

THE WATERSHED IN THE VALLEY

A SLOW ARCHITECTURAL APPROACH FOR MAKING THE FUTURE MAKERS

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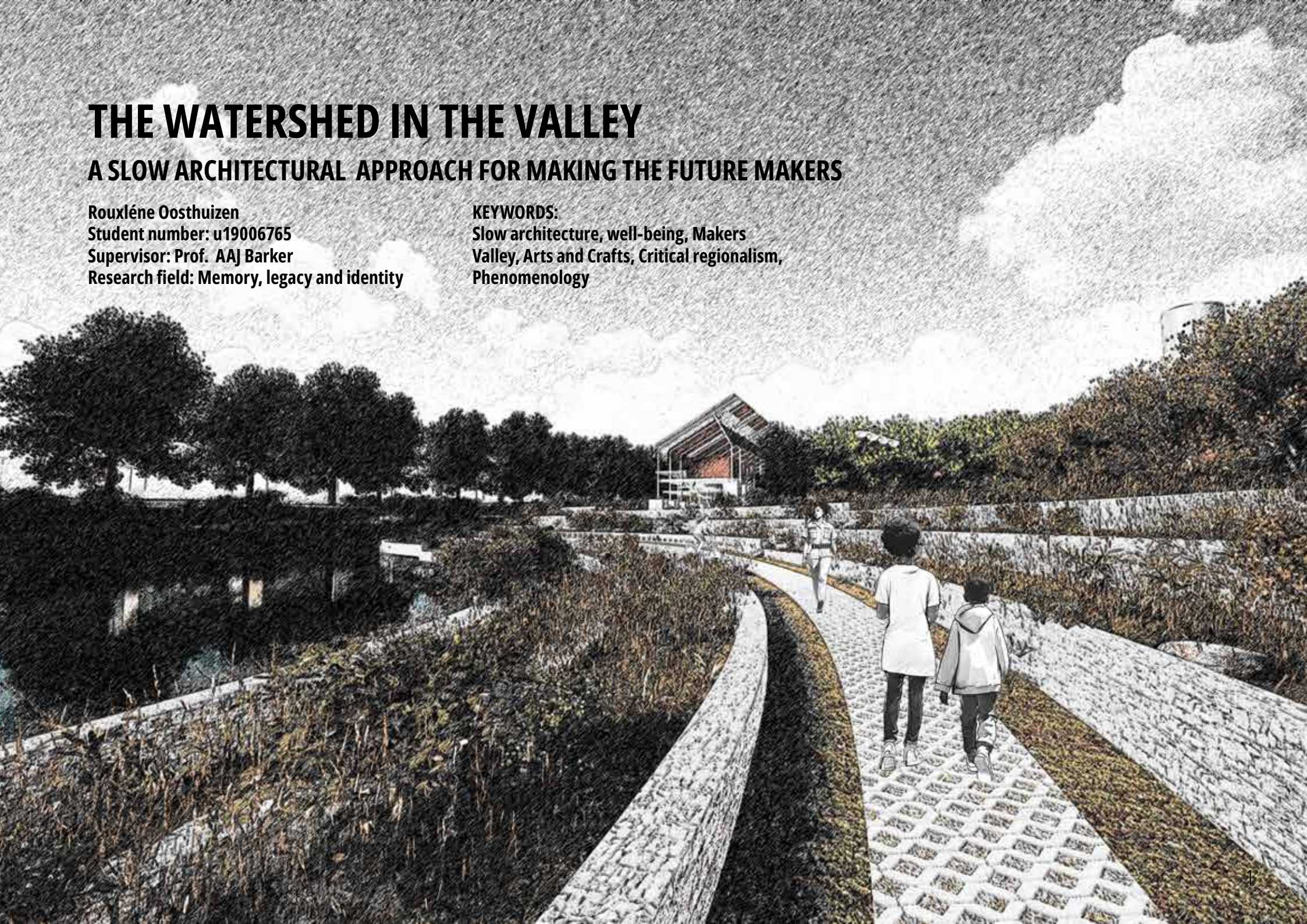
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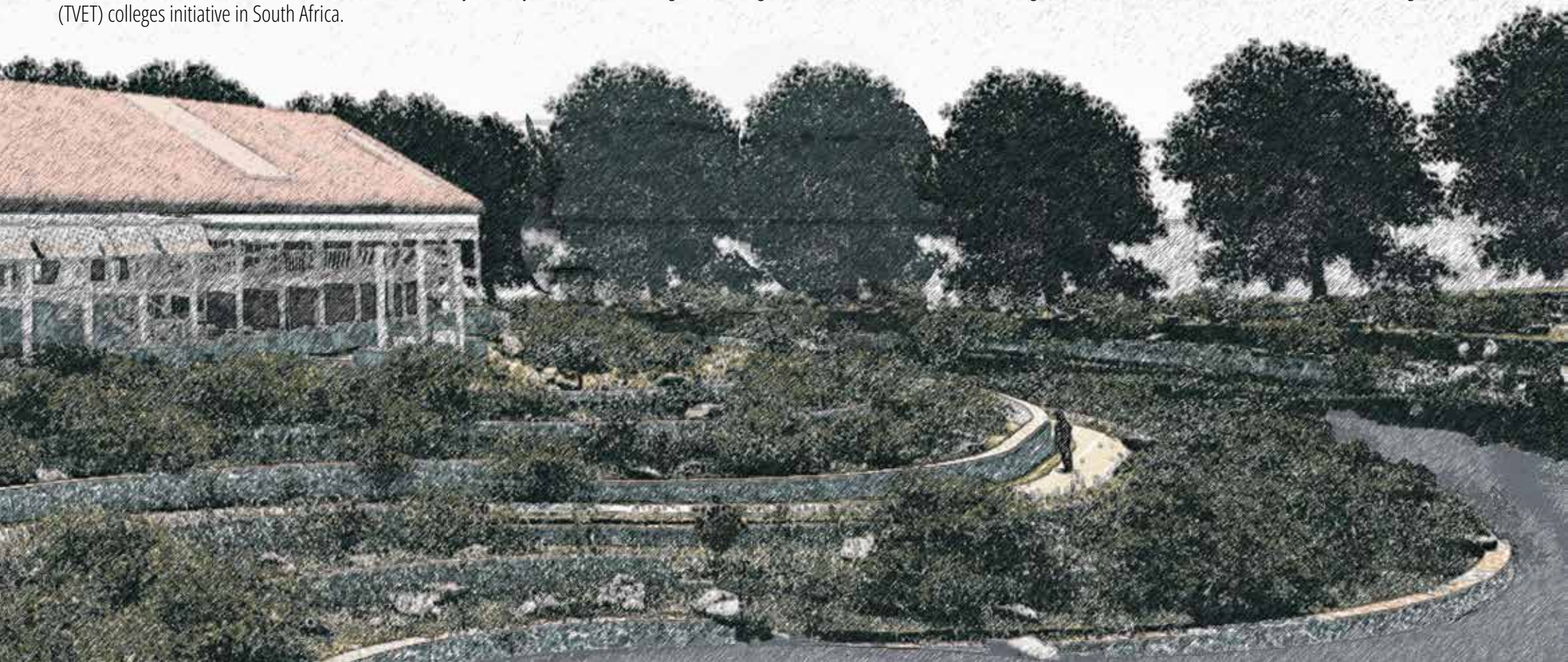
Phenomenology





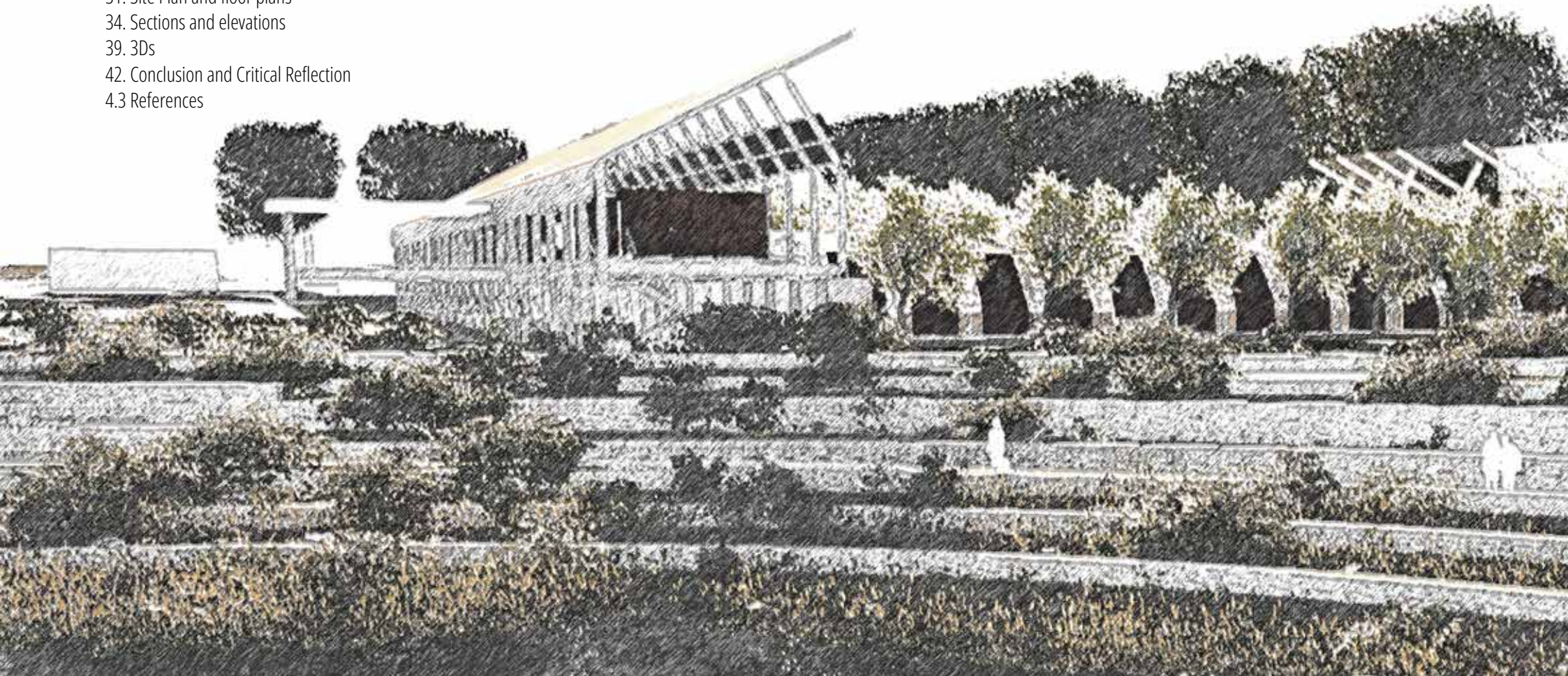
ABSTRACT

This project is an investigation into the application of the principles of a Slow architectural design approach. Slow architecture emphasises a deliberate, thoughtful approach to design and construction with an emphasis on well-being. It advocates for a mindful engagement with the environment, community, and materials, fostering a deeper connection between place and people. The testing ground for this design approach is located in Makers Valley, Johannesburg. The name 'Makers Valley' was derived from community engagement initiatives and refers to the growing existence of many creative entrepreneurial activities in the area: artists, cultural practitioners, artisans, urban gardeners, carpenters, shoemakers, metal and woodworkers, clothing designers and others, live and work in the Valley People who live and work in the neighbourhood hail from across Africa and the world. There are a number of schools and ECDs in the area, but with illiterate immigrant parents, many children struggle academically and are resigned to a bleak future. . The Future Makers School will be an extension of the educational infrastructure in Makers Valley, providing alternative means of education for learners. The intention is to create a place that exposes the youth to the various learning modalities beyond the typical academic settings of the surrounding schools, to explore talents and interests in line with making, whether it is the arts, nutrition, construction, crafts or farming. The school programme will merge the traditional technical and vocational training curriculum with the making and urban agriculture activities in the valley. The school will offer a safe learning environment where the youth can build skills, receive support and learn through observation, trial and error - a place where making can be explored without the pressure of generating an income. The school aims to raise young people who are socially and environmentally aware by producing material resources required by the make-learn activities on site through urban agriculture. This means that alternative, more natural and more environmentally friendly methods of making will be taught, which is in line with The Greening of Technical and Vocational Education and Training (TVET) colleges initiative in South Africa.



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INTRODUCTION

During my Design Investigative Treatise, my normative position is unpacked and developed. The normative position serves as the starting point and backbone for both my research and design project. An architectural normative position describes and explains the position that an architect has taken on what constitutes “good architecture”, on the attitudes architects ought to take, and on how architecture should be practiced (Lang, 1988:602). Architectural normative positions are inherently value-laden and based on deontological declarations. The objective of normative theory is to understand the various positions architects have taken, the reasons for their stance, their intentions and the beliefs on which it is based, their material and design principles and why they have selected them, and the design process used (Lang, 1988:603).

The aim of the study was to develop my personal normative position and to situate it within normative theory, both in a local and global context. It aims to reinforce my normative position through recording, analysing and understanding similar design philosophies of local award-winning architects. Selected artefacts designed by these local architects will also be analysed to determine the correspondence between design philosophy and built artefact. I situated my normative position within the global theories of the Arts and Crafts Movement, Phenomenology and Critical Regionalism, as well as interviews and case studies on the work of local architects, including Kate Otten, Braam de Villiers, André Eksteen, Ilze Wolff and Heinrich Wolff.

My normative position specifically responds to the relation between architecture and well-being. As architects are responsible for the design of places, they inherently impact the quality of people’s lives. Architecture originated as a response to human needs, not only as a shelter to the physical elements, but also as a place of gathering meaning (whether that be social, cultural, material or existential meaning). Whatever architects design inevitably affects the well-being of humans and the wider world - it has social, economic and ecological implications. Therefore, should the ultimate goal of the architect not be to design places that improve well-being? The well-being of not only people, but the planet as well? Architects cannot claim that they are solely concerned with buildings. Such a position is unethical, as it avoids the moral responsibility for the consequences of an action.





Figure 1: Affection
(places of togetherness
and privacy)



Figure 2: Subsistence
(dwelling, home, place
of work)



Figure 3: Leisure
(places of recreation,
rest and relaxation)



Figure 4: Protection
(safe and healthy
places)



Figure 5: Understanding
(places of learning
and experimenting)



Figure 6: Creation
(places of building
skills and making)



Figure 7: Participation
(places of gathering)



Figure 8: Identity
(sense of belonging
to a place)



Figure 9: Freedom
(places of choosing)

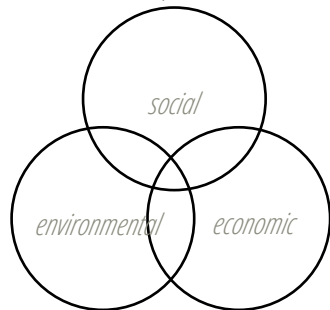


Figure 10: Impact of place

GENERAL ISSUE : WELL-BEING

Well-being is generally correlated with living a meaningful, fulfilling life (Mayson, 2024). This does not imply a life free from challenges, but rather a state of balance between a person’s resource pool and the challenges they face (Dodge et al. in SACN, 2022:86). Well-being concerns quality of life and there are various ways of understanding and measuring well-being in contemporary research and practice. In a consumerist world, GDP and materialistic possessions are commonly assumed to correlate with well-being. Although this is the case for societies characterised by massive deprivation, it is true only up to a certain point (Mayson, 2021:18). Even though the average income per capita has increased exponentially in the global North since the 1970s, there has not been a correlated increase in well-being. Instead, there has been an increase in inequalities, which have had a negative impact on well-being across a diversity of contexts and demographics, including the wealthy (Mayson, 2021:18). There is also growing consensus that GDP-growth and profit-centred economic and development models have led to the surpassing of 'planetary boundaries' (Hes and Du Plessis, 2014:12), resulting in biodiversity loss, climate change and negative impacts on collective well-being for current and future generations (Mayson, 2021:18).

In his proposal for Human-Scaled Development, Chilean economist Manfred Max-Neef (1989:19) argues that well-being is determined by the possibilities people have to adequately satisfy their fundamental human needs. Max-Neef identified fundamental human needs that are universal and constant across cultures and historical periods and categorised them in a comprehensive framework, the Fundamental Human Needs matrix. The respective needs are for subsistence, protection, affection, understanding, participation, leisure, creation, identity and freedom. These needs are distinct from the conventional economic focus on material wealth and instead emphasise a holistic view of human development and satisfaction. His perspective shifts the emphasis from economic wealth to a broader, more inclusive view of development that considers environmental, emotional, social, intellectual, and cultural dimensions. Max-Neef already advocated for eco-humanist development in 1989, placing emphasis on the well-being of people and the planet. It seems the world is only catching on now. New economic models for development have recently begun to surface, such as post-growth, de-growth, Beyond GDP (Mayson, 2021:19-20) and well-being economies (Fioramonti et al., 2022), which pursues human and ecological well-being instead of material growth. Well-being is not just dependent on economic conditions, but also on social and environmental conditions (WHO, 2021:online).

URBAN ISSUE: WELL-BEING AND PLACE

There is an established correlation between well-being and place, as place influences our social, economic and environmental conditions, and thereby our ability to satisfy our fundamental human needs. “Well-being and place are intricately interconnected. Our economic and educational opportunities, our social and political relationships, our environment, and our imaginative cognitive and creative worlds are all profoundly impacted by where we live and who we live alongside” (Bambra in Mayson, 2021:38). Place influences social behaviour and can encourage or discourage social interactions by stimulating or limiting opportunities for people to meet, interact, and form social bonds (Gehl, 2011:13). Place can also provide shelter, create a sense of belonging, express identity and offer a sense of freedom. Place can thus inhibit or facilitate our ability to satisfy our fundamental human needs and thus plays a key role in the promotion of well-being.

ARCHITECTURAL ISSUE: WELL-BEING AND ARCHITECTURE

Architecture has become **profit**- instead of people- and place-driven. Ever since the Industrial Revolution, there has been a focus on **productivity**. It evolved into the tenets of **utility** and **efficiency** of the Modern Movement, which are still eminent in today's **consumerist** driven world. This worldview is focused on serving the individual, and value and truth are only determined by visible and **quantifiable** evidence (Hes and Du Plessis, 2014:23-24), only things that can be measured counts and well-being is determined by the ability to consume. This worldview has **disconnected** people from each other and from place. By submitting to calculative thinking, architects have become creators of objectified experiences, and people participating in the experiences are reduced to mere "users" (Auret, 2015:117). Such post-industrial architecture only values efficiency and emphasises society's nihilistic propensities (Pérez-Gómez, 2016:7). Post-modern, neo-vernacular and revivalist architectural movements also seem shallow: real vernacular buildings are responsive to local materials, climate and culture – they mean something – merely replicating vernacular forms without "links-to-meaning" intact, is just plagiarism (Day, 2004:40). The 'Bilbao Effect' and current 'Green design', with its emphasis on 'efficiencies', 'number-crunching' and "accounting games" (Hes and Du Plessis, 2014:17) are no different (Auret, 2015:117). Such architecture might be efficient, but it is ultimately **unfulfilling**, no matter how sustainable or formally dazzling it might be (Pérez-Gómez, 2016:8).

DE-CONTEXTUALISATION

The Modern Movement, specifically the International Style, severed its roots from its historical, social, cultural and environmental contexts by creating standardised and **interchangeable** architecture that could be placed **anywhere** in the world (Jordaan, 2015:1), but belonged to nowhere (Day, 2004:13). Canadian cultural geographer Edward Relph (in Jordaan, 2015:4) calls this phenomenon **placelessness**, or American cultural analyst Howard Kunstler describes it as a '**geography of nowhere**' (Jordaan, 2015:4). Buildings became **freestanding** objects and inwardly focussed (Trancik, 1986:9). An **international** architecture was championed across the globe, regardless of differences in climate, culture or tradition (Day, 2004:13). Climatically inappropriate buildings (and therewith their occupants) became dependent on artificial and mechanical means of lighting and ventilation, relying extensively on **energy intensive** measures to make buildings habitable. It must be kept in mind that not all modernist architecture was decontextualised, such as Brazilian Modernism. However, the disregard towards the sensitivities of the context of the International Style has left an enduring legacy, negatively impacting the environment and cultures.

DE-HUMANISATION

Architecture has become not only has decontextualised, but dehumanised as well. Many places today are regarded as "**awkward, intimidating, unpleasant and dysfunctional**" (Seamon in Jordaan, 2015:2). Cooke (2013:5) argues that architects need to re-learn "simple human things" that were devalued in the development of Western philosophy since the Enlightenment. These things were mainly the "non-rational parts of existence, difficult to define but essential to the **good life**, such as identity, community, homeliness, ritual, touch and mystery.". Jordaan (2015:145-146) writes that architecture influences the combined **physiological** and **psychological** states of human bodies, thereby directly impacting on human well-being. Mallgrave (2015:17-18) also states that the quality of our environments powerfully impacts our mental and biological development (and therefore well-being). The fundamental premise here is that well-being is connected to the **human experience** of space. Indifference towards the human experience has created places that inhibit human needs and are detrimental to well-being.

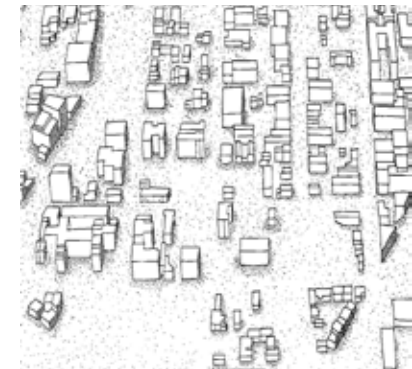


Figure 11: De-contextualisation



Figure 12: De-humanisation

NORMATIVE POSITION: TOWARDS AN ARCHITECTURE OF WELL-BEING

My normative position responds to the various issues related to **well-being** and entails a **Slow** approach to architecture. The word Slow is adopted from the various Slow movements. Slow does not necessarily mean slower production, but instead a more **thoughtful** approach that considers the consequences of choices (Louw, 2014:158). The word Slow refers to a balanced way of living and is concerned with the **quality** of life and things (Heinonen et al., 2006:94). Slow Movements are among many global trends concerned with health and well-being. Slow Movements include the Slow Food, Slow Design, Slow Living, Slow Housing and Slow Cities Movements (Beverland (2011), Heinonen et al. (2006) and Louw (2014)). Slow movements **critique** the current **consumerist** driven world where quantity is preferred over quality and decisions are made without regard for their **long-term impacts** on the well-being of the environment, economy and society. Gasparin et al. (2020:552) cites the work of multiple researches to demonstrate that the current models of production, distribution and consumption are fuelled by a culture of overconsumption which depletes natural resources, contributing to climate change, the loss of biodiversity, the degradation of natural resources, ethical disputes, increased impoverishment in underprivileged populations, waste management dilemmas, inefficient and excessive energy usage and increased vulnerability for many developing countries in which globalised products are manufactured. **Slow Food** was the first Slow movement and it originated in the 1980s in Italy, with Carlo Petrini as its main founder (Beverland, 2011:36). The movement critiques the globalised practices of mass-produced food, such as the sourcing of food from unknown origins, homogenised taste and the use of genetically modified organisms, pesticides, herbicides and fertilisers, and copious amounts of additives. Architecture has frequently adopted ideas from philosophy, social, and art movements, and as Louw (2014, citing Ceppi, 2019:136) explains, the Slow Food movement presents another such opportunity, offering new design approaches with the emphasis on quality and well-being. My normative position thus consists of the attitudes of Slow Food being adapted and applied to architecture.

SLOW ARCHITECTURE IS...

HOLISTIC

Slow architecture regards its context as a living, interrelated **system** into which it must be integrated and considers the broader **social, economic and environmental** context (Hes and Du Plessis, 2014:17).

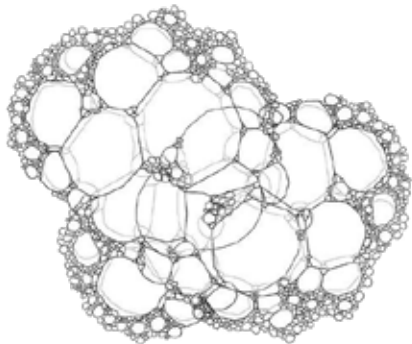


Figure 13: Holistic

CONNECTED

Slow architecture creates a **direct connection** to its **context** through interfaces with the landscape, **climatically appropriate** design, and **contextually sensitive building typologies** and **technology**.

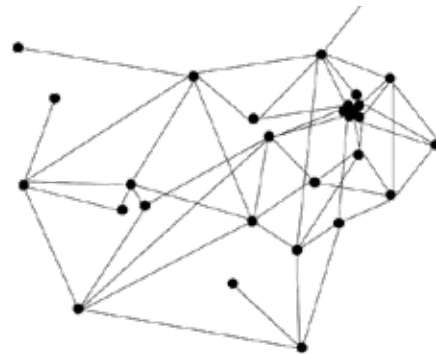


Figure 14: Connected

CATALYTIC

Slow architecture aims to actively **improve** the well-being of the context, to act as a **catalyst** for **positive** change in the larger context (Hes and Du Plessis, 2014:11).

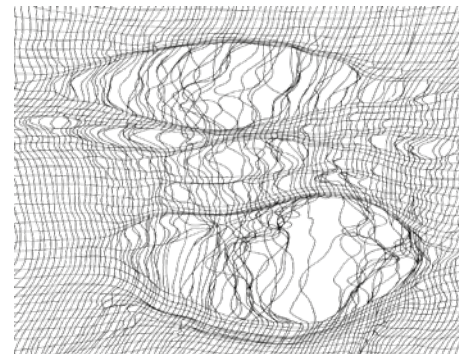


Figure 15: Catalytic

ETHICAL

Slow architecture views construction techniques as opportunities to enhance the well-being of the craftspeople, **preserving** traditional craftsmanship, facilitating **skill-building** and **knowledge-transfer** during the making process.



Figure 16: Ethical

SLOW ARCHITECTURE IS...

LOCAL

Slow architecture uses **locally sourced** and sustainable materials, opting for natural, renewable, reclaimed materials, or minimally processed materials that are kept close to their natural state, which retains the material's inherent connection to place.

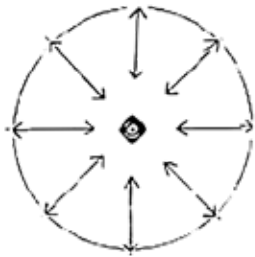


Figure 17: Local

EMOTIONAL

Slow architecture is concerned with creating atmospheres conducive to **positive** emotions, enhancing life to become wholesome and healthy (Pérez-Gómez, 2016:24).

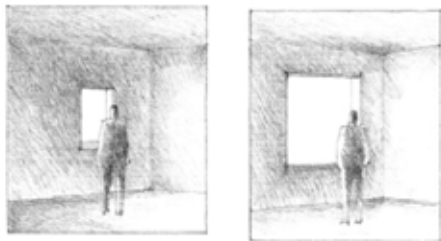


Figure 21: Emotional

HONEST

Slow architecture reveals the hand of the maker by **clearly articulating** joints, connections and structural load-bearing element, creating an **honest** and **legible** character that establishes a sense of integrity and trust. Slow architecture allows materials to **age** naturally over time without maintenance, as patina, weathering or decay poetically shows evidence of the **transience** of life (Louw, 2014:158)

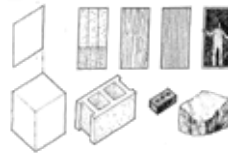


Figure 18: Honest

SENSUAL

Slow architecture is concerned with how it is experienced through the **senses** in terms of bodily involvement, light, colour, smell, temperature, climate and sound (Jordaan, 2015:145-146).

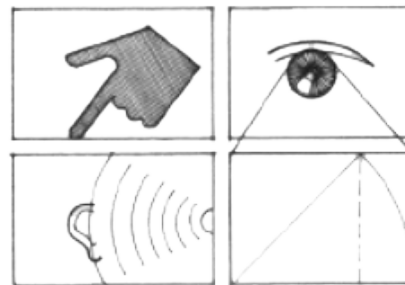


Figure 22: Sensual

POETIC

Slow architecture values **beauty and poetics** in architecture, as it is "life-affirming, a gift of meaning central to our psychosomatic health, to a sense of **attunement** with our environment" (Pérez-Gómez, 2016:9)... **rhythm, composition, scale, proportion, hierarchy, light, mass void...**

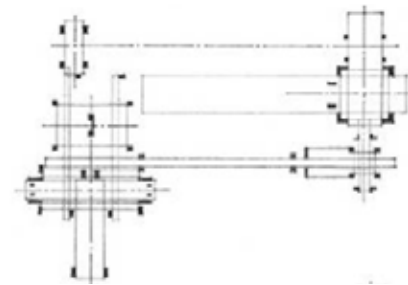


Figure 19: Poetic

SOCIAL

Slow architecture would acknowledge that places influence social aspects of life, and so places should be designed to foster a sense of inclusivity, **safety** and **belonging**.

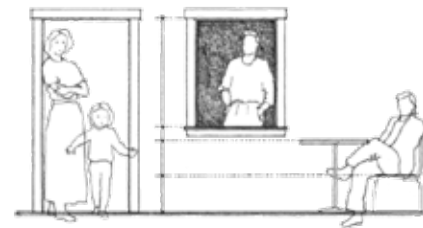


Figure 23: Social

FUNCTIONAL

Slow architecture considers both **utility** and **pleasure**; both **functionality** and **wonder** to make places that work well not only **pragmatically** but also "evoke **life**, sustenance, pleasure, and wonderment (Seamon in Jordaan, 2015:155)".

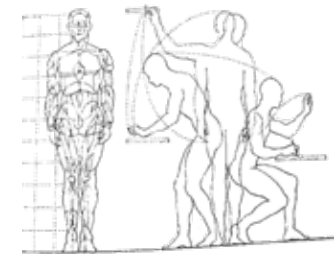


Figure 20: Functional

MEANINGFUL

Meaning directs our consciousness back to the world and towards our own sense of self - it ultimately strengthens our sense of self, and permits us to engage fully in the mental dimensions of dream, imagination and desire (Pallasmaa, 2012:12-13)

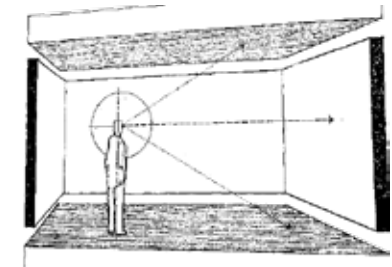


Figure 24: Meaningful

A SLOW DESIGN APPROACH

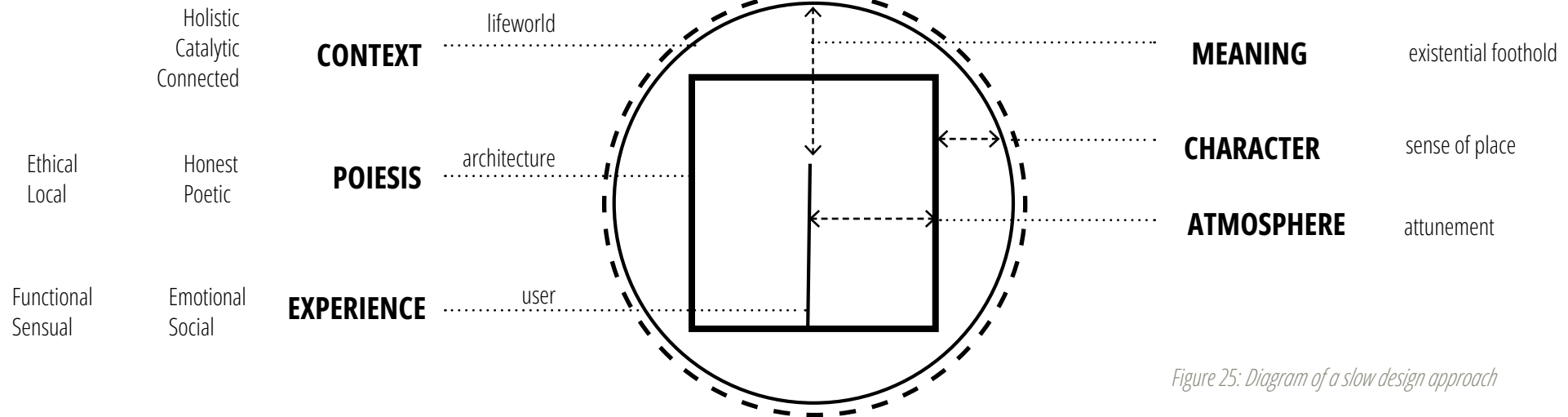


Figure 25: Diagram of a slow design approach

I have found that my design process is informed by three key considerations - context, poiēsis and experience. These aspects were derived from reflecting on my personal approach to design, which has been influenced by my education, experience and intuition up to now. The previously discussed attitudes of Slow architecture can be categorised under these three considerations:

- Context refers to both tangible and intangible aspects of the environment, including buildings, topography, ecology, history, economy, culture and politics. The attitudes of Slow architecture related to context entail a holistic, catalytic and connected approach with the aim of fostering well-being.
- The Greek verb poiēsis means “to make”. Similar to Slow Food, Slow architecture regards making (poiēsis) as both an art and craft, not just a means to execution. In terms of art, architecture is concerned with the poetics of what is made. Etymologically, poiēsis gave rise to the word “poetics”, so poetics is clearly linked to how something is made (Antoniades in Auret, 2015:97). In terms of craft, architecture deals with the process of making and knowledge (techné) thereof. Slow architecture interprets poiēsis not only as the act of making, but poetic and techné- inspired making. The attitudes of Slow architecture related to context entail an ethical, honest, local and poetic approach to enhance well-being.
- Experience refers to the embodied act of experiencing architecture, mentally, physically, emotionally and spiritually. The attitudes of Slow architecture related to context entail a functional, emotional, sensual and social approach to encourage a sense of well-being.

The three considerations, context, poiēsis and experience, are not independent of each other. Experience and poiēsis are intertwined in the form of atmospheres, as atmospheres are experienced through the senses, but created through poiēsis. Space or place always have atmospheres that can allow one to identify with certain emotions, which impacts well-being. Context and poiēsis are intertwined in the form of character: when architecture responds to its context through poiēsis, it gains a distinctive character that speaks of its locality within the world, allowing one to gain a sense of place. Poiēsis is the physical manifestation of architecture and acts as the mediator between the user and the lifeworld. In order to promote well-being, poiēsis should be informed by context and experience. Atmosphere and character makes architecture rich in meaning. Meaning allows one to gain an existential foothold. It directs our consciousness back to the world and towards our own sense of self - it ultimately strengthens our sense of self, and permits us to engage fully in the mental dimensions of dream, imagination and desire (Pallasmaa, 2012:12-13) To promote well-being, architecture should be about the making of meaningful places.

CONTEXT: MAKERS VALLEY, JOHANNESBURG

Considering the focus on the well-being, a site and working context facing numerous issues related to well-being was selected. Makers Valley comprises a diverse but stigmatised collection of neighbourhoods located east of Johannesburg's central business district. Makers Valley stretches from New Doornfontein to Bezuidenhout Valley, and includes Bertrams, Judith's Paarl, Troyeville and Lorentzville. The area is contending with opposed forces of regeneration and deterioration (Mayson, 2021:3), with teenage drug dealers, decaying infrastructure, marginal housing, a polluted river and undeveloped sites in opposition to vibrant making culture, community initiatives and the development of the Victoria Yards.



Figure 26: Johannesburg located in South Africa



Figure 30: Aerial view of Makers Valley



Figure 27: Makers Valley located in Johannesburg

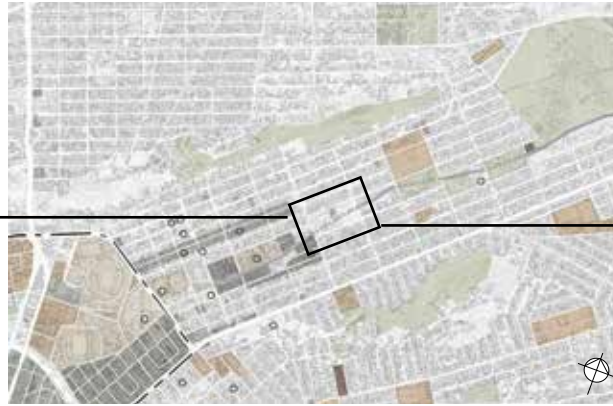


Figure 28: Site located in Makers Valley



Figure 29: Selected site

SLOW ARCHITECTURE IS HOLISTIC: UNDERSTANDING THE DETRACTORS OF WELL-BEING IN THE CONTEXT

ECONOMIC



Figure 31: Poverty

Within Makers Valley, approximately 44% of the 44 872 residents are aged between 15 and 34, and it is estimated that at least half of them are **unemployed** (MVP, 2020:2). There is a lack of economic activity, dominant low income patterns, high occupancy of semi to **unskilled** labour and high unemployment rates. Without tertiary **education**, there is a shortage of job opportunities for young adults in the area, and so they often turn to crime and drugs (MVP, 2018: 25). There is thus a need for both skill-building and opportunities for unskilled workers in the area.

SOCIAL



Figure 32: Under-Served Youth

People who live and work in the neighbourhood hail from across Africa and the world (Mayson, 2021:25). There are a number of schools and ECDs in the area, but with **illiterate** immigrant parents, many children **struggle academically** and are resigned to a bleak future. Most children wander the streets **without adult supervision** and mothers voiced their concern of not having a place to leave their children whilst at work (MVP, 2018:27). Parents begin to **resent** their children, because they are seen as hindrance to be able to work (Mayson, 2021:139-140).

ENVIRONMENTAL



Figure 33: Polluted Jukskei River

The Jukskei river is **polluted** by untreated sewerage from damaged infrastructure, industrial waste, and litter. The river channel is merely regarded as a dump site or a spot for criminal activities. "What should be an asset for the community is a **hazard** and a health risk" (Water for the future, 2024:online). The toxic nature of the Jukskei River's water is detrimental to the health and well-being of the community (Makers Way, 2018:3).



Figure 34: Exclusion

Despite the ample green spaces, which are spread evenly throughout the study area, there is a **lack of safe, accessible and usable public space** (Coj, 2016:22). Children are not able to play in the park because adults occupy it to smoke, drink and perform illegal activities (MVP, 2018: 34). **Access** to most of the sports fields (Ellis Park and Maurice Freeman Centre) is **restricted** with public access being the exception rather than the norm (Coj, 2016:22). There is lack of other community facilities, in terms of community centres, libraries and health services (MVP, 2018: 25).



Figure 35: Safety

Safety and security are top concerns for community members and are partially linked to the **drug** trade (Coj,2016). Intoxicated men sometimes roam the streets, people fear getting mugged (MVP, 2018:8; Mayson, 2021:95), numerous street lights are broken and criminals live in broken public toilets, creating **crime** hot spots (MVP, 2018:31). Domestic **violence** in the area is a huge concern. "In this community many children are not awarded the "luxury" of being sheltered from issues including rape, crime and abuse," (MVP, 2018: 35). The area is marked by **gang** activity, and some kids from a very young age are approached to join local gangs (MVP, 2018:11).



Figure 36: Degradation

Neighbourhood stakeholders identified issues around governance and **urban decay**, including **derelict** buildings, and the lack of management and maintenance of municipality-owned residential properties and vacant plots. The failure to develop or release vacant undeveloped sites to the private sector, has resulted in these sites becoming home to squatters and vagrants, or informal **rubbish** dumps.

SLOW ARCHITECTURE IS HOLISTIC: UNDERSTANDING THE DETRACTORS OF WELL-BEING IN THE CONTEXT

ECONOMIC



Figure 37: Victoria Yards

The **Victoria Yards** development serves as the venue for community initiatives and community stakeholder engagement sessions. The Victoria Yards is also a popular **destination** amongst **wealthy** people from higher income areas of Johannesburg. It **generates income** for the area **however**, it is not an inviting space for all people from the surrounding areas, this is in part due to the **exclusive** luxury products and high prices (MVP, 2018: 22). There is a need for more spaces that are inclusive of the community.

SOCIAL



Figure 38: Community Of Makers

The name '**Makers Valley**' was derived from community engagement initiatives and refers to the growing existence of many **creative entrepreneurial activities** in the area: artists, cultural practitioners, artisans, urban gardeners, carpenters, shoemakers, metal and woodworkers, clothing designers and others, live and work in the Valley (MV, 2024:online). Initiatives include Love Our City Clean (LOCK)- a **local recycling** company, Moon Valley Studios - a hub of artists, and Victoria Yards - a hip workshop environment.

ENVIRONMENTAL



Figure 39: Lush Vegetation

Before gold was discovered in the area in 1886, there were several farmers on the Witwatersrand. These early farmers brought seeds from the Cape and planted **acorn, oak and walnut trees**. Many of these large trees still line the streets. The Bezuidenhout family, among the first white settlers in the area, built their farmhouse in 1863 on the farm Doornfontein. They planted **orchards of fruit trees**, although these no longer exist.



Figure 40: Urban Farming

There are several initiatives to turn Makers Valley into a green and fertile neighbourhood by planting vegetables and food trees along the streets and home gardens. There is a vision for edible streets, where Makers Valley is a corridor of food. Vegetables would be available for community members to harvest as they ripen, and residents are encouraged to plant food gardens of their own. Initiatives include Growing Communities, Ndawo Entle, Bambanani Urban Farm in Bertrams and the Siyakhana Food Garden.



Figure 41: Community initiatives

Makers Valley was **founded** on the co-creation of a localised **Well-being Economy**, which honours both human and ecological development. Cooperative values are practiced within an inclusive ecosystem of public, private and non-profit **institutions**, i.e. **Changemaker Children** (an early childhood development (ECD) initiative, **The People's Pantry** (a registered NPC that improves food insecurity in the Makers Valley by supporting local community kitchens in providing healthy food to community members in need. The company rescues surplus food and runs food preservation workshops to limit wastage.



Figure 42: Rejuvenated Jukskei River

Water for the Future is a citizen-led NGO with the mission of revitalising the river and its surrounds and they envision an "**accessible, walkable, green corridor along the waterway that enables a thriving ecosystem and the economic prosperity, health and well-being of Johannesburg's citizens**" (Water for the future, 2024: online). The river was a keystone in the historical development of the area and offers an exciting opportunity for rejuvenation.

SLOW ARCHITECTURE IS HOLISTIC: UNDERSTANDING THE CONTEXT AND LARGER URBAN ISSUE

Theory: Lost Space (1968) by Roger Transick

In his book, *Lost Space* [1968], Roger Transick defines Lost Space as space that no one cares about, let alone maintain. Lost Space makes little positive contribution to its surroundings or people, does not serve its purposes and fails to connect elements in a coherent way [1986:2-4]. South African urban frameworks are rife with lost public space. This is due to a number of causes, such as the focus on the automobile, the architectural Modern Movement's approach to public space, monofunctional zoning and minimal investment in public infrastructure. Lost space is undesirable urban areas that require redesign. Examples of lost space are expansive parking lots, stagnant vacant sites, sites cleared by demolition, marginal public housing projects and deteriorating public parks, which are now merely relics of a social system that valued the notion communal stewardship (Brooks et al., 2022:44).



1. Undeveloped residential site
2. Dilapidated community centre & sports park
3. Vacant Park
4. Vast vacant park



Lost space is evident in Makers Valley in the form of underdeveloped and dilapidated sites. They detract from the community's well-being, as they have become crime hotspots, gang territory, spaces of illegal occupation and illegal dumping. These sites do not positively contribute to their surroundings and serve no productive function. The sites are vast and open, with ill defined boundaries, leaving one to feel exposed. They are disconnected from the surrounding residential urban fabric, with little sense of ownership and belonging from the community.

Figure 43: *Lost Space In Makers Valley*

SLOW ARCHITECTURE IS HOLISTIC: RESEARCHING THEORIES TO ADDRESS LOST SPACE

Theory: Lost Space (1968) by Roger Transick

- i. Relationship between solid and void
- ii. Vast open spaces are seldom used or enjoyed
- iii. Conceptually, the space is carved from the mass

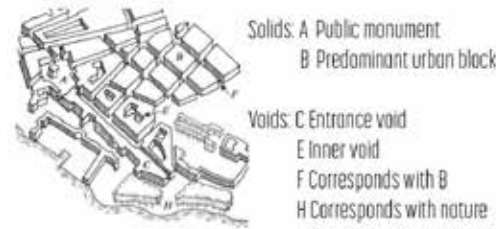


Figure 45: Types of solids and voids

Public institutions should serve as centrepieces in the city fabric. These buildings, often visual foci, need to sit prominently in open space to announce their presence and express their social and political significance. The forecourts to public monuments and institutions, with their grand entrance stairs and the open spaces surrounding them, are often as important as the monuments themselves.

FIGURE GROUND THEORY

- i. Dynamics of circulation generate urban form
- ii. Emphasis on movement and connection

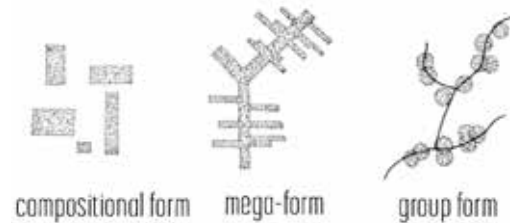


Figure 46: Types of order

Linkage is the controlling idea for ordering buildings and spaces in design. The composition of public space is established as a totality before either individual spaces or buildings are planned.

LINKAGE THEORY

- i. Combination of figure ground and linkage theory
- ii. With added historical, cultural and social layers

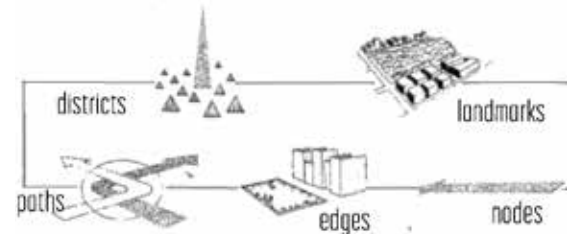


Figure 47: Components of place

Space is a bounded or purposeful void with the potential of physically linking things, it only becomes place when given contextual meaning derived from cultural or regional content. Each place is unique with its own atmosphere and character.

PLACE THEORY

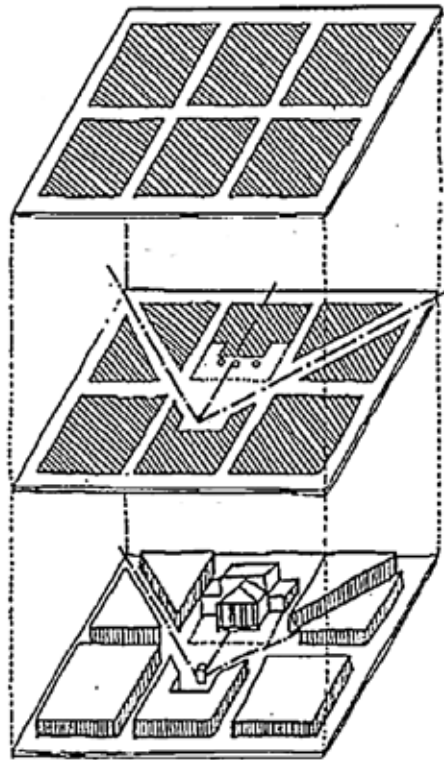


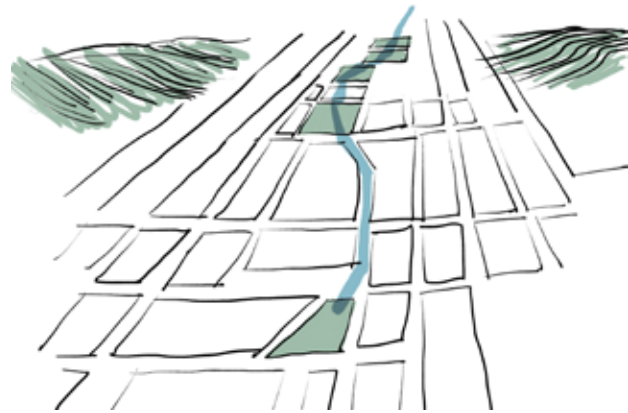
Figure 44: Diagrams of urban planning theories

SLOW ARCHITECTURE IS CATALYTIC: URBAN INTENTION

THE JUKSKEI PARKWAY



Figure 48: Proposed nodes



A continuous park and walkway is proposed along the Jukskei river to link important community nodes and to provide a safe pedestrian route. The Jukskei walkway would allow opportunities for interactions between properties bordering the river, creating passive surveillance, connectivity and a greater sense of community. A new string of community nodes is proposed to replace the series of Lost Spaces along the river. The walkway would stretch from Fuller Park up to the Bez Valley Clinic. The walkway would branch out to connect to the local schools and business high street via sidewalks and cycling lanes. The architectural focus going forward will be on site 3,

1. The Jukskei Parkway starts at Fuller Park
2. Victoria Yards (commercial)
3. The Watershed (educational)
4. Fitness club (recreational)
5. Moon Valley Studios (recreational)
6. Urban farm across Bez Valley Clinic

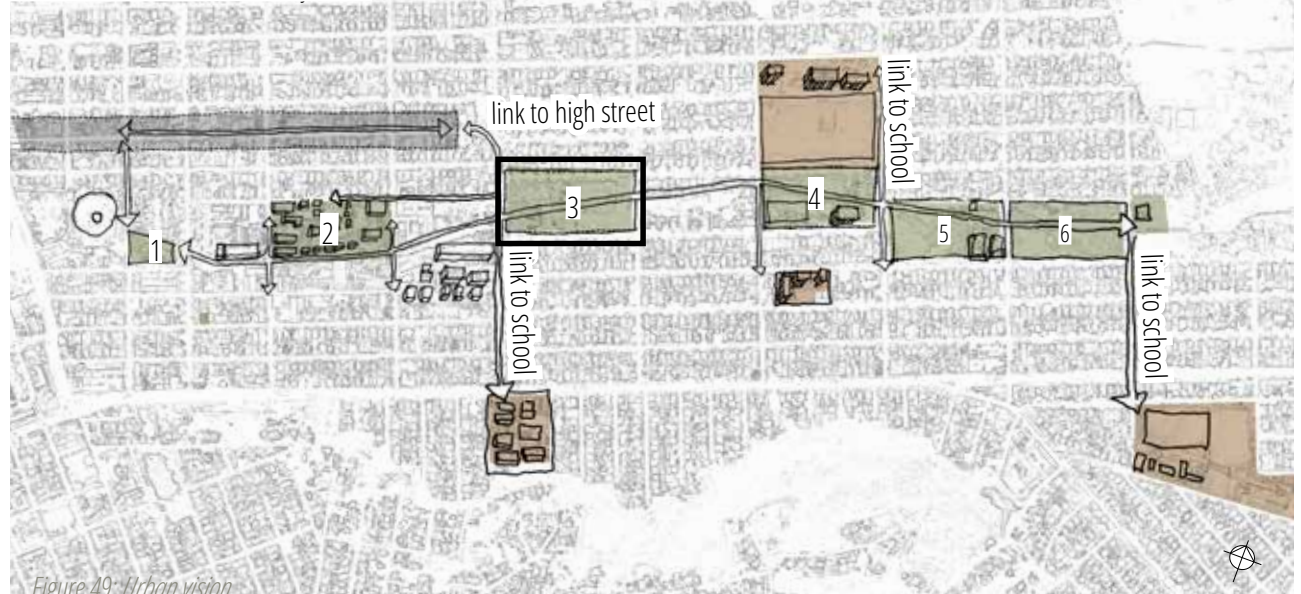


Figure 49: Urban vision

SLOW ARCHITECTURE IS HOLISTIC: ANALYSING THE SITE



Figure 50: Treescape



Figure 51: Open canal



Figure 52: Canal below ground



Figure 54: ECD



Figure 55: Urban farming



Figure 56: Sports field



Figure 53: Street view of site

The site is a vacant residential zoned block that has never been developed and has been lost to urban degradation. There is evidence of dumping and the site is filled with an overgrowth of invaded species that limit visibility. The site is located at the floor of the valley, and as such the Jukskei River runs through the site. The Jukskei river is polluted and buried in a canal below the ground. A small ECD is isolated in the centre of the site, with little interaction with its surroundings. Urban farming is practised on a small scale in the centre of the site, but a lack of access to water hampers further growth. Lush avenues of colossal oak trees border the site. The site is situated in a fine grained residential suburb, with larger scaled industrial buildings to the west.



DESIGN DEVELOPMENT: CONCEPTS

DESIGN BY SUBTRACTION

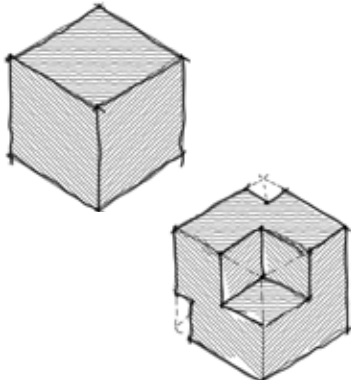


Figure 57: Design by subtraction

Design by subtraction involves sculpting a building's form by strategically removing volume from a solid starting mass, rather than adding forms onto it. The starting mass acts as a principle ordering device in terms of orientation and circulation. The subtractions are informed by the context as to better respond in terms of scale, proportion and rhythm. Other subtractions are in response to key functional areas in between buildings, such as courtyards, entrances, and pathways. Volumes are also cut away to allow for natural light and ventilation and to create overhangs and recessed openings.

SUPERSTRUCTURE WITH INFILL

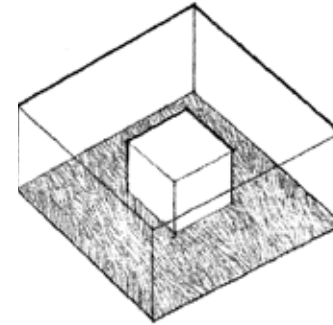


Figure 58: Superstructure with infill

Space within a space:
A larger space envelopes a smaller space within its envelope. For this to be perceived, a clear differentiation in size is necessary between the two spaces, otherwise the larger space would lose its impact as enveloping form.

Flexibility:
The inner spaces can be independent from the outer space, allowing for reconfiguration if programmatic needs change.

BUILDING AS A VOID



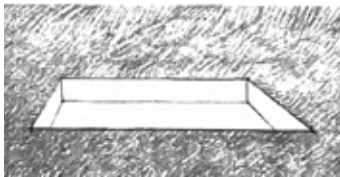
Figure 59: Building as a void

Space is created within the landscape by cutting it away to create a depression.

Conceptually, these spaces relate to the elements of the earth and water, as well as stereotomic mass.

Experientially, these spaces evoke a sense of submersion and "being below", as if peering up.

Functionally, these spaces are cool and allow for wet activities to occur.



BUILDING AS A TREE



Figure 60: Building as a tree

Space is created above the landscape through an overhead plane.

Conceptually, these spaces relate to the elements of the light and air, as well as tectonic structure.

Experientially, these spaces have an ethereal atmosphere, with dappled light and a sense of being suspended in the air.

Functionally, these spaces are naturally ventilated and allow for dry activities to occur.



FLOOR PLAN: DEVELOPMENT

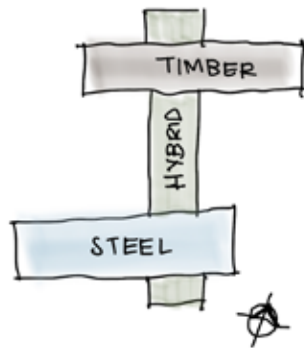


Figure 61: Three main masses

The building is made up of three interconnecting masses. The building technology of the masses changes from timber to steel as it moves from the tree-lined street edge towards the river..



Figure 62: Educational areas

The educational spaces are smaller spaces within the large space of the whole building. Spaces are grouped together by age group as to limit access to spaces that are unsafe for other age-groups..

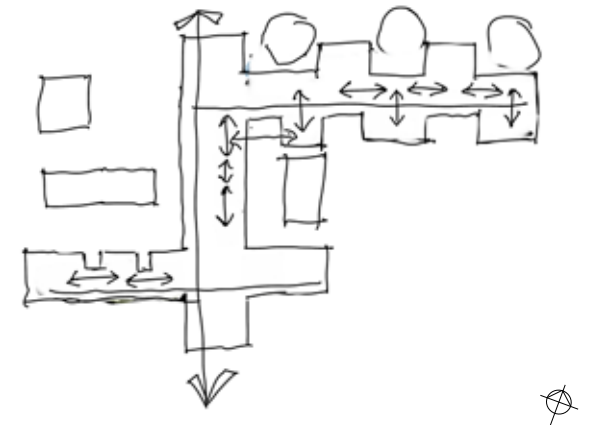


Figure 63: Links between programmes

The educational spaces are arranged so that synergy is created between programmes that deal with similar materials or making-skills. It allows for one type of making to connect with the other.

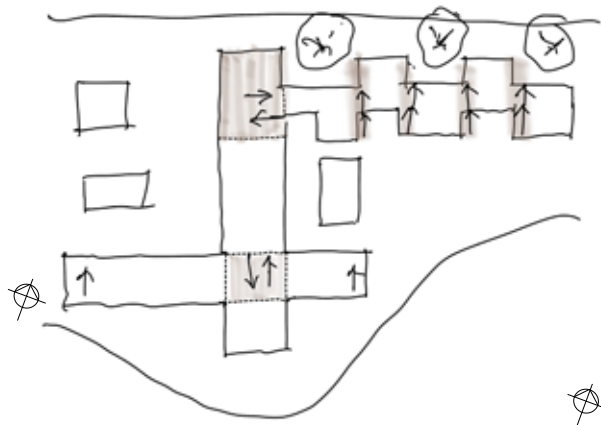


Figure 64: Intersections as vertical circulation spaces

The two points of intersection between the masses become the central vertical circulation spaces, while the spaces between the smaller edges becomes fire escapes.

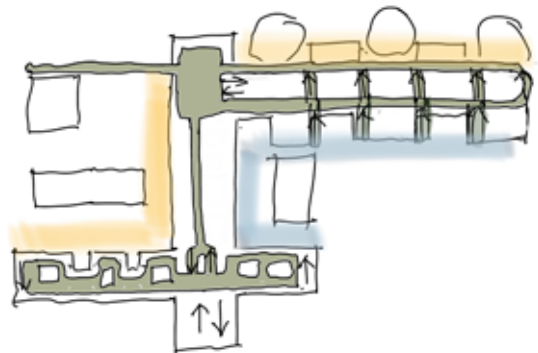


Figure 65: Public vs. private circulation

On the outer edges of the building, a public (yellow) and private (blue) circulation route is defined. On the interior, the circulation route (green) envelops the educational spaces.

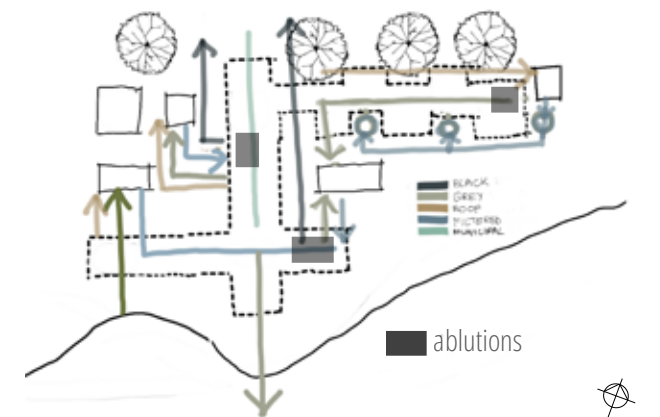


Figure 66: Water routes

As the building borders a river, special attention is given to water related services, including rainwater harvesting and grey-water filtration through wetland ponds.

SITE PLAN: DEVELOPMENT

FIGURE GROUND THEORY: VAST OPEN SPACES

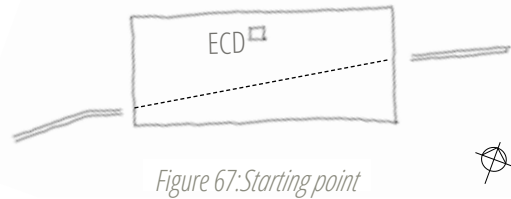


Figure 67: Starting point

The site as is, with the ECD isolated in the upper centre off the site and river running below the site. There is little edge definition. Such vast open spaces are seldom used or enjoyed.

FIGURE GROUND THEORY: RESPONDS TO NATURE

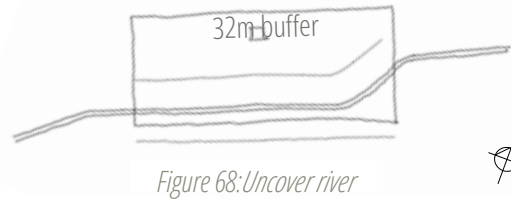


Figure 68: Uncover river

Uncovering and setting back the river as to maximize build-able area. Creating a 32m buffer zone for development as per South African Water Research Commission.

LINKAGE THEORY: CONNECTION

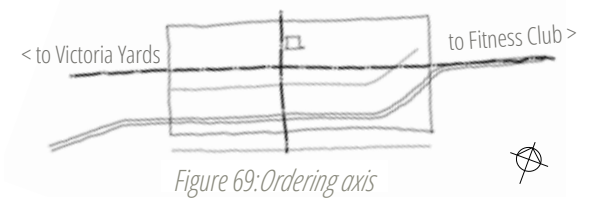


Figure 69: Ordering axis

Creating N-S and E-W ordering axis along the ECD with linkages across the site and to other sites along the parkway in mind.

PLACE THEORY: NODES

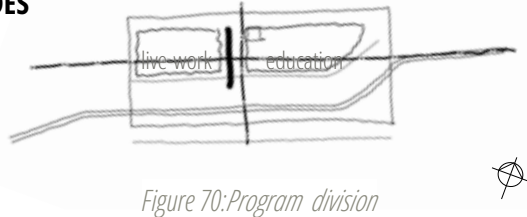


Figure 70: Program division

As the site is vast, it is programmatically divided along the N-S axis to create two distinct nodes, with the school proposed N-E and live-work units N-W.

FIGURE GROUND THEORY: VOIDS

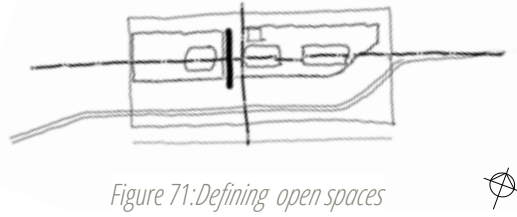


Figure 71: Defining open spaces

Proposed courtyards are defined along the axis as open spaces of gathering within the education and live-work programmes.

FIGURE GROUND THEORY: RESPONDS TO NATURE

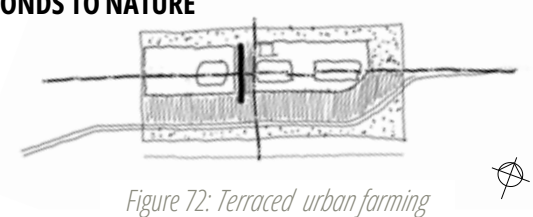


Figure 72: Terraced urban farming

Area for urban agriculture programme is defined along the river. The area will be terraced down to the river.

LINKAGE AND PLACE THEORY: CIRCULATION & PATHS

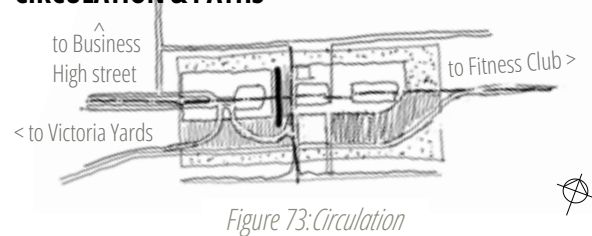


Figure 73: Circulation

Circulation paths across the site is planned, with the aim of connecting across the site, connecting courtyards and linking to other sites.

FIGURE GROUND, LINKAGE AND PLACE THEORY: MASS, MEGA-FORM AND EDGES

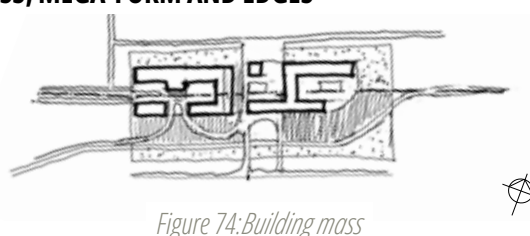


Figure 74: Building mass

Building mass is placed around the voids and pathways. Mass is planned as mega-forms to define edges and to control circulation for safety. ECD remains separate to articulate that it was existing

DESIGN BY SUBTRACTION

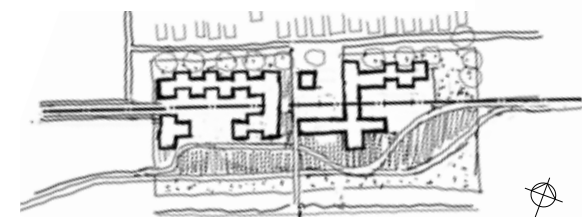


Figure 75: Mass articulation in response to trees and residential scale

Mass is subtracted in response to the rhythm of the residential building across the street, as well as to preserve the existing trees. Smaller spaces is created in between the building.

SECTION: DEVELOPMENT

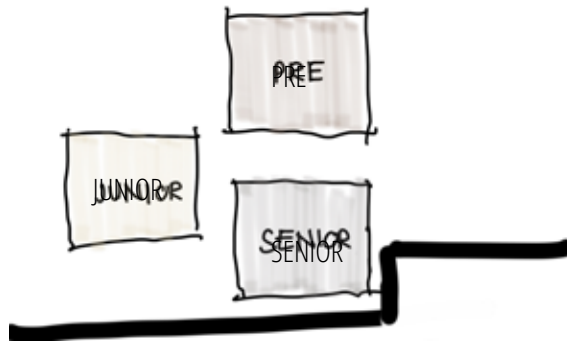


Figure 76: Age and activity separation

The educational spaces are split across multiple levels and are grouped together by age group as to limit access to spaces that are unsafe for other age-groups..

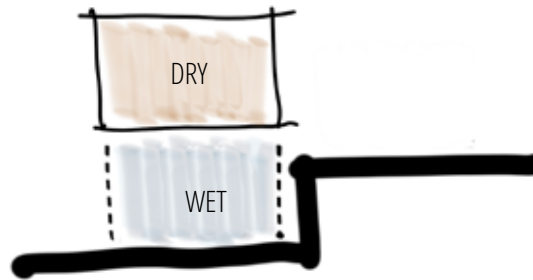


Figure 77: Wet vs. Dry activity separation

Raw materials undergo a degree of processing that entails wetting and drying activities before it is ready for further use. Make-learn activities are therefore accordingly split and grouped across levels.

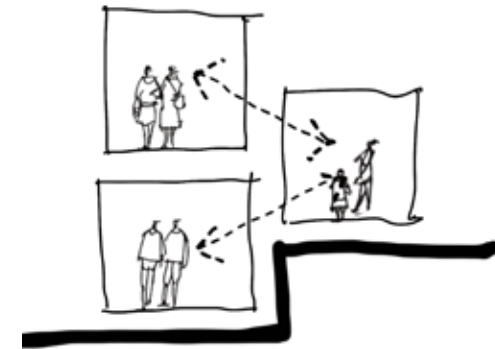


Figure 78: Observational learning

Observational learning entails watching and listening to others. There should be visibility between different make-learn spaces and circulation spaces, as to maximise learning opportunities.

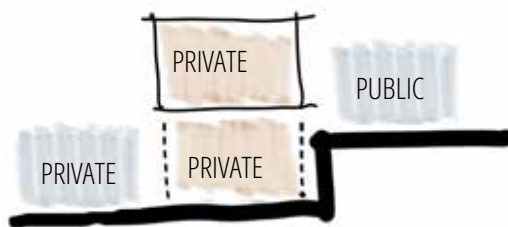


Figure 79: Public vs. private

Public spaces are situated on a higher level and are separate from the private spaces, which are the exterior courtyard and interior spaces.

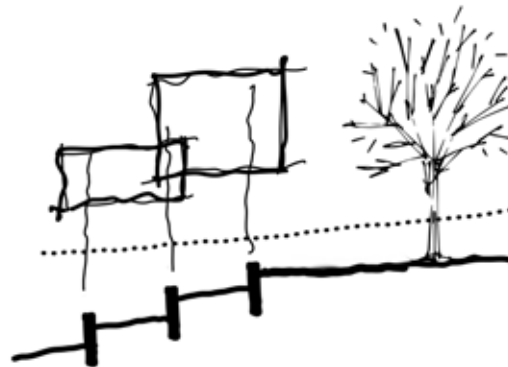


Figure 80: Tectonic tree-house on stereotomic terraces

The section comprises of a lightweight frame raised above the ground, analogous to a tree-house. It rests on terraces that are excavated from the ground to create different levels.

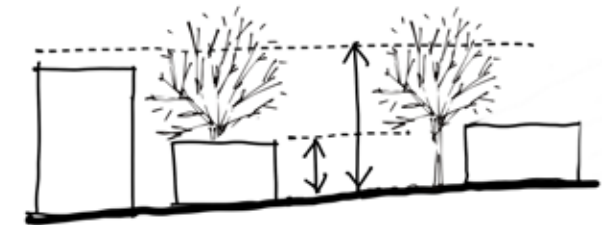


Figure 81: Change in vertical scale

The section has a lower overhead plane that corresponds with the scale of the residential buildings, while a higher overhead plane related to the height of the large Oak trees.

3D: DEVELOPMENT

DESIGN BY SUBTRACTION

1.

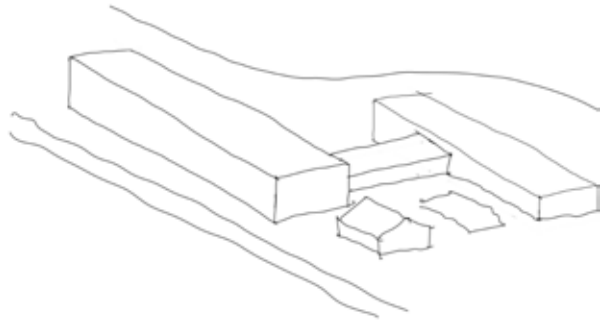


Figure 82: Building mass

Mass is placed as mega-forms to define edges and to control circulation for safety. The ECD remains separate to articulate that it was existing.

2.

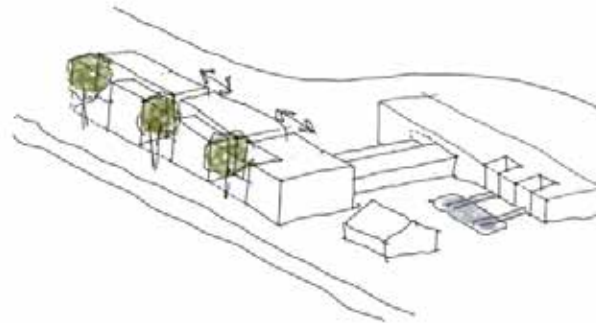


Figure 83: Mass articulation in response to trees and residential scale

Mass is subtracted in response to the rhythm of the residential building across the street, as well as to preserve the existing trees. Smaller spaces are created in between the building.

3.



Figure 84: Change in vertical scale

The roofs change in relation to their context. The street edge roofs relate to the residential scale and the Oak trees, while the roof bordering the river steps down towards the river.

BUILDING AS A VOID

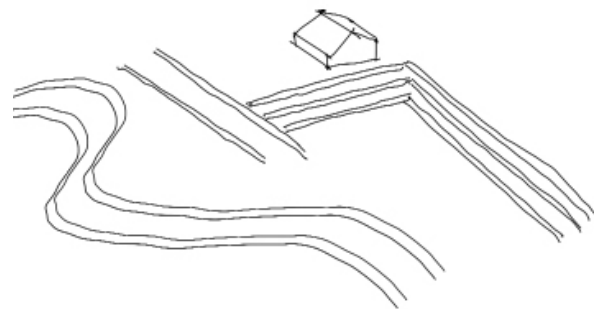


Figure 85: Terraced urban farming

Space is created within the landscape by cutting it away to create a depressions. The site is terraced to step down towards the river, and the terraces change from angular to curvilinear.

BUILDING AS A TREE

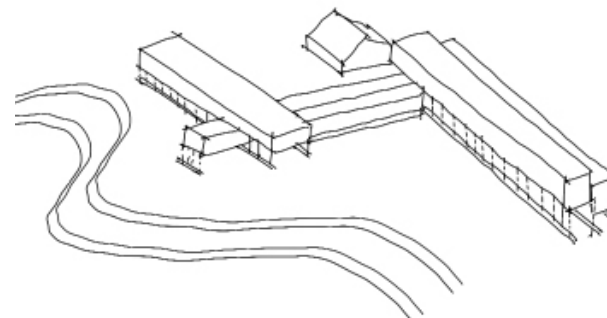


Figure 86: Tectonic tree-house on stereotomic terraces

The building comprises of a lightweight frame raised above the ground, analogous to a tree-house. It rests on terraces that are excavated from the ground to create different levels.



Figure 87: Contextual relation

Combining the two opposing concepts creates a contextually responsive mass with regards to the river, the urban agriculture programme, the Oak trees and the residential dwellings.

SLOW ARCHITECTURE IS CONNECTED TO ITS CONTEXT

SCALE



Figure 88: Scale of surrounding buildings in context

The **site** is a **large** scale open space. It is surrounded by single storey **residential** dwellings of a **small** scale, but is also at the end of a streak of **large** scale **industrial** buildings. The architecture should respond to the three different scales.

TYOLOGIES



Figure 91: Residential vs. industrial typologies

The area is dominated by **blocks** of standardised **residential** dwellings, which are in opposition to **lines** of **industrial** buildings. The architecture should respond to the language of the typologies in terms of form, materiality and scale.

VEGETATION

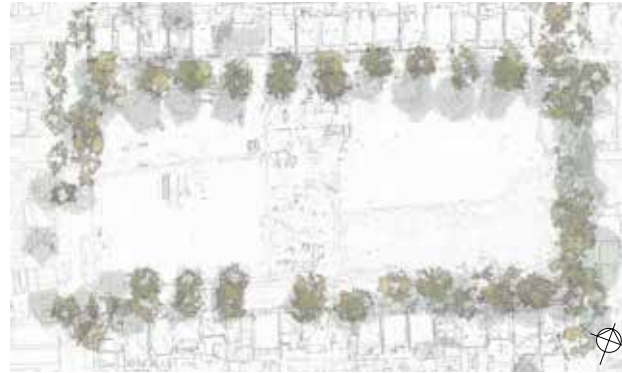


Figure 89: Colossal oak trees bordering the site

The site is surrounded by enormous **English oak trees**, planted at the **historical** establishment of the suburb. The trees screen off the site from its surroundings, are an aesthetics asset and provide shaded refuge that should be **celebrated** by the architecture.

LINKAGES

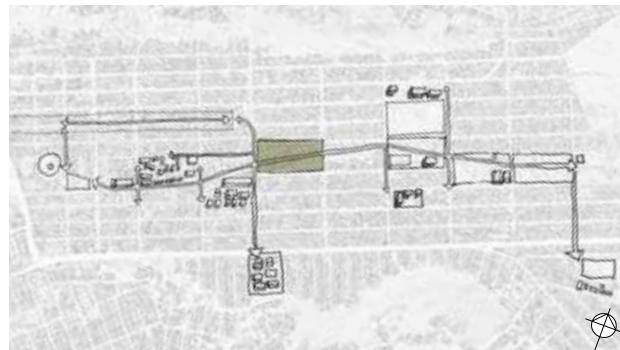


Figure 92: Proposed linkages to other sites in Makers Valley

As the site forms part of a larger urban proposal, **circulation** through the site should be considered. The **language** of the architecture should also have a sense of **consistency** to further **link** the sites along the prosed Jukskei Parkway.

ORIENTATION

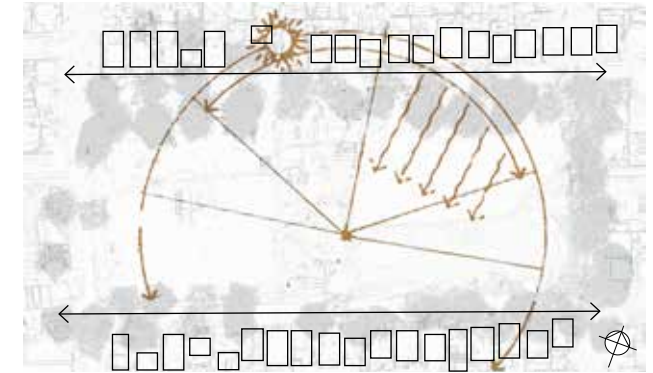


Figure 90: Solar orientation of the site

The site is rectilinear, with the long edge orientated north-south axis. The adjacent dwellings create a steady rhythm axis. The architecture should respond to the northern orientation and consistent rhythm along the north-south axis.

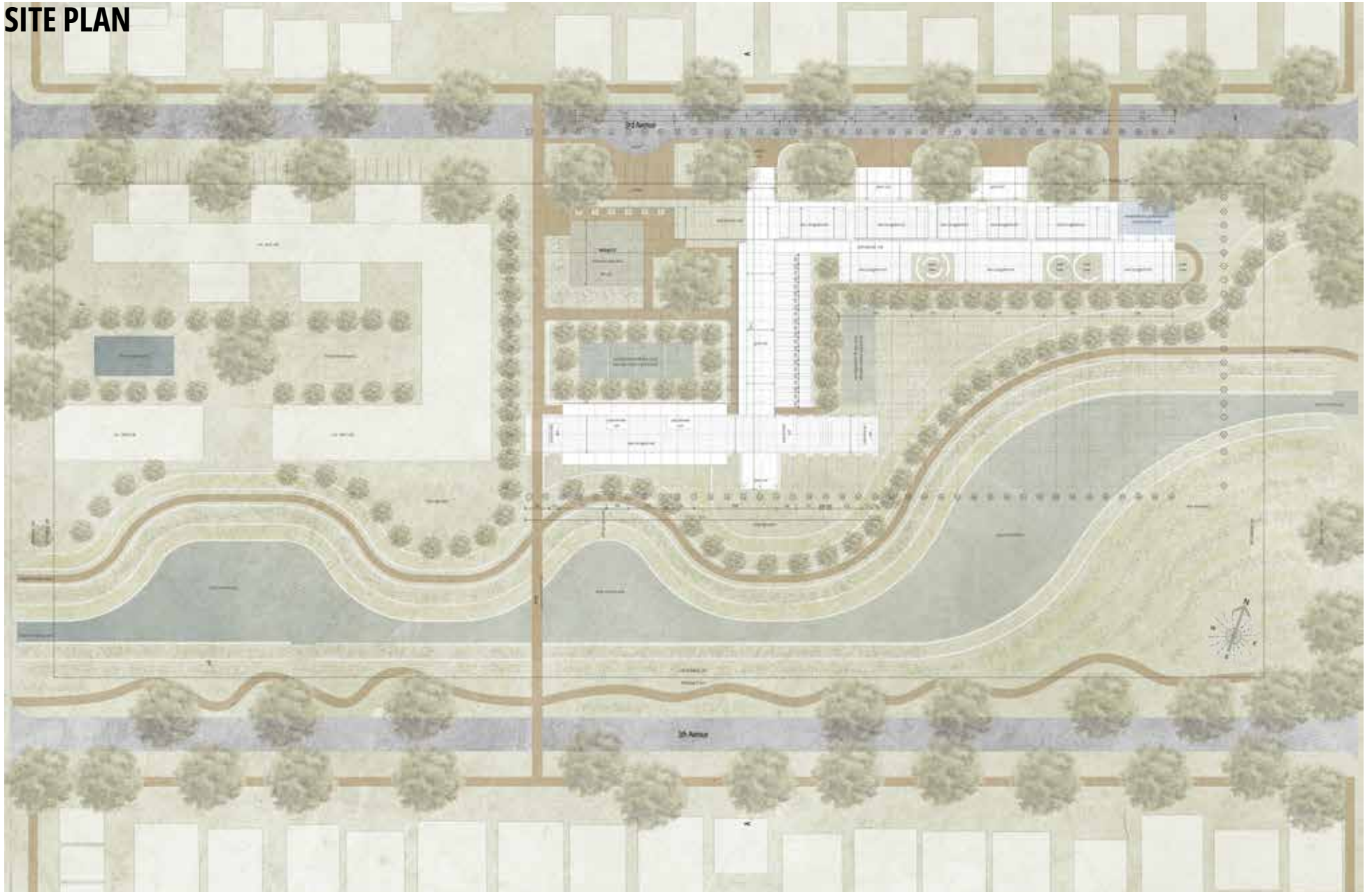
RIVER



Figure 93: The channelised Jukskei River beneath the site

The Jukskei River runs beneath the site and is degraded. The architecture should **rejuvenate** the river and transform it into an asset for the community. The architecture should **celebrate** the **significance** of **water**.

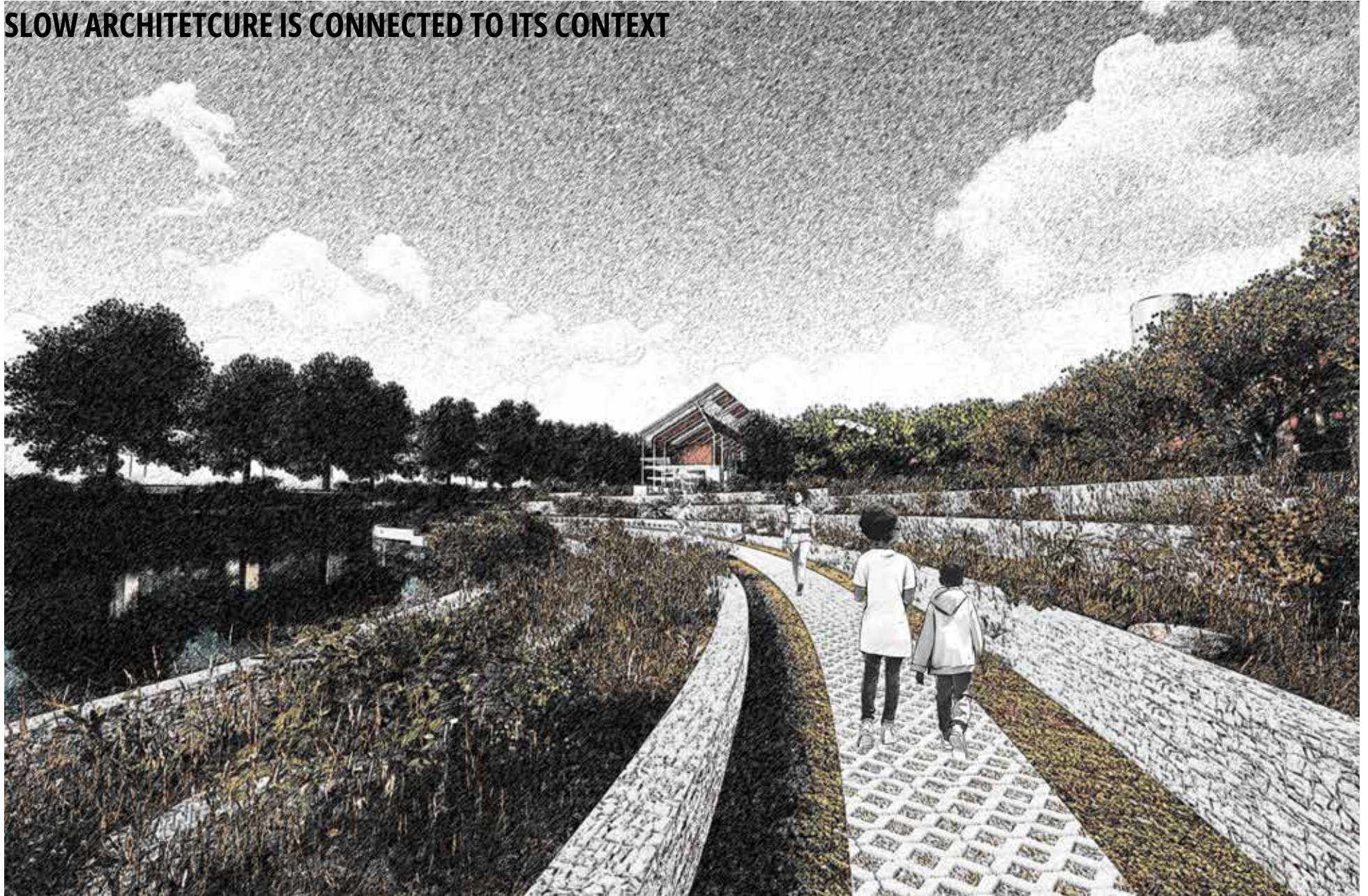
SITE PLAN



SLOW ARCHITECTURE IS CONNECTED TO ITS CONTEXT



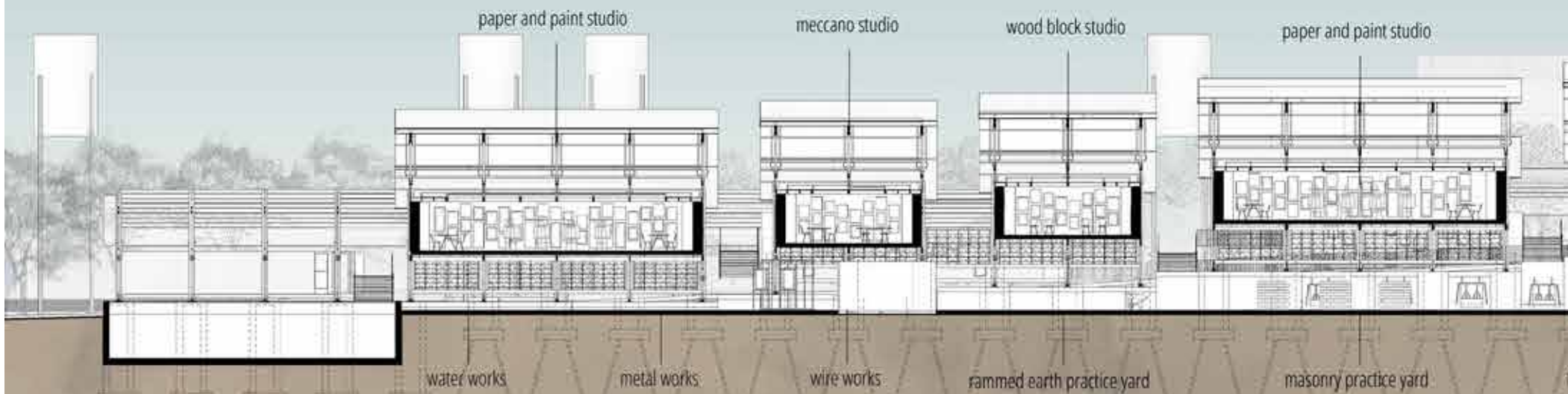
SLOW ARCHITECTURE IS CONNECTED TO ITS CONTEXT



NORTH ELEVATION

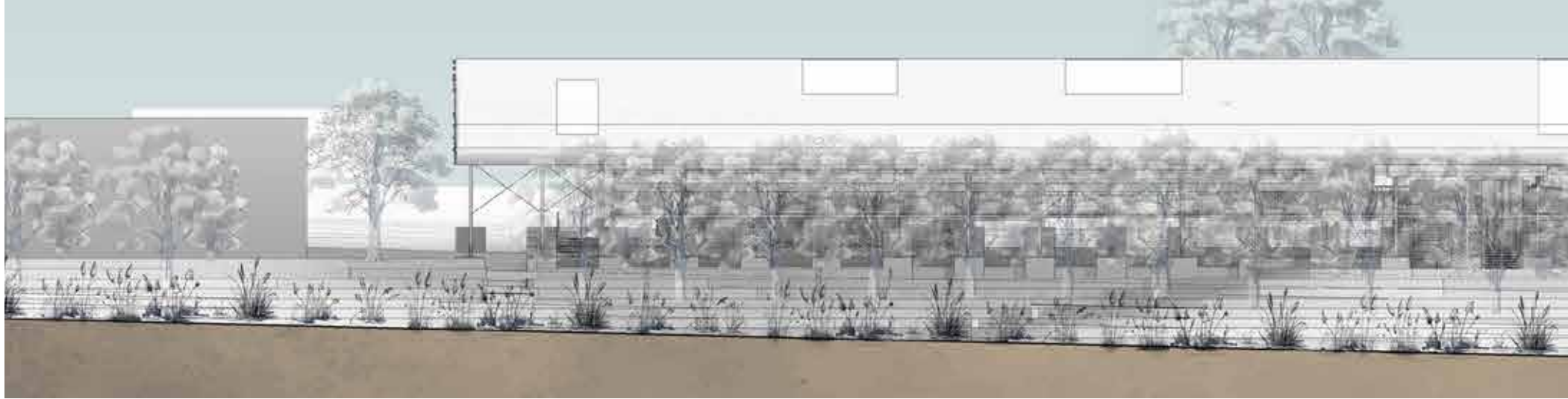


SECTION A-A

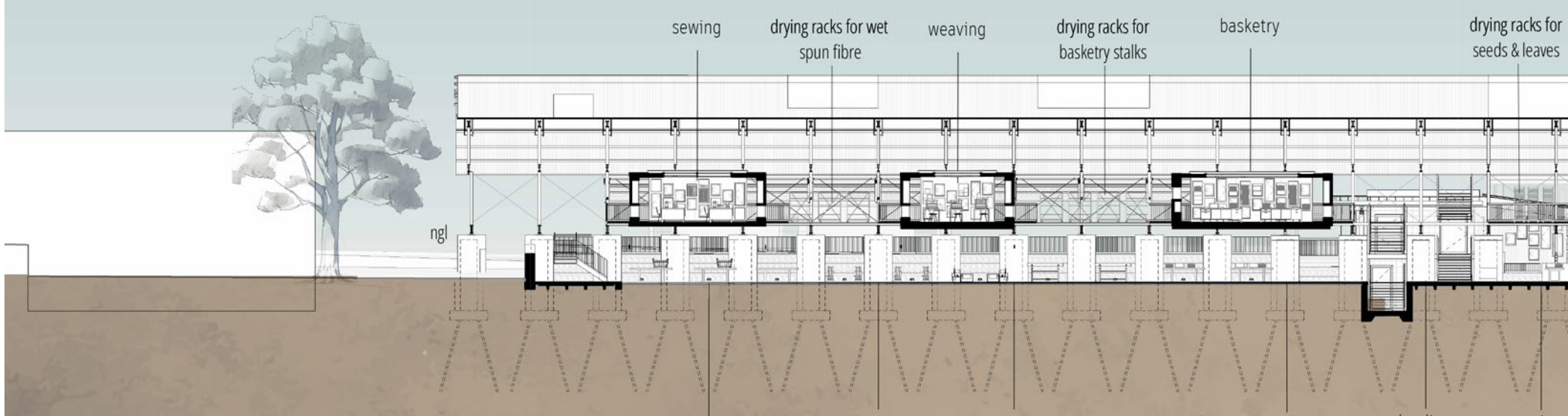




SOUTHERN ELEVATION



SECTION C-C





SLOW ARCHITECTURE IS SOCIAL: USERS

The Future Makers School will aim to support the local youth on their journey throughout childhood and adolescence to adulthood by offering age-appropriate and progressive make-learn activities. Pre-vocational skills are sets of skills required to enter any potential career field and service as a foundation for learning more complex vocational skills. Pre-vocational students will interact with materials in sorting, matching, fine-motor and assembly activities. They will also engage with materials in a playful and exploitative manner through arts and crafts. Junior vocational students will learn life skills such as cooking, gardening and basic handyman tasks, whilst engaging more seriously with making activities such as weaving, sewing, ceramics, painting and drawing. Senior vocational students will pursue increasingly technical activities such as construction techniques, plumbing, carpentry and material production processes. Instructors will serve as guides, hosting workshops and acting as facilitators. The school will also interact with the local public through its nutrition programme, serving affordable meals prepared by culinary students and selling produce and preserves made in-house at a weekly market.

STUDENTS



Figure 94: Pre-vocational students (aged 5-9)



Figure 95: Junior vocational students (aged 10-15)



Figure 96: Senior vocational students (aged 16-21)



SLOW ARCHITECTURE IS SOCIAL: USERS

STAFF



Figure 97: Instructors



Figure 98: Administration



Figure 99: Sanitation

LOCAL PUBLIC



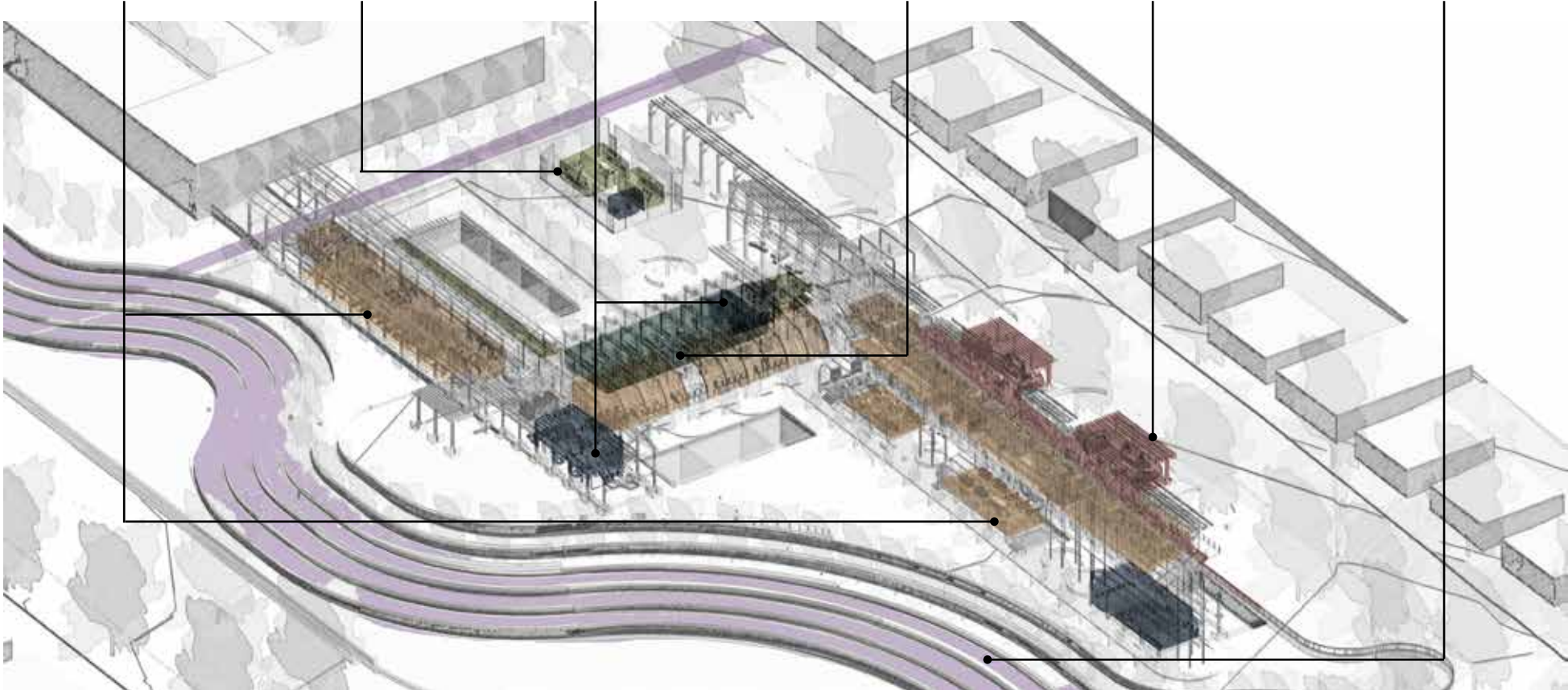
Figure 100: Diners



Figure 102: Market customers



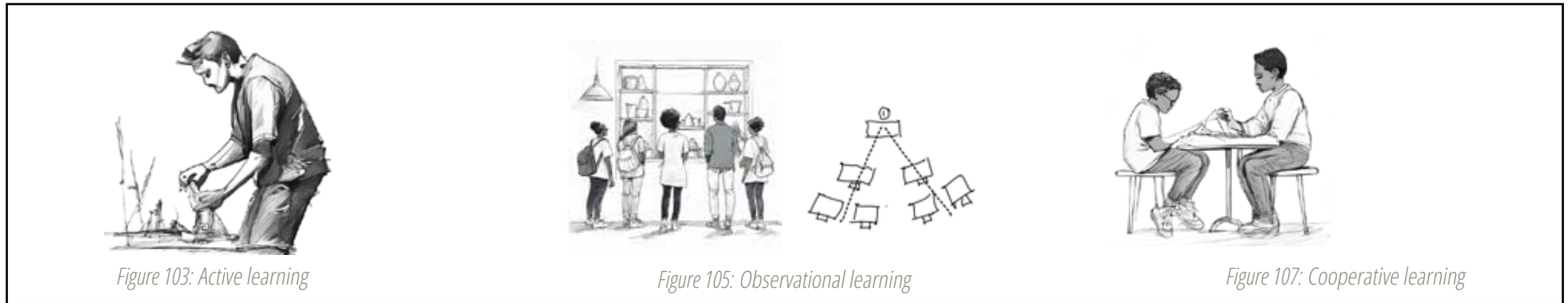
Figure 101: Parkway users (recreation)



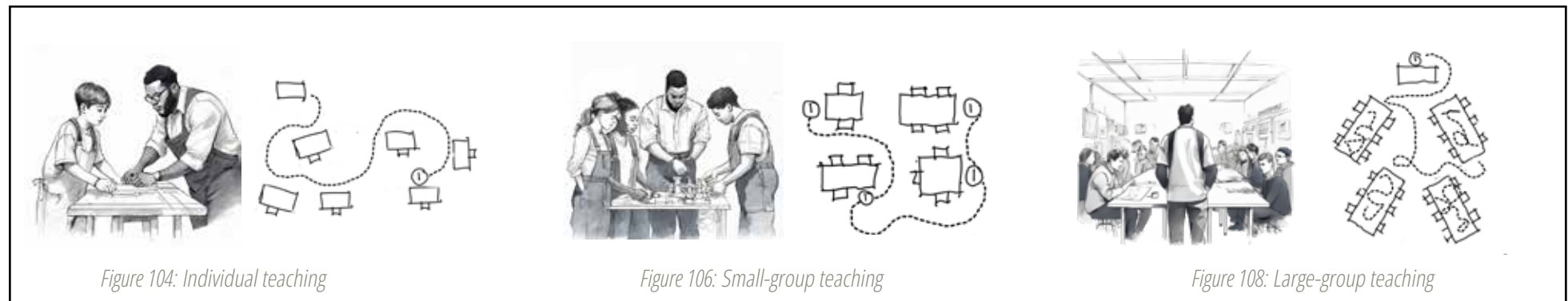
SLOW ARCHITECTURE IS SOCIAL: USERS

Students will engage with instructors and peers through different learning modalities. Active learning occurs through physical making activities, observational learning entails watching and listening to others; and cooperative learning occurs among peers. The instructor's role is primarily to coach individuals or groups of pupils, demonstrating correct procedures for undertaking tasks. Instructors respond to requests for information, provide feedback, give explanations and assess students' work. Learning can take place at a different pace within different groups. Small-group teaching entails peer support where students can actively question and advise fellow pupils. Students typically initiate action with peers and instructors during small-group work, choosing activities to work upon, asking and giving support to peers and working independently. This cooperative learning is an opportunity for teamwork and developing communication skills. Both large- and small-group activities can be used demonstrate particular material practices. Demonstrations give students the chance to observe and listen to an experienced practitioner, and then to try out the activities under direct supervision.

LEARNING MODALITIES



CLASS SIZE



SLOW ARCHITECTURE IS FUNCTIONAL: PROGRAMME

The Future Makers School will be an extension of the educational infrastructure in Makers Valley, providing alternative means of education for learners. The intention is to create a place that exposes the youth to the various learning modalities beyond the typical academic settings of the surrounding schools, to explore talents and interests in line with making, whether it is the arts, nutrition, construction, crafts or farming. The school programme will merge the traditional technical and vocational training curriculum with the making and urban agriculture activities in the valley. The school will offer a safe learning environment where the youth can build skills, receive support and learn through observation, trial and error - a place where making can be explored without the pressure of generating an income. The school aims to raise young people who are socially and environmentally aware by producing material resources required by the make-learn activities on site through urban agriculture. This means that alternative, more natural and more environmentally friendly methods of making will be taught, which is in line with *The Greening of Technical and Vocational Education and Training (TVET) colleges* initiative in South Africa

ACTIVITIES IN MAKERS VALLEY




Figure 109: Ceramics




Figure 112: Painting




Figure 110: Paper making




Figure 113: Weaving




Figure 111: Sewing




Figure 114: Soap making

+

TRADITIONAL TVET CURRICULUM




Figure 115: Agriculture




Figure 118: Carpentry

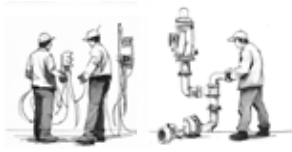


Figure 116: Electrical and plumbing systems




Figure 119: Hospitality




Figure 117: Construction




Figure 120: Paper making

+

URBAN FARMING




Figure 121: Soil




Figure 124: Water




Figure 122: Seeds




Figure 125: Food




Figure 123: Stalks




Figure 126: Leaves

SLOW ARCHITECTURE IS FUNCTIONAL: PROGRAMME

It is important to understand the various types of active learning, what each make-learn activity entails and their spatial requirements. Each make-learn activity uses specific materials. Raw materials are produced on site and then undergo a degree of processing that entails wetting and drying activities before it is ready for further use. Make-learn activities are also particular to each age group. age Make-learn activities in general require workshop-type spaces with ample storage and natural light.

CLAY SOIL



Figure 138: Excavation of clay soil

Clay soil is found on site and has a rich, orange colour. Clay soil oil has a high water retention capacity and slow drainage capabilities, leaving it prone to swelling and shrinkage, which must be kept in mind with regards to construction. Clay soil is typically nutrient-rich, making it ideal for planting.

AGRICULTURE

The agriculture on site is the backbone for all other activities, as everything else is produced from the soil and its produce. The farm will follow organic and permaculture practices. Make-learn activities revolve around gardening skills, soil science, irrigation, organic pest control, crop rotation, fertilisation, harvesting and composting. All age groups participate with varying intensity levels.

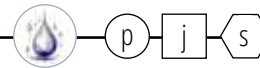


Figure 127: Planting of crops



Figure 128: Harvesting of crops



Figure 129: Composting

CERAMICS

The clay soil on site is sieved through water multiple times to make clay with a fine consistency, suitable for make-learn activities related to ceramics. P students only play with clay, while J and S students engage in clay pottery, sculpture and tile making. The clay requires wetting during the shaping process, and then drying by air or glazed in ovens.

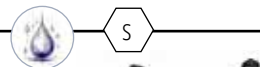


Figure 130: Sieving of clay soil

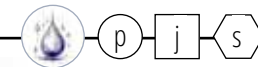


Figure 131: Shaping of clay

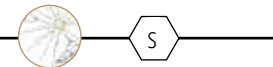


Figure 132: Drying of clay

ADOBE BRICK CONSTRUCTION

Adobe bricks are produced on site using the clay soil, water, lime and hurd from plants. The mixture is poured into moulds to form bricks. The bricks are allowed to cure in the mould until they are ready to be remove to air dry completely. The bricks are then used to practice skills related to masonry. Structures are continuously built and demolished. Only S-students participate.



Figure 133: Mixing of constituents



Figure 134: Moulding bricks



Figure 135: Air drying of bricks



Figure 136: Masonry skills

RAMMED EARTH CONSTRUCTION

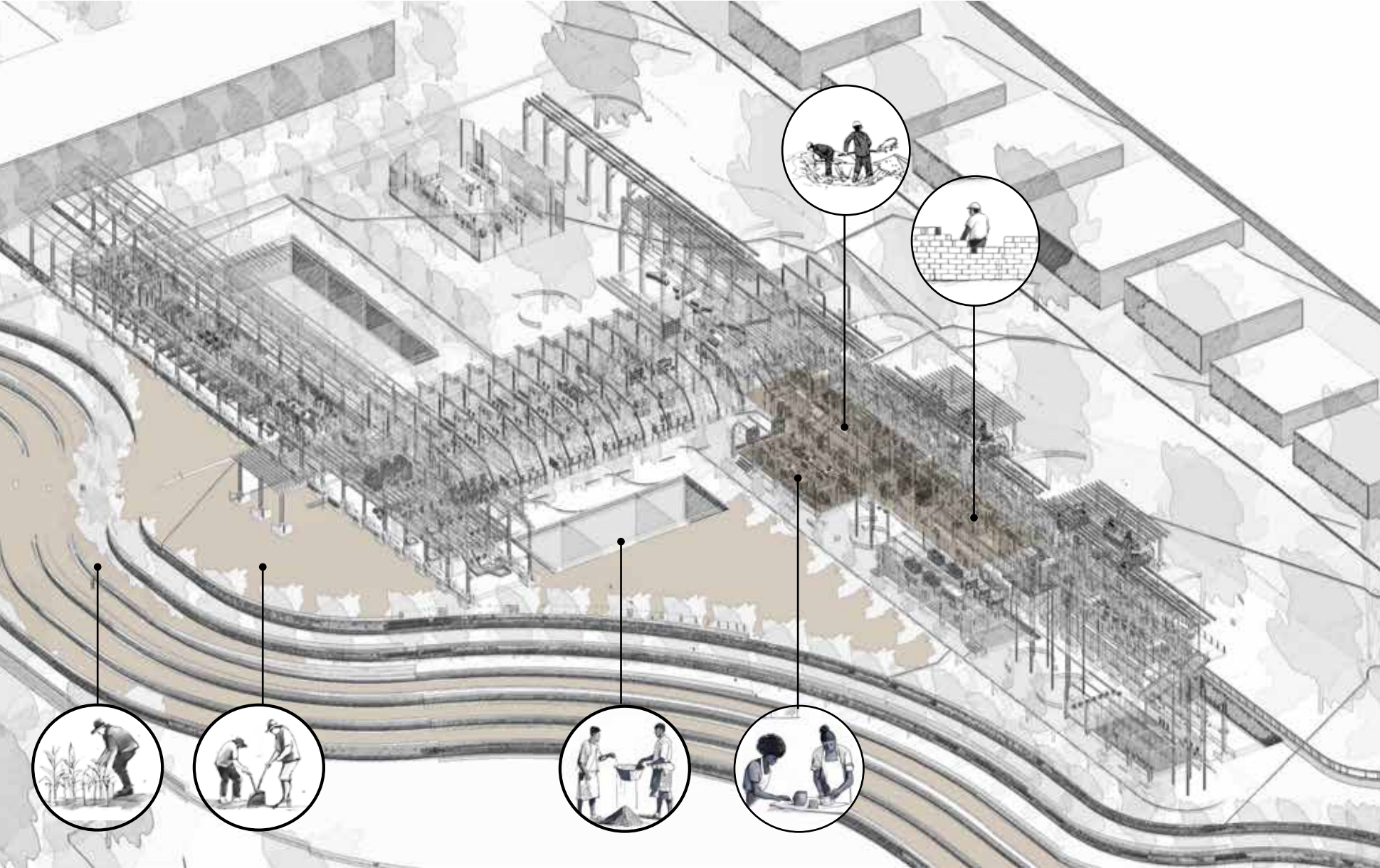
The clay soil on the site is excavated and used for the practice of rammed earth construction. The structures are continuously built and demolished. Only S-student participate.



Figure 137: Process of making rammed earth walls



SOIL PROCESSES



Crops on site: flax, sunflower, sorghum, pearl millet, potato, sweet potato, beans, marula, lemon, orange, fig, apple, peach, plum, hemp, kenaf, spinach, tomato, cabbage, pepper, onion, carrot, beetroot, African ginger, wild rosemary, basil and wild ginger. All the produce harvested on site is rinsed prior to any further processing or use.

GRAINS, FRUIT, VEG & LEAVES



Figure 151: Harvesting

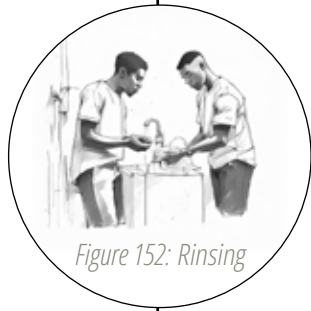


Figure 152: Rinsing

DYE AND PAINT MAKING

The pigments naturally found in fruit, veg and leaves harvested on site are extracted through boiling to produce natural dyes for textiles and colours for water-based paints. J- and S-students participate in the process, while all students will use the paint and dye for make-learn activities.



j s



Figure 139: Pigment extraction



Figure 140: Dyes & paints



Figure 141: Painting

p j s

PRESERVE MAKING

Fruit and veg harvested on site are preserved through either pickling or dehydration. Pickled foods are preserved with lemon juice, oils and herbs in sterilised jars. Dried foods are preserved through warm air. J- and S-students participate in the process, while preserves are used in the community kitchen or sold at the market.



s



j s



Figure 143: Pickling



Figure 142: Dehydration



Figure 144: Market

COOKING

J-students learn how to safely prepare nutritious meals from produce harvested on site. S-students learn the practices of the hospitality industry, including professional waitering and commercial cooking skills. They practice by servicing the school's community kitchen, where all students also eat.



j s



Figure 145: Cooking class



Figure 146: Diners

p j s

BAKING

S-students learn how to produce flours from grains and seeds harvested on site. Grains and seeds are dried, then milled into a finer powder. J- and S- students use the flour to bake breads, pastries, biscuits and muffins, all to be used in the school's community kitchen or sold at the market.



s



j s



Figure 147: Grinding flour



Figure 148: Baking bread

TEA, SPICE AND HERB MAKING

Selected leaves are dried to produce teas, herbs and spices. Leaves are dried through warm air, whereafter it is used to brew teas and flavour food in the community kitchen. All students can participate.



p j s



p j s

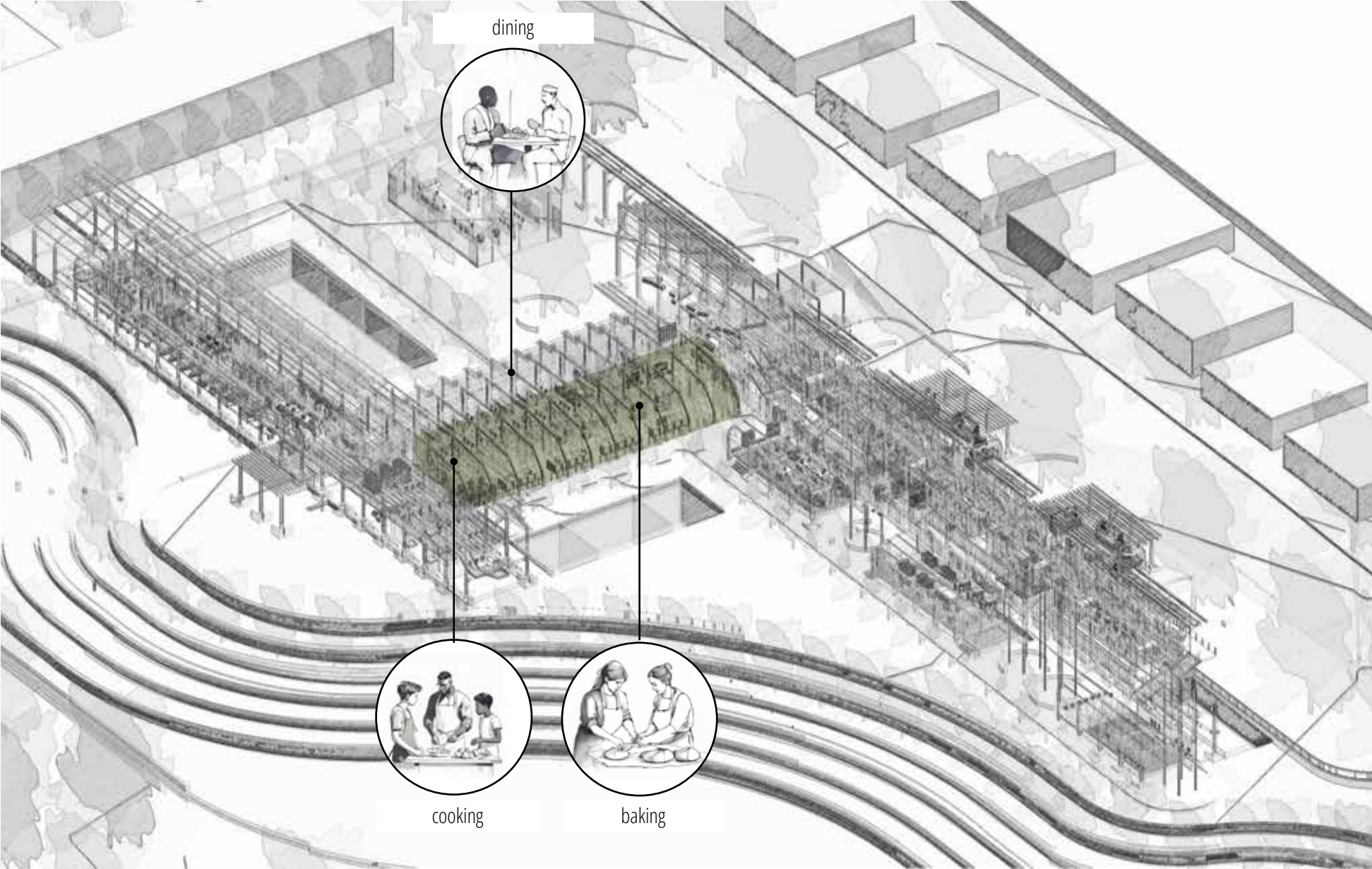


Figure 149: Drying leaves

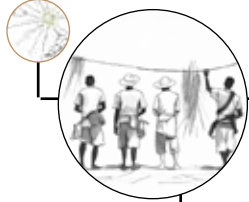
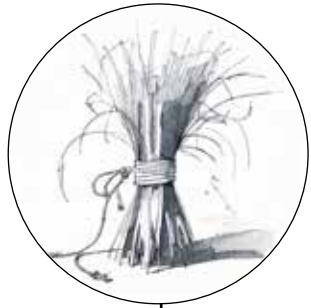


Figure 150: Brewing tea

GRAINS, FRUIT, BEG & LEAVES PROCESSES



STEMS



To separate plant fibres, stems undergo cycles of retting, where stems are hung to dry, where-after they are laid in water for 1-2 weeks. Fibres can then easily be separated from the hard core of the stem, known as the hurd. Suitable plants include flax, hemp and kenaf, which are planted on a rotary basis.

Figure 156: drying of stems



Figure 157: hurd (hard core)



Figure 153: stripping off fibres



Figure 158: fibre

BASKETRY

Dried stalks and dried grasses can be weaved into patterns to make artefacts, such as baskets, mats, mesh bags or even furniture. All age groups participate, depending on complexity. Baskets are used to carry goods around site.



Figure 154: Basketry

PAPER

Hurd is mixed mechanically shredded and blended with water to form a pulp. The pulp is sifted and drained through a filter frame to form wet sheets of paper. The paper is then allowed to air dry in the frame. S-students participate in the production process, while all students use paper for.

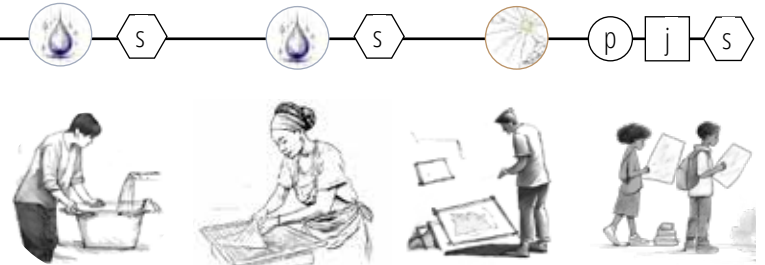


Figure 159: Pulping

Figure 160: Sifting

Figure 161: Drying

Figure 162: Paper

WATTLE AND DAUB CONSTRUCTION

Hurd is mixed with water and clay soil. The mixture is then used as infill in a timber framed structure. The mixture can also be moulded into blocks. Structures are continuously built and demolished. Only S-students participate.



Figure 163: Wattle and daub construction

TEXTILE

Fibre is combed with a metal spiked brush, then wet spun with a spinning wheel to make yarn. Yarn is woven into textiles on a loom. Yarn itself or the fabric, is dyed. Textiles are used to sew clothes and linen, which are finally washed and dried. Only S-students participate.

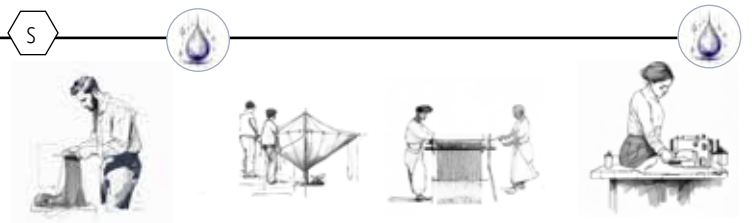


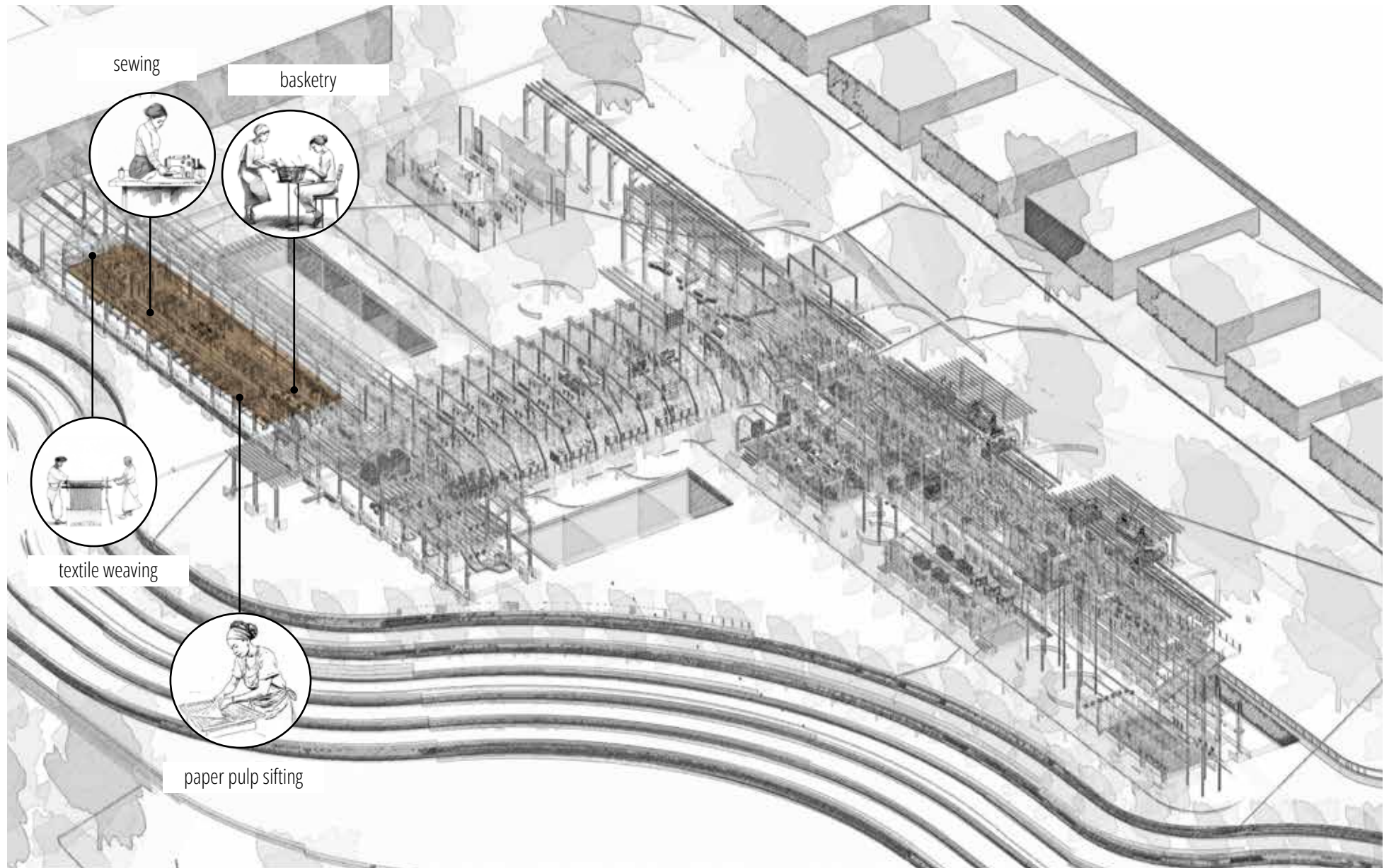
Figure 164: Hackling (combing)

Figure 165: Spinning & dyeing

Figure 166: Weaving

Figure 167: Sewing

STEM PROCESSES



SEEDS



Figure 168:
Rinsing seeds



Figure 169:
Drying seeds

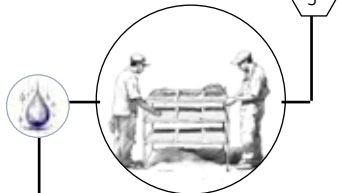


Figure 170:
Hydraulic press

Seeds are harvested, rinsed and then air dried. Drying the seed allows for more efficient separation of the oil in the press. The seeds are cold-pressed in a hydraulic press, which uses mechanical force to squeeze the oil out of the seed rather than using chemicals and heat, hence the nutrients, vitamins and flavours are retained. Suitable plants include flax, hemp and sunflower, which are planted on a rotary basis.

The shells of the seeds that remain (known as the seed cake) can be used in baking for added fibre and protein, for the making of compost and medicinal remedies.

OTHER

Oils are used as varnishes to preserve timber. The timber found in the building as structure and furniture is maintained by applying oil varnish produced on site.

Oils are also used in cooking and baking to increase flavour, retain moisture, improve texture and to create non-stick surfaces. Oils are used in the making of sauces, preserves,

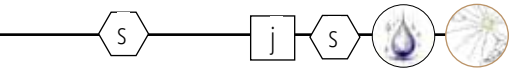


Figure 171:
Varnishing of timber column



Figure 172:
Baking

BEAUTY PRODUCTS

Cold-pressed oils are suitable for use on hair, the face and body. Oils are mixed with herbal fragrances produced on site, like rosemary and basil, to make fragrant beauty products. All age groups participate. Oils and fragrances can also be mixed with lye, poured into moulds and left to cure to make soap. J- and S-students participate. Products are used in the school ablutions and also sold at the market.

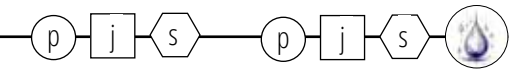


Figure 173:
Oil + fragrances



Figure 174:
Using skincare products in ablutions

OIL PAINT

Natural pigments are mixed with seed oils in a gradual process to produce oil paint. Natural pigments are made by grinding materials found on site, like rocks or dried plants (such as beetroot, carrot, spinach ect.) with a mortar and pestle. Unlike tubed, conventional oil paints, these paints don't have fillers (bulking agent), toxic preservatives, heavy metal or petroleum-based pigments, solvents or chemical additives. Paints are used in the art studios. All age groups participate.

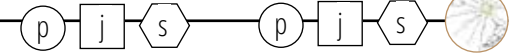
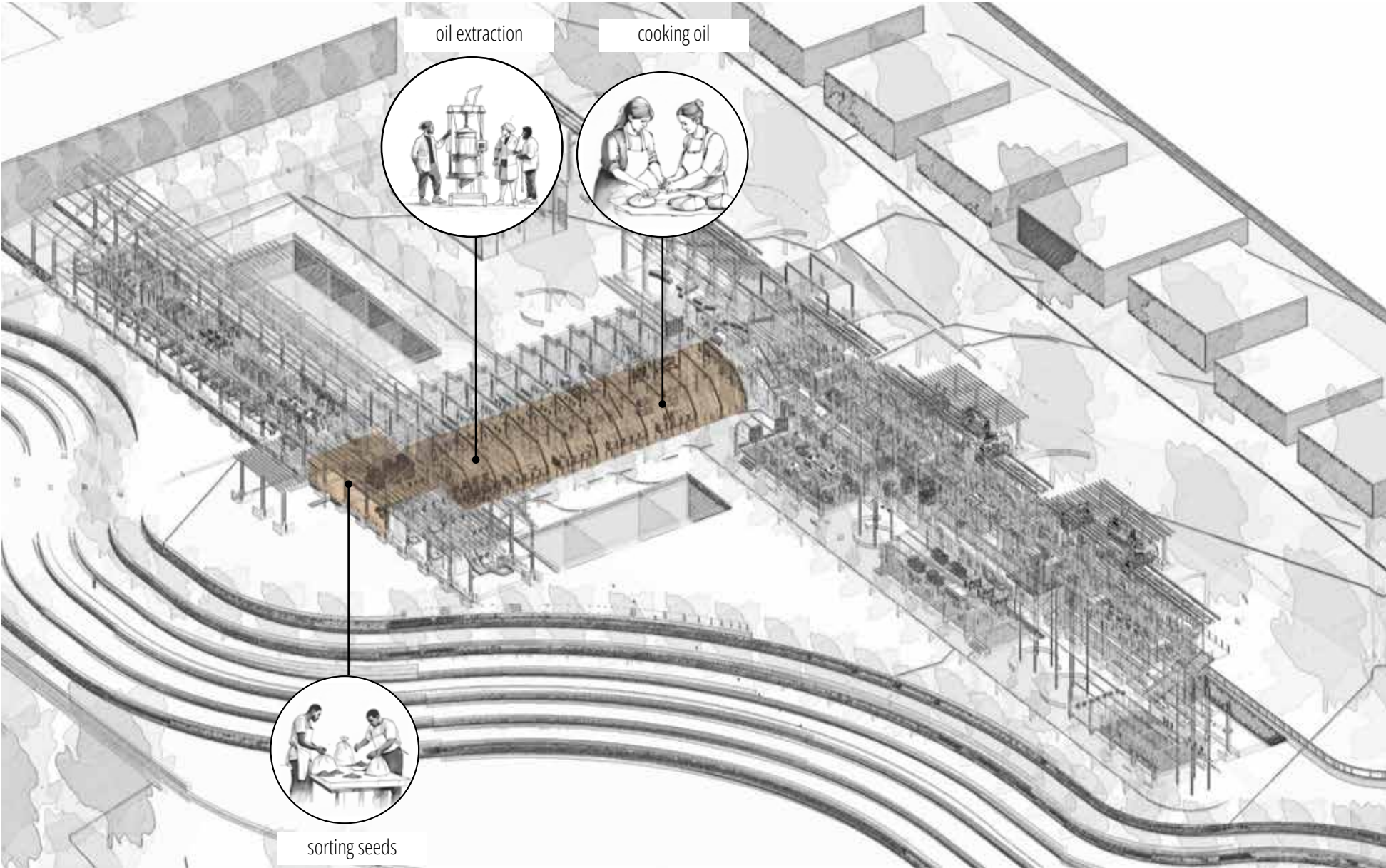


Figure 175:
Oil + pigment

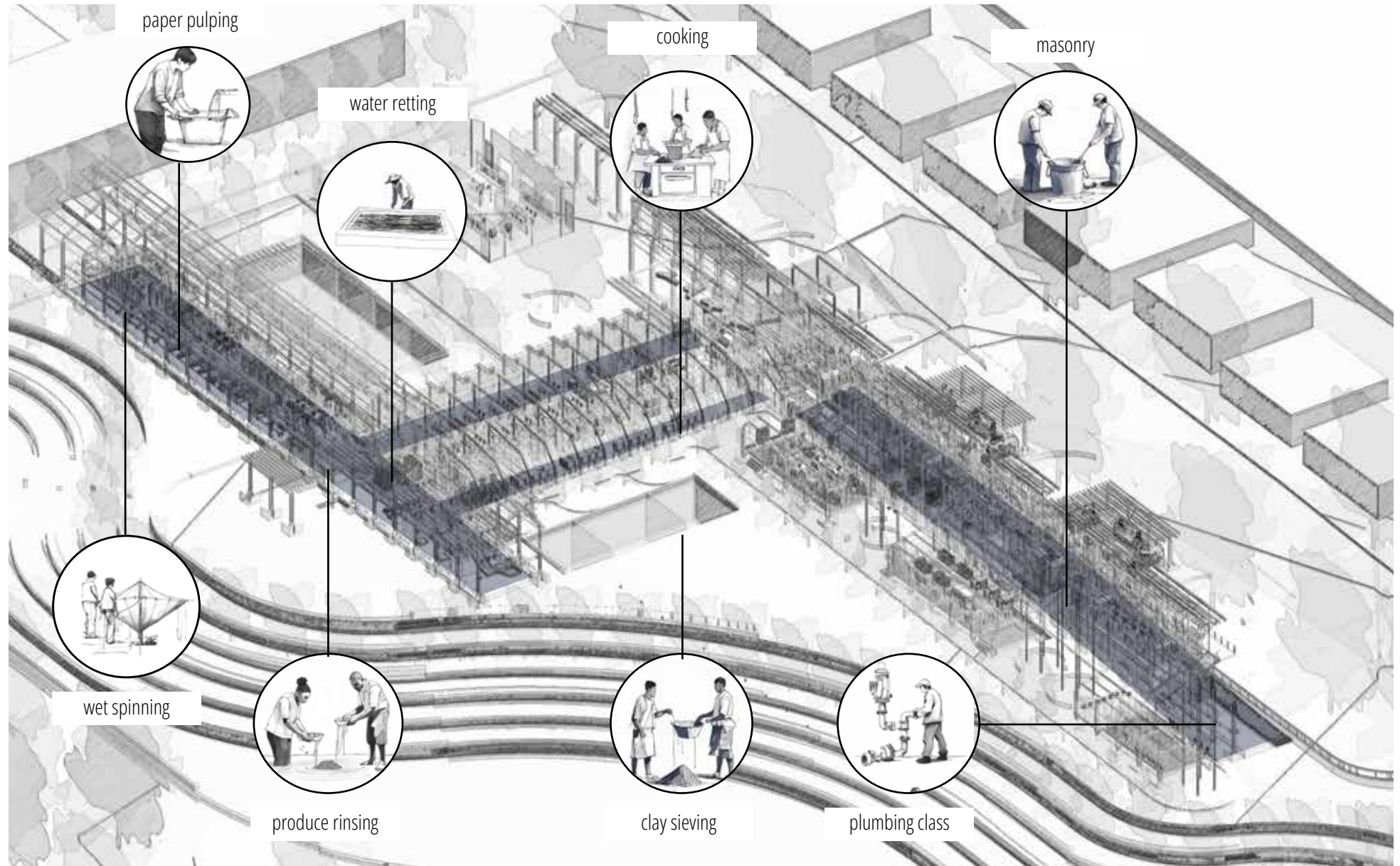


Figure 176:
Art studio

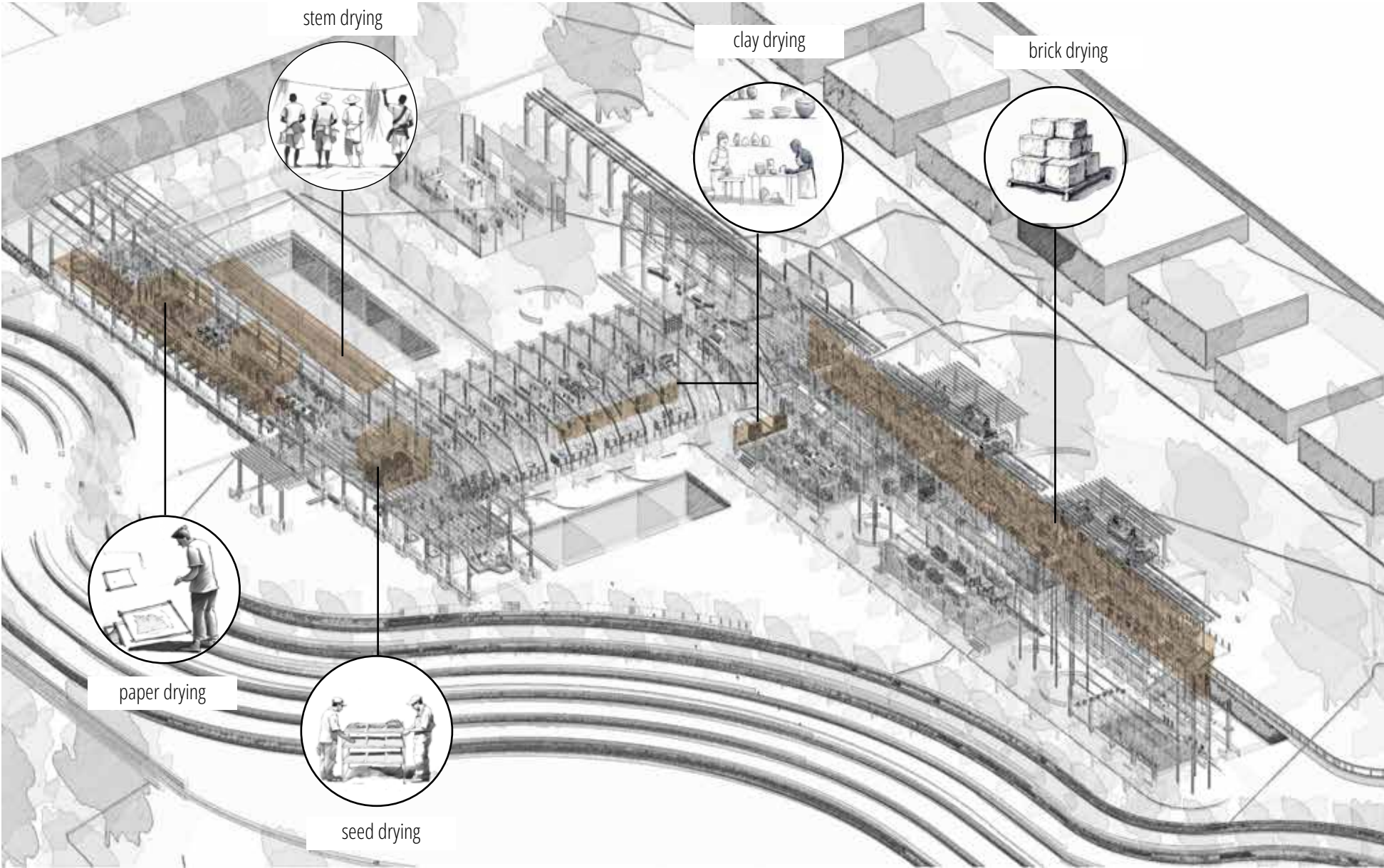
SEED PROCESSES



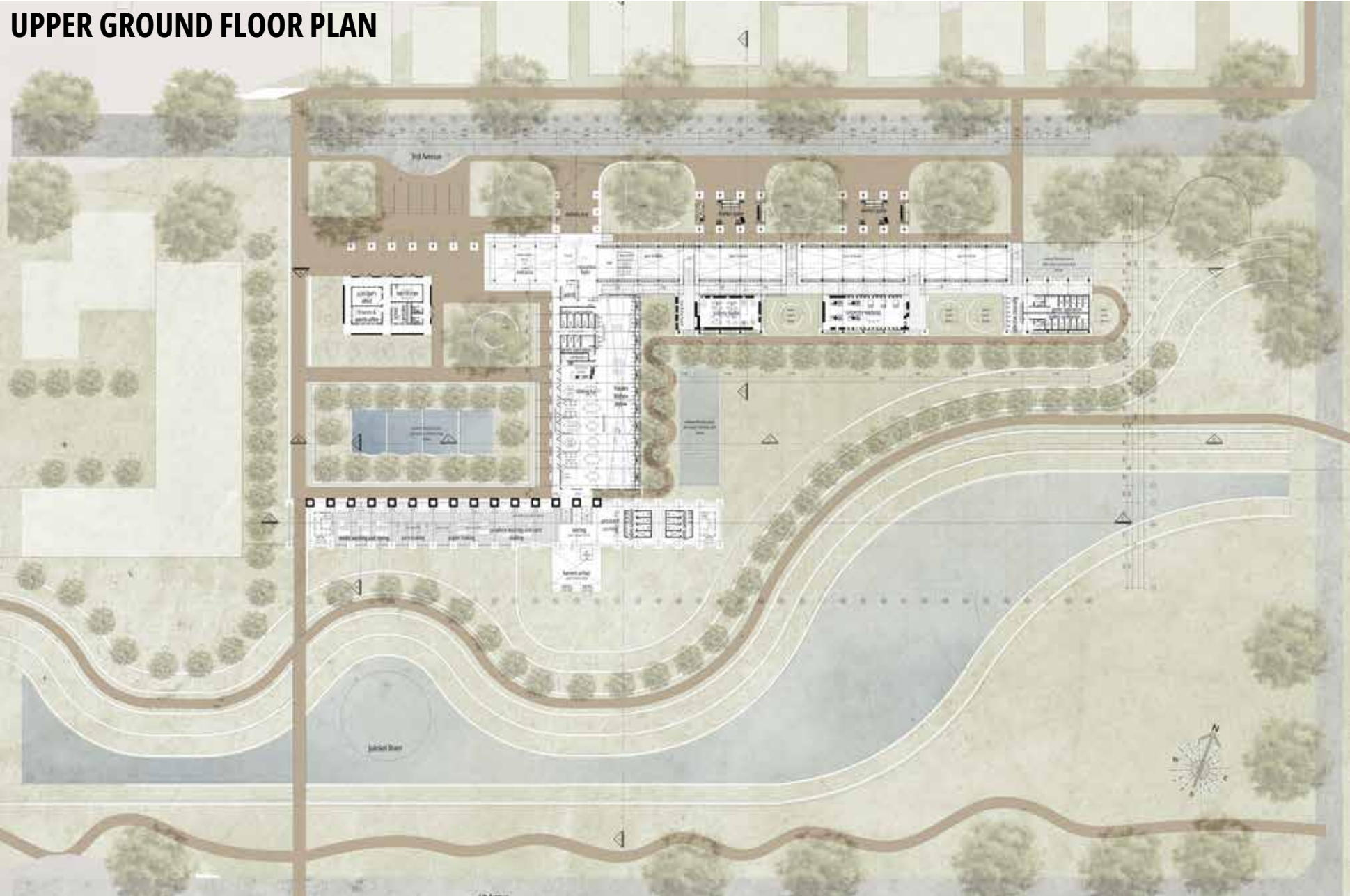
WET PROCESSES



DRY PROCESSES



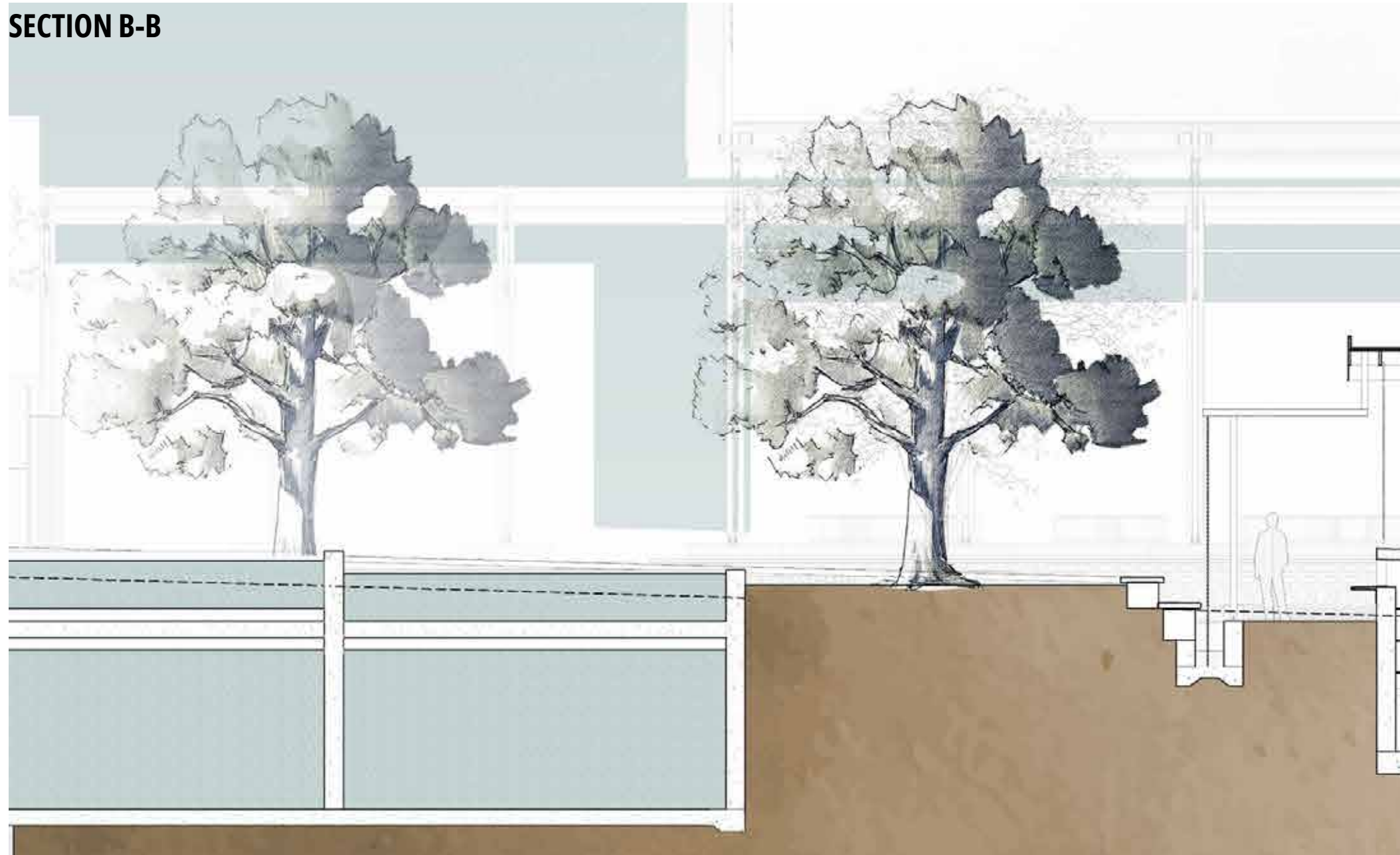
UPPER GROUND FLOOR PLAN

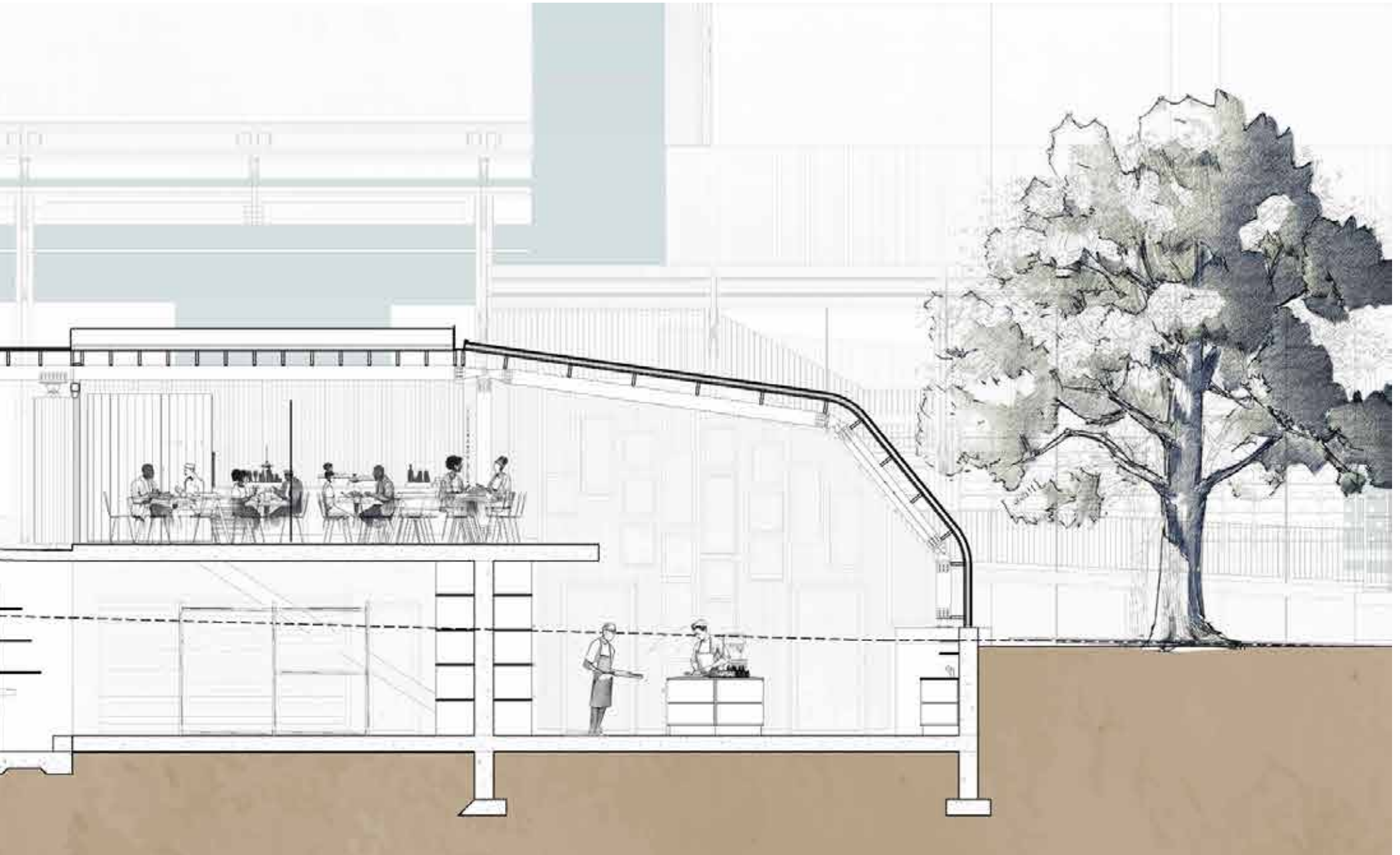


SLOW ARCHITECTURE IS SENSUAL

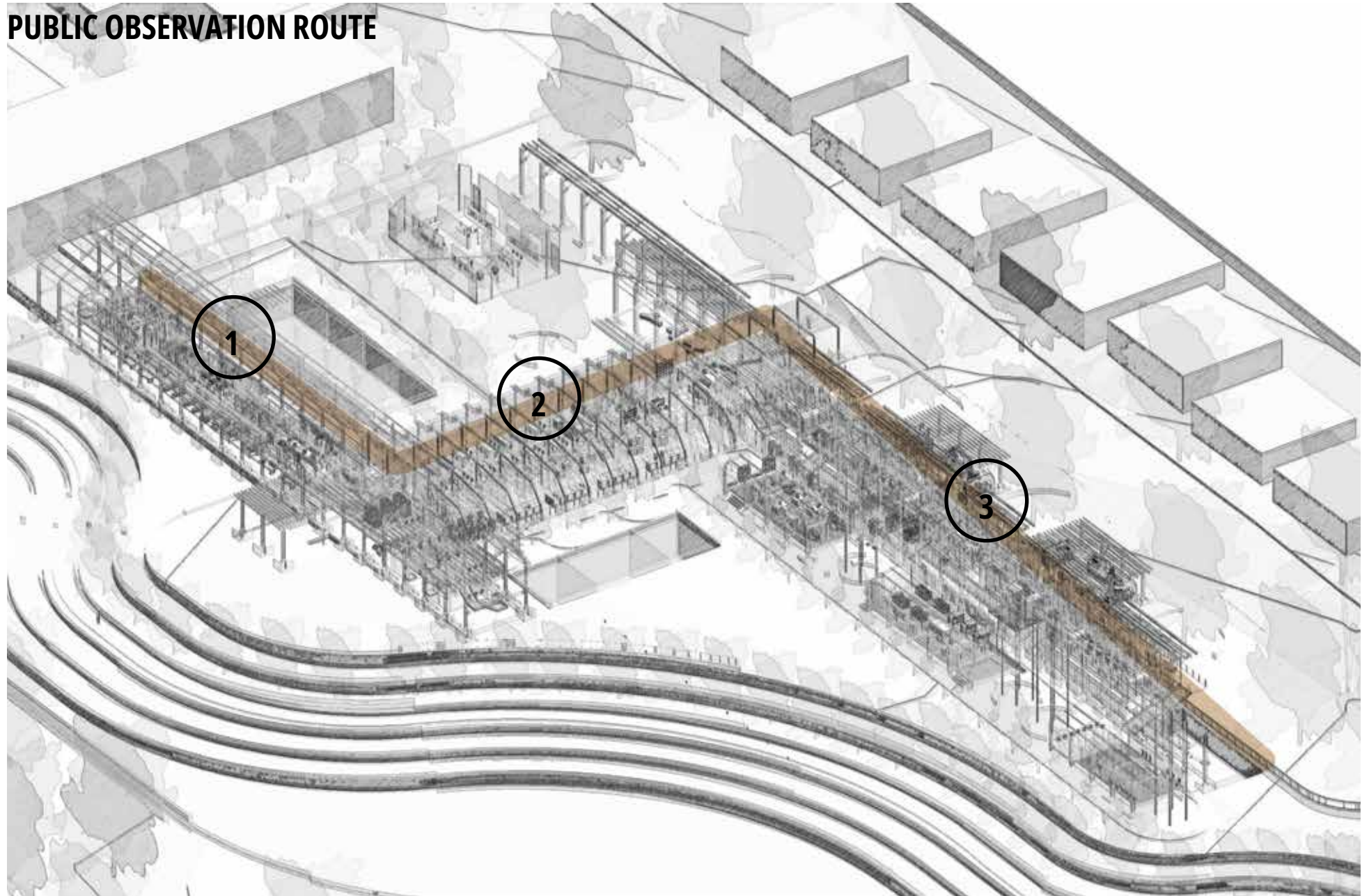


SECTION B-B





PUBLIC OBSERVATION ROUTE



SLOW ARCHITECTURE IS EMOTIONAL



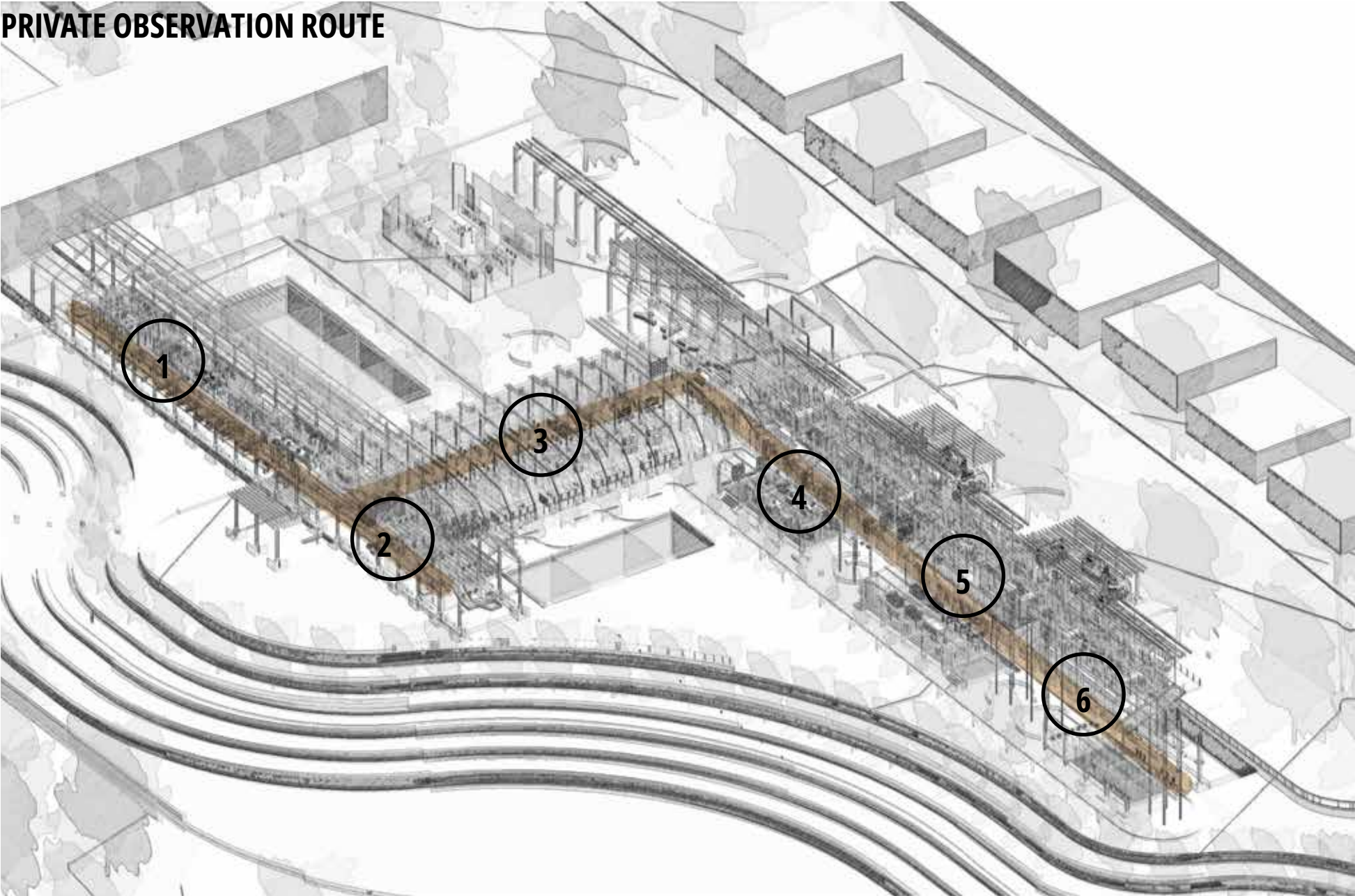
1

SLOW ARCHITECTURE IS EMOTIONAL



2

PRIVATE OBSERVATION ROUTE



SLOW ARCHITECTURE IS EMOTIONAL



1

SLOW ARCHITECTURE IS EMOTIONAL



1

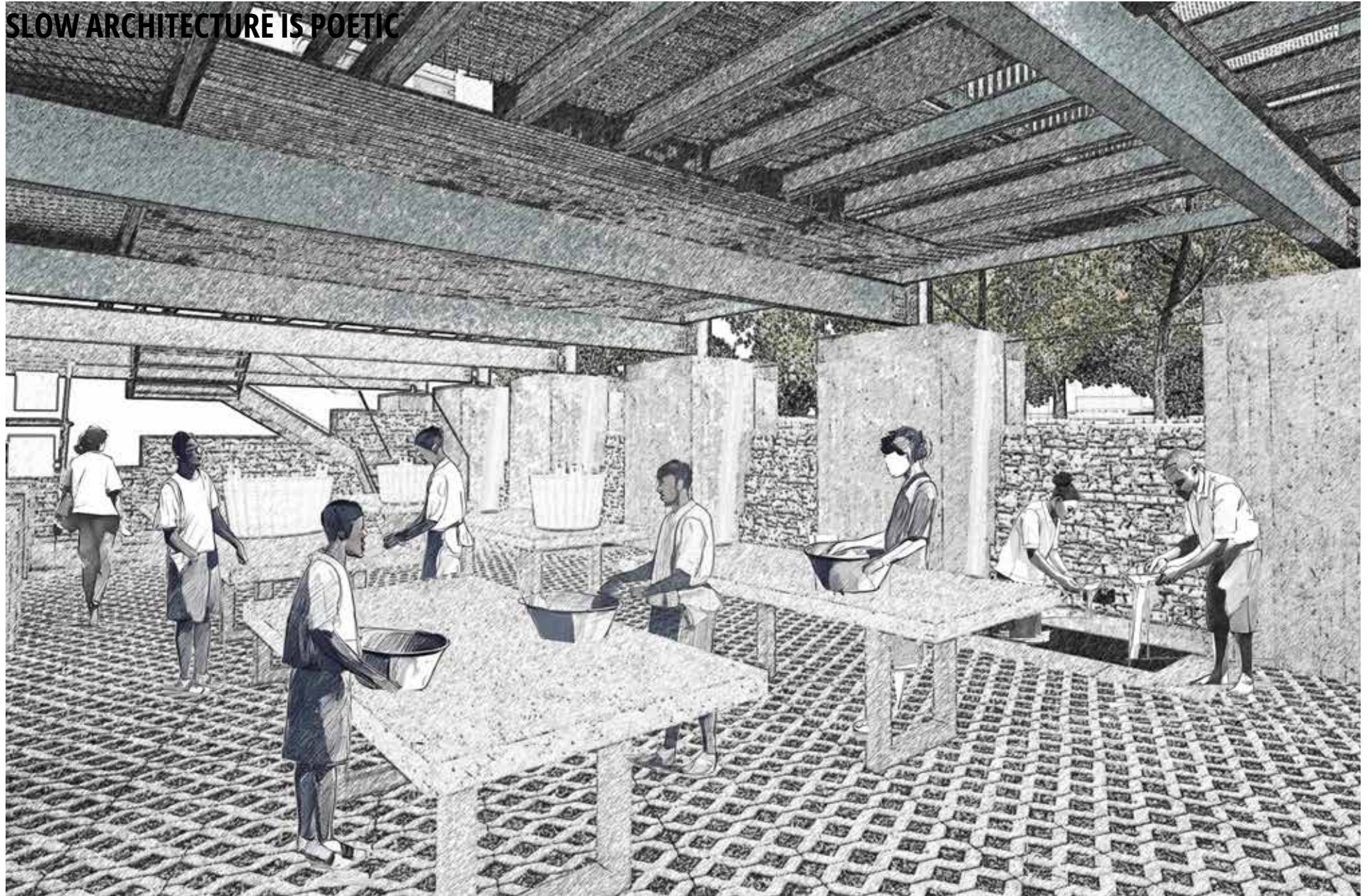
FIRST FLOOR PLAN



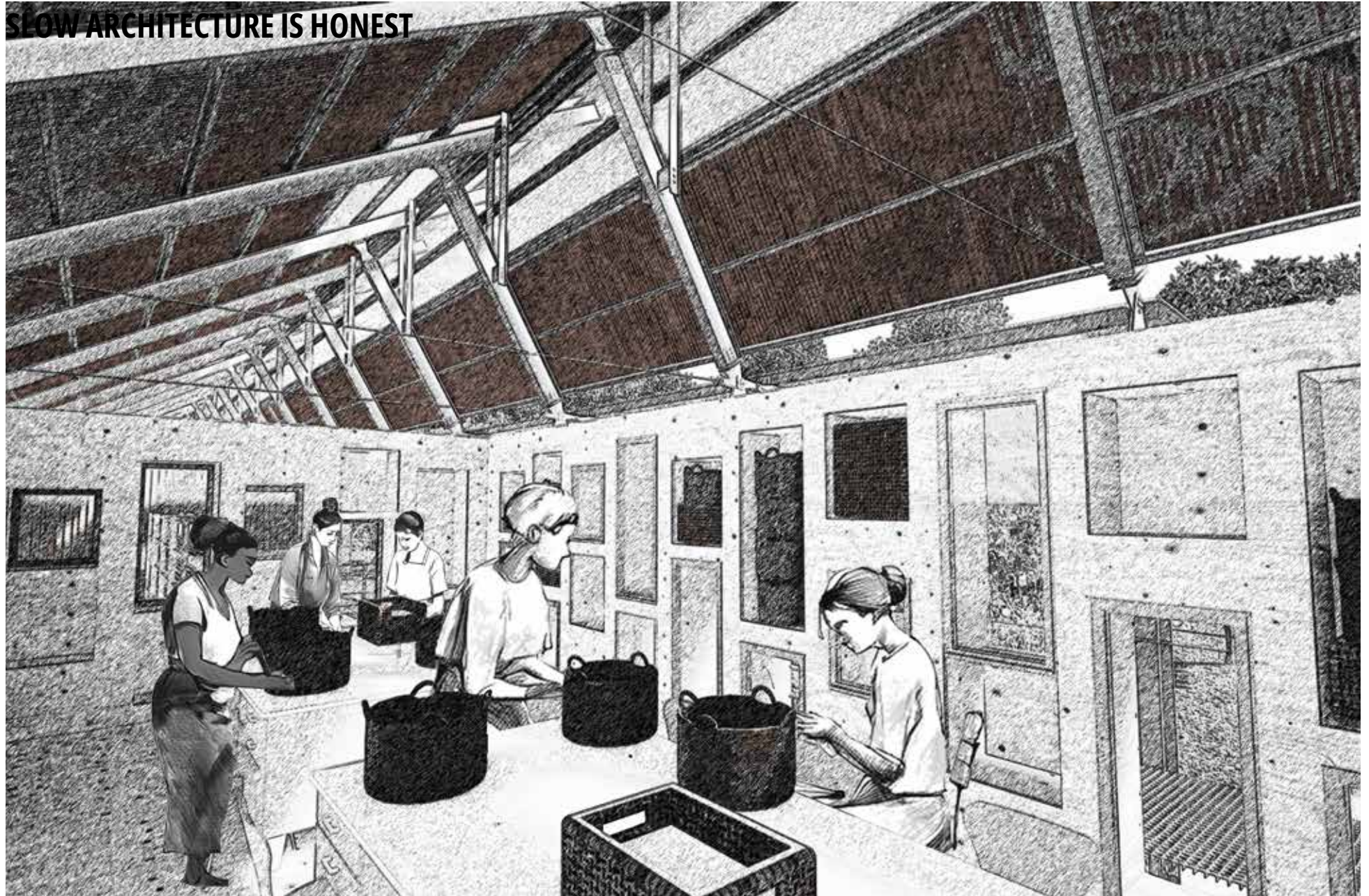
SLOW ARCHITECTURE IS HONEST



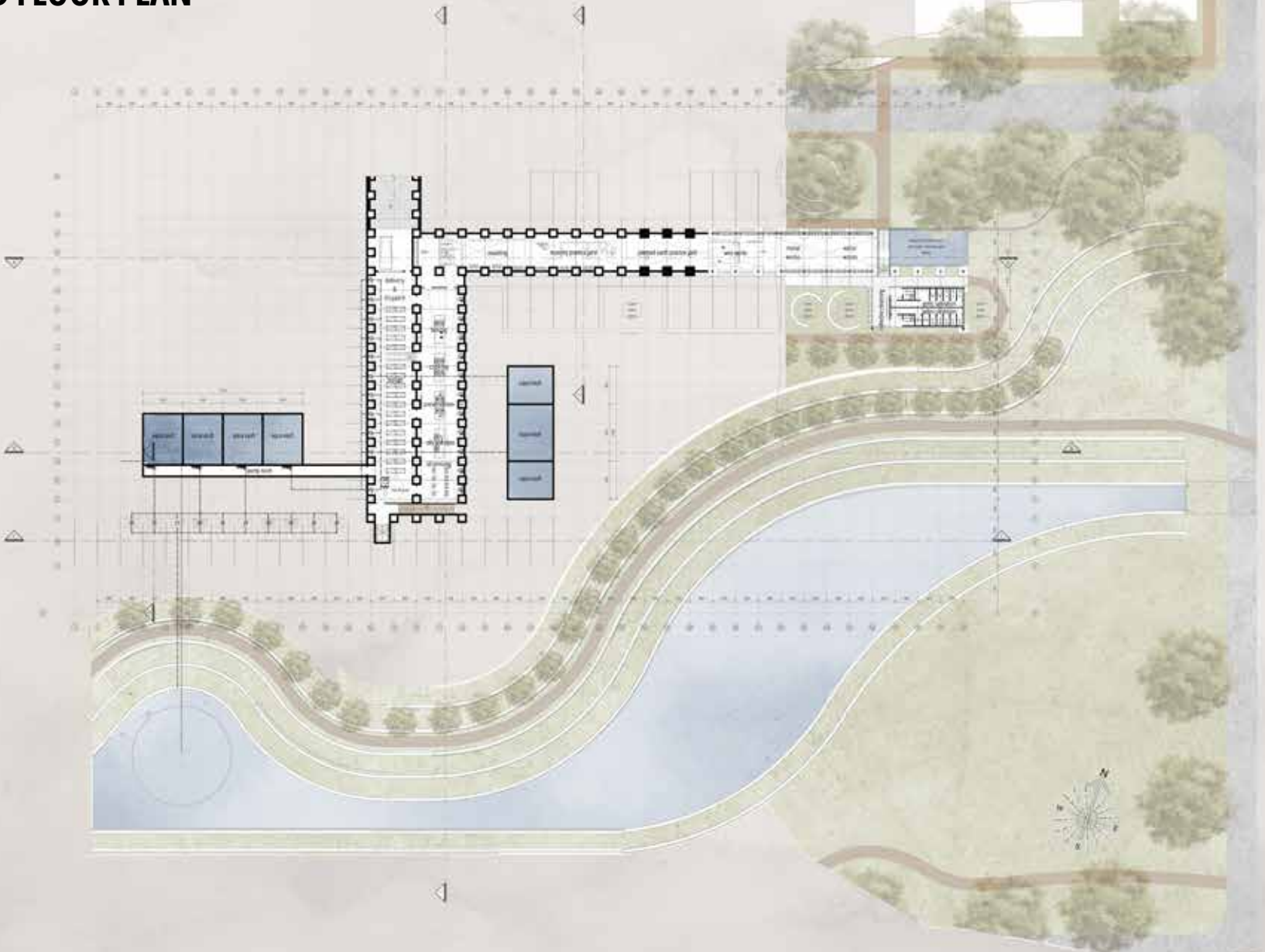
SLOW ARCHITECTURE IS POETIC

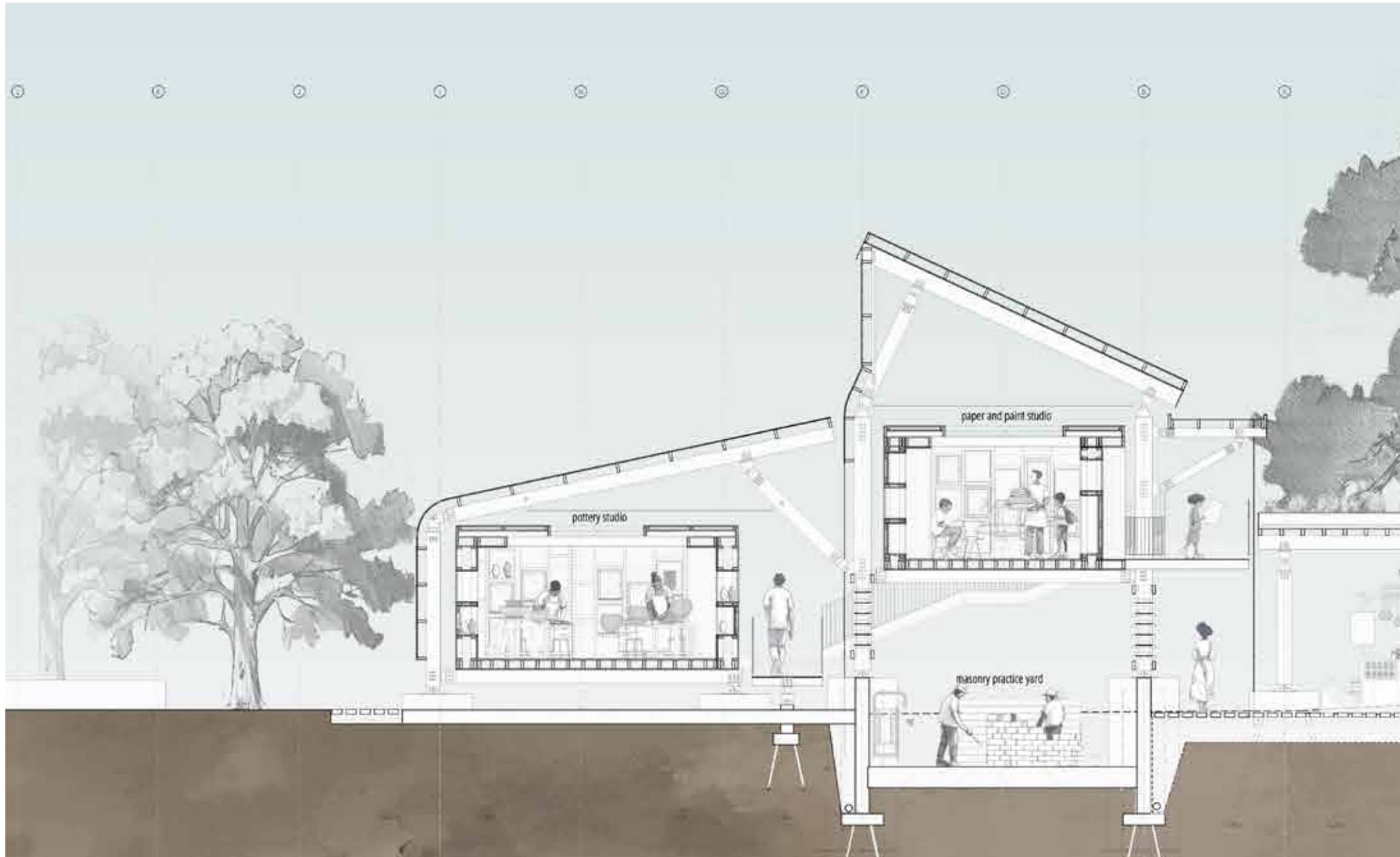


SLOW ARCHITECTURE IS HONEST



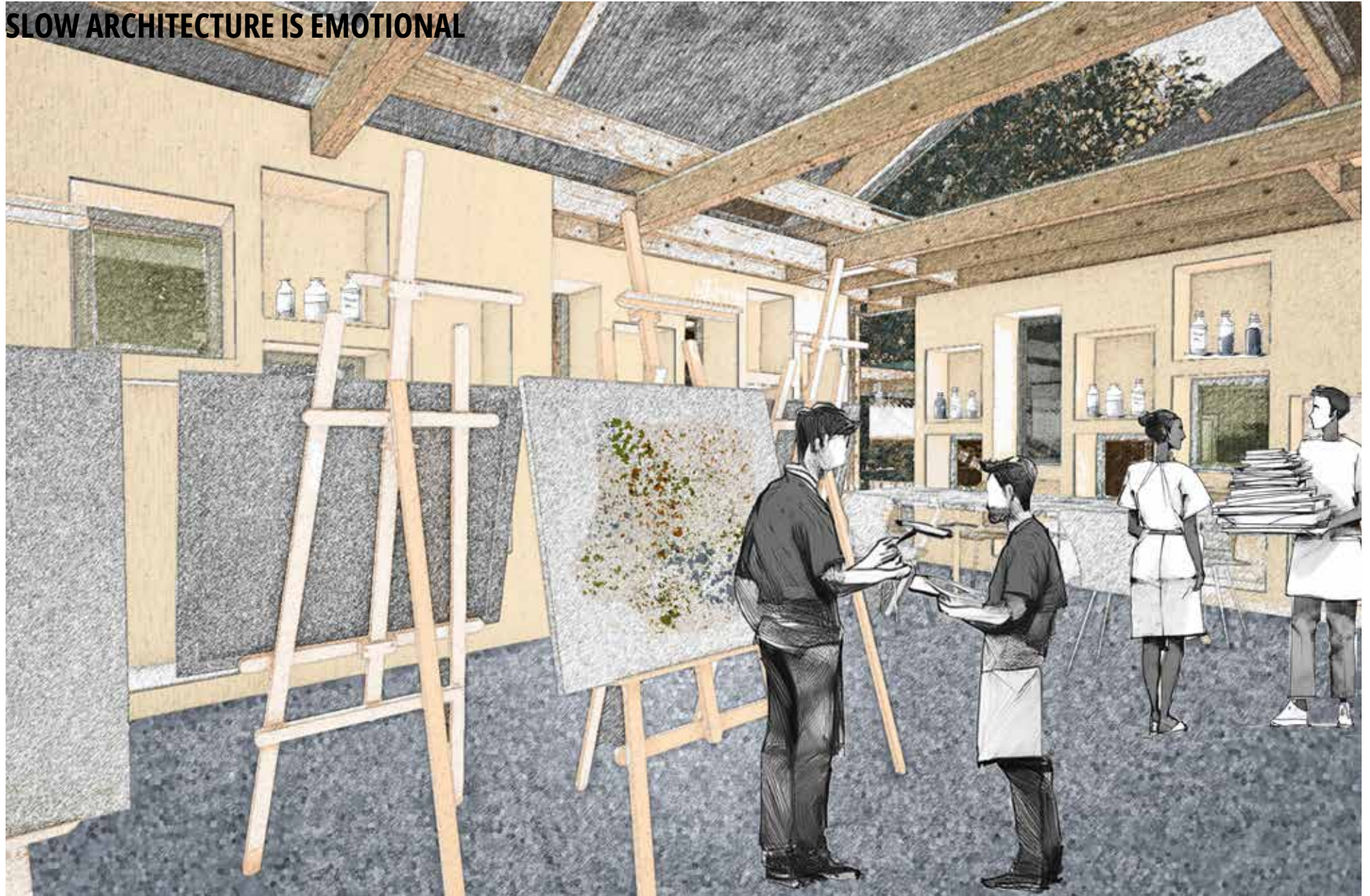
LOWER GROUND FLOOR PLAN







SLOW ARCHITECTURE IS EMOTIONAL

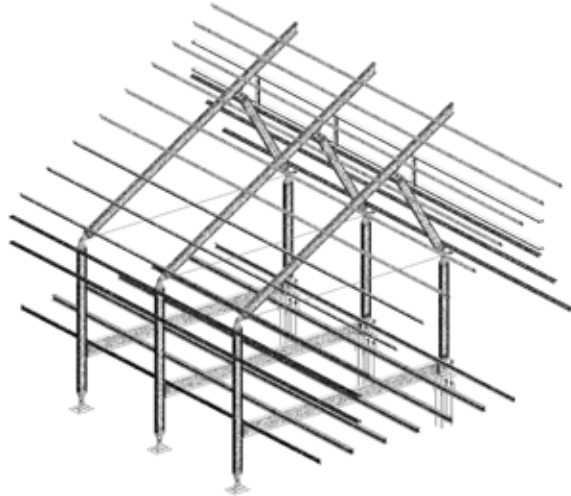


SLOW ARCHITECTURE IS EMOTIONAL

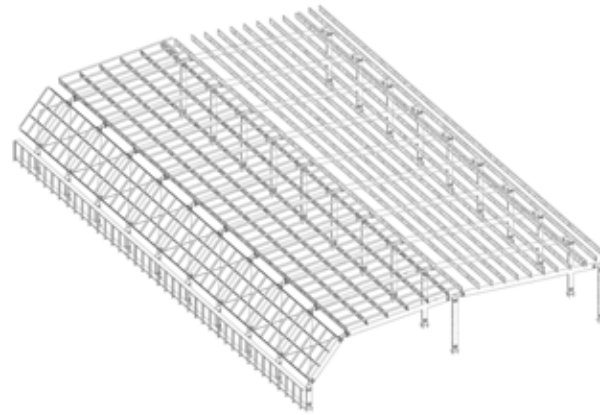


BUILDING TECHNOLOGY: STRUCTURAL SYSTEMS

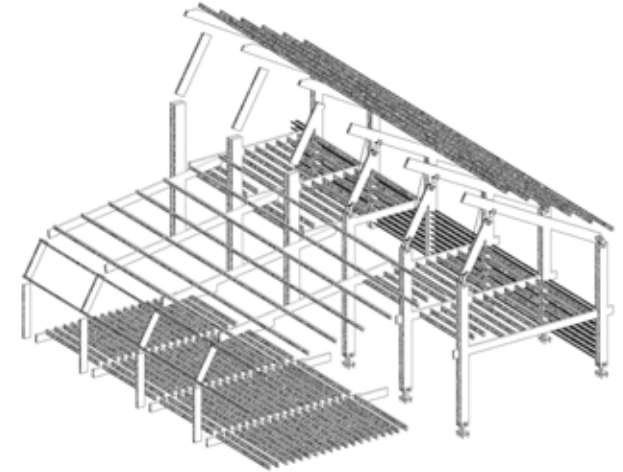
STEEL FRAME



FLITCH (STEEL + TIMBER) FRAME

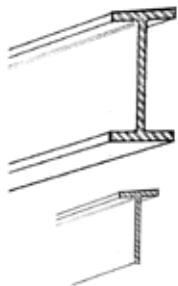


GLULAM TIMBER FRAME

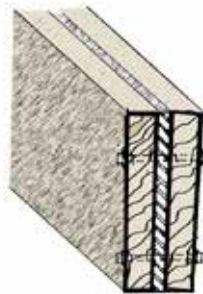


BUILDING TECHNOLOGY: PRIMARY STRUCTURAL ELEMENTS

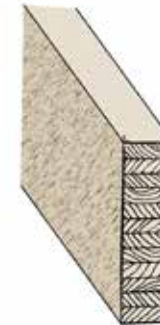
STANDARD STRUCTURAL STEEL SECTIONS



STRUCTURAL STEEL PLATE + STANDARD TIMBER SECTIONS

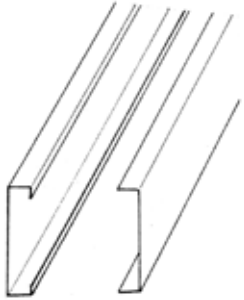


STANDARD GLULAM TIMBER SECTIONS



BUILDING TECHNOLOGY: SECONDARY STRUCTURAL ELEMENTS

STANDARD COLD FORMED STEEL



STANDARD TIMBER

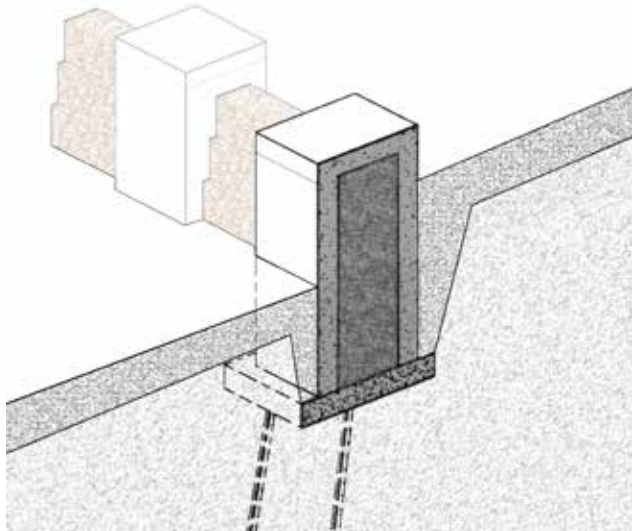


STANDARD STEEL CABLE

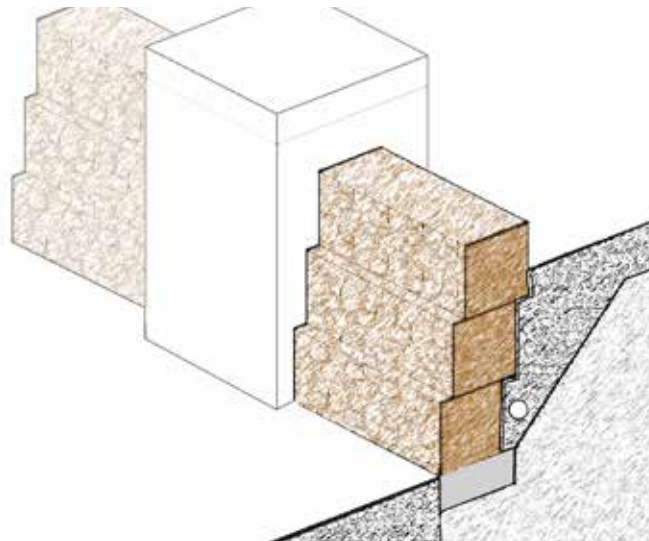


BUILDING TECHNOLOGY: GROUND CONDITIONS AND SUBSTRUCTURE

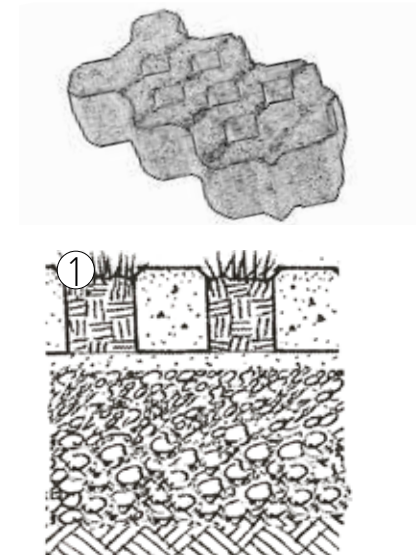
MICRO-PILE FOUNDATIONS



GABION RETAINING WALLS



PERMEABLE PAVING

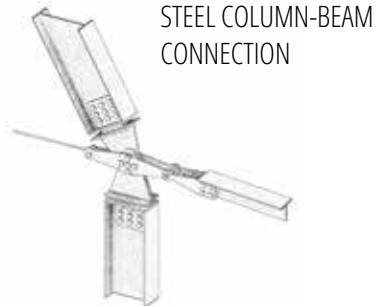


BUILDING TECHNOLOGY: STRUCTURAL CONNECTIONS

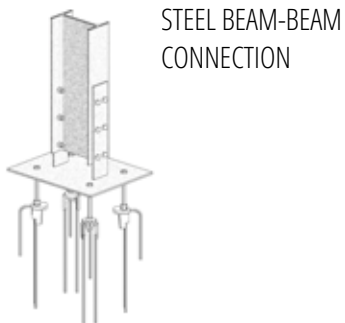
STEEL FRAME



STEEL COLUMN-BASE CONNECTION



STEEL COLUMN-BEAM CONNECTION



STEEL BEAM-BEAM CONNECTION

FLITCH (STEEL + TIMBER) FRAME



FLITCH COLUMN-BEAM CONNECTION compliant with SANS 10400-J

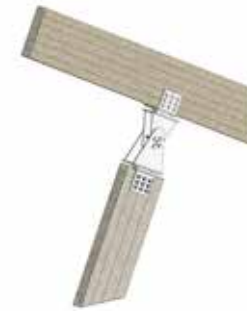


FLITCH COLUMN-BEAM CONNECTION



FLITCH COLUMN-BASE CONNECTION

GLULAM TIMBER FRAME



GLULAM COLUMN-BASE CONNECTION



GLULAM COLUMN-BEAM CONNECTION



GLULAM BEAM-BEAM CONNECTION

BUILDING TECHNOLOGY: SKINS (FLOORING, ROOFING, WALLS)

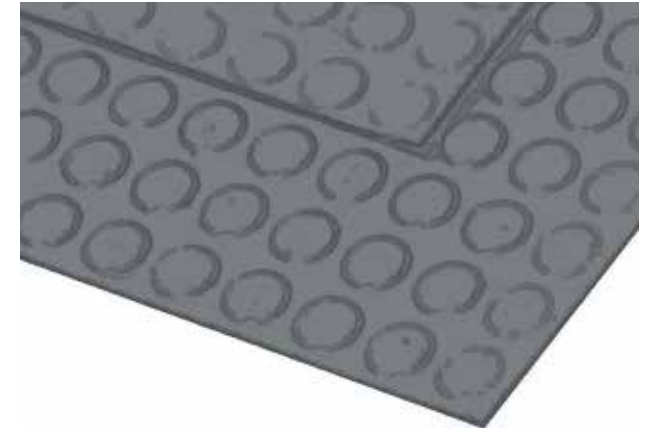
STANDARD STEEL FRAMED WINDOWS



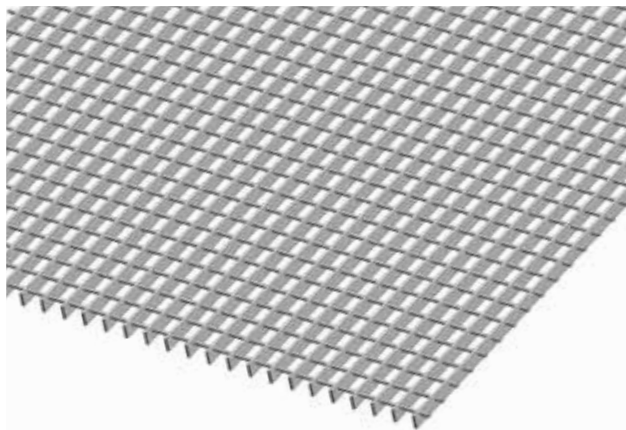
POLYCARBONATE SHEETING (MULTI-WALL & CORRUGATED)



VINYL FLOOR SHEETING



STEEL GRATING



MARINE GRADE PLYWOOD



CORRUGATED WEATHERED STEEL SHEETING



CONCLUSION AND CRITICAL REFLECTION

The main intention for this design project was for it to be a manifestation of the principles of Slow architecture. Reflecting on the year, I learned a lot about myself as a designer and the values that I hold. As I set out principles for Slow architecture, it is possible to reflect on whether or not the project embodies them. The project is holistic in terms of addressing social, economic and environmental issues. The project is catalytic as its form part of a series of interventions on a grander scale. The architecture is connected to its context in terms of programmatic, formal and technological responses. It has a specific character that speaks of the influences of the surrounding industry, vegetation, river and residential dwellings. The project is ethical as it promotes the development as preservation of the human hand in labour, both in its construction methods and programme. The project is local, as majority of the materials used are sourced and manufactured in South Africa. Structure is honestly expressed in the projects and joints are celebrated as significant moments. Materials are honestly expressed and where possible, allowed to age naturally without maintenance. The architecture is poetic, as it follows a consistent rhythm and proportion system, whilst also utilising elements of contrast in terms of tectonics and stereotomics. The design is functional as it addresses issues around the programmatic spatial requirements, circulation, services and storage. The architecture is emotionally and sensually rich as it has a range of materials and atmospheres, some with a sense of joy and curiosity, others as moments of tranquillity and content. The design is social as it aims to accommodate not only varying age groups, but also to welcome the public to the community kitchen and the broader Jukskei parkway.

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