URBAN CAMPUS

Building the local craft tradition in Delft

An architectural dissertation design report on Consolidating the urban potentials of and emerging site of production along Delft Main Road

MArch (Prof)

Design Dissertation,

November 2017

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Course: Masters of Architecture

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ACKNOWLEDGMENTS

Firstly, I'd like to thank my little family for all their patience and support through the past few years, your caring patience is appreciated... thank you for always believing in my ability.

Secondly to my patient, understanding and hardworking supervisors, Melinda Silverman and Fadly Isaacs. Your clear guidance is appreciated.
To the residence of Delft, I am grateful for the assistance you have provided me in understanding your neighbourhood. Thanks for welcoming me into your neighbourhood and sharing your narratives with me.

Finally, I would also like to thank Martin Kruger, for the mentorship and guidance over the past 4 years.

ABSTRACT

Delft is currently under construction. Evidence reveals that most residents have engaged in some form of building activity, be it small scale or large scale, self-initiated or by hired means. This labour-intensive condition gives rise to the notion of Delft as a site of production, resulting in an emerging local industry, which in return possess a number of opportunities both locally within Delft and outside of Delft. In this regard, the dissertation explores how these building-related craft traditions can be supported, through the design of a vocational training urban campus in Delft. Thus far, building work has been executed within Delft in an ad hoc manner, and good building work remains unappreciated.
The dissertation attempts to construct an institutional campus informed by the local vernacular that aids in the creation of a positive public realm and contributes to the civic.

The components of constructing the campus are explored through three typologies that make up the various conditions as a whole; building as an edge of exchange, building as a thoroughfare and building as a yard. The building system adopted is deliberately clear and didactic in its making, revealing materials, joints, details and structure. The process of assembly is intended to echo the existing vernacular, but at the same time introduce new techniques and technologies of making, serving both a pedagogic and a development purpose.

Figure 1:
Local building trades activity along Delft Main Raod

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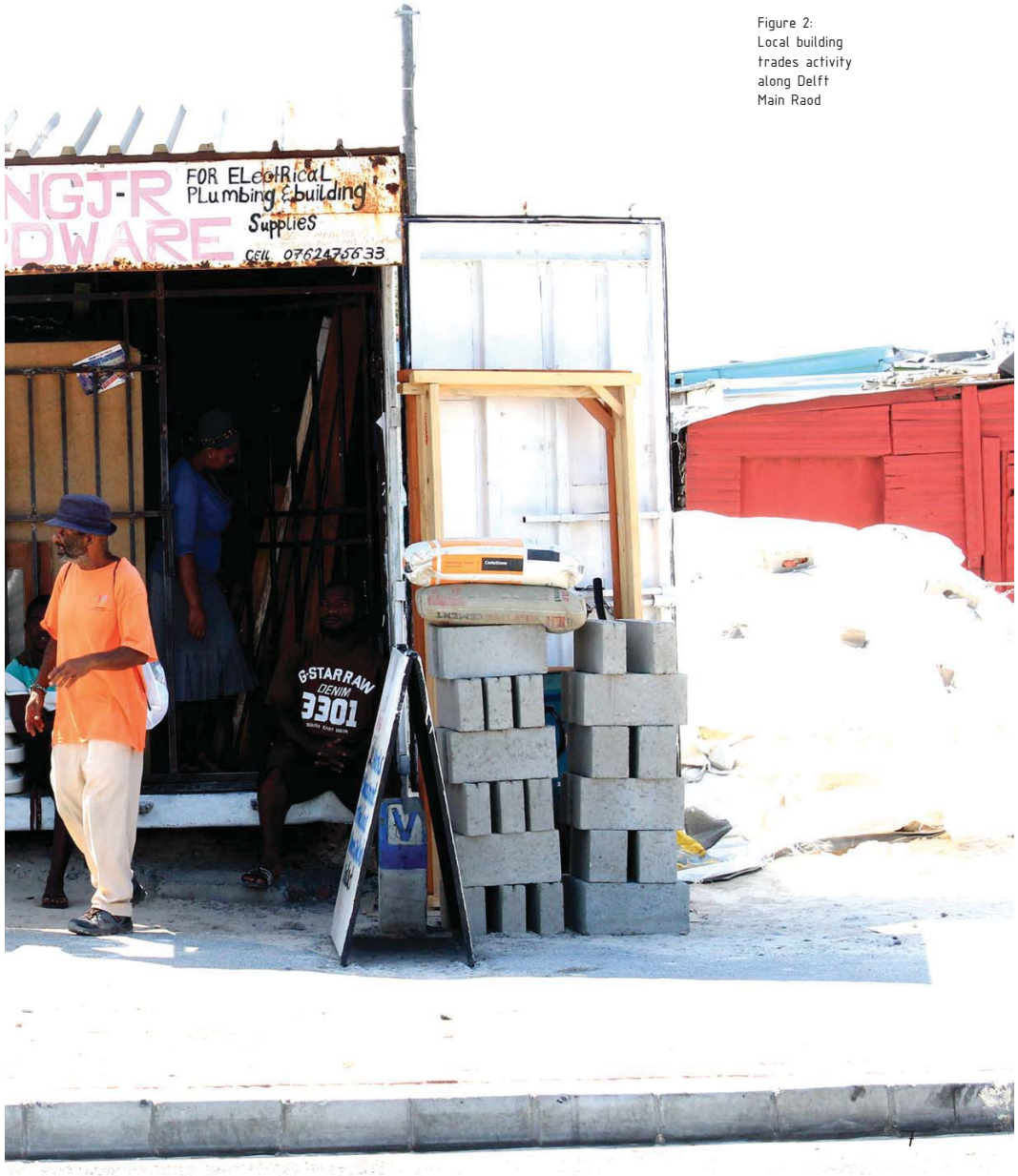


Figure 2:
Local building trades activity along Delft Main Raod

INTRODUCTION

Oupa: Fredrick Edward van Niekerk

My exploration of craftsmanship is a means of learning through making, which stems from a personal experience. The self-taught knowledge that my family members had acquired through practice, afforded us a level of socio economic benefits.

Father: Edward Peter van Niekerk

My late Oupa, a carpenter by trade had acquired his skills through making, (knowledge through physically making) on the peripheries of the northern suburbs in Cape Town. Here he had worked, refined and honed his skills to a certain level and complexity, which later allowed him to establish his own building construction company. My father, directly after completing his Grade 12, joined my Oupa in the family business and expanded his knowledge by becoming an artisan, and later took over the responsibilities from my Oupa.

Me: Warren Peter van Niekerk

Figure 3:

My family generation of makers

Figure 4:

My expierence with the building the building trade industry

Exposed to the first hand opportunity to experience a generation of local knowledge embedded within my family, school holidays were not the norm: I was frequently hauled along to the site as a helping hand, exposed to the everyday practices of construction and building. Later, pursuing my undergraduate studies in architecture, I acknowledged the benefits of this tactile knowledge.

Thus, my engagement with Delft since 2016, resonate strenuously with my personal experience. A vibrant construction industry is flourishing within Delft as locals take advantage of the economic potentials through making, thereby generating income to sustain households.

In townships such as Delft in Cape Town, high levels of crime, drug abuse and gangsterism have been drivers of unemployment, poverty and educational issues. It is however evident that a strong presence of local self-initiated practices occur as a means of everyday survival and economic generation.

Asef Bayat refers to this notion of auto-construction with the use of the term, "silent encroachment". This implies the action of the formally, unemployed people find a more autonomous way of living that allows them to have a sense of agency that they otherwise would not have. This method of 'silent encroachment' is similarly used in the domain of work, where the unemployed resort to "autonomous, subsistence activities" that make up the informal economy and allow people agency through their work (Bayat, 1997).

In Delft, a huge portion of these self-initiated practices and auto-construction consist of a self-build culture, where hardware stores front the street edges, building material occupy the sidewalks and local manufacturing businesses spill out of peoples' homes. Locals have acquired these skills over time and have executed them within Delft in an ad hoc manner. These practices of making have not been recognised to its full potential.

Furthermore, the building methods reveal an emerging local vernacular, which have prompted my inquiry as to how these self-initiated ad hoc building endeavours could be expanded or consolidated. To this end, I have proposed the development of a vocational educational campus informed by local urban practices and current institutions. Moreover, the dissertation seeks to acknowledge the urban everyday as potential systems that possess certain place making qualities.

However, these are conspicuously absent in the design of Delft's institutional buildings which lack positive street making characteristics. Thus, the dissertation promotes a new way of creating an institutional building for Delft – one which is informed by the urban everyday practices and which makes a positive contribution to public space.

1

DELFT TODAY

establishing the theoretical basis

- Spatial context
- Delft Main Road
- Local craftsmen
- Innovative building practices as an emerging vernacular

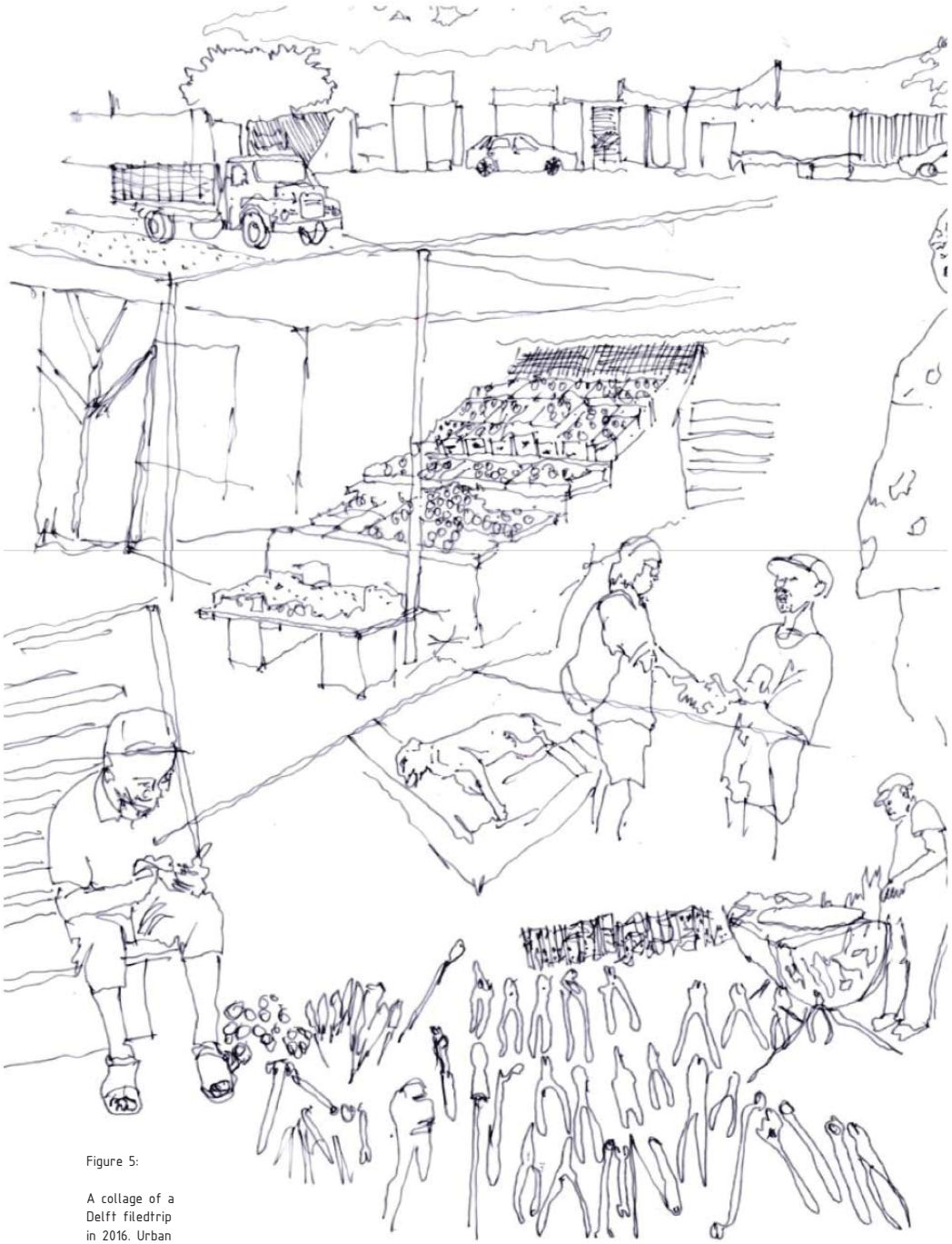


Figure 5:

A collage of a Delft filedtrip in 2016. Urban everyday

SPATIAL CONTEXT

Delft is located 34km away from the central city and was established in the 1980's as the first mixed race township. Furthermore, Delft locates itself within the heart of existing industrial area's. Delft today is well known for the day-to-day gangsterism, violence, high crime, poverty, unemployment and under resourced public institutions.
However, despite the negative characteristics of Delft, Delft still manages to possess a flourishing and vibrant community, which seeks continual survival by setting up informal businesses predominantly along Delft Main Road.

Figure 6:

Delft within the context of the City of Cape Town

DELFT MAIN ROAD

The planners of Delft deliberately created the Main Road running through the middle of Delft connecting to Belhar to the north. This was achieved by creating one long continuous street with asymmetrical ring roads latching off on either end. Thus the planner's idea of the asymmetrical ring roads was, to encourage both pedestrians and vehicle movement along the Delft Main Road at some point. The plan was successful, in the attempt to create a hierarchy of roads with the main road being the most active street as a result.

Figure 7:

planners diagram of Delft Main Road concept

Along the Delft Main Road today, one would find a number of existing institutional buildings such as the, community hall, libraries, clinics and police stations. Furthermore, the importance of the main road is reinforced by the two taxi ranks that operate within the north and south ends of Delft, which functions on a local and metropolitan scale.

Delft Main Road within the community therefore, has been identified as the road that offers the most potential in terms of economic opportunity. The Main Road today is largely occupied by informal retail activity and informal manufacturing activity. Formal commercial shops such as the Delft South Spar and the newly built Shoprite centre is situated at important intersections along the Delft Main Road, which act as anchorage to the informal retail activity. Delft Main Road therefore is a prominent asset to the local community of Delft.

However, despite the vast opportunities, Delft Main Road is still vastly underutilised. This becomes apparent as one transcends towards the North end of Delft Main Road, where a number of large parcels of empty land is unutilised. This floppy street edge condition spatially undermines the Delft Main Road as a high street.

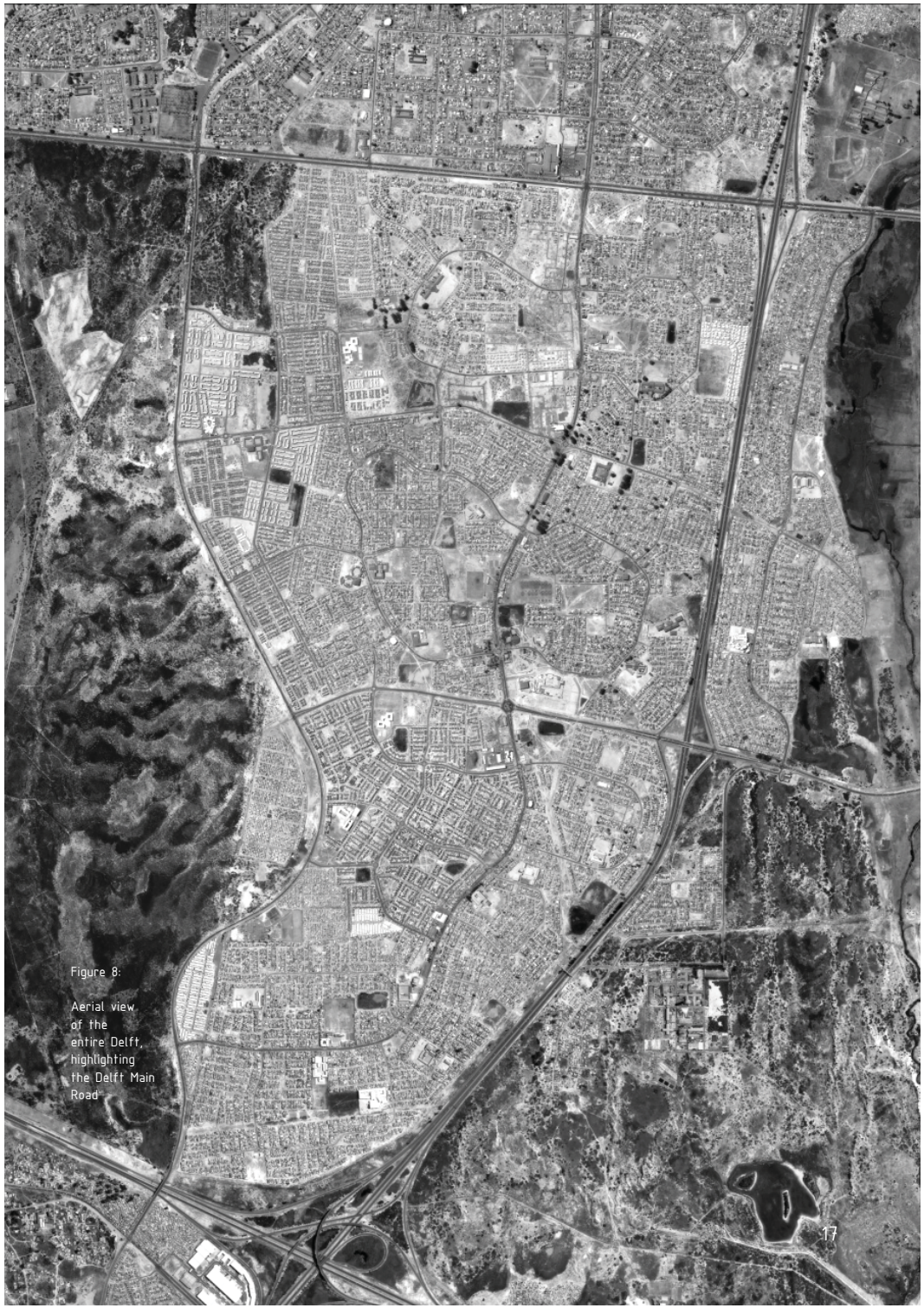


Figure 8:

Aerial view of the entire Delft, highlighting the Delft Main Road

The unutilised space or open parcels of land in Delft are opportunities for small businesses to flourish, predominantly along Delft Main Road. The placement of shipping containers as a space from which to operate is extremely popular as this offers a number of advantages for the start-up businesses. The location and placement of the shipping containers are well considered as they line the sidewalks offering spatial definition to the high street.

Figure 9:

Containers lining the street edges along Delft Main Road, on unutilised land

Figure 10:

A run down VW comby used as storage for business, lining the street edges along Delft Main Road, on unutilised land

SELF-BUILD INDUSTRY

Moreover, self-initiated practices like 'silent encroachments' have emerged over the entire Delft, predominantly in the proximity to Delft Main Road and clustered along Sandelhout Road. Homeowners have consistently erected some form of additional structure, be it a space for a spaza shop, extra room for means of rental income or a place/space to run a business. The spatial diagram illustrates the vast self-initiated practices across Delft South and part Delft North.

State provided
The diagram illustrates the state provided housing and institutional facilities.

Private-initiatives
The diagram illustrates the, self-build industry that has taken place within Delft.

Actual
The final diagram illustrates the current urban condition of Delft today. In this instance, it becomes apparent that Delft is merely 'under construction'.

As a result, one of the most prominent local micro enterprise within Delft is the building trade industry. Hardware stores cater for the most popular building materials and general artisans offer their skills.

state provided

private initiated

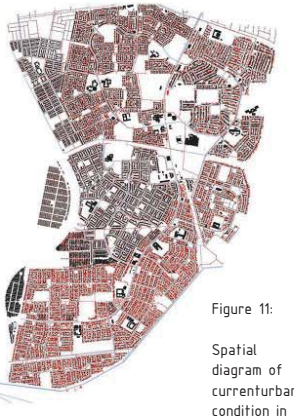
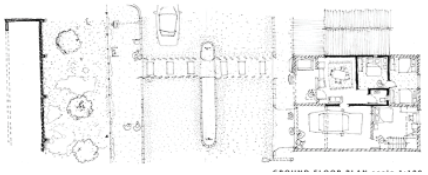


Figure 11:

Spatial diagram of currenturban condition in Delft



Plan

Section

Image

EDUCATIONAL LANDSCAPE

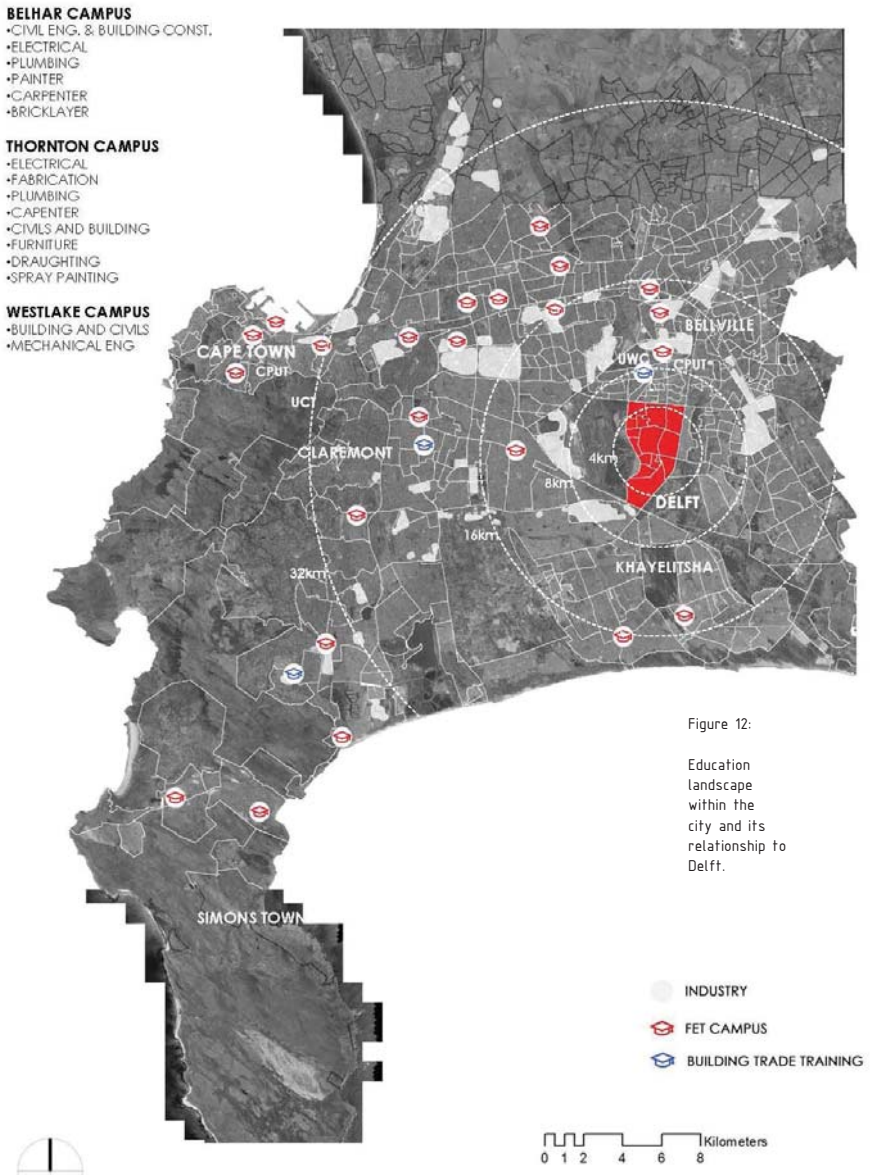


Figure 12:

Education landscape within the city and its relationship to Delft.

However, within these low-income areas today, improving quality of living is seen as simply moving from a shack to a built house satisfying the immediate needs of the occupants. Housing provision in the low-income areas is of utmost importance; this however does not solve dire longer-term issues. Even though there are many concerns in the areas such as Delft, the one issue that concerns the most long-term future, is that of education and unemployment.

The department of higher education notes, since 1994, there has been no consistent, coordinated investment in the expansion of the Vocational Educational Training College (VET). South Africa's status as an emerging economy reinforces the arguments for a strong VET system. A wide range of evidence shows that effective vocational programmes can be part of the answer, by providing practical training linked to the prospect of a job, smoothing the transition from school to work. Furthermore, in 2016, the Department of Higher Education and Training aligned their focus on the development of the VET and community college sectors as the ideal institutions to address the South African economy's dire need for technical and vocational skills (Anon., 2016).

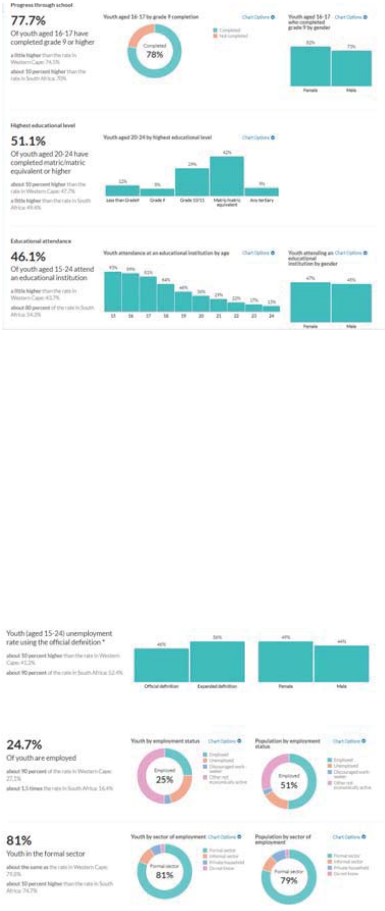


Figure 13:

Educational Statistics of the Youth within the Western Cape

INSTITUTIONAL LANDSCAPE

Delft South and part Delft North consist of eleven primary schools. To date, there is no formal site allocated for tertiary education within Delft; the concern here lies in the difference in ratio between primary schools and secondary schools, and the transition between school and work.

Moreover, the existing formal institutions such as education, clinics, libraries or police stations act as important anchorage to that of the everyday practises currently taken place in Delft. The current architectural language of the public institutions are rather monotonous, where a limited material pallet is used, and typically fenced off with galvanised palisade fencing for a number of practical reasons, i.e. maintenance, robustness and security.

Additionally, the public institutions lack good place making and positive public interface characteristics for the promotion of social cohesion and therefore neglects the public demands.

However, the local building practices of the urban everyday taking place in Delft on an ad hoc basis might not be formal institutions per se however; the micro enterprises, which build off alongside the formal public institutions, offer some clues in the form of place making, public interface, and creative use of materials and methods of building. The place making value, unrefined freshness and artistic richness of these practices could be appreciated.

On this note, the dissertation attempts to promote a new way of approaching the design of an institutional building within Delft, grounded in the urban every day and making positive public space.

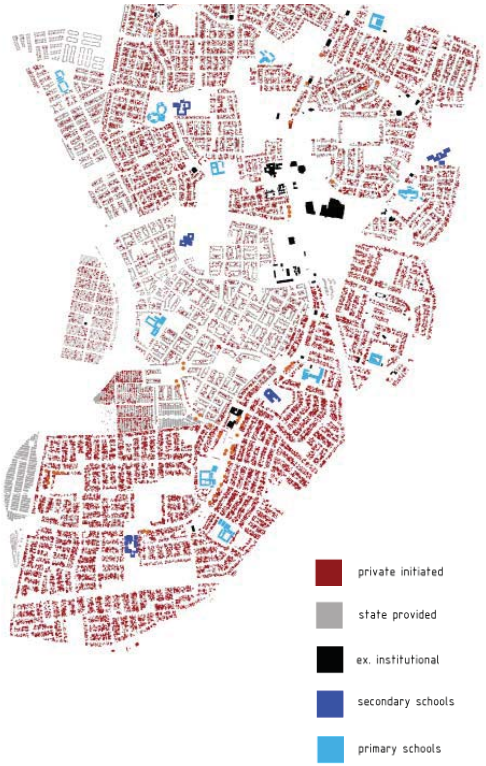


Figure 14:

Instititional landscape within Delft. Public instituion as anchorage, for informal activity

2

DESIGNING THE URBAN CAMPUS

- Progrm
- Siting
- Urban stratergy/framework
- Architectural stratergy

Figure 15:

collage of fieldtrip experience in Delft 2017

PROGRAM

My engagement with Delft and its vibrant building trade industry resonate strongly with my personal experience of the building trade industry. Delft is currently under construction, as evidence reveal the building industry is one of the most prominent local industries. Furthermore, the flourishing self-built industry and local vernacular, has prompted my inquiry; as to how these self-initiated building endeavours could be expanded or consolidated. Thus, I propose a vocational training facility informed by the local urban everyday practices.

Additionally, in 2016 the Department of Higher Education and training aligned their focus on the vocation educational training, to address the dire need for technical and vocational skills.
To aid the development of the program a number of case studies were conducted, both locally and globally. This was conducted in the manner of both site visits, and analitical analysis. The following case studies revealed to be the backbone to the development of the programmatic response.

1. Local manufacturing workshop within Delft_ Aluminium manufacturer
2. Leicester engineering building, by James sterling
3. Belhar North link Campus

ALUMINIUM WINDOW MANUFACTURER

Architect: Owner

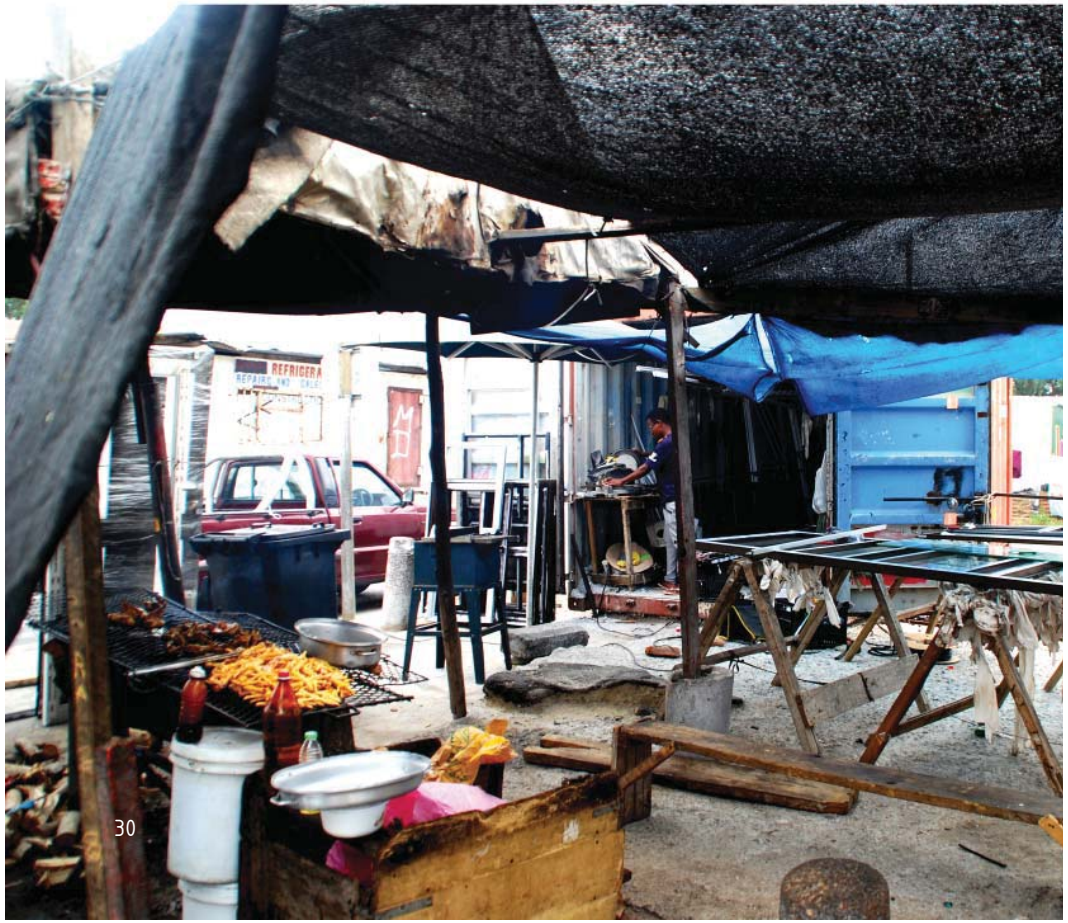
Date: 2013

Place: Corner of Main road and Kamassie road

Category: Manufacturer

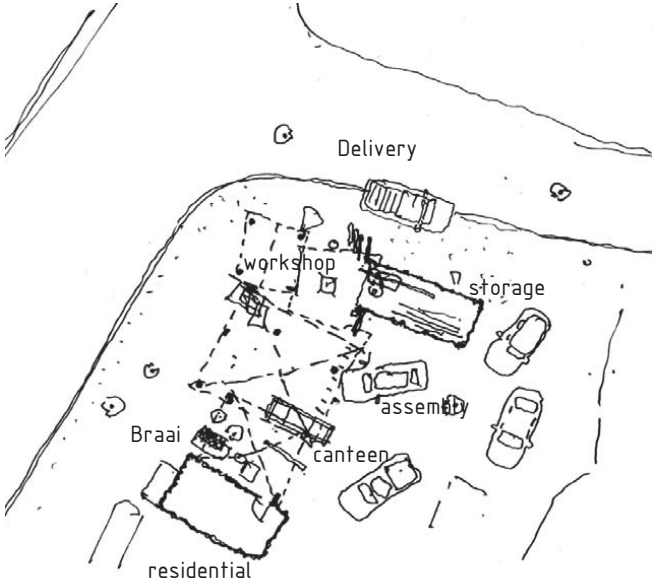
Figure 16:

Local manufacturing workshop within Delft



Programming

The workshop consists of variety program, this is made possible due to the fluidity of the space. The workshop allows for storage, work area, assemblage, social space, braai and kitchen. perhaps a campus in itself

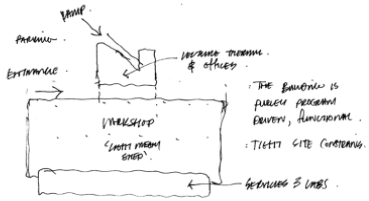


LEICESTER ENGINEERING BUILDING

Architect: James sterling

Date: 1959

Place: Leicester, England



Programming

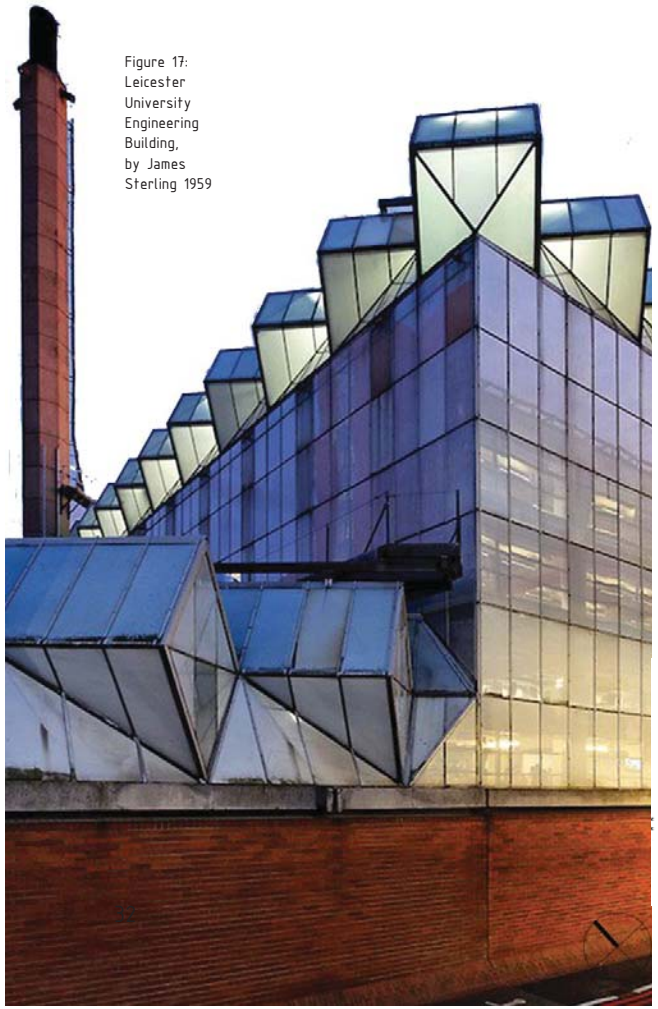
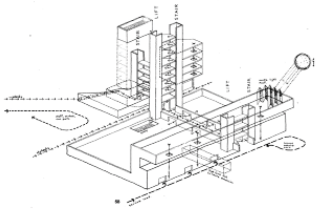


Figure 17:
Leicester University Engineering Building, by James Sterling 1959

Both building consists of, workshop space, classrooms, lecture halls, student housing, offices, delivery area , administrations and canteen area. Due to the nature of the leicester engineering buidlings site, the program campactly stacked to achieve desirablitiy. in the cas of the Belhar campus, program is spread out on the large parcel of land. resulting in dispersed arrangement.



BELHAR NORTHLINK CAMPUS

Architect: Unkown

Date: 2000

Place: Belhar, Cape Town

Category: Tertiary studies

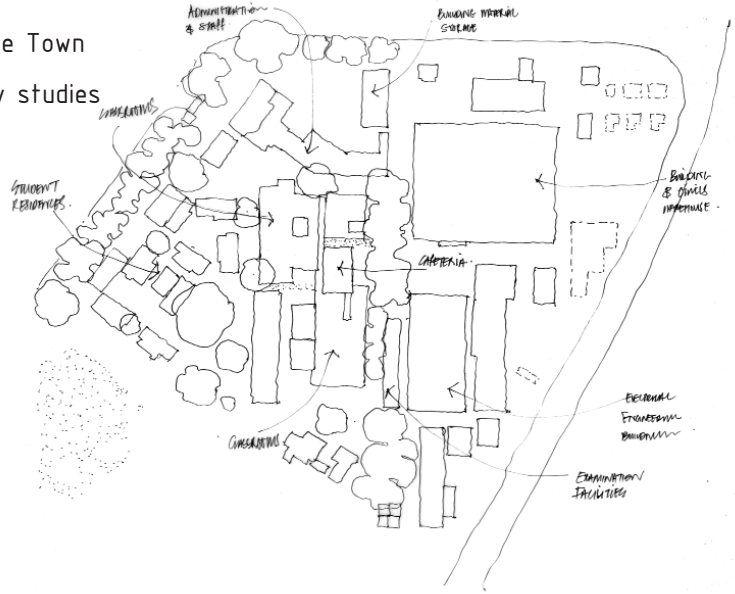


Figure 18:

Belhar Northlink Campus.

NOTION OF URBAN CAMPUS

The case studies revealed, that the vast programmatic makeup of the facilities were grounded in the idea of a campus as a whole. The make-up of the institutions consisted of

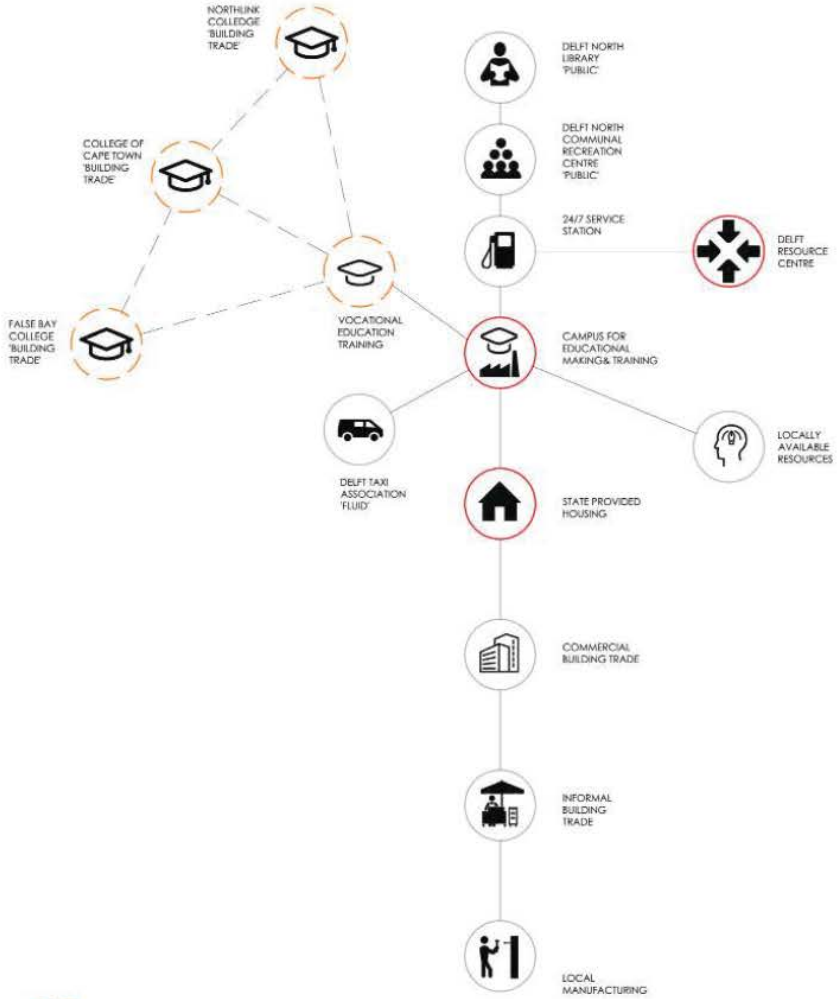
- Educational space
- Workshops space
- Studios space
- Administration
- Deliveries
- Offices
- Canteen etc.

The proposed intervention thus responds to the findings and interprets it through a more nuanced lens, similar to the of understanding of the local manufacturing workshop in Delft, and derived the notion of and urban campus.

Currently, the existing public facilities within Delft such as the public halls and public libraries are limited in terms of capacity. The community members have difficulty organising a venue for large gatherings or community meetings. Libraries within Delft act as significant public buildings catering for the need of the community and to new comers of Delft. The urban campus thus responds to the needs of both the institution and the community, therefore informed by ground related activities. Furthermore, the focus is primarily on young adults, in the hope to smooth the transition from education to work place.

The proposal of the vocational educational training campus is thus comprised of a public/private lecture facilities, workshops, classrooms, seminar rooms, administration, student housing and social housing. The new program together with existing institutional program constructs the urban campus. The inter-relation between these programs offers a conceptual notion of overlap as an intention to intensify activities.

PRECINCT

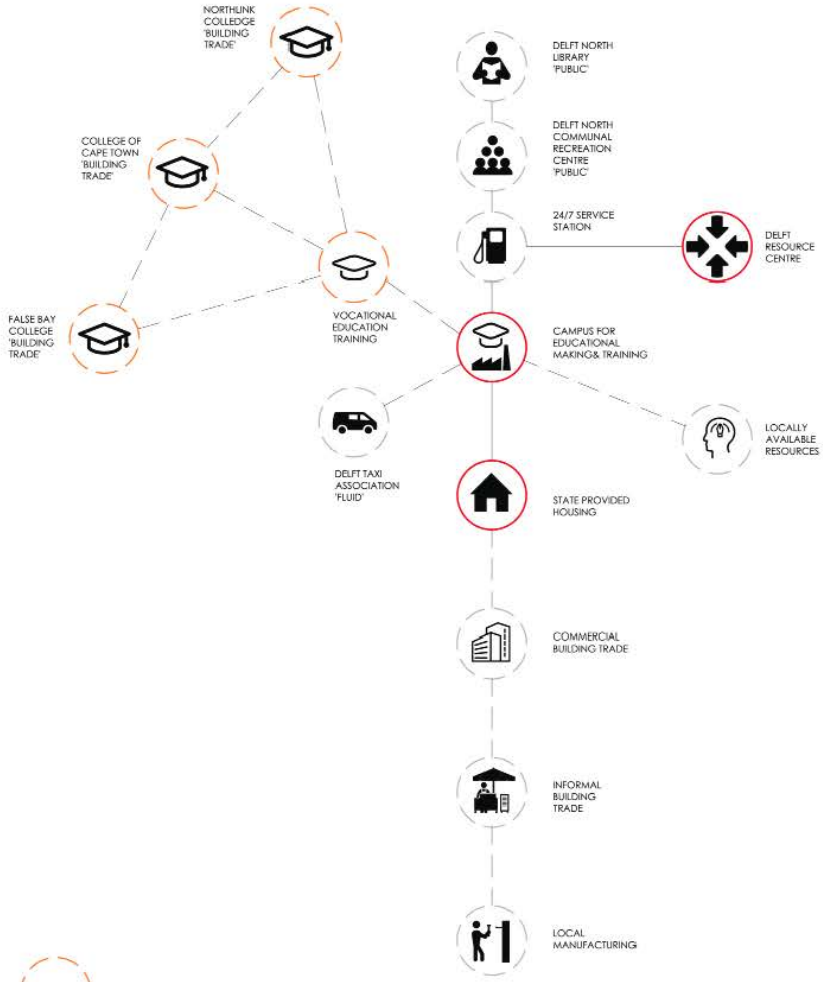


ROLE PLAYERS (ESSENTIAL CLIENT)

NEW PROGRAM

EXISITING PRGRAM

ARCHITECTURAL PROGRAM

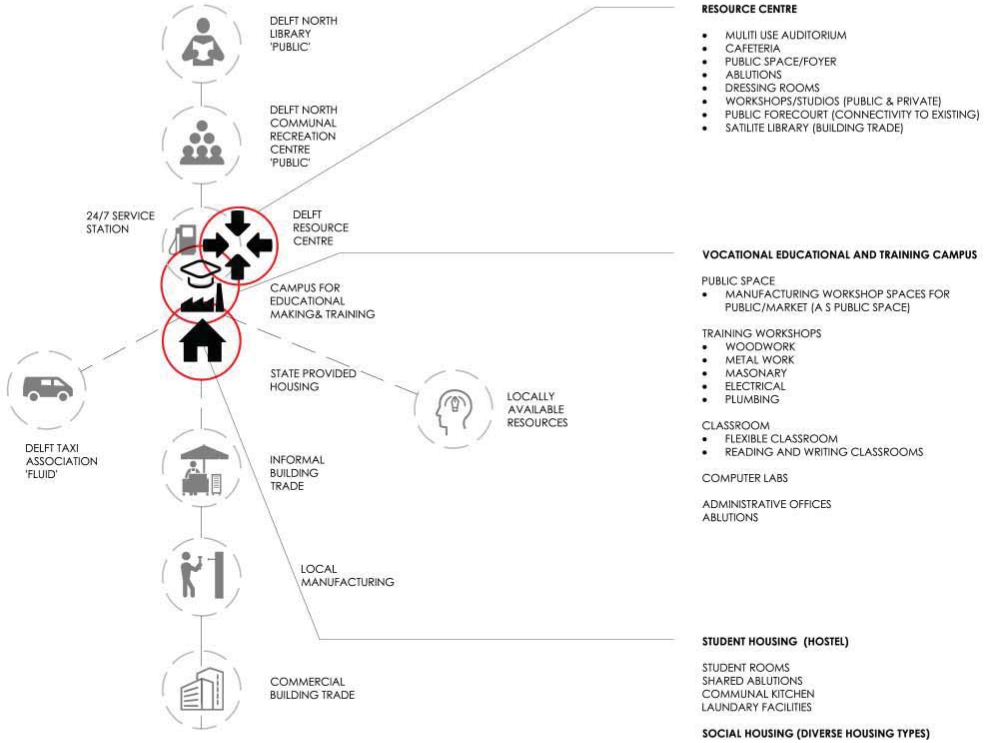


ROLE PLAYERS (ESSENTIAL CLIENT)

NEW PROGRAM

EXISITING PRGRAM

DEFINING ARCHITECTURAL PROGRAM



NEW PROGRAM

EXISITING PRGRAM


Tiling


Painting


Bricklaying


Plastering


Carpentry


Electrical

VET Urban Campus

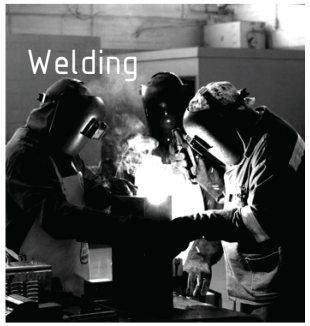
Making
- Workshop
- Learning
- Delivery
- Material/store

Public
- Classroom
- Admin
- Staff room
- Offices
- Library
- Canteen
- Ablutions
- Lecture room
- Seminar room
- Admin
- Print room

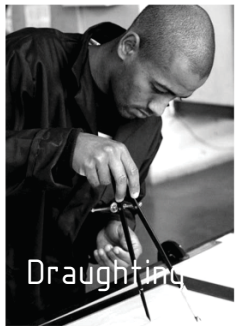
Market, Street frontage
- Workshop
- Retail

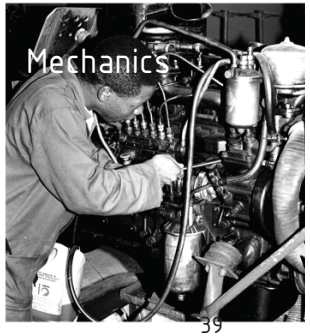
Figure 19:

Trade related activities considered within the proposed VET


Welding


Plumbing


Draughting


Mechanics

SITING

Sitting was an antagonising process in itself, as previous design attempts had been made within Delft with a similar programmatic response. However, a constant interest and obsession with Delft main road made the process much easier. Although the opportunity for citywide enhancement could perhaps be achieved or suggested. The architectural output focuses the intervention to a smaller urban scale, where the urban everyday and built environments are more manageable. Thus, in particular Delft Main road will form the site of inquiry.

The criteria set out to establish site was, to identify

- Existing educational facilities
- Vibrant building trade
- Existing places of making, (workshops)
- Large parcel of land
- Network of spaces

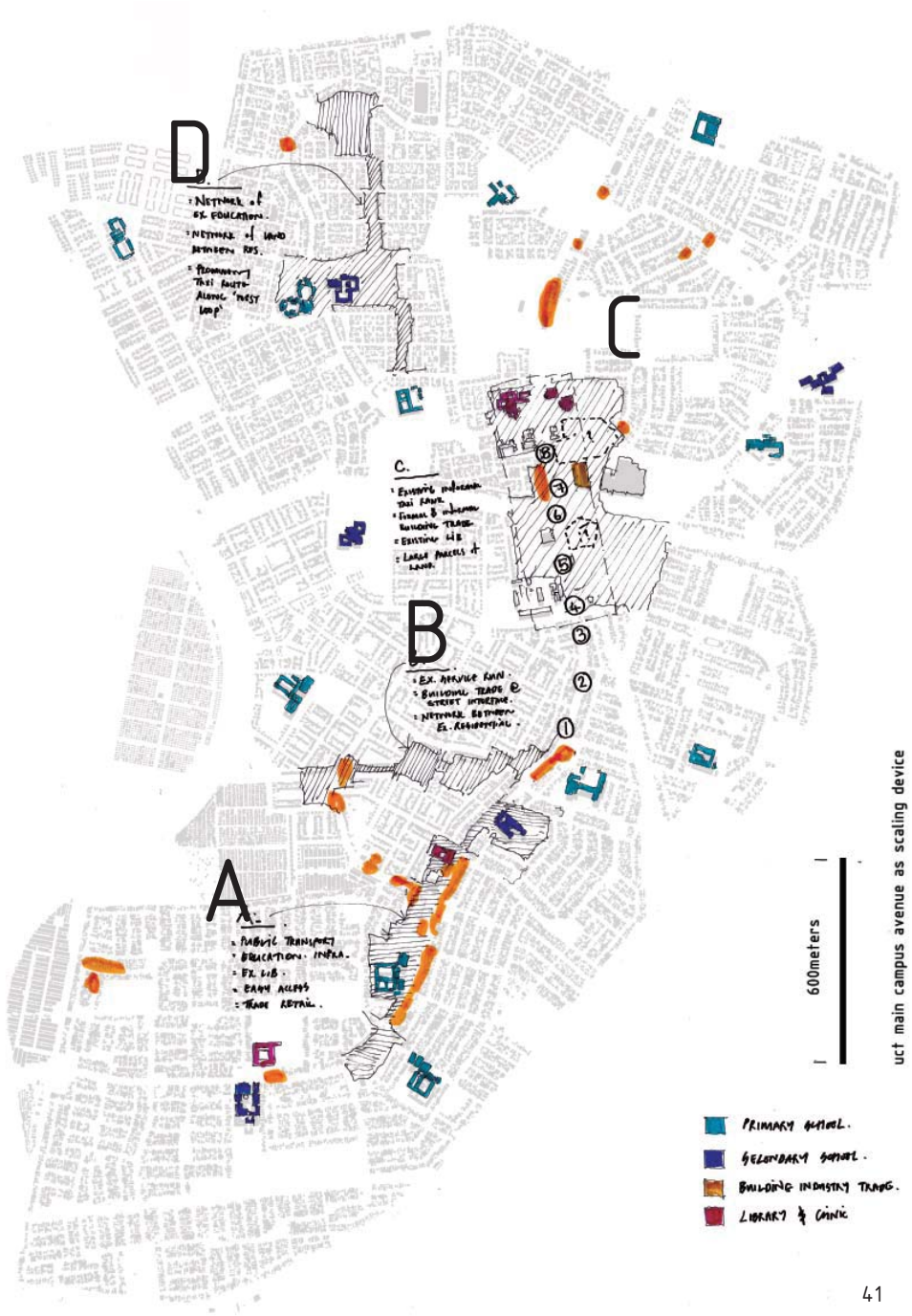


Figure 20:

Siting diagram, illustrating the four options

Thereafter, four siting possibilities where identified

A. Sibanya Square__ the site previously worked on within Delft in Hons year of studies.
B. Green strip 1__A network of open vacant land that made connection to both Sandelhout road and Delft main road.
C. Delft North Civic node
D. Green strip 2__ network of open vacant green lands situated along the 'West loop' in Delft North

The method adopted in the selection of the four different sites, were calibrated through a scaling device. The distance of UCT main campus avenue was utilised, as a scaler to calibrate the extension of a university campus within the context of Delft. The distance of the campus avenue is around 600meters from end to end; this was utilised as a frame of reference within Delft and brought to life the four possible sites. At this point, the programmatic studies was engaged to obtain a better understanding of land parcel required. This study recognised options B and D where out of the question, as the land parcels were insufficient in terms of land parcel size.

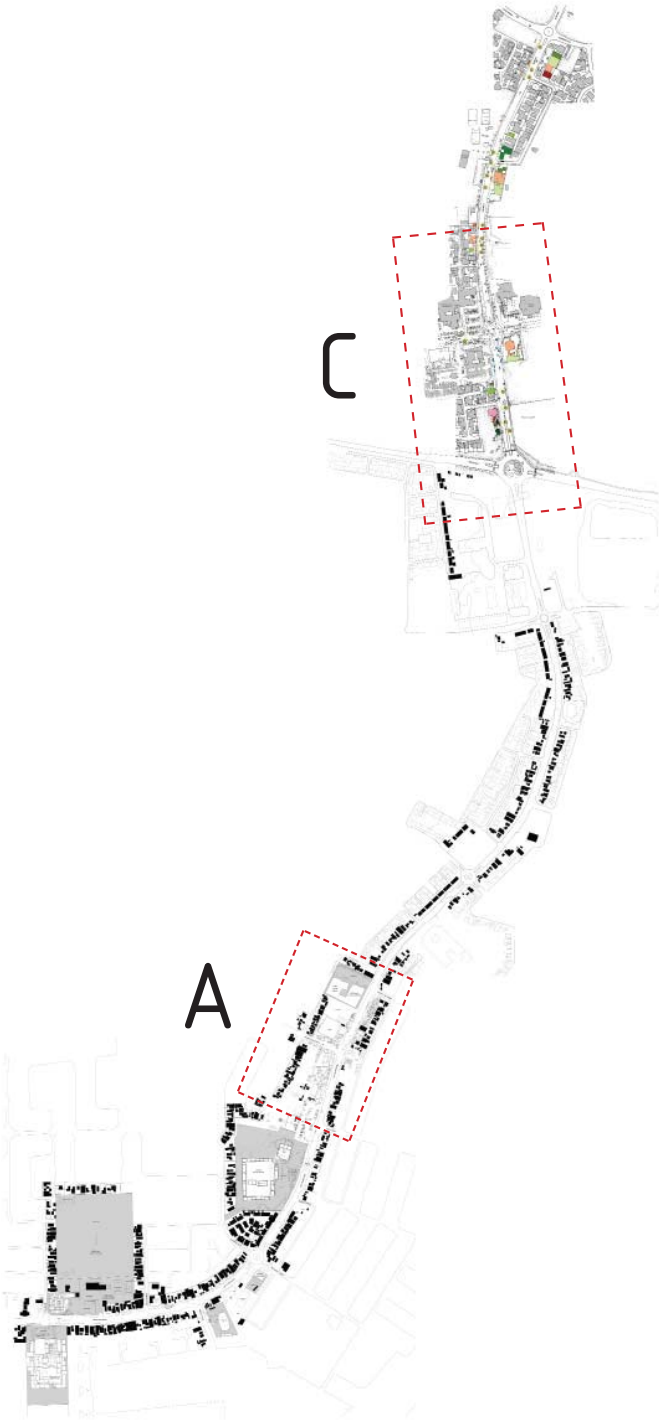
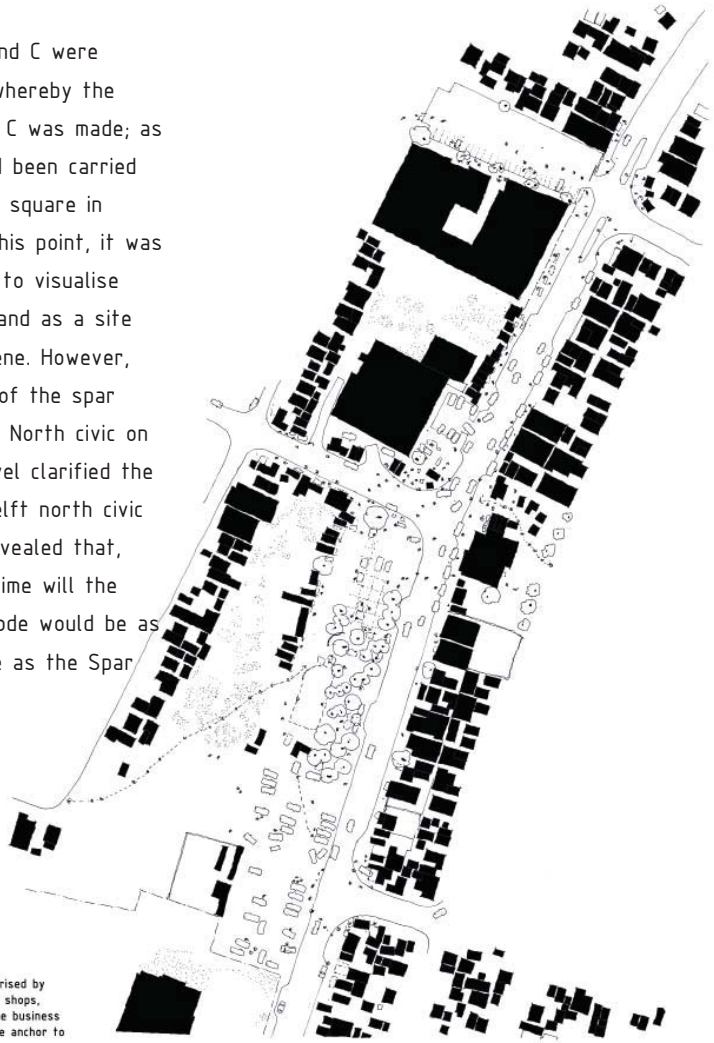


Figure 21:

Part Delft Main Road, area of study since 2016.

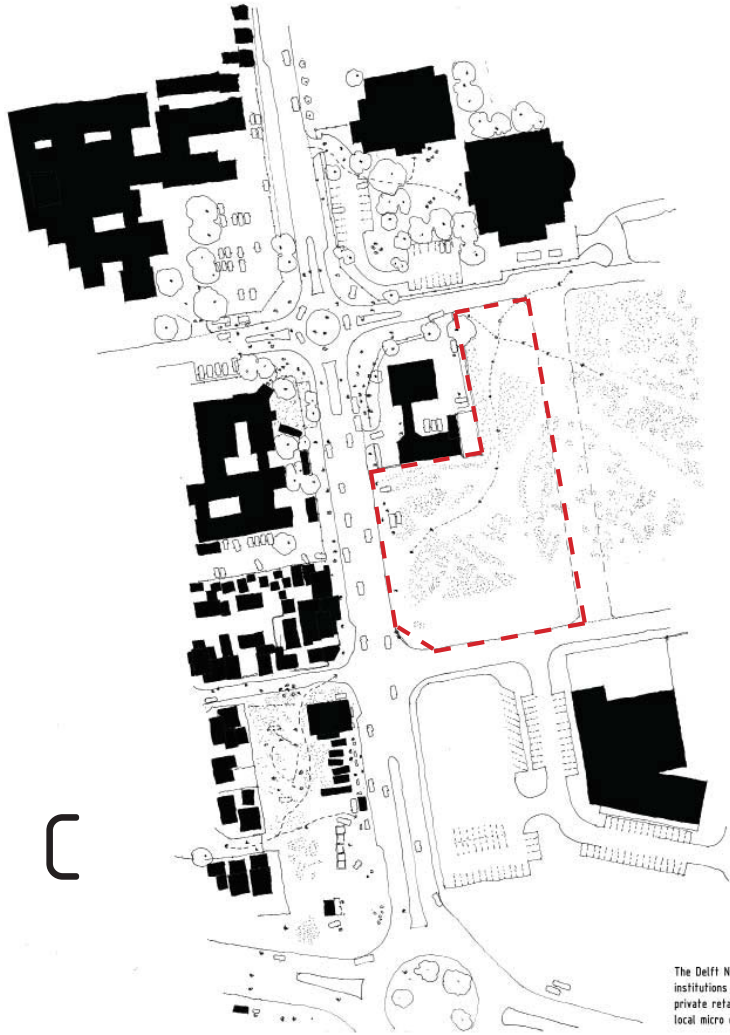
Hence, options A and C were further explored, whereby the selection of option C was made; as previous works had been carried out on the Sibanye square in honours year. At this point, it was extremely difficult to visualise this large vacant land as a site on which to intervene. However, an in-depth study of the spar node and the Delft North civic on a more nuanced level clarified the selection of the Delft north civic node. The study revealed that, only in matter of time will the Delft North civic node would be as vibrant and intense as the Spar node.



A

SPAR NODE

The South civic node on Delft is characterised by by the micro enterprises such as clothing shops, vegetables, fruits and harware stores. the business line the main node where spar acts as the anchor to the establishment of the businesses.



C

CIVIC NODE

The Delft North civic node is characterised by the formal institutions surrounding an important node. Emergence of a private retail facility begins to establish opportunities for local micro enterprises to start businesses.

SITE SELECTION

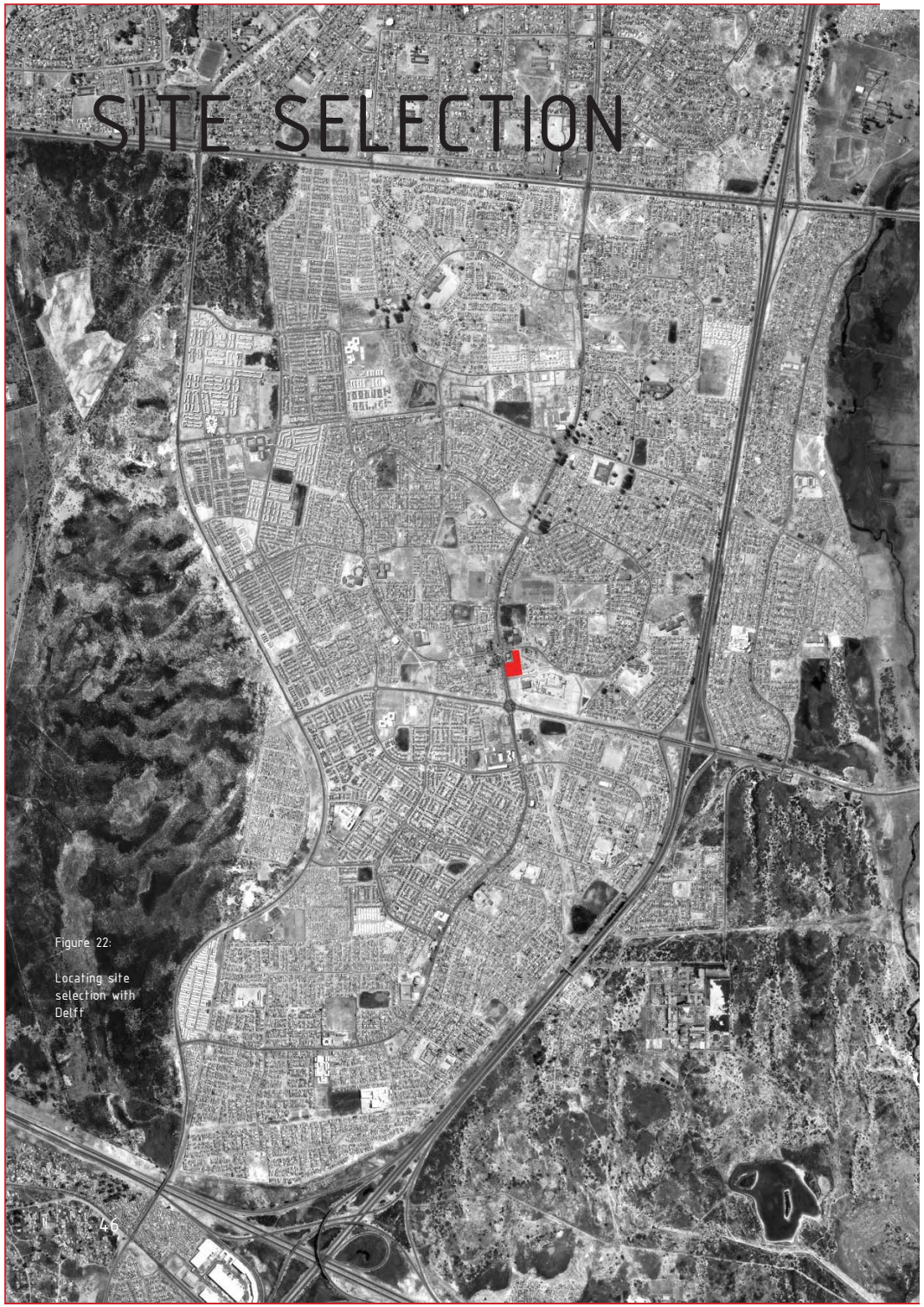
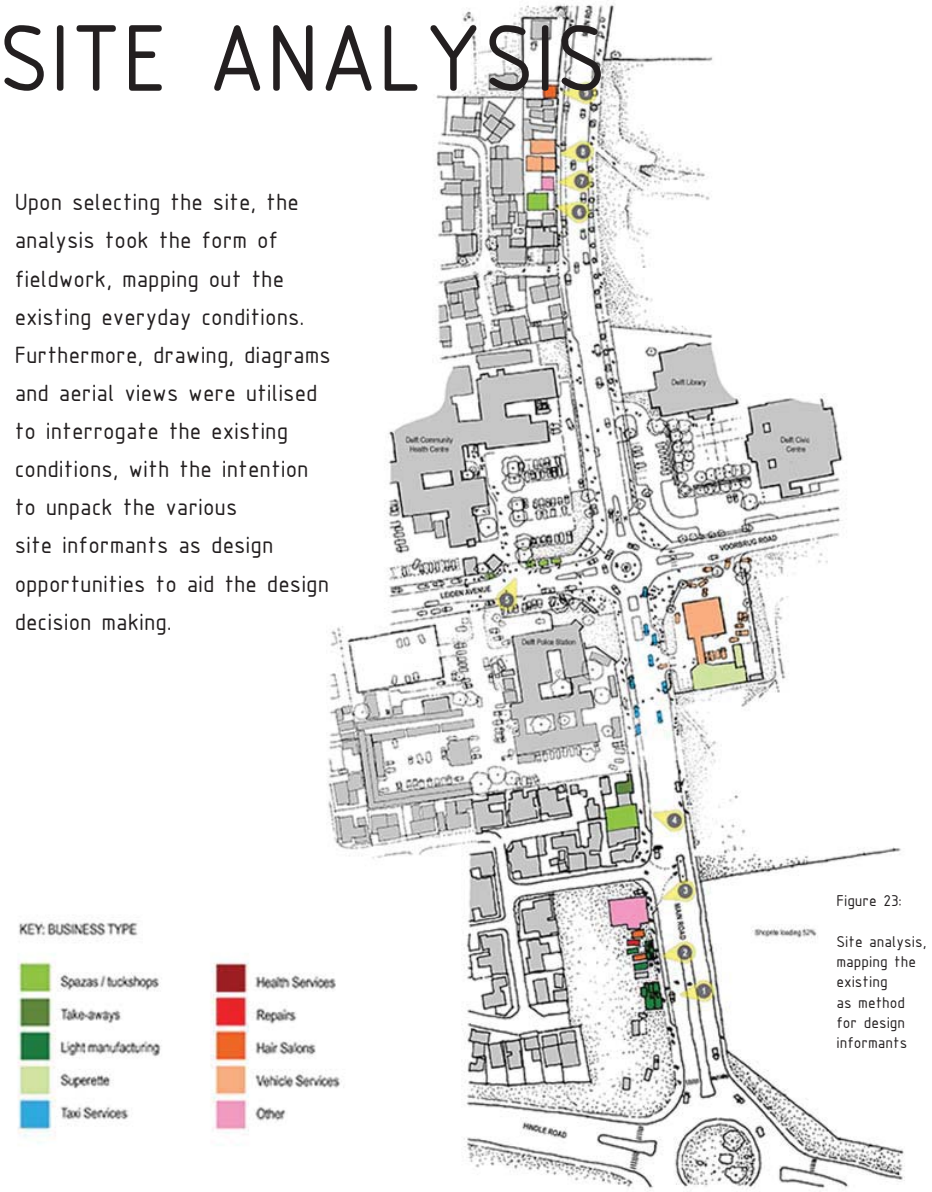


Figure 22:

Locating site selection with Delft

SITE ANALYSIS

Upon selecting the site, the analysis took the form of fieldwork, mapping out the existing everyday conditions. Furthermore, drawing, diagrams and aerial views were utilised to interrogate the existing conditions, with the intention to unpack the various site informants as design opportunities to aid the design decision making.



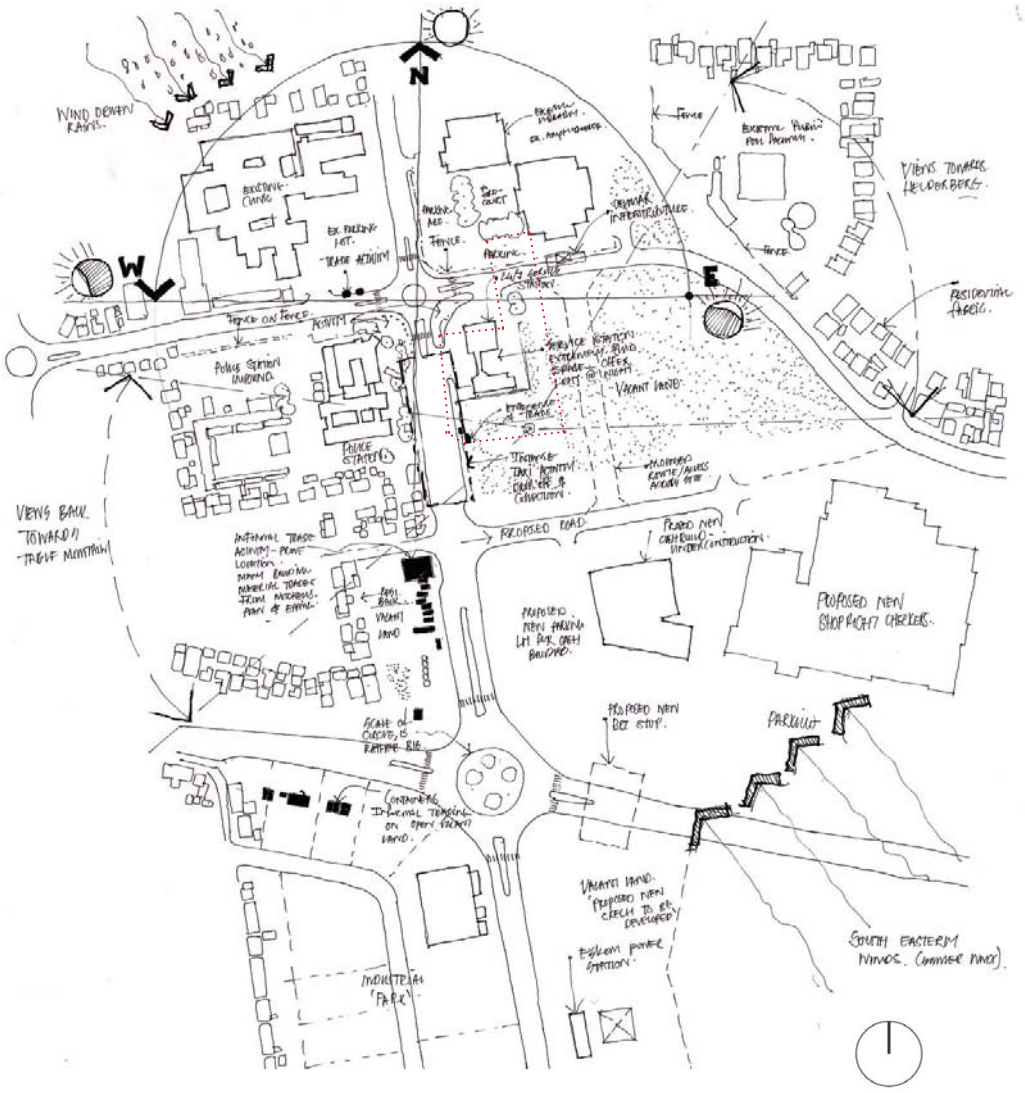


Figure 23:

Site analysis, mapping the existing as method for design informants

The analysis revealed the importance of the sites location to Delft Main Road and to the civic Node. Furthermore, obviously the site lacked spatial definition to Delft Main Road, as a 60-meter long stretch of vacant land occupied the main road.

Additionally, a number of important pedestrian desire lines were evident across and beyond the site. Residence from the imbedded residential area (Voorbrug) utilises the site on a day-to-day basis as a desired route to access Delft Main Road and cut across towards Hindel road.

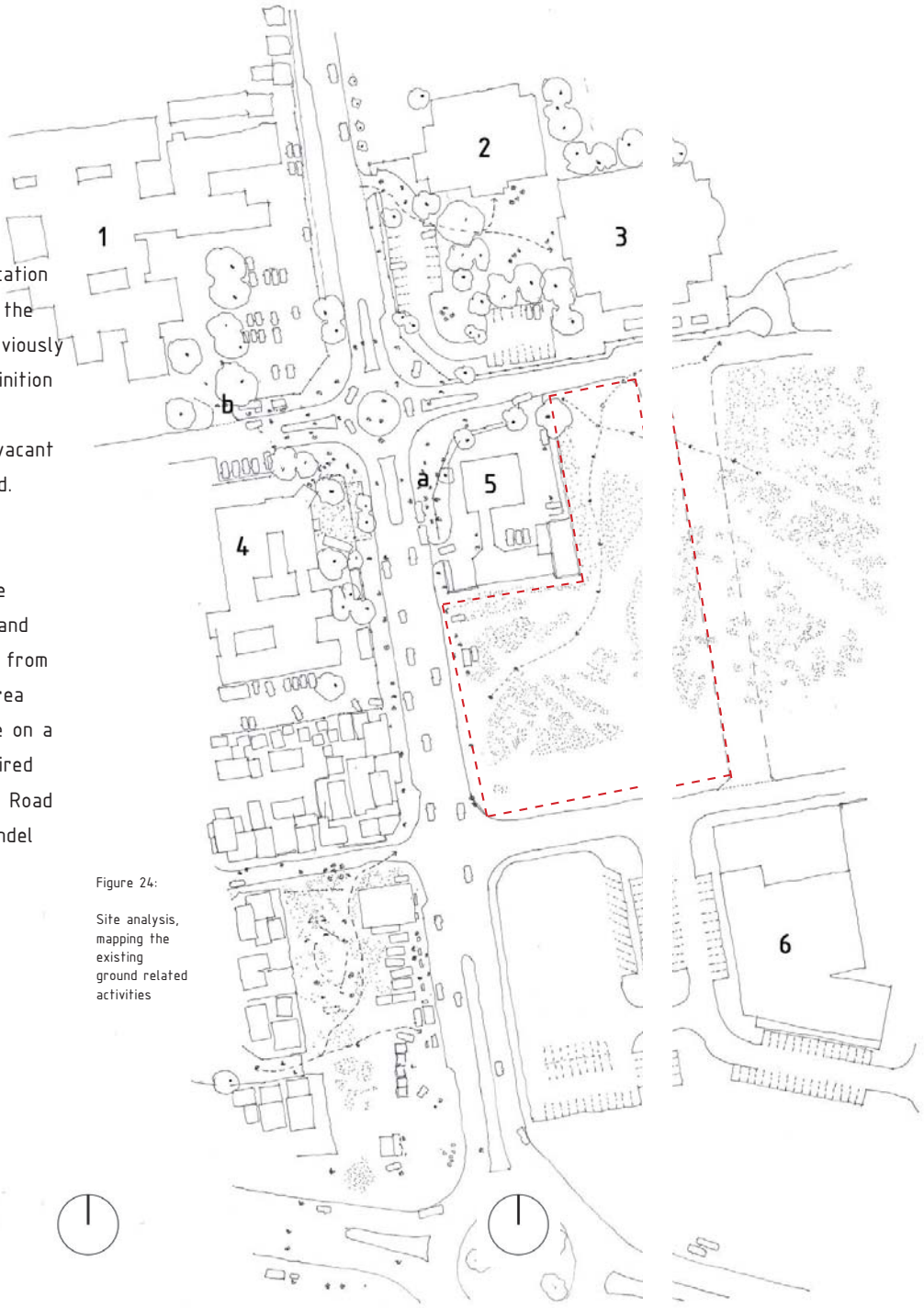


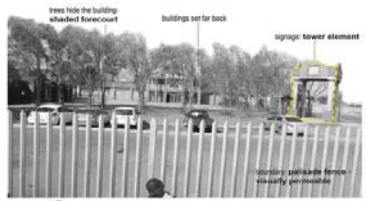
Figure 24:

Site analysis, mapping the existing ground related activities

legend

1 Community health clinic
2 Public library
3 Community Hall
4 Police station
5 Caltext service station
6 Cash build

1



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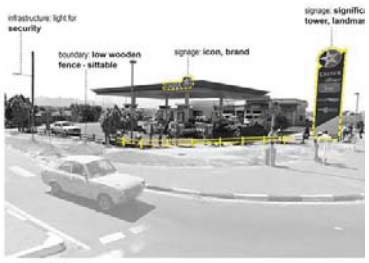

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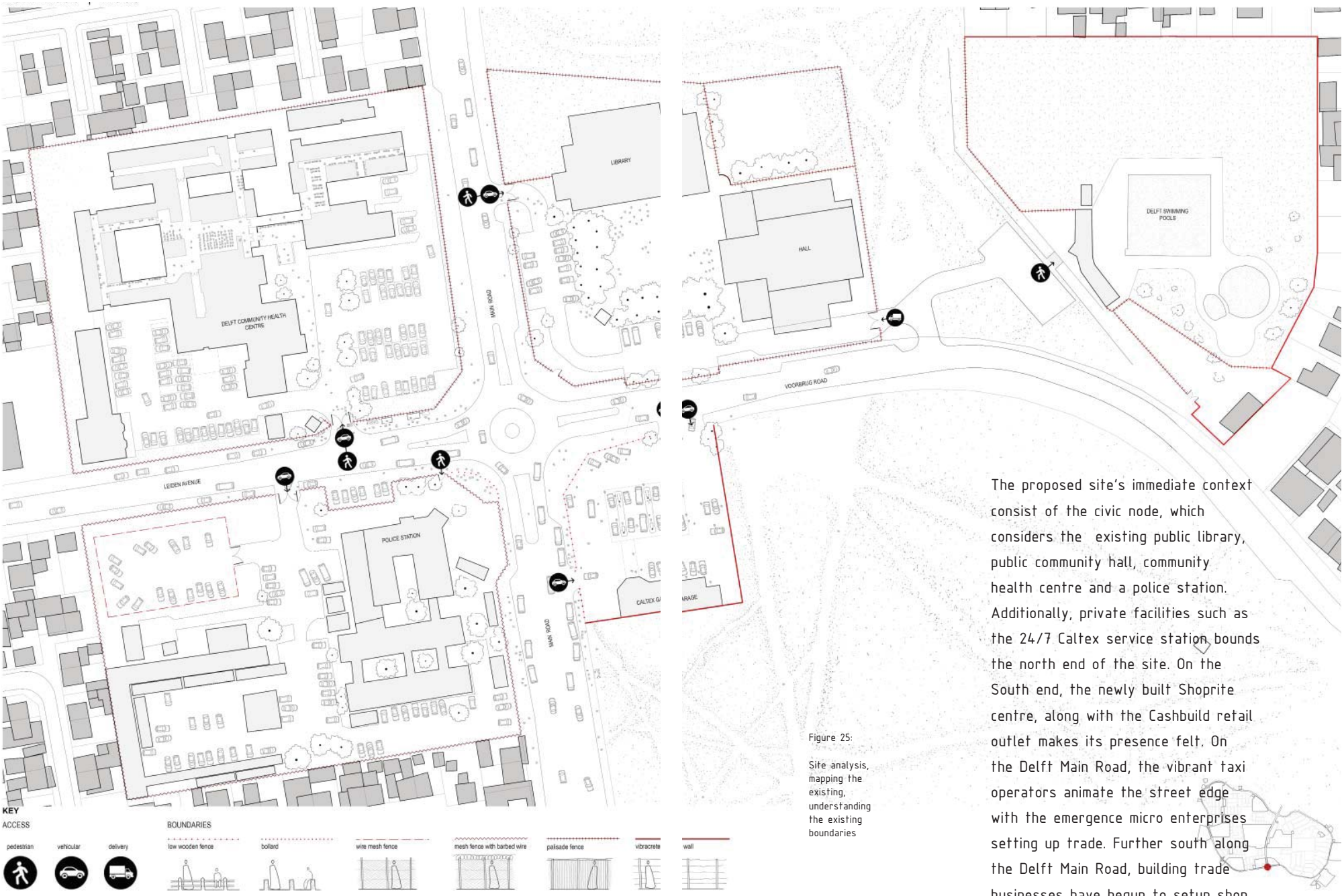


Figure 25:

Site analysis, mapping the existing, understanding the existing boundaries

The proposed site's immediate context consist of the civic node, which considers the existing public library, public community hall, community health centre and a police station. Additionally, private facilities such as the 24/7 Caltex service station bounds the north end of the site. On the South end, the newly built Shoprite centre, along with the Cashbuild retail outlet makes its presence felt. On the Delft Main Road, the vibrant taxi operators animate the street edge with the emergence micro enterprises setting up trade. Further south along the Delft Main Road, building trade businesses have begun to setup shop.

URBAN TYPES & TEXTURES

Figure 26:

Delft South Sapr Node, calibrating the everyday

Figure 27:

Delft South established residential corner along Delft Main Road

At this stage, the scale of the site was overwhelming at times. The site measures around 65 x 68meters, similar to that of a Cape Town city block. The city block as an urban type was utilised as a frame of reference at and urban level. Furthermore, urban textures within Delft such as the Spar civic node study and an established residential corner condition along Delft Main Road was utilised as a calibrator in the making of the architectural spaces.

Figure 28:

A prominent city block Urban condition, as informants for utilisation of valued land.

Figure 29:

Uct Main Campus, spatial ordering deviec

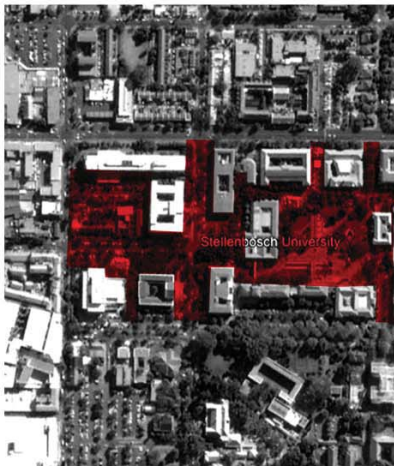
Furthermore, the university campus as an urban type refers to the understanding of a spatial ordering device, which in essence is the element that holds the campus together as a whole. The lessons and findings within the studies have, allowed me to make decisions on an urban and architectural scale. The findings made me consider spatial definition, structure, order, connectivity and a deeper understanding of the notion of an urban campus.

Figure 30:

CPUT Main Campus, spatial ordering deviec

Figure 31:

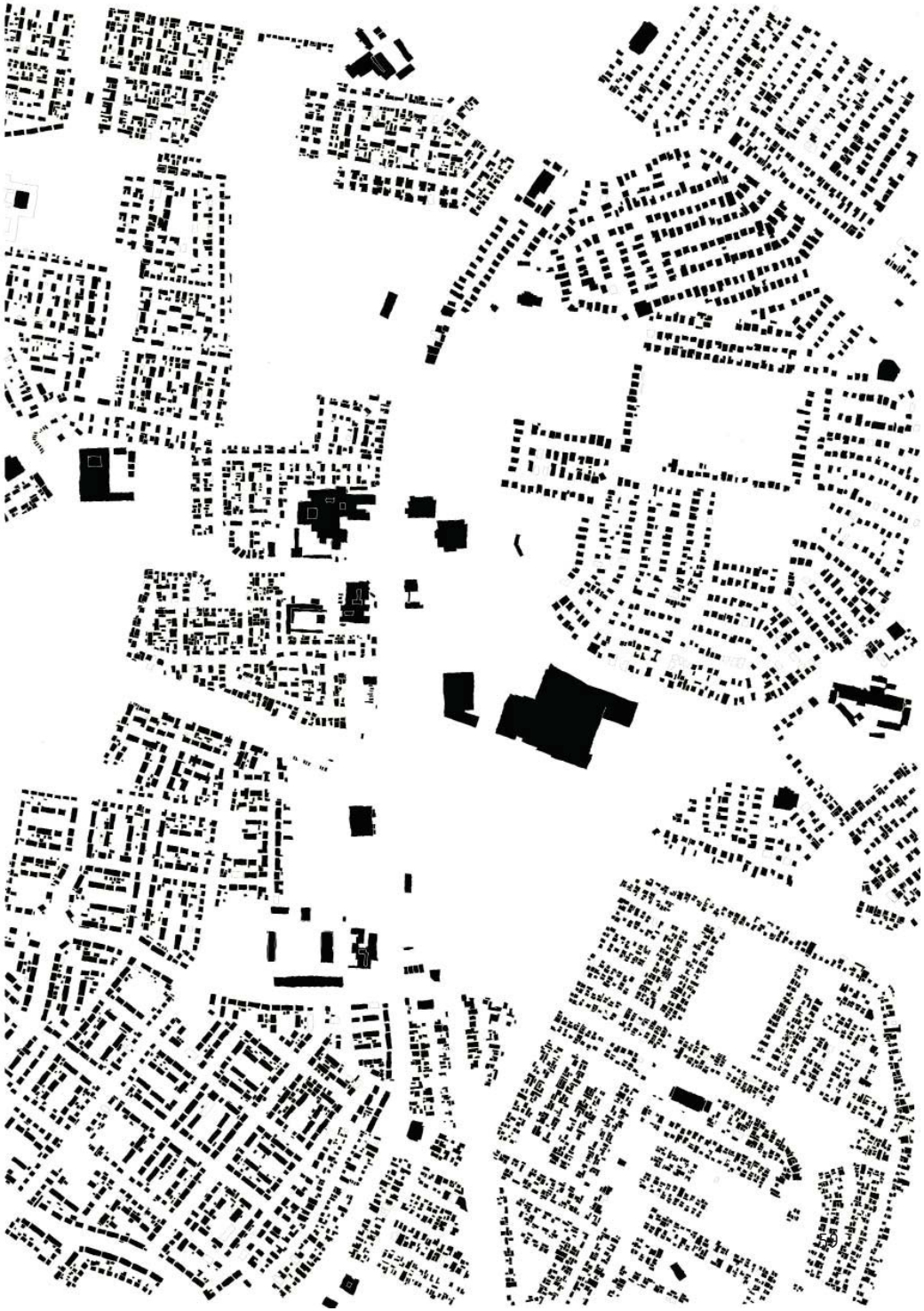
Stellenbosch, spatial ordering deviec



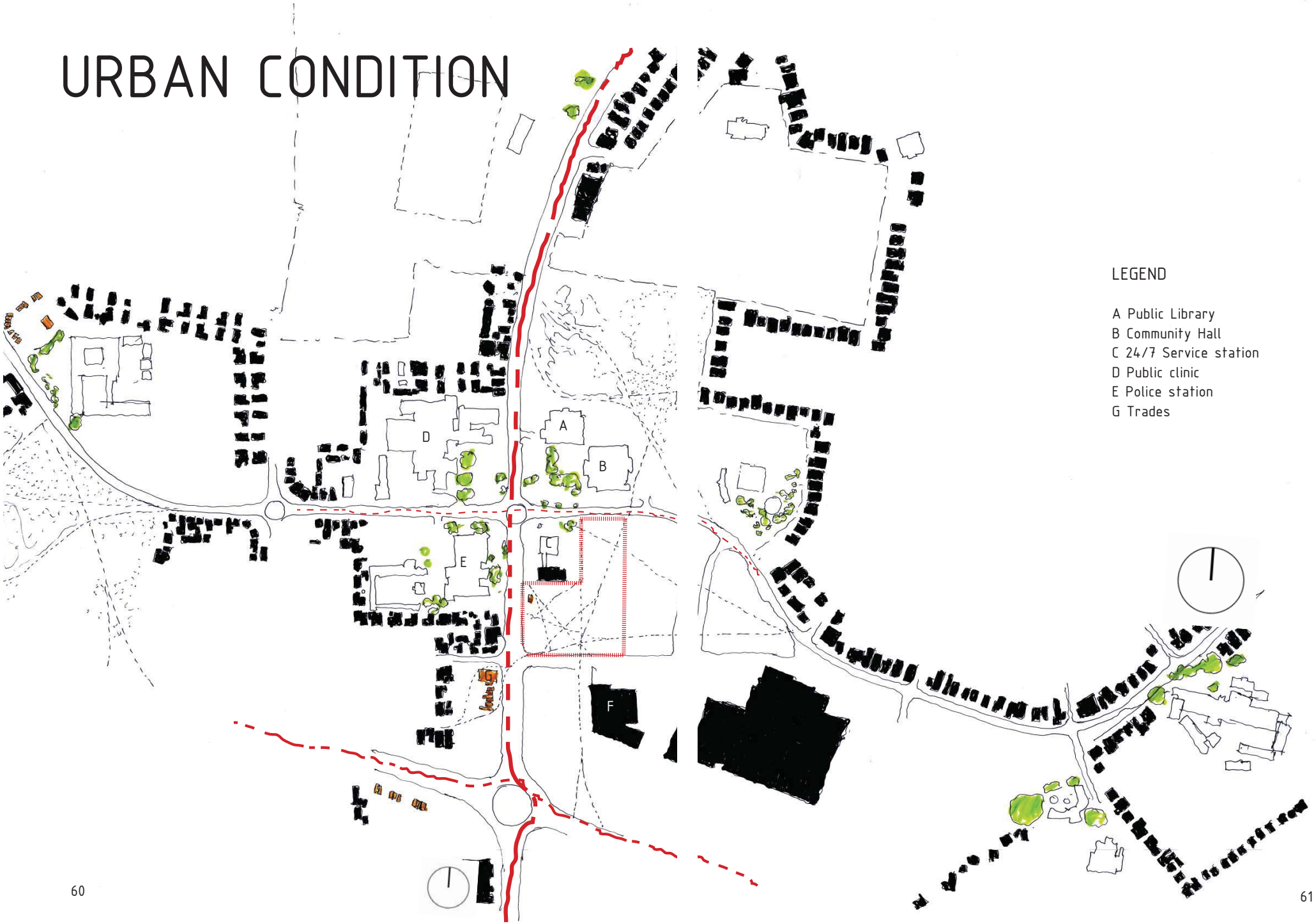
URBAN STRATERGIES

Moves made at an urban level

- Spatial definition
- Connecting the urban
- Existing public amenities
- Contribution to the civic identity



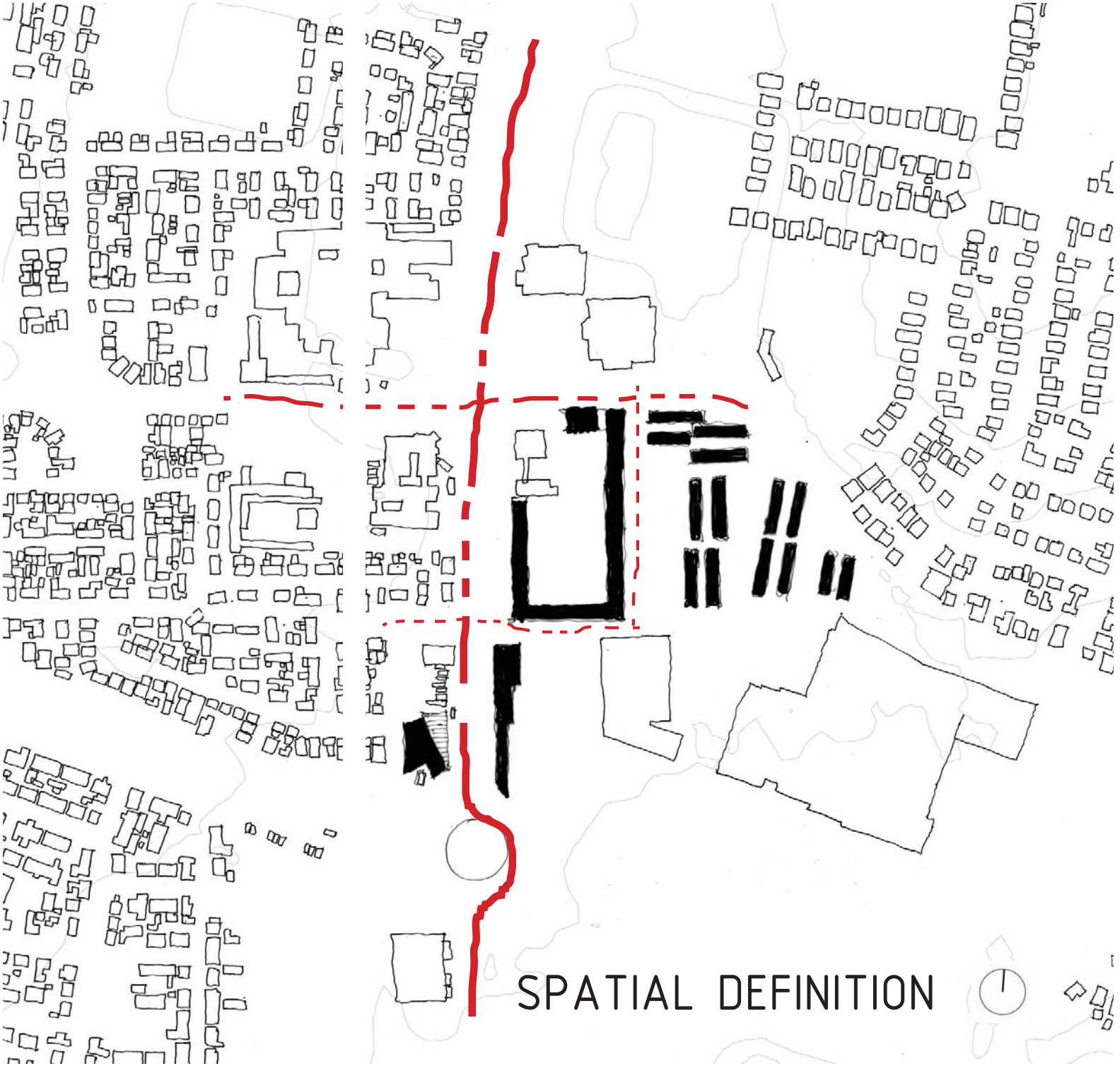
URBAN CONDITION



LEGEND

A Public Library
B Community Hall
C 24/7 Service station
D Public clinic
E Police station
G Trades

The site essentially deals with a hierarchy of street edge conditions. Most importantly, the Delft Main Road, secondly a secondary road that leads towards the service end of the existing Cash Build (delivery area's) and thirdly, the Voorbrug road which cuts between the existing public amenities and selected site. The site therefore offers the potential of two corner conditions. The initial attempt is to reinforce the Delft Main Road as and emerging high street, defining the street edge. The same attempt is made to the secondary street however; the making of the edge would be of a different nature.



Making connections to the existing areas of Delft is important in facilitating public access. In response to the site informants, the frequently used desire lines across the site are informants for the proposed public thoroughfare. The public thoroughfare forms the primary spatial ordering device of the urban campus. The geometry of the route is somewhat loose in the making, informed by the number of routes across the site.

The Nolli Map of Rome 1748 emphasises the public environment of streets, extension of streets and public accessibility of buildings. Furthermore, the map puts forward the idea of public space as the structuring element or arrangement of the city.

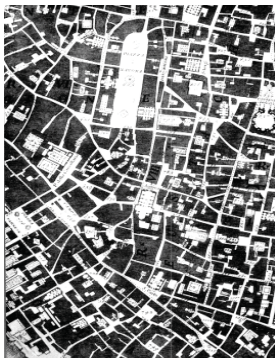


Figure 32:

Nolli Map of rome, 1748

Figure 33:

Diagram of desired pedestrian crossing on selected site

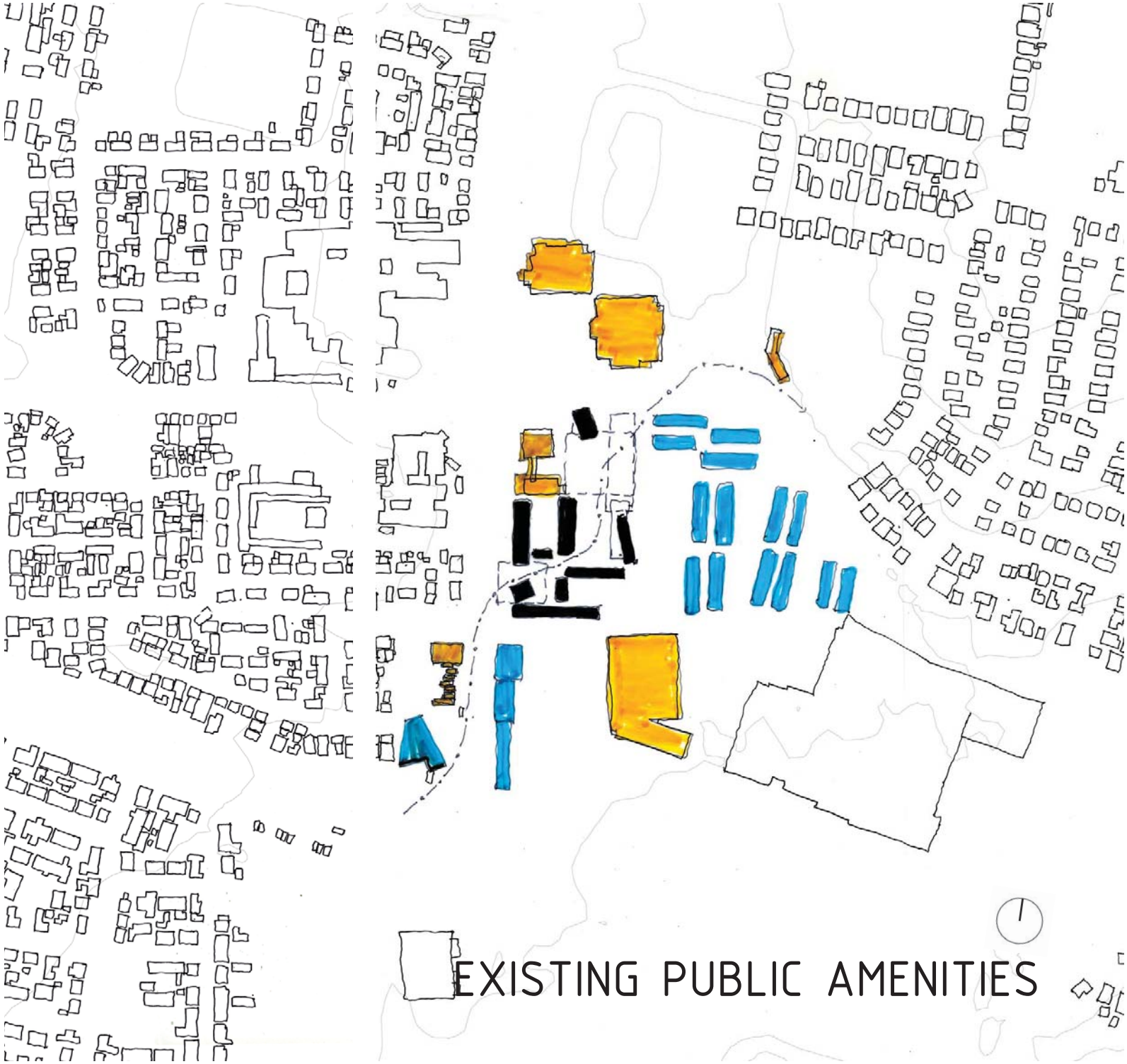
CONNECTING THE URBAN

Additionally, responding to existing public amenities and infrastructure the proposed vocational educational training facility would act as a vehicle in mobilising the existing programs. The existing amenities inform the structure of the vocational education training campus. The existing public hall and library is taken into consideration in the urban layout, the Caltex service station offers a 24/7 life of its own, in response to this, the vocational educational training facility is conceived of as a series of public and private Urban yards that mediate between the existing amenities, infrastructure and proposed facilities. The existing Cash Build building supply outlet informs the location of delivery areas of the vocational educational campus. An overlap between the two, private and the public in terms of, delivery and storage of materials could be negotiated. The arrangements of the institutional parts generate urban yards which essential structures the urban campus as a whole.

Existing infrastructure

Proposed urban fabric

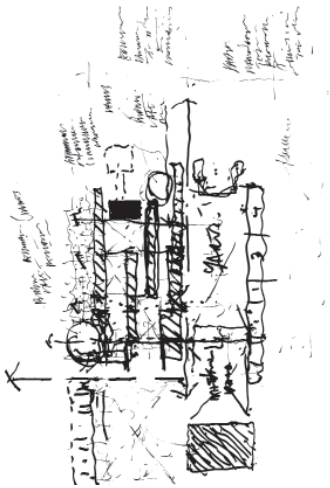
Architectural program



EXISTING PUBLIC AMENITIES

Figure 34:

Initial concept drawing of a series of urban yards making connection.



CAMPUS FIGURE GROUND

URBAN FRAMEWORK

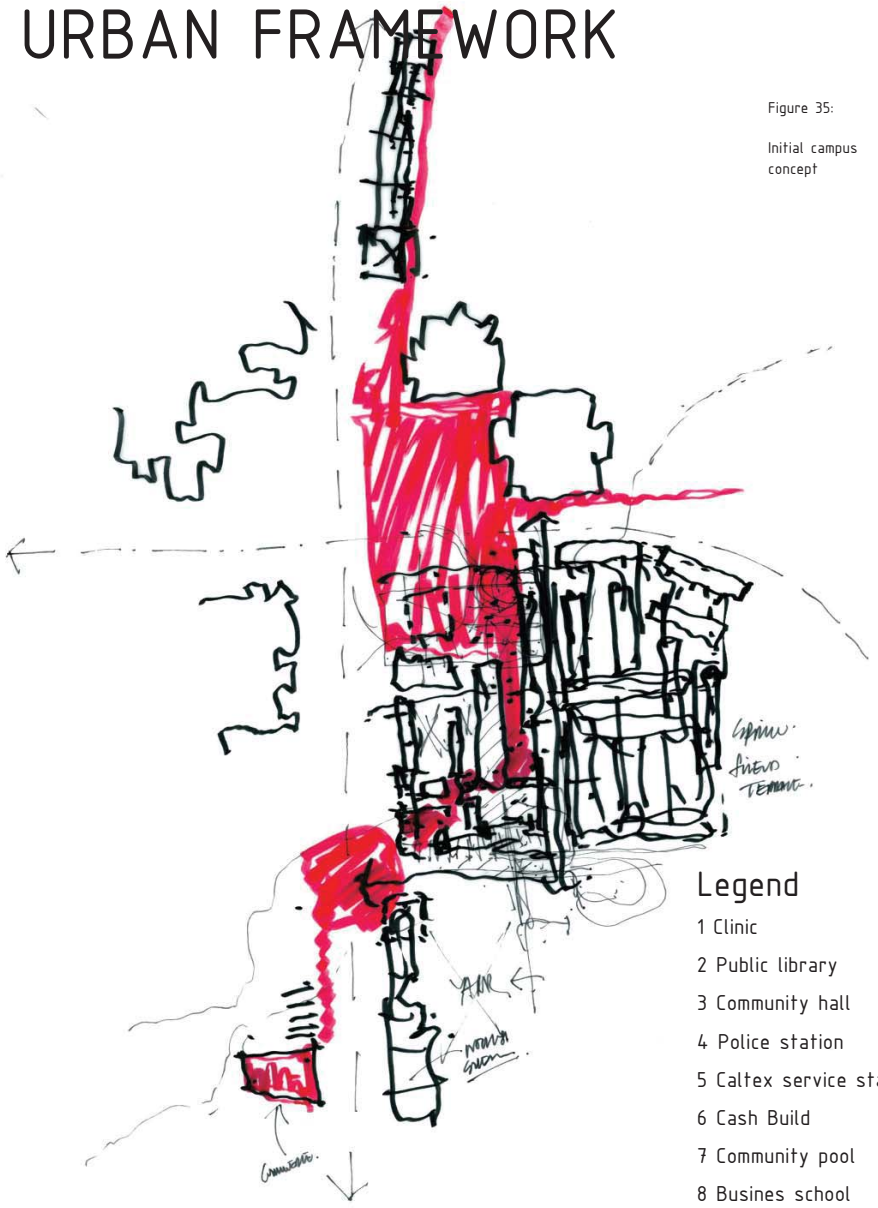


Figure 35:

Initial campus concept

Legend

1 Clinic
2 Public library
3 Community hall
4 Police station
5 Caltex service station
6 Cash Build
7 Community pool
8 Busines school
9 Building trade skills Market
10 VET Campus
11 Student and social housing
12 Shoprite Centre

ARCHITECTURAL STRATERGIES

Moves made at an architectural level

- Building as edge of exchange
- Bulding as thoroughfare
- Building as yard
- Architectural stratergy

Moreover, in response to the established urban framework the architectural strategy attempts to construct the urban campus through a number of parts or 'buildings'. The architectural strategy of the urban campus is informed by the local vernacular that aids positive public realms.
The components thus that make up the various condition of the whole, which consists of:

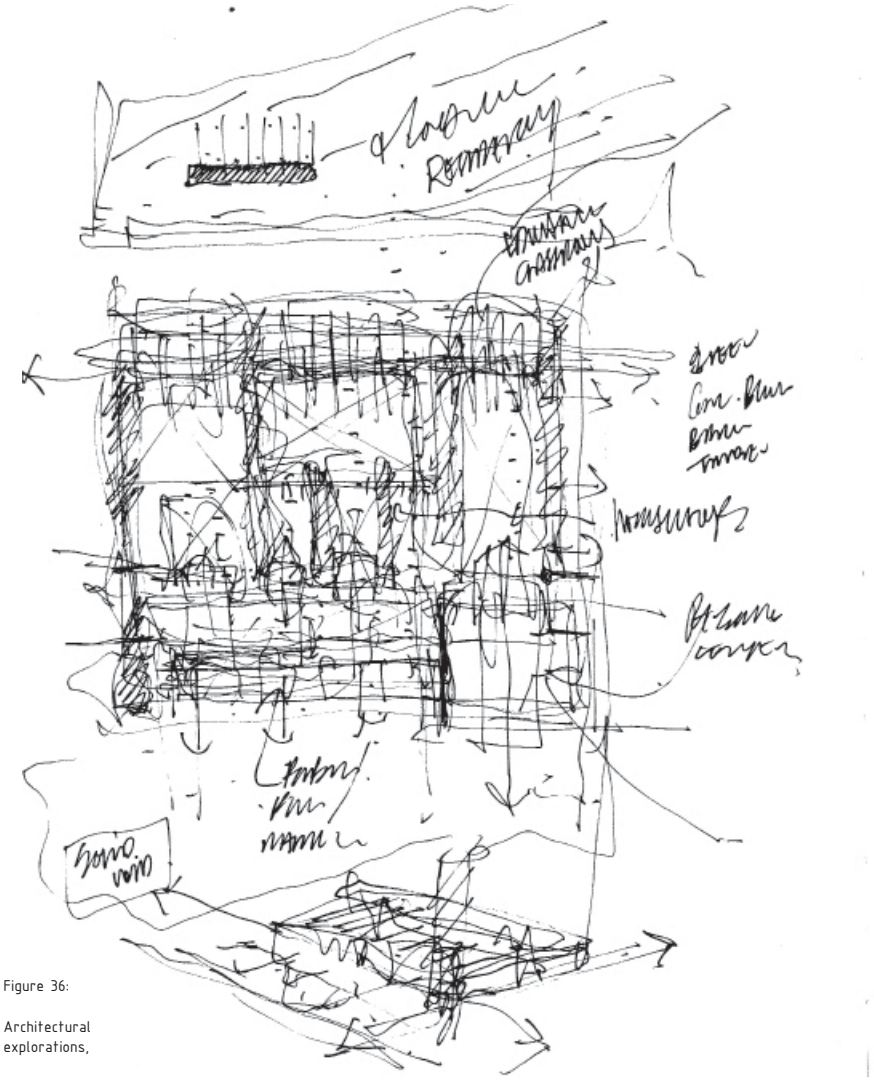


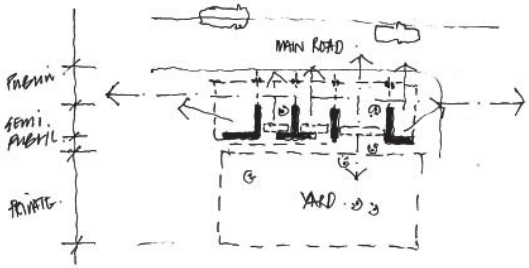
Figure 36:

Architectural explorations,

BUILDING AS EDGE OF E XCHANGE

Figure 37:

Diagram of building type.



The building type engages the notion of overlap, between private and public realm. This condition is evident in the findings within Delft, the overlap between private and public realm is a negotiated space. Infrastructures from the private realm are utilised within the public realm. The building therefore explores the notion of an edge of exchange. Within the context of the campus, this condition is explored as the public interface, providing spatial definition through the making of edges.

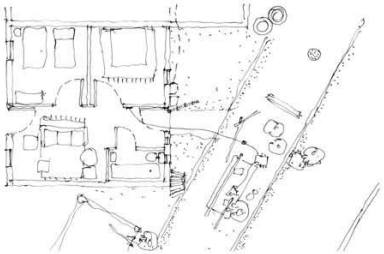
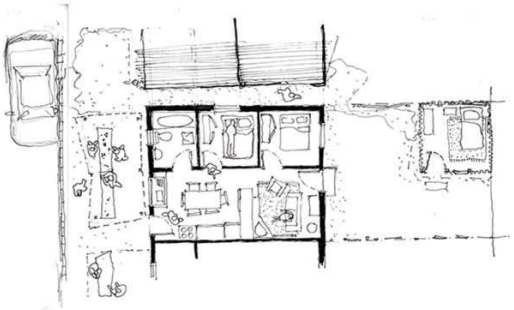
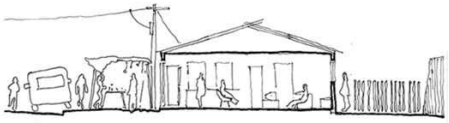


Figure 38:

Public and private realm overlap at some point.





BUILDING AS THOROUGHFARE

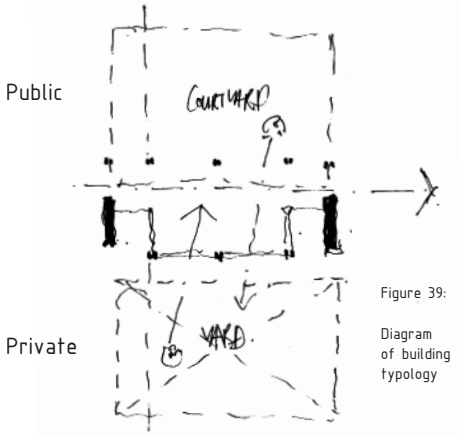


Figure 39:

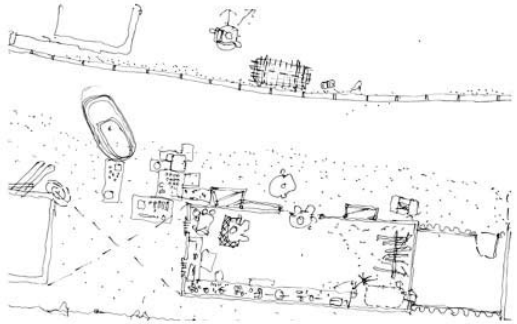
Diagram of building typology

In response to the primary spatial ordering device (communal route), derived from the organic desired lines which zigzag across the site. The following building type 'building as thoroughfare' is explored. Furthermore, evidence reveals that the local micro enterprises with in Delft suggest a positive response to the articulation of such building types.

Figure 40:

Current condition of Delft, contaners suggesting building type

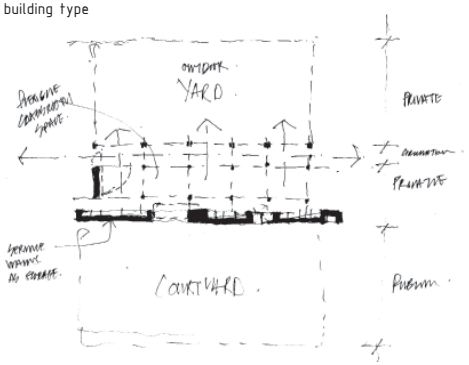
The figure illustrates the well-considered placement of the container, responding to the immediate pedestrian movement and taking advantage of the possible pedestrian engagement. The building type proposed therefore acknowledges the suggestion and further extends the notion, in the manner in which the building is made. Visual connection between the public and private realms are made, in an attempt to animate the communal route as each component of the campus is of a different nature and character.



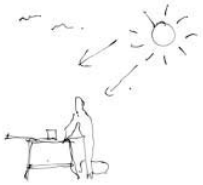
BUILDING AS YARD

Figure 41:

Diagram of building type



The engagement with the local manufacturing workshops in Delft has revealed and suggests good place making qualities. The qualities that emerge are that of a flexible nature, fluid spaces are achieved through lightweight structures spanning large openings. In addition, spatially defined through heavy structures offering the opportunity for a number of programmatic possibilities.



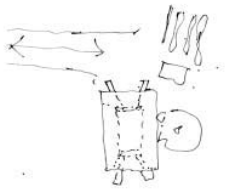
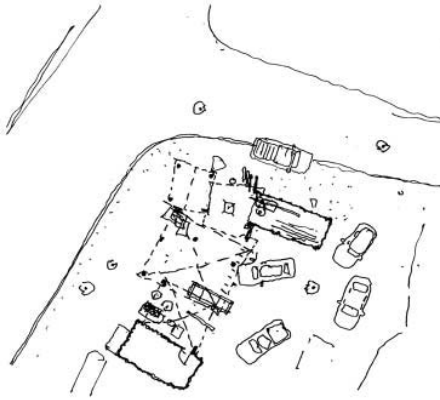


Figure 42:

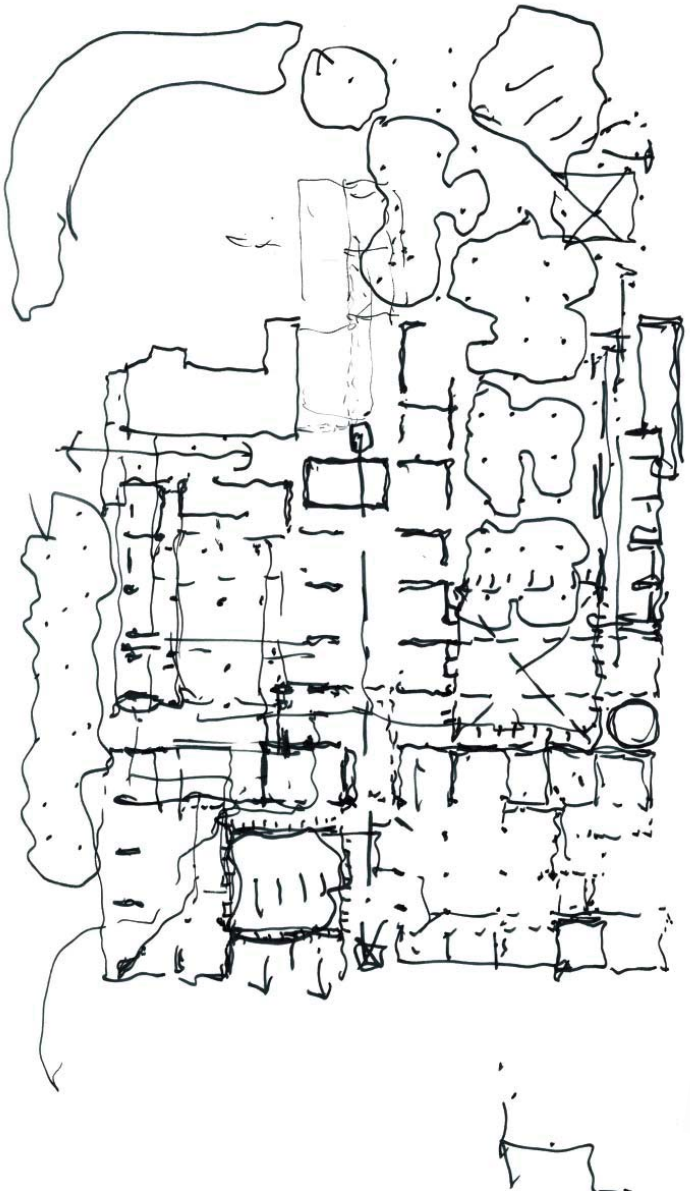
The current conditions in Delft suggest flexible fluid space from wjich to operate.



The term urban Delft yards is coined in this instance, therefore, the building typology explores the possibility of opening up as a flexible fluid space which makes connection to the yard. The attempt is made to accommodate the institutional buildings programmatic implications, where spaces such as messy classrooms, quiet classroom, workshops, offices, flexible desktop space and other are to be considered.

PROGRAMMATIC RESPONSE

DIAGRAM

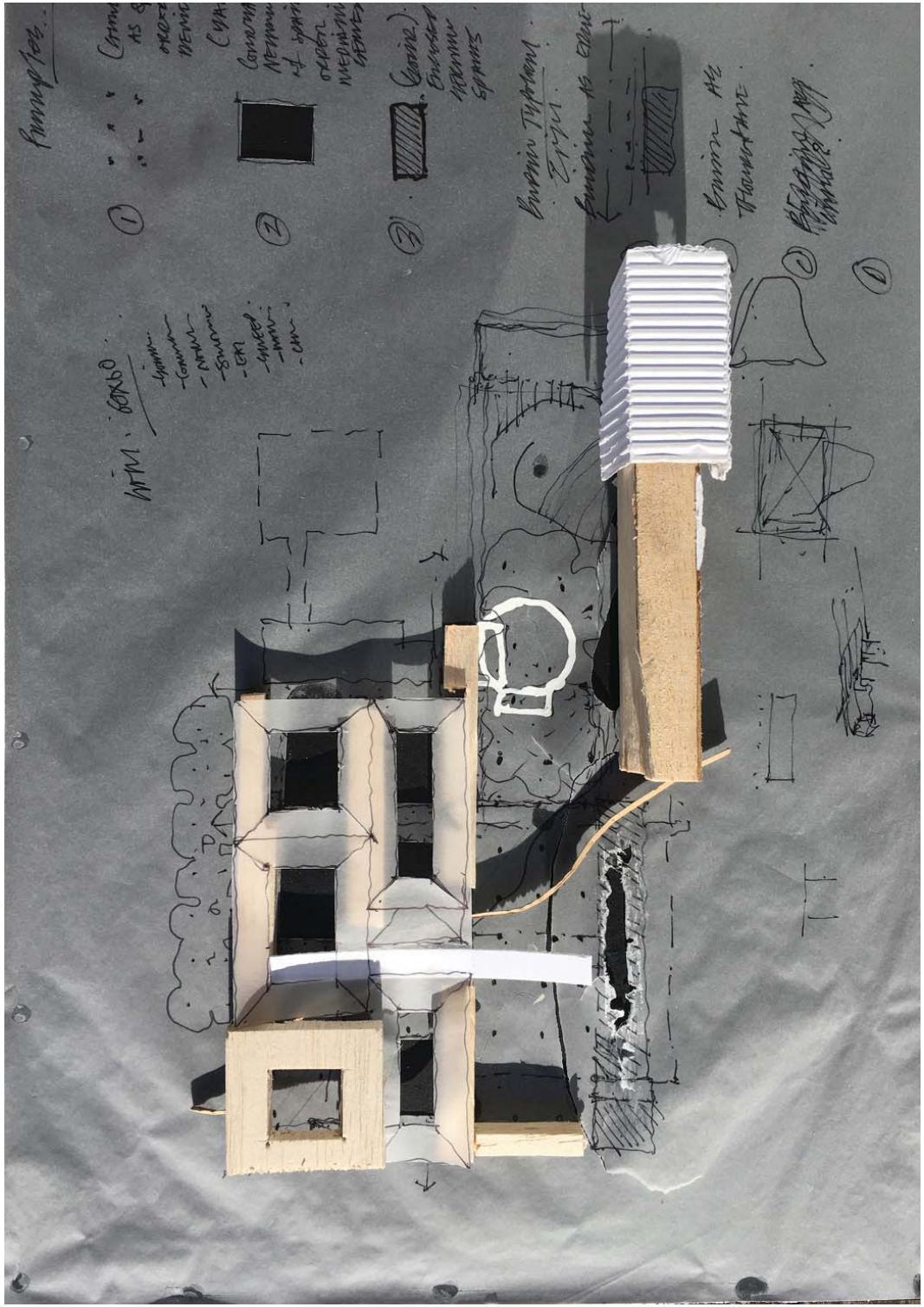


1 PROGESS MODEL

Three architectural principles were established within the development model;

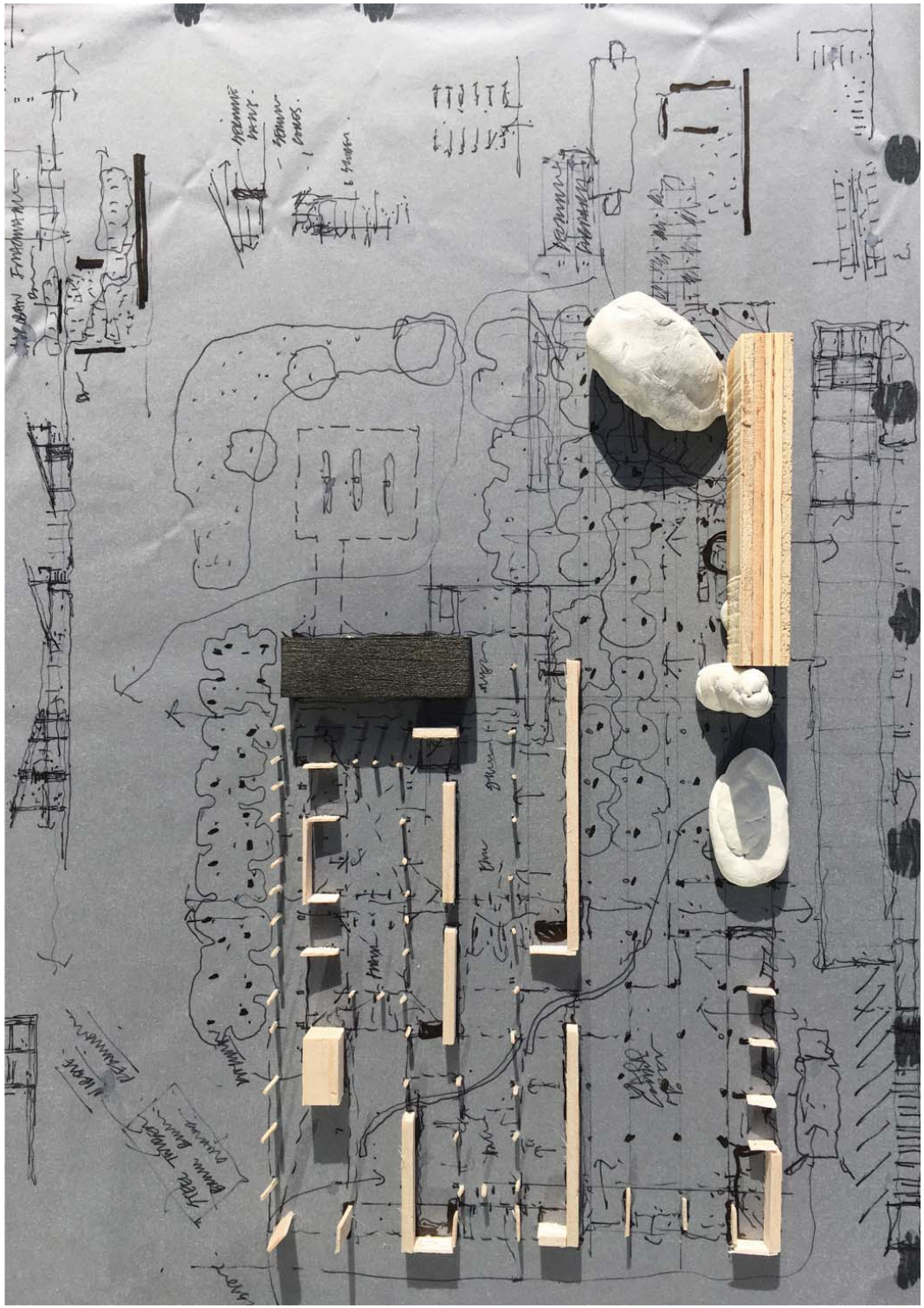
- Solid mass as service space, acting as space defining elements
- Courtyard as flexible yard for experiments.
- Lightweight structure mediating space.

The arrangement of the proposal was derived through the idea of courtyards/yards. Yards now was the spatial ordering device.
The model further identifies, special moments with the campus.



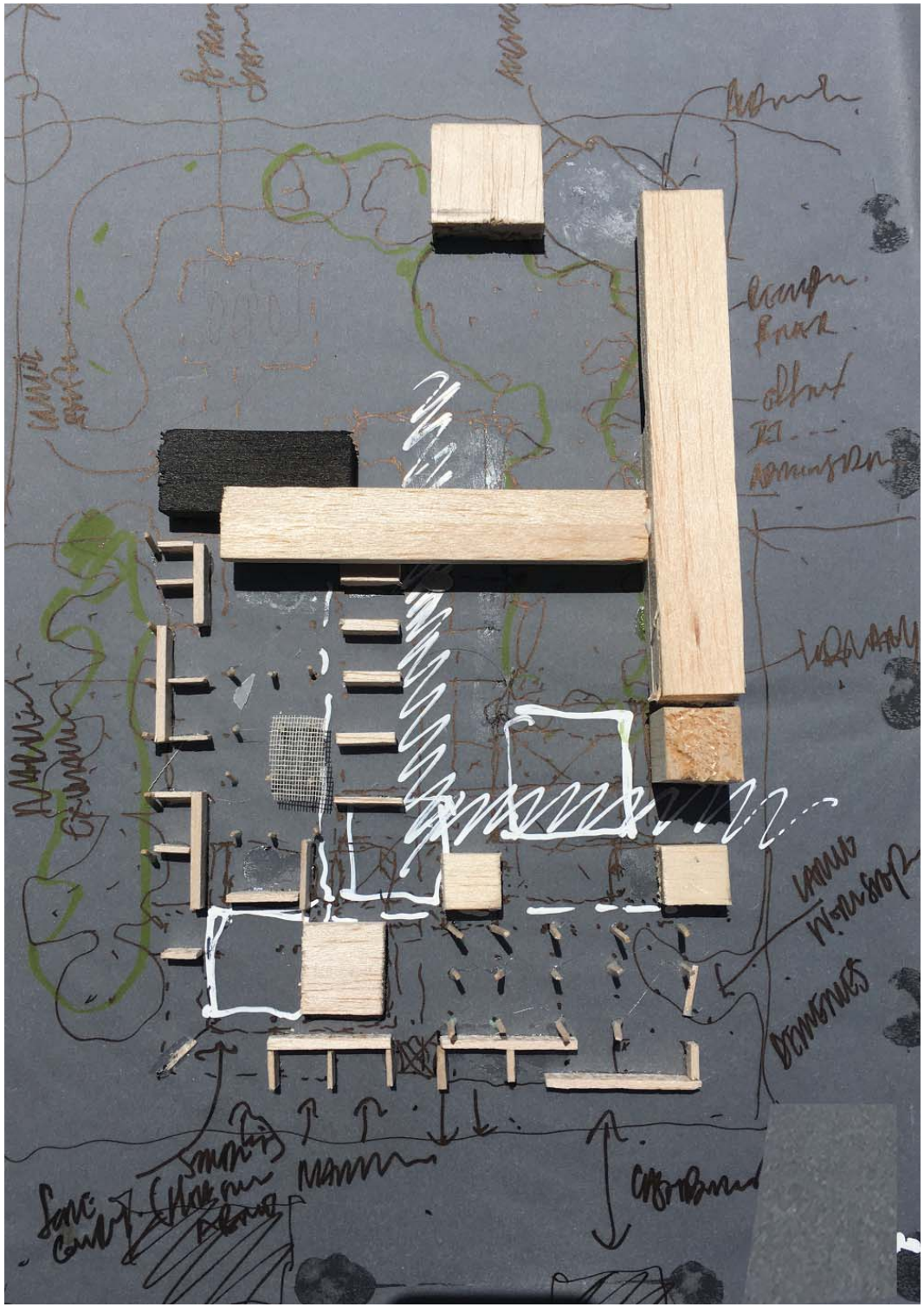
2 PROGESS MODEL

The second development model articulates the principles derived within the first process model. Solid mass or service space now rather articulated through the idea of thick services walls round about 1m thick. The space within is freed up, allowing flexibility. The institutional buildings, simple geometry is grounded. The special 'moment' however, is articulated through the free form geometry.



3 PROGESS MODEL

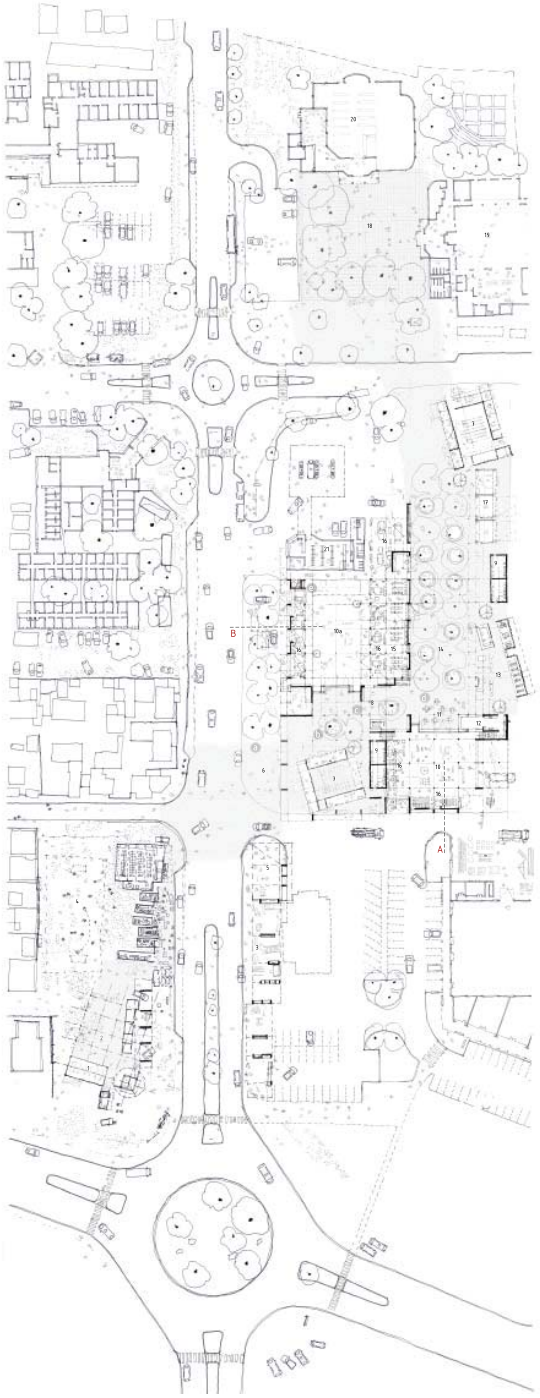
The third design development model, further articulates the notion of urban yards. The design introduce cross routes, walls and service cores. The previous linear bands now respond to program, function, existing public infrastructure and site informants. The model extends the idea off service mass, with a combination of services cores and service walls. The connection between the urban yards and the institution is now far greater.

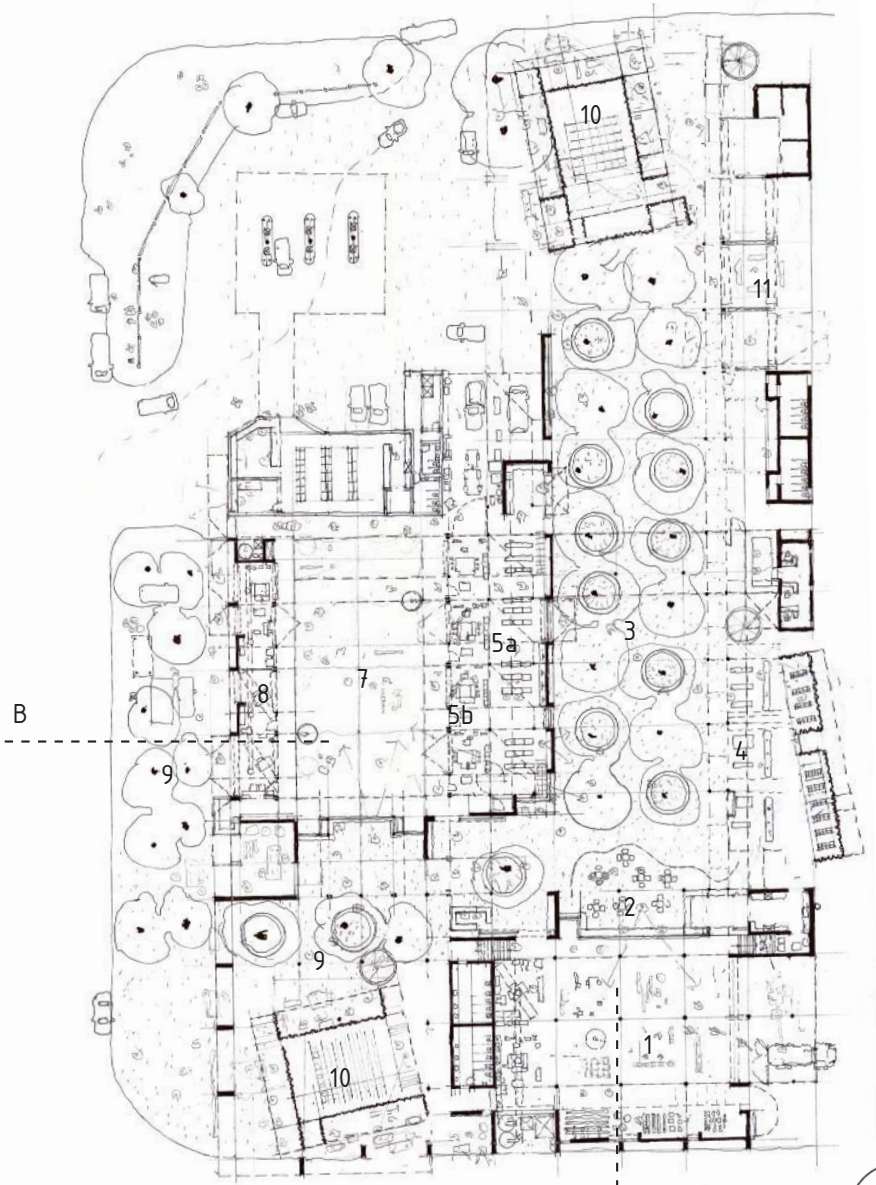


At the architectural scale of the site, reference to the Cape Town city block was made. The notion of courtyard typologies, public streets and service lanes therefore informed the intial design decisions made. The building therefore is arranged as a small city, with urban yards and a communal route structuring the Urban Campus.

Routes, streets and lanes

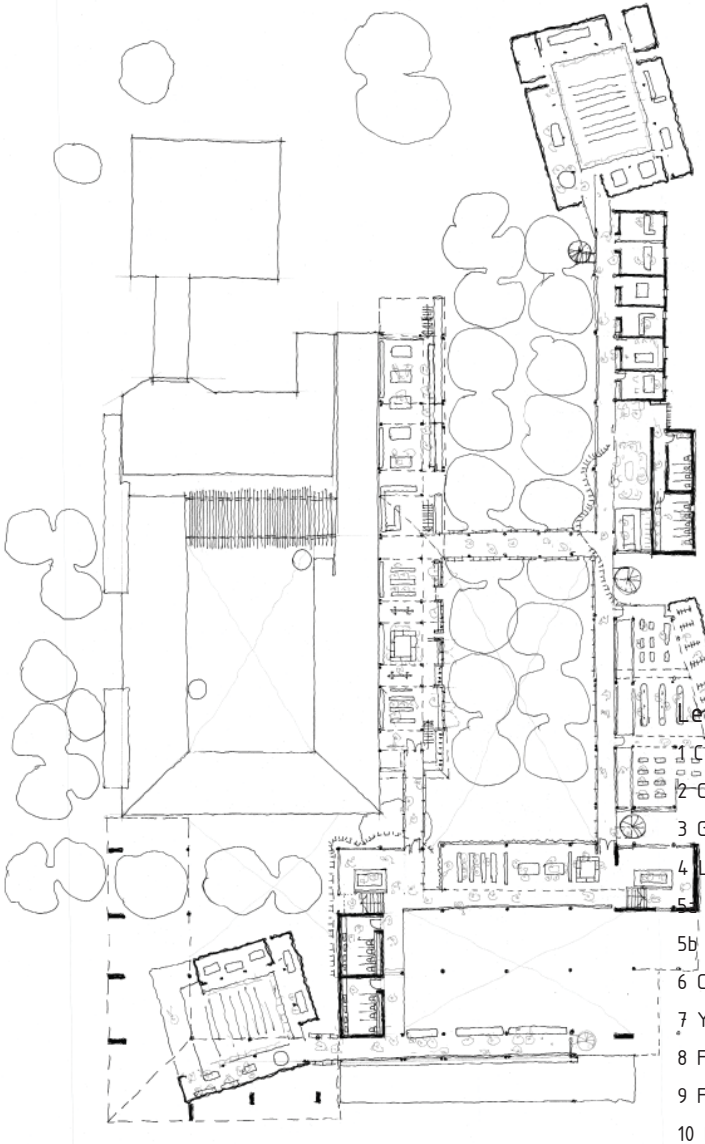
The urban campus is made up of a series of distinct parts or 'buildings', each represents a certain function of the campus. There is the workshops, library, classroom, administration and office space, all linked by a common datum, the community street, route or thoroughfare. The datum links a series of arcades or lanes, which connect to the courtyards/yards. This approach helps separate the buildings but all contribute to a whole. The 'forecourt' and 'green lung' act as the connecting public yards that make up the communal route as a whole. Conceptually the intention was deliberate to not make a singular building, but rather parts that connect through a series of arcades with a public urban route as the primary spatial ordering device.





GROUND FLOOR PLAN

NTS



Legend

1 Covered workshop
2 Canteen
3 Green lung, public court
4 Library
5a Flexible desktop
5b Flexible workshop
6 Classroom
7 Yard
8 Flexible Workshop
9 Forecourt
10 Public/ private facility
11 Seminar rooms

FIRST FLOOR PLAN

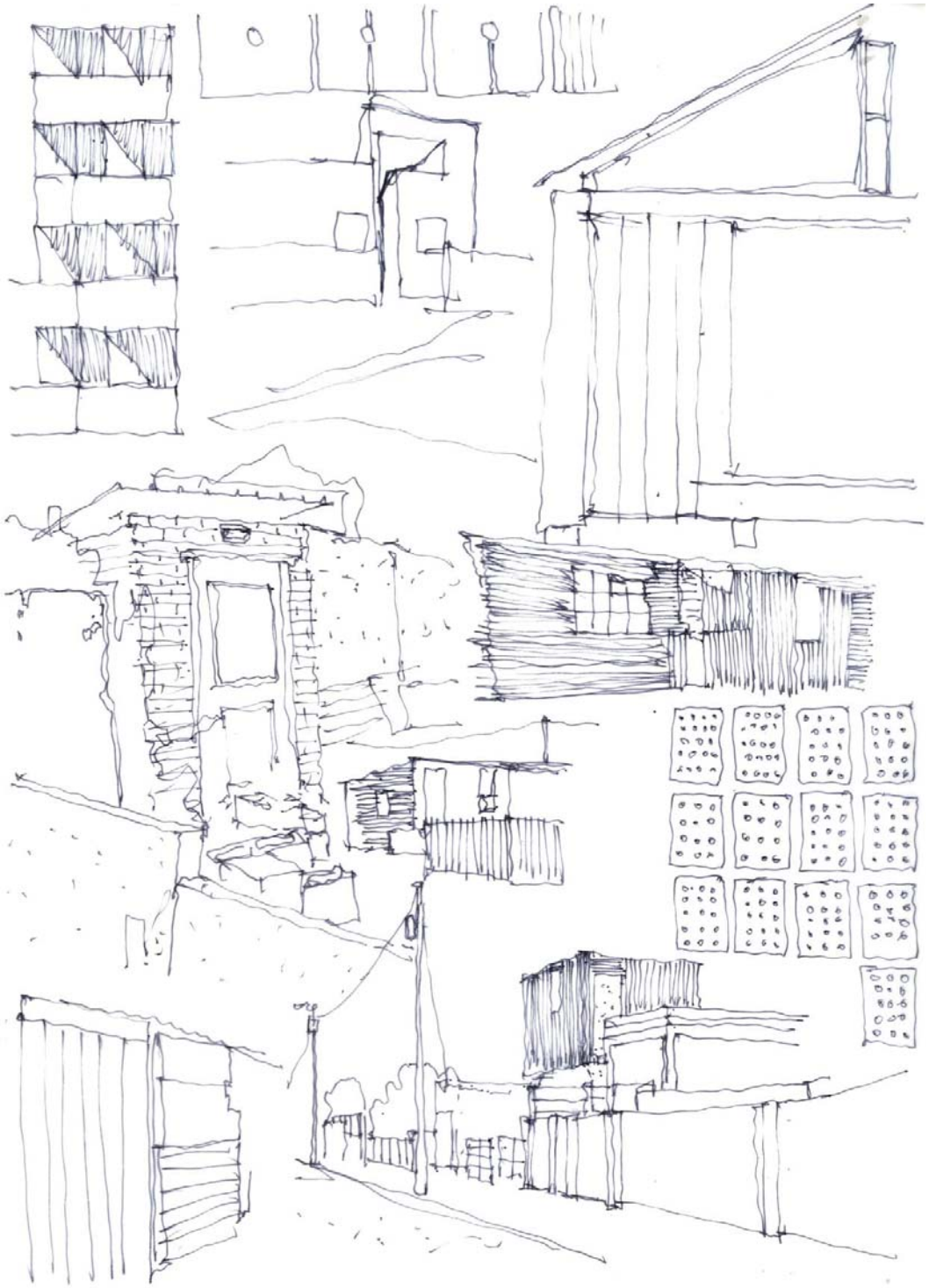
NTS

3

MAKING THE URBAN CAMPUS

Moves made at a detailed level

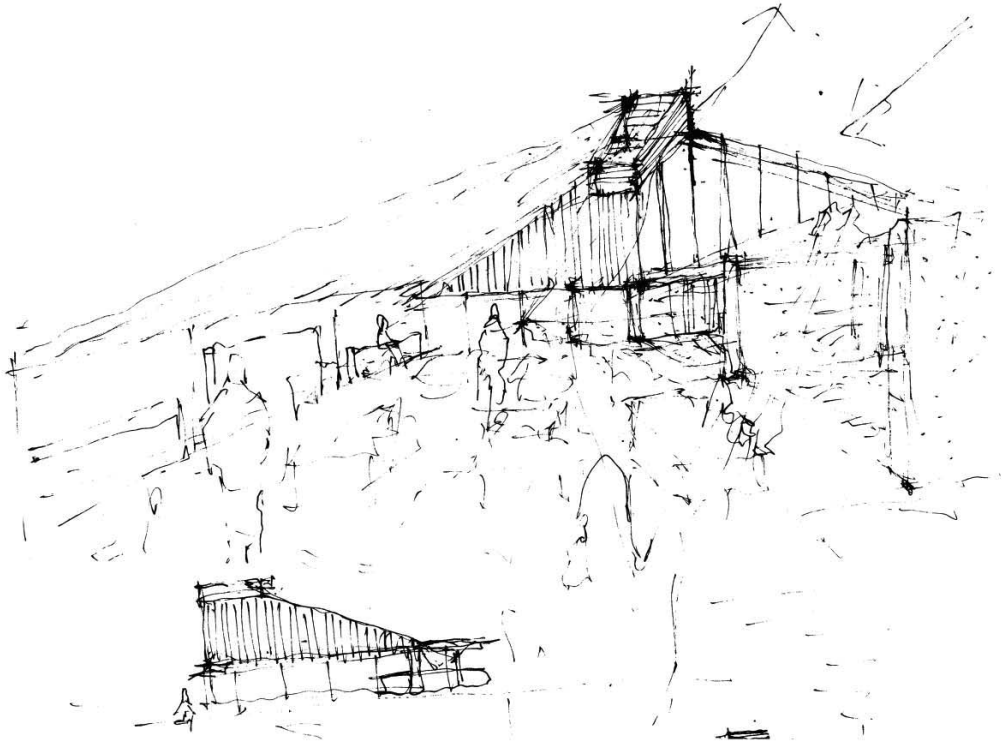
- Didactic in its making
- New techniques and technologies as informed instituion



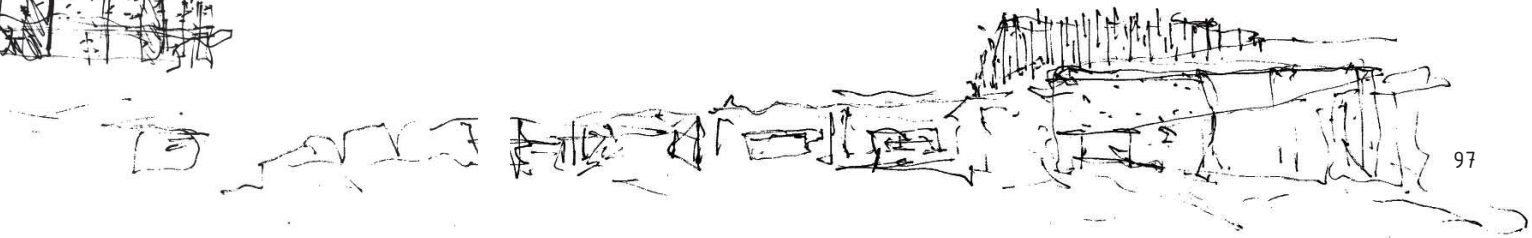
DIDACTIC IN ITS MAKING

Locals of Delft take the initiative to utilise recycled material to build. Evidence reveal that there is an inherent knowledge as a means of making in a simple and unique manner to achieve what is needed for continual survival.

Rudofsky alludes to this notion in his short introduction of his book, architecture without architects, 'the book takes on a fascinating approach on "primitive" and communal architecture, exploring both its functional value and its artistic richness, with a focus on indigenous tribal structures and ancient dwellings. Rudofsky peels the pretence of architecture from the creative and utilitarian acts of building to reveal a kind of vernacular, communal architecture embodying a timeless art form that springs from the intersection of human intelligence, necessity, and collective creativity. Rudofsky was concerned with the cultural bias of architectural history, so he took a special interest in the vernacular architecture of non-Western communities' (POPOVA, 2013).



Furthermore, Rudofsky notes: 'There is much to learn from architecture before it became an expert art. The untutored builders in space and time-the protagonists of this show- demonstrate an admirable talent for fitting their buildings into the natural surroundings. Instead of trying to conquer nature, they welcome the vagaries of climate and the challenge of typography' (Rudofsky, 1964, p. 5).



The method and approach adopted in the making of the institutional urban campus, intends to echo the existing vernacular of Delft. The process of selection and assembly of a materials, joints, details and structures are deliberately clear and didactic. Furthermore, the intention of the exploration of making is to serve a pedagogic and development purpose to the existing local inherent skills within Delft.

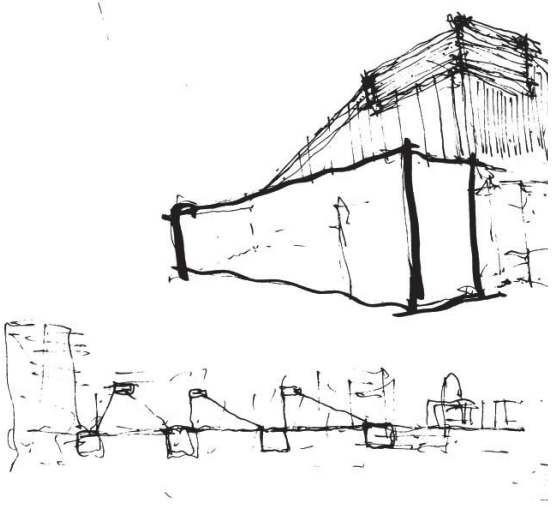
Technological response

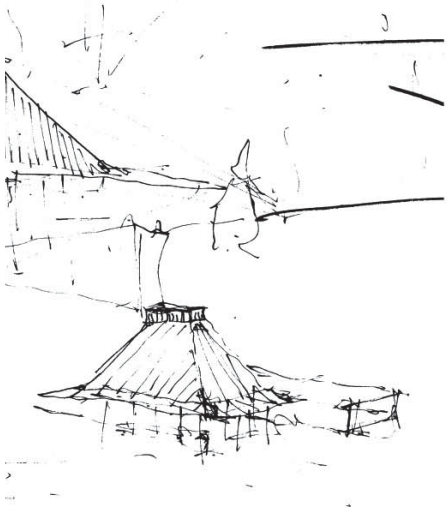
Primarily a steel grid structure was chosen in which a variety of different materials would fill, connect and join ranging from concrete block, recycled clay bricks, timber frames, container elements and steel sheeting echoing the existing vernacular. The system serves a number of purposes,

Firstly, a number of existing steel manufactures existing within the area of Delft, the skills the local manufacturers have to offer, could be developed in the process of making, contributing to the larger proposed steel structure adopted in the proposed vocation education facility. The intention is to introduce new techniques and technologies in the development of the existing local skills.

The process and technological systems currently employed by the self-initiated building practices within Delft are further expanded on in the making of the proposed different material parts of the building. The intention of the process is to reveal the potentials of the local vernacular and in return a pedagogic one for the local skilled artisans.

Therefore, to the people who will be passing by or visiting the campus the making and underpinning detailed design and assembly of the different structure are made apparent. The intention is for people to engage with the building on a number of levels fulfilling the didactic purpose, teaching people how buildings are made.





Considering the materiality of the public institution, the thoughts of robustness, maintenance and security was a factor. The use of the concrete block in the area of Delft is extremely popular. Evidence reveal the cost of the block and speed of construction is the primary factors for its popularity. However, waterproofing characteristics of the concrete block within the context of the Western Cape is not conducive.

Figure 43:

The current conditions in Delft . Concret block as popular material

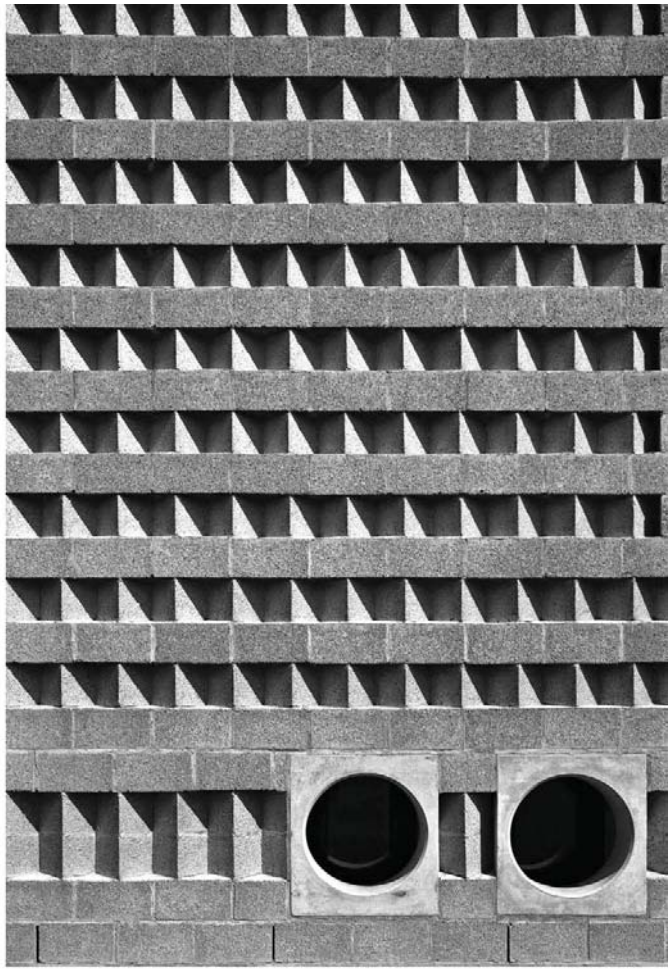


Figure 44:

New technologies and techniques suggested, through the works of Mario Botta

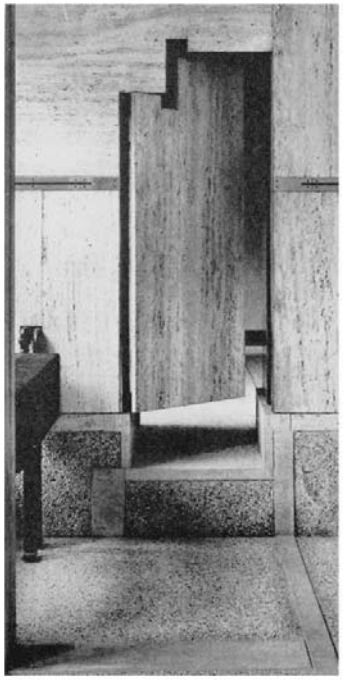


Figure 45:

New technologies and techniques suggested, through the works of Carlo Scarpa

Figure 46:

New technologies and techniques suggested, through the works of Mario Botta

Figure 47:

New technologies and techniques suggested, through the works of Alvar Aalto

Furthermore, recycled Clay bricks and seldom-new clay bricks are used in the area of Delft. Predominantly the new face brick is used for institutional buildings. The existing brickwork within the area is however rather mundane and, as the evidence revealed the pallet is rather limited. Artisans within Delft have a good understanding with the use of brickwork, as the research revealed how recycled bricks were reused in creative artistic manner. The dissertation therefore, attempts brickwork in an artistic manner exploring the brickwork through enclosure and screens. Furthermore, dry packed recyled brick walls as the servive wall elemnt is explored.

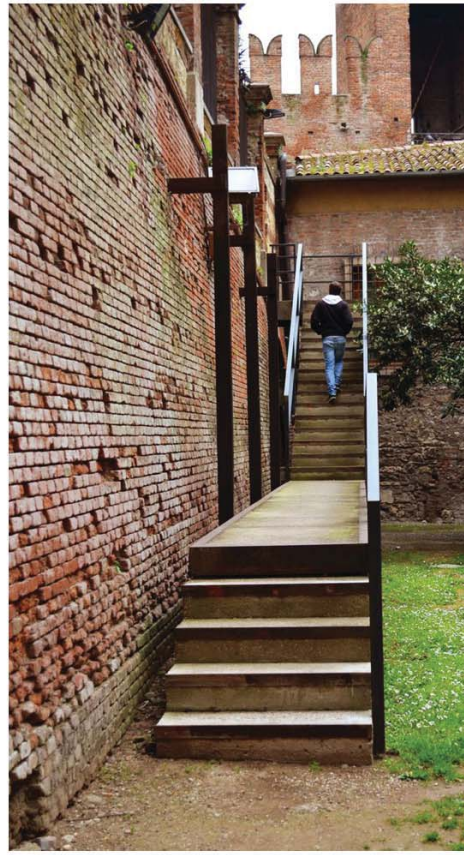


Figure 48:

New technologies and techniques suggested, through the works of Carlo Scarpa 'Joint'

Figure 49:

The use of recycled bricks in Delft

Figure 50:

Existing local skills in the use of timber in Delft

Figure 51:

The use timber as structure and suppourt and cladding in Delft

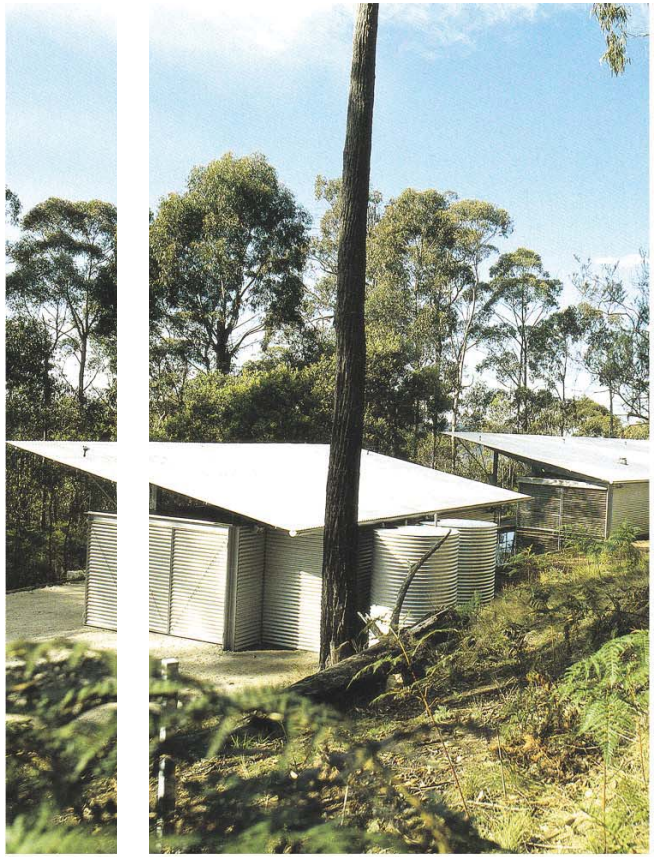
Timber on the other hand, as a building material is rather frequently used within Delft. The material is used both as a structural device and as cladding in the vertical plane. The attempt is made to use timber as screens and shading devices. Furthermore, timber in this instance is explored as a composite together with steel to achieve spans and supports in the private realms of the campus.

Figure 50:

New technologies and techniques suggested, a combination between steel and timber. Carlo Scarpa 'Joint'

Figure 53:

New technologies and techniques suggested, a combination through the works of architect Glen Murcutt.



Moreover, steel within Delft is rather popular. Not only in the construction of homes but also in the manufacturing of gates, burglar bars etc. The inherent knowledge with the material in Delft allows corrugated steel sheeting and structural steel frames to be the primary material explored in the making of the campus building .

Figure 54:

Existing use of steel sheeting in Delft.

The juxtaposition between the stereotomic and the tectonics, load bearing and spans, cladding and support is an attempt to acknowledge the potentials of the different structural systems current within Delft, as a contribution to making a new institution in the urban everyday of Delft.

Steel structure

Timber structure

Concrete block

Brickwork

Shipping container

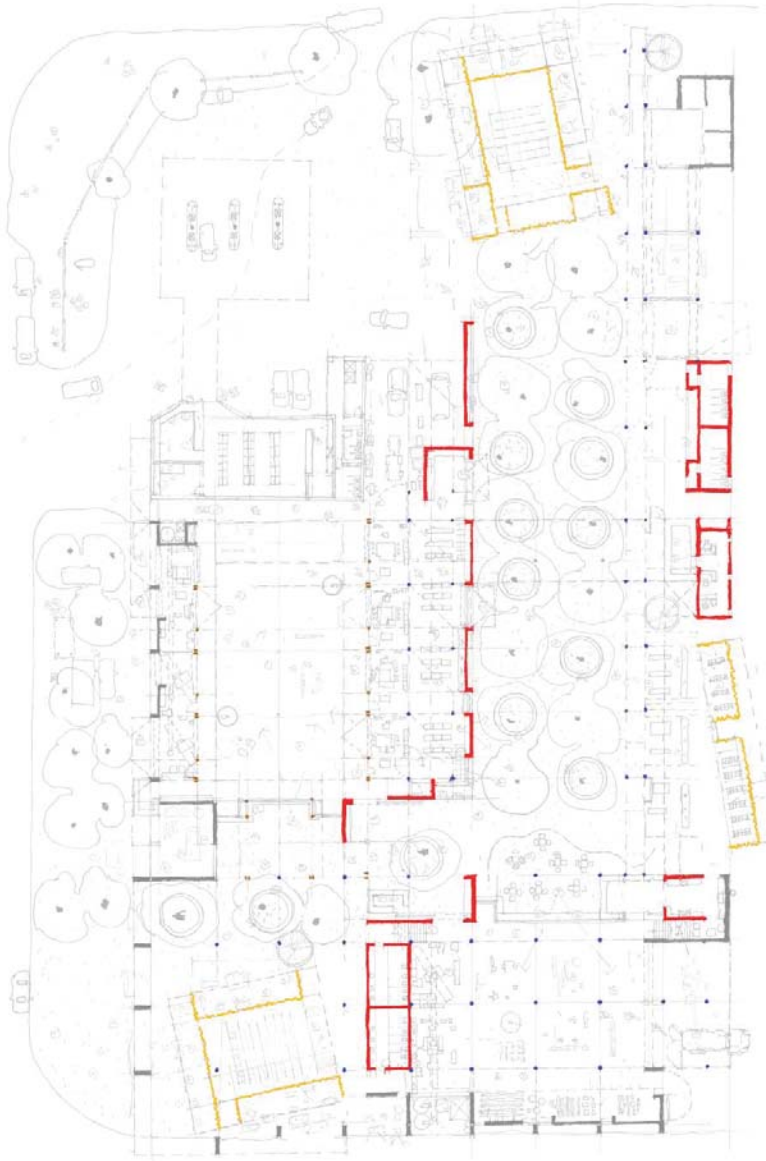
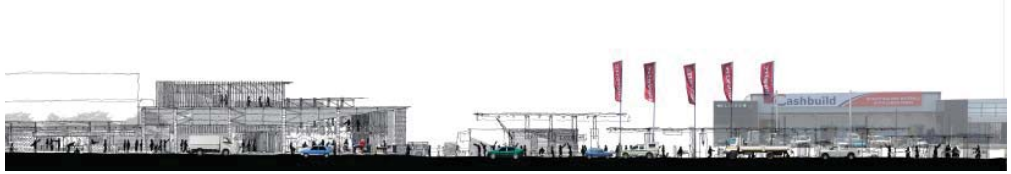
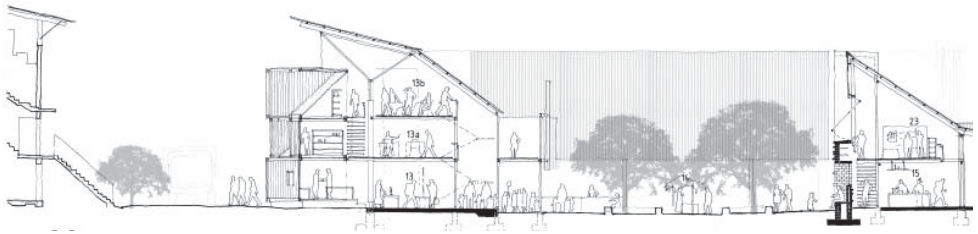
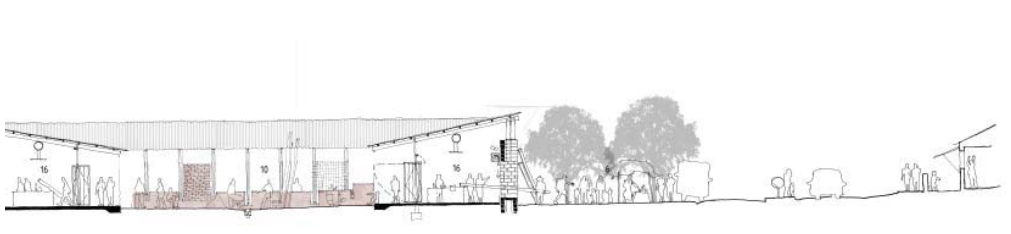


Figure 55:

Structural layout







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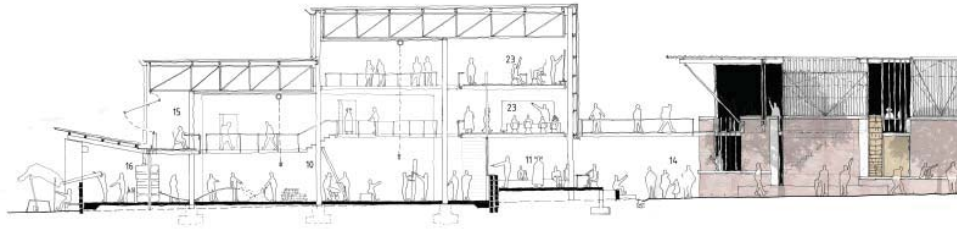
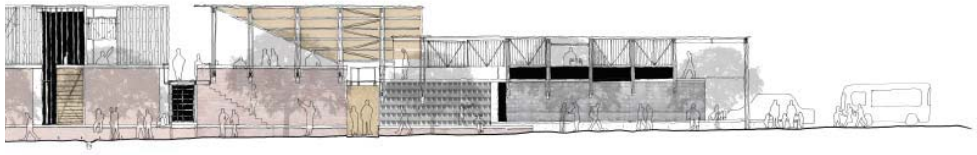
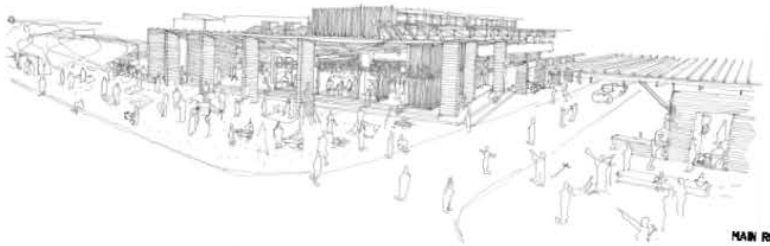


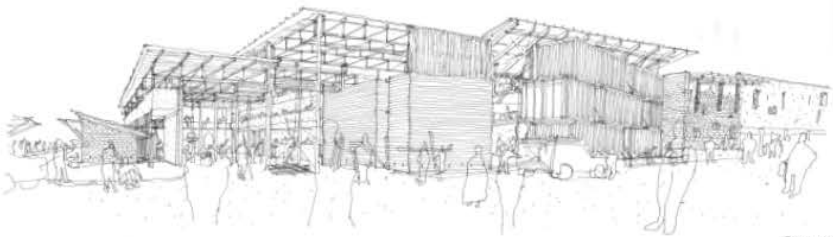


Section A

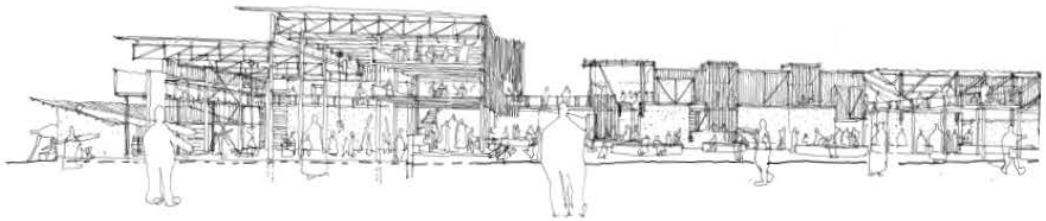
NTS



MAIN ROAD CORER CONDITION



BUILDING TRADES MAKING YARD



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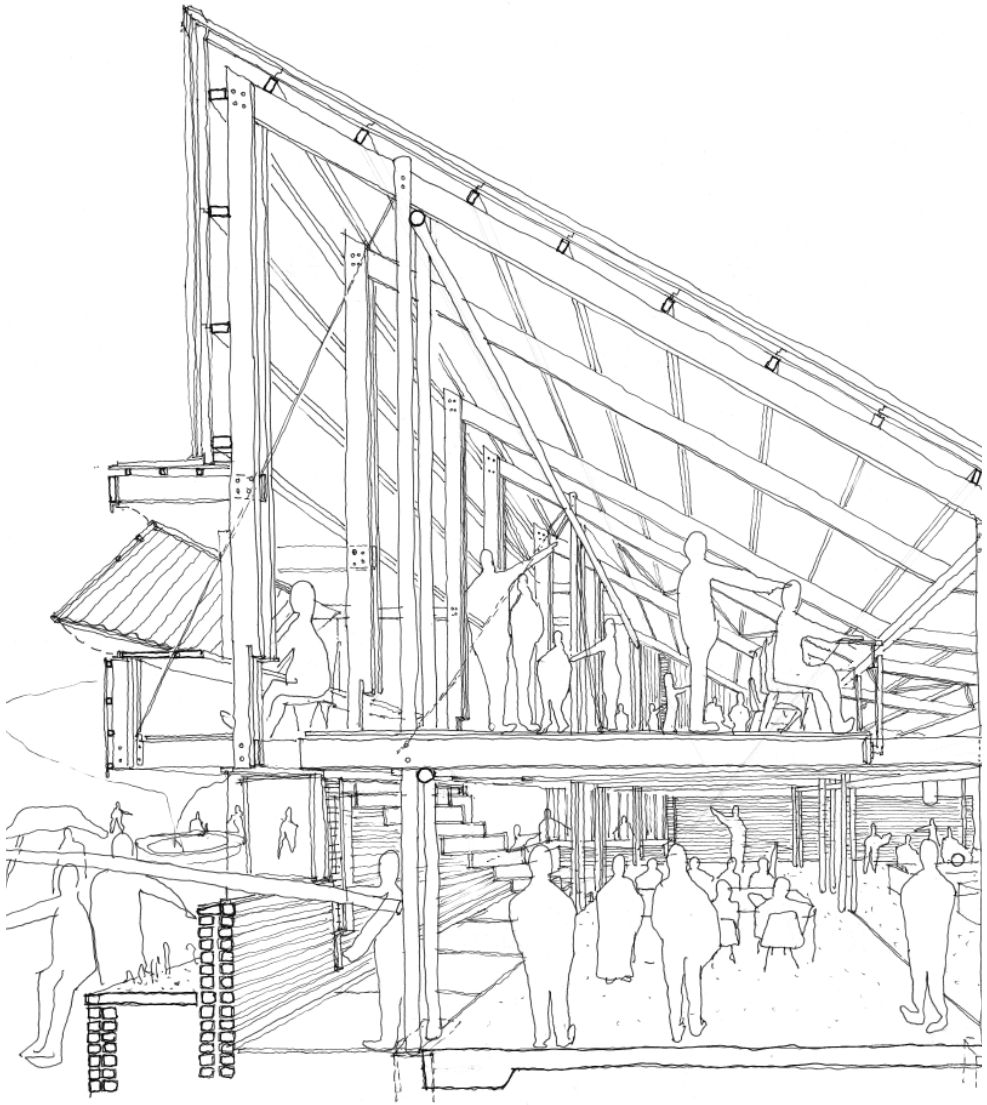

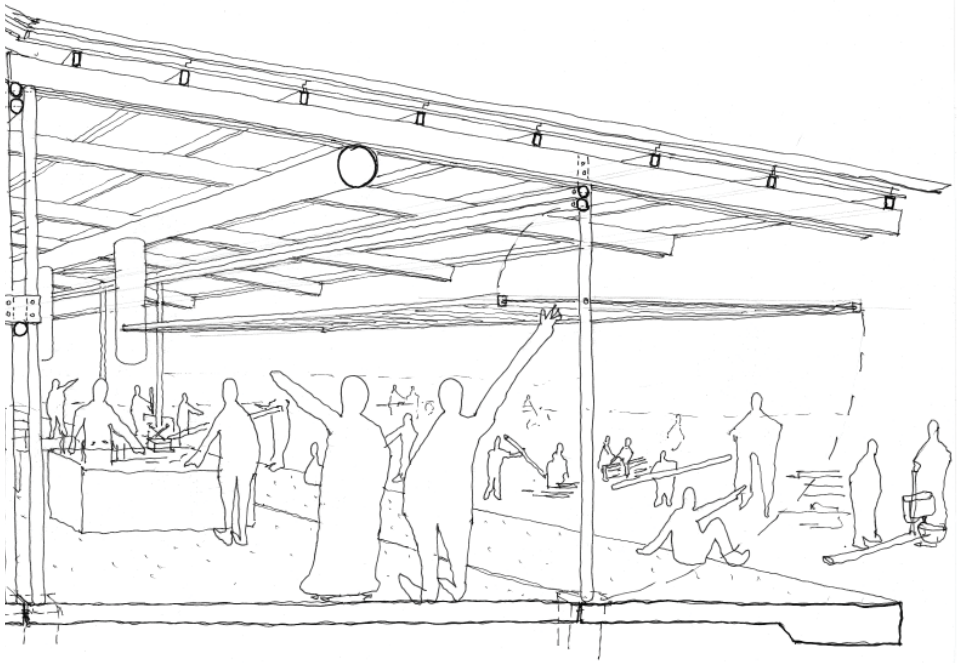

Perspective
Section A

LANDSCPAING

CONCLUDING THOUGHTS

Delft today still confronted by the remnants of the apartheid legislation 20 odd years later, reveals issues of gangsterism, poverty and unemployment. However, despite these issues, the people of Delft on a daily basis still find life for continual everyday survival. The vibrant Delft community and their self-built practices has flourished and continues to do so, as locals have identifying the potentials of Delft Main Road; my findings thus far in Delft conclude that locals of Delft have created the vibrancy, diversity and intense nature through the informal self-initiated practices. Formal interventions act as anchorage to the informal establishments, therefore the formal interventions should quietly respond and facilities the urban every day of Delft.

The potentials of this everyday condition is vast, and possess opportunities for economic generation and job opportunities. The attempt however, made in this particular solution, strategically extends the current condition offering opportunity to extended knowledge both locally within Delft and outside of Delft. The emergence of Delft as a site of production has immense possibilities.

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Figure 17
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APPLICATION FORM

Please Note:
Any person planning to undertake research in the Faculty of Engineering and the Built Environment (EBE) at the University of Cape Town is required to complete this form **before** collecting or analysing data.The objective of submitting this application *prior* to embarking on research is to ensure that the highest ethical standards in research, conducted under the auspices of the EBE Faculty, are met. Please ensure that you have read, and understood the **EBE Ethics in Research Handbook**(available from the UCT EBE, Research Ethics website) prior to completing this application form: http://www.ebe.uct.ac.za/usr/ebe/research/ethics.pdf

APPLICANT'S DETAILS		
Name of principal researcher, student or external applicant		Warren van Niekerk
Department		Architecture Planning and Geomatics
Preferred email address of applicant:		Warrenvanniekerk@yahoo.com
If a Student	Your Degree: e.g., MSc, PhD, etc.,	M.arch
	Name of Supervisor (if supervised):	Melinda Silverman, Fadly Isaacs
If this is a researchcontract, indicate the source of funding/sponsorship		Click here to enter text.
Project Title		Building the local craft tradition in Delft

I hereby undertake to carry out my research in such a way that:

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would constitute plagiarism.

SIGNED BY	Full name		Date
Principal Researcher/ Student/External applicant	Warren van Niekerk		**23_06_2017**

APPLICATION APPROVED BY	Full name	Signature	Date
Supervisor (where applicable)	Melinda Silverman	Signed by candidate	23/6/17
HOD (or delegated nominee) Final authority for all applicants who have answered NO to all questions in Section1; and for all Undergraduateresearch (Including Honours).	IAN LOW	Signed by candidate	23/6/17
Chair : Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the above questions.	G SITHOLE	Signed by candidate	26/7/2017