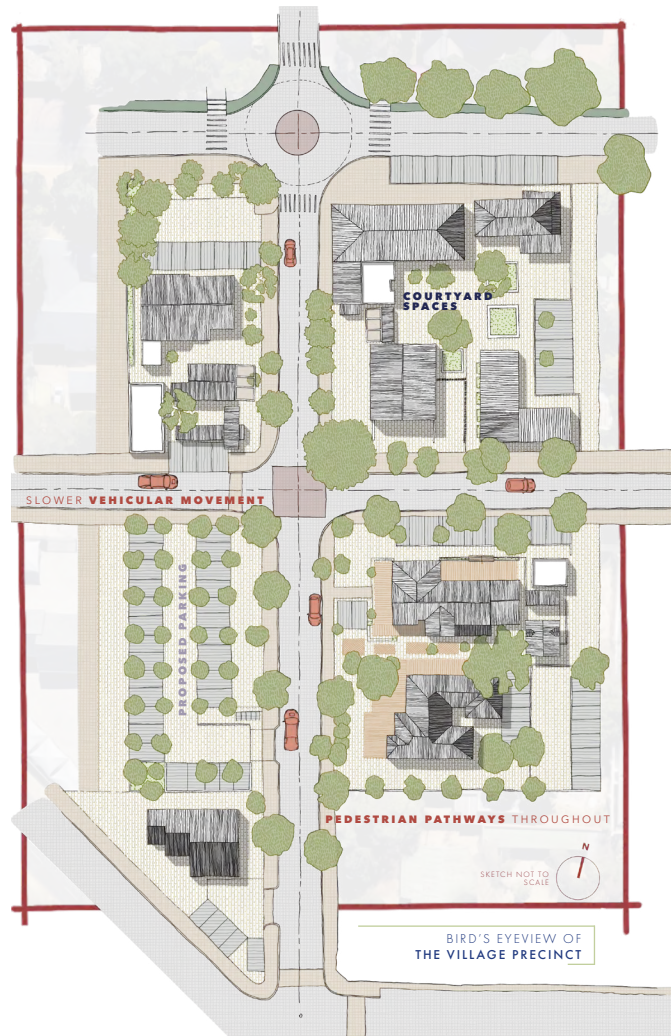


Figure 17. Aerial view of The Village Precinct show the presence of pedestrian ways and the altered buildings in the development.

2. The Garden City Ideology: Addressing the Shortcomings

The Garden City ideology was formulated by Sir Ebenezer Howard in the late 19th and early 20th centuries. Howard, a British urban planner, introduced the concept in his influential book *"Tomorrow: A Peaceful Path to Real Reform"* published in 1898. The Garden City model proposed the creation of self-contained communities surrounded by greenbelts, combining the benefits of both urban and rural living. These communities were designed to be economically and socially sustainable, with an emphasis on green spaces, affordable housing, and cooperative land use planning. The Garden City concept had a significant impact on urban planning and influenced the development of planned communities worldwide (Nadh, N., 2021).

Despite its enduring influence in urban planning, the Garden City ideology faces significant shortcomings. One major challenge is the substantial financial investments required for establishment and maintenance, potentially limiting access to lower-income individuals and exacerbating social inequalities. Another drawback is the transformation of some Garden Cities into commuter towns, resulting in lengthy daily commutes to larger urban centres, contributing to urban sprawl and environmental concerns.

To address these issues, a suitable spatial strategy for suburbanised environments in South Africa should transcend Eurocentric planning frameworks that still include significant considerations for publicly accessible green spaces. Key considerations include mixed tenure, an economy of scales, and a focus on public green spaces as a gesture of health and inclusivity.

3. Distinguishing Between Planning Codes:

In the planning of neighbourhoods and urban areas, different planning codes can be employed. Three primary types are Zoning Codes, Form-Based Codes, and Generative Codes. Zoning Codes, also known as Euclidean Zoning Codes, have been in use for over a century, primarily determining development patterns but often leading to sprawling settlement patterns.

In contrast, Form-Based Codes (FBCs) emphasise the relationship between building facades, massing, and the public realm, leading to more context-sensitive planning. Generative Codes (GCs) represent a regulatory planning process that emphasises community engagement and adaptability from the outset of planning.

4. Reimagining Suburbia with Generative Codes:

Utilising Generative Codes, the goal is to liberate suburbia from confining Euclidean zoning codes and accommodate the diverse perceptions and viewpoints of South African

society (Caputo, S., de Oliveira, F.L. & Blott, D., 2019). This approach allows for a non-prescriptive space that can adapt to the unpredictable and incorporate different levels of identity and practices (JPER, 2019). Patrick Geddes' approach to neighbourhood redefinition prioritises civic evolution through a method of immersion in the area. It emphasises conservation, not as stasis but as a means of ensuring civic evolution. To bring about evolution within Menlo Park, the focus should shift from individualist occupation to public inclusivity and communal resource use (Lock, D., 1977).

The creation of new pedestrian corridors within residential blocks fosters links between neighbours, slows down movement, and ensures every alteration adds value to the neighbourhood. Infill buildings must be assessed for their contribution to the life of individuals, families, and the community on a civic level.

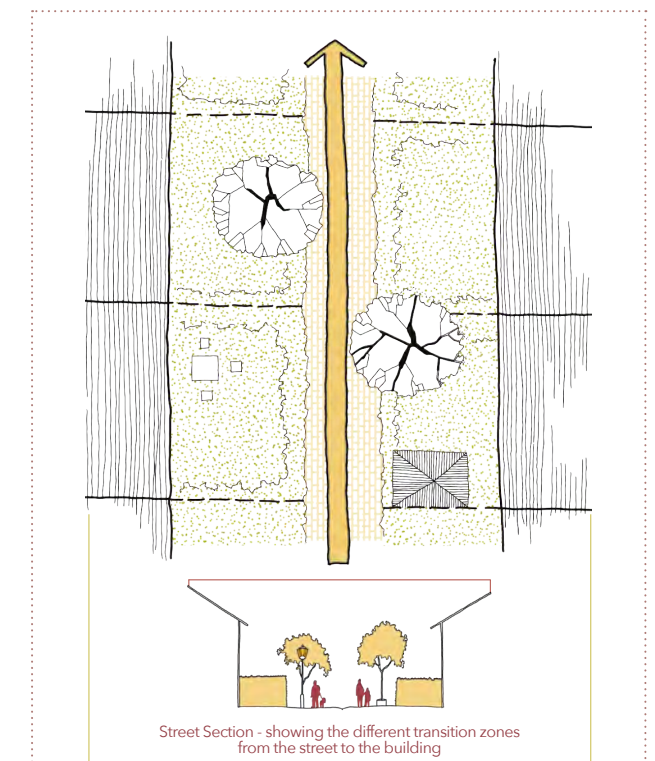


Figure 18. Horizontal filtering away from the street edge ensures that the pedestrian walkways are protected from the fast movement of vehicular transport. Gradation created with vegetation and different walking surfaces.

PROPOSED DESIGN GUIDELINES

developed through the design investigation:

As an alternative to modern, commodified urban solutions, this project aims to demonstrate the potential for diverse suburban densification by adhering to these design principles:

1. Emphasis on defining thresholds between spaces.
2. Blurring the line between public and private areas.
3. Consideration of visual lines of sight.
4. Boundary definition, not limited to applications of brick walls.
5. Creation of portal spaces.
6. Efficient circulation within corridors, connecting to the existing surroundings.
7. Enhancing legibility to avoid monotony and provide landmarks.
8. Focus on pedestrian movement patterns within internal corridors.
9. Acknowledging the human scale, encompassing all activities and interactions.
10. Recognising the identity of Menlopark as a suburb, going beyond mere building structures.

Ensuring the architecture responds to these points will avoid homogeneity and alienation. Construction methods should be relatively low-tech to encourage user participation, allowing individuals to add their own layer of meaning to the infill structures. Construction techniques should enable fast and clean building within intimate residential areas, with modular construction based on a grid system for material reuse.

Neighbourhood design should prioritise safety through perceived safety, emphasising multi-functionality of suburban streets, inserting activities along pedestrian corridors, employing "Defensible Spaces" theory, encouraging self-organisation, and regulating the transitional edge between private and public spaces (Newman, O., 1996).

A future-first design approach is essential for infill structures, focusing on flexibility, materials that can be reused, and ongoing reassessment of building appropriateness. The goal is to move away from Eurocentric building concepts and create social spaces rather than objectified architectural interventions.

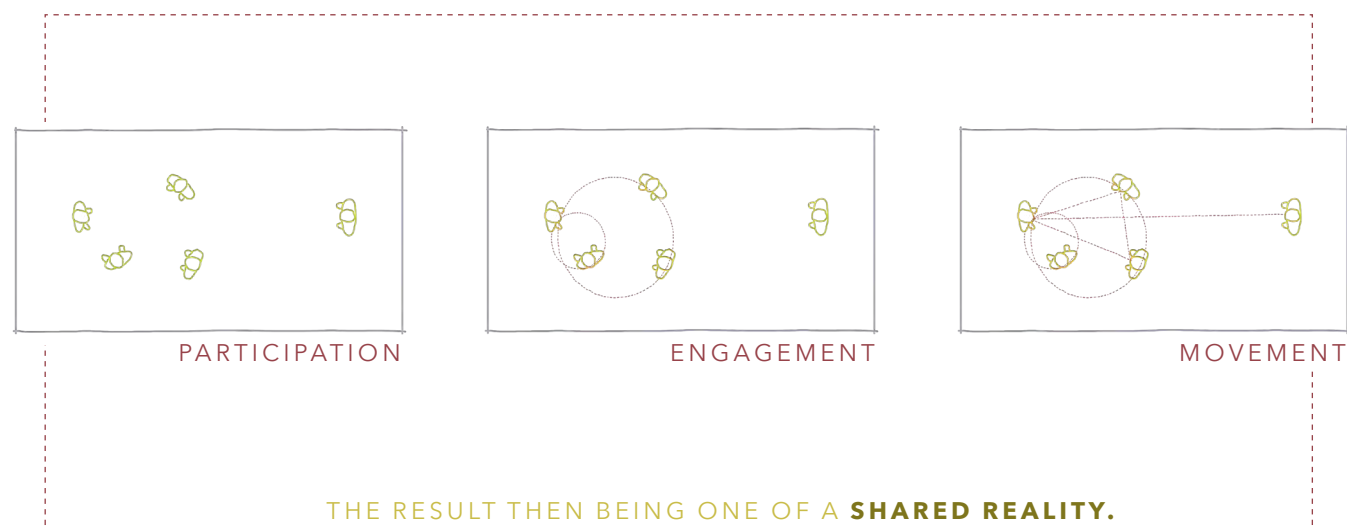


Figure 19. Demonstrates the aspiration to establish a collective experience among residents residing in the residential blocks. The key to realising this vision lies in fostering active participation and collaboration between residents and architectural professionals to construct a densified suburban environment using facilitated self-build practices.

MATERIALITY + DESIGN-TECH INTEGRATION

considering the intimate scale of residential erven:

The planned new constructions and the modifications to existing buildings utilise moderately low-tech timber construction techniques. This choice is deliberate, as it aims to establish a model for potential future endeavours in various neighbourhoods. The interventions incorporate laminated timber columns and beams to guarantee structural integrity. Wall infill panels and other components are fashioned from readily available SA Pine sections typically found in hardware stores, promoting flexibility through a user-friendly self-building process.

Further key points to consider are:

1. Application of the panels needs to be easily assembled in-situ by low to no skilled labour.
2. High performance in terms of thermal conditions (cool interiors), resistance to fire threats, buoyant in flooding regions, light in colour to not absorb heat.
3. Enable a facilitated self-build practices.
4. Cyclical contribution to the bio-economy.
5. Integrating plants that serve multiple uses - such as medicinal properties, used for creating elements used in the buildings, and managing stormwater networks.

The primary use of timber construction in this project serves as a pioneering example for the potential integration of novel materials within suburban developments. This approach challenges the prevailing prejudice against timber structures in suburban settings, moving away from the stereotypical "Wendy house" appearance. Timber, as a building material, offers inherent qualities of versatility and adaptability in structural design. The experimental utilisation of timber in construction not only paves the way for innovative opportunities but also contributes to the creation of new employment prospects within the construction industry.

Drawing inspiration from the resourceful practices observed in informal settlements, the concept of material reuse takes centre stage, challenging the conventional perception of discarded materials as waste. Instead, these materials are envisioned with fresh perspectives, reimagining their potential utility. In the context of the new infill structures situated along the internal corridors, a significant portion of the existing masonry boundary walls must be removed to accommodate the project's development. This deconstruction process opens a valuable opportunity to repurpose these materials, effectively redistributing their use within the framework of the new neighbourhood scheme.

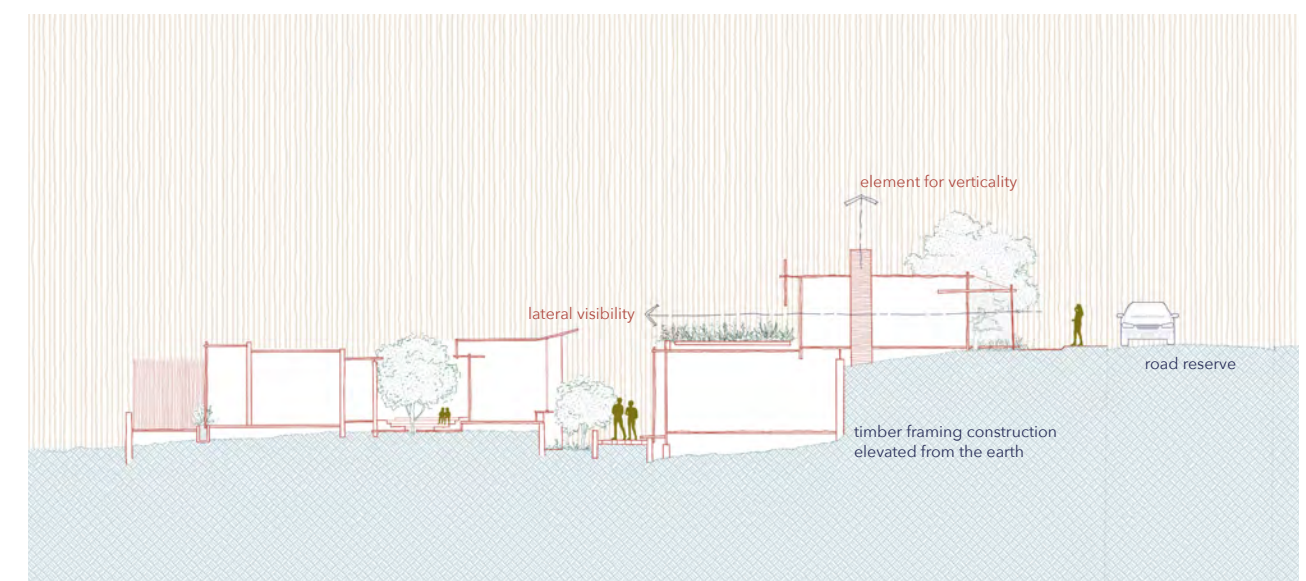


Figure 20. Sectional diagram emphasizing the meticulous consideration of scale and the gradual integration into the residential block concerning the current residential surroundings.

TECHNICAL + DESIGN PRECEDENTS

showcasing small-scale timber buildings:

Transforming suburbia into a more sustainable and harmonious environment, sustainability measures which promote self-sufficiency within our service networks need to be embraced. It is imperative to reduce our ecological footprint and minimise our reliance on finite resources. In this pursuit, an innovative sustainability measures are introduced into the scheme that pave the way for a more environmentally conscious future.

This entails harnessing the vast potential of solar energy through advanced solar power systems. By installing solar panels and leveraging energy storage solutions, not only reduces our dependence on traditional energy sources but also contribute to a greener and more sustainable community. This transition towards solar potential storage not only

benefits the environment but also provides long-term cost savings to residents, making it a win-win solution.

Additionally, the project advocates for responsible water management through effective water harvesting techniques. By collecting and utilising rainwater, the strain on conventional water sources is alleviated and ensures a more reliable water supply. This approach aligns with the project's goal of environmental preservation and reducing it's overall impact on the existing municipal service networks. These measures not only enhance the sustainability of the project but also set a precedent for future developments, illustrating how we can embrace innovation to create communities that are not only self-sufficient but also environmentally conscious.

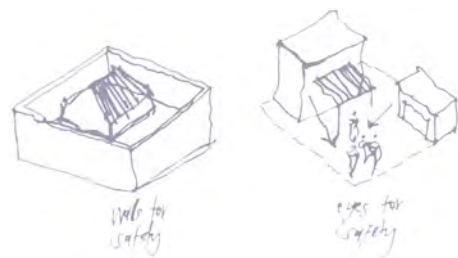


Figure 21. The difference in creating a sense of safety; walls versus passive surveillance.



Figure 22. In the process of refining the safety concept, multiple iterations were undertaken to meticulously craft building forms that would best serve the overarching goal. The primary aim is to create an environment where safety is paramount, offering users a clear and easily navigable path. This involves designing spaces with unobstructed sightlines, allowing individuals to see through the area and have a comprehensive understanding of their surroundings as they traverse the space. Every aspect, including building edges, overhead planes, and interstitial spaces, undergoes careful consideration to prevent any elements that might contribute to a sense of alienation for users as they move through the project. This thorough approach ensures that the safety concept is not only a theoretical consideration but a tangible and integral part of the project's design.

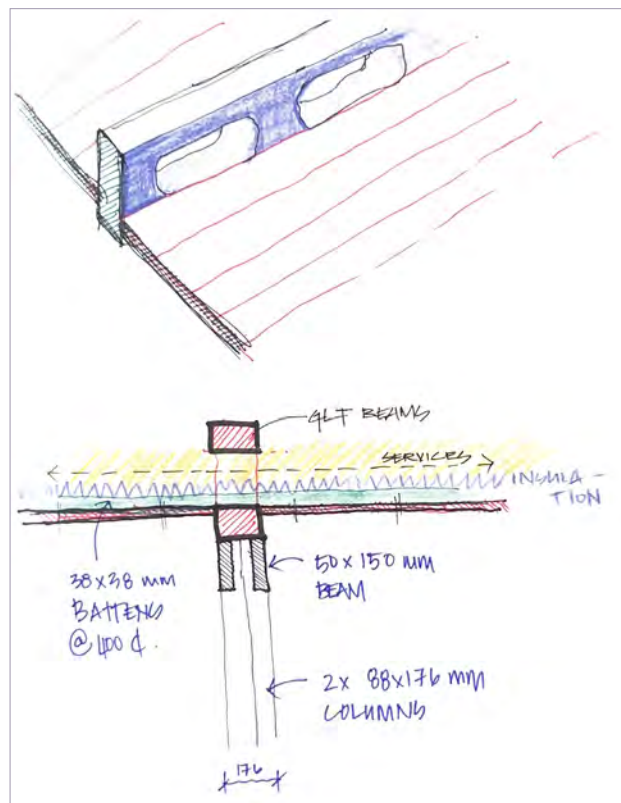
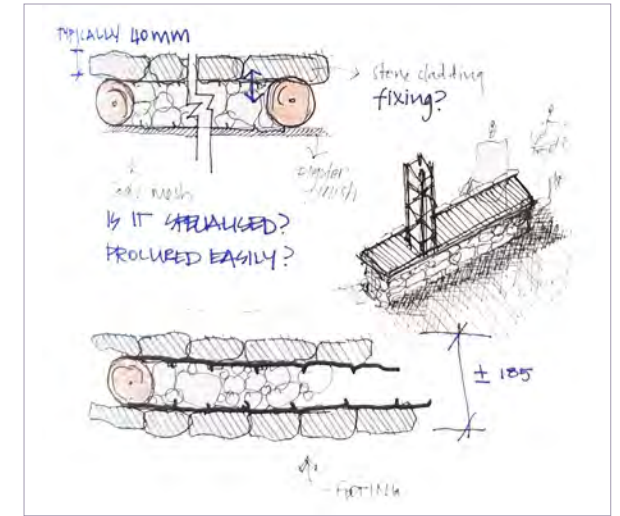
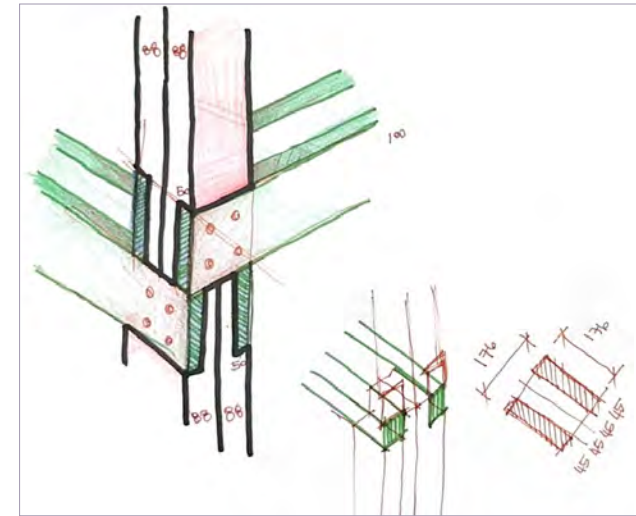
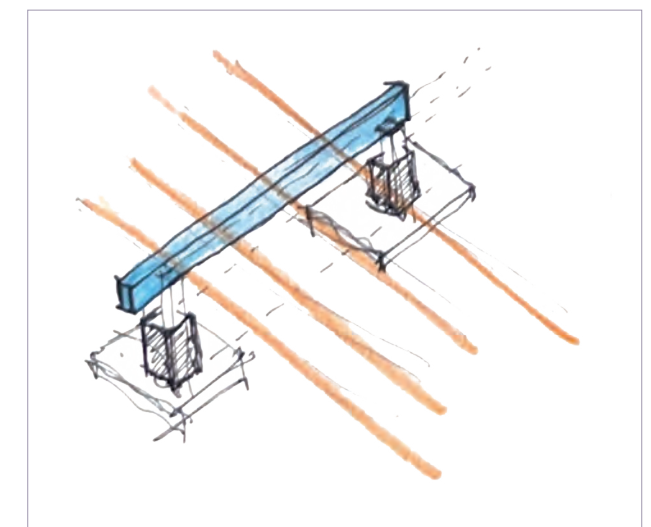
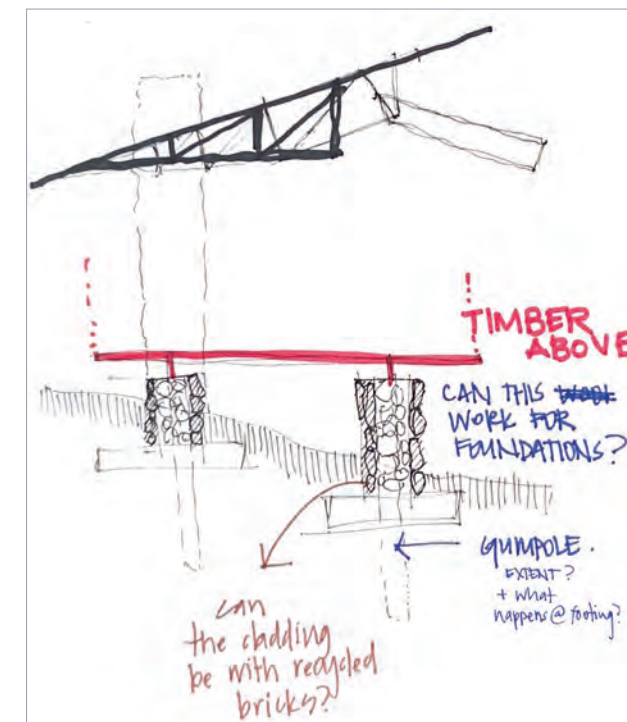
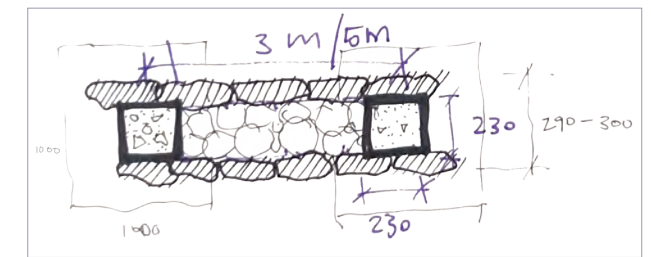
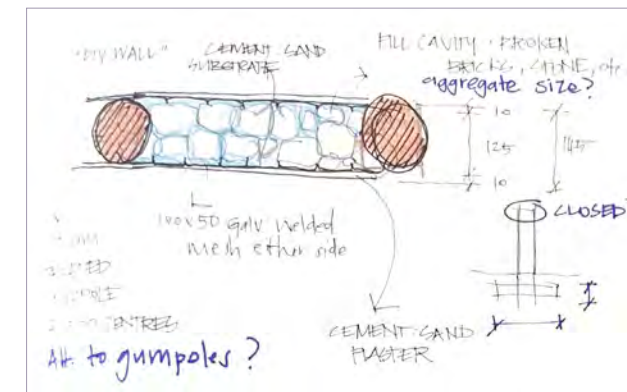


Figure 23. The office spaces demanded thoughtful planning for adaptability and service provisions. To address this, a strategic choice was made to incorporate structural beams that have been cored. This not only accommodates the necessary space for service reticulation and insulation installation but also enhances the aesthetic appeal of the roofing system when viewed from below.



Figures 24 & 25. Illustrating the construction strategies employed for the interventions. The left sketch depicts the layering of the timber framing structure, with columns constructed from two identical 88 x 88mm SAP laminated timber sections. The construction approach avoids overly complex timber techniques to ensure ease of replication during the densification process. Beams, measuring 50 x 100mm and 50 x 150mm SAP sections, are arranged in a lattice grid configuration for structural stability. The right sketch explores ways to repurpose materials from demolished masonry boundary walls. Brick rubble could be utilized as filling materials, creating small walls within the landscape to define the living street condition in the pedestrian spine. Additionally, the option to use gum poles for structural stability in the interventions is considered.



EARLY DESIGN ITERATIONS

concept sketches at the project's start:

These sketches & macquettes explore the opportunities afforded by the new bylaw in the City of Johannesburg's 2018 Land Use Scheme, allowing up to three additional dwellings.

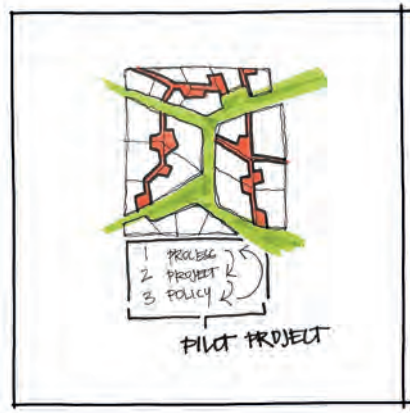


Figure 26. The project is executed through a cyclical 3-step process.

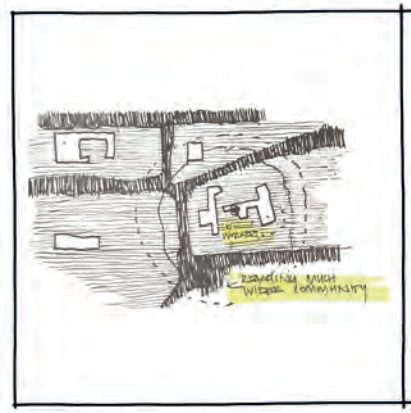


Figure 27. The initial iteration of the design concept explored the idea of discrete pockets of activity within suburbia, each not interconnected.

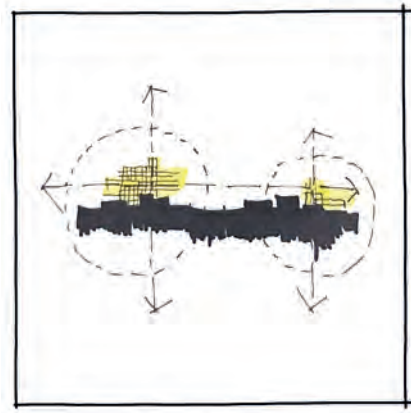


Figure 28. Sketch showing the need for vertical elements to extend above the suburban skyline.

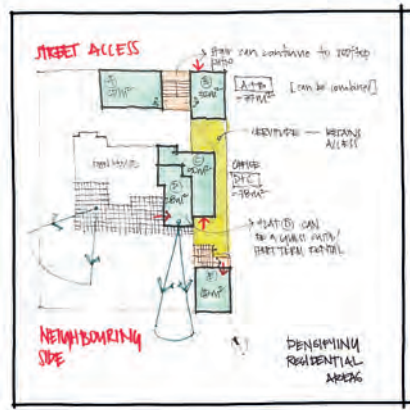


Figure 29. Sketch based on the work by Thorsten Deckler exploring similar ideas about densifying suburbia.

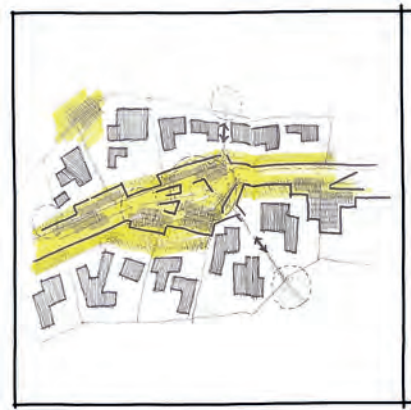


Figure 30. Sketch exploring the opportunities offered by the 3rd dwelling by-law implemented by the City of Johannesburg.

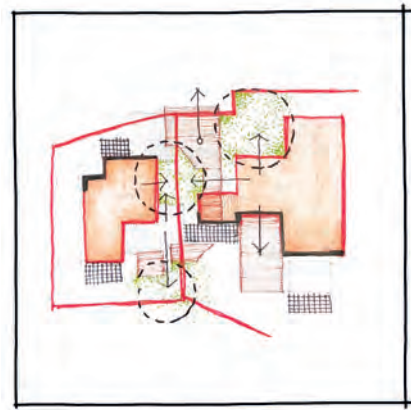


Figure 31. Sketch exploring the options for densifying the interstitial spaces between existing residential homes.

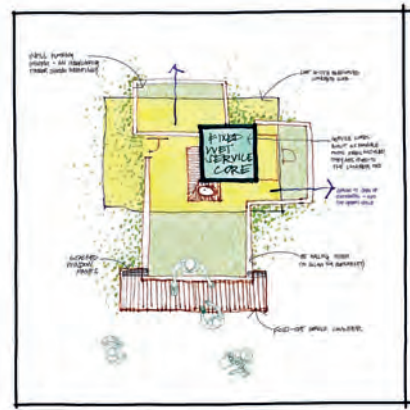


Figure 32. Sketch exploring intimate interventions that could be placed within the residential context.

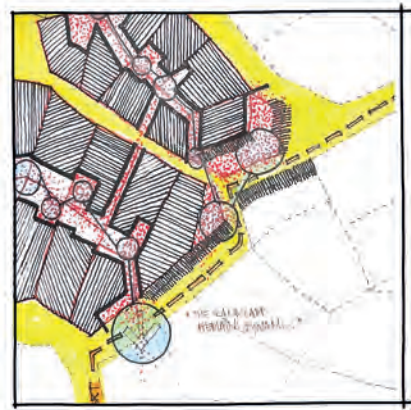
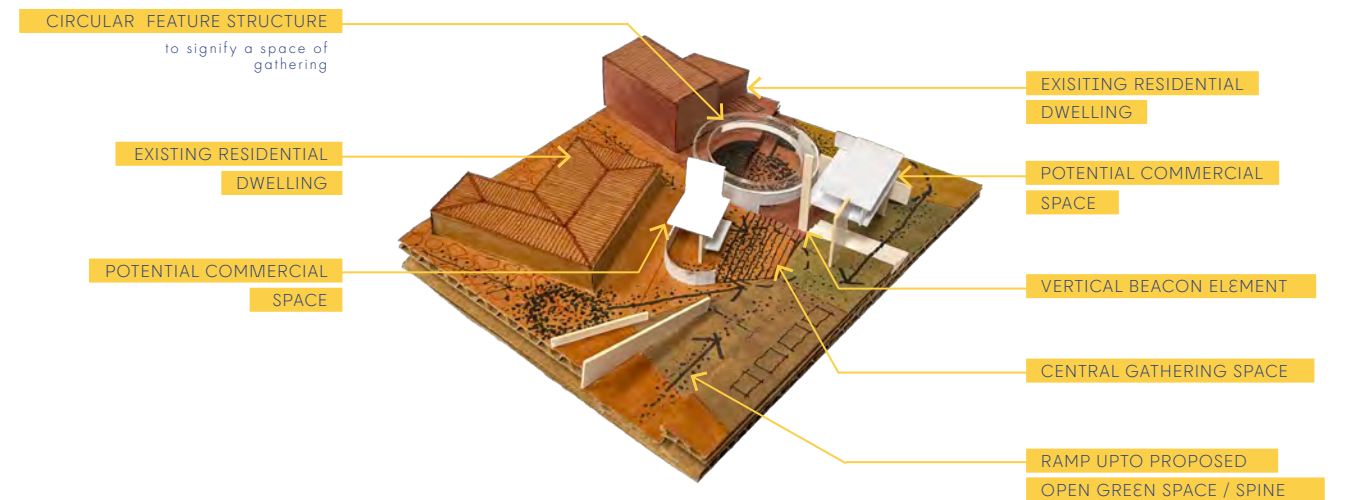
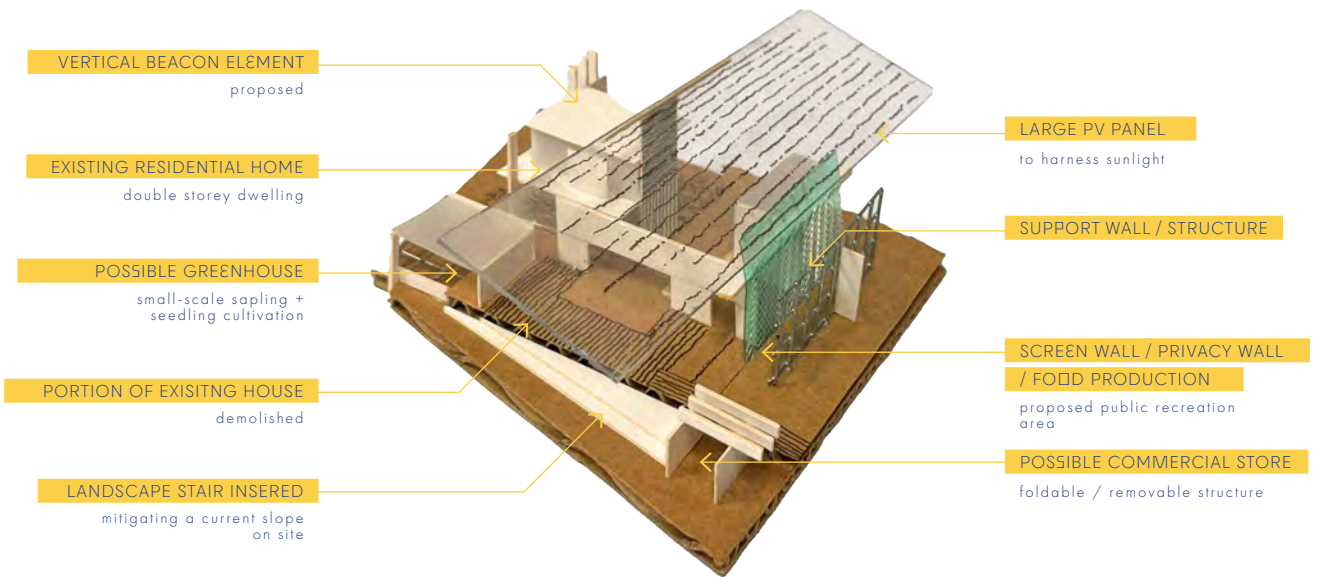
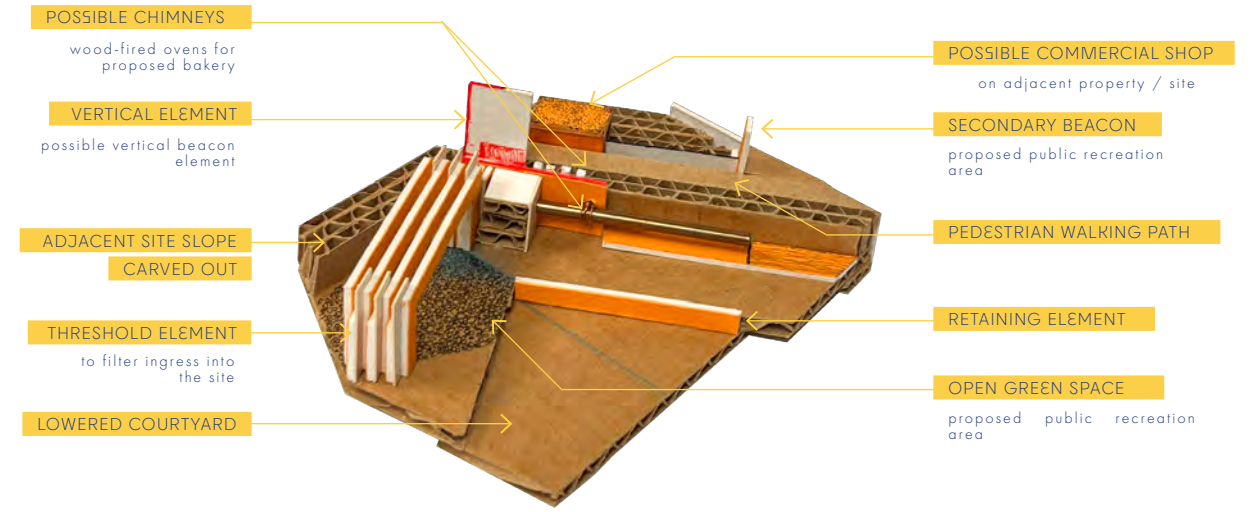


Figure 33. Sketch exploring how the pedestrian corridor could connect to existing public transport networks.



Figure 34. Sketch exploring the options for densifying the interstitial spaces between the residential homes and how they will form the pedestrian corridor.

concept models at the project's start:



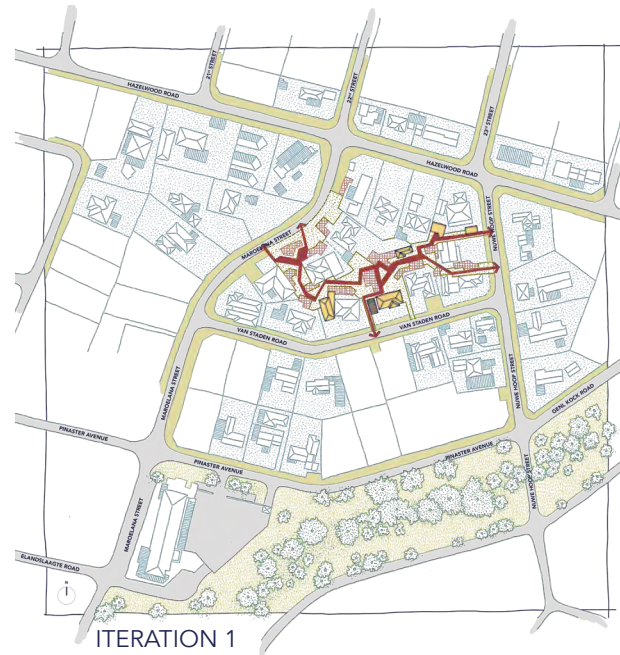
EARLY DESIGN ITERATIONS

urban design focused iterations:

The need for phasing:

The infill structures have been placed to account for an incremental development process. As this prototypical project explores the possibility for suburban densification it was important to acknowledge, from the onset of the project, that the proposed changes should not occur at once but rather become more densified over time.

The project promotes the idea that human development thrives on a natural understanding of intricate experiences. It suggests an architecture with flexible boundaries that encourage spaces to interact, fostering cross-pollination and exchange. This architecture has the potential to regenerate itself through daily use.

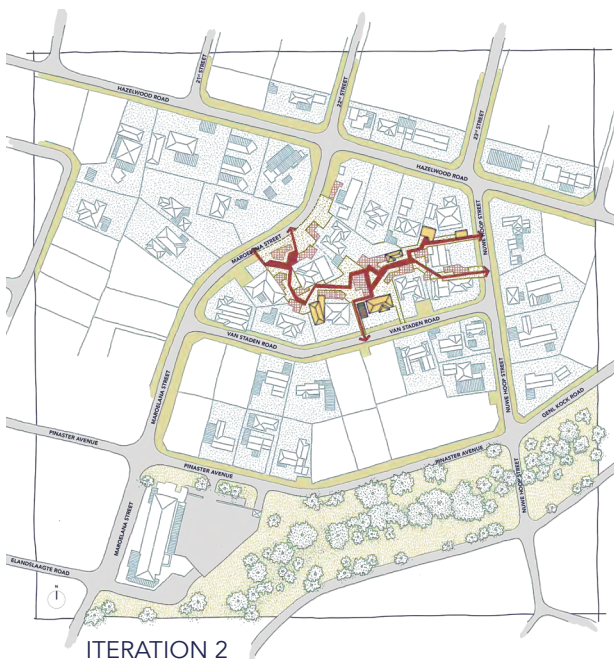


ITERATION 1

infill units were placed in relation to the existing residential homes

The pedestrian spine route was deduced later, the concern is that there are too many corners and blind areas in the residential block. The entrance ways into the block are also too large and scattered. Orientation for the user will be difficult.

- NEW INFILL BUILDINGS
- ALTERED EXISTING BUILDINGS
- GREEN AREAS ADJACENT TO THE SPINE
- PEDESTRIAN ROUTE
- EXISTING CONTEXT



ITERATION 2

infill units placed within larger spaces between the existing homes

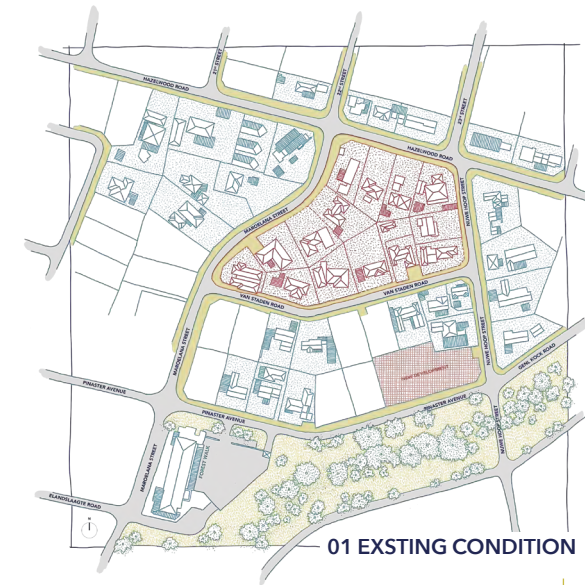
The pedestrian spine route was deduced later. This iteration aimed to only propose new buildings that do not affect the existing homes too drastically. This still resulted in the deduced route to appear random and difficult to navigate by the users.



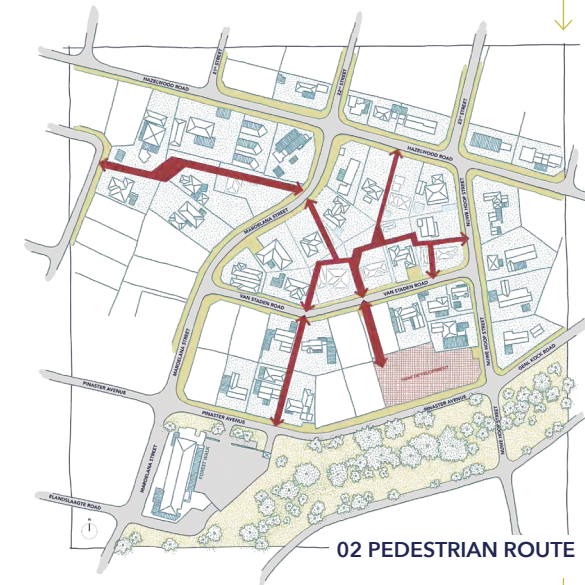
ITERATION 3

more clustered infill units & the north-south axiality

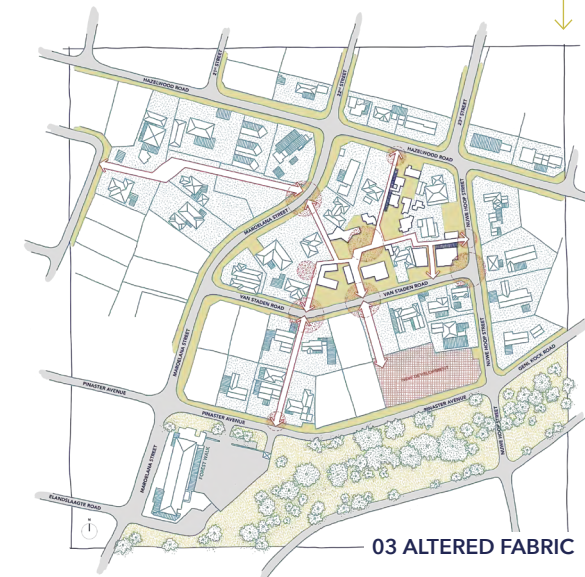
This iteration shows, although the pedestrian route is still too hap-hazardous, that the infill units can be placed in combination with altering some existing structures within the context. The pedestrian route is more focused, with fewer entrances which directly improves the sense of safety within the block.



01 EXISTING CONDITION



02 PEDESTRIAN ROUTE



03 ALTERED FABRIC

- NEW INFILL BUILDINGS
- GREEN AREAS ADJACENT TO THE SPINE
- PEDESTRIAN ROUTE
- EXISTING CONTEXT

ITERATION 4

final iteration designed the route first, identifying desire lines + points of interest

Examining the current state of the chosen residential block, a comprehensive consideration was given to the activities in its proximity. The retail establishments to the south, housed within the Forest Walk development, serve as significant attractions, drawing a substantial number of visitors to the area. Furthermore, the ongoing construction of residential apartments on Pinaster Ave. adds to the complexity by introducing more residents per km² to the immediate context.

The existing and upcoming activity nodes, shown in the '03 Altered Fabric' diagram, are strategically positioned to complement and reinforce the proposed infill pedestrian corridor's programs. The objective is to not only facilitate movement but also encourage users and passers-by to traverse the corridor, fostering meaningful interactions with the residents and the working community within the block.

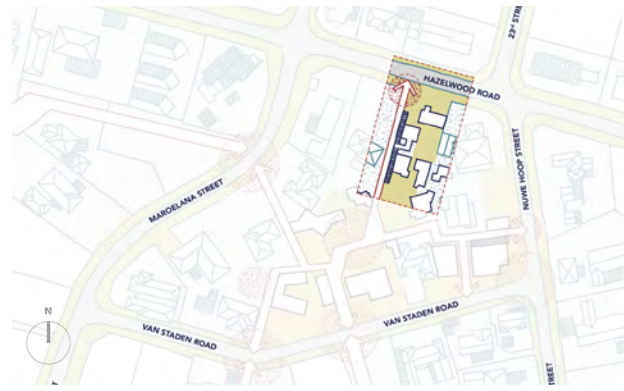
A critical aspect of the design lies in the pedestrian route, ensuring not only connectivity but also optimal visual coordination for users. This intentional design approach aligns with the 'refuge and prospect' principles derived from the Defensible Space ideology, contributing significantly to the overall sense of safety within the corridor (Newman, O., 1996).

Intersections where the main pedestrian route converges with existing vehicular roads present unique opportunities for social exchange and interaction. Incorporating bus stops at these junctions serves a dual purpose: encouraging the use of public transport infrastructure and creating focal points for community engagement. The green spaces within the residential block, the project envisions park-like, open areas. Beyond aesthetic considerations, these spaces are intended to encourage residents to embrace public life, fostering a vibrant sense of community within the block. The interplay of these elements reflects a thoughtful approach to urban design that goes beyond mere physical connectivity, aiming to enrich the social fabric of the community.

EARLY DESIGN ITERATIONS

focal area within the residential block:

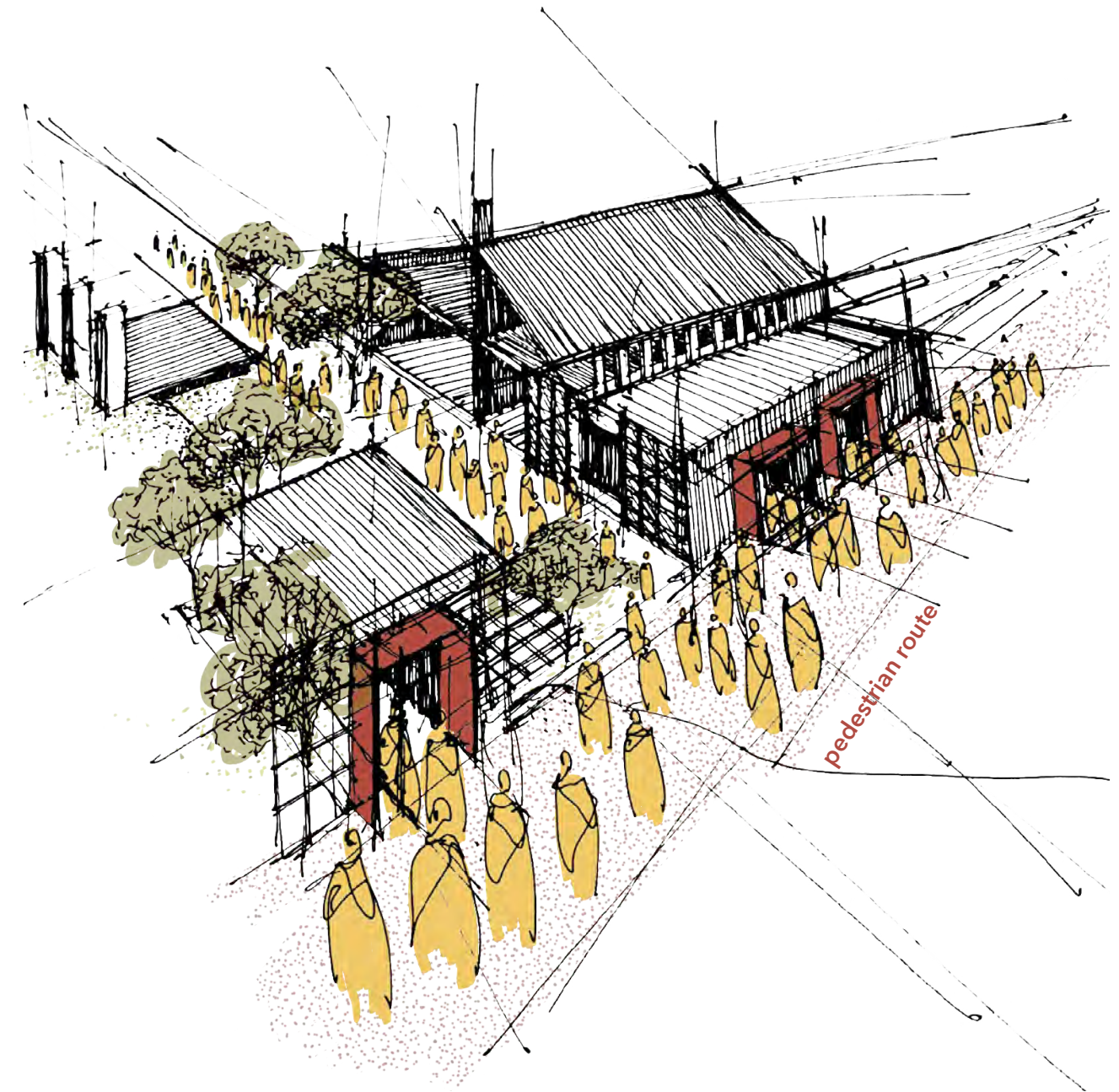
Development model iteration 1:



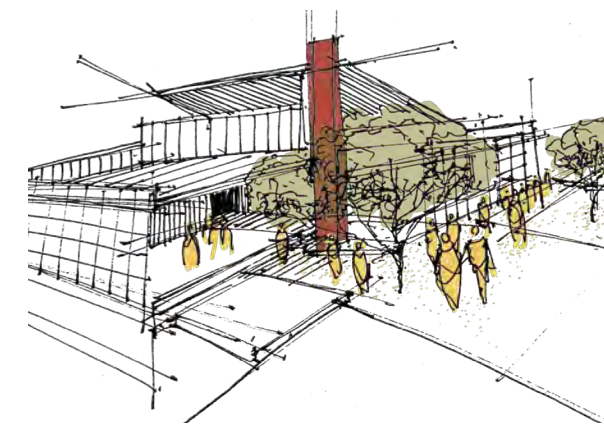
Project's focus location within the larger residential block.

This model delved into the potentialities of densification concerning the chosen study area. Unlike the previous maquettes, which focused on altering generic residential homes to accommodate the new densified typology, this iteration (1) introduces red elements to represent new constructions within the context, while grey represents the existing landscape and elements retained during the densification process.

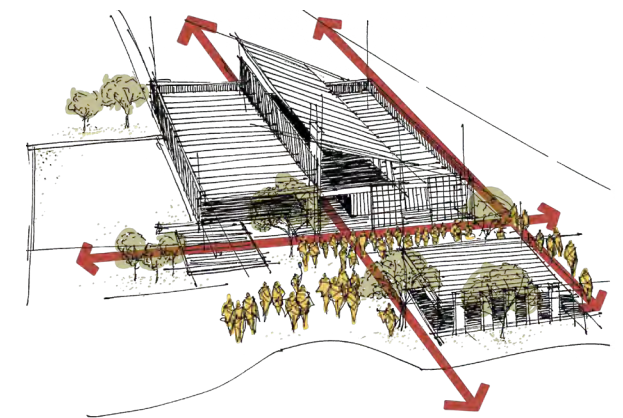
The model underscores the significance of scale in determining how the new or modified buildings interact with the existing residential structures. The introduction of vegetation provides insight into the park-like quality of the new development, creating public green spaces that foster solidarity and a collaborative community atmosphere within the residential block.



Model sketches of iteration 1:



Vertical element: the vertical element is included in the design to allow for visibility from a distance and allow for pedestrians to orientate themselves easily.



Vertical element: linear axial arrangement of buildings allow easy navigation for users and ensure visual connection between where you are and where you are heading (sense of safety)

EARLY DESIGN ITERATIONS

focal area within the residential block:

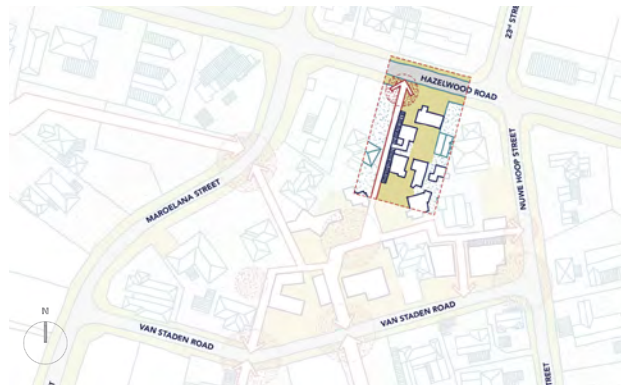
Ground floor footprint iteration 2:



Figure 35. Ground floor plan in its earliest form.

Established Design Guidelines audit:

- Emphasis on defining thresholds between spaces.
- Blurring the line between public and private areas.
- Consideration of visual lines of sight for user orientation.
- Boundary definition, not limited to applications of brick walls.
- Creation of portal spaces.
- Efficient circulation within corridors, connecting to the existing surroundings.
- Enhancing legibility to avoid monotony and provide landmarks.
- Focus on pedestrian movement patterns within internal corridors.
- Acknowledging the human scale, encompassing all activities and interactions.
- Recognising the identity of Menlopark as a suburb, going beyond mere building structures.



Project's focus location within the larger residential block.

The second iteration of the ground plane involved analysing the footprint of the existing residential buildings. The proposed new building, situated to the north and designated for the green grocer, is the only entirely new construction in the study area. This placement was chosen to ensure easy access during the construction process and because it represents the initial building to be constructed in the first phase of densification.

The four other buildings already exist within the block and will be modified to accommodate various programs, including a counseling center, a bicycle repair workshop, co-working office space, an intimate lending library, and a small retail store. These buildings' foundations and some masonry walls are retained during the alteration process. These programs were chosen to encourage the celebration of daily life, as they involve activities that users can engage with on a regular basis. Additionally, they support the shift towards more active transportation methods, such as cycling. The bicycle repair workshop, in particular, provides options for bicycle storage and changing rooms for those commuting to work by bicycle.

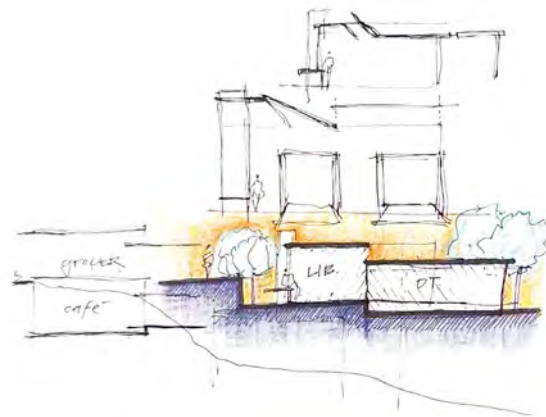


Figure 36. This early sketch explored the relationship between the buildings along the slope of the existing landscape. It also starts considering the blocked portal features which will be used as a design language throughout the development.

focal area within the residential block:

Ground floor footprint iteration 3:

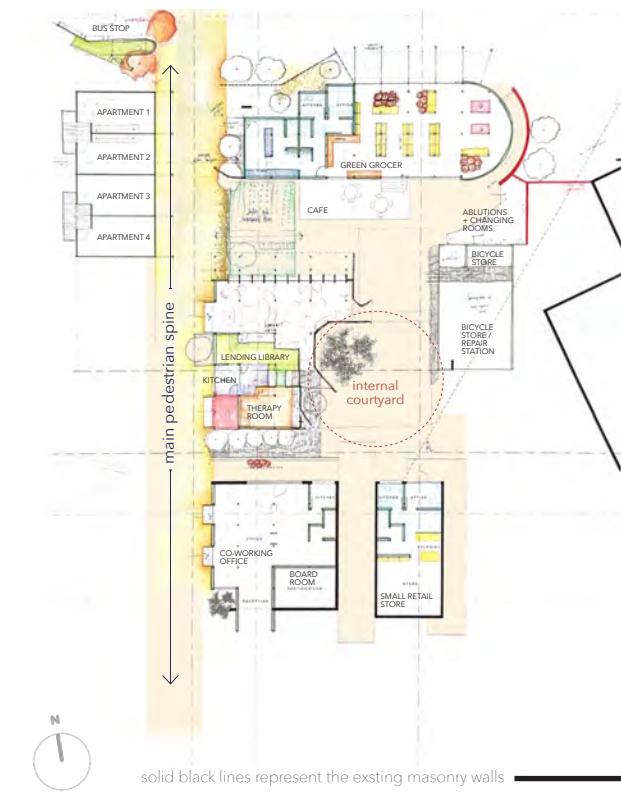
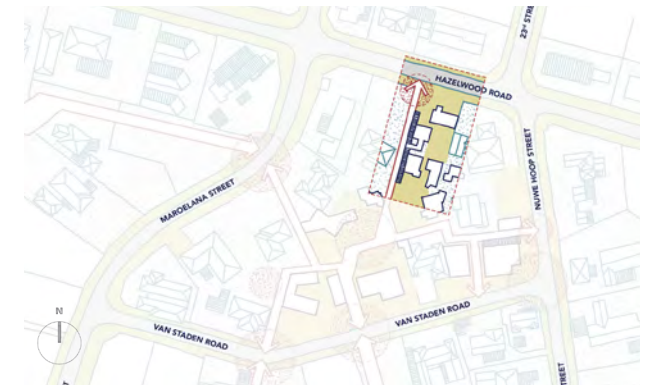


Figure 37. Revised ground floor plan - specific focus was given to the pedestrian circulation within the interventions.

Established Design Guidelines audit:

- Emphasis on defining thresholds between spaces.
- Blurring the line between public and private areas.
- Consideration of visual lines of sight for user orientation.
- Boundary definition, not limited to applications of brick walls.
- Creation of portal spaces.
- Efficient circulation within corridors, connecting to the existing surroundings.
- Enhancing legibility to avoid monotony and provide landmarks.
- Focus on pedestrian movement patterns within internal corridors.
- Acknowledging the human scale, encompassing all activities and interactions.
- Recognising the identity of Menlopark as a suburb, going beyond mere building structures.



Project's focus location within the larger residential block.

The third iteration revisited the design guidelines established during the initial research phases of the project. The audit revealed a need for increased emphasis on blurring the lines between public and private spaces, along with exploring opportunities presented by incorporating existing foundations and some masonry walls. Iteration three adopted a more assertive approach to enhancing the environment, with the spaces created in this version designed to be more intimate than those in the previous iteration.

The addition of a bus stop at the northern junction point of the pedestrian corridor and the vehicular road aimed to establish an activity point that could further encourage users and passers-by to enter the development and engage with the programs housed within. While this iteration demonstrated improvements in alignment with the design guidelines compared to the previous one, there remains a need for further refinement in circulation, visual lines of sight, and the careful creation of portal spaces. These portal spaces play a crucial role in mediating the transition between public and private spaces within the buildings.

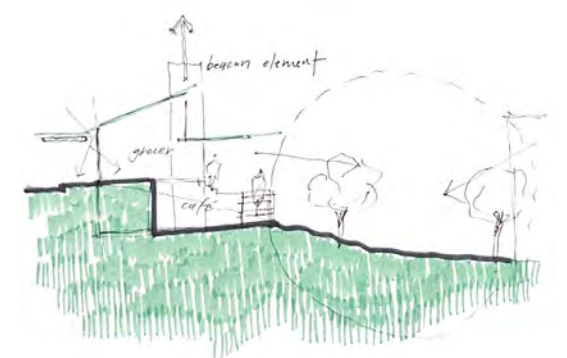


Figure 38. This early sketch explored the relationship between the buildings along the slope of the existing landscape. The sketch communicates the considerations of vertical elements to aid user navigation throughout the pedestrian corridor.

FINAL DESIGN ITERATION

focal area within the residential block:

Ground floor footprint iteration 4:

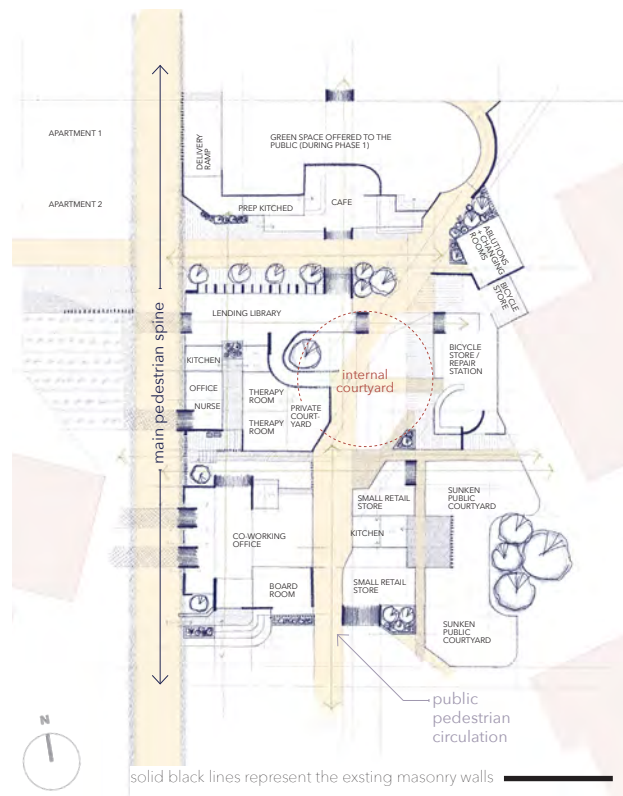
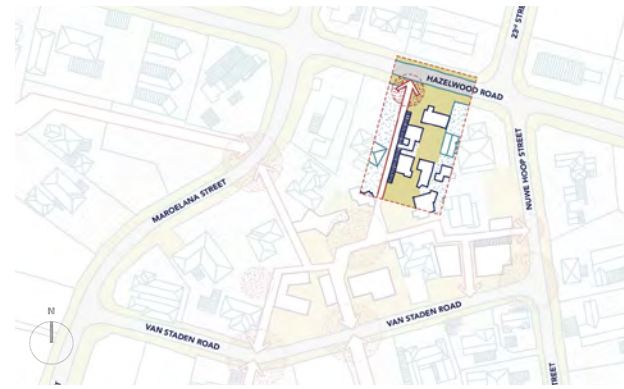


Figure 39. Revised ground floor plan - specific focus was given to the pedestrian circulation within the interventions.

Established Design Guidelines audit:

- Emphasis on defining thresholds between spaces.
- Blurring the line between public and private areas.
- Consideration of visual lines of sight for user orientation.
- Boundary definition, not limited to applications of brick walls.
- Creation of portal spaces.
- Efficient circulation within corridors, connecting to the existing surroundings.
- Enhancing legibility to avoid monotony and provide landmarks.
- Focus on pedestrian movement patterns within internal corridors.
- Acknowledging the human scale, encompassing all activities and interactions.
- Recognising the identity of Menlopark as a suburb, going beyond mere building structures.



Project's focus location within the larger residential block.

In the fourth iteration, a more refined approach to project phasing was adopted. The decision was made to introduce the cafe, located beneath the green grocer, as the initial addition in the first phase of densification. Positioning the cafe as the first addition serves as a catalyst, attracting users to the densified area. The space earmarked for the future green grocer is dedicated to the public realm, providing a green space for social exchanges. The curved ramp facilitates a deliberate entrance for users directly from the street, descending into the prospective internal courtyard.

This iteration successfully enhanced visual connection lines throughout the project, realizing the concept of internal corridors on a smaller scale and improving the overall user experience. Further consideration was given to the scale of the space created. The project's goal of populating the pedestrian corridor with small-scale interventions facilitating more intimate interactions was achieved in this iteration. For instance, the therapy centre was subdivided into two smaller therapy rooms, a nurse's station, and an additional office, utilizing the available space more effectively. Similarly, the retail store was divided to accommodate two small retail stores or kiosks, contributing to the better realization of the economy of scales aspect of the project.

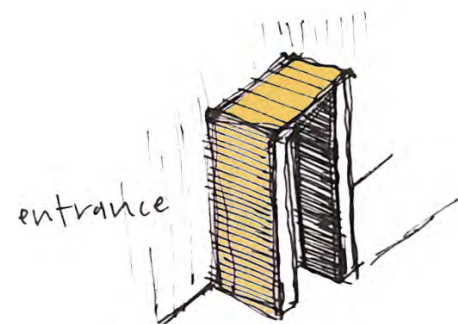


Figure 40. The sketch shows the development of the portal spaces.

final iteration still in progress:

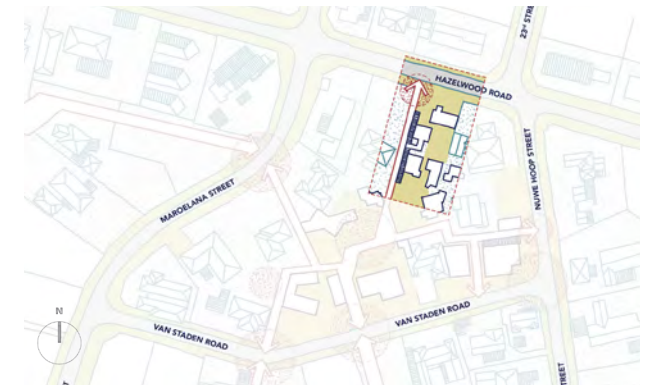
Ground floor footprint iteration 5:



Figure 41. Revised ground floor plan - specific focus was given to the pedestrian circulation within the interventions.

Established Design Guidelines audit:

- Emphasis on defining thresholds between spaces.
- Blurring the line between public and private areas.
- Consideration of visual lines of sight for user orientation.
- Boundary definition, not limited to applications of brick walls.
- Creation of portal spaces.
- Efficient circulation within corridors, connecting to the existing surroundings.
- Enhancing legibility to avoid monotony and provide landmarks.
- Focus on pedestrian movement patterns within internal corridors.
- Acknowledging the human scale, encompassing all activities and interactions.
- Recognising the identity of Menlopark as a suburb, going beyond mere building structures.



Project's focus location within the larger residential block.

The intention of this proposed plan is not to impose large-scale architecture that would overshadow the modest scales of the current residential surroundings. Instead, it incorporates vertical beacon elements to help users visually navigate pedestrian corridors. Throughout the iterative design process, the focus was on maintaining ongoing physical integration to keep the local residents receptive to the alterations in the residential area and to foster a sense of ownership among them. The goal is to establish a closely integrated network of small architectural improvements that benefit the community and add socio-cultural diversity to the otherwise uniform suburbs.

To enhance suburbia, a crucial aspect is reimagining open spaces between buildings, transforming them into dynamic, socioculturally enriched areas integral to urban life. This approach challenges Western spatial norms imposed on African cities and promotes flexible spaces with "sanctioned impermanence," encouraging diverse social uses, communal ownership, and cultural integrations.

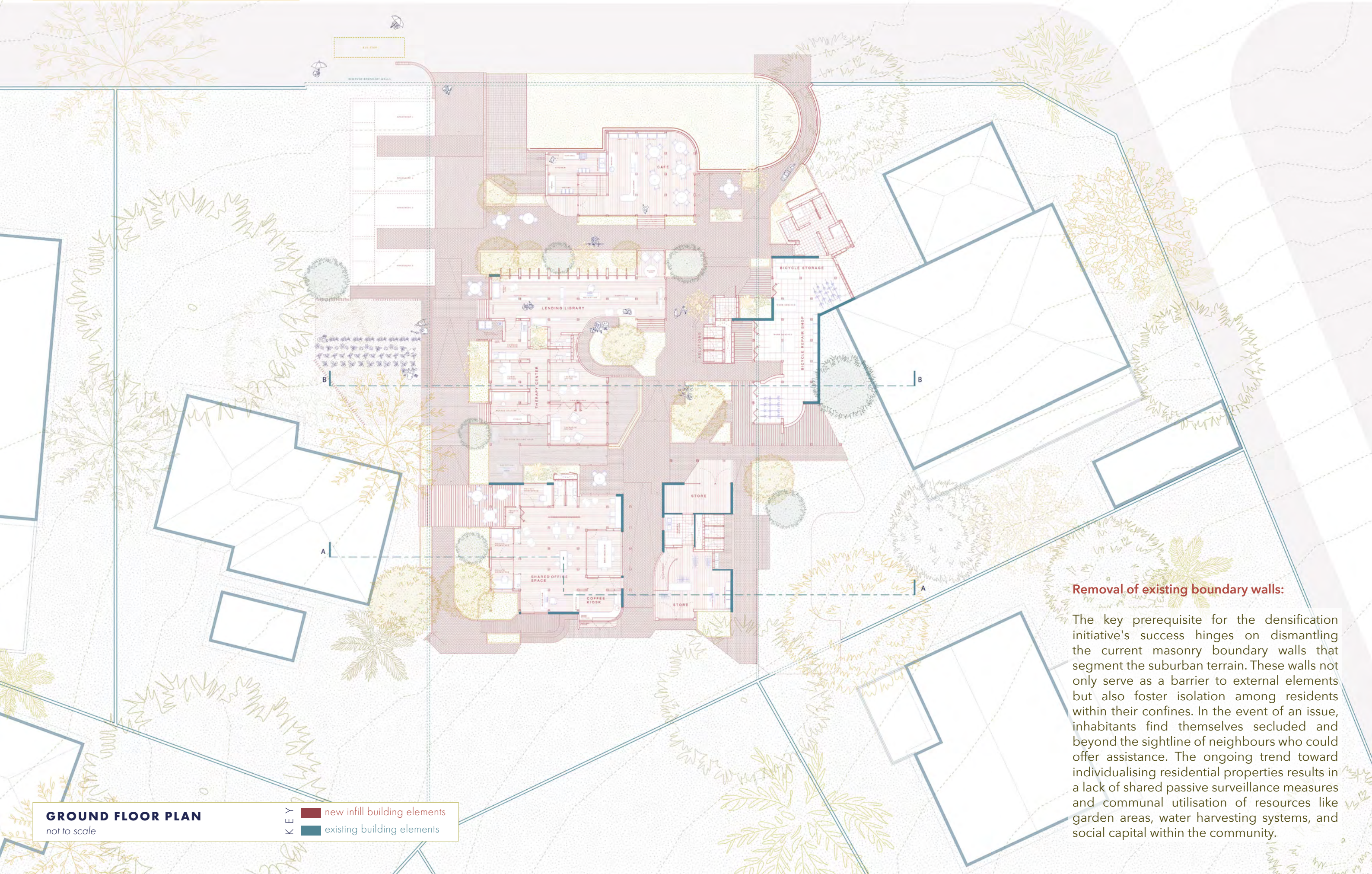
"Here then are more lessons for new conservative surgeons: action will follow example, and if the people are involved in the improvements... they will endure."
(Lock, D., 1977)



SCAN for full size graphics

FINAL DESIGN RESOLUTION

ever incomplete designed densification resolution:



GROUND FLOOR PLAN
not to scale

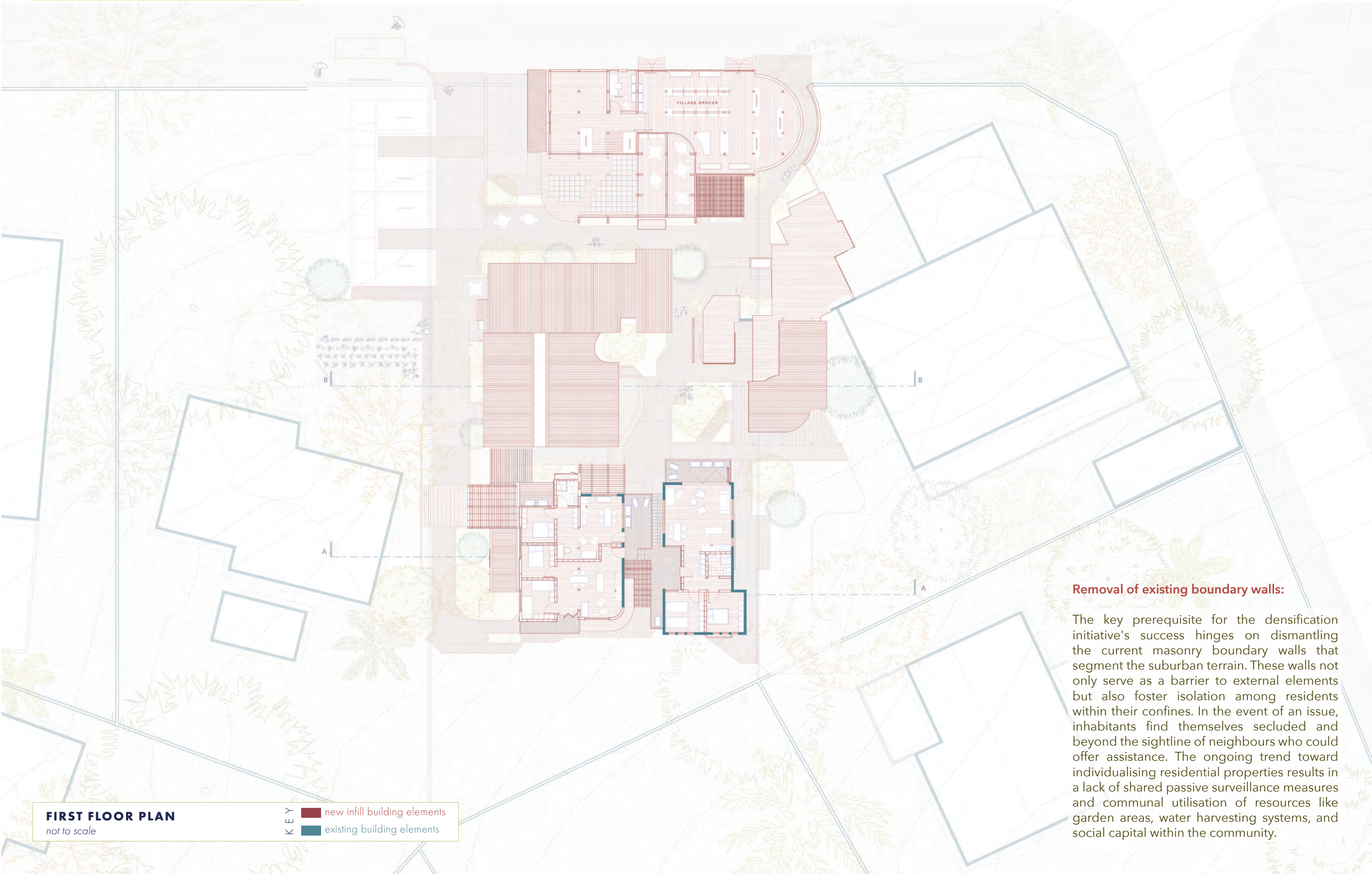
KEY
■ new infill building elements
■ existing building elements

Removal of existing boundary walls:

The key prerequisite for the densification initiative's success hinges on dismantling the current masonry boundary walls that segment the suburban terrain. These walls not only serve as a barrier to external elements but also foster isolation among residents within their confines. In the event of an issue, inhabitants find themselves secluded and beyond the sightline of neighbours who could offer assistance. The ongoing trend toward individualising residential properties results in a lack of shared passive surveillance measures and communal utilisation of resources like garden areas, water harvesting systems, and social capital within the community.

FINAL DESIGN RESOLUTION

ever incomplete designed densification resolution:



FIRST FLOOR PLAN
not to scale

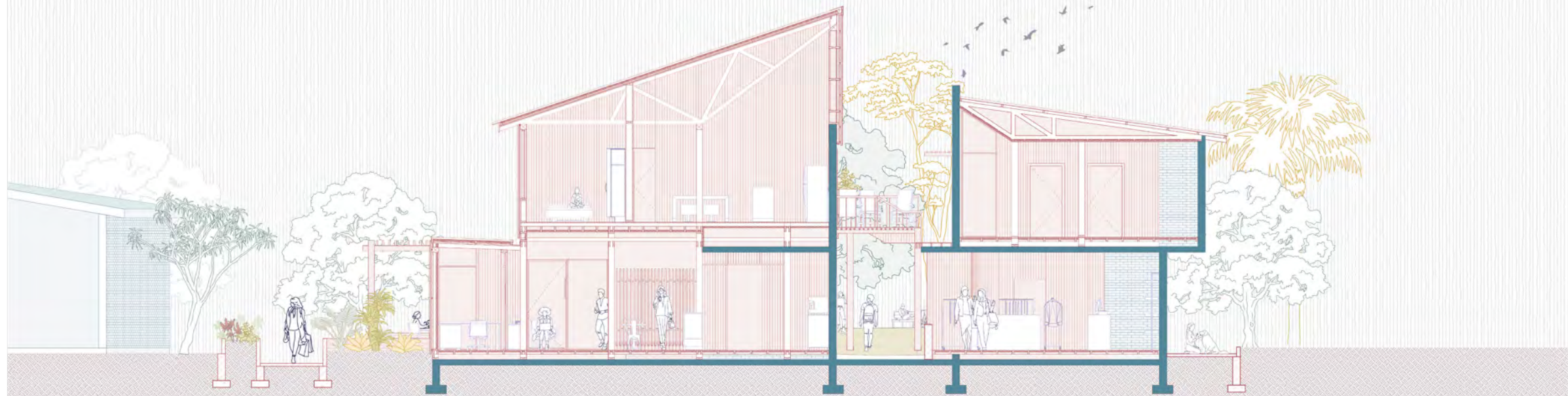
- new infill building elements
- existing building elements

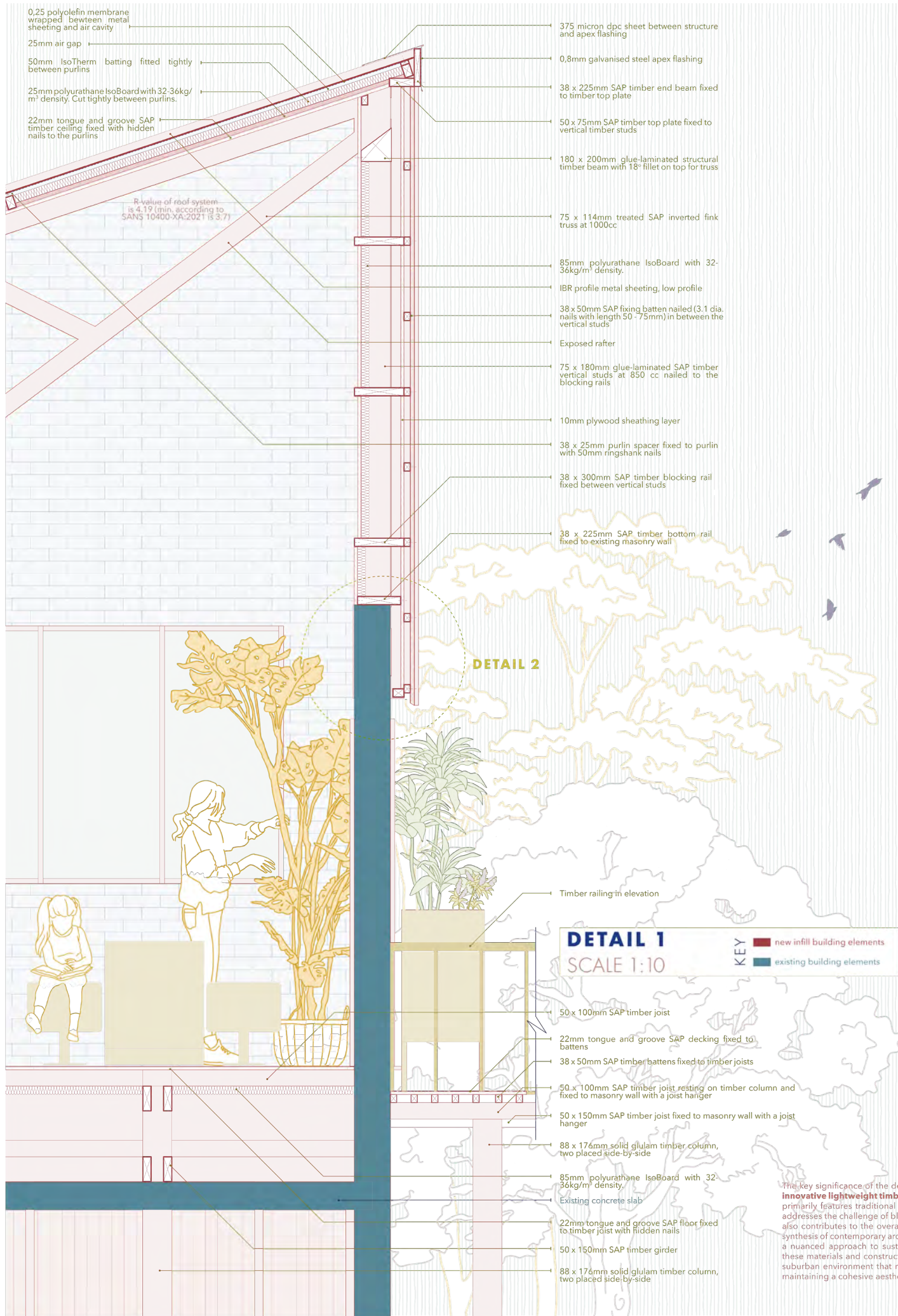
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The key prerequisite for the densification initiative's success hinges on dismantling the current masonry boundary walls that segment the suburban terrain. These walls not only serve as a barrier to external elements but also foster isolation among residents within their confines. In the event of an issue, inhabitants find themselves secluded and beyond the sightline of neighbours who could offer assistance. The ongoing trend toward individualising residential properties results in a lack of shared passive surveillance measures and communal utilisation of resources like garden areas, water harvesting systems, and social capital within the community.

SECTION A-A
SCALE 1:50

KEY ■ new infill building elements
■ existing building elements

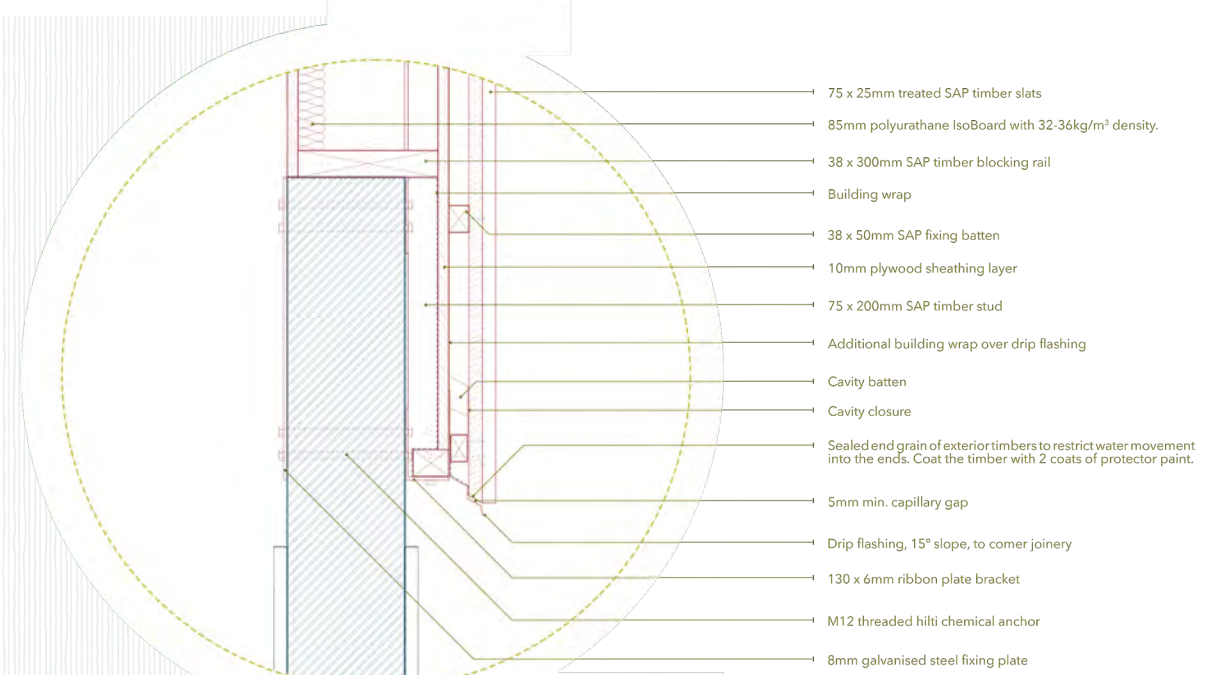




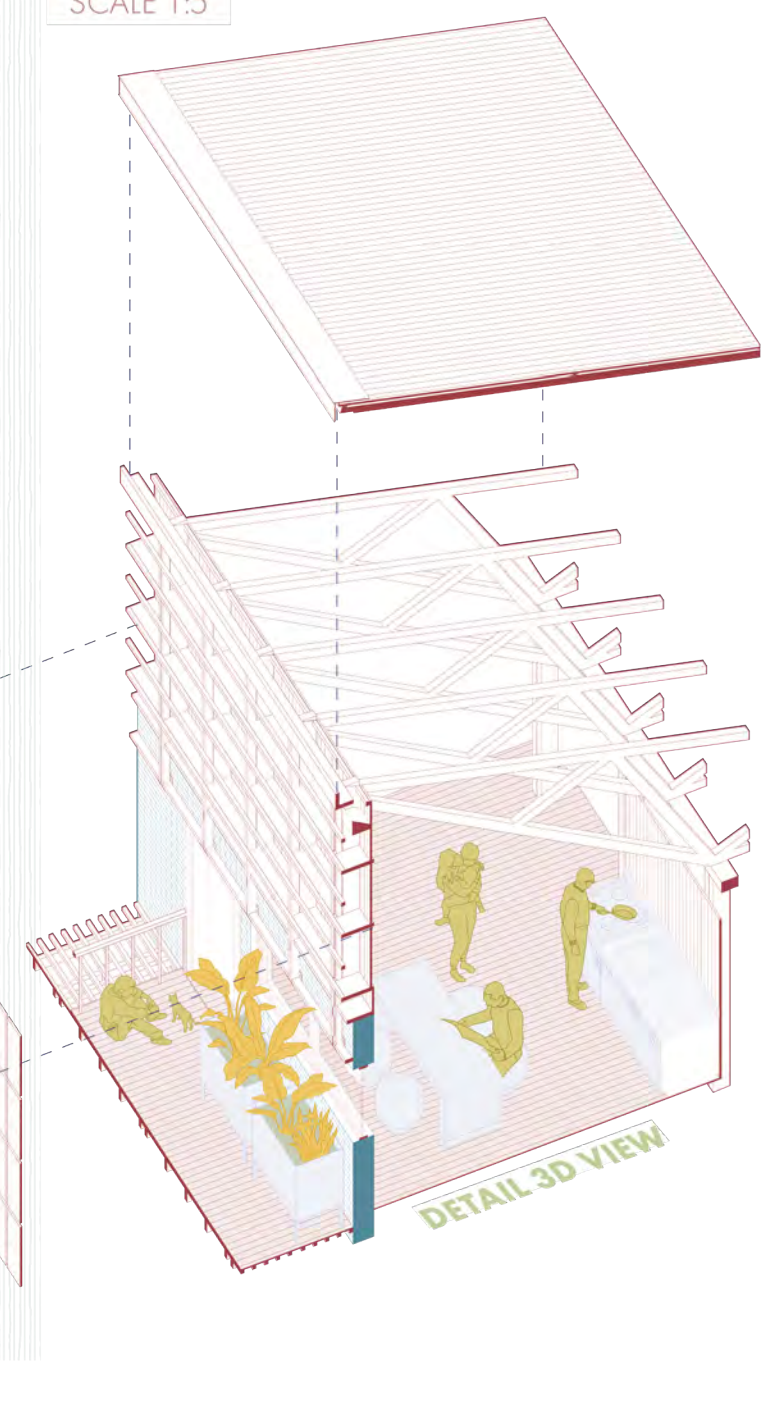
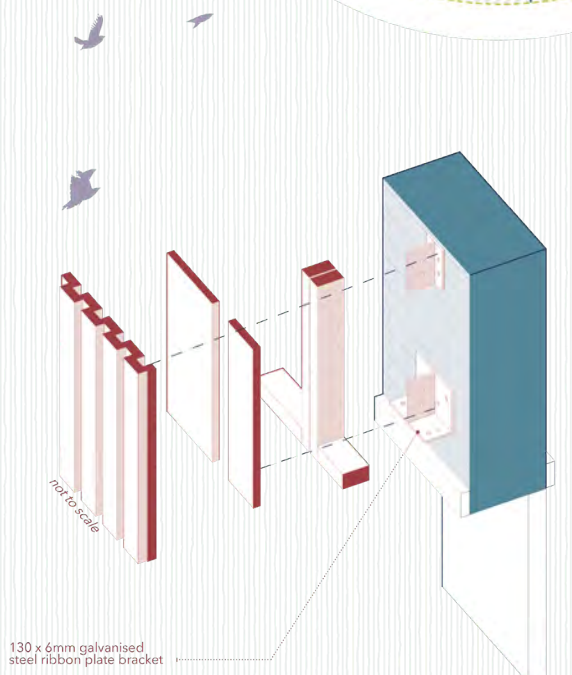
DETAIL 2

DETAIL 1
SCALE 1:10

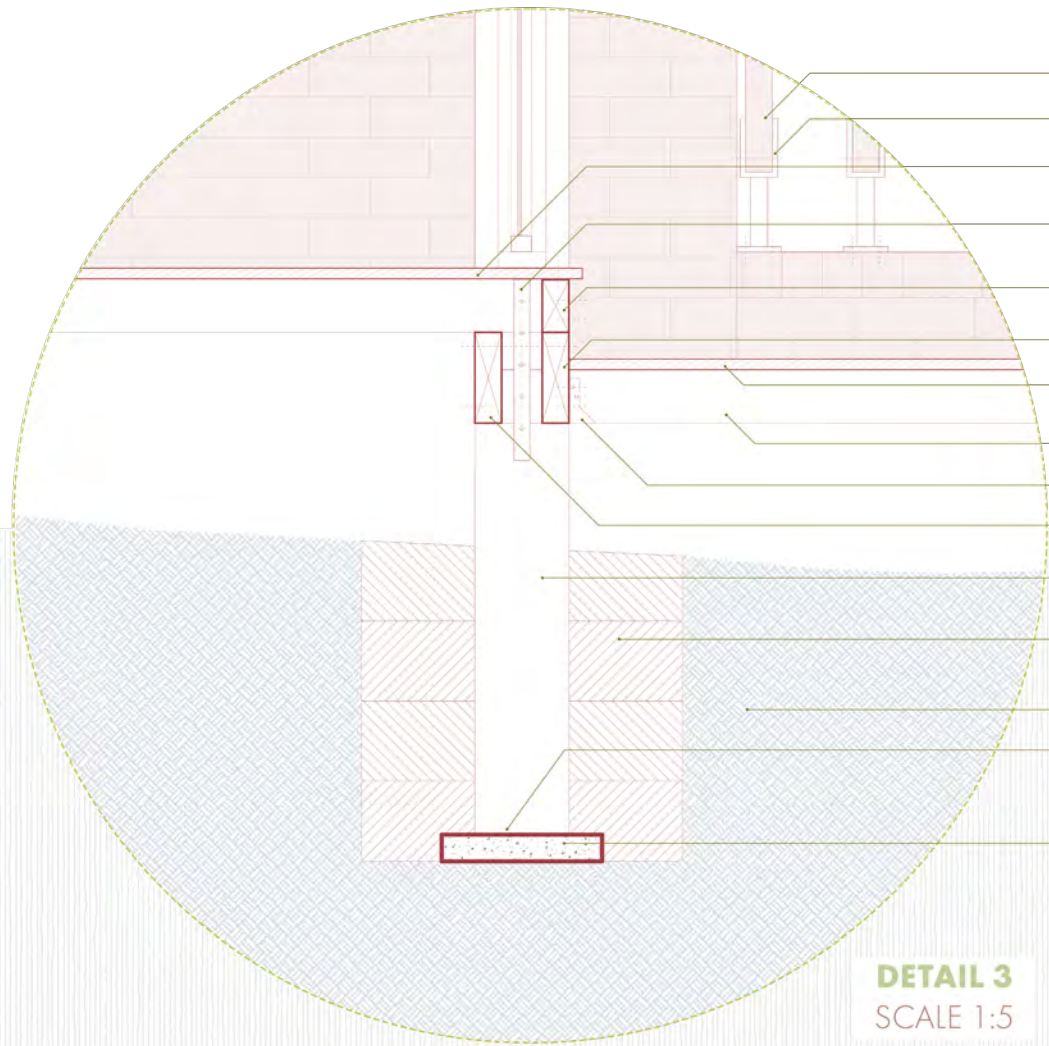
KEY
■ new infill building elements
■ existing building elements



DETAIL 2
SCALE 1:5



The key significance of the design project is underscored by its ability to **seamlessly integrate innovative lightweight timber interventions into the prevailing residential landscape**, which primarily features traditional masonry brick walls and concrete slabs. This integration not only addresses the challenge of blending novel construction methods with established structures but also contributes to the overall transformative vision of the project. It represents a harmonious synthesis of contemporary architectural practices with the existing built environment, showcasing a nuanced approach to sustainable and adaptable urban development. The juxtaposition of these materials and construction techniques is pivotal in creating a distinctive and progressive suburban environment that responds effectively to the evolving needs of its inhabitants while maintaining a cohesive aesthetic and functional unity.



- 50 x 150mm timber slats bolted to the post bracket
- Galvanised mild steel post bracket bolted into masonry wall
- 22mm tongue and groove SAP floor fixed to timber joist with hidden nails
- 1,6mm x 30mm U-shaped galvanised mild steel holding-down strap nailed to both sides of the post
- 50 x 100mm end capping
- 50 x 150mm SAP timber bearer beam bolted to timber column
- 22 x 102mm eucalyptus deck board nailed flush to timber joists with 44mm galvanised nails. Holes to be pre-drilled 70% of the nail shaft thickness. Decking board has 5mm gaps
- 50 x 150mm SAP timber joists at 400cc bolted to truss hangers, inside the bearer beams
- Galvanised mild steel truss hanger bolted to bearer beam
- 50 x 150mm SAP timber girder at 400cc bolted to timber column, inside the bearer beams
- 176 x 176mm solid square eucalyptus timber post, treated with CCA to exposure class H4, according to SANS 1288
- 150mm compacted backfill G7 medium layers, each layer needs sufficient compaction before the next layer is inserted.
- Undisturbed earth
- 1,6mm anti-split plate nailed into the end of the post and an additional CCA treatment impregnated at the post's end
- 300 x 300mm precast concrete footing, 50mm thickness. Placed in a 600 dia. hole dug for the post planting.

DETAIL 3
SCALE 1:5

SECTION B-B
SCALE 1:50

KEY
■ new infill building elements
■ existing building elements



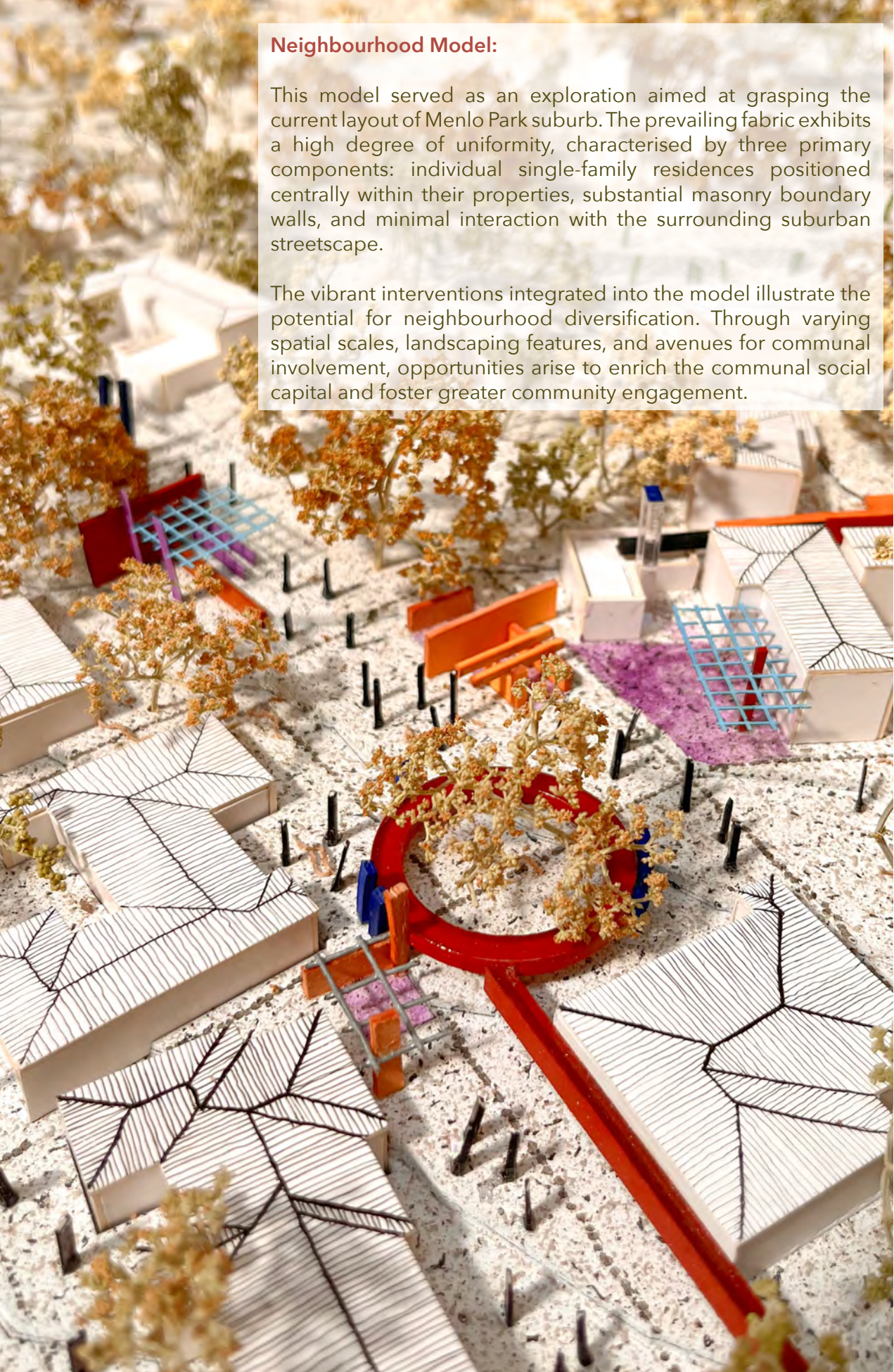
DETAIL 2

FINAL MODEL PHOTOS

Neighbourhood Model:

This model served as an exploration aimed at grasping the current layout of Menlo Park suburb. The prevailing fabric exhibits a high degree of uniformity, characterised by three primary components: individual single-family residences positioned centrally within their properties, substantial masonry boundary walls, and minimal interaction with the surrounding suburban streetscape.

The vibrant interventions integrated into the model illustrate the potential for neighbourhood diversification. Through varying spatial scales, landscaping features, and avenues for communal involvement, opportunities arise to enrich the communal social capital and foster greater community engagement.



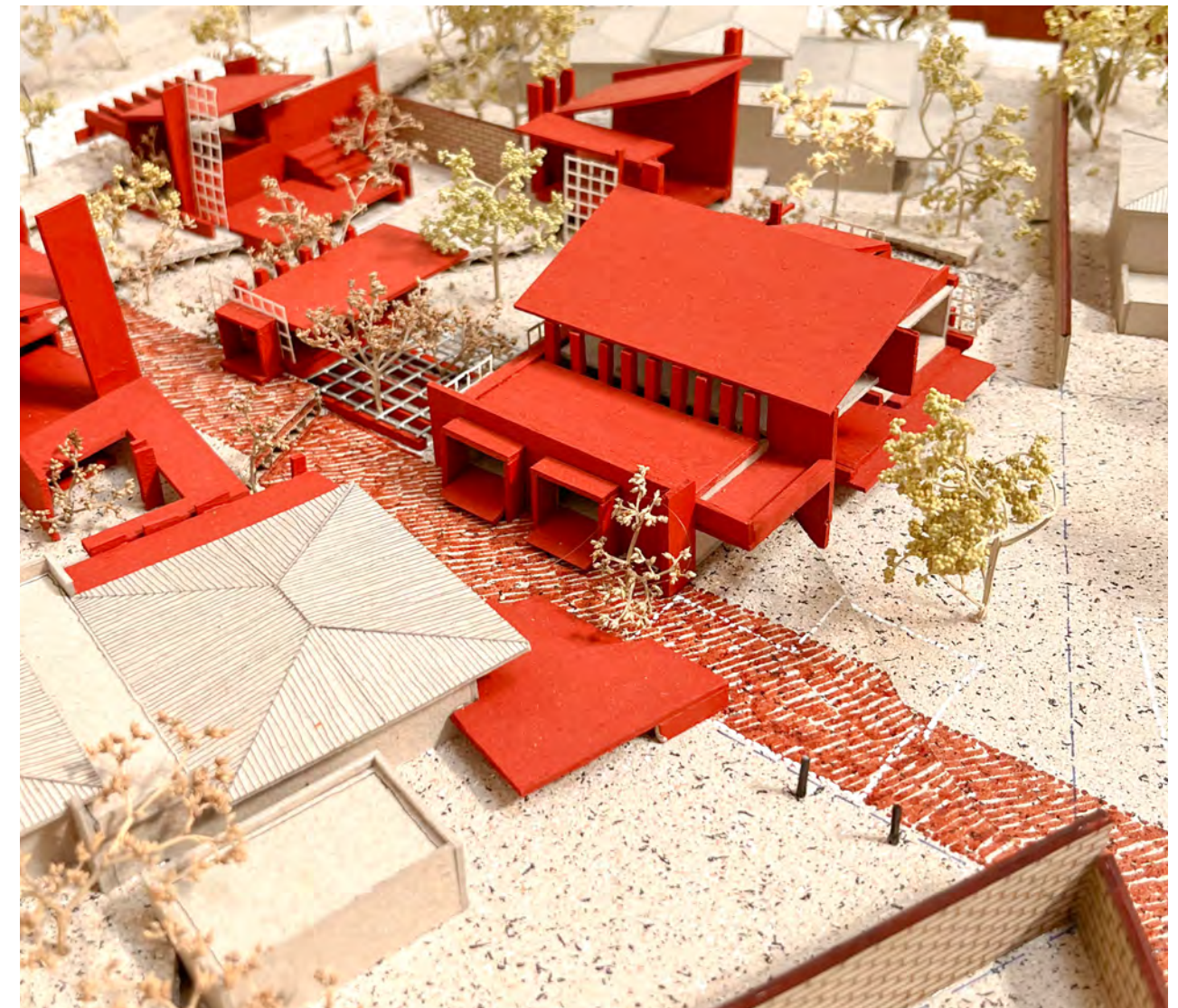
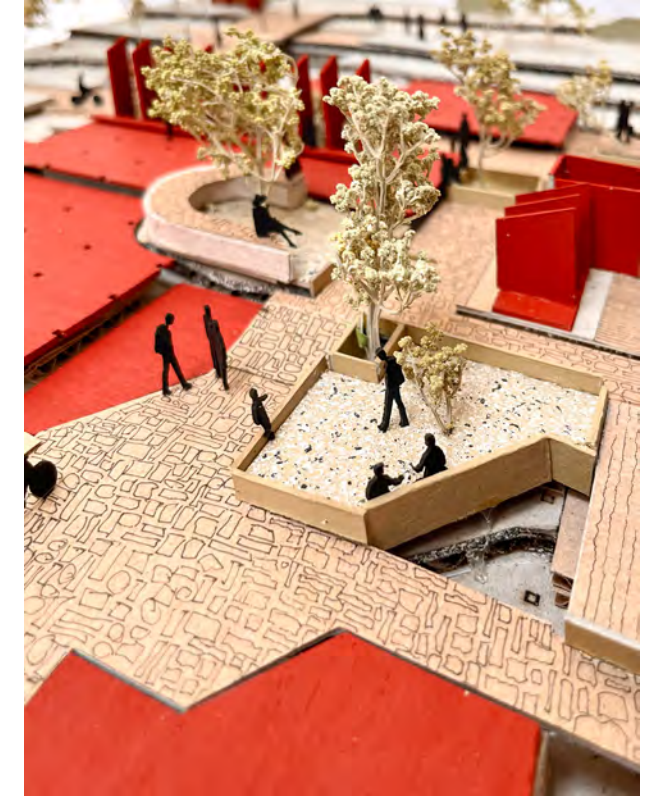
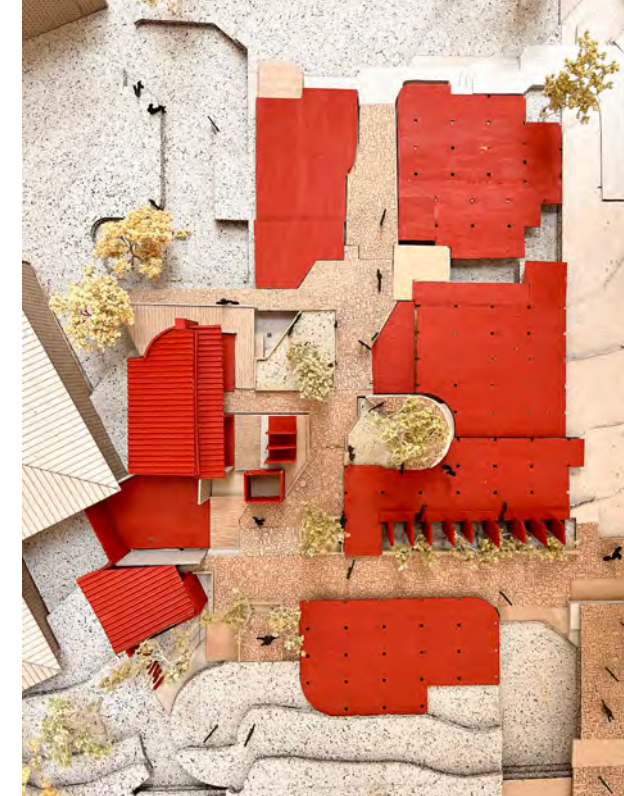
FINAL MODEL PHOTOS



Densification Experimental Model:

The final model aimed to highlight the potential presented by various intervention scales within the residential block. A paramount consideration was to foster the development of spaces conducive to social interaction and community engagement as the densification process evolves, reflecting the essence of the neighbourhood.

The red elements denote all newly introduced phased components within the neighbourhood. The fragmented model was designed not only to showcase the potential of this densification plan but also to underscore its ongoing nature as an experiment led by residents and architectural professionals alike, contributing to the facilitated self-build initiatives aimed at reimagining a densified suburban landscape.



PROJECT CONTRIBUTION

contribution to the residential planning discourse:

The project's objective is to rejuvenate suburban areas and enable modern community engagement in an era marked by numerous environmental, economic, and socio-cultural transformations. A significant aspect of the project involves assessing the relevance of existing planning frameworks established by the City of Tshwane to determine their suitability for guiding the evolution of both the city and its neighbourhoods.

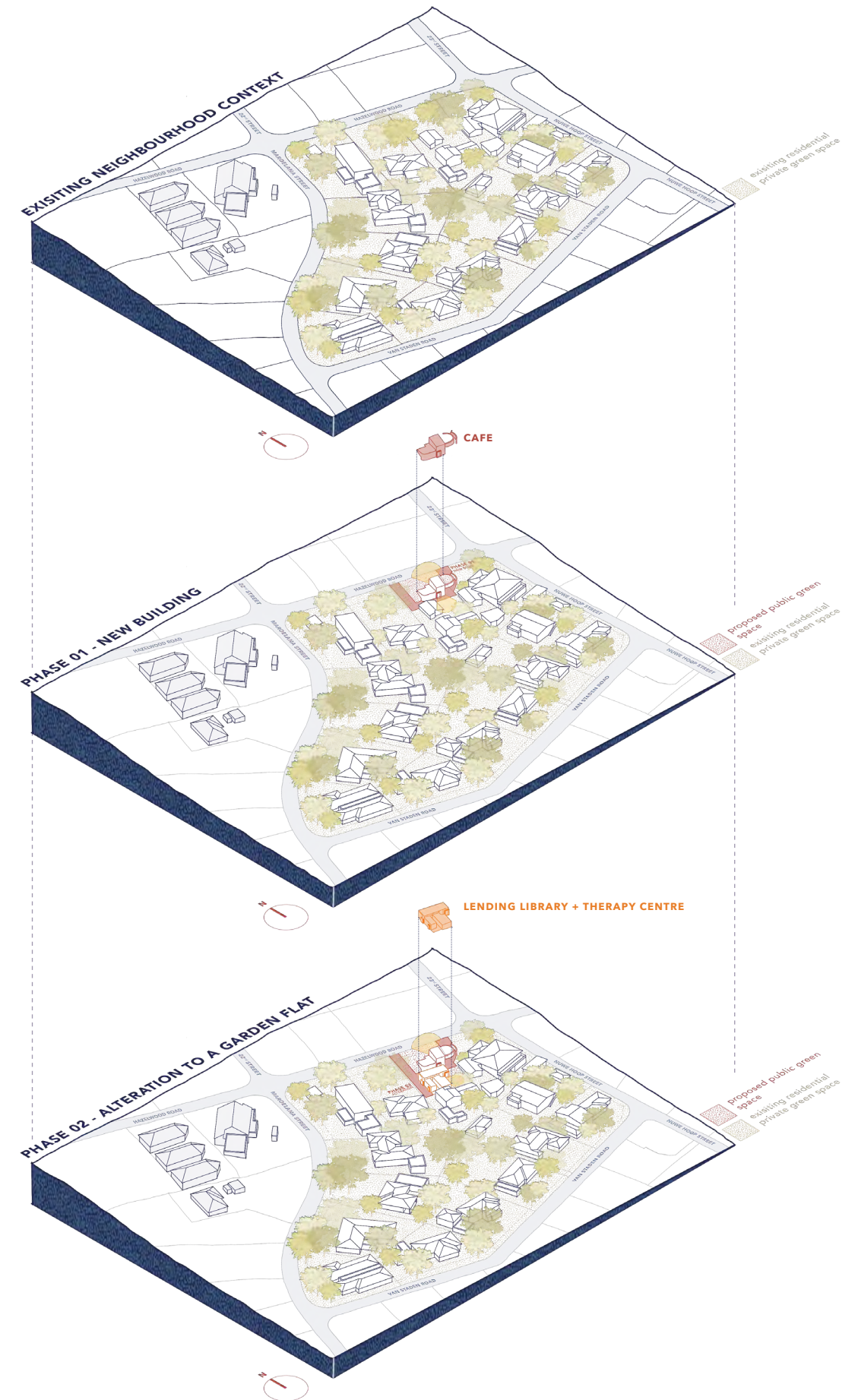
The intricate three-step process, delving into legislation, policies, land use, zoning, and design codes, reveals its complexity, warranting a more in-depth examination. Notably, existing densification processes exhibit shortcomings, prompting this pilot project to scrutinise the appropriate scale for densification. While Regional Spatial Development Frameworks focus on macro-scale transformations within boundaries, there arises a necessity for meso to micro level generative codes tailored to each suburban area. This shift aims to move beyond indiscriminate clearing for the sake of 'modernisation,' preventing the creation of placeless environments devoid of identity for the residents. This project disrupts conventional planning frameworks and challenges the Eurocentric perspective that exclusively favours privatised living conditions.

The project's incorporation of low-tech timber construction methods and material reuse aligns with sustainability goals, establishing a model for future endeavours. Its objective is to encourage residents and observers to appreciate the benefits of gradual, socially self-managed initiatives for communal densification, inspiring exploration in their own neighbourhoods. Through a facilitated self-build process, the project advocates for resident-led transformations in living spaces, emphasising self-organisation, safety, and community involvement to enrich suburban dynamics. It calls for a shift in architectural thinking away from Eurocentric concepts, fostering experimentation with novel materials and approaches. Ultimately, the project aims to shape a diverse, socially vibrant, and adaptable suburban environment. For this to be achievable, there is a requirement for amending some building regulations.

Possible policy amendments:

Amend building regulations to allow for facilitated self-build projects, making it easier for individuals and communities to participate in constructing their environments. Example amendments could be:

1. *Streamlined Permitting Process:* Simplify the permitting process for self-build projects, reducing bureaucratic hurdles and paperwork. Implement an expedited review process specifically tailored to facilitated self-build initiatives.
2. *Flexible Building Codes:* Develop building codes that provide more flexibility for facilitated self-build projects, allowing for innovative construction methods and materials while still ensuring safety and structural integrity.
3. *Accessible Information:* Provide easily accessible and comprehensive information about building regulations, processes, and requirements specifically tailored for facilitated self-builders.
4. *Training and Support:* Offer training and support programs for facilitated self-builders to enhance their understanding of building regulations, construction techniques, and best practices.
5. *Community-Based Approvals:* Explore the possibility of community-based approvals for facilitated self-build projects, involving local residents in the decision-making process (ties into the concept of self-governance)
6. *Permit Fee Reductions:* Consider reducing permit fees for facilitated self-builders to make the process more affordable and attractive.
7. *Collaboration with facilitated Self-Build Organisations:* Collaborate with facilitated self-build organisations and experts to gather valuable insights and feedback to improve regulations and address potential challenges.



These amendments aim to create a more supportive and conducive regulatory environment for facilitated self-builders, empowering individuals, and communities to actively participate in the construction of their environments.

CRITICAL REFLECTION 1

DPD 801 MINI PROJECT

Project duration: 24 February 2023 - 30 March 2023

A dynamically changing context has the possibility to affect a dynamically changing artefact in an exciting way. The minor project started to envision what a uniform suburb could look like when non-generic, small architectural interventions are placed within a prototypical suburban environment.

As Sumayya Vally articulated, "architecture involved the creation of environments, atmospheres, situations, and things, as much as it pertained to buildings," emphasising its role in constructing a sense of belonging and expanding our understanding of space. The crucial distinction between architecture and mere construction lies in the social and cultural value instilled throughout the process. This design project aimed to explore the potential for a symbiotic relationship between small-

scale economic interventions and the suburban landscape in South Africa. It delved into how this collaborative approach to designing and constructing buildings, involving the intended users, could address the pressing issues of economic growth in our country.

The project delved into the concept of ongoing reassessment within the built environment, challenging the current appropriateness of structures and questioning our notions of permanence and temporality. The objective was to transition towards a sense of long-term temporality, rendering the traditional need for demolishing buildings when contextual uses shift obsolete. Instead, the focus was on reimagining buildings and interstitial spaces easily, fostering a culture of innovation in the methodology of construction.



CRITICAL REFLECTION 2

DPD 801 MAJOR PROJECT

Project duration: April 2023 - December 2023

1. The complexities regarding phasing + national planning requirements

The gradual incorporation of infill structures into the residential block required meticulous planning, particularly regarding the provision of adequate ablution facilities. To accurately determine population capacities and ensure proper servicing, the decision was made to conceptualise the proposed buildings (both new and altered) within the study area as if they were constructed simultaneously. Although the buildings won't be added or modified all at once, addressing ablution requirements at each phase, especially if housed within inserted building units, became essential. Consequently, a separate ablution unit was integrated to cater to the general public and offer passers-by the option of using the facilities, symbolising a public gesture.

The project's choice of lightweight timber structures aimed to tackle the challenge posed by the 'leftover' spaces within certain residential erven designated for the pedestrian corridor, characterised by their intimacy, making construction challenging.

2. Community by-in + Social complexities

The project's success hinges on the adjustment of property boundary line conditions or, at the very least, providing the flexibility to disregard them with mutual consent from adjacent parties. Residents need to buy into the collective effort to improve their residential fabric and should participate in the design and construction process to ensure the optimal result in the long run. In reality, it might be a long process to ensure that a culture of facilitated self-build

relationships establish between residents and a selected architectural professional. The

Executing this may prove challenging, as not all residents in the residential block may opt to participate in the pedestrian corridor initiative. It is imperative to respect the choice of those who abstain, ensuring the integrity of their property lines remains intact.

3. Educating architectural professionals in small-scale residential timber construction

The process of educating myself about timber construction in South Africa proved challenging, given the limited examples in our architectural reference books and residential timber structures currently in South Africa. The absence of detailed construction systems necessitated extensive independent learning, resulting in several design iterations and a prolonged design process. Despite the challenges, I find merit in this learning journey. It provided insights into the strength, sustainability, and design versatility of timber, challenging the prevailing bias associated with timber construction in residential settings, often linked to the 'Wendy house' stereotype. Introducing timber structures into an environment accustomed to conventional methods like brick masonry and steel was a deliberate choice. I discovered that the preference for masonry homes in suburbia persists due to professional comfort and perceived cost-effectiveness, which I now understand may not always be accurate. The booming timber industry signals a need for broader material and form explorations within the construction sector.

As a concluding thought;

"If the planner, like the gardener, helped [suburbia] to realise the potential inherent in its current state, it could then go on to evolve, reaching the highest stage of the cycle of civic life"
(Haworth, R., 2001).

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