Crafting Connections: Unpacking Generational Linkages of Craftsmanship, and Memorialising Cultural Traditions

Leila Petersen PTRLEI003

Simone le Grange Supervisor

Fadly Isaacs Co-supervisor

Theory and Technology Studies APG5088Z

University of Cape Town

Master of Architecture (Professional)

School of Architecture, Planning & Geomatics

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Acknowledgements

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Preface

At the age of six, I was gifted a dressing table custom made by my father. It was a piece of furniture that he had made during his time at the high school that he had attended. As I got older, I wondered what purpose it served that my father, an aspiring mathematician, attended woodworking classes during his early adulthood. The gesture of this gift, unbeknownst to me at the time, holds, embedded within its making, immense value. It existed in a world of both the ordinary and the extraordinary.

A seemingly ordinary piece of furniture has stood in my room for 17 years and it was not until this year, as I tackle my architectural thesis, that I look to it to unearth the memory of craft that it has held all this time. As a child, I spent hours playing dress up in front of the mirror fixed to the dresser. I modelled several types of dresses and garments made for me by my grandmother. Eventually, my grandmother taught me how to sew my own dresses and skirts. As a primary school teacher, my grandmother seemed to possess several skills beyond the roles of a teacher. She taught me how to knit, crochet, sew, and even make my own jewellery, which are all

skills that I was able to use and develop into profitable endeavours.

Unlike the nuanced and subtle value that the dressing table holds, this act of teaching and exchange of knowledge offered to me by my grandmother was an undeniable influence during my adolescence and early adulthood. Having the ability to knit, crochet, and sew my own clothing and bead my own jewellery has been a key creative outlet for me.

Growing up in a Cape Malay coloured family, learning at an early age of the various skills and crafts present in my family played a role in shaping my understanding and outlook on my own creativity and its linkage to my family history and memory. It is with this notion of a memory of craft embedded in culture and tradition that my inquiry and research begin.

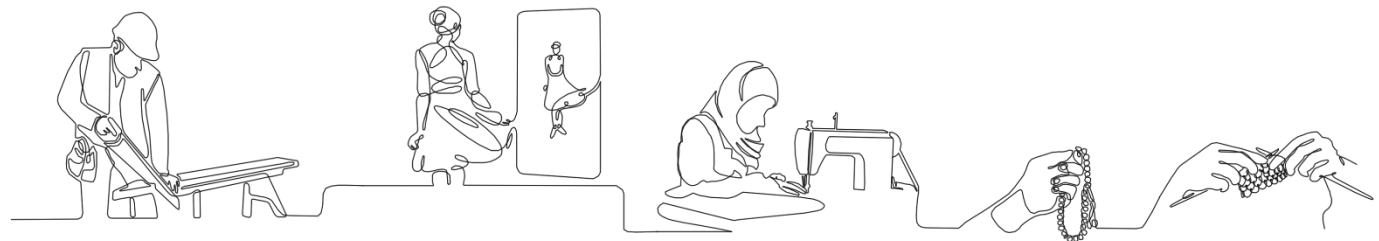**Figure 1:** photograph of the hand-crafted dressing table made by my father

Figure 2: drawing depicting a timeline of the authors memory of craft

Abstract

The focus of this thesis is the notion of craft as both a product and a practice. The research is approached with an understanding that in the context of a post-apartheid South Africa, the long-standing tradition of craft and craftsmanship stands as an important expression of the desired communal nature of South African society. Here, the term 'craft' is used to refer to traditional hand-methods of making in practices of beading, weaving, woodwork, crochet, knitting, and sewing. Using a personal connection to craft as a starting point, the research is extended to unpack overarching ideas of craft as a generational link that is embedded in memory and culture, the value and holistic benefits of craft, and the potential for traditional crafts to be reintegrated into contemporary micro-enterprises. Crafting connections attempts to create links between sectors of society and means of creativity.

Presently, we see the emergence of craft in both formal and informal sectors of society as there exists a newfound appreciation for traditional cultural values which has sparked the resurgence of craft sale to the public. A considerable portion of the production of crafts in the informal urban craft industry takes place in townships. As such, the selected site of inquiry is the eastern portion of Philippi, in the Western Cape of Cape Town, South Africa. This thesis proposes that through the design of a building or series of spaces that accommodate for the making of crafts and exchange of craft knowledge, craft networks can be established and embedded within communities, promoting creativity and craftsmanship. As a means of accessing the economy for under-resourced communities, craft and craft production can facilitate that even the most economically disadvantaged sectors of society can have craftspeople who are able to expand their skills through learning from each other.

Issues and constraints on site include navigating scales from the large-scale industrial buildings to the small-scale housing and informal settlements. By drawing from the existing busyness on site, this project attempts to organise busy nodes of activity while still accommodating for a degree of informality to seamlessly co-exist alongside private and semi-private public space. In reflecting on the final design and full body of work, it can be noted that indeed, the principle of organising informality is one that is contradictory, but the attempt to do so is not all meaningless. There is value in taking lessons from existing craft practices within the Philippi community and seeing how, and in which ways, craft sectors can be bolstered and developed for the benefit on the community.

It can be said firmly that through the use of craft and craftsmanship, there is huge potentials for communities of makers and entrepreneurs to racially desegregate the distribution of occupations by relying on existing skills that are embedded in both memory and culture. The design of a building inspired by craft methodologies stands not only as an aesthetic artefact of craft but as a didactic space that allows for the meaningful exchange of knowledge.

Introduction to the Theory of Craft

This research centres the notion of craft as both a product and a practice, universally as well as locally in a South African context. A post-apartheid South African society is one that, I believe, grounds itself in a desire to demonstrate a nature of communal connections. I seek to explore in which ways the long-standing tradition of craft and craftsmanship stands as an important expression of the desired communal nature of South African society. Understanding the relevant roles that craft plays in a South African context is to understand cultural heritage and cultural identity.

Although this inquiry begins with a connection to Cape Malay coloured people, it aims to extend beyond the subjective, into the greater African context, and further into a global scale. This paper demonstrates a weaving between narratives, scales, and understandings by linking ideas that will be explored in the subjective memory, objectives histories, and several academic texts.

Susan Sellschop's *Craft South Africa (2002)* is an important reference used throughout this research as it recognises and details a collection of crafts and craft-makers throughout South Africa. It is a visual celebration of craft and the value and embedded histories that it holds (DACST, 1998).

The Cultural Industries Growth Strategy (CIGS) (1998) is a report that frames the South African Craft Industry as an entry point into the economy and details the ways in which craft can provide employment for vulnerable segments of society. This report forms the foundation of many of the arguments expressed in this research.

In South Africa under apartheid, families racialised as black and coloured were excluded from access to higher levels of education and designated, through preferential labour laws, to fulfil labour and skill related jobs. Racial segregation in South Africa dates to 1652, when the first Europeans arrived at the Cape (Gradin, 2019). The white European settlers had an objective of extorting the non-white natives for them to provide free and abundant, or in many cases forced labour for farming and mining industries (Gradin, 2019). Over centuries, the scars of this type of occupational segregation remains inscribed in our lives and its effects are still present today. Many of our parents and grandparents of colour were highly skilled tailors, seamstresses, joiners, and construction labourers. They were artisans of their respective trades. These trades and skills were taught and passed down generations and overlapped with aspects of culture, which related to the memory of heritage and race.

Presently we see the emergence of many young People of Colour [POC] creatives, honing in on these skills passed down to them by their elders. By means of independent trade and craft, or self-initiated practices, black and coloured communities can regain a sense of agency and autonomy and build their own informal economy.

This dissertation seeks to explore how we can reintegrate this knowledge of crafts and skills held by black and coloured individuals, into established professional industries that racially desegregate the distribution of occupations. What type of spaces and architectures facilitate these types of connections and exchanges? Can architecture memorialise the value of this knowledge of crafts and skills while providing space for upliftment of impoverished communities?

The paper is divided into 5 portions: Crafting Theory, Crafting Context, Site Analysis, Crafting Technology, and Design Development. The theory begins by defining craft and craftsmanship and then goes on to explore the relevance of craft in a South African context, and a political history of occupational segregation. It also looks at craft as a generational linkage by exploring traditional craft techniques that are embedded in memory, tradition, and culture. The contextual analysis traces the location of traditional craft industries in South Africa both pre- and post-apartheid. Additionally, crafting context explores a potential site for intervention in Cape Town. The site analysis details layers of information about the selected site on varying scales, from an overarching city scale all the way to the street scale. This section also captures the overarching design concepts and principles and the urban design approach. Crafting Technology analyses a selection of case studies that make use of craft in a traditional sense and craft that has been developed and adapted over time – craft in transition.

The final section, Design Development, captures the beginning stages of the design of a craft centred building.
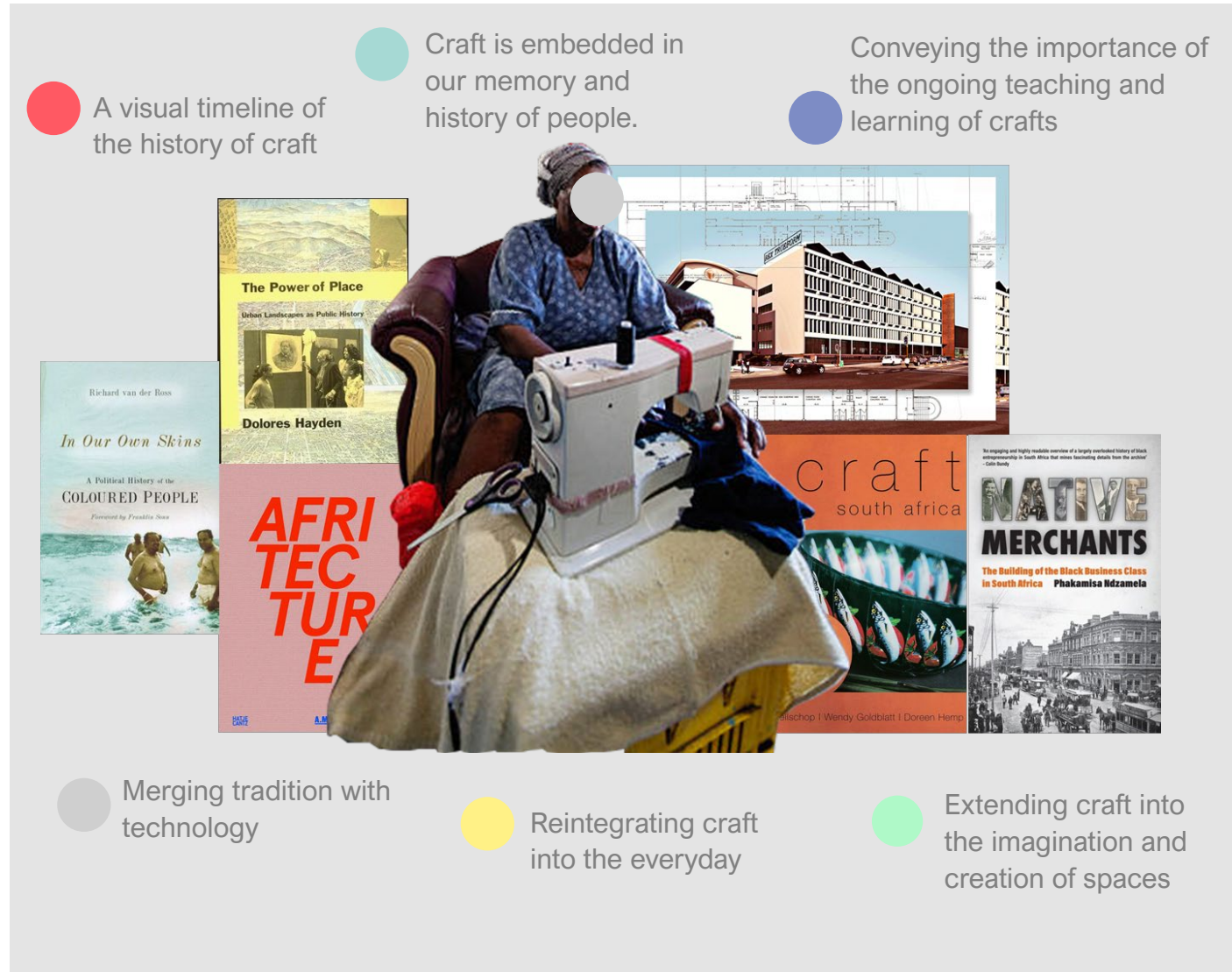

Figure 3: collage depicting 6 key points deduced from research and literature studies

Crafting Theory

Understanding & Defining Craft

The Relevance of Craft in a South African Context

A Political History of Occupational Segregation

Traditional Craft as a Generational Linkage

Theoretical Framework

Understanding & Defining Craft

This paper focuses on 5 selected crafts, namely: sewing, knitting & crocheting, weaving, beadwork, and woodwork. These crafts will be explored in their traditional sense as well as transitional sense. The term 'transitional' or 'craft in transition' refers to the concept of crafts and craft techniques that have been adapted and developed over time. This introduces ideas of adaptive reuse of materials, or the integration of new age materials and technologies used in traditional crafts.

Craft does not exist solely as stagnant objects. Craft and craftsmanship are creative processes that build on the passing down of knowledge and skills. Although the practice of craft holds cultural and historical significance as it requires the consistent teaching and learning of historical knowledge, the products that craft produces are ever changing.

Sellschop's *Craft South Africa (2002)* highlights the overlaps between art and craft in an African context. Crafted objects bare the mark of the hand of the individual, the tool, the trade and the thought and care that went into its making (Sellschop, 2002).

"a product should be regarded as handmade or handicraft if the essential character of the product is derived from the handmade aspect of its production." (DACST, 1998).

How do we differentiate between art and craft?

During apartheid colonial rule in South Africa, art, and the making of Fine Arts was seen by the colonial and apartheid government to be for the privileged (white) sectors of the population. Access to equal education was restricted as POC's were deemed by the apartheid government to be intellectually inferior (Madrona, 2014). As a result of this, art was seen as a vocation of higher intellect than craft. It is important to note however, that craft in itself is a creative practice that requires both intellectual and practical skills and its products have aesthetic value that classifies them as products of art. With an added layer of practical use, the value held within products of craft, which constitute as useful arts, was highly overlooked during apartheid.

The distinction between art and craft is therefore especially important as it is rooted in a history of socioeconomic injustice. For the sake of this research, the distinctions between art and craft lies within the respective definitions of these vocations:

Craft is the production and making of useful objects by craftspeople. It requires skill in the art of making, and a material-centred knowledge. Craft is the production of useful arts.

Art is a broader category of making whereby artists create individual expressions and manifestations of thought that result in the production of objects that do not necessarily need a use.

The process and practice of Craft can be compared to the practice of architecture in that, fundamentally, both craft and architecture are collaborative practices. Although architects and designers hold the responsibility of fulfilling a design brief, the making of architecture is realised and fulfilled by the work of many individuals and many hands. The practice of architecture is complemented by the likes of clients, contractors, engineering consultants, etc. The cumulative contributions of many holds more value in the practice of architecture than the contributions of the individual. In appreciating the contributions that others can make, the craft of architecture can be developed and extended beyond the dated notion of an egocentric designer (30x40 Design Workshop, 2015).

Crochet Tapestry Hats from Dschang, Cameroon

Beaded Ndabele Initiation Doll

Wood-carved Prestige Chair, or Ngundja - Chokwe People, Angola

Woven Zulu Beer Pot lid 'Imbenge'

Hand-sewn Dida Textile, Ivory Coast

Figure 4: traditional African examples of the 5 selected crafts, namely: sewing, knitting & crocheting, weaving, beadwork, and woodwork

The Relevance of Craft in a South African Context

The study of African craft aids in building an understanding of cultural identity, history, and aesthetics. These are topics that are equally relevant in contemporary craft and traditional craft.

South Africa, being incredibly diverse in its spans of culture, gender, age, urban and rural, has been subject to several bouts of development and growth which have subsequently affected the preservation of various traditions. Over time, various forms of art have eroded while simultaneously we see the emergence of new materials and technologies (Sellschop, 2002).

To understand the origins of the Cape Coloured people it is necessary to understand the history of the indigenous people that lived in the southernmost part of Africa. In this paper, the various groups of the indigenous people that will be refereed to are the Khoi, the San, and the Khoisan, a mixture of San and Khoi. It must, however, be acknowledged that these were not the names that the indigenous people called themselves. These were names given to them by the European settlers. The indigenous groups referred to themselves in languages that were not written and recorded and were not recognised by the European settlers as it consisted of many clicks that could not be written in the English language (Van der Ross, 2015).

The San groups were smaller in number than that of the Khoi. They did not believe or even comprehend the principle of land ownership, and thus, they did not build huts (Van der Ross, 2015).

The Khoi were regarded by the European settlers as more civilised than the San as they had more control over their environment, access to water, shelter, and food supply. They existed in larger groups, had stronger clan organisations, and built huts as shelters (Van der Ross, 2015).

Because of the Khoi's dependency on cattle for food, in 1652 when the Dutch settlers arrived at the Cape, they formed closer connections with the Khoi as they sought out the cattle as a vital food source for themselves and the sailors that passed by. The settlers traded with the Khoi to procure their cattle in exchange for "brass wire, beads, mirrors, metal knives and cloth, all previously unknown to the indigenous people." (Van der Ross, 2015).

Due to the San people not having cattle herding tendencies, the settlers saw no value to their existence and perceived that they had nothing to offer. The settlers came to regard them as the enemy, which eventually resulted in the settlers killing many of the San communities. To assimilate and survive, they intermarried with the local black and coloured people at the Cape (Van der Ross, 2015). It is through the intermarrying and birth of offspring between the native San, Khoi, European Settlers, imported slaves, and the local black and coloured communities that we can make a link between the first nations indigenous people and present day coloured and black South Africans.

Figure 5: Dutch settlers trading with the indigenous Khoisan communities at the Cape, 1600's

The Khoisan communities produced some of the earliest known crafts in South Africa. Tools made from stone, rock art, clothing fashioned from animal skins, and the bow and arrow used for hunting are some of the crafts frequently made by the Khoisan communities (Sellschop, 2002). Embedded within these crafts and practices is a rich history of storytelling, philosophy, and tradition.

The Missionaries & Craft

The colonial agenda of the European civilisation was in suit of a cruel search for riches, power, and souls. Europeans were in search for souls that took the form of religious control in the spreading of the Christian faith by the missionaries (Van der Ross, 2015).

In 1737 the German Moravians set up a mission at Genadendal, a town in the Western Cape province of South Africa. The mission was aimed at spreading the Christian faith to the native Khoi and San people of Genadendal at the time. Along with their teachings of Christianity, they also taught them "simple crafts, such as building, gardening, cooking, and sewing, and some of the basic skills of European culture, such as cleanliness and childcare" (Van der Ross, 2015).

The significance of these teachings of craft by the missionaries is that it provided a form of vocational training to the Indigenous people of South Africa. Its vice however was that it was in exchange for souls in the form of commitment to the Christian faith. This exchange of knowledge was also consequential in that it stripped the indigenous people of their sense of identity and autonomy in that the vocational training was void of any cultural significance. It resulted in the production of many utilitarian objects that held no attachment to tribal or communal symbols or any sense of native identity.

The history of craft and the societal status that it has held through time has primarily been shaped by European ideologies and Western beliefs. Traditionally African and Eastern hand-crafted goods have, in Western media, been portrayed as forms of 'primitive art.' Such associations are particularly dangerous as it deems that products of African labour and African intellect are rudimentary and inferior forms of making. This is a tendency that is "symptomatic of the pervasive cultural bias found throughout accounts of modern history." (DACST, 1998).
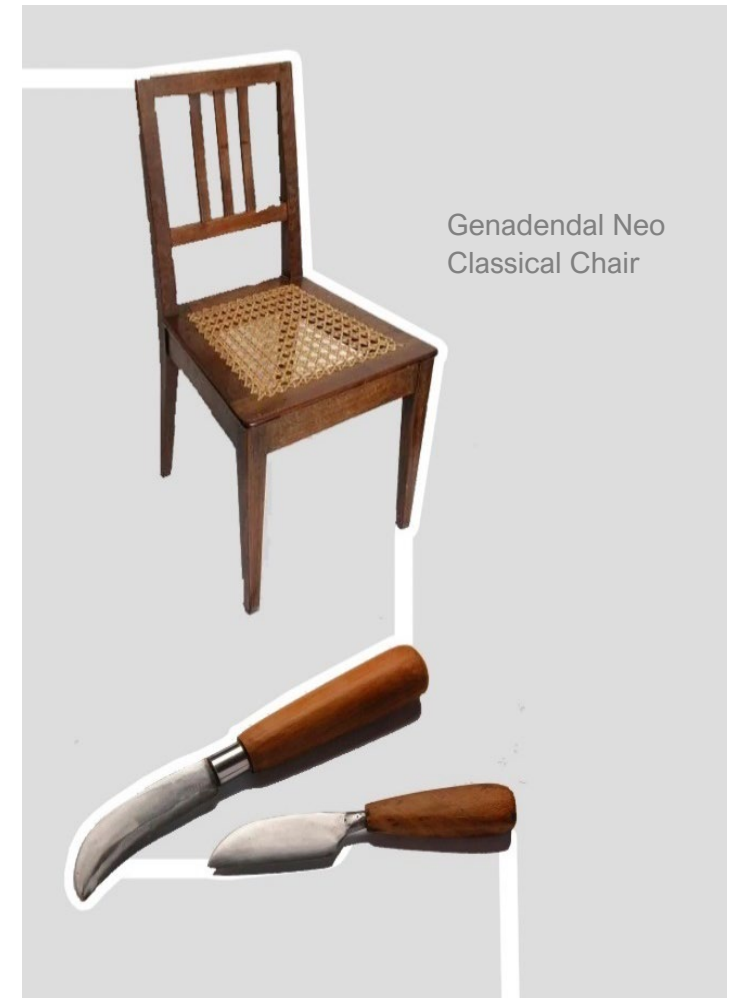
Genadendal Neo Classical Chair

Figure 6: some of the crafts that were manufactured at the Genadendal Mission Station

Figure 7: the Genadendal Moravian Mission Station established in the 1700's by Moravian church missionary, George Schmidt

A Political History of Occupational Segregation

What is the issue that we see today in terms of access to employment in relation to race?

According to the *Cultural Industries Growth Strategy (CIGS) (1998)*, in the more rural parts of South Africa we can observe that previously disadvantaged and economically disempowered communities have inadequate literacy and numeric skills as a result of poor education. This low level of education, accompanied by only the bare minimum understanding of literacy, has limited the economic opportunities for disenfranchised individuals in poorer communities. Craftsmanship, and the craft industry is one of the most important entry points into the economy for these individuals and creates a viable means of earning an income. Opportunities for inclusion into the formal economy is both vital and incredibly scarce in rural African Communities (DACST, 1998).

Although these rural African communities lack adequate and equal access to education in the form of reading and writing, many African cultures employ other methods of teaching that often result in more engaging and creative solutions. Through art and song, knowledge can be exchanged, and this form of knowledge transfer can be analysed and developed, despite it not being recognised as a form of education by modern society.

During the 1990's and 2000's, there was a drastic spark in unemployment in South Africa, which meant that many black and coloured South Africans were left with adequate skills in labour intensive fields and crafts but were unable to secure jobs (Gradin, 2019).

Where does this issue stem from and how has it progressed over time?

Racial segregation in South Africa has been prevalent since 1652, when the Europeans began their settlement at the Cape. In 1948 until 1994, the National Party imposed a political and social regime known as apartheid. This further enforced the segregation of black, coloured, and Indian/Asian people from white South Africans at the time (Gradin, 2019).

As part of this legislation, the introduction of the 'colour bar' meant that certain jobs were reserved for white people, which subsequently excluded black individuals from being employed for skilled work. This issue was compounded with the fact that people of colour were deprived of adequate education, as mandated in the 1953 Bantu Education Act. Racial segregation by the apartheid government also sought to "legitimize social difference and economic inequality" (Beinart & Dubow, 1995). Legislative bars deduced where and how black people could work. These customs enforced that black people were to be excluded from skilled work, especially if the work required that black people would have supervisory authority over white people (Gradin, 2019).

Within the paradigm of the African Renaissance, arts, culture, and heritage have played a pivotal role in reshaping and defining the South African national identity.

Because of the intellectualisation of fine art that was reserved for white South Africans, black and coloured high schools during apartheid did not offer art as a subject. These high schools did however offer 'Home Economics' classes which included the teaching and practice of crafts such as knitting and sewing for girls, and woodworking for boys, amongst other things. This would explain why many people of colour who lived in South Africa

during apartheid hold a profound knowledge of craftsmanship and making that they have passed down to their children.

What is the value of craft and what role can craft industries play in combatting these issues?

The Cultural Industries Growth Strategy (CGIS) South African Craft Industries Report (1998) highlights that there is a significant contribution to be made by sectors of arts and culture that hold potentials for vibrancy and dynamism in the South African economy. The craft industry is an identifiable sector within South Africa that is potentially internationally competitive and has potential to create employment and offer opportunities for rural and urban job creation. To develop cultural industries on a global scale it is primarily essential to understand their importance and significance (DACST, 1998).

As an entry way into the economy for under-resourced communities, craft and craft production can facilitate that even the most economically disadvantaged sectors of society can have craftspeople who are able to develop their skills through learning from each other. This could take the form of mentoring, apprenticeship, or communal workshops. To this end, craftsmanship can create low-cost, self-sufficient training schools or skill centres that can translate into the formal sector (DACST, 1998).

The craft industry is one that is highly innovative. It allows for the testing and experimentation of manufacturing ideas that can begin on a small scale and later be produced on a larger scale. Craft production often seeks an adaptive approach to making that focuses on the creative reuse of materials. The craft industry can also be an intimate facilitator of relationships between designer and maker, and consumer and producer (DACST, 1998).

Traditional Craft as a Generational Linkage

Traditional crafts possess the ability to express the communal nature of African Society and its people. Dating back to the Iron Age, the history of craft in southern Africa has links to Bantu-speaking iron age societies (Sellschop, 2002). The Bantu speaking people were community oriented and placed a strong focus on the value of the group over the value of the individual. Their communal perspective and ideologies allowed for a transcendence of traditional styles that still bare continuity today. Eastern Bantu speaking people brought with them, from their homeland in West Africa, a variety of crafts, many of which were made from perishable raw materials that eventually decayed. There are however remains of these crafted objects that were made from more durable materials like clay, metal, and glass (Sellschop, 2002).

Traditional Weaving

Traditionally woven baskets play a key role in African cultures. They can be made from various pliable materials ranging from grass and soft branches to telephone cords and wire and combine several construction techniques that determine its shape, size, and overall aesthetic (Sellschop, 2002). The shape and size of the baskets is determined by its use or cultural custom with which it is associated. The Tsonga marriage basket, for example, is made to keep the food served at the wedding ceremony warm and clean. The basket is traditionally covered in colourful glass beads to highlight the significance of the ceremony. The lid of the basket, also called the xintewana is constructed and offered by one family while the bowl, also called the xinthabana is made by the other family. The coming together of these two elements signifies the union of the marriage and merging of two families (Sellschop, 2002).

Figure 8: traditional Tsonga marriage basket consisting of the xintewana (lid), and the xinthabana (bowl)

Figure 9: two varied sizes and decorative patterns of the traditional Tsonga marriage basket

Figure 10: the use of twine in African basket weaving

Traditional Beadwork

Traditional beadwork commonly makes use of small beads that are uniform in shape and size. In Africa, the use of imported glass beads holds important value to craft as it is used in various jewellery and clothing items. These items are "treasured as dowries, heirlooms, and carriers of wealth; decorated calabashes, with no utilitarian function are valued by Wodaabe women as signs of status" (Sellschop, 2002).

Colours play a vital role in symbolism in relation to traditional beadwork. White represents clarity, while the colour black holds more ambiguity. The colours blue and green both symbolise wealth and prosperity, while the colour red is a warning for danger as it represents fire and blood (Sellschop, 2002).

Aside from the use of traditional glass beads in the making of jewellery, crafters are making use of alternative materials like telephone-wire, safety pins, copper-wire, rolled-paper beads, bottle tops, and numerous other recycled and found objects. The continued use of these informal materials promotes the idea of a new South African aesthetic. This creative spirit could spark a new wave for the jewellery industry in South Africa that is free

from its previous associations to colonial wealth and status.

In a South African context, craft is intricately linked to tradition, which gives rise to the notion of material-cultural styles where we see various groups of people crafting in a particular manner, using specific materials and colours creating crafted objects that function as group identifiers. The embedded symbols and colours used are transferable, non-verbal codes used to educate generations of makers and crafters within a particular group. The embedded symbols have meanings and associations that are important to the respective groups and are not individual statements or codes. This type of knowledge transfer is an expression of the communal nature of African Society. The network of knowledge transfers has become present in daily life and the symbols and associations culturally contextualises the production of traditional crafts (Sellschop, 2002).

Telephone cords

Bottle tops

Copper wire

Paper-rolled beads

Bottle tops

Figure 11: examples of alternative craft materials used in the making of jewellery

Theoretical Framework

01 Ideas Conception

Looking at precedent - Watershed Waterfront, Cape Town

Enric Miralles Clichy-Montfermeil Metro Station

Hypothesising that there is potential for formal and informal craft industries to foster communal engagements and promote cultural sustainability

Informing Research Question

03 Exploring Potentials

Assessing Viability of Research

Adaptive kinematic textile architecture

Interactive beadwork design design and construction

Knitflatable architecture - pneumatically activated preprogrammed knitted textile spaces

05 Experi-mentation [+] **06 Design**

INPUT → → OUTPUT

Framing the Inquiry

The Power of Place
Dolores Hayden

AFRITECTURE

craft south africa

CRAFT

The redefinition and relevance of craft in contemporary production

Indigenous arts + crafts in contemporary South African architecture: the influence of culture and identity

02 Research

Craft in art therapy: diverse approaches to the transformative power of craft materials and methods

Merging technology with traditional crafts

Where can the research findings be applied?

Urban villages and informal settlements as protagonists of urban futures

Strengthening township economies in South Africa

State/society synergy Philippi, Cape Town

Towards entrepreneurship education: empowering township members to take ownership of the township economy.

04 Siting
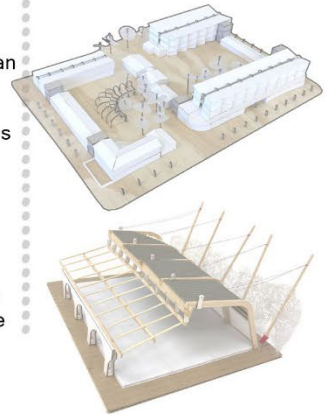
Crafting Context

🟢 **Contextualising Current Craft Industries in South Africa**

🔵 **Contextualising Craft Industries in Informal Settlements**

🟡 **Analysing Existing Centres for Craft**

🔴 **Finding a Potential Site for Craft Transformation**

Contextualising Current Craft Industries in South Africa

Presently, craft in South Africa can be used as a tool to fulfil various social roles. There are many impoverished communities and informal settlements that have access to profound knowledge of traditional craft techniques and skills. These communities have potential to use craft in a marketable way but lack access to teachings of business and marketing workshops. These are vital tools that are required to translate sets of skills and crafts into profitable endeavours. Slowly we see that as these tools of business and marketing workshops are introduced into craft communities, productivity and capacity begin to improve (Sellschop, 2002). With access to both the knowledge of craft skills and the knowledge of business and marketing, people can earn sustainable incomes from the objects and crafts that they create, thus bringing access to employment close to the homeplace. This autonomous way of earning a living allows people to be close to their families and communities and instils in them a sense of hope and prosperity for future growth.

The Cultural Industries Growth Strategy (CGIS) (1998) report recognises craft in South Africa as a cultural industry with growth potential from a governmental standpoint. Simply in this form of recognition, the craft industry has boosted. Present day South Africa sees the emergence of craft groups that gather around recreation centres of public infrastructures like churches and schools. There are also craft groups formed in support of campaigns like the HIV/AIDS campaign or the support groups for physical disability or unemployment (Sellschop, 2002). This again is an expression of South African's societies desire to demonstrate a nature of communal connections.

Present day South Africa observes a newfound appreciation for traditional cultural values which has sparked the resurgence of craft sale to the public. "Flea markets, expositions, craft competitions, craft training centres and craft linked to SMME (Small, Medium, and Micro Enterprises) development have all contributed to the growth of craft." (Sellschop, 2002).
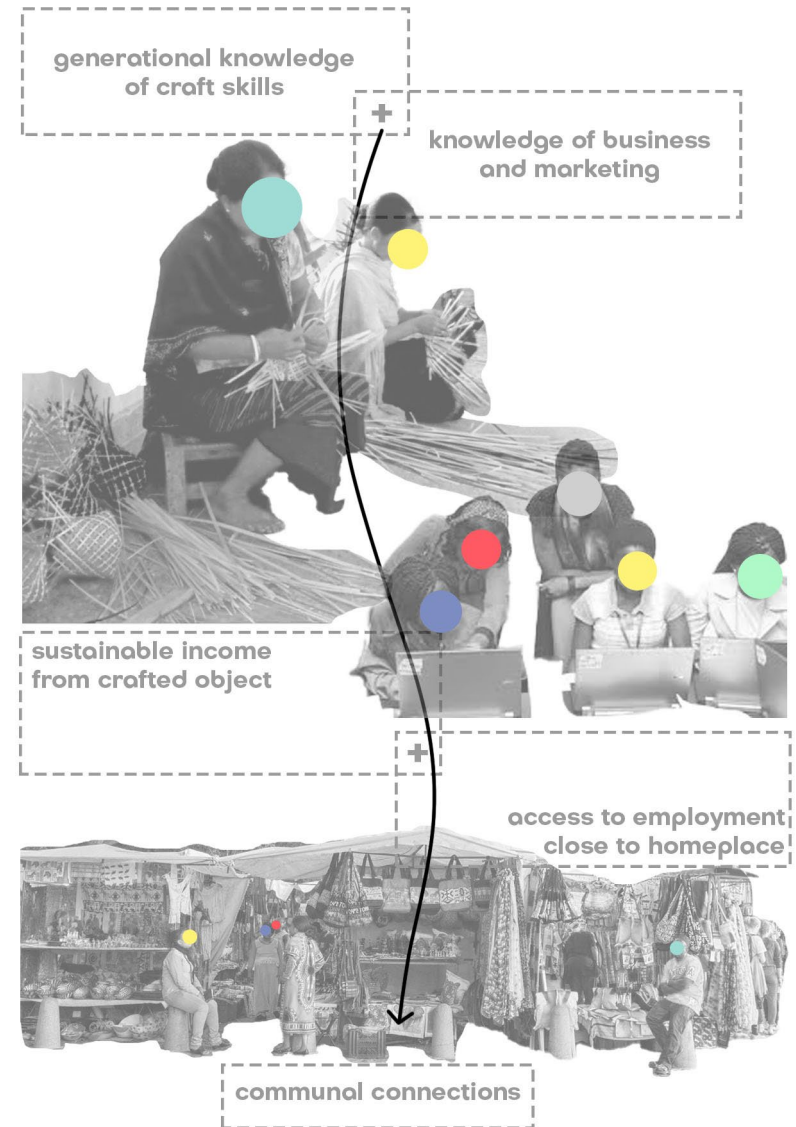
Figure 12: collage depicting a sustainable system for current craft industries in South Africa

Contextualising Craft Industries in Informal Settlements

The Cultural Industries Growth Strategy (CGIS) (1998) report has identified that a substantial portion of the production of crafts in the informal urban craft industry takes place in townships surrounding Metropolitan centres (DACST, 1998). These spaces, if developed and supported, have the potential to become tourist attractions. The informal craft sector requires significant contributions from municipalities. One of the main constraints that the craft retail sector faces is the availability of infrastructure that appropriately supports storage and trading of crafts (DACST, 1998). Such infrastructures and spaces also need to accommodate for and encourage high volumes of pedestrian traffic that will foster a vibrant sense of community.

Although craft is commonly practiced in rural areas and informal settlements, craft production often suffers due to the underdevelopment of design skills as a result of the lack of education available in impoverished communities. This type of craft production also suffers because many individuals cannot afford transportation to access the formalised craft markets usually located in city centres. Despite the fact that rural communities have a good skill base in craft production, many of the crafted objects produced do not meet the required standards for sale into international markets (DACST, 1998). This is because rural communities do not have access to a decent quality of raw materials, which results in an improvisation of materials to keep producing crafts (DACST, 1998).
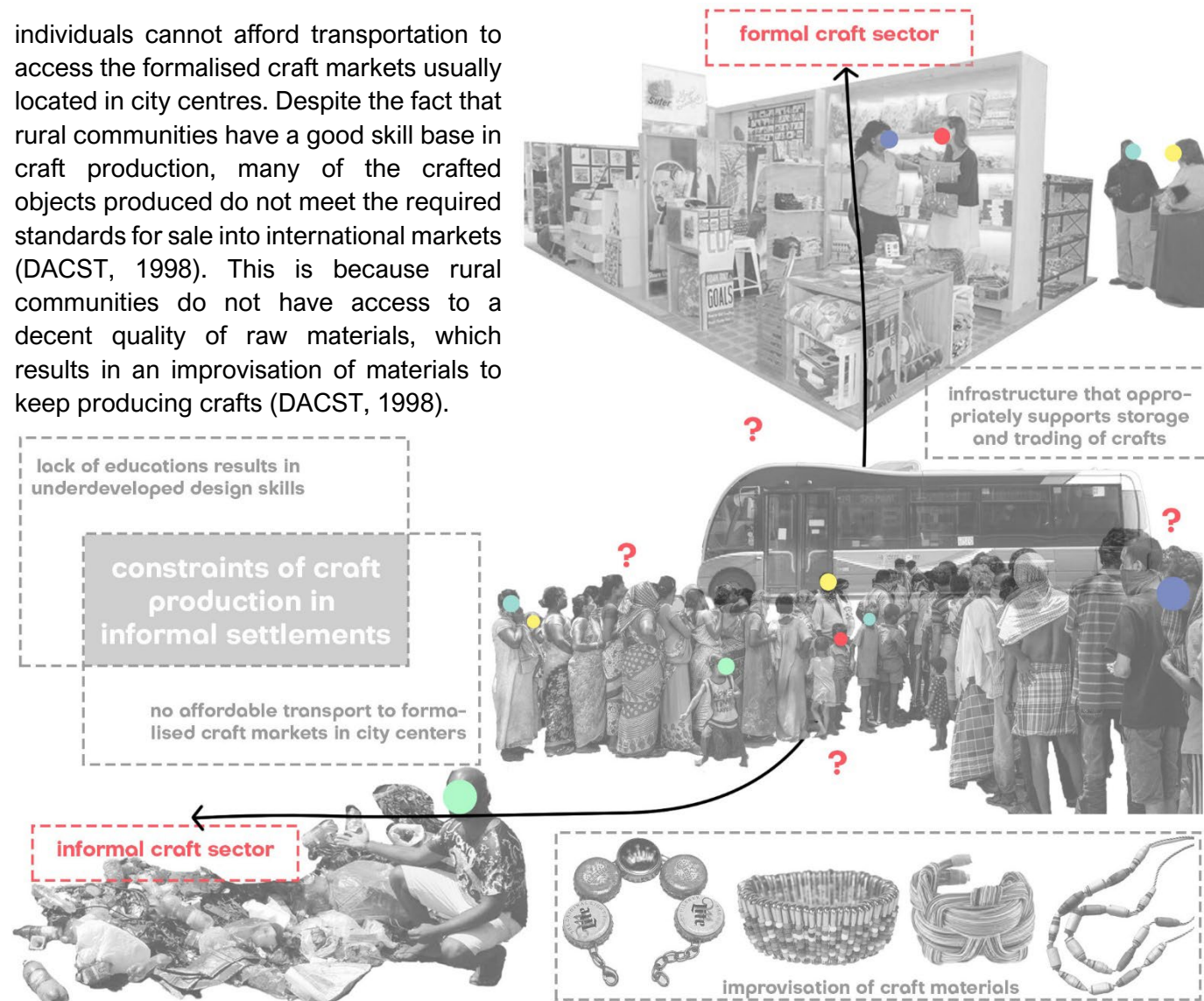
Figure 13: collage depicting the disjoin between formal and informal craft sectors in Cape Town, South Africa

Analysing Existing Centres for Craft

Case Study 01: iThemba Labantu Community Youth Centre, Philippi, Cape Town, 2013 – Design Space Africa

The iThemba Labantu Lutheran Community Centre is situated in the densely population segment of Philippi East. Ithemba Labantu is a Lutheran mission venture which has been operational in Philippi East for over 150 years. The community centre houses various educational and recreational programmes that aim to uplift the community. Their teachings cater to infants, children, and adult learning. The available youth programmes at the centre include a soccer programme, social support group, homework tuition and aid, as well as an aftercare facility. In addition to this, the adult learning programmes include "certificated training in solar plumbing and motor mechanics for small classes. Candidates receive formal qualifications which allow them to work in the formal economy" (DesignSpaceAfrica, 2013). The community centre is also able to generate income through its pottery workshop. The workshop exports the crafted products to Germany, which generates the necessary income to support the activities of the programme (DesignSpaceAfrica, 2013).

The buildings within the complex shown in figure 14 include the church hall, around which the iThemba Labantu community centres itself, a soup kitchen, offices, a pre-school, classrooms and computer rooms, workshops, and a large hospice that has been converted into a primary school.

The construction methodologies used in the making of the soup kitchen are sustainable and rooted in traditional African construction techniques. It employed Eco beam technologies and utilised sandbags as the primary building material. The sand was locally sourced, and the sandbags were locally produced (DesignSpaceAfrica, 2013).

Figures 14-18: iThemba Labantu Community Youth Centre, Philippi, Cape Town, 2013 – Design Space Africa

Ground Floor Plan

craft/making spaces

learning/teaching spaces

main pedestrian routes

retail

storage

bathrooms

stairs
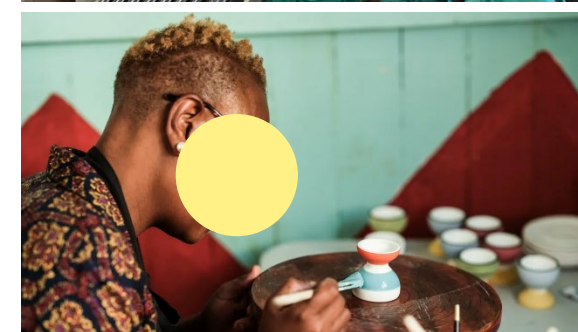
Figure 19: zoning plan showing the programmatic makeup of the iThemba Labantu community youth centre

Case Study 02: Montebello Design Centre, Newlands Cape Town

Situated in existing farm buildings as part of the historic Montebello site, the Montebello Design centre in Newlands, Cape Town houses a wide variety of programmes and activities. The space is home to many designers, innovators, crafters, and artists and includes programmes such as 25 different arts & crafts studios, workshops, cafes and restaurants, a greenhouse, a crafts shop, and a number of makers spaces (Montebello.co.za, 2022). The project was set up by Cecil Michaelis who envisioned that this space would function in conjunction with the University of Cape Town [UCT] to cultivate creative exchanges in design thinking, craft, and entrepreneurship in Cape Town (Montebello.co.za, 2022).

As such, the design centre works in collaboration with UCT D School by hosting "collaborative design spaces (D desks) for young innovators" (Montebello.co.za, 2022). This initiative promotes collaborative workspaces where creatives learn from each other, and knowledge can be exchanged across different design practices.

In addition to this, there is the Montebello Prod Programme that focuses on product development, training & marketing, research, opportunity development, and aids several crafters in practices such as ceramics, textiles, weaving, woodwork, beading, wire craft, furniture making, and paperwork (Montebello.co.za, 2022). Some of these projects are initiated by Montebello while others are pre-existing.

The centre hosts various art and craft classes for both adults and children, including adult art lessons, children's extra-mural art lessons, ceramics courses, and art therapy classes with a trained art therapist and art teacher who aids individuals in seeking healing through creative work (Montebello.co.za, 2022).

Figures 20-24: Montebello Design Centre, Newlands Cape Town

Ground Floor Plan

Legend:
- craft/making spaces
- learning/teaching spaces
- main pedestrian routes
- retail
- storage
- bathrooms
- stairs
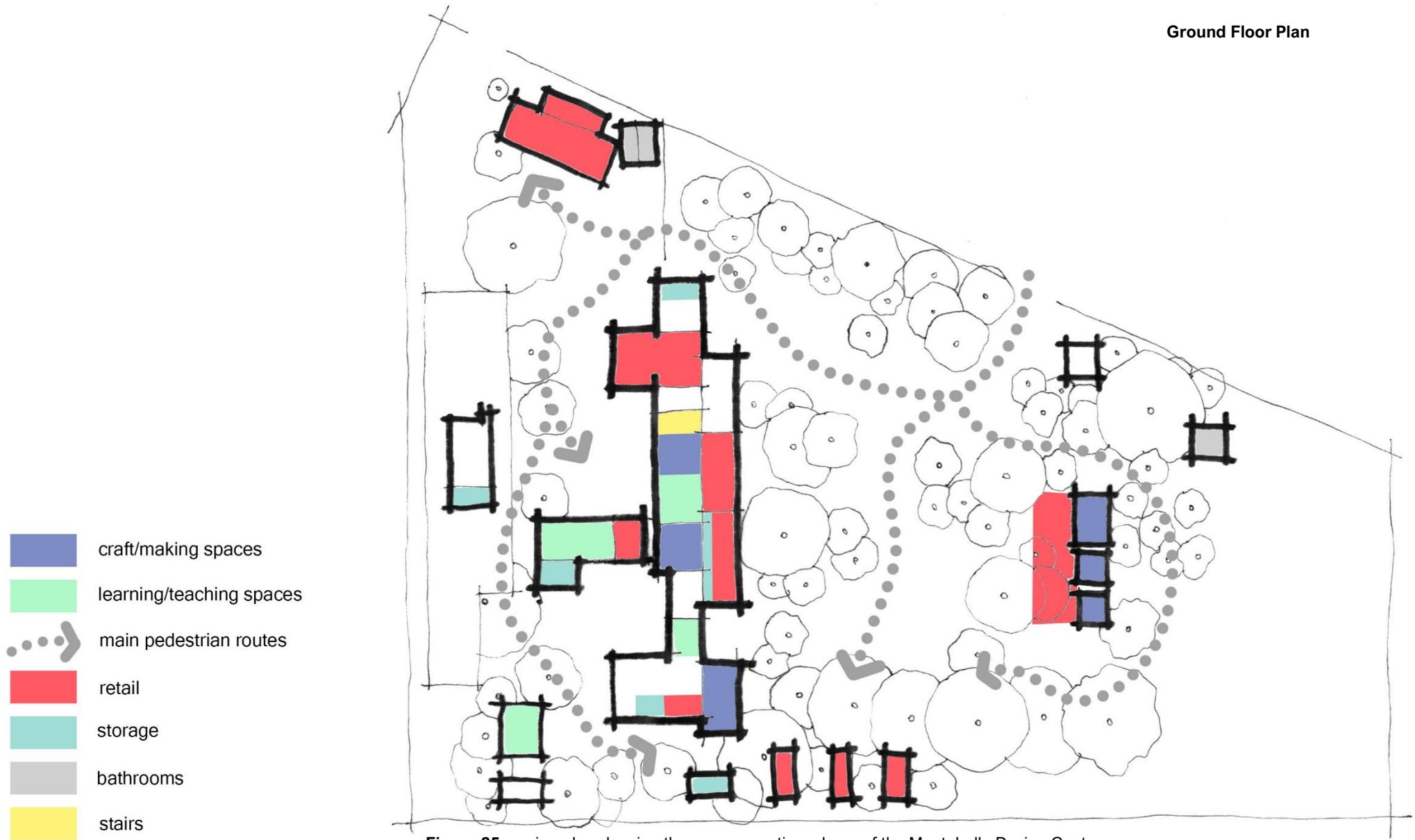
Figure 25: zoning plan showing the programmatic makeup of the Montebello Design Centre

Case Study 03: Watershed, Waterfront Cape Town, 2014 – Wolff Architects

The watershed project was established in an existing industrial shed at the V&A Waterfront. It houses several tenancies of micro-enterprises with a focus on local art, craft, and design. It also houses an exhibition venue, rentable office spaces, and green spaces. A key principle of the design was to propose a new typology of knowledge exchange whereby educational institutions can aid in shaping the city by serving the interests of individuals beyond the extent of the site on which the proposed business incubator sits (Wolff Architects, 2022).

By introducing a new street that cuts through the stretch of the shed, an urban pedestrian network is established. In doing so, prioritisation is given to public space as opposed to the business incubator. By reclaiming the public realm, the street becomes a "device for creating economic opportunity for small businesses; a market" (Wolff Architects, 2022). The internal street is defined by its edges which are made up of individual stalls that tenants call fully customise to suit their retail needs and the requirements of their products. This

commercial pattern hugely contributes to the success of this space and is a concept drawn from everyday urban street-based retail.

The V&A Waterfront is recognised as one of the wealthier tourist attractions in Cape Town. What this project attempts to do is demonstrate the potential for bigger business sectors to substantially support smaller, locally owned businesses. It must however be interrogated as to whether or not the Watershed project appropriately and effectively racially desegregates the distribution of occupations in Cape Town. Although the project increases the "intensity and diversity of human interactions in the city" (Wolff Architects, 2022), it fails to accommodate for the middle- and lower-class income individuals who cannot easily access this space.

Figures 26-29: Watershed, Waterfront Cape Town, 2014 – Wolff Architects

Ground Floor Plan

First Floor Plan

craft/making spaces

learning/teaching spaces

main pedestrian routes

retail

storage

bathrooms

stairs
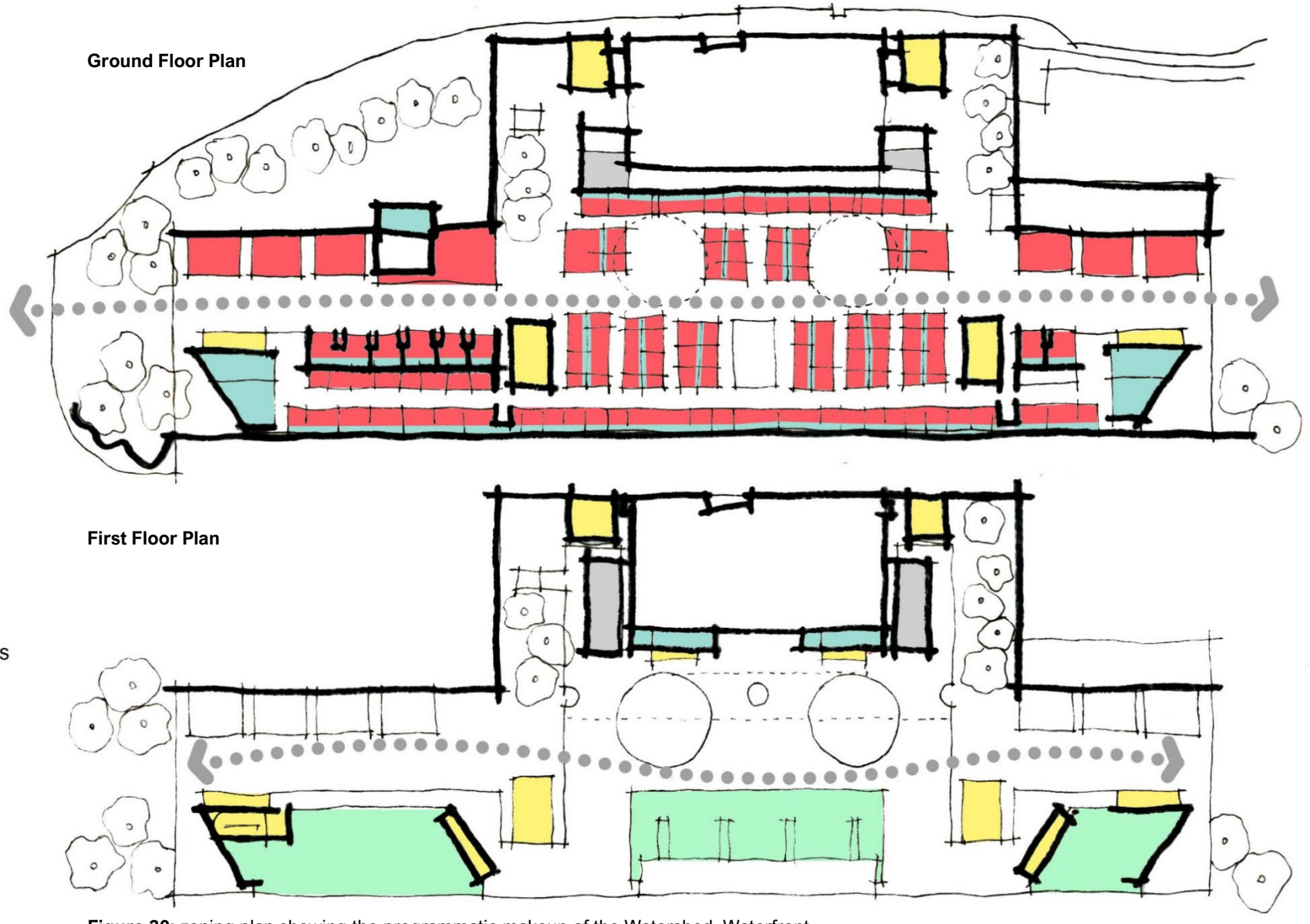
Figure 30: zoning plan showing the programmatic makeup of the Watershed, Waterfront

Finding a Potential Site for Craft Transformation

This thesis identifies Philippi East as a potential site for craft transformation. Philippi is an area situated in the Cape Flats of the Western Cape in Cape Town, South Africa. It is both urban and semi-urban, and is an incredibly vast suburb, consisting of 7 wards, housing many varying neighbourhoods (Brown-Luthango, 2015). New Eisleben Road and Stock Road are 2 large arterial roads that cut through the extent of Philippi. Philippi East is an informal term used to describe the mass of areas in Philippi that exist on the east side of New Eisleben Road, as shown in figure 31.

Some of the major issues that Philippi East is currently facing includes poverty, unemployment, overcrowding, crime, and food insecurity (Brown-Luthango, 2015). The synergy of the area reveals fragmentation which is "characterised by a lack of common identity and widely divergent interests, needs, and political ideologies" (Brown-Luthango, 2015).

The model shown in figure 32 alongside explores an intuitive and observational understanding of context and site. New Eisleben road, which passes through the stretch of Philippi East, can be seen as a home for crafting connections. Clusters of informal trade, crafting, making, and exchange take place along this road, weaving from private residential to public community engagement.

Observational assumptions are expressed in the understanding that there are fewer connections to social cohesion, community engagement, crafting and knowledge exchange that can be made in RDP Housing Blocks as opposed to the informal housing settlements along this road.
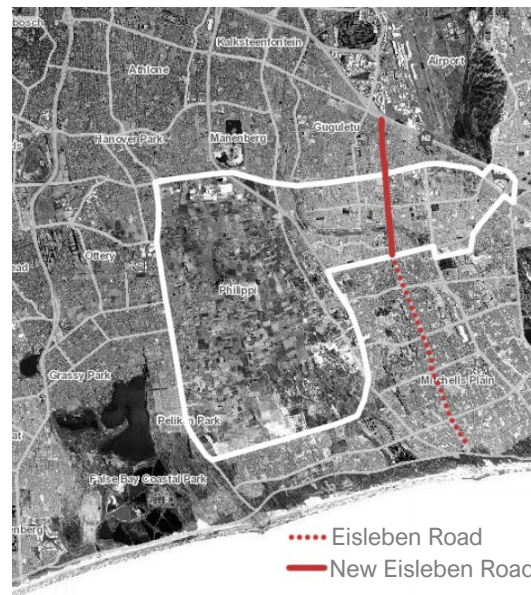
Figure 31: map showing the location Philippi East in relation to New Eisleben Road

Figure 32: crafting Connections - model exploring communal connections along New Eisleben Road, Philippi

Site Analysis

Analysis @ City Scale

Analysis @ Suburb Scale

Analysis @ Precinct Scale

Analysis @ Street Scale

Design Concept

Urban Design & Site Approach Priorities

Analysis @ City Scale

Philippi East is identified as the focus area for this project. It Is a severely under resourced area with rich potential for a site of production and vibrant urban culture. Along the N2 main artery road, the location provides easy access to individuals interested in engaging with cultural practices either through collaboration or education. Further development of infrastructure such as a future MyCiTi BRT route creates for better transit connections to the well-established formal industry and retail nodes in the surrounding context. Philippi is well-located in terms of access to places of opportunity – the airport, the Philippi horticultural Area and the Philippi Industrial Area, but its development does not reflect this potential.

Since its inception, developments in Philippi have reflected the subversion of prevailing discourses in various ways, as a place of resistance, it is constantly reconstructing itself into a site of production around the needs of the community and their marginalized narratives.
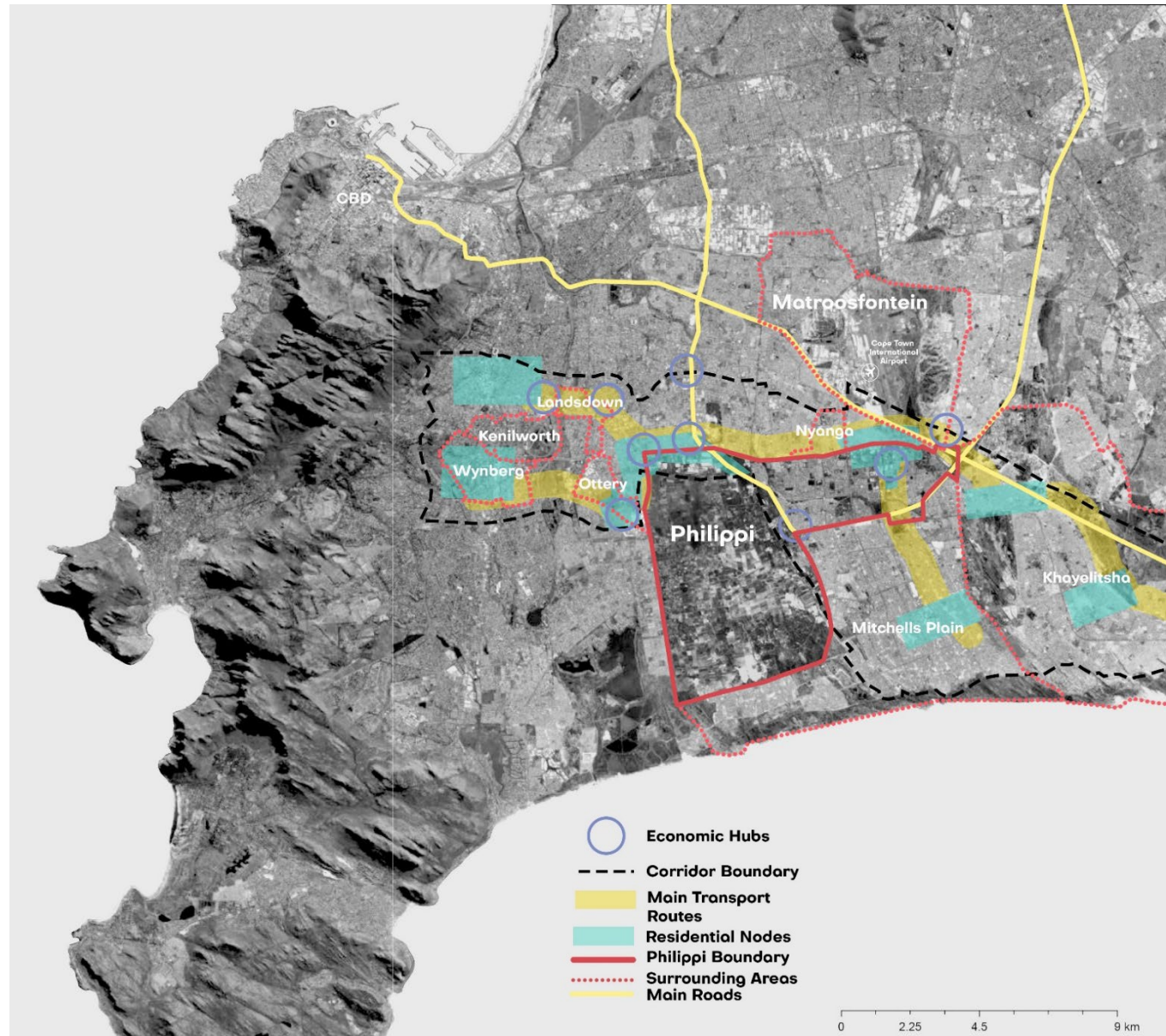
Figure 33: map showing Philippi as part of the Southern Suburbs Corridor

Analysis @ Suburb Scale
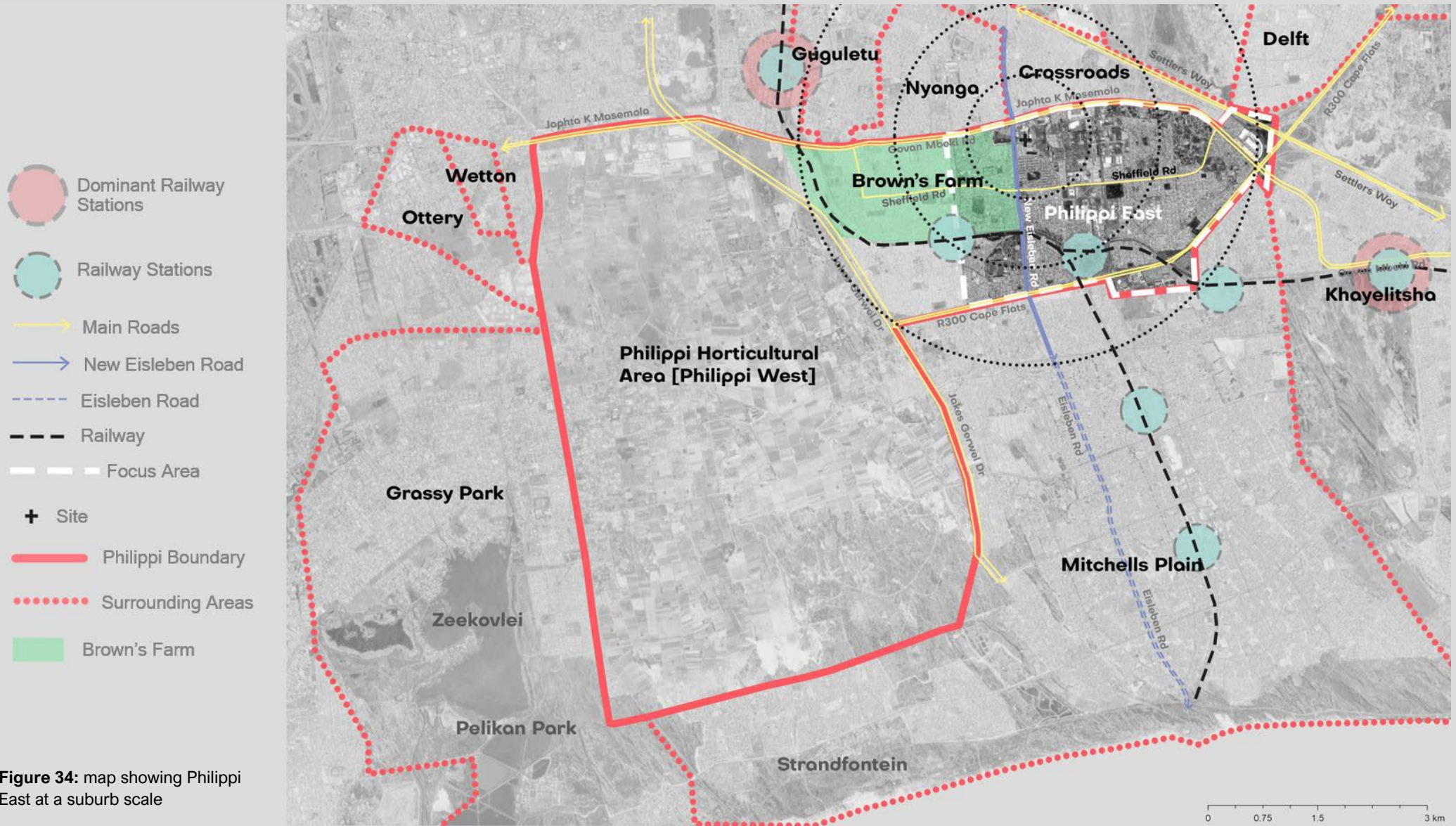
Figure 34: map showing Philippi East at a suburb scale

Analysis @ Precinct Scale

The precinct analysis investigates existing micro-enterprises as an entry way into understanding township economies and negotiating spaces and scales. As illustrated in figure 35, The emergence of a self-built industry can be seen forming in clusters along the perimeter roads of the precinct, specifically along the main axis of New Eisleben Rd. These informal traders stand in contrast to the more formalised retail industries like the Philippi Junction mall and Shoprite Mall both shown in red.

Despite the rapid growth in this industrial portion of Philippi in recent years, these micro-enterprises have grown a local economy that has stood the test of time. Thus, there exists a potential for craft practices to distil into the community as a means of innovation that could enrich the everyday and support the pre-existing makers and entrepreneurs that bring vibrancy to spaces of informality. There is an important link that can be made to ideas of craft and sharing craft knowledge and the educational institutions shown in yellow. The iThemba Labantu Community Centre currently makes this link, but there is

potential to establish a craft network that is decentralized from the church.

Spatially, the main entrances of the shopping malls possess complex negotiations between the formal and informal retail. Sustainable Livelihoods Foundation's 2018 study titled *A Development Vision for Informal Microenterprises in Philippi East Industrial Area* states that "in defiance of mall owners and municipal by-laws, the traders occupy sites on public land outside the boundary where they tend to cluster towards entrances" (Brown & Bacq & Charman, 2018). The current trend that can be observed in the area is that food traders that require less infrastructure tend to locate themselves closer to mall entrances, while larger traders with less mobility like those selling cooked foods or large furniture can be found further away from the mall entrances.

● informal traders

▮ formal retail

▮ educational institutions

iThemba Labantu Lutheran Community Youth Centre
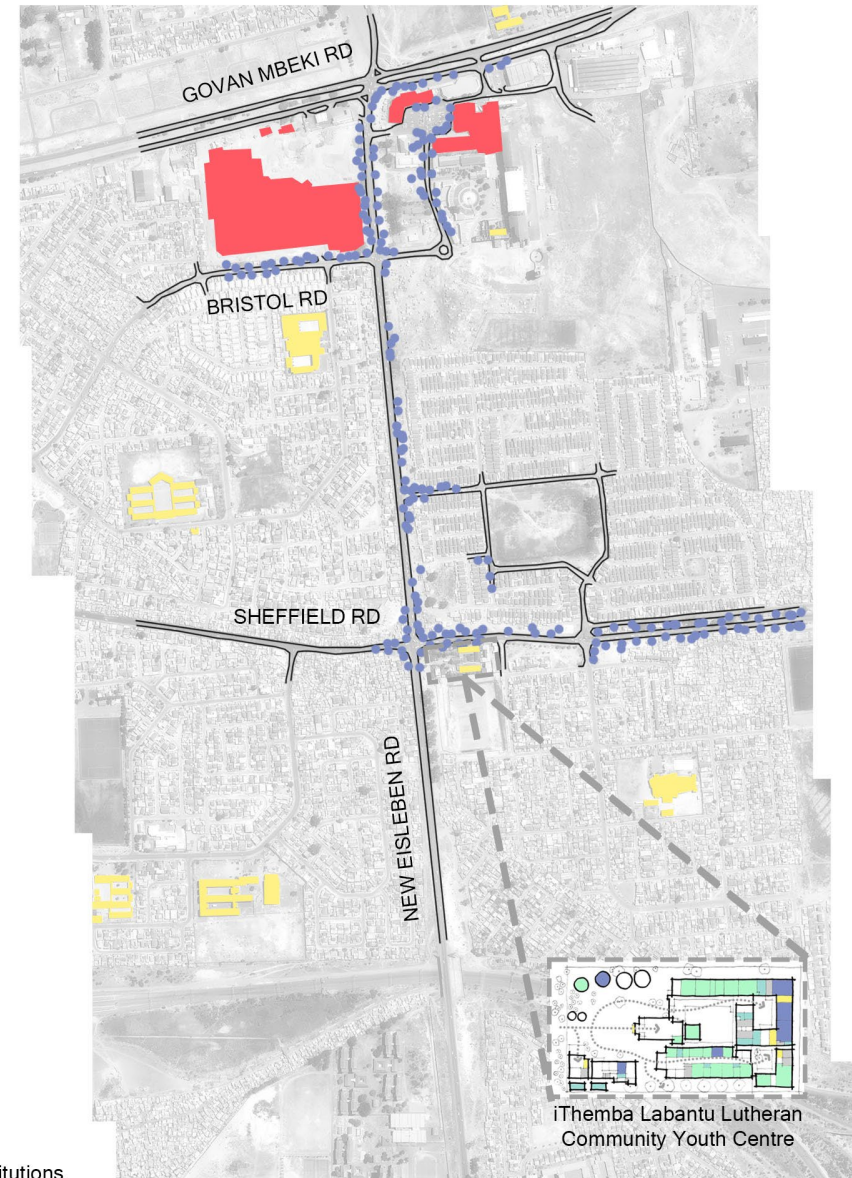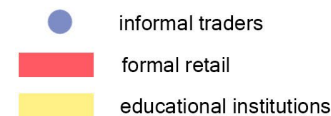
Figure 35: map showing informal vs formal trade on a precinct scale in Philippi East
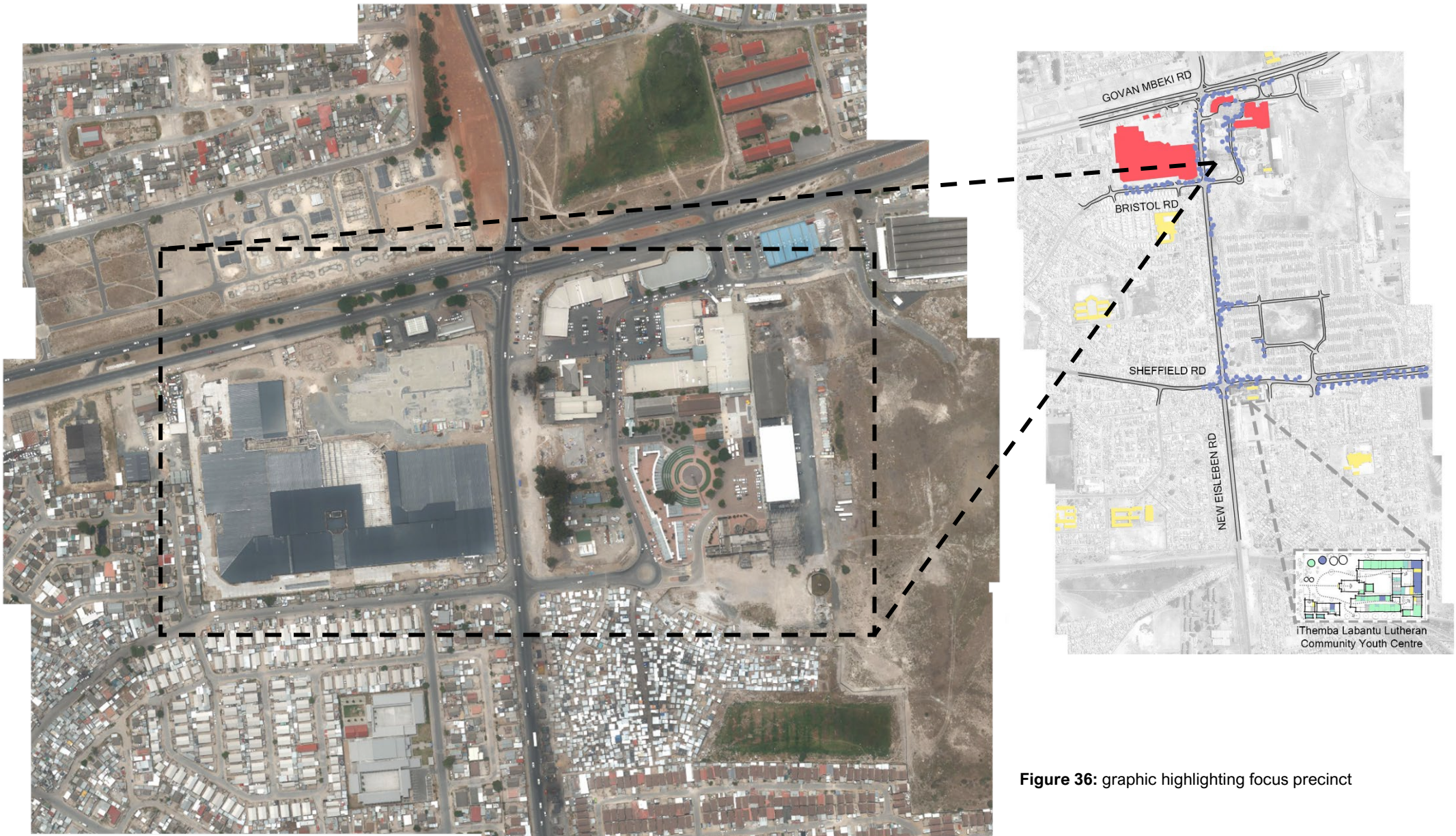
Figure 36: graphic highlighting focus precinct

As shown in the graphs in figure 37, the most prominent type of informal trade that takes place along New Eisleben Rd is in the form of food retail. These food vendors are able to sustain and support the pedestrian life while simultaneously creating a local economy that positively impacts the built environment of the public realm. Additionally, as the need for housing is ever increasing and the informal settlements continue to grow in this busy precinct, the presence of hardware and building supply stores that cater to the shanty town dwellers aid in providing labour and artisanal skills as well as building materials. This instils a sense of circulated community.

So, what can the craft sector add to this?

Henri Lefebvre's theories on socially productive space proposes that every society in history has formed a unique social space that facilitates both economic production and social reproduction. He goes on to suggest that a condition of capitalist space is the making of many identical units and spaces by the commercial real-estate market that has come to be a distinguishable characteristic of the economy. Capitalist space can be

created endlessly, but at the expense of the loss of culture, identity, history, and meaning (Merrifield, 2006).

Looking at the micro-enterprises is a starting point in undertaking an architectural design project that sets out to recraft this incredibly busy and complex junction in Philippi. Micro-economies underpin the conceptual design approach in holding, within its nature, nuanced interpretations of craft as an everyday practice and traditional and generations knowledge transfers.

This project focuses on local ways of making and thinking by highlighting 3 existing types of informal trade along New Eisleben Rd, namely: furniture retail, general crafts retail, and tailors and seamstresses. By proposing a craft centre that acknowledges and learns from existing local craft practices as well as introduces craft practice present in craft networks in other parts of the city, the proposed space can become an important space for knowledge production that challenges the capitalist production of space that removes itself from ideas of social cohesion and cultural sustainability.
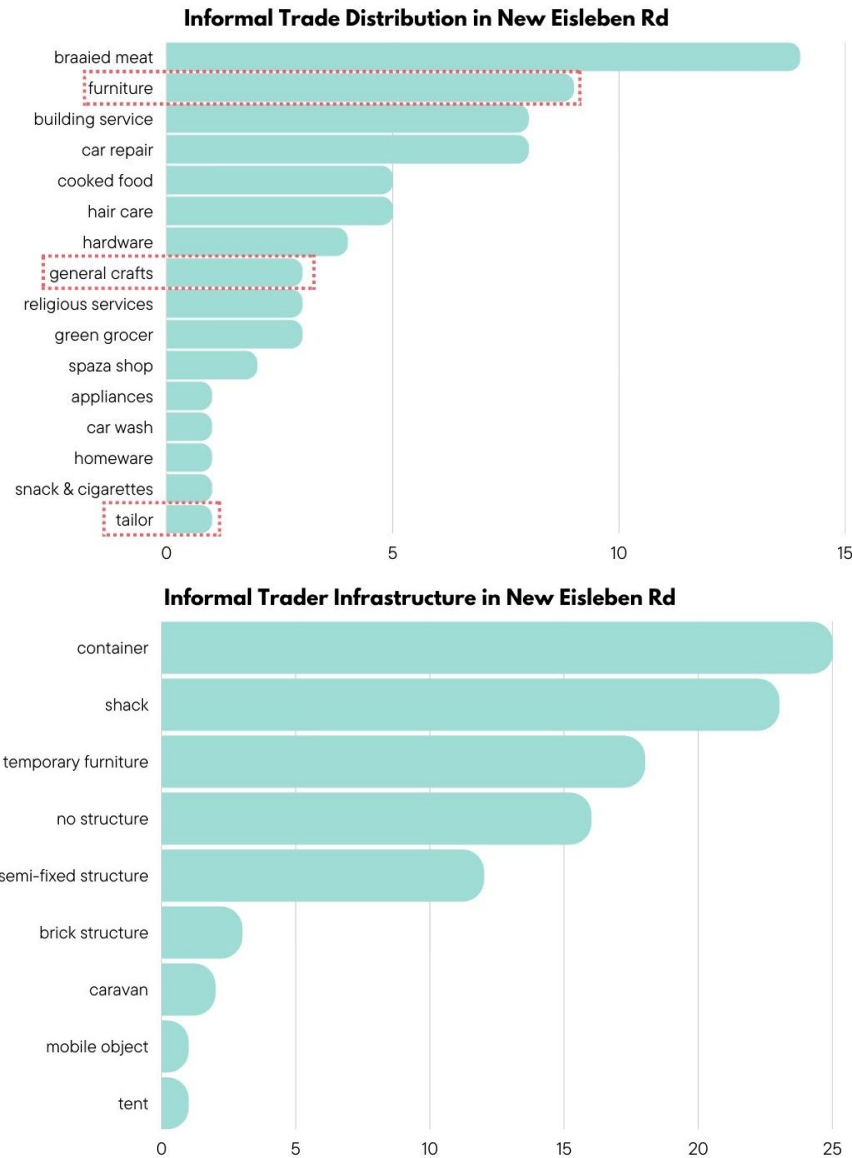
Figure 37: graphs showing distribution of informal trade and their supporting infrastructure along New Eisleben Rd, Philippi

Existing vendor infrastructure

No structure
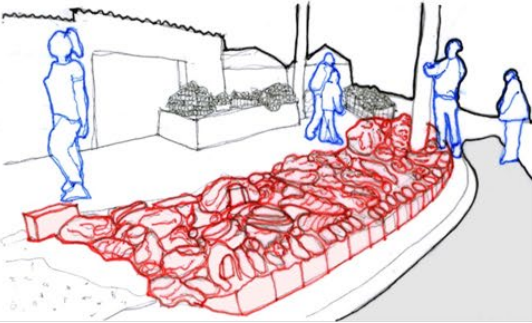
Easy way to display goods without needing to transport heavy infrastructure, trading is weather dependant and storage needs to happen off-site.

Mobile object
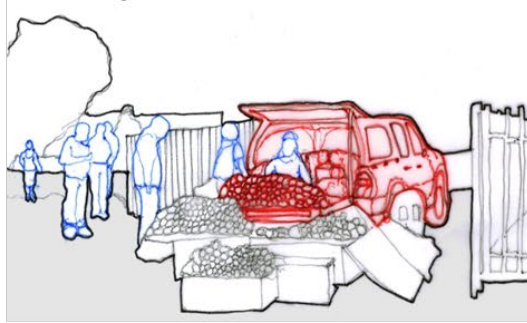
Allows for both display and transport of goods, useful for fresh produce traders who procure goods from the nearby farms, vehicle itself provides shelter

Temporary furniture
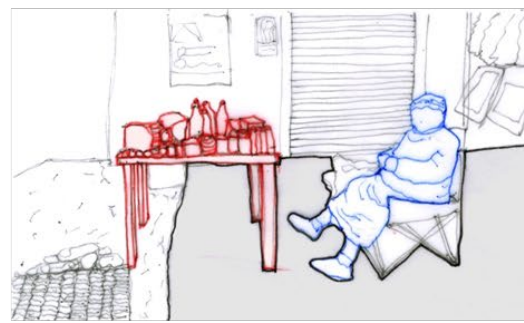
Tables allow for display of goods and protection from rainwater that collects on the ground, umbrellas are used to provide shading, largely reliant on good weather and off-site storage

Semi-fixed structure
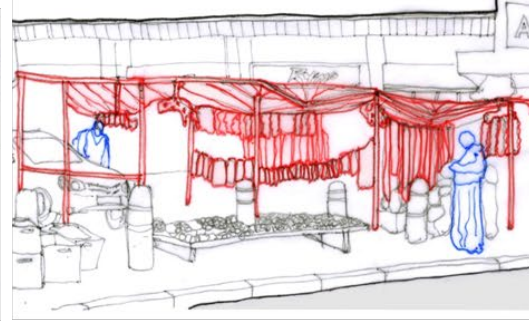
Made up of permanent metal or timber frame with temporary plastic sheeting, tables, crates, shelves, and chairs, dependant on off-site storage

Container
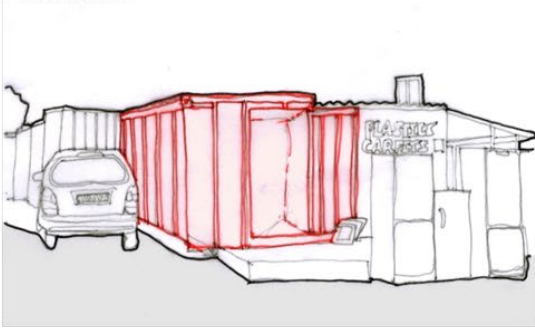
Mostly owned by third parties, rent ranging from R800 - R1400 per month, mostly used by salons, tailors, food vendors, building services, furniture makers, hugely beneficial but comes at a cost

Shack
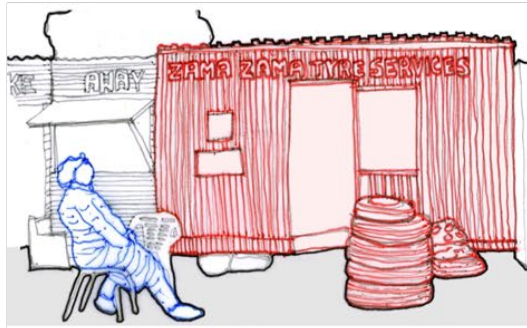
Usually made from timber frame, cladded in corrugated sheeting, provides storage and shelter, less expensive than containers, used by hair salons, furniture makers, green grocers and community churches

Caravan
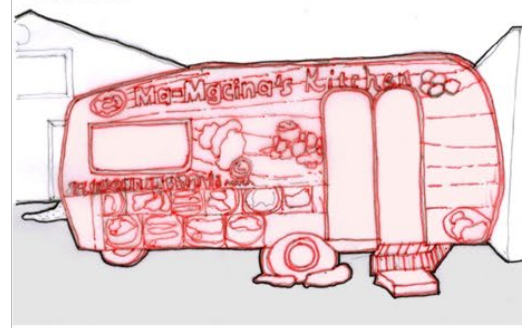
All sell cooked foods and some inside customer seating, new trading infrastructure with only 6 in the area, caravans are stationary rather than mobile, provides storage and shelter

Brick building
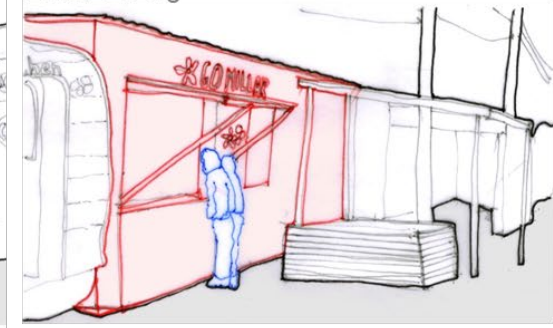
Usually attached to private dwellings but encroach onto public side walks, secure storage and shelter space, used by Spaza shops, located mostly in front yards

Figure 38: drawings showing the current typologies of structures vendors use along New Eisleben

Required vendor infrastructure

Equal stand sizes

Separate business types

Proper paving and drainage

Bins and refuse removal

Access to toilets

Billboards to advertise trading area

Landscaping and trees for shade

Street lights

Permanent Shelter

Recreational area for children

Sitting area for food vendors

ATM's to attract customers

Security systems and police support

Access to electricity

Access to water

Perpendicular parking along road

Designated area for amaphela

Car washing infrastructure

Figure 39: drawings showing the proposed changes to support the vendors along New Eisleben Rd

Figure 40: street view images showing the various activities taking place along New Eisleben Rd

At the precinct scale, existing formal and informal networks highlights a disconnect in the urban fabric. Although there is a lack of infrastructure for informal enterprise and micro enterprises to grow, there is opportunity to engage with the alternative practices. The built fabric of the civic institutions, retail and informal trading corridor creates an interesting intersection of Govan Mbeki and New Eisleben Rd. Self-built micro industries, shown in purple, have emerged on these perimeter roads.

The site selection is informed by major nodes of activity. The selection process identified underutilized land within the precinct. The chosen site takes advantage of mediating between the nodes of industry and creating a formal link between north and south nodes along new Eisleben rd. The proposal is 2-fold, beginning firstly with an urban proposal that restructures and organizes the synergy of this precinct to allow for a more safe, pedestrianized spaces that draws from the existing micro-enterprises. Secondly, a Community Craft Centre is proposed, that will act as an axis along which connections can be strengthened between the informal township economies and the currently underutilized Philippi village trading hubs.
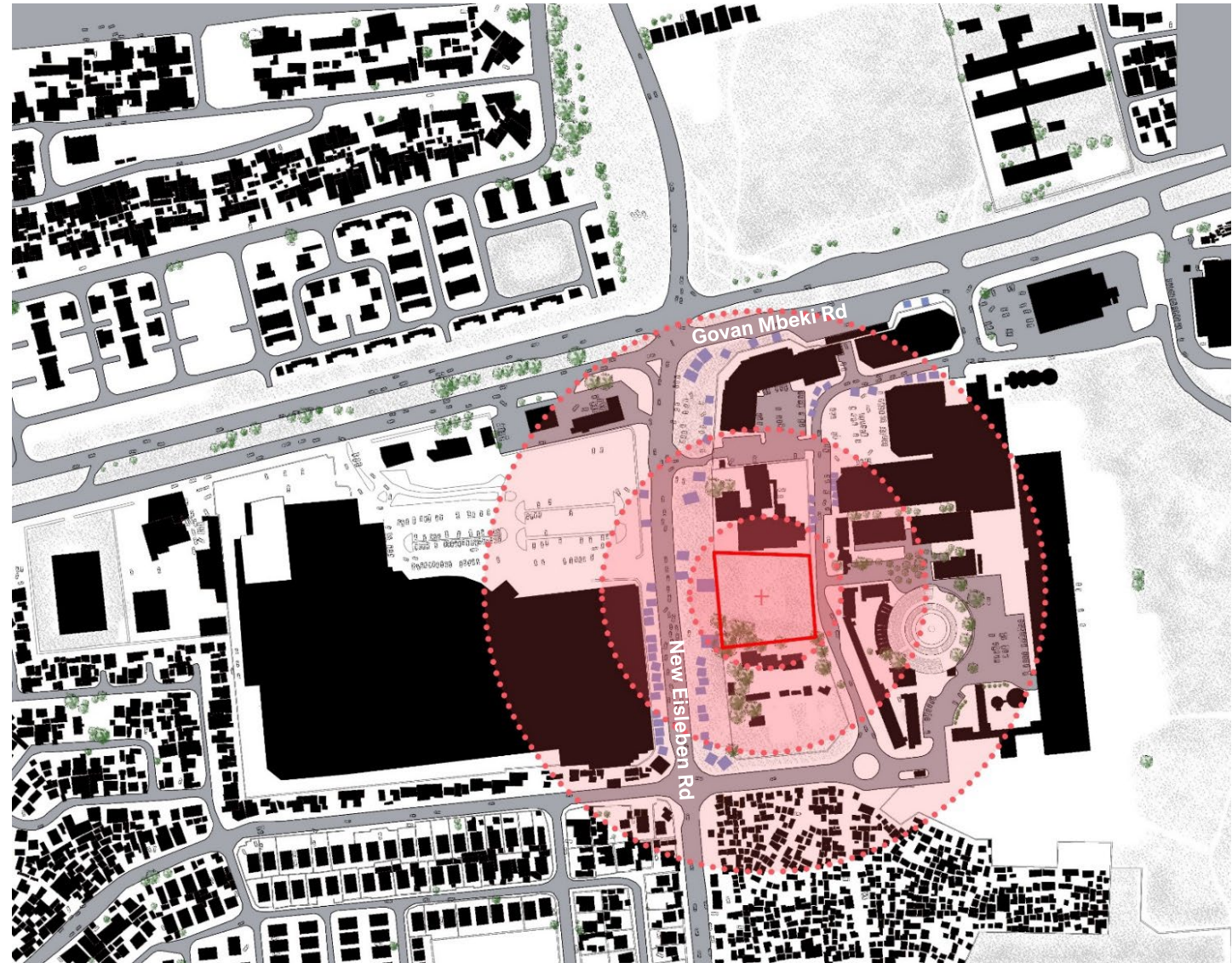
Figure 41: site map showing location of selected site for intervention

Dr Nelson R. Mandela High School

Intastor Controlled Construction Company

Cashbuild Material Supplier

World Sports Betting Bookmaker

Range Store

Shoprite Centre

Auto Parts Store

Power Sub-station

Caltex Gas Station

Post Office

Ackermans

KFC McDonald's

ABSA Branch

Philipi Shopping Centre

Shoprite Liquor Store

Canax Hardware Store

Magistrates Court

Bead Africa Clothing Store

Gangstar Cafe

Gospel Church

Philippi Economic Development Initiative [PEDI]

Greenspace SA

Old Cement Factory

Cafe

Philippi Village

Philippi Junction Mall

[Closed] House of Smiles Community Centre

Clothing Store

UCT GSB Solution Space

Figure 42: site map identifying the surrounding buildings in the precinct

Philippi Village is identified as a currently underutilised space. Part of Philippi village is the container walk that houses rentable retail space for residents and informal traders in the area. The container walk offers amenities such as co-working spaces, office spaces, and storage space. Programmatically, the provision of these spaces sets up a good framework for successful micro-enterprise, however, this potential is yet to be fully unlocked. The reason this space is underutilised is because it is set too far back from the Main New Eisleben Road, which is the area that the residents have identified as holding the highest potential for sale to support micro enterprises.

Aside from the container walk, Philippi Village also houses a large communal amphitheatre, the Hub, which is a commercial rentable office and conference space, and acts as a rentable film location with access to the five-a-side football court, a skate park, the office spaces and container walk, and the existing silos and abandoned historic cement factory building (Philippi Village, 2022).

Figure 43: arial Image highlighting Philippi Village

Figures 44-47: images of Philippi Village

Analysis @ Street Scale

There are a number of spatial agents that define the synergy of the precinct along New Eisleben road. We can see the static traders who have little to no infrastructure to support their micro enterprises. We also see the child as a pedestrian needing the cross this incredibly busy and fast-moving street. There are food vendors with self-built infrastructure to provide for shelter and the display of their goods, and there are also a number of idle individuals in the area who are scouting out opportunities for petty crime directed towards incoming and outgoing movement through the node. This speaks to a bigger issued of crime and unemployment within the area.

The surge of shopping malls in Philippi East does not necessarily challenge the significance of the informal traders. It can be argued that by having the option of both formal and informal means of procurement of food and other goods, consumers have liberty to choose how and where they shop, thereby addressing the consumer desire for both convenience and reduced prices (Brown & Bacq & Charman, 2018).
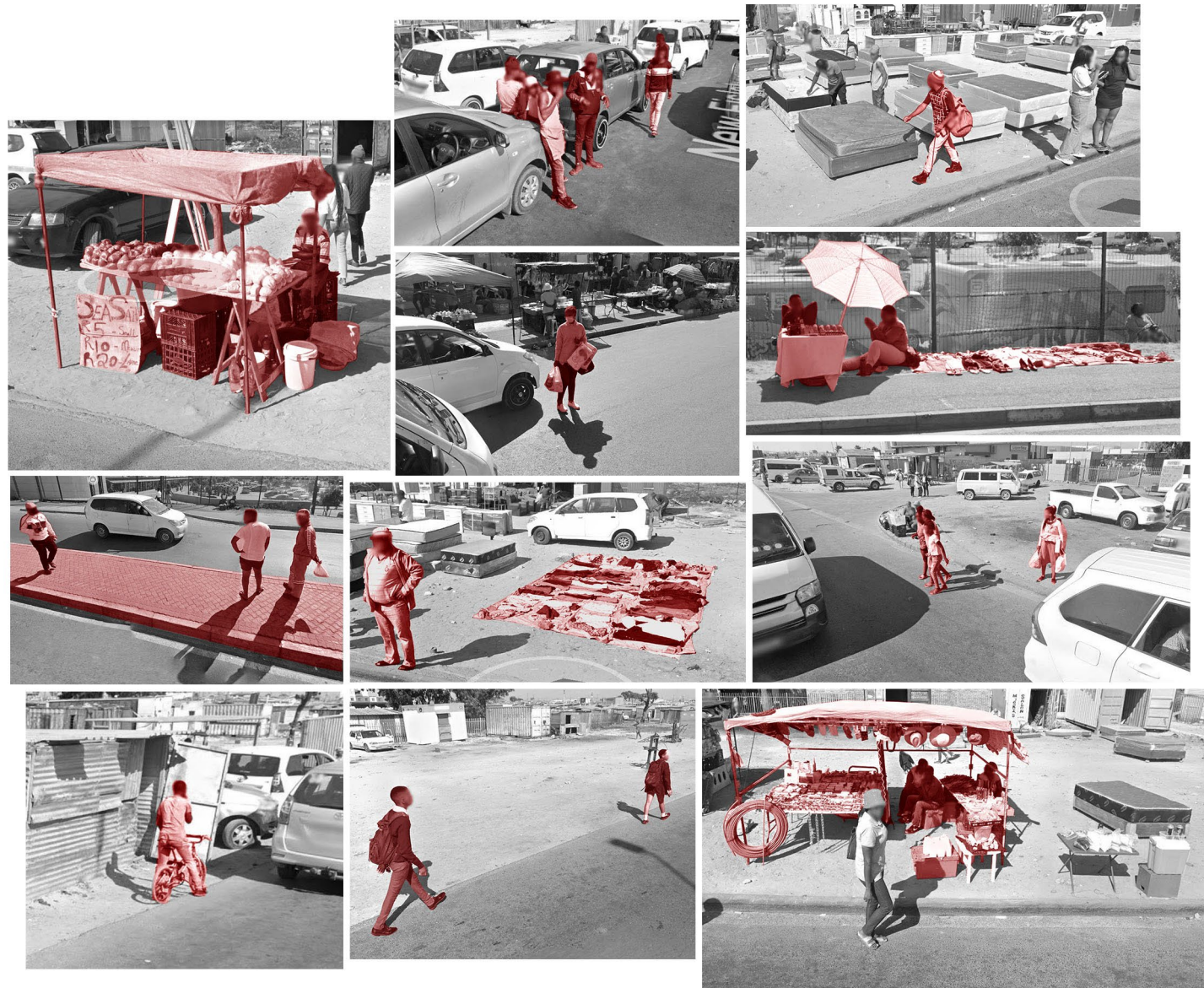
Figure 48: street images highlighting the spatial agents along New Eisleben Rd

Design Concept
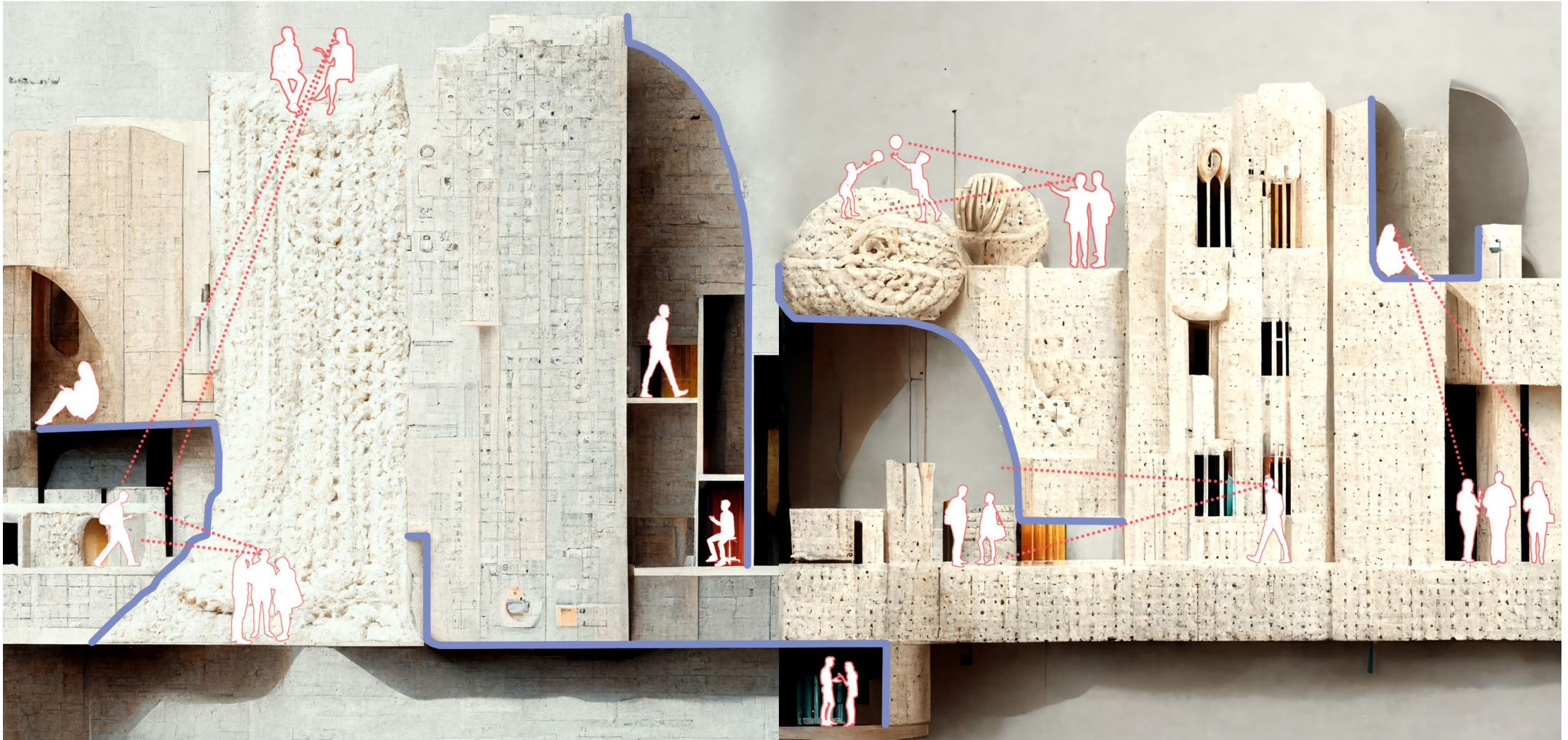
Figure 49: conceptual model collage depicting 'crafting connections' as an overarching design principle

Crafting connections attempts to create links between sectors of society and means of creativity. The design of a centre for craft must be a didactic space that both house craft practices as well as stand as an object of craft both aesthetically and functionally.

The challenge here is to translate small scale hand-made practices of craft into large scale architectural practices. One means of engaging with this type of knowledge transference is to look to artificial intelligence [AI] assisted technologies. AI image generators can allow for a wide range of conceptual explorations that are free from real-life parameters and restrictions. Images 48-53 were created through Midjourney, an AI programme that uses prompt inputs of key words and phrases to create images. This serves as an exciting tool for rapid prototyping of architectural concepts. It must however be noted that this method of crafting architecture stands in stark contrast to traditional hand methods of making explored in this paper. AI imagery removes the need for a crafter entirely as its creations are rooted in neither history nor culture. Although it allows for free thinking and experimentation, these creations would drastically shift when translated into context.

Image prompt: architectural concept, woodwork, wood joinery, timber

Image prompt: architectural concept, sewing, stitching, flowing fabric

Image prompt: architectural concept, weaving, woven façade, loom machine

Image prompt: architectural concept, beading, beadwork, beaded building

Image prompt: architectural concept, knitting, knitted elevation, wool

Image prompt: architectural concept, crochet building, crochet crafted space

Figures 50-55: AI images generated from craft related prompts that inspire conceptual thinking of craft practices translated to architectural design

Urban Design & Site Approach Priorities

winter sun

summer sun

introduction of new road

N

E

SE wind

connecting existing informal trade to Philippi Village trading corridor

NEW EISLEBEN RD

maintaining formal infrastructure of House of Smiles community centre

W

S

prioritisation of existig eucalyptus trees

absorbing informal structures on site into the new proposed centre for craft
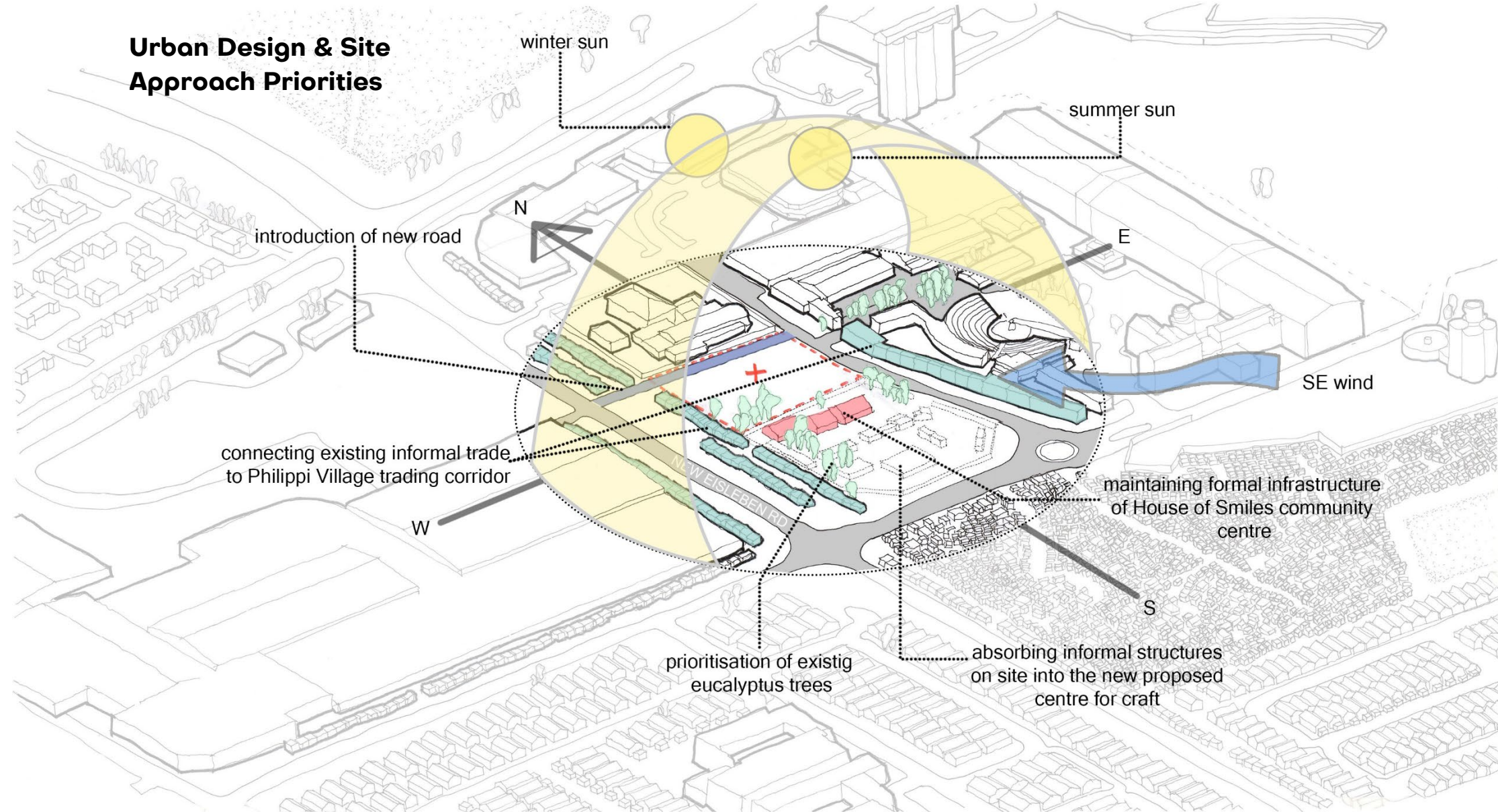
Figure 56: drawing indicating climatic and physical conditions that inform the approach to design on site

Crafting Technology

● Introduction to Craft Technology

● Exploring Transitional Craft Methodologies

● Selected Technological Principles & Concepts

Introduction to Crafting Technology

The Technology portion of this research explores craft in all its facets. The potentialities that the products of craft and the practice of the making of crafts hold can unlock many ideas that can be used for the making of spaces and architectures. Craft is many things, nuanced and specific. The properties that define crafted objects and the principles that underscore the methodologies are elements that can be integrated into architecture and embedded into the everyday lives of communities.

To translate one practice into another can be a challenging task. Historically, architecture was completely reliant on craft skills. Eventually, the industrial revolution resulted in a shift in making and building. The industrial order that emerged from the industrial revolution meant that it was possible to achieve buildings without any 'tradition craft' (Louw, 2002). The role of the architect in relation to their work reveals understanding of agency and autonomy that are different to that of the crafters and makers in relation to their creations. Crafters are often personally and entirely responsible for the full range of productions stages required in the making of their

artefacts. Architects on the other hand rarely ever have a completely autonomous relationship with the architectures that they create. *"As a consequence, any notion of 'architectural craft' has, by definition, two sides to it: that of the designer/director, and that of the builder/maker"* (Louw, 2002).

The technology research unpacks 2 nuanced lanes of inquiry that can be categorised as follows:

1. The exploration of traditional craft materials and methods used in architecture.
2. The exploration of transitional craft methodologies and ideas used in building tectonics.

The research begins with the exploration of craft in transition: The adaptation of traditional craft techniques over time. In this section, a research field called "Knitflatable Architecture" is explored. within this is the investigation of the manipulation and digitisation of knitted textiles in the making of architectural forms.

Following on from this are 2 additional case studies that explore more direct translation from traditional craft materials and techniques translated into architectural forms.

Lasty, several models were made in a variety of craft techniques. These models assess the potentials for hand crafted objects to navigate different scales.

By engaging with craft and technology in a variety of ways, the hope is to both encourage the use of technology to modernise and memorialise ancient craft practices, and reveal an important perspective on the value of seeing craft as a significant component for the creation of new technology.

Exploring Transitional Craft Methodologies

With the introduction of new materials and new construction techniques, crafted objects and craft techniques have developed and adapted far beyond traditional craft that has been passed down generations. Traditional craft, however, has remained alive and is still practiced alongside contemporary production. With the onset of the digital age, this has challenged the notion of craft that assumes it to be strictly hand-made. Digital technologies have allowed the focus in craft to be shifted from the acknowledgment of the singular maker to an acknowledgement of the design-maker (Schukken, 2016).

Craft production has been adapted over time because of an increase in urbanisation. These adaptations have generated a form of craft that holds less connections to symbolism and motifs than what was previously seen in traditional craft. Additionally, the use of new materials like wire and the adaptive reuse of found materials is becoming more prominent. Traditionally grass woven imbenge bowls are now being made with telephone wires, which are more colourful and can create more intricate pattern combinations than

what can be achieved with grass (Sellschop, 2002).

What is the Knitflatable Architecture Project?

Baranovskaya's *Knitflatable Architecture: Pneumatically activated preprogramed knitted textile spaces (2014)* explores techniques of knitting manufacturing in the creation and fabrication of new textile technologies. Through experimentation in making and design, ideas were unearthed on how these differentiated textiles could be used in architectural spaces. The project explores methods of inflatable activation employed on flat knitted surfaces to create various 3D forms as shown in figure 55. These experiments were both digital and physical, and on a range of scales (Baranovskaya, 2014).

Figure 57: Baranovskaya's Knitflatable Architecture Project

How can knitting be manipulated and translated to digital production?

Knitted surfaces poses both mechanical and kinetic behavioural traits. It requires the use of yarn, organised, or 'knitted' in rows that contain a series of varying loops. In its dynamic mechanical behavioural traits, it is elastic and can be stretched, while in its kinetic traits, it can be folded, creased, or curled (Baranovskaya, 2014). With the use of automated knitting machines, a relationship between digital code and manual knitting can be established, as shown in figures 56 and 58.

Figure 59: diagram showing a variety of knit patterns that create textile surface with different physical properties

Figure 58: a flat knitted textile made using an automated knitting machine that generates a binary code
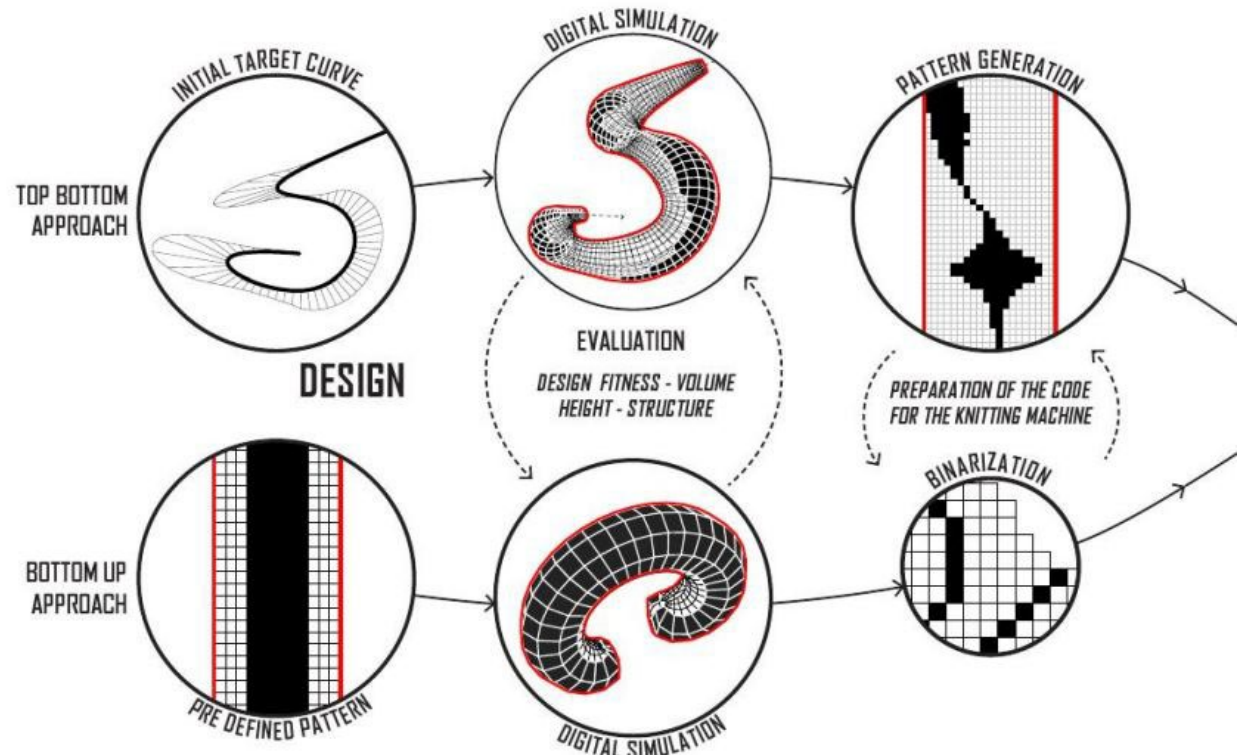
Figure 60: establishing a relationship between digital code and manual knitting in the making of forms

What do Knitflatable experiments look like on a small scale?

The flexible nature of knitted fabrics presents a modern paradigm into architectural theory. As society progresses, the needs of people are constantly changing. Flexible textiles have the ability to adapt to these ever-changing needs, unlike the rigidity and static nature of buildings. Baranovskaya emphatically describes this condition by stating that "the tectonic of textiles is the tectonic of coherent continuity, rather than of separate elements, which are just connected." (Baranovskaya, 2014). This definition allows for knitted textiles to be seen more as an organism that is adaptable, soft, networked, continuous, tensile, elastic, and interactive (Baranovskaya, 2014). These principles can be seen in the models shown in figures 59 to 62.

Figure 62: a knit sample cast in resin to hold a rigid shape
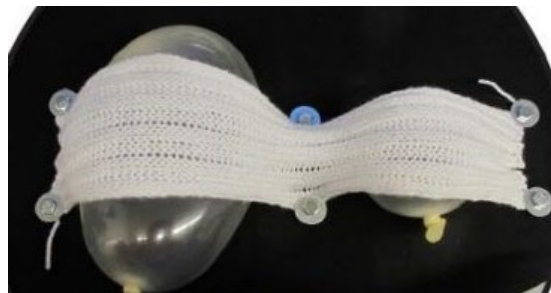
Figure 63: shape of flat knitted surface being manipulated by balloons

Figure 61: a knit sample exploring tension and release
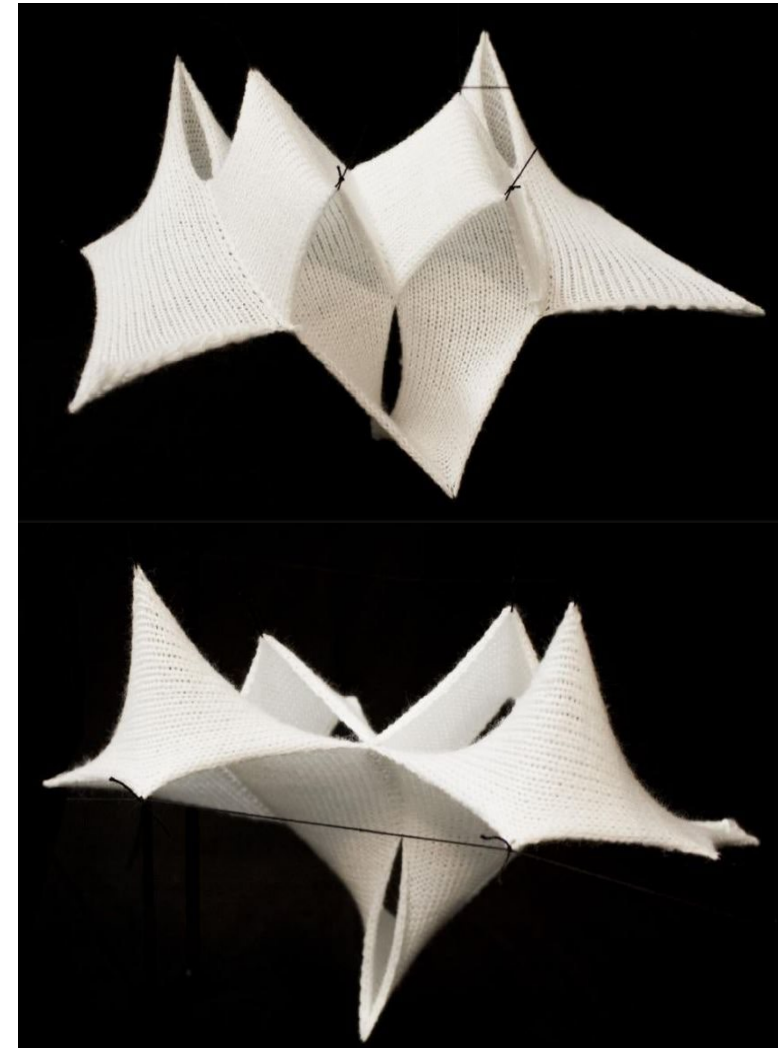
Figure 64: a knit sample exploring tension by being strung in the air

What do Knitflatable experiments look like on a larger scale?

The nature of fabrics and textiles in itself does not possess structural properties. However, once combined with other elements ,like inflatable components, integrated into the knitting systems, large structural spans can be achieved, this is complemented by the tensile properties of knitting. Thus, the use of knitted textiles in architecture could aid in the making a of structures that provide shade and penetrable light, while also supporting loads (Baranovskaya, 2014). This large-scale concept was explored in Jenny Sabin's 2012 MyThread Pavilion for the Nike Fly Kit Installation, as well as Yuliya Baranovskaya's Knitflatable Architecture Future Development project in figures 63 and 64, respectively.

Figure 65: Jenny Sabin's 2012 MyThread Pavilion

Figure 66: Yuliya Baranovskaya's Knitflatable Architecture Future Development project

Case Study 04: WWAA Architects – Polish Pavilion for Shanghai Expo 2010

Drawing inspiration from the tradition of Polish folk-art paper cut-outs, this pavilion makes use of perforated facades. The building materials include plywood that has been CNC-cut and then fixed to a steel sub-structure (Warmann, 2010). The slanted planes of the building mimic the folding of a sheet of paper. The pavilion is an exhibition facility, and as such, short films are screened onto the walls of the interior areas. Considering the nature of exposition, the exhibition space must signify, by its aesthetic uniqueness, the country of derivation, which in this case is the motif of folk-art paper cut-out.

By means of a translation of the pattern, a copy of a fundamental aesthetic code is distilled into the modern vernacular of architectural style. Although the structure's primary intention was to draw upon and reference traditional craft, the design was able to achieve this by creating a contemporary reinterpretation of the core traditional ideologies that were being referenced (Warmann, 2010). This is seen as an imaginative expansion into the contemporary city by seeking out inspiration rather than acting as replication.
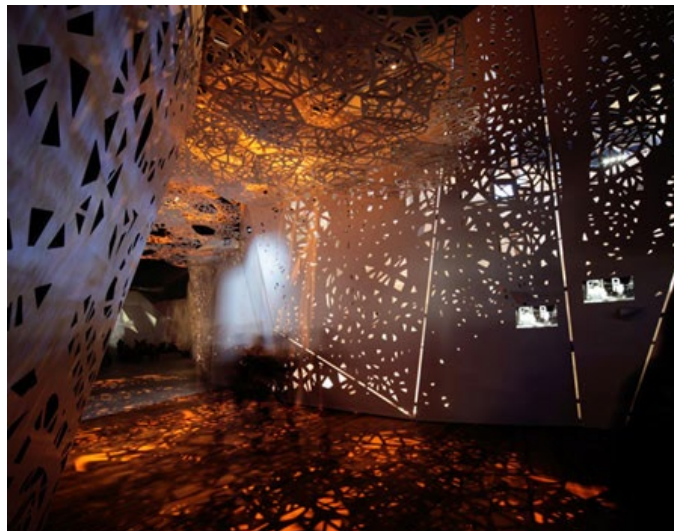
Figures 67-70: WWAA Architects - Polish Pavilion for Shanghai Expo 2010

Case Study 05: Kengo Kuma Meets Kogei (Traditional Japanese Craftsmanship): Kuma in Collaboration with Nakagawa Masashichi Shoten.

Nakagawa Masashichi Shoten is a Japanese craft brand that has established traditional Japanese crafts in a contemporary setting. They specialise in merging innovative modern design ideas with traditional Japanese craftsmanship, in the production of beautifully crafted objects. In 2021, Kengo Kuma partnered with them in a series of projects that explore principles of Kogei (traditional Japanese craftsmanship) (Zero Abundance, 2022).

A traditional Japanese joinery method known as 'kumiki' has been used in the making of Japanese architecture for centuries. This construction method is characterised by strong structural joints with pleasing aesthetic appeal. This joinery method can function without the need for wood glue or nails, as it possesses geometric intricacies that can uphold large structures (Zero Abundance, 2022). Kuma converted the traditional practice of kumiki techniques to create a geometric puzzle. The puzzle can be reassembled using asymmetric pieces to generate bookshelves with distinctive shapes.

Kuma also converted manufactured mesh layers applied on construction sites to conceal incomplete structures into tote bags. The fabric used in the making of the bags is thin but fairly durable and sturdy as it was made to withstand exposure to elements of rain and wind. The fabric also has a more unique texture than what is typically used in the making of tote bags. The design of the bags includes pleats to allow for them to be folded for compact storage (Zero Abundance, 2022). In this design we see how intricately linked ideas of functionality and aesthetics are in the making of architecture that is reliant on an understand of traditional craft.

Figures 71-74: Kengo Kuma Meets Kogei (Traditional Japanese Craftsmanship): Kuma in Collaboration with Nakagawa Masashichi Shoten

Selected Technological Principles & Concept

In exploring the interplay and overlap between craft and architecture, the method of model making has been employed. Conceptual model making allows for the imagination of exploring how craftsmanship can be used in the making of socially just, and inclusive architectures on both a physical and metaphysical level.

This first model made, figures 73 & 74, explores the craft of beadwork. Beadwork can be defined as "the art or craft of attaching beads to one another by stringing them onto a thread or thin wire with a needle" (Google Arts & Culture, 2022). In its nature, a string of beadwork possesses organic linearity where the string represents a timeline, and each bead represents a point in space and time. These concepts have been extracted in the model by using pins to extrude and suspend the beads, creating a 3-dimensional plane.

4 images of the same model were taken at varying angles and images were strung together to create additional planes that now show depth and perspective, as seen in figure 73. The tradition of beadwork in South Africa is a living art. The variety of shapes and colours of beads that exist are understood by various communities as visual dialects that represent different meanings or cultural association. Each bead, colour, and shape relay a different message. Understanding the significance of this craft unlocks important notions of African cultural identity.

Figure 76: crafting Connections model

Figure 75: conception model representing the idea of crafting connections through ideas embedded in traditional beadwork

The second model (figure 75) explores the craft of weaving. The weaving of architecture addressed the concept of weaving at varying scales: understanding how metro railways are weaved through the city, how diverse types of social activities of people are weaved through public spaces, and the physical weaving of fabrics and textiles to dress canopies in the making of structures. With the provision of shelter and protection, canopies can create public space that can house a number of social activities. This architecture connects territories and develops a sense of shared inclusion by expressing architecture's role as a social practice.

This second model, made with less intention than the first, was an explorative exercise to communicate the idea that this diverse knowledge of skills and crafts, held within our communities, can begin to be translated into larger scales in the making of architectures that further facilitates the exchange of knowledge.

The third model (figure 76) explores the memorialisation of a personal memory of craft, using sample swatches from previous knitting projects. The swatches are suspended in the model space, creating abstract planes and forms. These swatches are a representation of the memorialisation of the generational exchange of skills passed down to me by my grandmother who taught me the various knitting styles and techniques used.

The final model (figure 77) is an experimental attempt to create 3d voids and forms using traditional crochet techniques. The flat crochet section begins to fold in on itself as the number of stitched per row exponentially increases. This creates self-supporting arches that can shaped and manipulated.
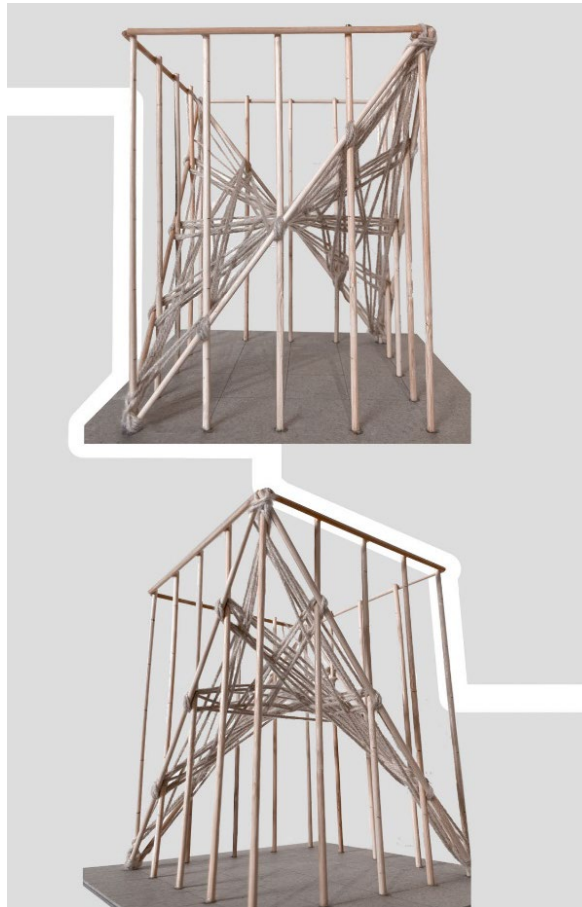
Figure 77: conception model exploring the woven canopy as an imagined space
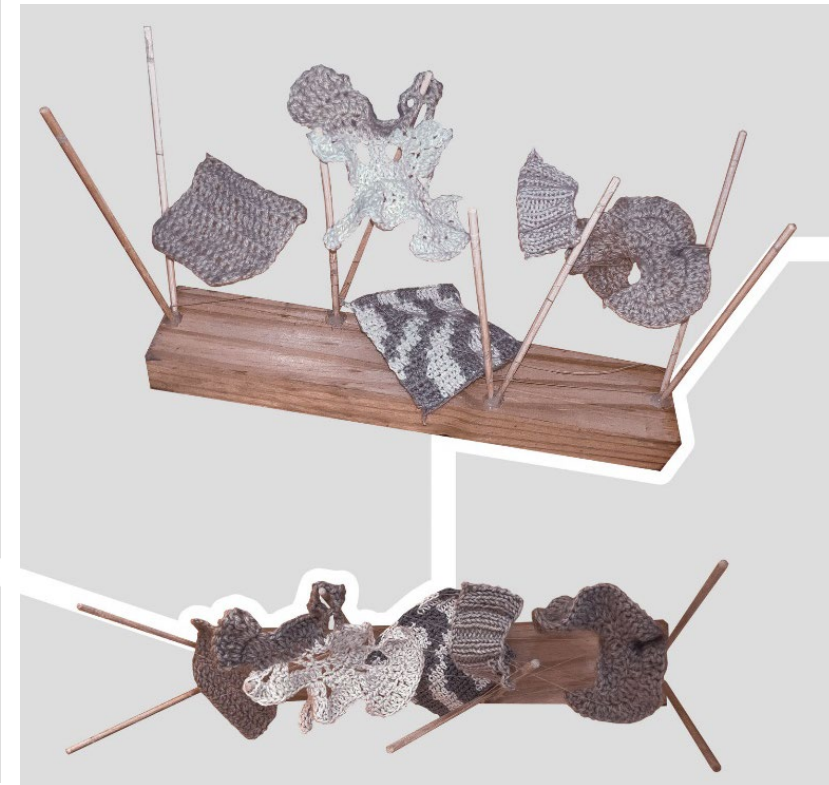
Figure 78: conception model exploring knitted textiles in the making of planes and forms
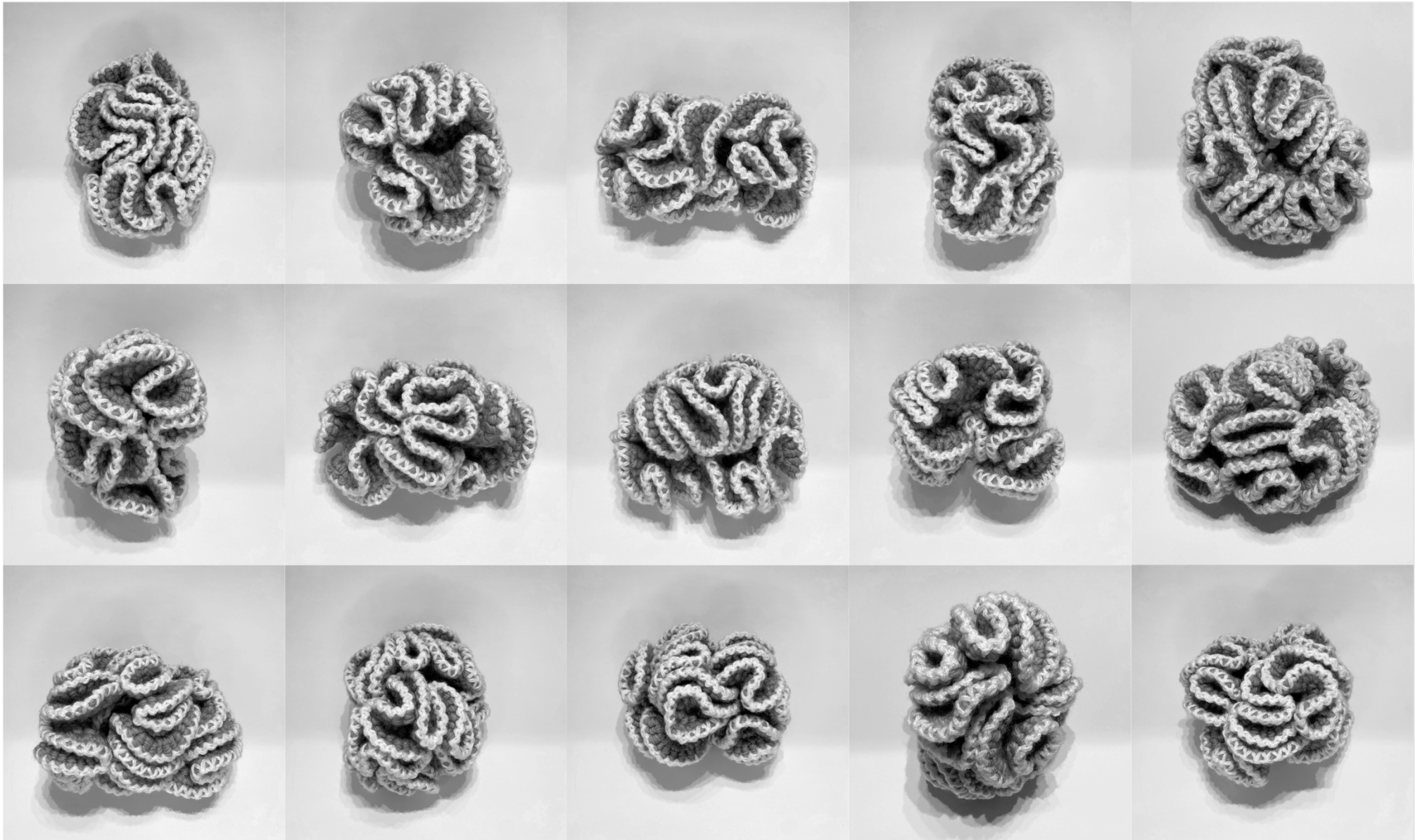
Figure 79: conception model exploring 3D crochet forms

Design Development

Urban Design Proposal

Finding Programme

Centre for Craft Iteration 01

Site Sections
Massing Model
Technical Model
Spatial Imagination
Structural Logic

Centre for Craft Iteration 02

Floor Plans
Housing Typologies

Centre for Craft Iteration 03 [Final]

Urban Design Proposal

The Primary aims of the urban proposal are:

- Densify Philippi Village by connecting to the existing trading corridor adjacent to the site by means of defining the public interface with street trading,
- Introduce a Community Craft Centre with traditional workshops and learning spaces.
- Propose an urban armature to facilitate programme and programmable spaces for local enterprises to expand their craft and networks by introducing a live-work housing typology the frame the street edge.

The buildings in black represent the robust existing infrastructure in the precinct that define the synergy of the space. In red, the street blocks have been redesigned to create a more pedestrianized space that is at a more suitable liveable scale. The areas in yellow are demarcated as private residential spaces. The green highlights open fields that prioritize access to nature as spaces for respite and communal engagement. The grey hatches are demarcated parking bays, and the purple proposes a future development of mixed-use typology buildings that have commercial spaces on the ground and housing above.

Figure 80: urban design proposal drawing
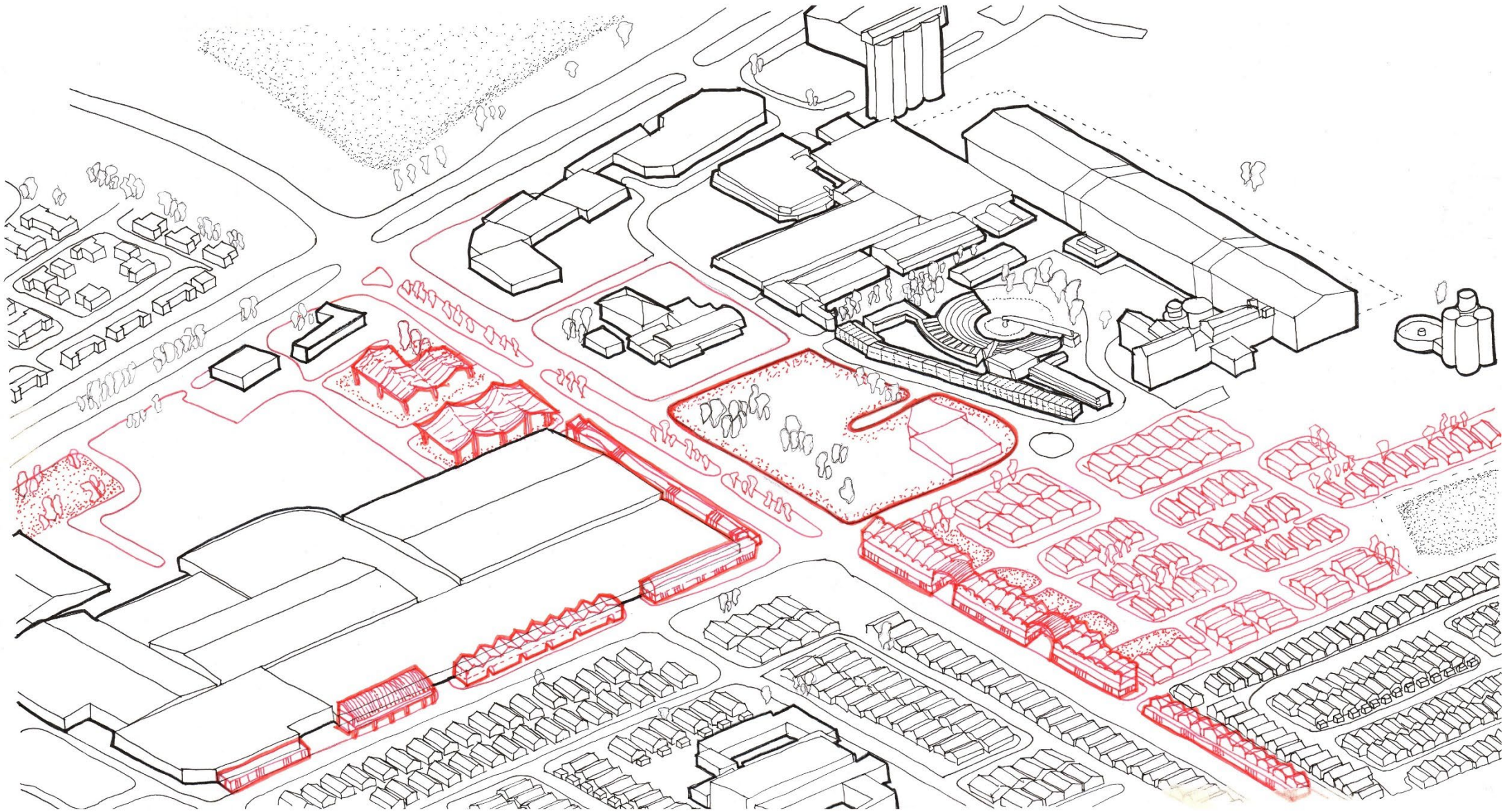
Figure 81: urban design proposal shown in a 3D massing drawing

Finding Programme

The buildings within the design of centre for craft should be comprised of dynamic interactive spaces whereby a network of crafters can engage with their respective crafts by communally learning and sharing, thereby strengthening a sense of community.

The preliminary models shown in figures 80-83 explore 2 iterations of a fragmented building that spreads across the precinct. These preliminary ideas start to navigate differentiating scales from the large-scale shopping malls to the small-scale informal settlements and street vendors. These models also explore degrees of privatisation.

A primary challenge of this project is the creation of safe semi-private and protected space at the centre of a very public industrial node. Thus, courtyards play a vital role in defining spatial dynamics and splitting building masses. Accessibility and pedestrian movement are also key aspects to consider when trying to maintain a level of privatisation.
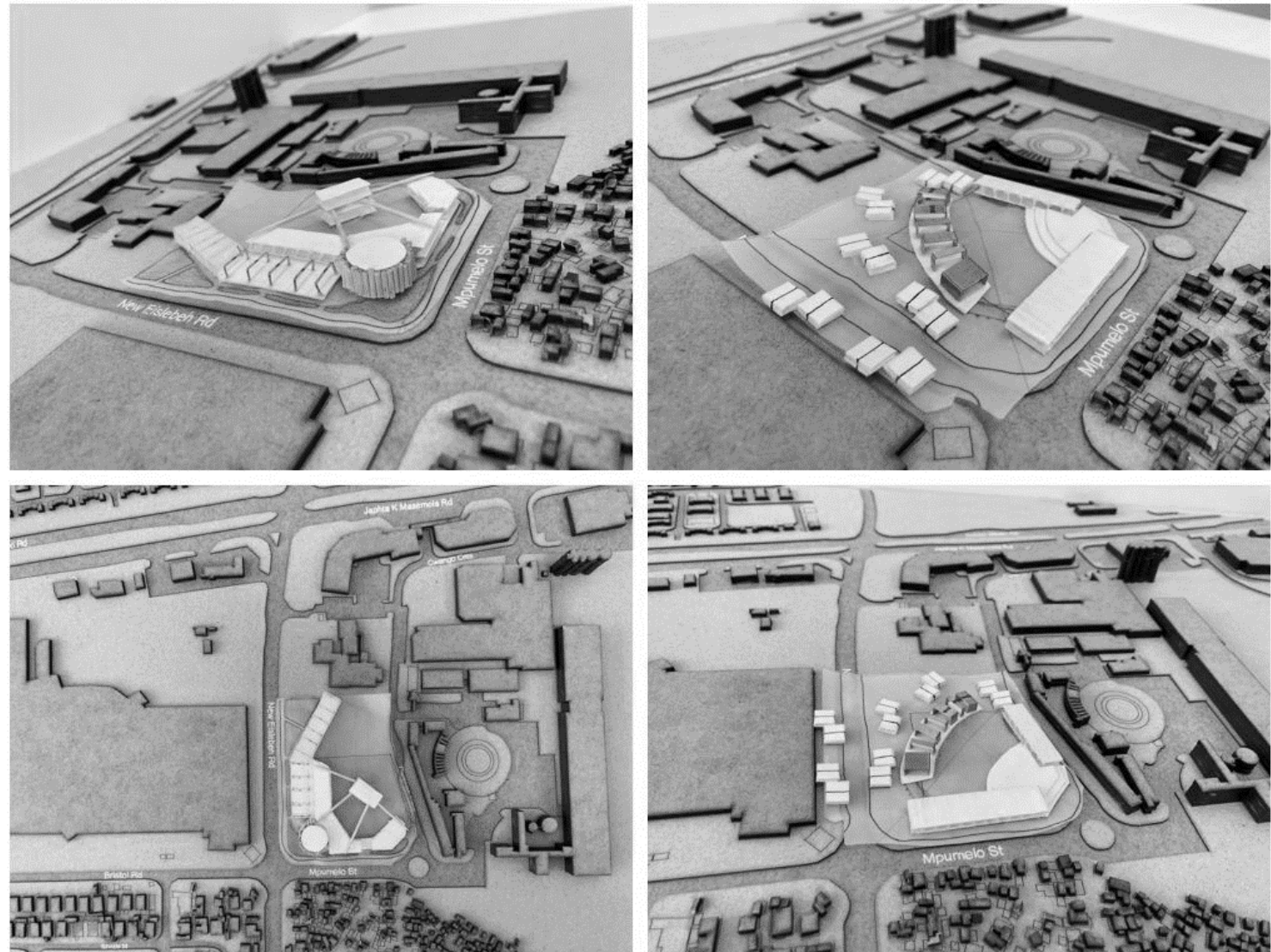
Figures 82-85: conceptual models exploring preliminary building forms on site

Programme

The teaching and learning of both functional and aesthetic crafts. (A balance between the two)

A space to display the beauty of craft, instilling a sense of pride in the community.

A building that in itself holds aspects of craft. The building, both functional and aesthetic, can stand as an object of craft.

Provision of housing for the craftspeople who engage with the craft space and sell their crafts within the commercial node.

Entrepreneurship and business classes to help people start their own businesses.

Connections between tradition and contemporary, merging old and new

Engaging the youth with the older generation. These connections can be powerful and uplift future generations

Teaching & Learning [+] **Making & Exchanging** **Housing & Protecting** [+] **Socialising & Engaging**

Entrepreneurship Classes

Craft Classes / Peer Learning

Craft as Occupational Therapy for Children

Sewing Workshop Space

Wood Workshop Space

Craft Supplies Store

Craft Storage Facilities

Rentable Housing

Safe Housing for Women & Children

Craft Gallery

Craft Sale Space

Healing Through Craft Space

Cafeteria & Courtyard

Centre for Craft Iteration 01

In sketching a site diagram, the main priorities on the site are to propose a new road to create a stronger link from New Eisleben road to Philippi village.

Given that the site is fairly big, the buildings are split into two portions, with the more public zone in the northern side and the more private zone towards the south. Informal trade can still exist along the perimeter of the site but can be more integrated into the built fabric. As shown in figure 84, the cluster of buildings in red are existing brick buildings on site that make up the House of Smiles Community Centre that is currently shut down. The project aims to maintain the footprint of these buildings but assign different functions to them.

Mitigating different scales across the precinct is one of the biggest challenges. As such, there should be portions of the site that remains single storey, while some of the masses can go up to 4 or 5 storeys. The project prioritises the existing trees on site as there is already a lack of greenspace and trees in this portion of Philippi.

Figure 86: site diagram indication main priorities on site

The design in plan shows two main courtyards, surrounded by long rectangular buildings. The long rectangular masses are split by the circulation and service cores shown in green.

The yellow zone is demarcated for single storey buildings that are mostly workshop spaces. The first storey and above consists of office spaces that can be occupied by other existing craft networks outside of Philippi, such as the UCT design school and Montebello design Centre in Newlands.

The design includes a substantial housing component that exists above ground.

Figure 87: sketch design plans

Ground Floor Plan

First Floor Plan

craft/making spaces

learning/teaching spaces

main pedestrian routes

retail

storage

bathrooms

stairs

Figure 88: zoning plan showing the programmatic makeup of the design for the Centre for Craft, Philippi, Cape Town

Site Sections

Preliminary site sections explore potential roof profiles and heights. Differentiating scales are mitigated by scaling down to the size of vendor stalls towards the street edges, while maintaining height in the masses surrounding the courtyards.

The circulation cores provide opportunity for the architectural language of the precinct to be defined. These cores could be well-crafted, expressively cladded, or light transient spaces that break up the solidity of the long rectangular blocks.

section A-A

retail
retail
offices
gallery
housing

section B-B

retail
market stalls
reception
restaurant
art room
recycling
retail
container market stalls
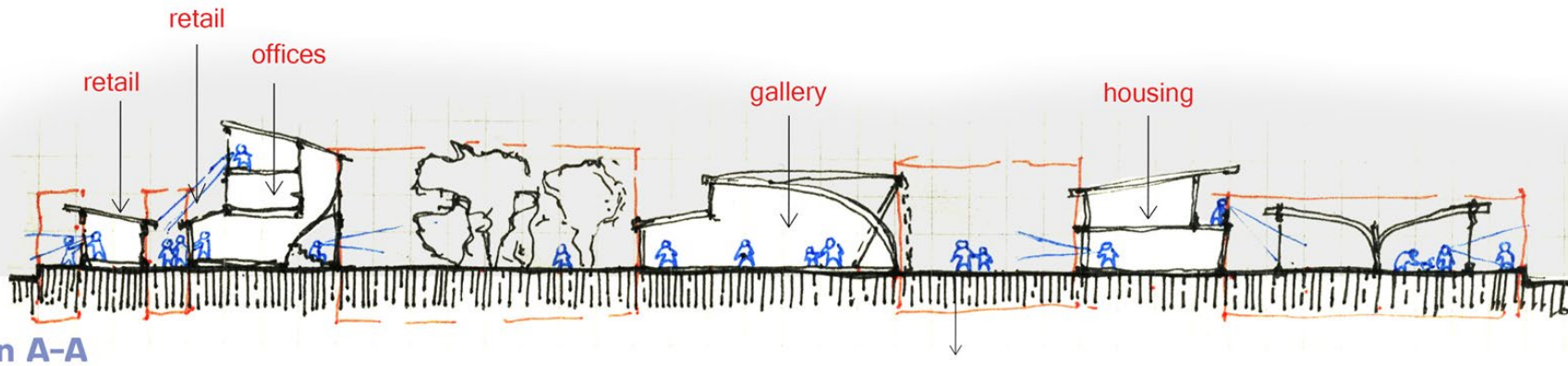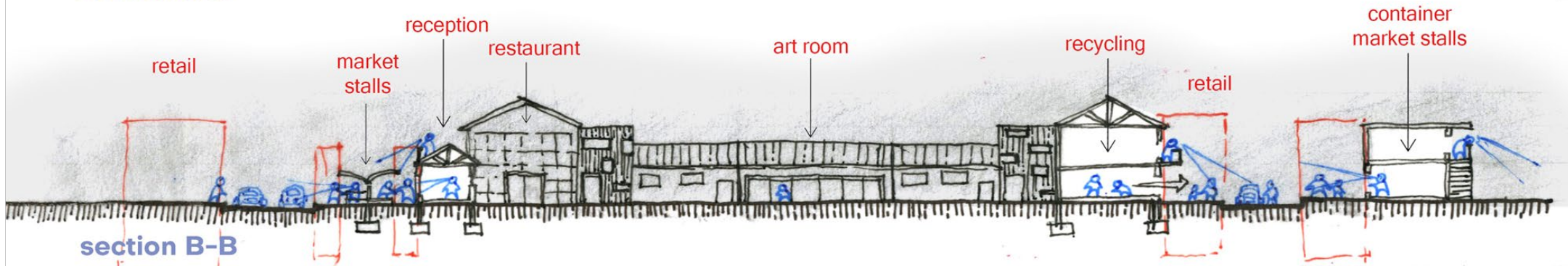
Figure 89: cross site sections A-A and B-B

This longitudinal section cuts through one of the masses that contains offices and housing. The above ground hosing provides some form of passive surveillance and visibility on the site to create some level of security in a very public node. The sectional cuts reveal that the span of the courtyards is potentially too big to ensure socially productive space.

The design should thus be developed by defining the synergy of the courtyards by assigning varying functions to them. This could include the provision of working yards to support the workshops, as well as play areas to support the craft aftercare and day-care.
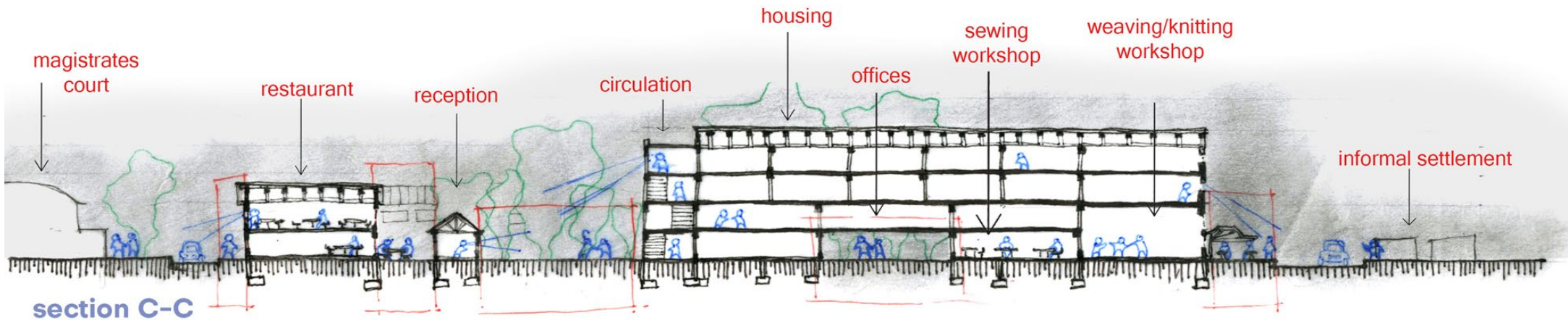
Figure 90: longitudinal site section C-C

Massing Model

The design was further developed in model. The black dotted arrow shown in figure 89 is an important line of visibility that should be achieved. Pedestrians walking along New Eisleben road should be able to see hints of Philippi Village, past the reception space, and can choose to cross through the public zone of the craft centre to access it. A craft gallery space sits in the more public zone of the site, with a 2-storey restaurant on the corner. Here, one can see the workshop spaces as long rectangular blocks in the central zone.

This model, although valuable for visualising the masses and proportions, is limiting in its rigidity. For the purpose of this task, the model was approached as a pragmatic response to the plan. The imagination for the craft centre is that the site is seen as meshwork that requires a level of intricacy and delicate detail work in shaping the masses that sit within it. There is a working relationship between the natural landscape, the built infrastructure, and potential informality that needs to be stitched into the meshwork of site and programme.
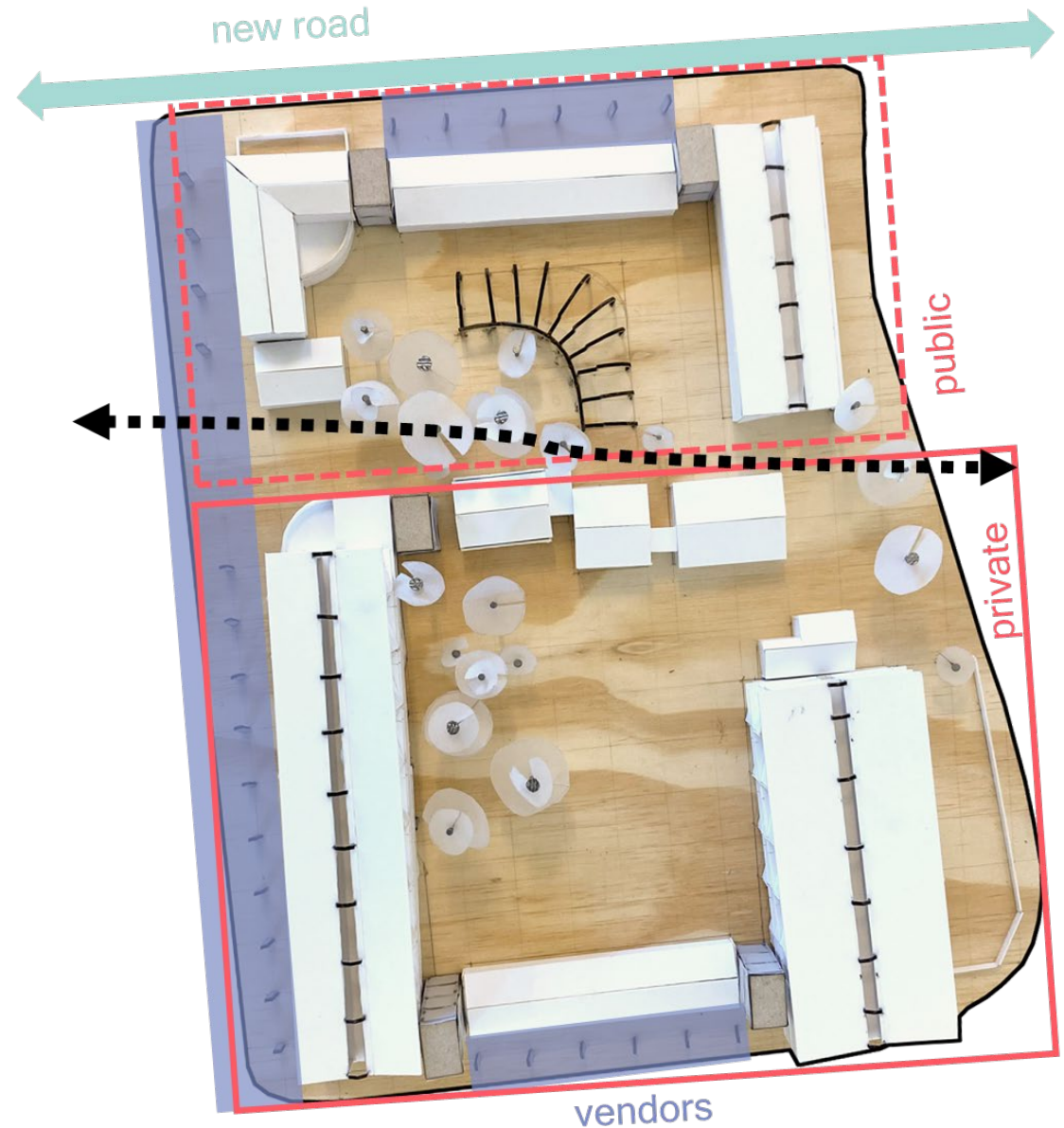
Figure 91: massing model arial view
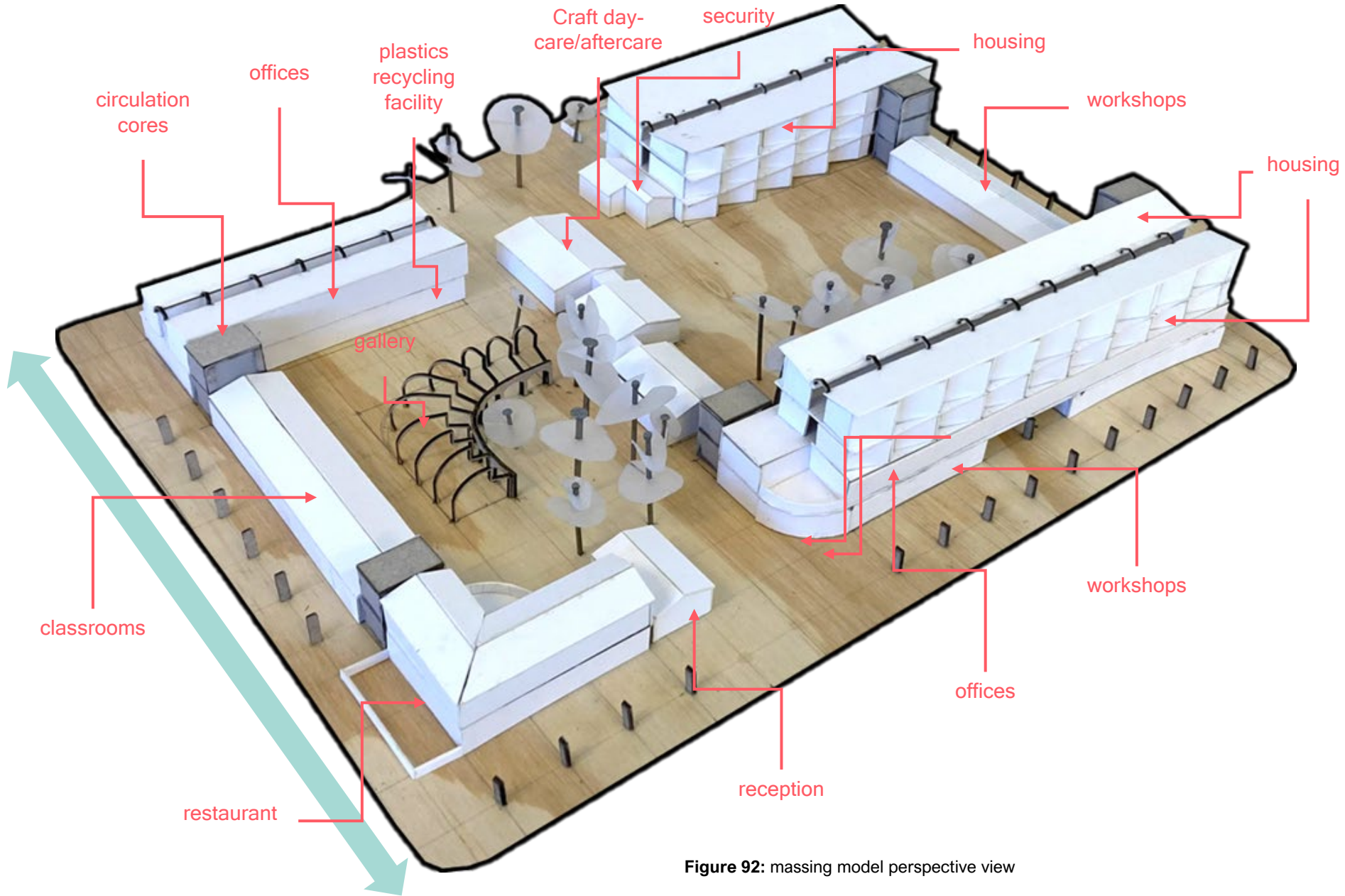
Figure 92: massing model perspective view

circulation cores

offices

plastics recycling facility

Craft day-care/aftercare

security

housing

workshops

housing

gallery

classrooms

workshops

offices

restaurant

reception

Technical Model

The models in figures 91-93 explore the technology that could be applied to the proposed gallery space on site. The building must both house craft and be an object of craft in how its constructed. The design draws from principles of crochet in creating a metal façade design, and principles of woodwork and wood joinery in expressing curved wooden columns and beams. The idea of the structure being supported by steel tension cables is a principle reminiscent of the idea of thread tension in beadwork and in sewing.

To extend this thinking, the tension cables could be arranged differently by crossing over one another creating a zigzag or crosshatched pattern. This encourages the thinking of architectural design more innovatively through the lens of craft. These craft principles can additionally be developed and applied through other areas of the craft centre design.
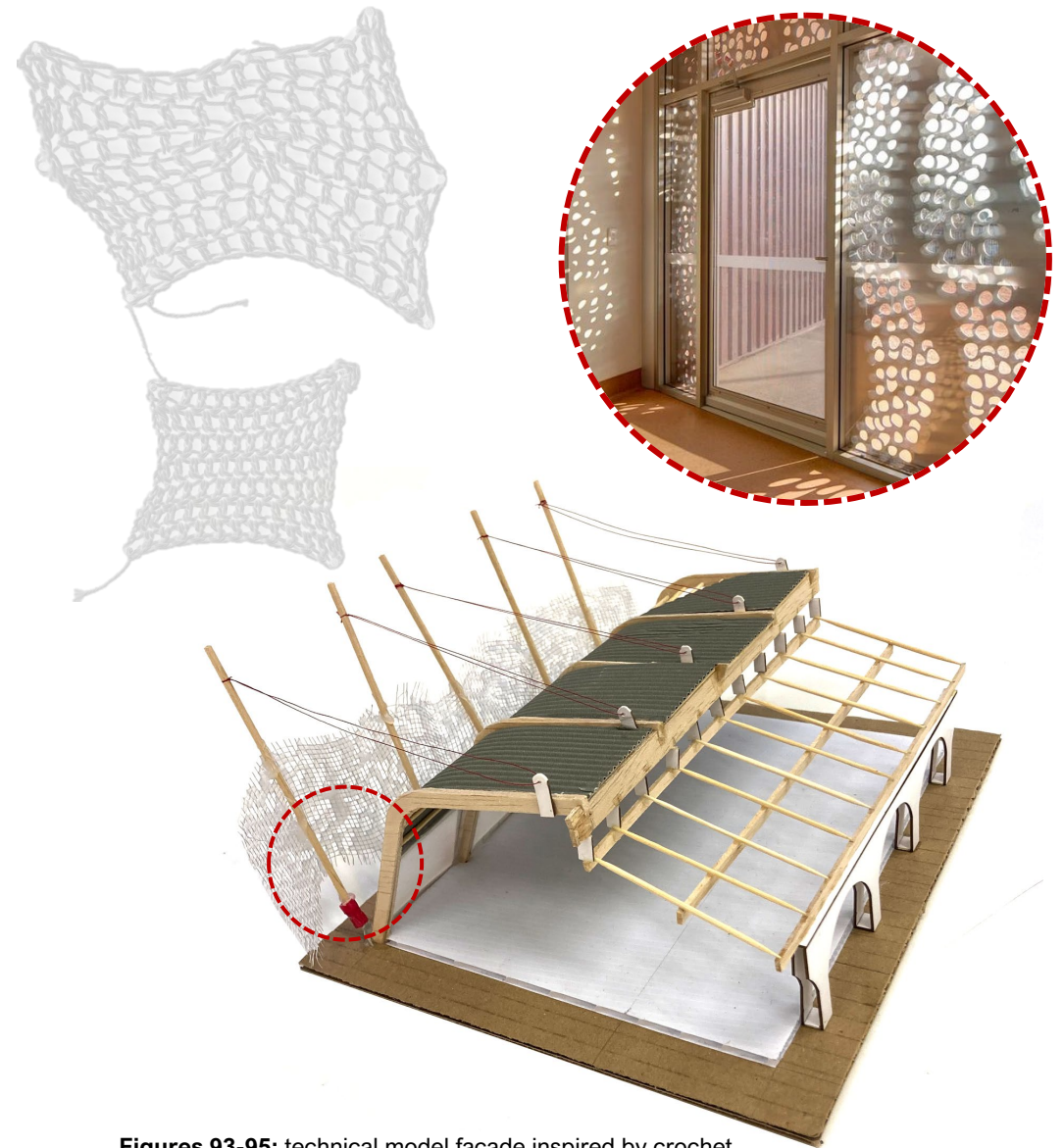
Figures 93-95: technical model façade inspired by crochet

Figure 96: technical sectional perspective model

Spatial Imagination
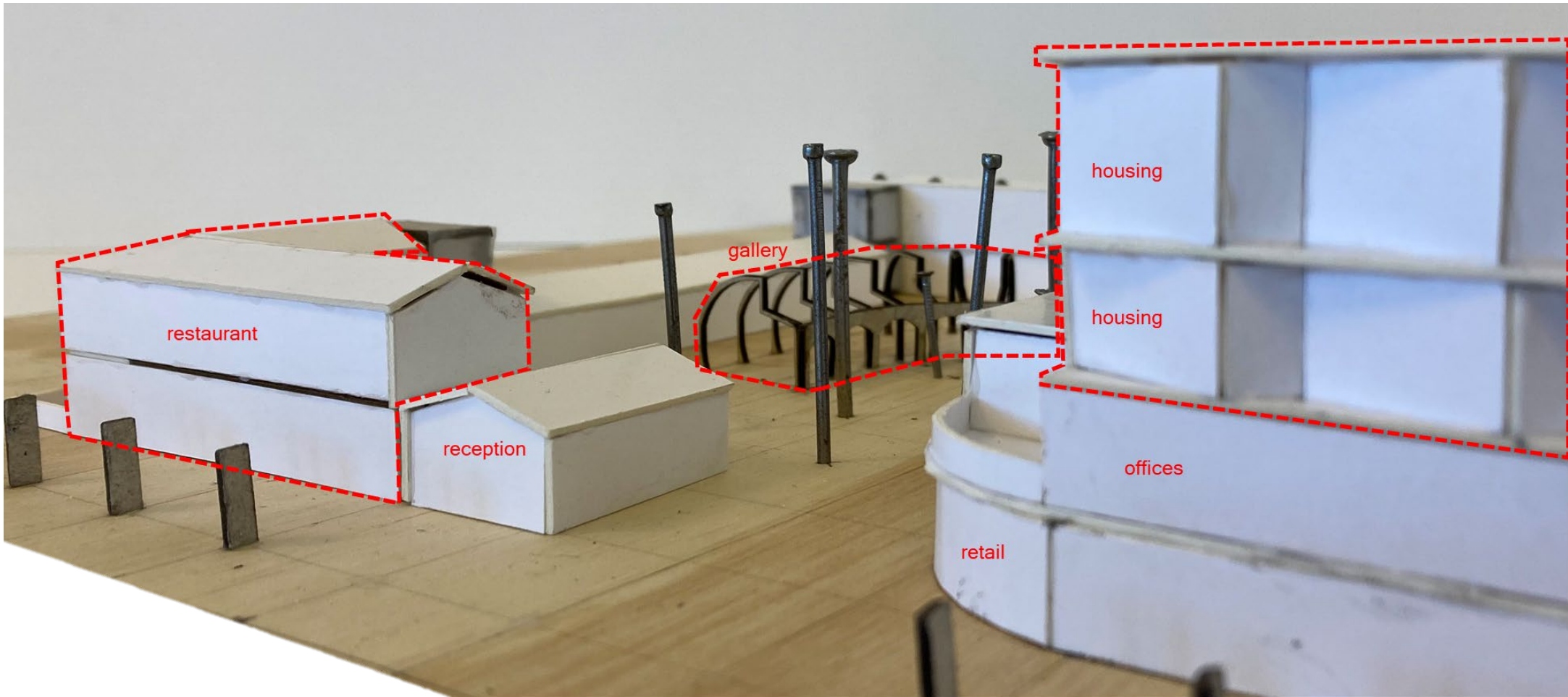
Figure 97: perspective image of model showing one of the precinct entrances

Lastly this perspective sketch imagines what one of the entrance spaces would look like and how the retail spaces along the street edge can be occupied. An image of the model (figure 95) was sketched over. This task can begin to identify areas of success as well as areas where the design lacks.

This process is of course, non-linear, and as the project is explored across mediums from plan to model to perspective sketch, the design begins to shift and take shape. This approach to design can be helpful in that the scheme is being crafted in its parts, and thereafter reassembled to reveal the end product.
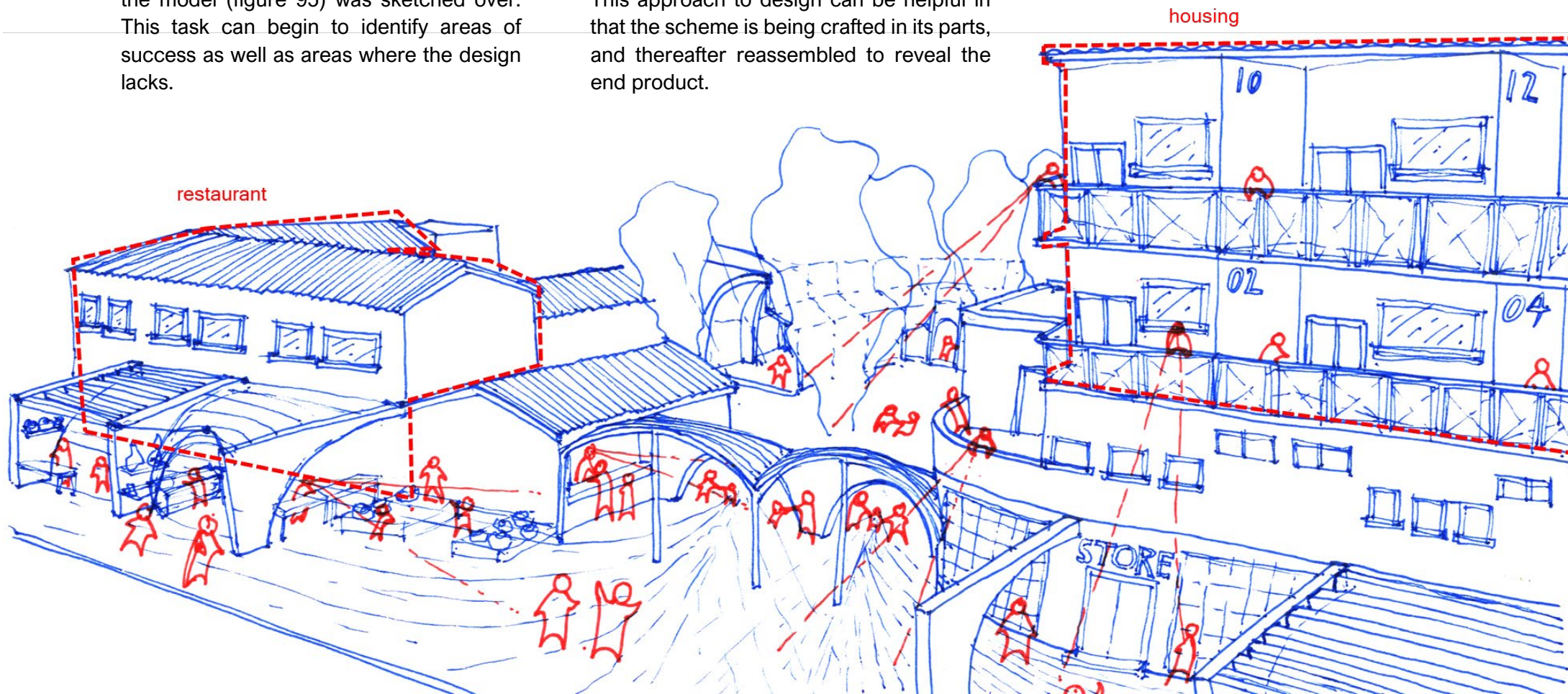
Figure 98: perspective sketch showing the imagination of one of the precinct entrances

Structural Logic

Internally:

Structure is exposed to create didactic space. The making and construction is understood through observation

Externally:

Structure is expressively concealed through the use of a second skin. This communicates that a transition (connection) takes place but understandings of the making and construction is withheld.
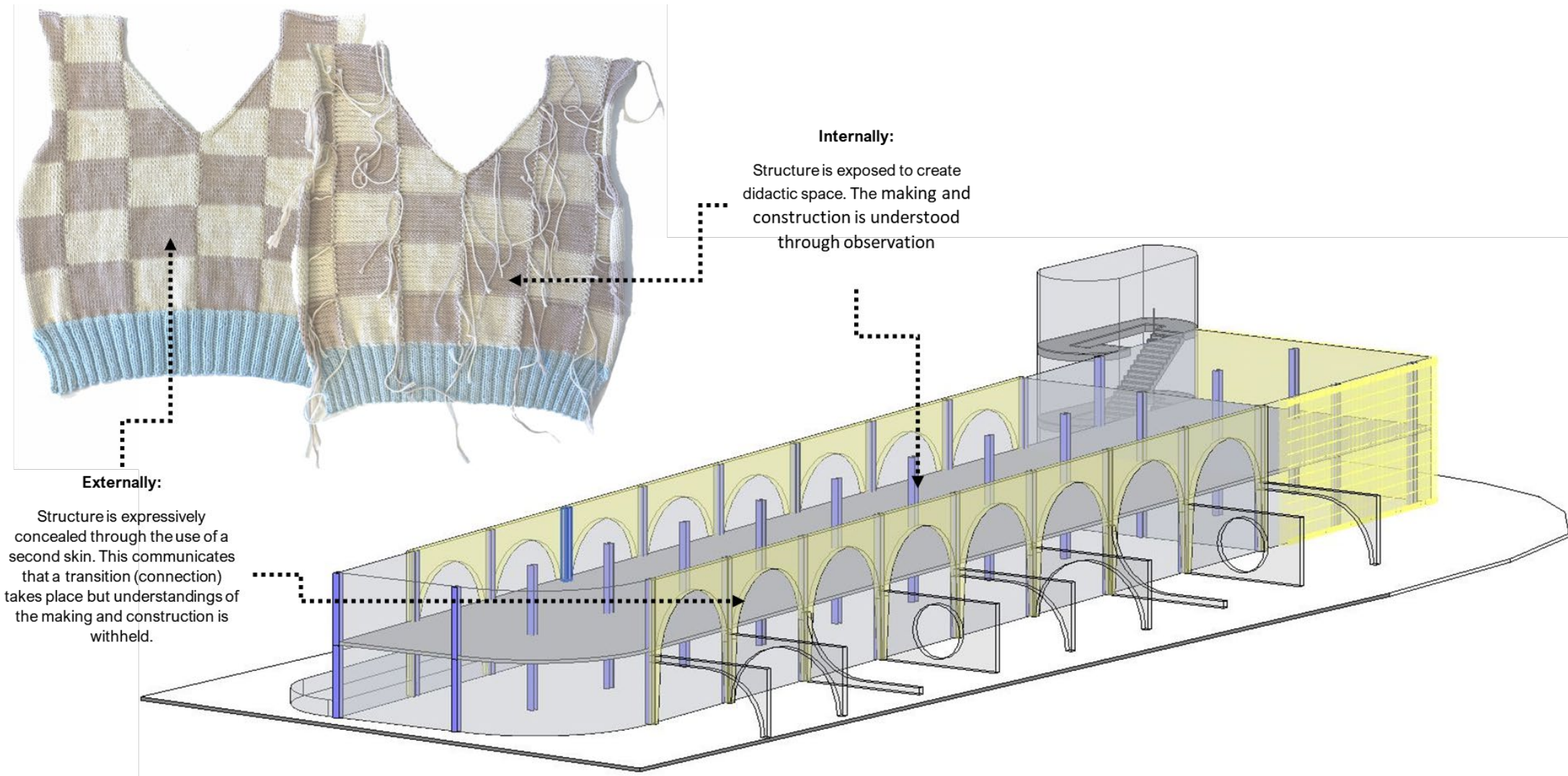
Figure 99: massing model showing over-arching structural logic guided by craft principles

For the structural logic, Inspiration was drawn from an unfinished knitting project. This project utilised a knitting technique called intarsia, whereby the colour changes require a special type of loop brought into the knit that creates a seamless transition as you switch from the one skein of wool to the next. However, on the reverse side, this looping technique is revealed. Translating this to the architecture, externally, structure is expressively concealed by the facade. While Internally, Structure is exposed to create didactic space. The making and construction is understood through observation. This expressive wall is shown in context with the rest of the massing on site alongside in figure 100.

Figure 100: massing model showing expressive non-structural wall in context

Centre for Craft Iteration 02

A 2nd attempt at the design shows the gallery space at centre of the precinct acting as a buffer between the public northern node and the private southern node. The route through the site now becomes a display of craft in itself. The southern node is raised on a plinth and the courtyard is lined with the workshops that spill outwards. The public northern node acts as a craft school that has adult, teen, and child learning spaces. These spaces are anchored by a craft library space.

Above ground there are 3 different housing typologies. Typology A is studio apartments, Typology B is 1-bedroom apartments, and typology c is 2-bedroom apartments. The housing sits in an east-west orientation, so the facades are angled towards the north to allow for optimal lighting.

The typology A housing has voids in the central page, aligned with skylights to bring light down the floors. The typology B housing makes use of an external corridor; these units are linked to shared office spaces below and can be accessed off the street via these stairs that have one landing at the offices below and another landing that links to the external corridor.
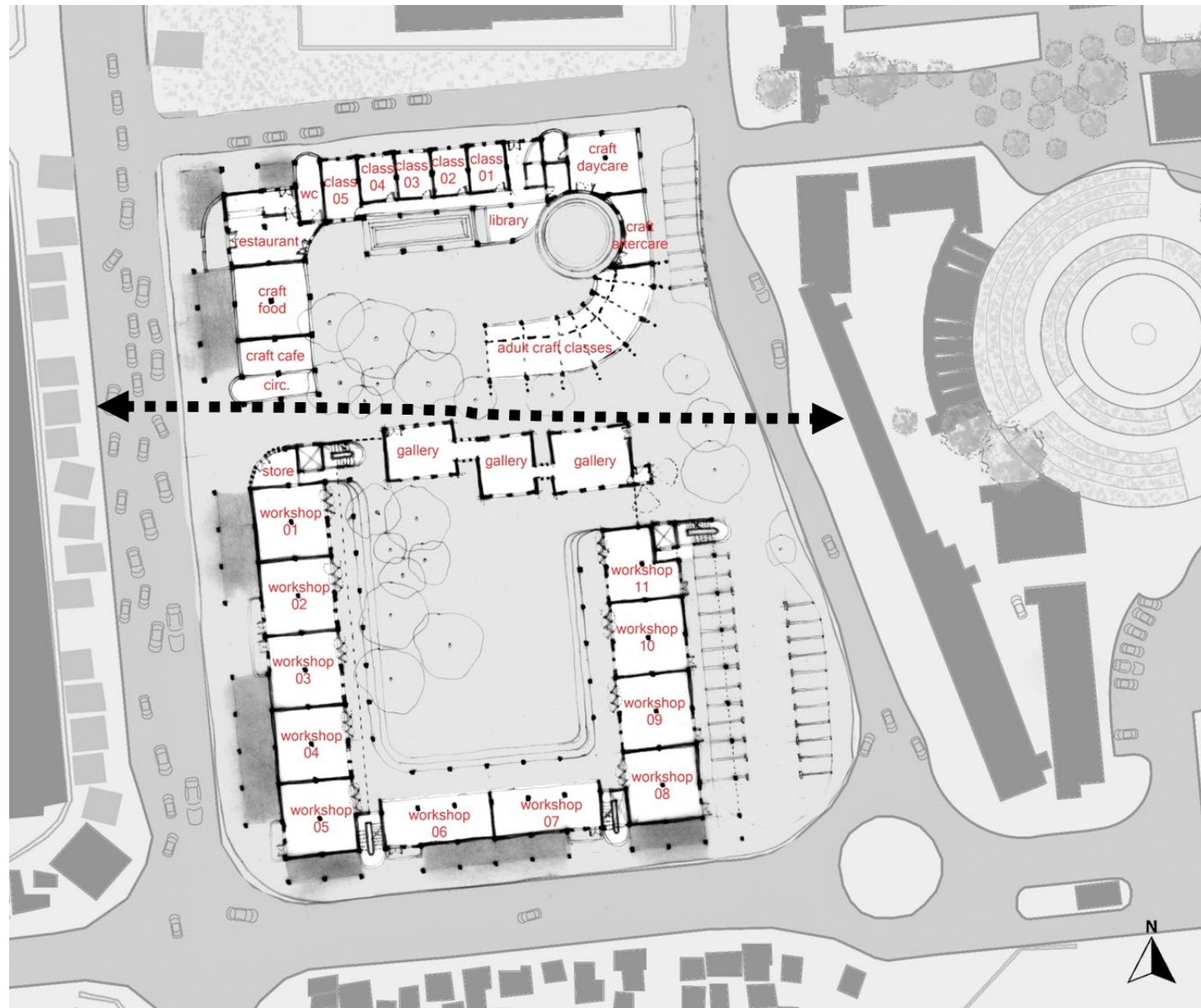
Figure 101: design iteration 02 – ground floor plan

first floor plan

second floor plan

Figure 102: design iteration 02 – first & second floor plan

Typology A - studio apartment
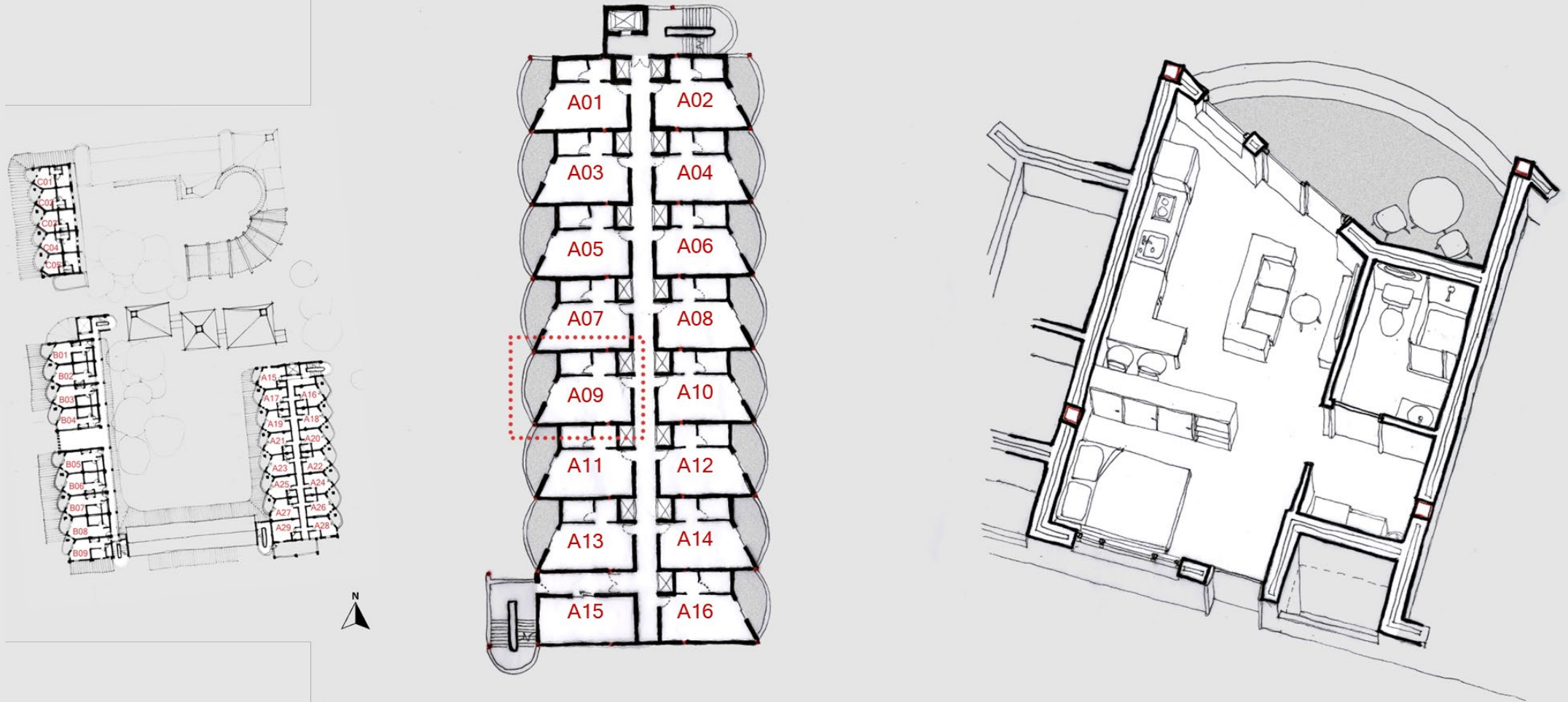
Overall Floor Plan 1:250 @ A3

Axonometric Plan 1:50 @ A3

Figure 103: drawings showing typology A housing units

Typology B - one bedroom apartment
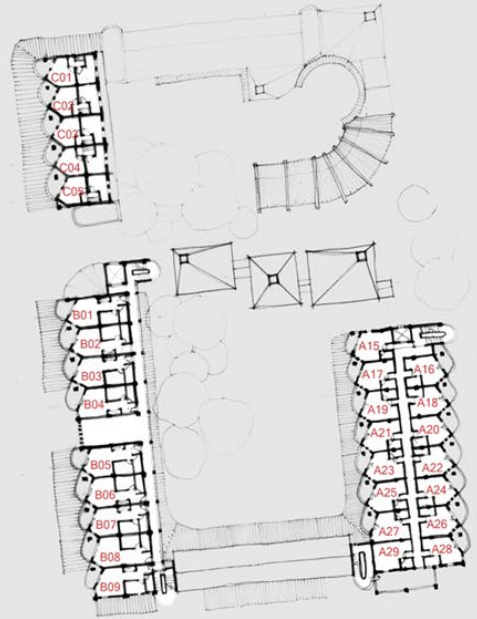
Overall Floor Plan 1:250 @ A3
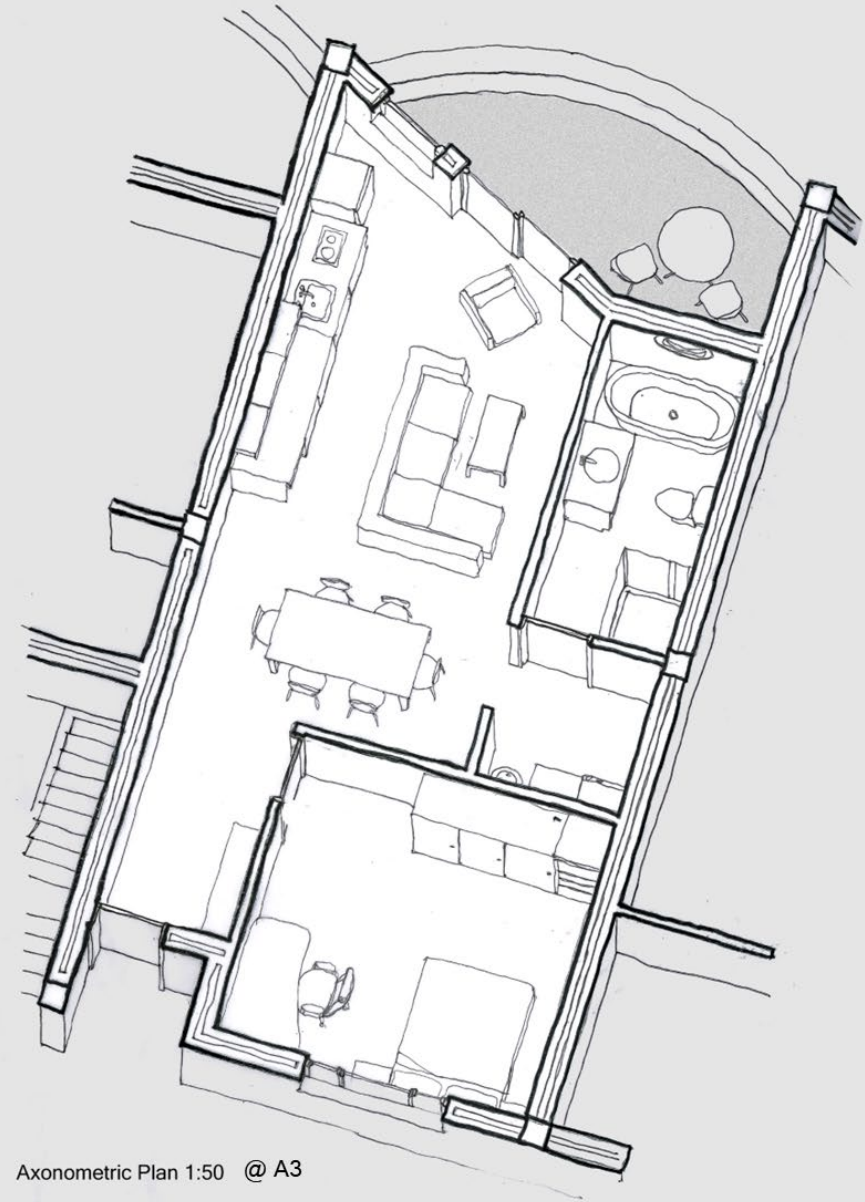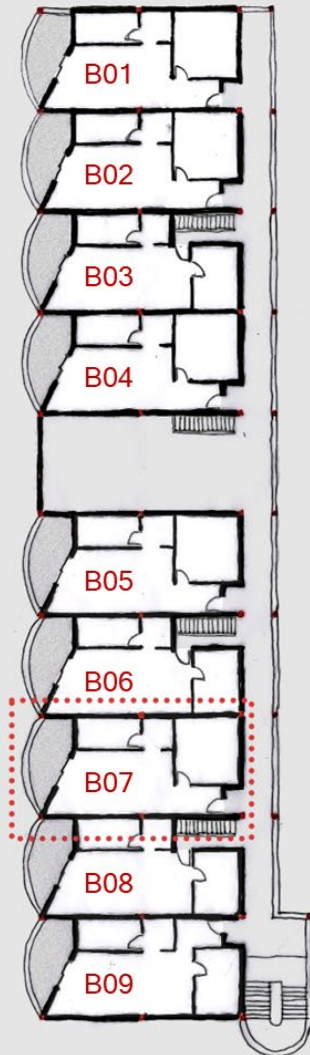
Axonometric Plan 1:50 @ A3

Figure 104: drawings showing typology B housing units

Typology C - two bedroom apartment
first floor

C01

C02

C03

C04

C05

C06

B01
B02
B03
B04
B05
B06
B07
B08
B09

A15
A17 A16
A19 A18
A21 A20
A23 A22
A25 A24
A27 A26
A29 A28

N
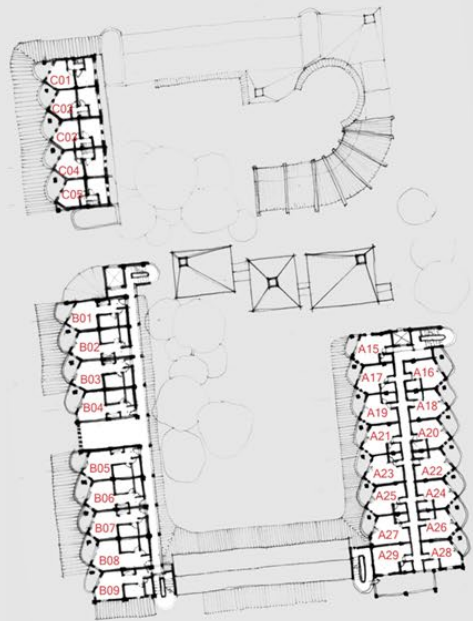
Overall Floor Plan 1:250 @ A3
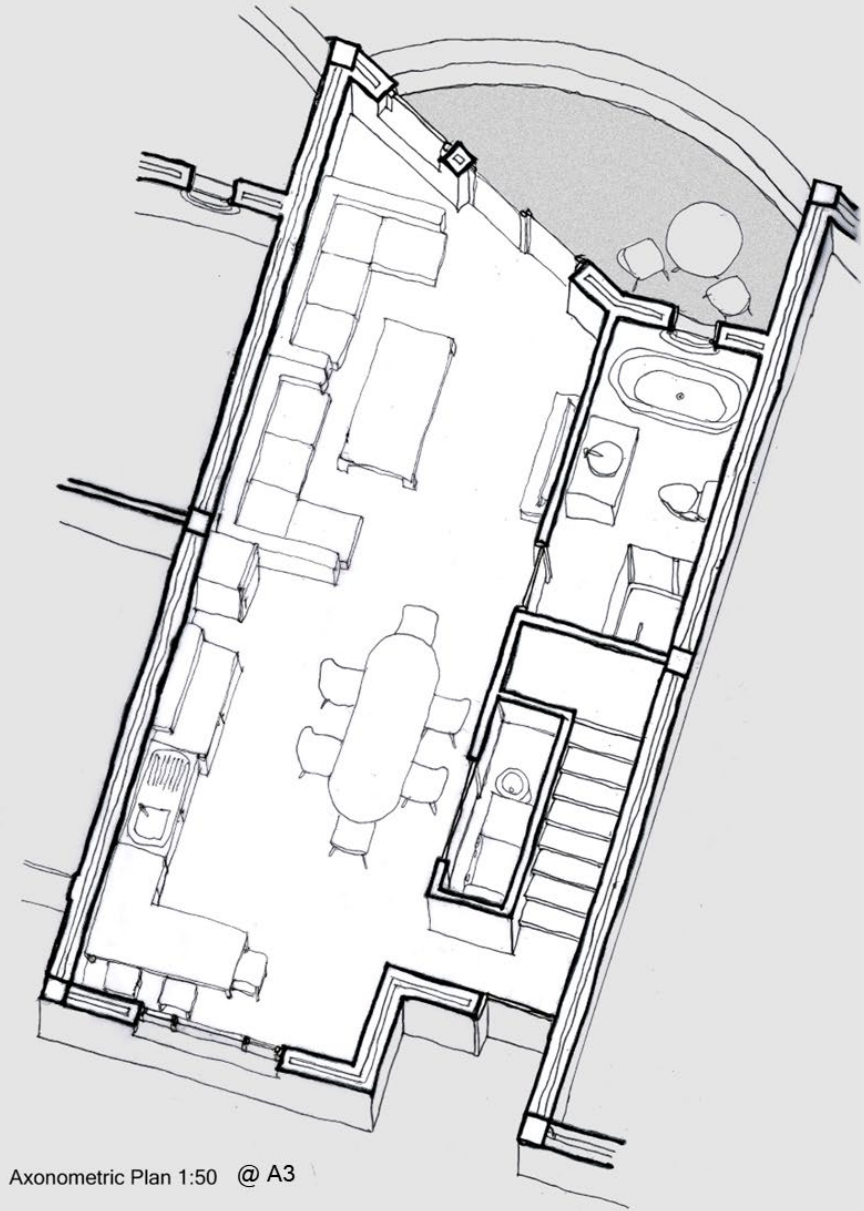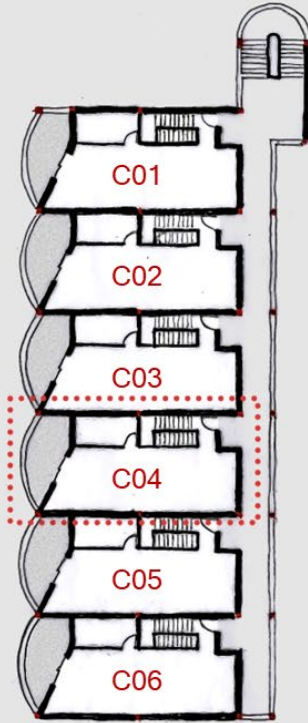
Axonometric Plan 1:50 @ A3

Figure 105: drawings showing typology C first floor housing units

Typology C - two bedroom apartment
second floor

C01

C02

C03

C04

C05

C06
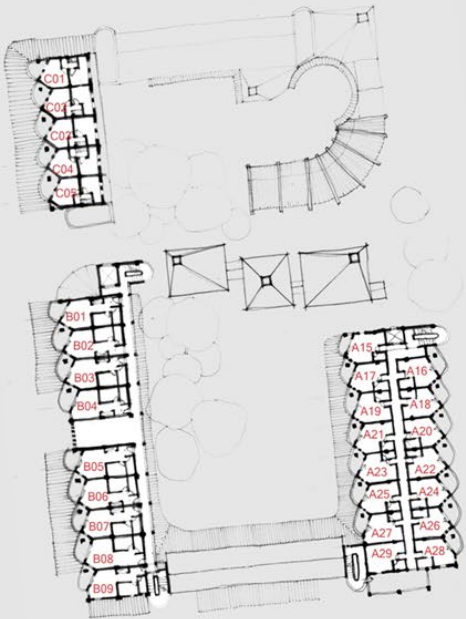
Overall Floor Plan 1:250 @ A3
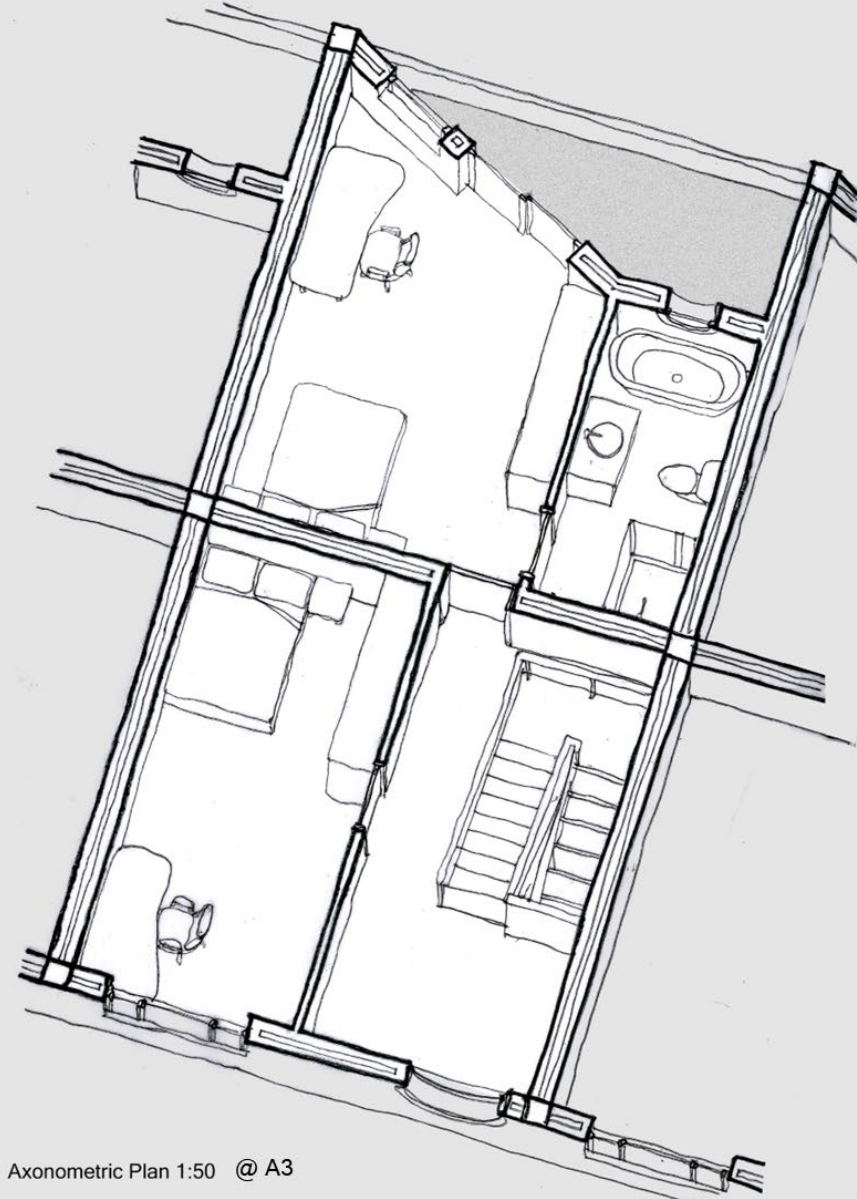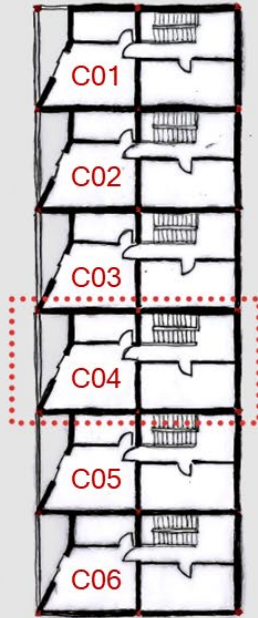
Axonometric Plan 1:50 @ A3

Figure 106: drawings showing typology C second floor housing units

Centre for Craft Iteration 03
[Final]
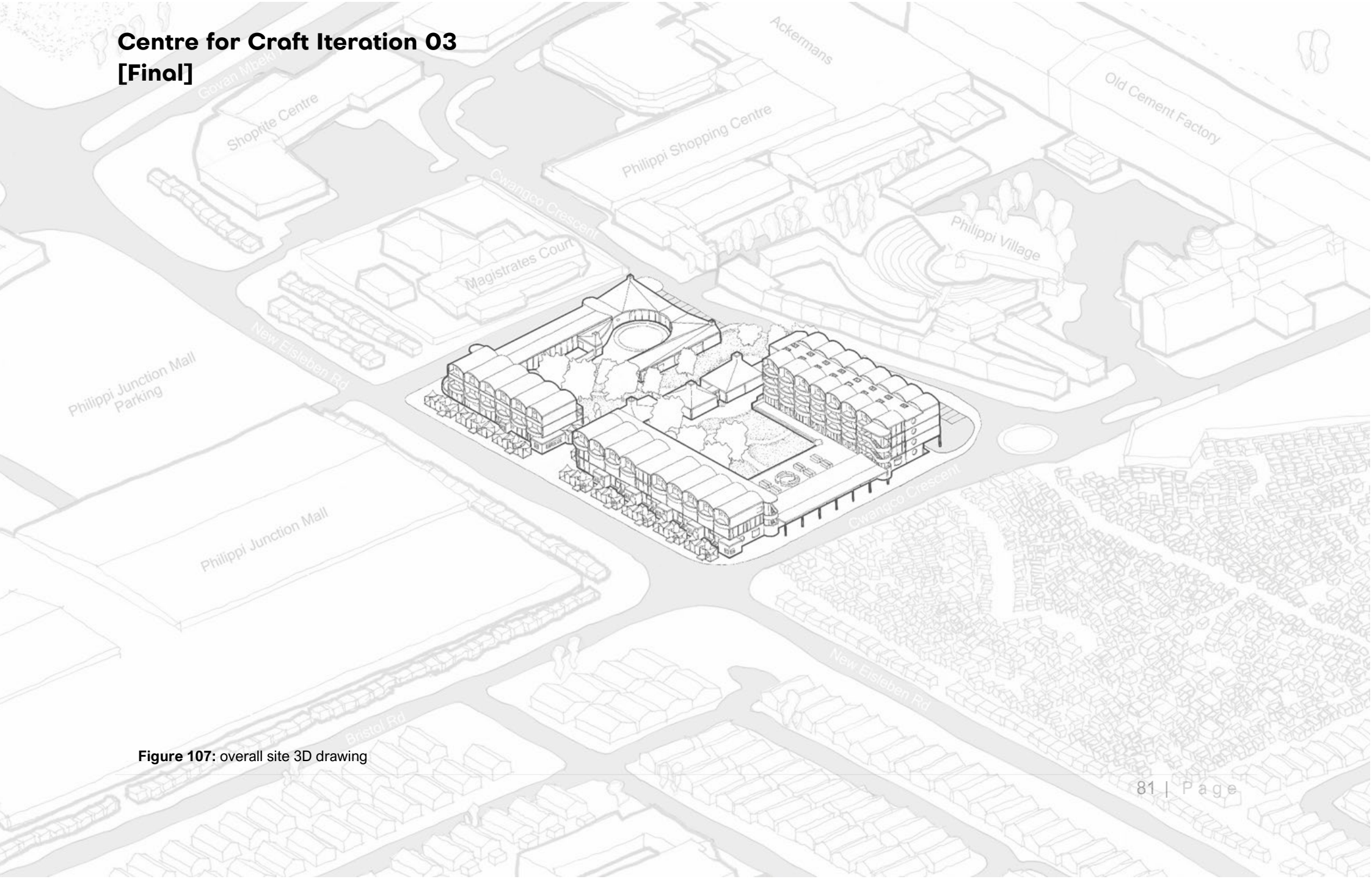
Figure 107: overall site 3D drawing

Axonometric Plans

The final axonometric plans test a graphic representation style that is playful and colourful. The building utilises a 6x6m structural grid with a 2-4 tartan design grid. The workshops are square spaces with a column that comes down in the centre. These columns can become expressive or social spaces. Sitting on the raised plinth is a communal braai area to be used by the workshops as well as the residents above. The important route that links New Eisleben road to Philippi Village is anchored by a soup kitchen and craft supply store, a security guard house, a craft gallery that you can either walk through or around, and then another security guard house at the other end.

On the first floor you can see the offices that are linked to the workshop spaces, the typology A and C housing. The second floor reveals the Typology B housing which is the 1-bedroom apartments as well as the bedroom for the type c housing. Finally, the third floor just has studio apartments.

1. craft workshops
2. communal braai
3. craft supply store
4. craft gallery
5. soup kitchen
6. restaurant
7. craft school
8. library
9. bathrooms
10. craft day-care
11. craft aftercare
12. adult craft classes
13. typology A housing
14. typology B housing
15. typology C housing
16. shared office space

Figure 108: axonometric ground floor plan

Figure 109: axonometric first floor plan

Figure 110: axonometric second floor plan

Figure 111: axonometric third floor plan

Urban Armature

The idea of urban armature is a key principle that ties together the existing Philippi community and the proposed architecture of the craft centre. This idea is expressed in the stretch of the buildings along New Eisleben Rd. The street edge is lined with a series of plinths to be used by the existing micro-enterprises. In this way, as the informal pulls in towards the building, the building pushes out to support it. As shown in figure 115, within the courtyards, the existing eucalyptus trees provide shading, and new melkbos tress are proposed to line the street edge and bring access to greenery to aid the micro-enterprises. The harsh line where the inside meets the outside is dissolved by having the workshops open up to retail space, and the stairs that are linked to the offices and housing above can be accessed directly from the street. The spaces in purple, as shown in figure 117 are to be used by the vendors. This includes, storage spaces, built infrastructure to house food vendors, or vendors needing access to water and electricity, and a series of plinths that are both covered and uncovered by a semi fixed steel structure and fabric covering. This also includes seating space to support food vendors.
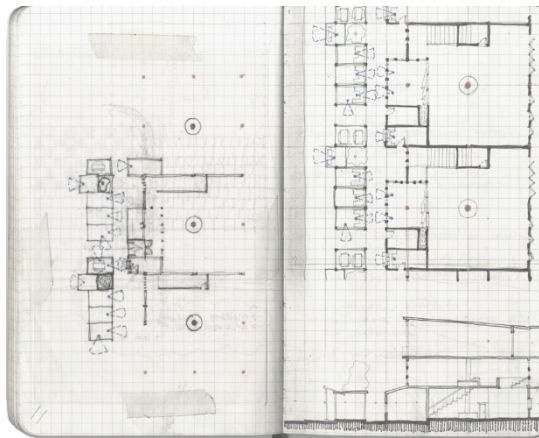
Figures 112 - 113: drawings illustrating the idea of urban armature

[partial] ground floor plan 1:200 @ A1

New Eisleben Rd [west] elevation 1:200 @ A1

[partial] ground floor plan 1:200 @ A1

Figure 114: drawing showing urban armature shown in elevation
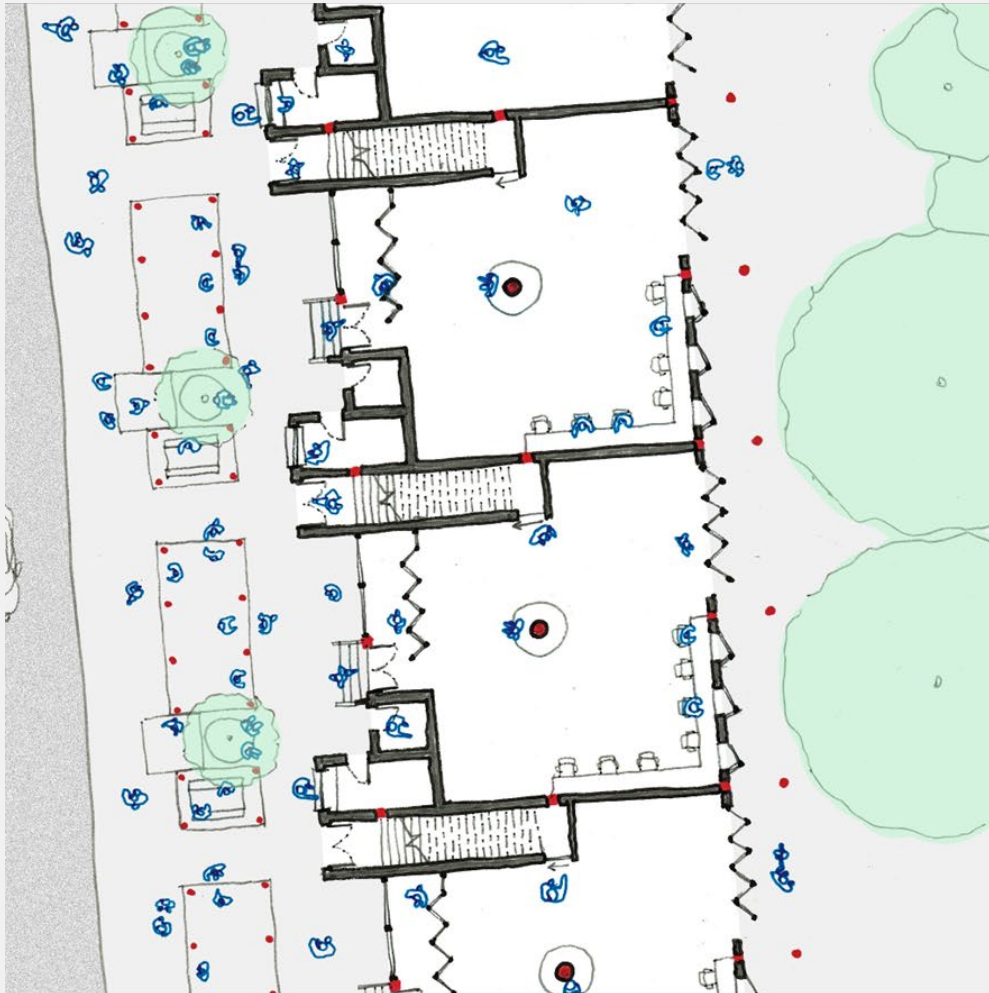
Figure 115: drawing highlighting the existing vs new proposed trees

[partial] ground floor plan 1:200 @ A1
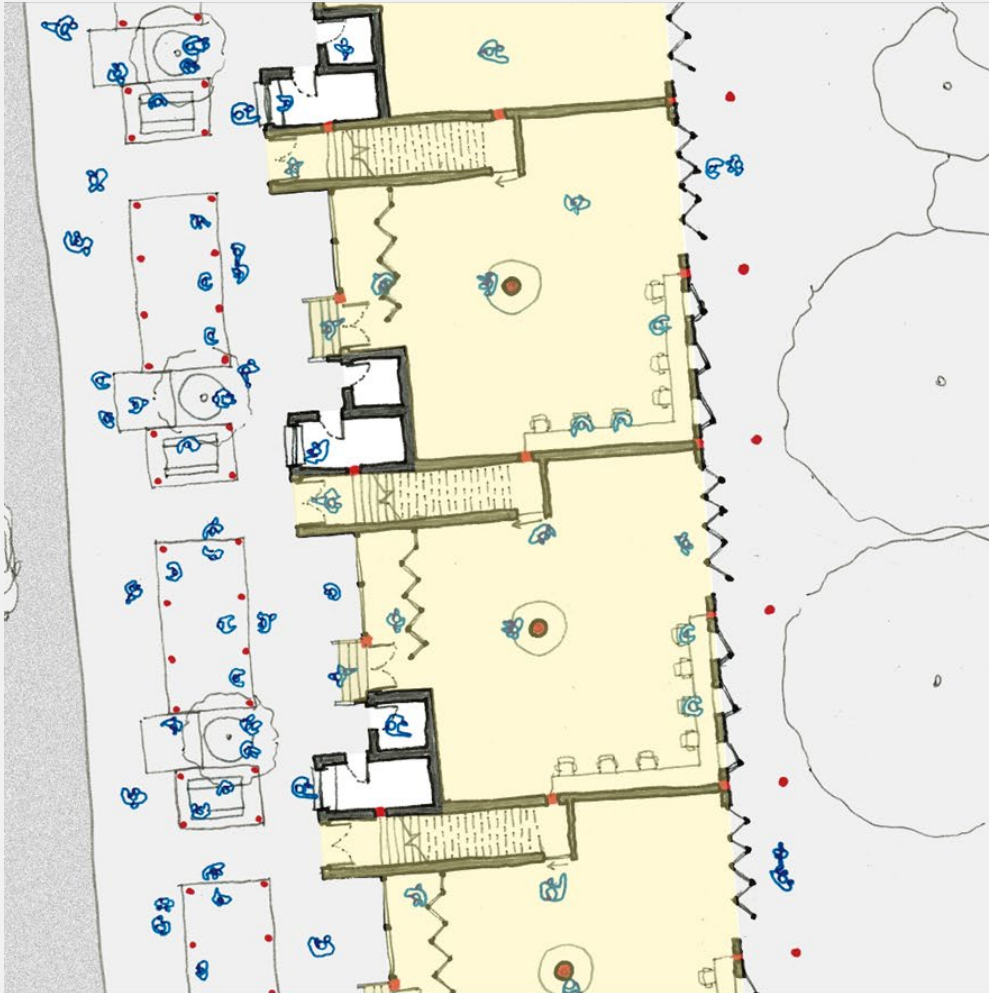
Figure 116: drawing highlighting craft workshops and its amenities

[partial] ground floor plan 1:200 @ A1
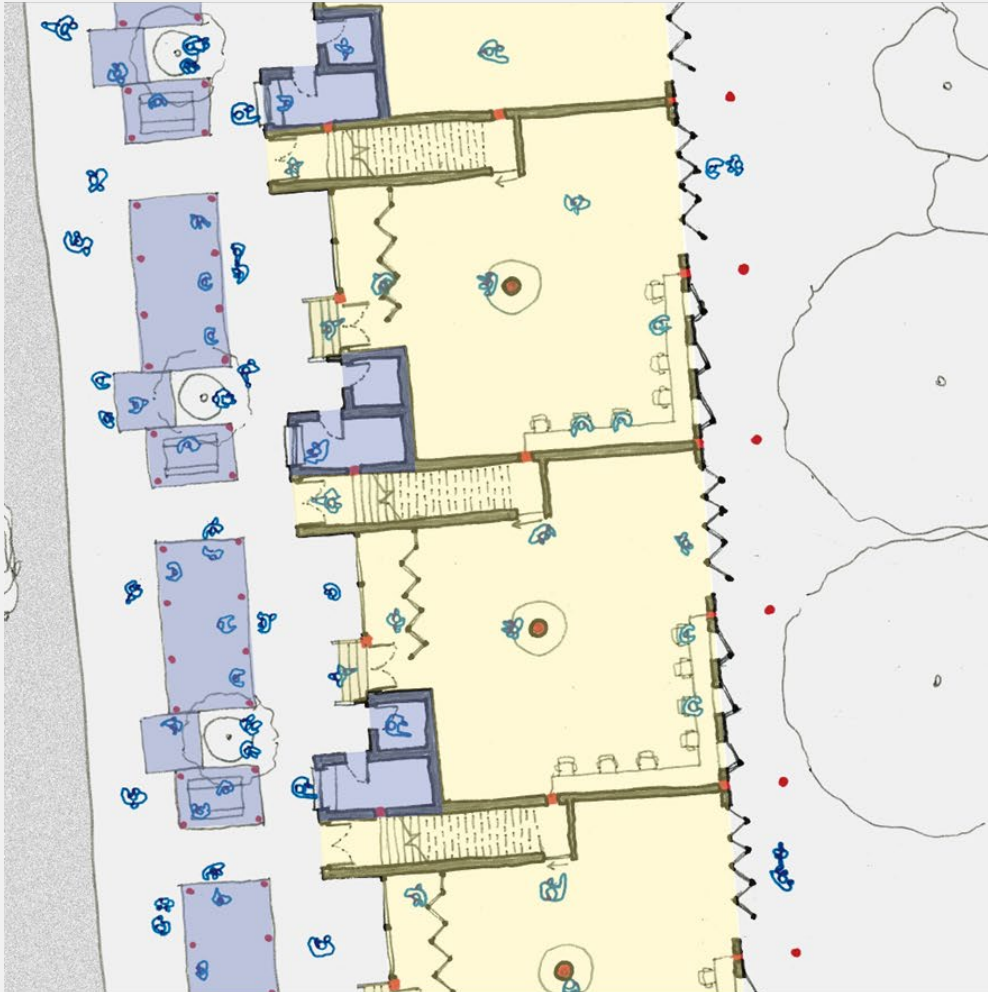
Figure 117: drawing highlighting vendor stalls and its amenities

[partial] ground floor plan 1:200 @ A1

Urban Armature Extended Imagination
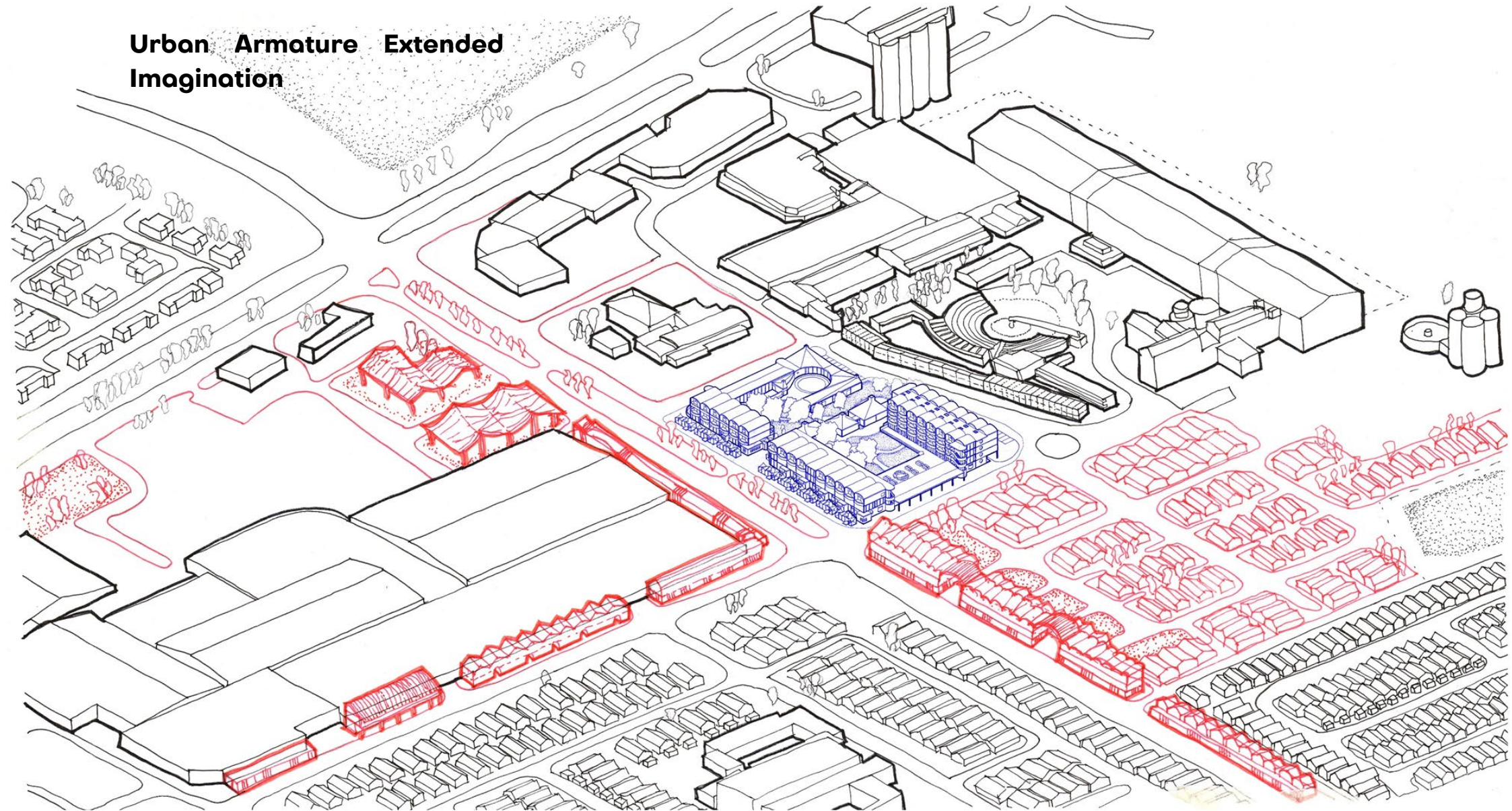
Figure 118: drawing showing overall 3D building in context with the site

Re-crafting Ai Experiments

Ai experiments were re-crafted by circling back to the idea of handcrafts. The ai image generators interpretation of the phrase "crochet architecture, tactile crafted building, knitted façade" generated an architecture that can be seen as hugely exciting and very playful. This inspired experiments with plaster of paris, mesh and several swatches of knitting and crochet.

Textures were overlayed onto internal views of a previous design iteration to begin to imagine the tactile quality of the spaces. Figure 121 explores an iteration where the building is "draped" in a secondary tactile skin. This exercise of course was guided by Ai assisted technologies which contributes to the conversation of craft in transition.

As a final exercise, the investigation was circled back to traditional craft methodologies. In an attempt to translate small scale craft practices into large scale building practices, an understating was developed of seeing each crochet as an individual brick. Crocheting in rows follows rules and combinations that can be translated to brick bonds in constructing a brick wall.

A detail book – Appendix A - explores these intimate connections, where the two practices of masonry work and crocheting can be appreciated in isolation as well as parallels of one another. Some details in the book can be seen as expressions and inspirations to the thinking, and others can be used in the proposed architecture.

So even in the case where the building utilises normative construction principles of a concrete frame with brick infill, the beauty is seen in the minute, as is the case with most crafts.

The window detail as shown in figure 125 expresses the simplicity and beauty in the oneness of a material. By simply changing the orientation of a brick, or the shape of the brick, its use is adapted. Looking at details like these heroes the artisan and maker. As an entry way into the economy for under-resourced communities, craft and craft production can facilitate that even the most economically disadvantaged sectors of society can have craftspeople who are able to develop their skills through learning from each other.

Figure 119: Ai generated sectional elevation

Figure 120: craft textures overlayed onto internal perspectives.
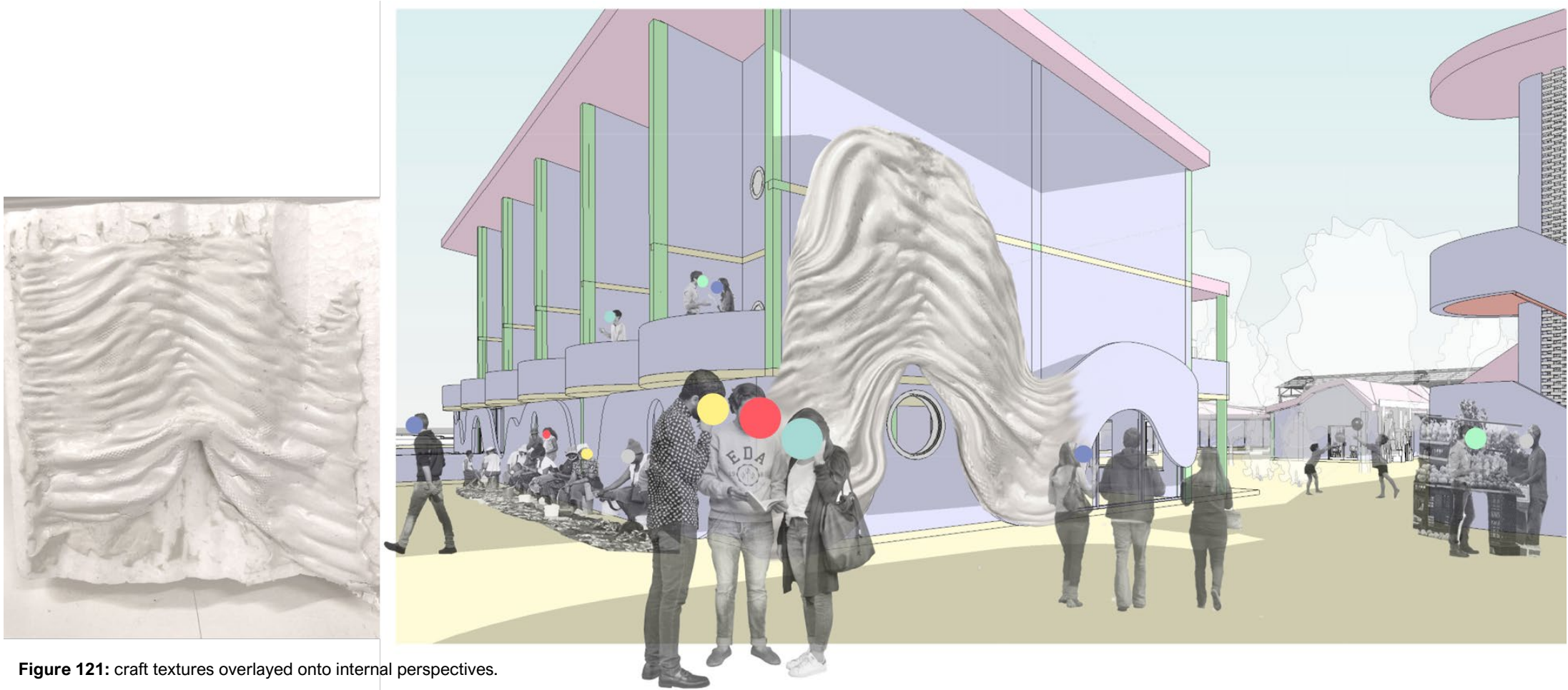
Figure 121: craft textures overlayed onto internal perspectives.

Translating craft practices into building practices

3 rows single crochet

2 rows double crochet

6 rows single crochet

6 rows alternating single crochet

5 rows single crochet

2 rows double crochet

6 rows single crochet

3 rows common brick course

2 rows soldier brick course

6 rows common brick course

6 Alternating common brick course

5 rows common brick course

2 rows soldier brick course

6 rows common brick course
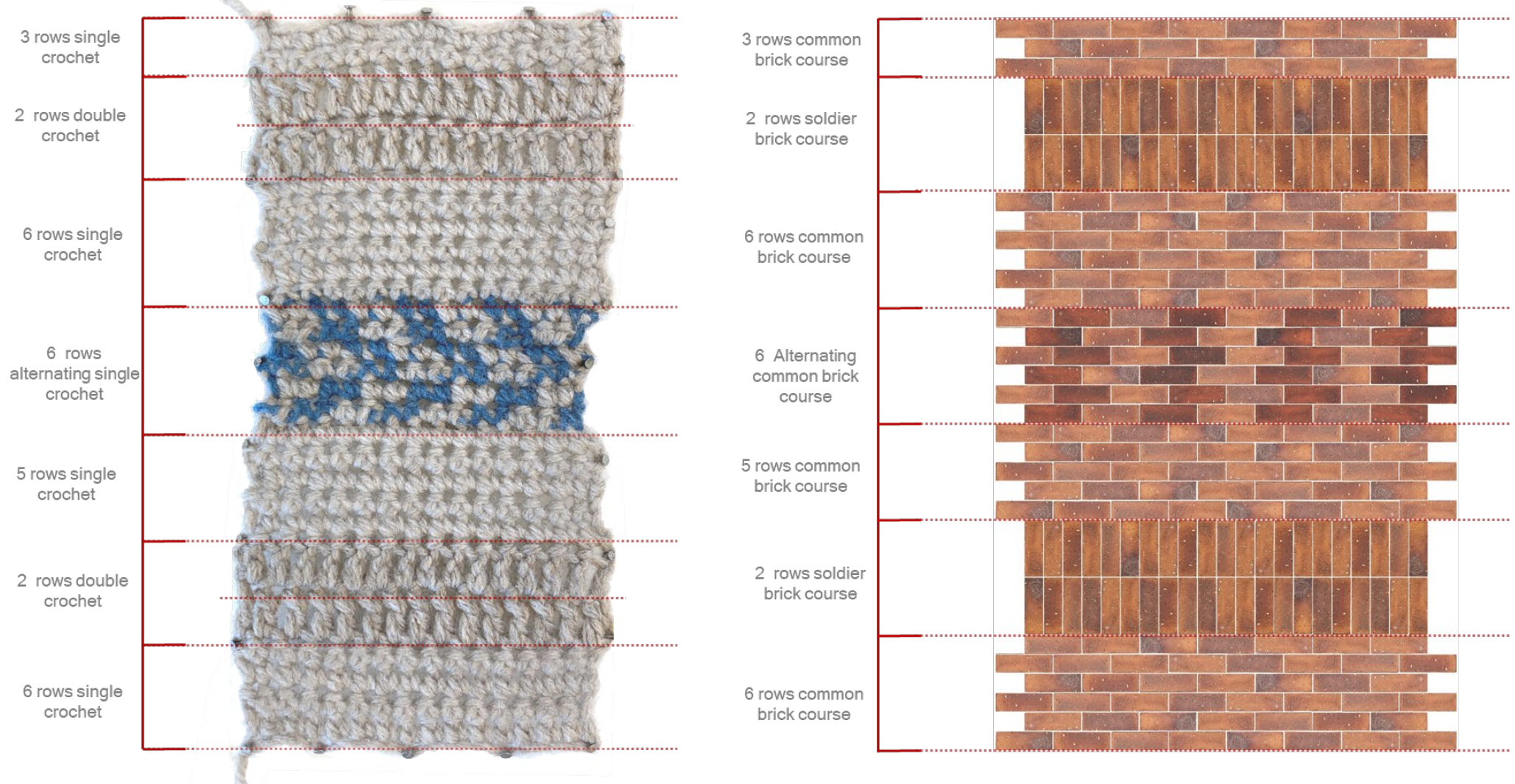
Figure 122: graphic creating a link between craft practices and building practices

Technical Investigation
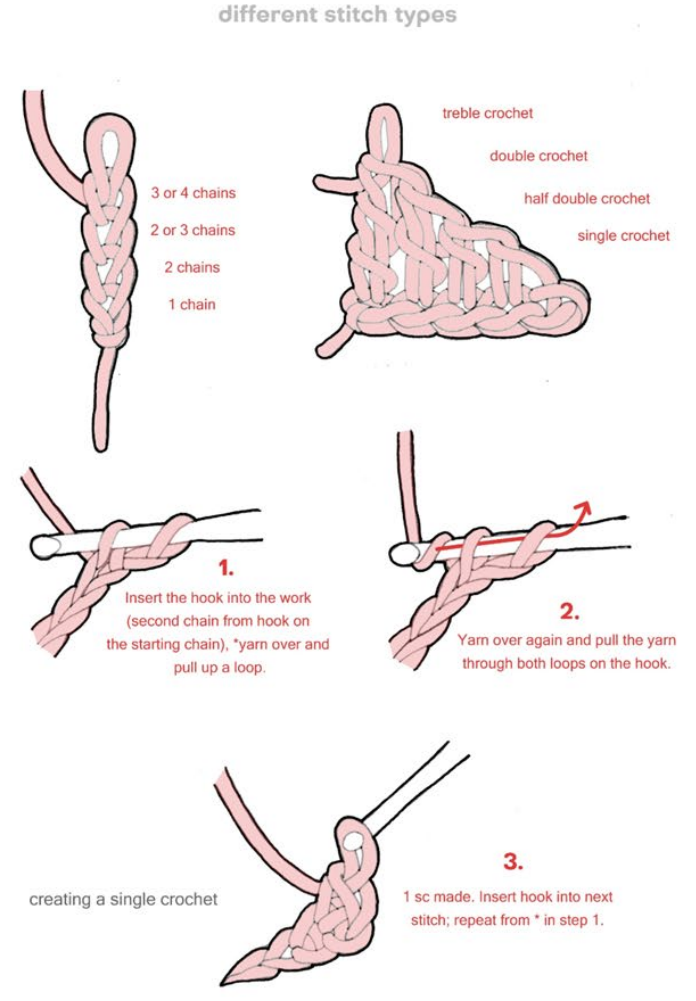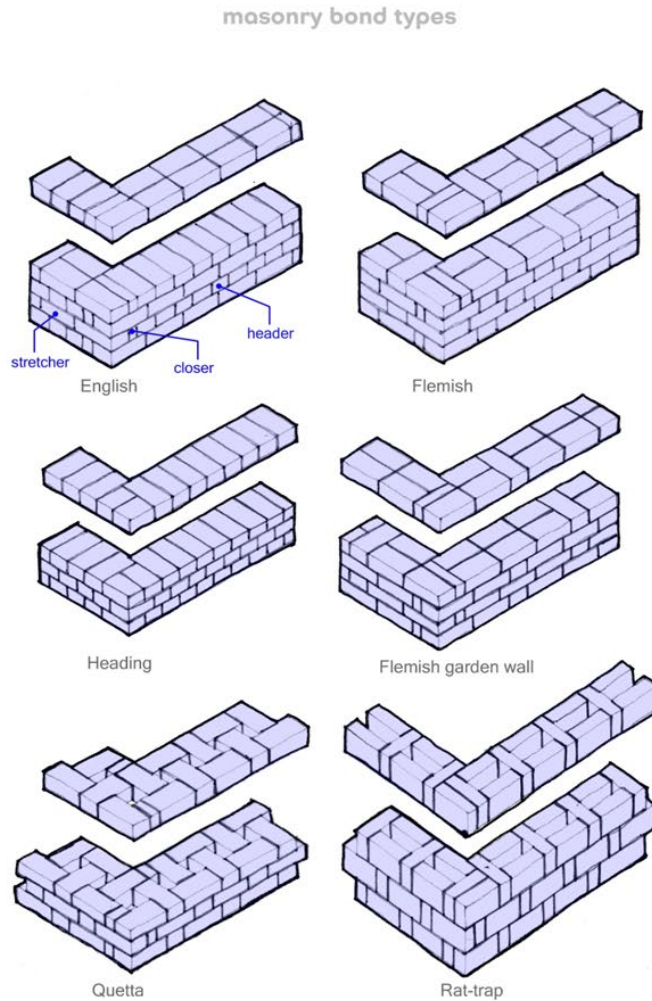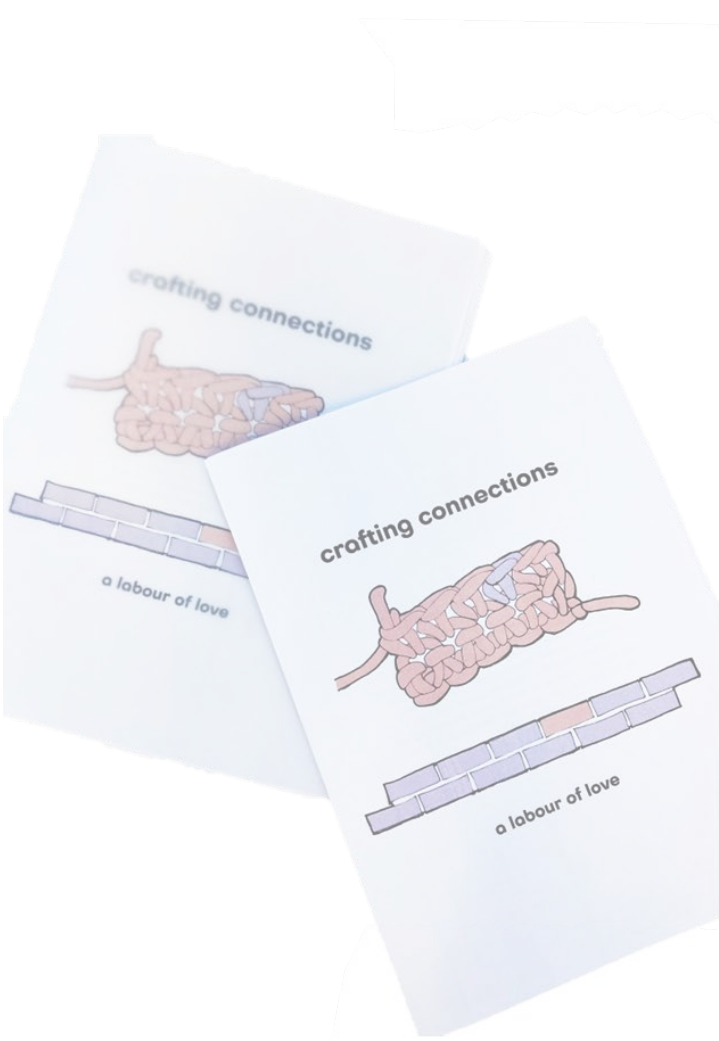
Figure 123: detail extracts from Appendix A – Detail Booklet

perforated masonry walls

I - beam or rail beam

brick vault

concrete infill

shortcrete reinforcement

rule combination

rule application

design

rule combination

rule application

design variations

rule with parametric variation

rule application
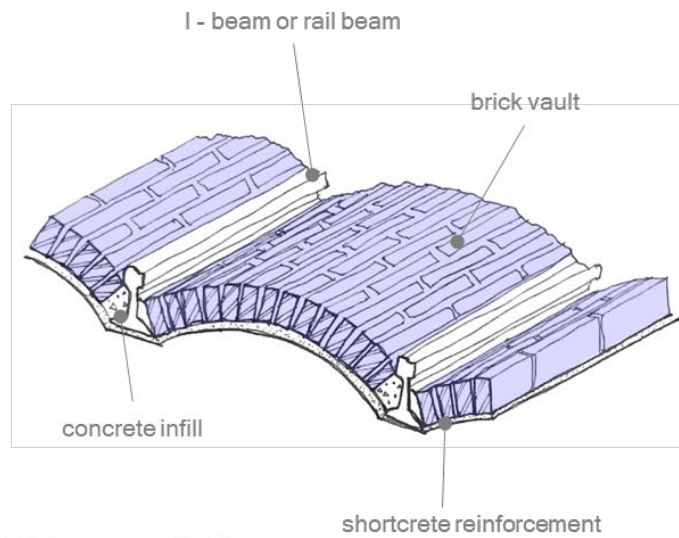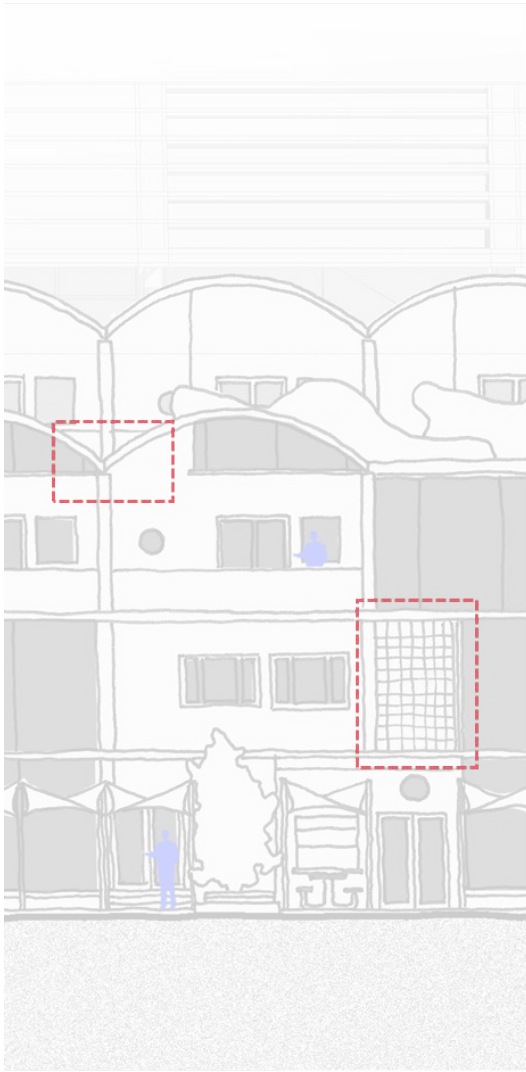
design variations
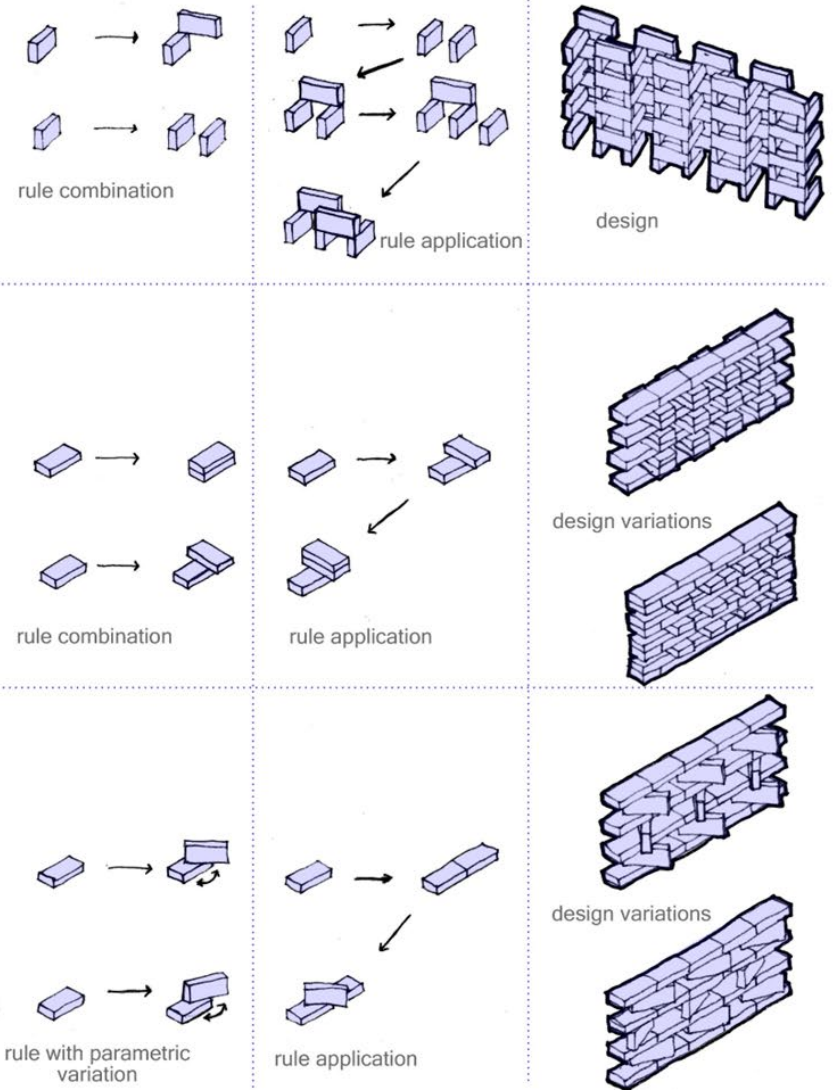
Figure 124: detail extracts from Appendix A – Detail Booklet
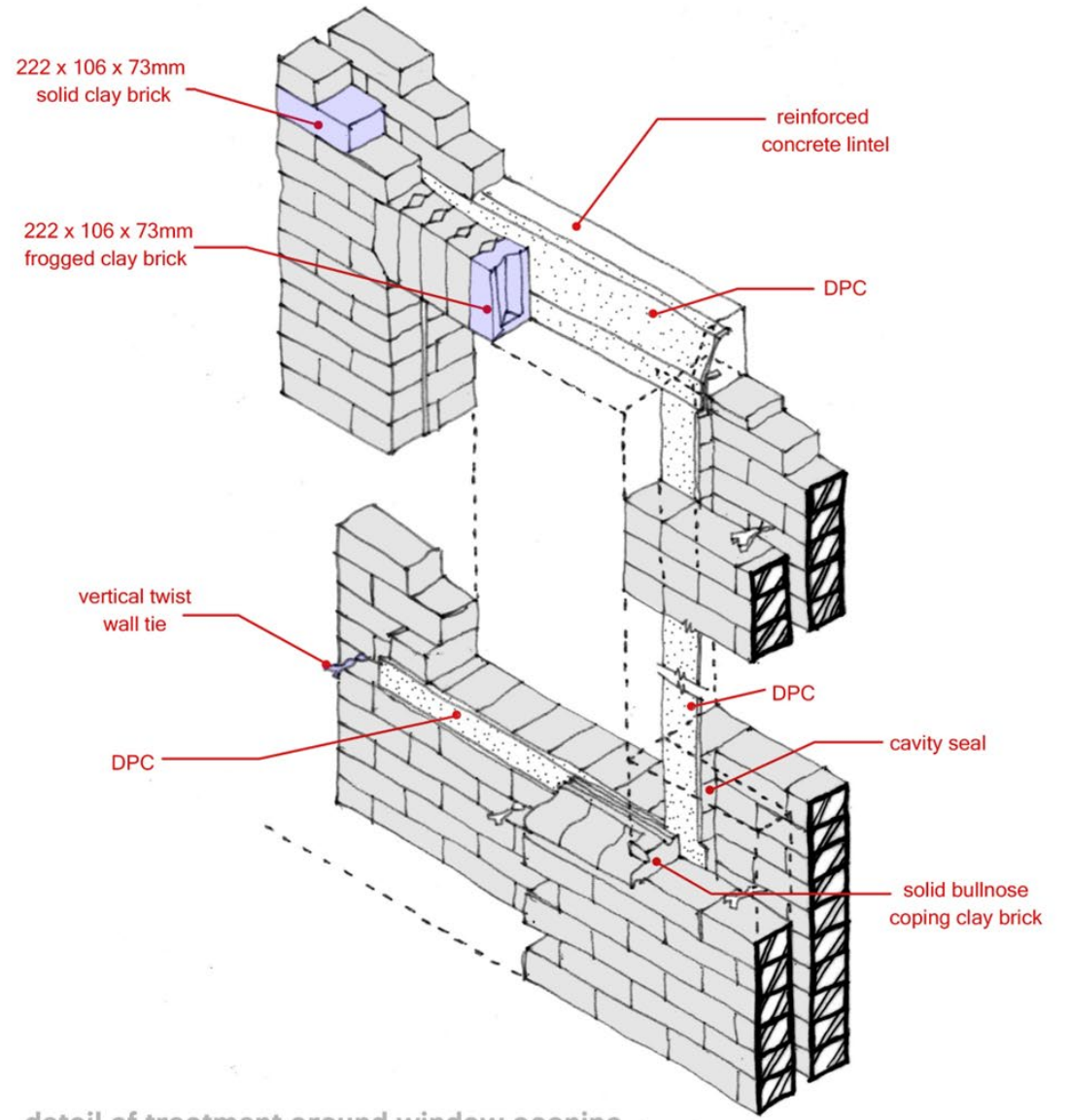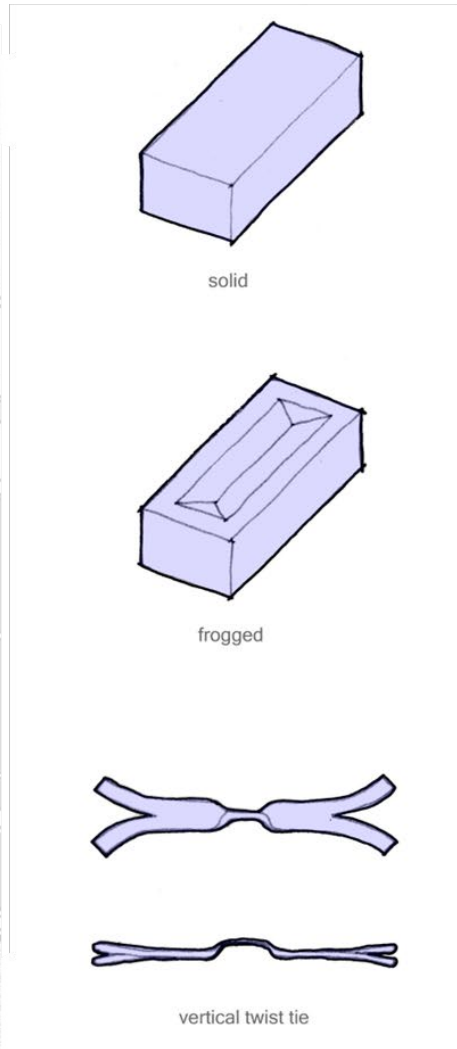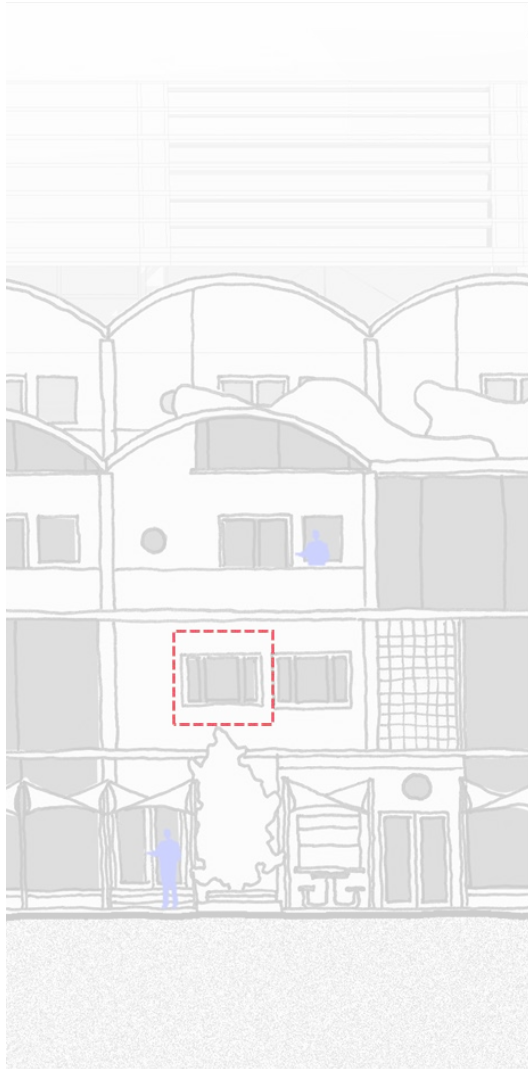
Figure 125: detail extracts from Appendix A – Detail Booklet

Conclusion

● Agencies of Craft Through Opposing Lenses

● Conclusion

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Appendix A – Detail Booklet

Agencies of Craft Through Opposing Lenses

In June of 2022 I started a clothing brand and company called Domkop Studio. Over the span of 3 months, I made and sold over 70 hand-crocheted items. My personal experiences and explorations in craft have been hugely beneficial. I must however acknowledge my own positionality as a person of privilege, with access to higher education, and who does not solely depend on income generated from micro-enterprise.

This experience of craft stands in contrast to the experience that individuals have in the context of Philippi and informal settlements at large. Thus, craft holds different agencies through these opposing lenses. A shared experience, however, is the therapeutic and healing qualities that hand-crafting possesses. This craft business has been a huge creative outlet for me and has empowered a great sense of pride within my work. Craft is personal, expressive, engaging and rewarding. My hope is for these values to permeate into my architectural work and to promote that this experience of craft should not be reserved for the privileged sectors of South African society.

Figure 126-137: images of hand-crocheted items made for my personal brand, Domkop Studio

Conclusion

In Crafting Memory, this research fundamentally understands craftsmanship as a significant cultural link between generations of makers. Many of the fundamental skills that craft requires are skills that are passed down many generations. Thus, craft can transcend time and transpose cultural borders.

Many people have been able to generate income and sustain a living from craft. Contemporary consumerism has had a role to play in this as there has been a revival of the appreciation for hand-crafted objects within the technology-centred 21st century. Consumers of craft prefer to see a sense of personal style that comes with hand crafted objects. This individualized touch cannot be achieved if crafts were mass produced in factories by an anonymous producer.

Attaching symbols or personal connections or meanings to crafted objects is an overarching value associated with craft. This value is what makes craft and the ownership of crafts so special. Many people seek to make these personal connections to craft as a fundamental humanistic trait of rooting ourselves to mankind and cultural histories by observing the connections between the mind, the hand, and the act of making.

This thesis has explored craft as both a practice and a product, in forms that are traditional, transitional, and contemporary. Drawing from subjective memories, the knowledge of crafts and skills passed down to me by my parents and grandparents is knowledge that will always remain. This type of knowledge is acknowledged as important, as it holds oral histories of skills and techniques that are still practiced today. In addition to this, the transitional and contemporary forms of craft that have been explored are prosperous avenues that should be continually nurtured and developed. Both the old and the new should exist side by side, neither weighted more, or less important than the other. With an incredibly diverse span of cultures and concepts, South African society, I believe, possesses the ability to indefinitely be rich in a wealth of creativity.

In crafting technology, we deal with the issue of scalability of craft into the making of architecture. With the aid of fabrication tools like the digital production explored in the Knitflatable Architecture project, textiles can be endlessly produced with an elevated level of thought that is not void of the connection to designer and maker. This type of production can form a scalable system that can be used in the application of fabrics for architecture.

The lessons learnt from the collection of case studies reveals that the making of architecture that is rooted in an understanding of crafts and craftsmanship requires an intricate link between ideas of functionality and aesthetics.

In working towards the African Renaissance, the craft industry can play a significant role. Being a cultural practice that garners tourist's attraction, there is potential for craft and the craft industry to further establish itself through the formalisation of craft markets, shops, curio outlets and filter into other economies to build a brighter future for the South African society. What is essential here is that craft does not lose its unique spirit and essence and dissolve again into the production of utilitarian objects. Therefore, an understanding of how and why crafts are made is essential in attaching meaning to crafted objects, ensuring that African craft continues to be acknowledged and appreciated with immense pride.

Table of Figures

Figure 1: Image by Author – Petersen, L. (2022)

Figure 2: Drawing by Author – Petersen, L. (2022)

Figure 3: Collage by Author, Images sourced from:

- https://www.amazon.com/Craft-South-Africa-Susan-Sellschop/dp/062029227X
- https://www.nb.co.za/en/view-book/?id=9780624091592
- https://www.istockphoto.com/photo/african-woman-sewing-inside-her-home-gm166111792-23651350

[Online] [Accessed 14 April 2022].

Figure 4: Collage by Autor, Images sourced from: Africaandbeyond.com. (2022) Homepage. [Online] Available at: https://www.africaandbeyond.com/index.html [Accessed 14 April 2022].

Figure 5: Google Arts & Culture. (2022) Khoikhoi–Dutch Wars - Google Arts & Culture. [Online] Available at: https://artsandculture.google.com/entity/m026prz5 [Accessed 14 April 2022].

Figure 6: Image adapted by Author; Image sourced from: Unknown Author. (2022) The Genadendal Mission Station. [Online] Available at: https://www.genadendal.info/genadendal-mission-station/ [Accessed 14 April 2022].

Figure 7: Images adapted by Author; Images sourced from: Unknown Author. (2022) The Genadendal Mission Station. [Online] Available at: https://www.genadendal.info/genadendal-mission-station/ [Accessed 14 April 2022].

Figure 8: Scans of images taken from Sellschop, S. et al. (2002) Craft: South Africa: traditional, transitional, contemporary. Hyde Park [Johannesburg: Pan Macmillan.

Figure 9: Scans of images taken from Sellschop, S. et al. (2002) Craft: South Africa: traditional, transitional, contemporary. Hyde Park [Johannesburg: Pan Macmillan.

Figure 10: Image adapted by Author; Image sourced from: Amatuli.co.za. (2022) Woven Together: The Art of African Weaving – Amatuli Artefacts. [Online] Available at: https://www.amatuli.co.za/2021/12/woven-together-the-art-of-african-weaving/ [Accessed 14 April 2022].

Figure 11: Collage by Author; Images sourced from: Firemountaingems.com. (2022) Jewelry Making Article - Upcycled Jewelry - Fire Mountain Gems and Beads. [Online] Available at: https://www.firemountaingems.com/resources/jewelry-making-articles/8a15 [Accessed 14 April 2022].

Figure 12: Collage by Author; Images sourced from: LoveCapeTown. (2018) Six Reasons to Visit Greenmarket Square. [Online] Available at: https://www.capetown.travel/six-reasons-to-visit-greenmarket-square/ [Accessed 4 September 2022].

Figure 13: Collage by Author; Images sourced from:

- https://foursquare.com/v/watershed/54429072498e71ae5f3585e7
- https://www.groundup.org.za/article/myciti-n2-express-route-be-open-again-early-next-year-promises-new-cape-town-transport-chief/

- https://northglennews.co.za/180440/briardene-residents-want-rubbish-skip-installed/
- https://www.firemountaingems.com/resources/jewelry-making-articles/8a15

[Online] [Accessed 4 September 2022].

Figures 14-18: DesignSpaceAfrica. (2013) Ithemba Labantu Youth Centre — DesignSpaceAfrica. [Online] Available at: http://www.designspaceafrica.com/ithemba-labantu-youth-centre-2 [Accessed 14 April 2022].

Figure 19: Drawing by Author – Petersen, L. (2022). Information sourced from: DesignSpaceAfrica. (2013) Ithemba Labantu Youth Centre — DesignSpaceAfrica. [Online] Available at: http://www.designspaceafrica.com/ithemba-labantu-youth-centre-2 [Accessed 14 April 2022].

Figures 20-24: Montebello.co.za. (2022) Classes at Montebello Design Centre, Newlands, Cape Town. [Online] Available at: https://www.montebello.co.za/classes.htm [Accessed 7 September 2022].

Figure 25: Drawing by Author – Petersen, L. (2022). Information sourced from: Montebello.co.za. (2022) Classes at Montebello Design Centre, Newlands, Cape Town. [Online] Available at: https://www.montebello.co.za/classes.htm [Accessed 7 September 2022].

Figures 26-29: Wolff Architects. (2022) Watershed – Wolff Architects. [Online] Available at: http://www.wolffarchitects.co.za/projects/all/watershed/ [Accessed 7 September 2022].

Figure 30: Drawing by Author – Petersen, L. (2022). Information sourced from: Wolff Architects. (2022) Watershed – Wolff Architects. [Online] Available at:

http://www.wolffarchitects.co.za/projects/all/watershed/ [Accessed 7 September 2022].

Figure 31: Map adapted by Author – Petersen, L. (2022), Base map sourced from: Citymaps.capetown.gov.za. (2022) ArcGIS Web Application. [Online] Available at: https://citymaps.capetown.gov.za/EGISViewer/ [Accessed 14 April 2022].

Figure 32: Image and model by Author – Petersen, L. (2022).

Figure 33: Map by Author – Petersen, L. (2022). Base map sourced from: Citymaps.capetown.gov.za. (2022) ArcGIS Web Application. [Online] Available at: https://citymaps.capetown.gov.za/EGISViewer/ [Accessed 6 July 2022].

Figure 34: Map by Author – Petersen, L. (2022). Base map sourced from: Citymaps.capetown.gov.za. (2022) ArcGIS Web Application. [Online] Available at: https://citymaps.capetown.gov.za/EGISViewer/ [Accessed 6 July 2022].

Figure 35: Map by Author – Petersen, L. (2022). Information sourced from: Brown, K & Bacq, S & Charman, A. (2018) Supermarkets, Informal Micro-Enterprises and Household Consumption: An assessment of the food systems implications in the case of Philippi East. Sustainable Livelihoods Foundation / Center for Excellence in Food Security.

Figure 36: Graphic by Author – Petersen, L. (2022). Base map sourced from: Citymaps.capetown.gov.za. (2022) ArcGIS Web Application. [Online] Available at: https://citymaps.capetown.gov.za/EGISViewer/ [Accessed 6 July 2022].

Figure 37: Graph by Author – Petersen, L. (2022). Information sourced from: Brown, K & Bacq, S & Charman, A. (2018) Supermarkets, Informal Micro-Enterprises and Household Consumption: An assessment of the food systems implications in the case of Philippi East. Sustainable Livelihoods Foundation / Center for Excellence in Food Security.

Figures 38-39: Drawing by Author – Petersen, L. (2022).

Figure 40: Maps.google.com. (2022) Before you continue to Google Maps. [Online] Available at: https://maps.google.com/ [Accessed 9 September 2022].

Figures 41-42: Drawing by Author – Petersen, L. (2022).

Figure 43: Image adapted by Author; Image sourced from: Citymaps.capetown.gov.za. (2022) ArcGIS Web Application. [Online] Available at: https://citymaps.capetown.gov.za/EGISViewer/ [Accessed 14 April 2022].

Figure 44-47: Philippi Village. (2022) Film Location - Philippi Village. [Online] Available at: https://www.philippivillage.co.za/our-spaces/film-location/ [Accessed 10 September 2022].

Figure 48: Images adapted by Author; Images sourced from: Maps.google.com. (2022) Before you continue to Google Maps. [Online] Available at: https://maps.google.com/ [Accessed 9 September 2022].

Figure 49: Graphic by Author – Petersen, L (2022). Images sourced from: Midjourney. (2022) Midjourney. [Online] Available at: https://www.midjourney.com/home/ [Accessed 10 September 2022].

Figures 50-55: Midjourney. (2022) Midjourney. [Online] Available at: https://www.midjourney.com/home/ [Accessed 10 September 2022].

Figure 56: Graphic by Author – Petersen, L. (2022).

Figures 57-66: Baranovskaya, Y. (2014) Knitflatable Architecture: Pneumatically activated preprogramed knitted textile spaces. [online]. Germany: University of Stuttgart.

Figures 67-70: Warmann, C. (2010) Polish Pavilion for Shanghai Expo 2010 by WWAA Architects. [Online] Dezeen.com. Available at: https://www.dezeen.com/2010/06/03/polish-pavilion-for-shanghai-expo-2010-by-wwaa-architects/ [Accessed 12 April 2022].

Figures 71-74: Zero Abundance. (2022) Kengo Kuma meets kogei (traditional Japanese craftsmanship): Kuma to Shika -. [online] Available at: https://www.interactiongreen.com/kengo-kuma-shika-nakagawa/ [Accessed 14 April 2022].

Figures 75-79: Image and model by Author – Petersen, L. (2022).

Figures 80-81: Drawing by Author – Petersen, L. (2022).

Figures 82-85: Image and model by Author – Petersen, L. (2022).

Figures 86-90: Drawing by Author – Petersen, L. (2022).

Figures 91-97: Graphic and model by Author – Petersen, L. (2022).

Figures 98-137: Images, graphics, and drawings by Author – Petersen, L. (2022).

Bibliography

Baranovskaya, Y. (2014) Knitflatable Architecture: Pneumatically activated preprogramed knitted textile spaces. [online]. Germany: University of Stuttgart.

Brown, K & Bacq, S & Charman, A. (2018) Supermarkets, Informal Micro-Enterprises and Household Consumption: An assessment of the food systems implications in the case of Philippi East. Sustainable Livelihoods Foundation / Center for Excellence in Food Security.

Brown-Luthango, M. (2015) State/society synergy in Philippi, Cape Town. Mercy Brown-Luthango (ed.). Rondebosch [Cape Town, South Africa: African Centre for Cities, University of Cape Town.

DACST (1998) The Cultural Industries Growth Strategy (CIGS). The South African publishing industry report: Dept. of Arts, Culture, Science and Technology.

DesignSpaceAfrica. (2013) Ithemba Labantu Youth Centre — DesignSpaceAfrica. [Online] Available at: http://www.designspaceafrica.com/ithemba-labantu-youth-centre-2 [Accessed 14 April 2022].

Gradin, C. (2019) Occupational segregation by race in South Africa after apartheid. Review of development economics. [Online] 23 (2), 553–576.

Louw, H. J. (2002) Architecture & craft: a working relationship? Bloemfontein: University of the Free State.

Madrona, A. (2014) "What can we make with this?" Creating Relevant Art Education Practices in Rural KwaZulu-Natal, South Africa. Concordia University. Montreal, Quebec, Canada.

Merrifield, A. (2006) Henri Lefebvre : a critical introduction. New York: Routledge.

Midjourney. (2022) Midjourney. [Online] Available at: https://www.midjourney.com/home/ [Accessed 10 September 2022].

Montebello.co.za. (2022) Classes at Montebello Design Centre, Newlands, Cape Town. [Online] Available at: https://www.montebello.co.za/classes.htm [Accessed 7 September 2022].

Philippi Village. (2022) Film Location - Philippi Village. [Online] Available at: https://www.philippivillage.co.za/our-spaces/film-location/ [Accessed 10 September 2022].

Sellschop, S. et al. (2002) Craft: South Africa: traditional, transitional, contemporary. Hyde Park [Johannesburg: Pan Macmillan.

Van der Ross, R. E. (2015) In our own skins: a political history of the Coloured people. Johannesburg: Jonathan Ball Publishers.

Warmann, C. (2010) Polish Pavilion for Shanghai Expo 2010 by WWAA Architects. [Online] Dezeen.com. Available at: https://www.dezeen.com/2010/06/03/polish-pavilion-for-shanghai-expo-2010-by-wwaa-architects/ [Accessed 12 April 2022].

Wolff Architects. (2022) Watershed – Wolff Architects. [Online] Available at: http://www.wolffarchitects.co.za/projects/all/watershed/ [Accessed 7 September 2022].

Zero Abundance. (2022) Kengo Kuma meets kogei (traditional Japanese craftsmanship): Kuma to Shika -. [online] Available at: https://www.interactiongreen.com/kengo-kuma-shika-nakagawa/ [Accessed 14 April 2022].

30x40 Design Workshop, (2015) Craft. Architecture. 10 Thoughts. 8 September [Online Video] Available at: https://www.youtube.com/watch?v=HrHvE8Vgc5U [Accessed 12 May 2022].

Appendix A –
Detail Booklet

crafting connections
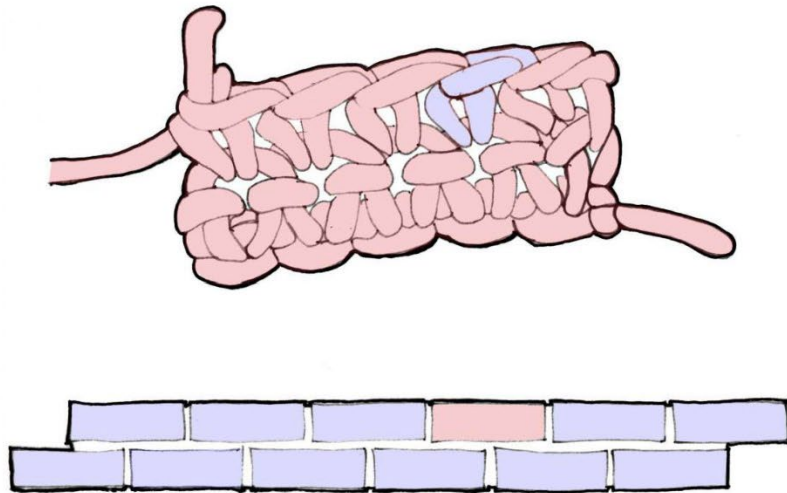
an exploratory investigation

Crafting connections attempts to create links between sectors of micro-enterprises and means of creativity. Architectural craft acknowledges the work of artisans and specialist builders. Parallels between artisanal masonry work and traditional crochet techniques are drawn. Both the practice of laying a brick and casting a stitch are performed with specific care and consideration, thus, these craft are understood as labours of love.

a labour of love

various types of retrofitted wall ties

common brick & wall tie types
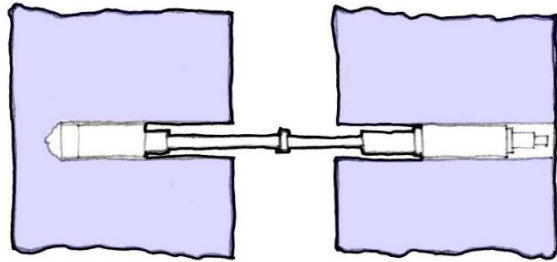
wall tie with plastic expanders, stainless steel tie rod, nuts, etc.
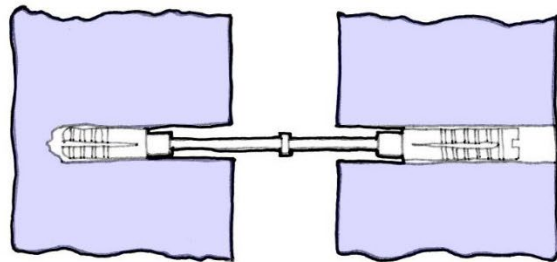
wall tie with stainless steel expanders, tie rod, nuts, washers, etc.
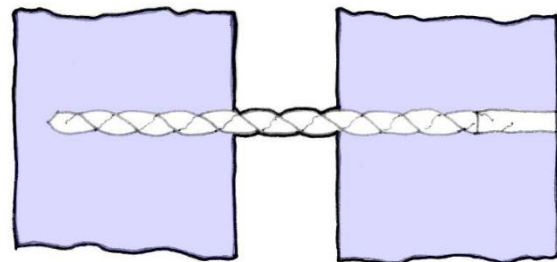
self-tapping, hard copper alloy tie
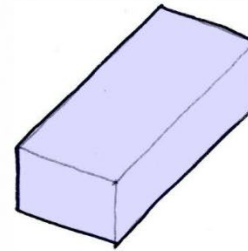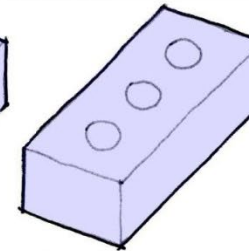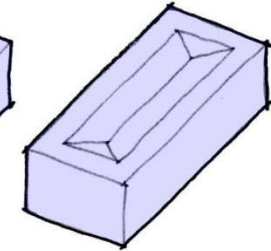
solid   perforated   frogged
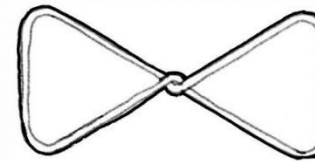
butterfly tie   double triangle tie
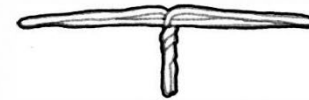
vertical twist tie

common crochet materials & hooks
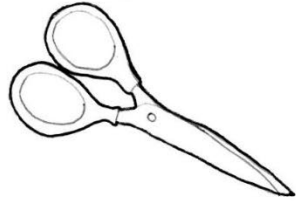
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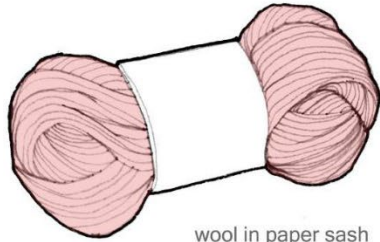
wool in paper sash
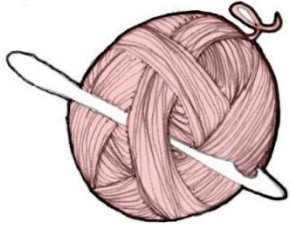
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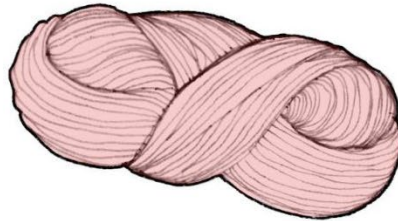
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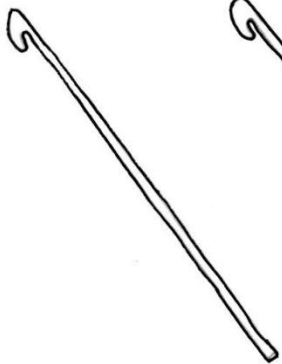
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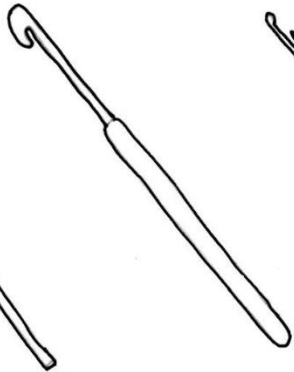
metal crochet hook
with plastic grip
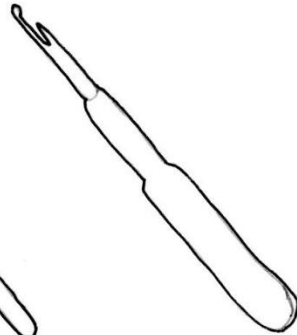
metal stitch remover
with plastic grip

starting a slip stitch
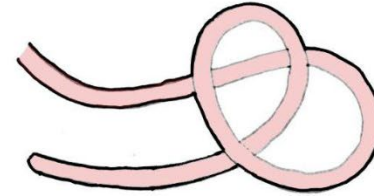
creating a slipknot
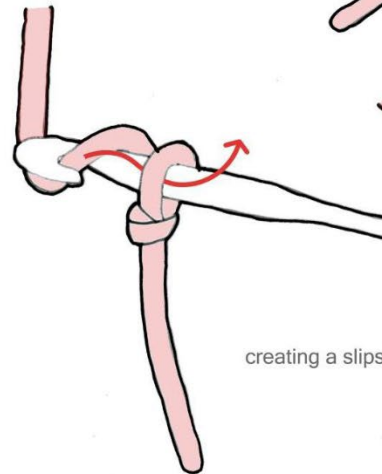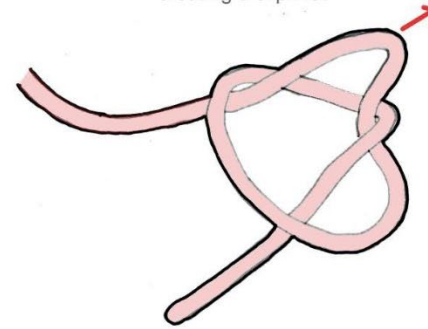
creating a slipstitch
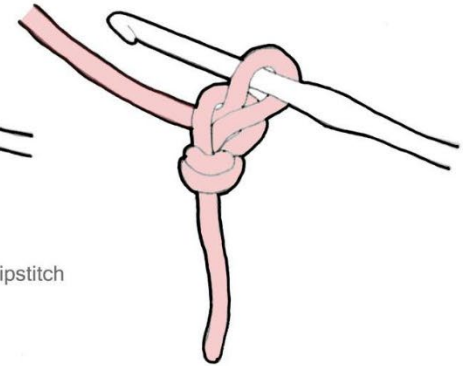
single leaf masonry walls

half bond

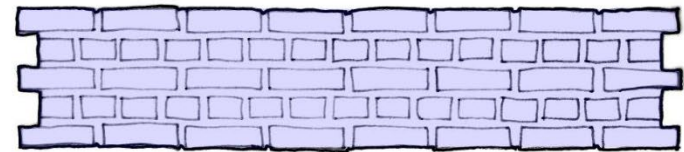quarter bond
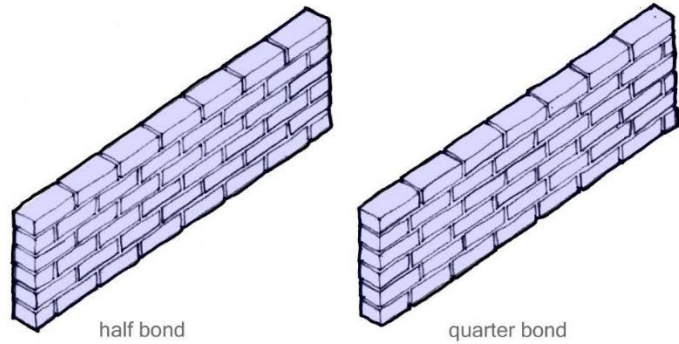
masonry bond types

stretcher bond
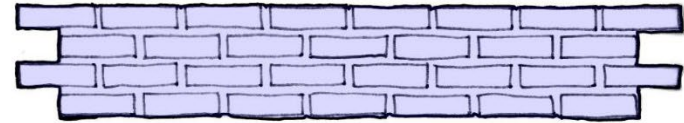
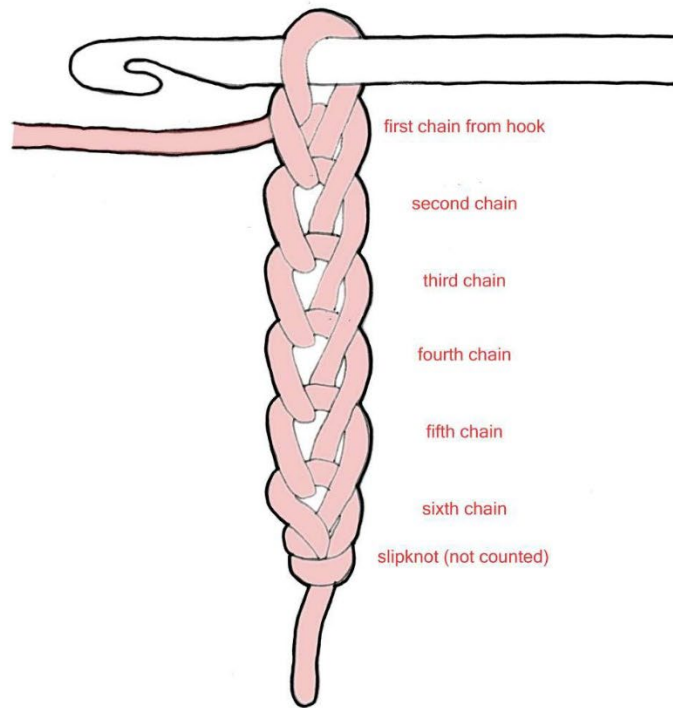Flemish garden wall bond
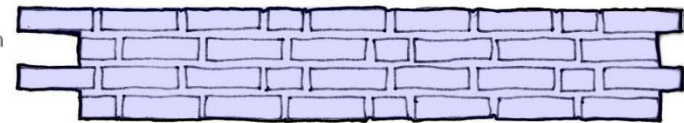
English garden wall bond
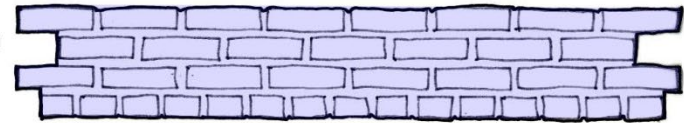
Flemish bond

English bond

blockwork inner leaf

brickwork outer leaf

cavity tray material set in blockwork joint

weepholes at 1m centres

continuous cavity tray

vertical flap bonded to column
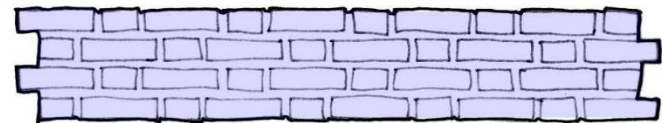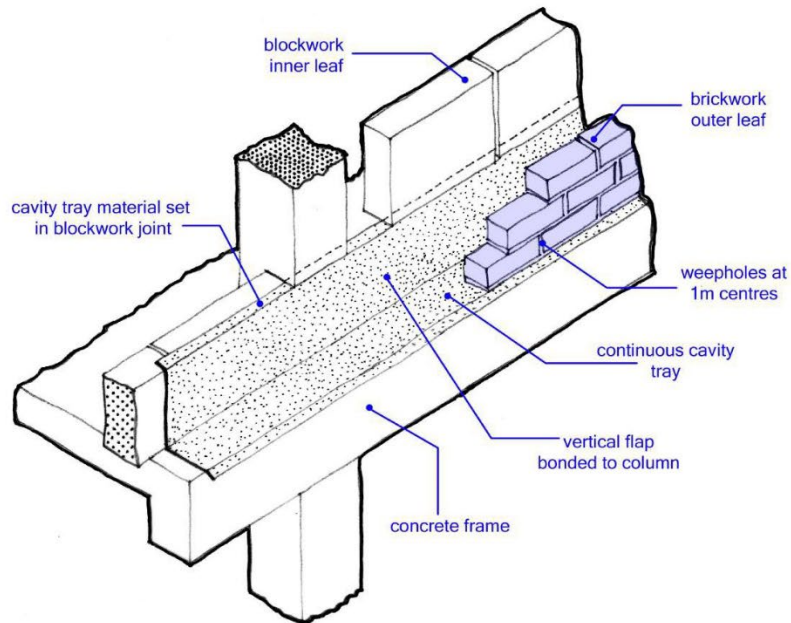
concrete frame

detail of cavity tray in a concrete frame building with masonry cavity wall cladding.

foundation chain

first chain from hook

second chain

third chain

fourth chain

fifth chain

sixth chain
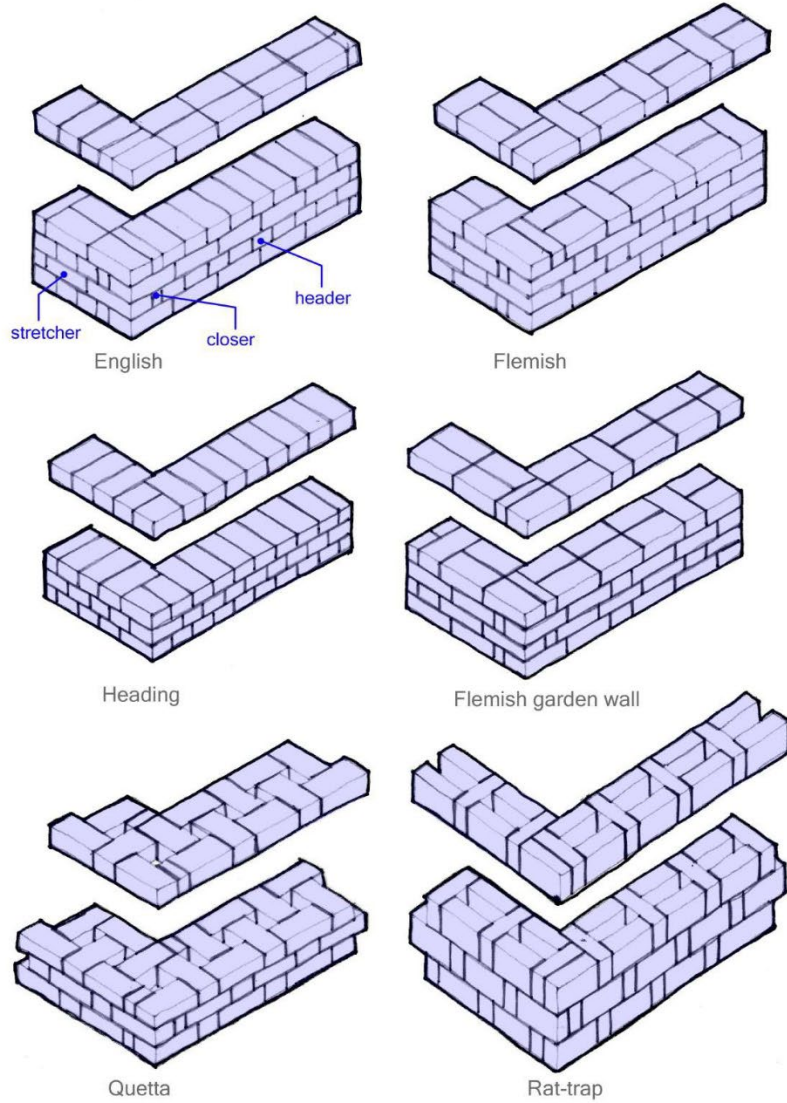
slipknot (not counted)

A chain stitch is a loop that's formed on the hook. Chain a series of these loops or chain stitches to create a foundation chain.
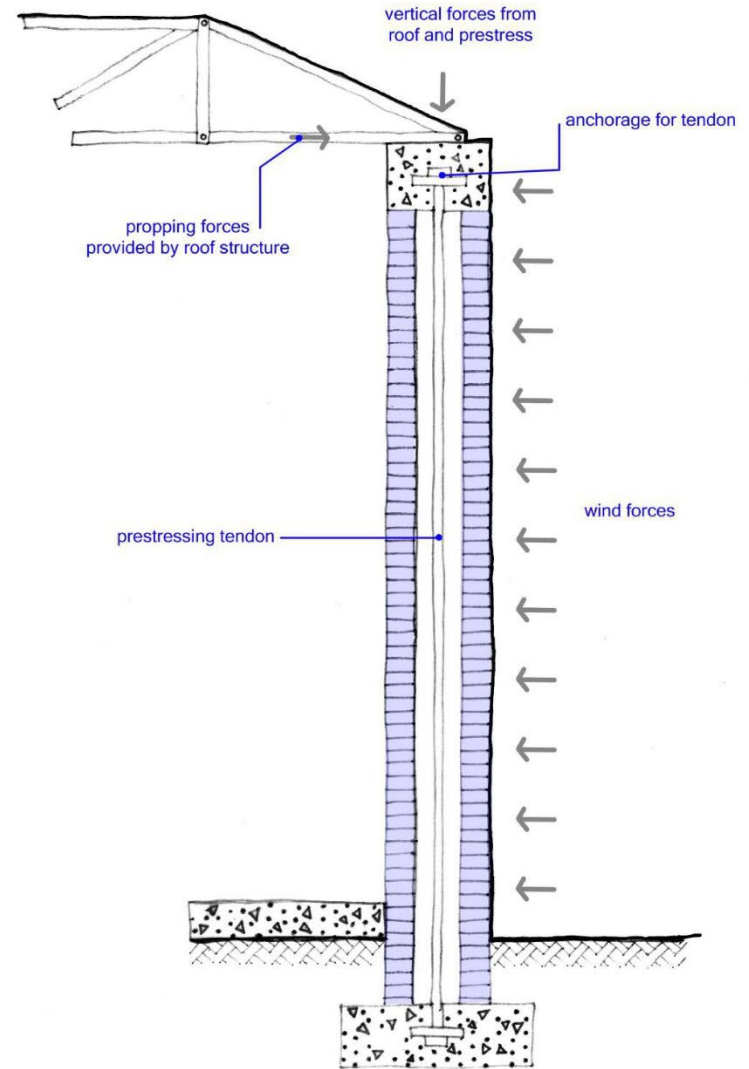
keeping count of the chain

12

to work under one strand, insert hook here

to work under two strands, insert hook here
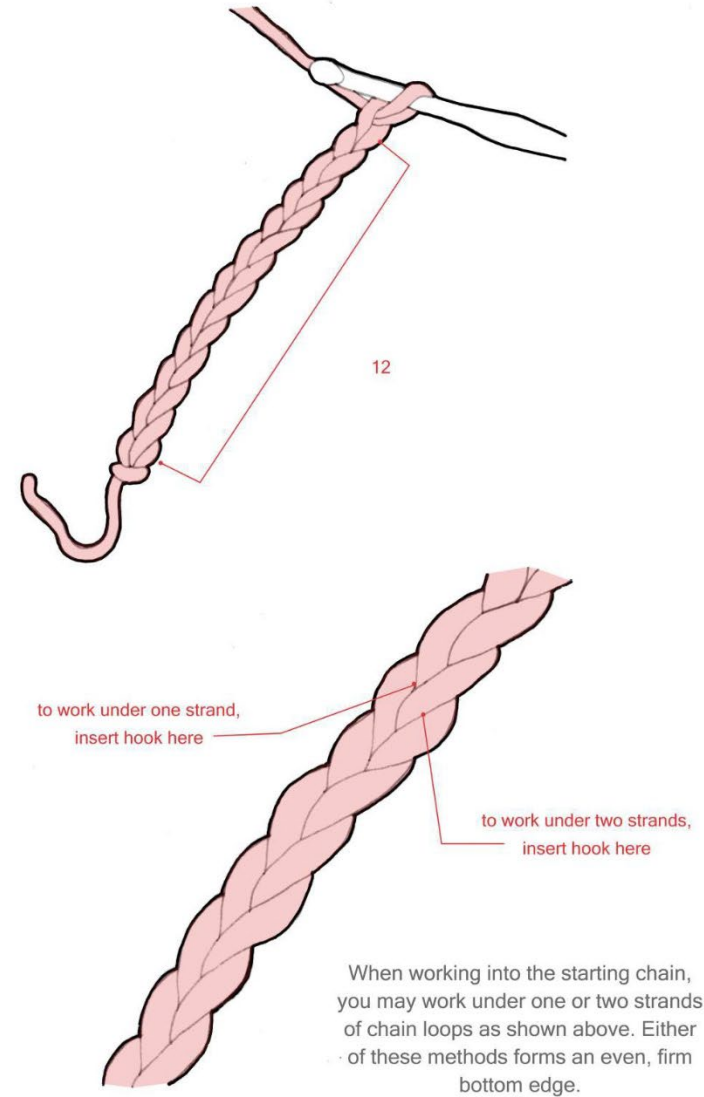
When working into the starting chain, you may work under one or two strands of chain loops as shown above. Either of these methods forms an even, firm bottom edge.
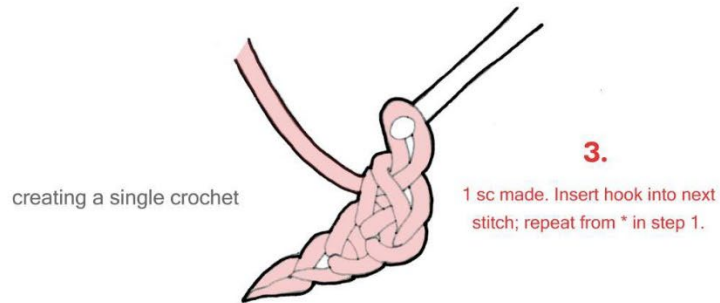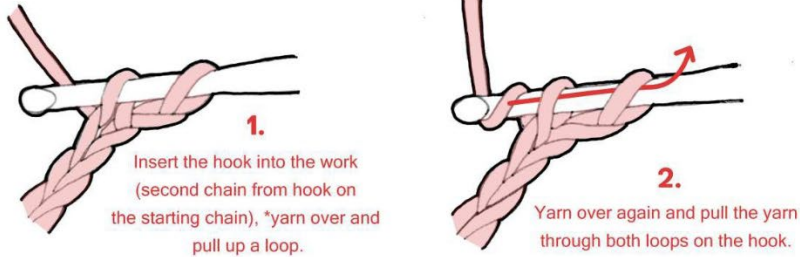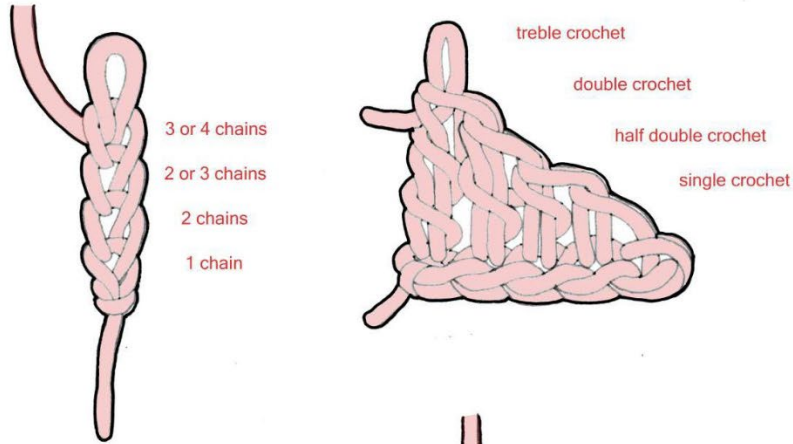
masonry bond types

stretcher
header
closer
English

Flemish

Heading

Flemish garden wall

Quetta

Rat-trap

post-tensioned diaphragm wall

vertical forces from roof and prestress

anchorage for tendon

propping forces provided by roof structure

prestressing tendon

wind forces

different stitch types

3 or 4 chains

2 or 3 chains

2 chains

1 chain

treble crochet

double crochet

half double crochet

single crochet

1.
Insert the hook into the work (second chain from hook on the starting chain), *yarn over and pull up a loop.

2.
Yarn over again and pull the yarn through both loops on the hook.

creating a single crochet

3.
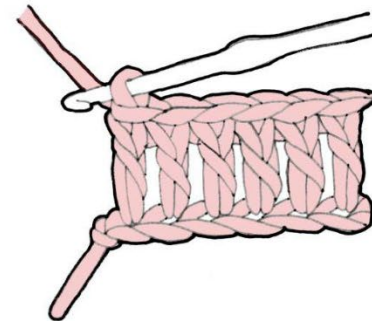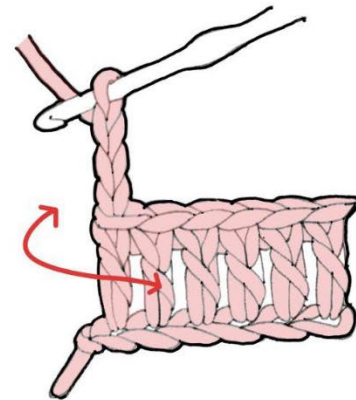1 sc made. Insert hook into next stitch; repeat from * in step 1.

double crochet

Make a starting chain of the required length plus two chains. Work one double crochet into fourth chain fromhook. The three chains at the beginning of the row form the first double crochet.
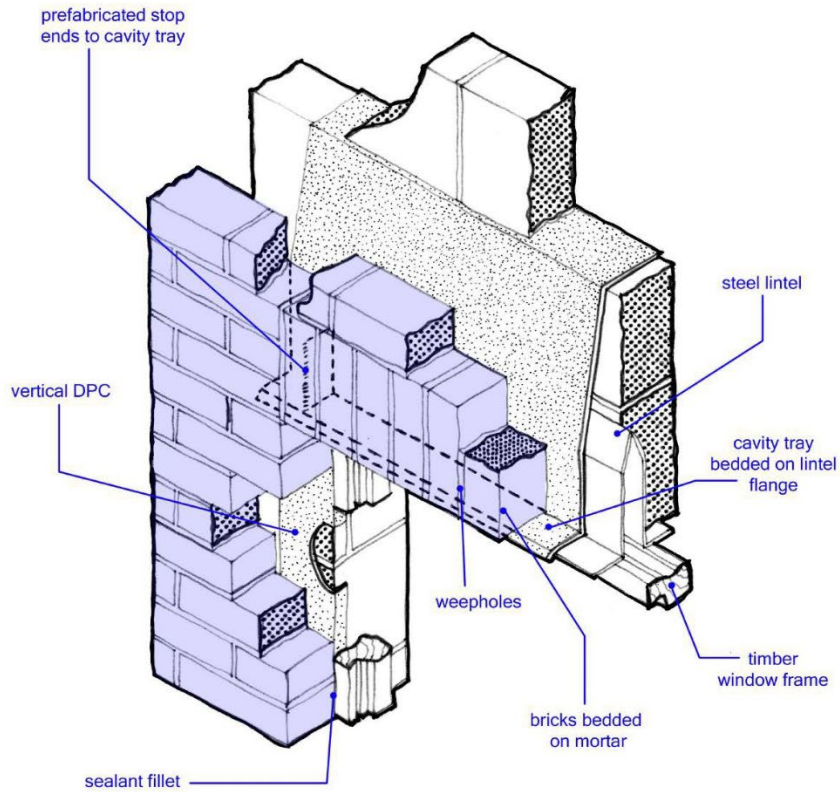
1
2
3
4
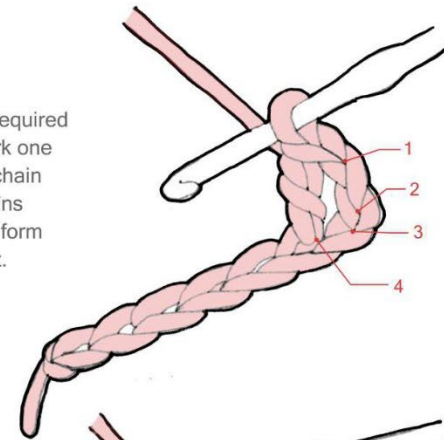
Work one double crochet into the next chain and every chain to the end of the row.
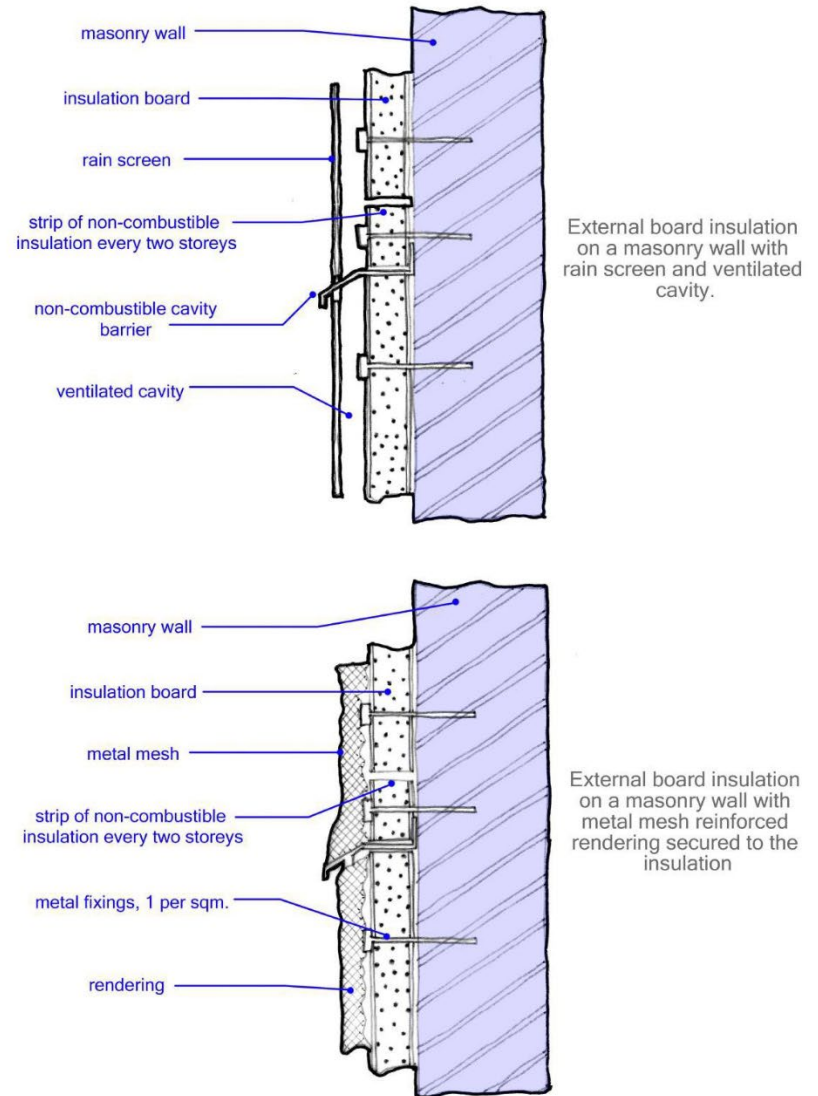
double crochet = 3 chains

window in masonry wall detail

metal screens cladded on masonry walls

prefabricated stop
ends to cavity tray

steel lintel

vertical DPC

cavity tray
bedded on lintel
flange

weepholes

timber
window frame

bricks bedded
on mortar

sealant fillet

cavity tray and DPC systems at a window opening in cavity wall.

masonry wall

insulation board

rain screen

strip of non-combustible
insulation every two storeys

non-combustible cavity
barrier

ventilated cavity

External board insulation
on a masonry wall with
rain screen and ventilated
cavity.

masonry wall

insulation board

metal mesh

strip of non-combustible
insulation every two storeys

metal fixings, 1 per sqm.

rendering

External board insulation
on a masonry wall with
metal mesh reinforced
rendering secured to the
insulation

crocheting in the round

1.
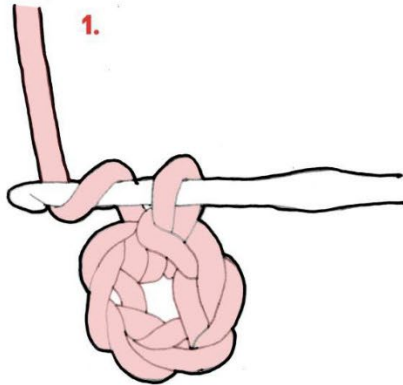
At the beginning of each round, one or more chain(s) can be worked to match the height of the following stitches. (This is equal to a turning chain.) When working in double crochet, three starting chains are required.

2.
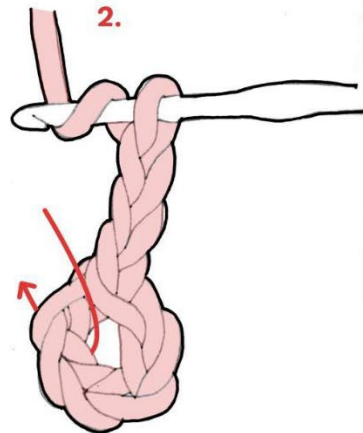
The stitches of the first round are worked by inserting the hook into the empty circle space at the center of the ring.
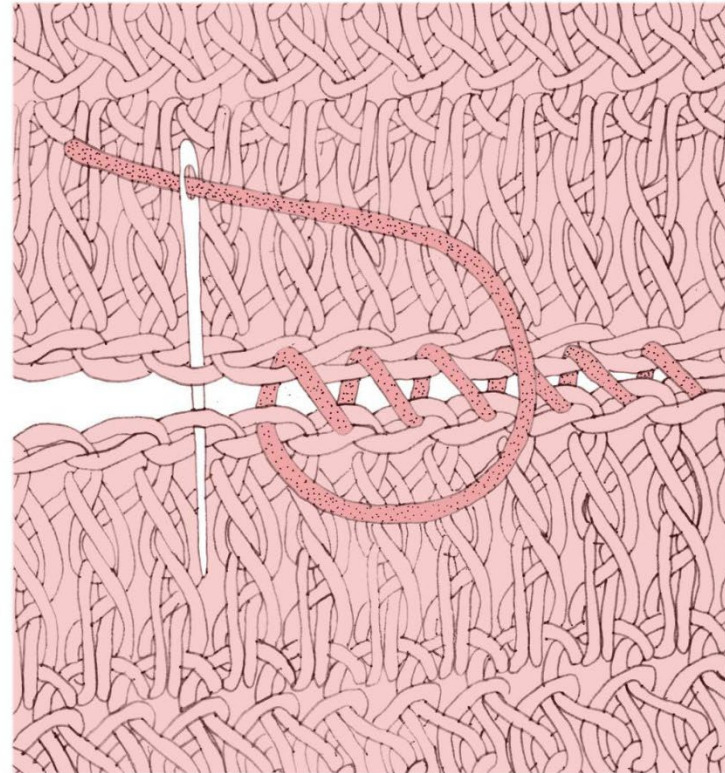
3.
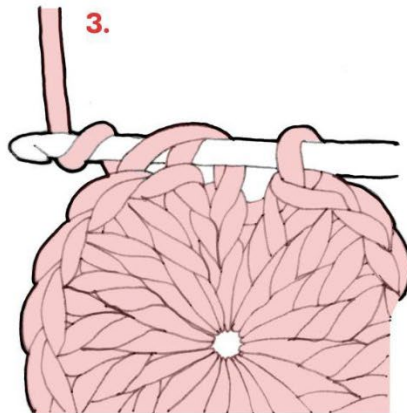
When each round is complete, insert the hook into the top of the chain or stitch at the beginning of the round and make a slip stitch to close the round.
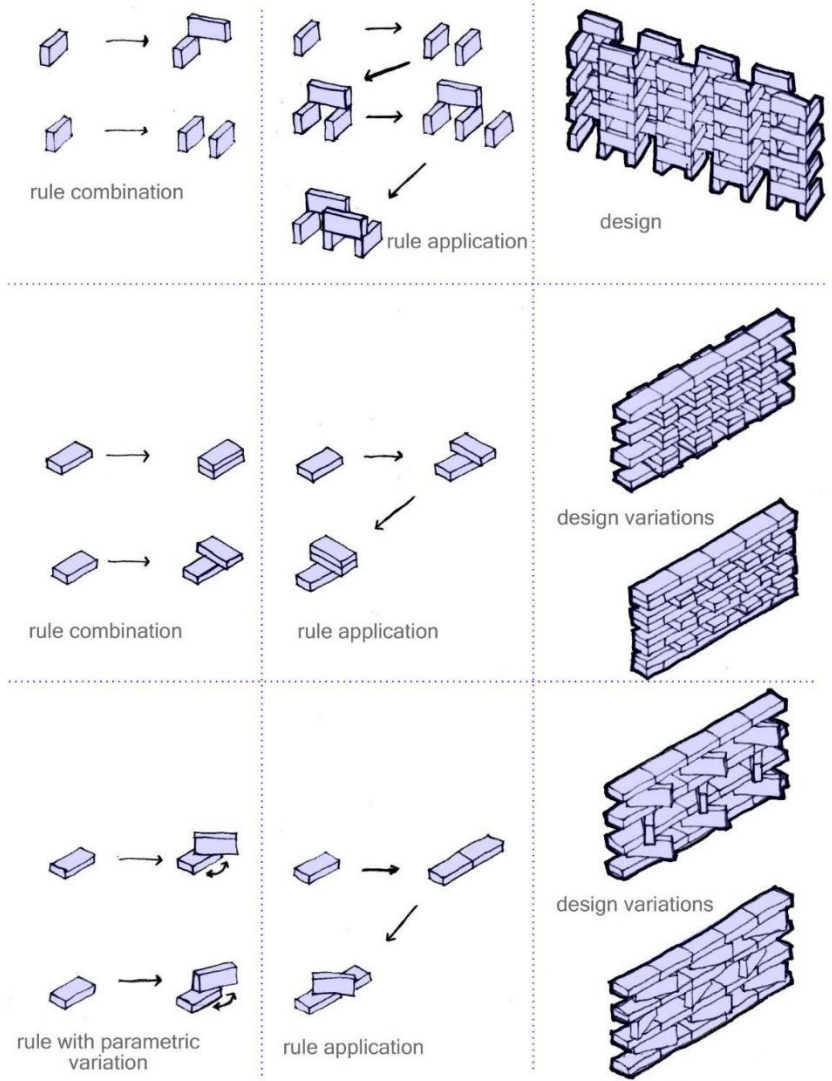
4.
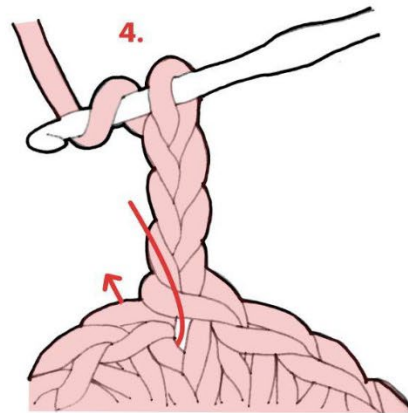
When working the second and subsequent rounds, unless otherwise stated, insert the hook under the two top loops of the stitches in the previous round.
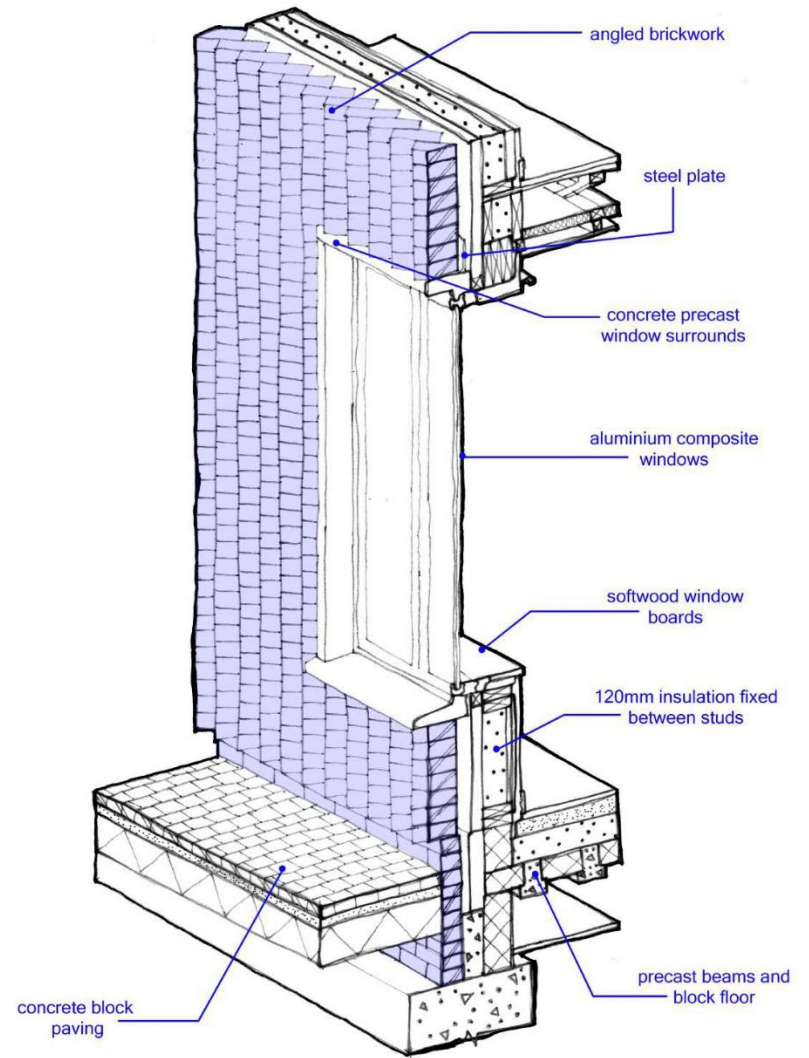
joining seams

To join with an invisible sewn seam, place pieces edge to edge with the wrong sides facing up and whipstitch together.

perforated masonry walls

rule combination

rule application

design

rule combination

rule application

design variations

rule with parametric variation

rule application

design variations

window in masonry wall detail

angled brickwork

steel plate

concrete precast window surrounds

aluminium composite windows

softwood window boards

120mm insulation fixed between studs

precast beams and block floor

concrete block paving

Appendix B – Ethics Approval

UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA · UNIVERSITEIT VAN KAAPSTAD

PRE-SCREENING QUESTIONNAIRE OUTCOME LETTER

STU-EBE-2022-PSQ000026
2022/07/26

Dear Leila Petersen,

Your Ethics pre-screening questionnaire (PSQ) has been evaluated by your departmental ethics representative. Based on the information supplied in your PSQ, it has been determined that you do not need to make a full ethics application for the research project in question.

You may proceed with your research project titled:

Crafting Connections - Unpacking Generational Linkages of Craftsmanship, and Memorialising Cultural Traditions

Please note that should aspect(s) of your current project change, you should submit a new PSQ in order to determine whether the changed aspects increase the ethical risks of your project. It may be the case that project changes could require a full ethics application and review process.

Regards,

Faculty Research Ethics Committee