

DELFT CAMPUS OF SCHOOLS

A NETWORK OF EDUCATIONAL OFFERINGS

Sean Meyer

University of Cape Town

March (Professional) Design Dissertation

Space of Good Hope_ 2018

Supervisors: Melinda Silverman, Fadly Isaacs

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DISSERTATION TITLE: **DELFT CAMPUS OF SCHOOLS_A Network of Educational Offerings**

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This dissertation is presented as part fulfilment of the degree of Master of Architecture (Professional) in the School of Architecture, Planning and Geomatics, University of Cape Town

Date: 3 December 2018

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█ Acknowledgements

First and foremost I would like to thank my mom and dad for the support over the last few years of architectural studies. Your belief in me and guidance is much appreciated.

I would like to thank my supervisors for the past two years in the Spaces of Goodhope Studio. Your guidance and mentorship has been instrumental in my understanding of architecture in the context of Delft. Thank you to the community of Delft for welcoming me into your neighbourhood and sharing your knowledge of the area. Thank you to the fieldtrip guides for their insightful knowledge of Delft and sharing their stories.

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The dissertation thus proposes a campus of educational offerings, which is intended to connect the existing insular institutions along the Main Road through a series of targeted interventions. The campus idea builds off the way in which youth currently move along Main Road.

The interventions along Main Road adds much needed educational resources and programs to the existing schools and public institutions. The architectural proposition is conceptualised as a “campus of schools”, creating a relationship between the school and the city. This promotes learning not as an isolated spatial phenomenon - that of the classroom/ school - but rather as part of a larger educational network that weaves throughout the neighbourhood. Youth moving along Main Road are therefore exposed to the rich experiences on offer along this vibrant urban route.

With a personal interest in youth, it became my primary point of departure, which acknowledges the fact that youth development within local income areas is hindered due to the lack and inadequate resources and spaces. The focus on youth is imperative to address social transformation and release them from the grip of poverty. Following on from my Honour year investigations of the youth as active agents in the urban environment, this Masters dissertation looks at youth development through an educational lens.

The theoretical background primary focuses on two key ideas that make up the dissertation. Namely, education and the city and youth and the city.

Schools in Delft are of an insular nature. This is because schools in low-income areas attempt to emulate the self-contained institutions found in more affluent areas without the necessary resources to function in this way. As a result, the schools of Delft provide students with inadequate, ill-conceived and poorly resourced learning environments.

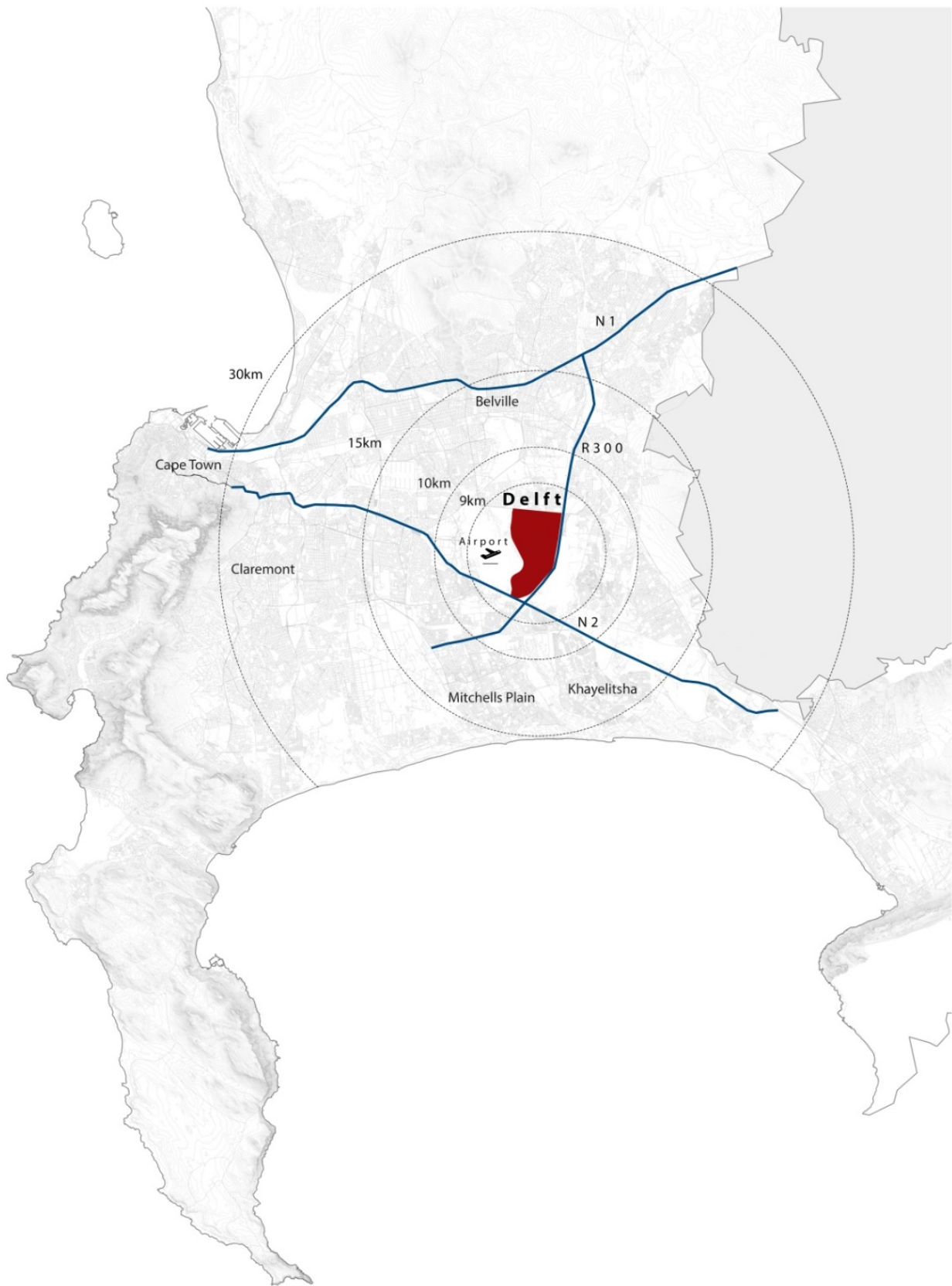
In contrast to the impoverished school environment, on-site observations revealed that Delft Main Road functions as a vibrant space for the youth. Main Road is densely populated by schoolchildren both before and after school. This speaks to the presence of youth within the urban environment. Main Road is an important armature for local youths moving from home to school, between schools, between shops, workspaces and existing public amenities. Main Road is therefore the site of enquiry for this dissertation.

While small informal businesses located along Main Road have helped to activate this important urban spine, the large-scale public institutions have generally tended to ignore the social opportunities offered by Main Road. These institutions are static buildings in the urban landscape, which are often fenced off, and turn their backs to the street. Rather than enhancing the public realm, they make the street less safe and undermine the vitality of Main Road.

Delft is located 40km's outside of Cape Town's city centre and sits adjacent to the airport, the R300, and a national highway, the N2 (figure 1). Delft was conceived immediately after apartheid. The area is characteristic of a rapidly changing neighbourhood which embodies significant characteristics of post-1994 South African city both in terms of its historic spatial legacies as well as emerging contemporary spatial practices (figure 2).



2 Figure: Delft, Cape Town [SoGH 2016]



1 Figure: Map of Cape Metropole, showing the location of Delft

The architectural proposal is situated in Delft as a means of a site of enquiry. Three primary research methods were utilised in order to understand the spatial context of Delft and its everyday life.

Fieldtrips and Mapping:

Fieldtrips organised with local Delft residents and neighbourhood watch groups became the first means of enquiry. Spatial observations of the everyday life of its people and the life of the buildings were observed and recorded during fieldtrips. This allowed me to get an overview of the life in Delft. These observations were recorded as a set of mapping exercises which captured certain aspects of the life in Delft.

Narratives

During fieldtrips often discussions with the local community members of Delft would occur, this would often surface key narratives which captured personal stories.

Children's Outreach Workshop

The studio invited a group of children from the local schools in Delft South to part take in a workshop. This allowed us to engage with the youth and start to understand their personal narratives and everyday activities.

This chapter builds off my interest in my honours year, which identified youth as important agents in the urban environment of Delft. My interest surfaced from fieldtrip observations of the youth in Delft, which had an effect on the way in which the area is perceived. Despite the conditions and challenges the youth face, they seem to make the most of what they do have.

With the interest in the youth, it became my primary point of departure which acknowledges the fact that youth development within low income areas is hindered due to the lack and inadequate resources and spaces. The focus on youth is imperative to address social transformation and release them from the grip of poverty.

The statistical profile of the youth at both national and local level in South Africa is frightening. In the Western Cape the indicators profile a condition that continues historic patterns of structural disparity, where class, gender, race, living conditions and spatial location still matters. South Africa has a young population, with more than 40% of the population aged between 14 and 35 years old¹. The census of 2011 shows that a high rate of the youth population of 131 033 under the age of 18 years old live in informal settlements². The youth population living in these conditions most likely fall into gang violence and face issues of unemployment and drug abuse amongst other challenges which are prominent in these conditions. The dissertation acknowledges these challenges the youth face and recognises the agency of youth and looks to take their role in the urban environment seriously.

Furthermore the youth of Delft are seen as a point of departure and opportunity in which the dissertation probes an investigation which starts to understand the local conditions and possible means of intervening to promote youth development through education.

¹ NGO Pulse. (2017). Guide to Youth Development NGOs in South Africa | NGO Pulse. [ONLINE] Available at: <http://www.ngopulse.org/article/guide-youth-development-ngos-south-africa>. [Accessed 06 November 2017].

² HDA, 2013. Western Cape: Informal settlements Status. 1st ed. Johannesburg: The Housing Development Agency.



3 Figure: Images of youth occupying spaces in Delft [2018]

YOUTH AS ACTIVE AGENTS

A key finding from onsite fieldtrip observations and narratives is relevant to the dissertation. It was discovered that children within Delft do not occupy one space during the course of the afternoon but rather their afternoons are filled with various activities across various locations. This highlighted the importance of the open space network as well as signified the key role that children play within the urban environment. This indicates that children are active agents within the urban environment.



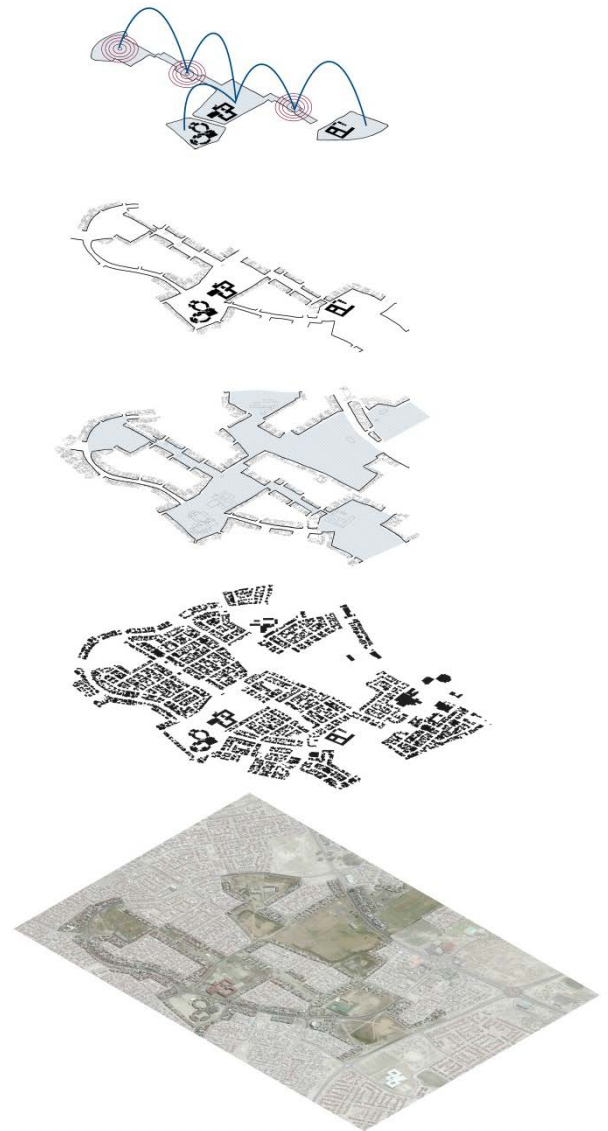
4 Figure: Sketches of youth playing in the streets of Delft



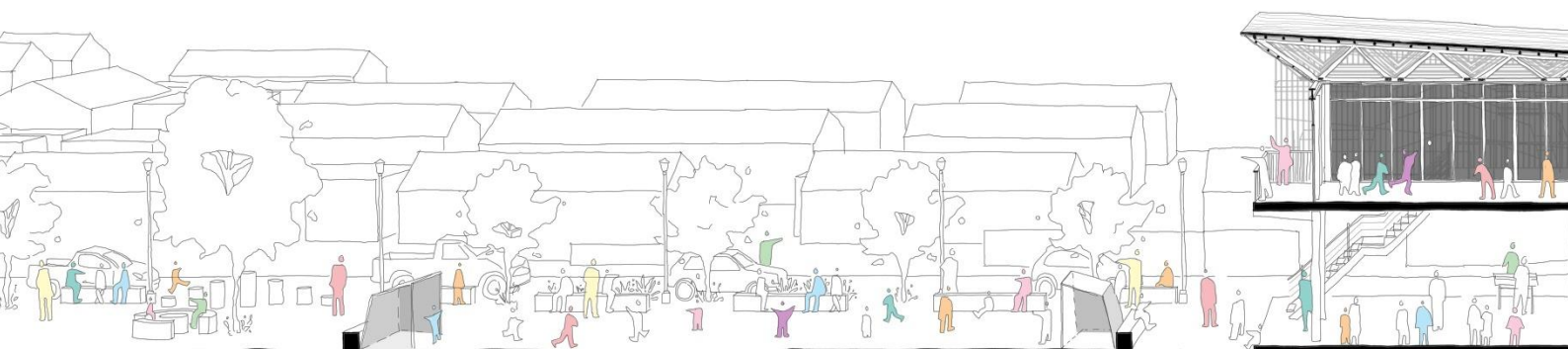
5 Figure: Youth utilizing the playing infrastructure at a park in Delft South.
Rainbow Arts Square [SOGH 2016]

Honours Project (SoGH 2017)

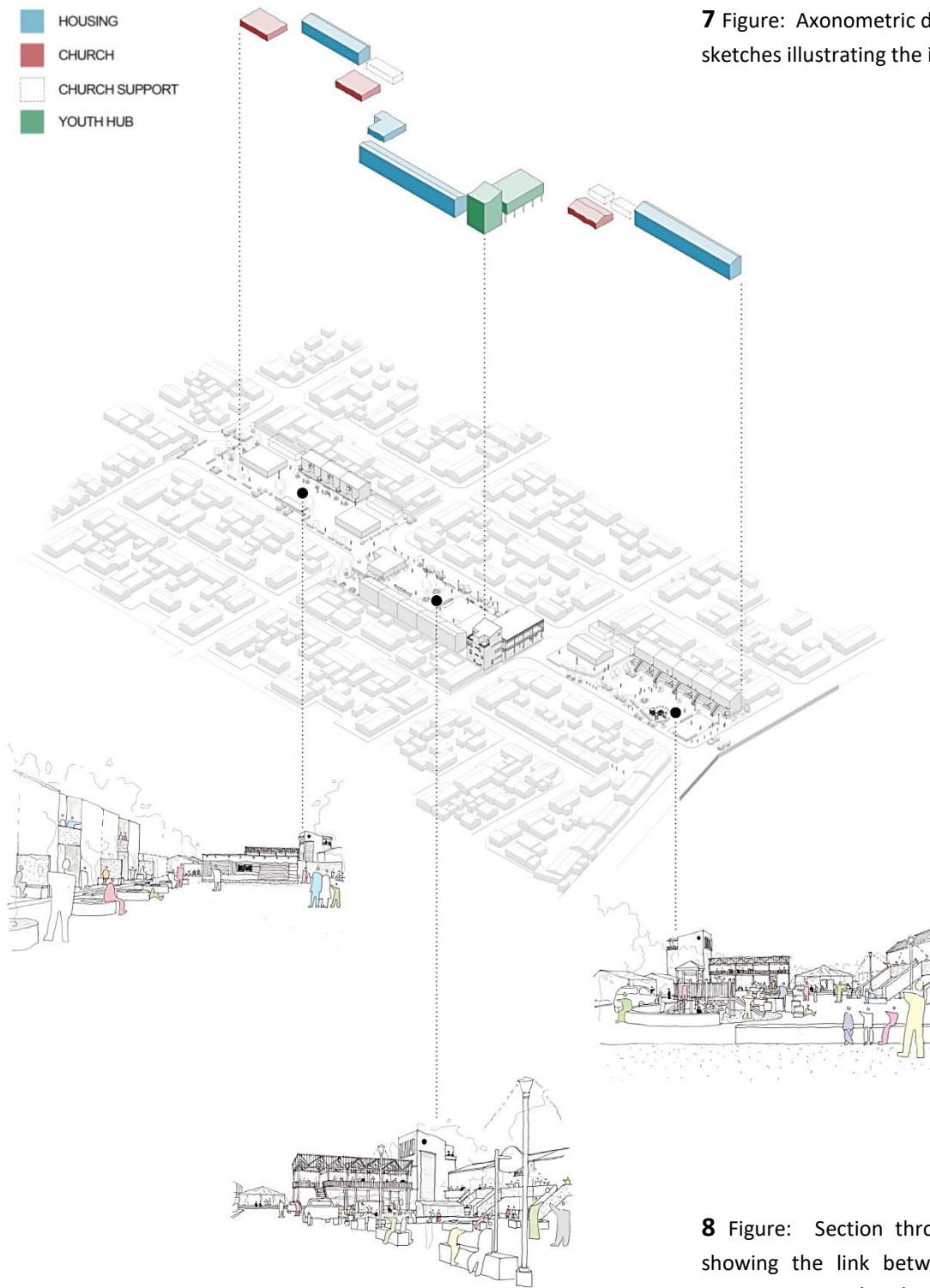
The project seeks to recreate public play spaces for children, where children can learn to play together, to share and to socialise. At the same time, the project seeks to revitalise a neglected series of open spaces (figure 6). The project explores how the insertion of new activities within public space –housing, playing fields and a youth hub (figure 7&8) – can improve safety, functionality, ownership and maintenance. The newly revitalised park should be seen as one component in a network of public spaces within the urban framework. This idea builds on the way in which children currently use existing public parks in Delft.



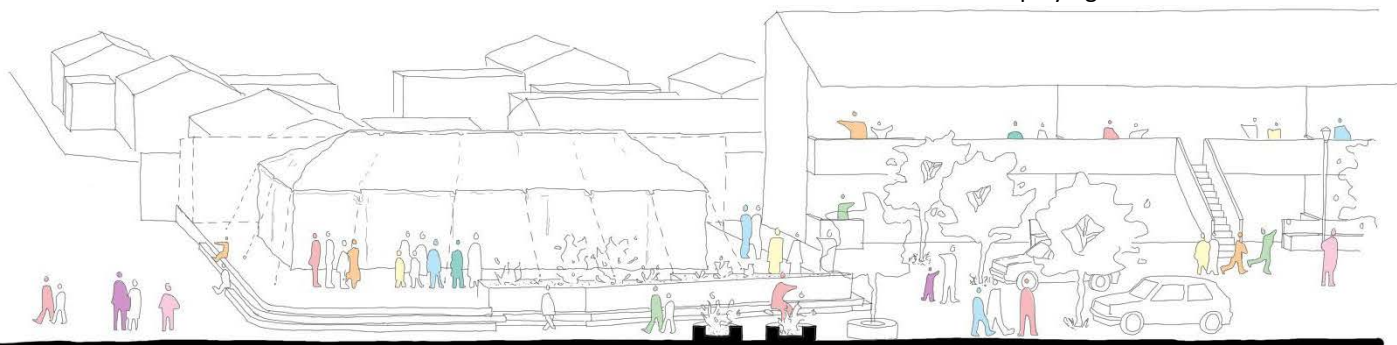
6 Figure: Axonometric drawing showing the series of neglected open spaces. The sitting strategy connects the neglect open spaces to the surrounding schools.



- HOUSING
- CHURCH
- CHURCH SUPPORT
- YOUTH HUB



7 Figure: Axonometric drawing and sketches illustrating the intervention.



8 Figure: Section through intervention, showing the link between the housing, existing tent church, youth hub and playing fields.

SoGH Children's Outreach Workshop

This year we were fortunate enough to have a children's outreach workshop. The event was held at the Delft South Library, where we invited children from the local schools in the area. The group of children included boys and girls, which varied from primary to secondary school learners. The event was structured around a number of interactive games for the children, a snack break time and a ceremony at the end which acknowledged and thanked the children for their participation.

The game which I was part of included a 5x5 meter map of Delft, for which the children were tasked to firstly map their routes from home to school, using string, and secondly locate spaces in Delft where their everyday activities took place.



9 Figure: Children Outreach Workshop, pupils from the surrounding schools point out where they stay and the location of their school.
Delft South Library [SOGH 2018]



10 Figure: 5x5 Meter aerial map of Delft, showing the routes (string) and activities (blocks) children placed down during the game.
Delft South Library [SOGH 2018]

Workshop Findings

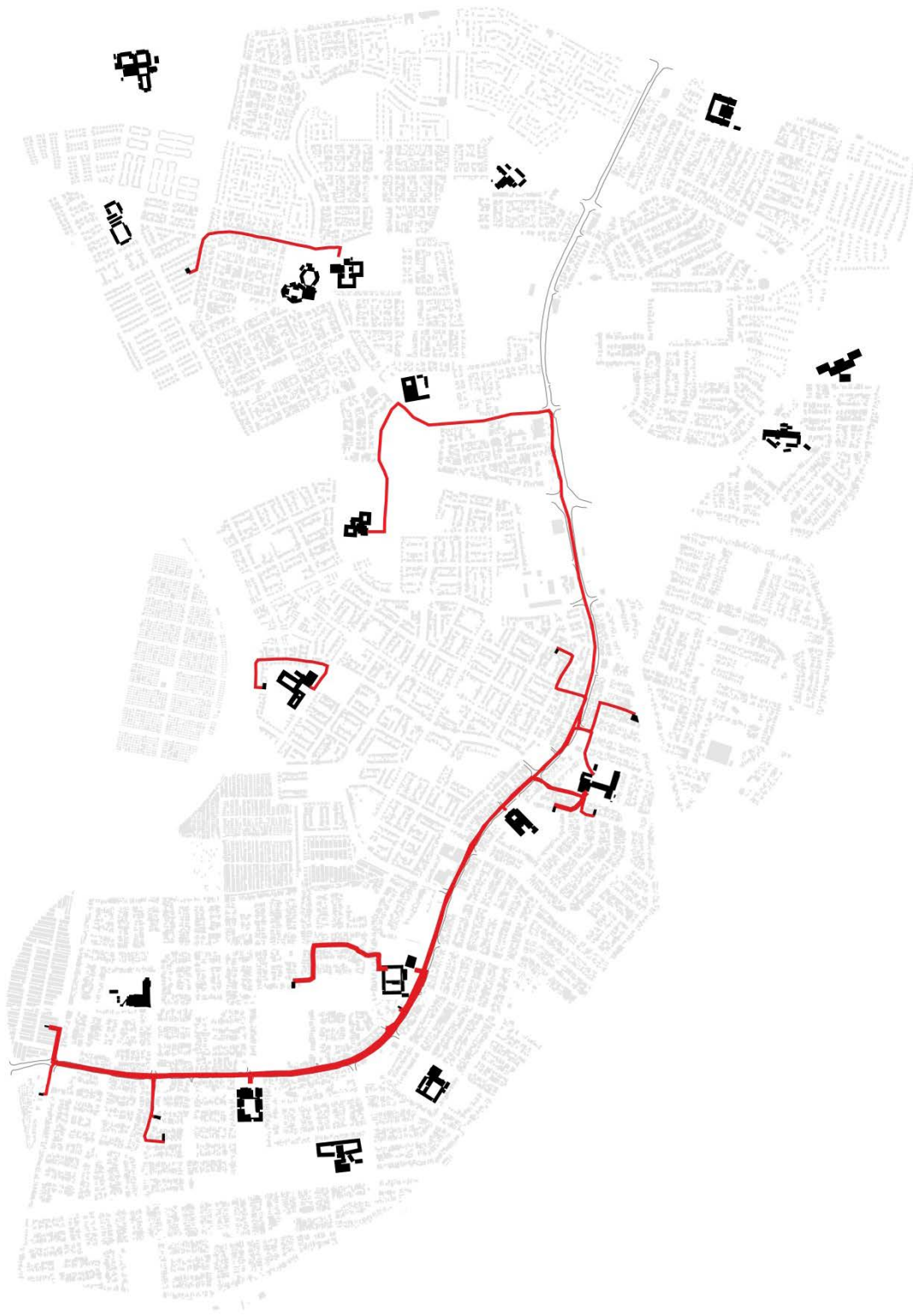
Routes from home to school

The first task for was for the children to map their route from home to school. It became quickly apparent that the children got lost and couldn't orientate themselves or read the aerial map. They struggled to find their home. However they found it rather easy to locate their schools. So the task became about mapping their route from school to home. The idea of the school as a point of reference, an urban landmark, became a strong idea amongst all the children.

Once all of the children mapped their routes it became clear that Delft Main Road served as the primary means of movement. Below (figure 11) we can see how many children whom live in the neighbourhood cells make their way to the Main Road from which they use to get to school. Many of the children mentioned that they used the Main Road because it was the safest and easiest route to travel via foot. For children who lived out of walking distance from their school, took a taxi, which they caught from the Main Road.



11 Figure: Aerial map of Delft, showing the routes (string) children placed down, which highlights the importance of Delft Main Road.
Delft South Library [SOGH 2018]



12 Figure: Map produced after the student outreach program, showing all the routes children took between their school and home. Most of the routes get lost due to the intense overlap of routes along Delft Main Road.

Activities and spaces of inhabitation

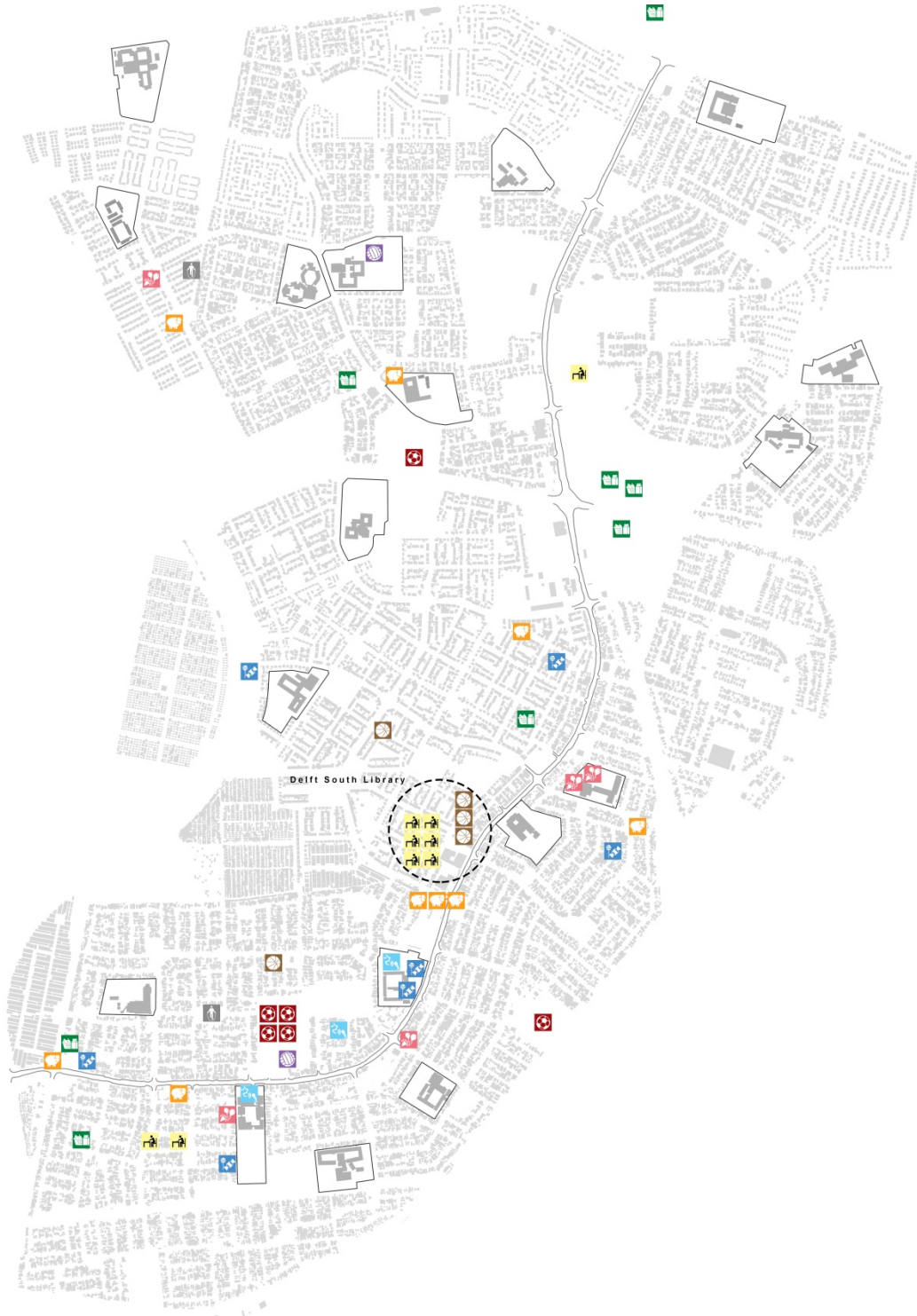
The second task was for children to place icons of activities in spaces they use for the respective activity. The activities includes icons of where they played sports, done their homework, bought sweets, had celebrations etc. The idea of the task was to understand which spaces the children were inhabiting in the area.

During the task it became clear that most of the children's activities took place outside of the school grounds. This could be due to the fact that the schools lack afterschool programs and facilities. Due to the lack of infrastructure the school provides, the local Delft South Library becomes a hotspot after school hours. The Library serves as a safe space for the children to do their homework and play sport outside in the parking lot. Through conversation with a learner from one of the high schools, it was noted that the school library is only accessible via booking. Another interesting conversation was with a learner who enjoys signing but the school does not offer any choir classes, and thus she has private lessons with a lady, which usually takes place in the ladies house. The learner also mentioned that her practice comes into play when she has to sing during church ceremonies which take place at the local school hall nearby.



13 Figure: Aerial map of Delft, showing activities (blocks) the image highlights the importance of Delft South Library as a resourceful space for the youth.

[SOGH 2018]



14 Figure: Map produced after the student outreach program, showing all the activities placed down on the aerial map.

Youth and the Everyday

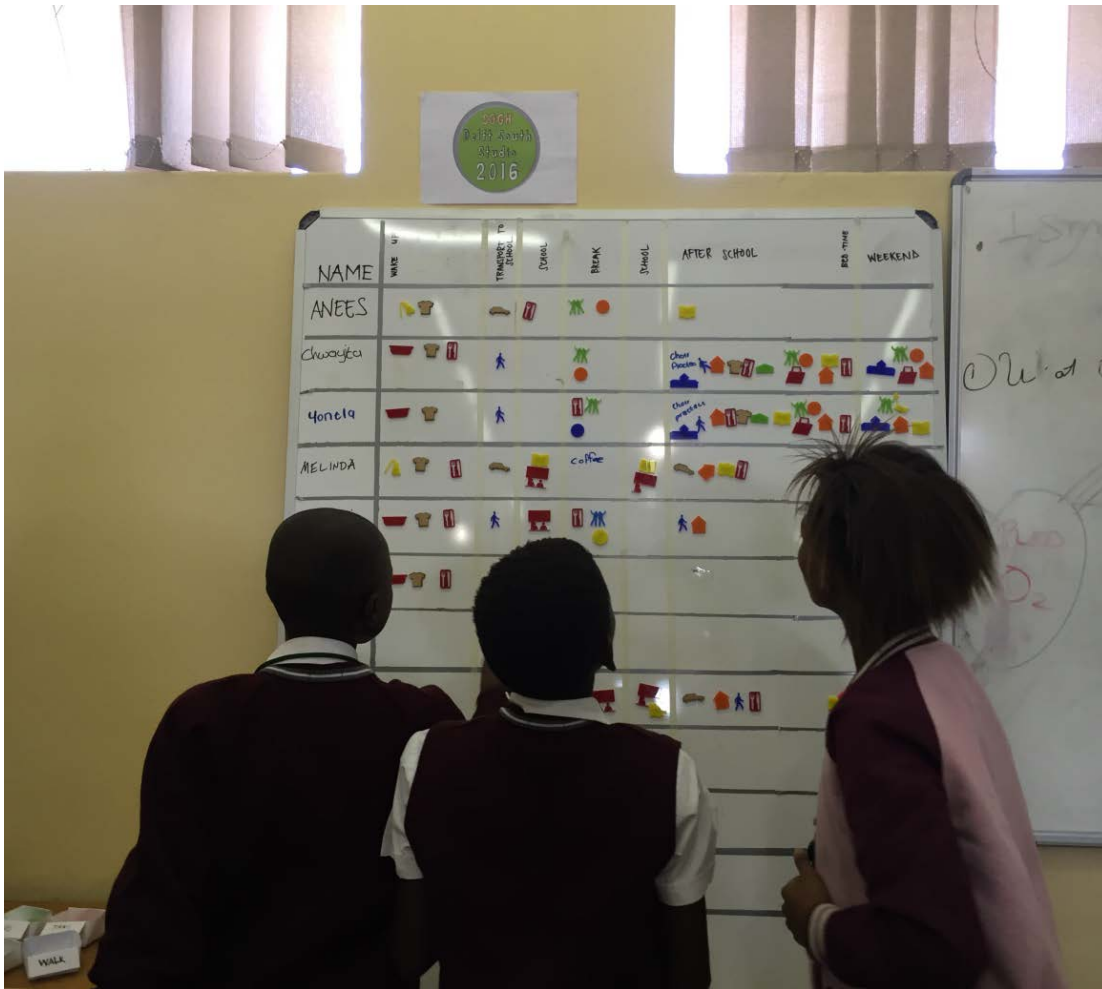
Another one of the tasks from the workshop was a board game in which the children had to map their activities throughout the course of their day from home to afterschool, as well as on the weekends. The game was to place magnetic icons along the daily timeline (figure 15).

The final outcome of the board game was captured in figure 16.

Information that surfaced from the game was the fact that schools seldom offer afterschool programs, this finding was also surfaced through the activities workshop game. Thus children have to occupy themselves after school hours. Another finding was that most of the children walk to and from school and few utilise the local taxi services as a means of public transport. During a fieldtrip it was mentioned that the school children only have to pay R2 for a taxi commute within the Delft area. The notion of children walking around Delft highlights the importance of the open space network, as well as signifies the important role children play within the urban environment. Children have the freedom to roam the streets without adult supervision, highlights the fact that the children are independent and have autonomy within the city.

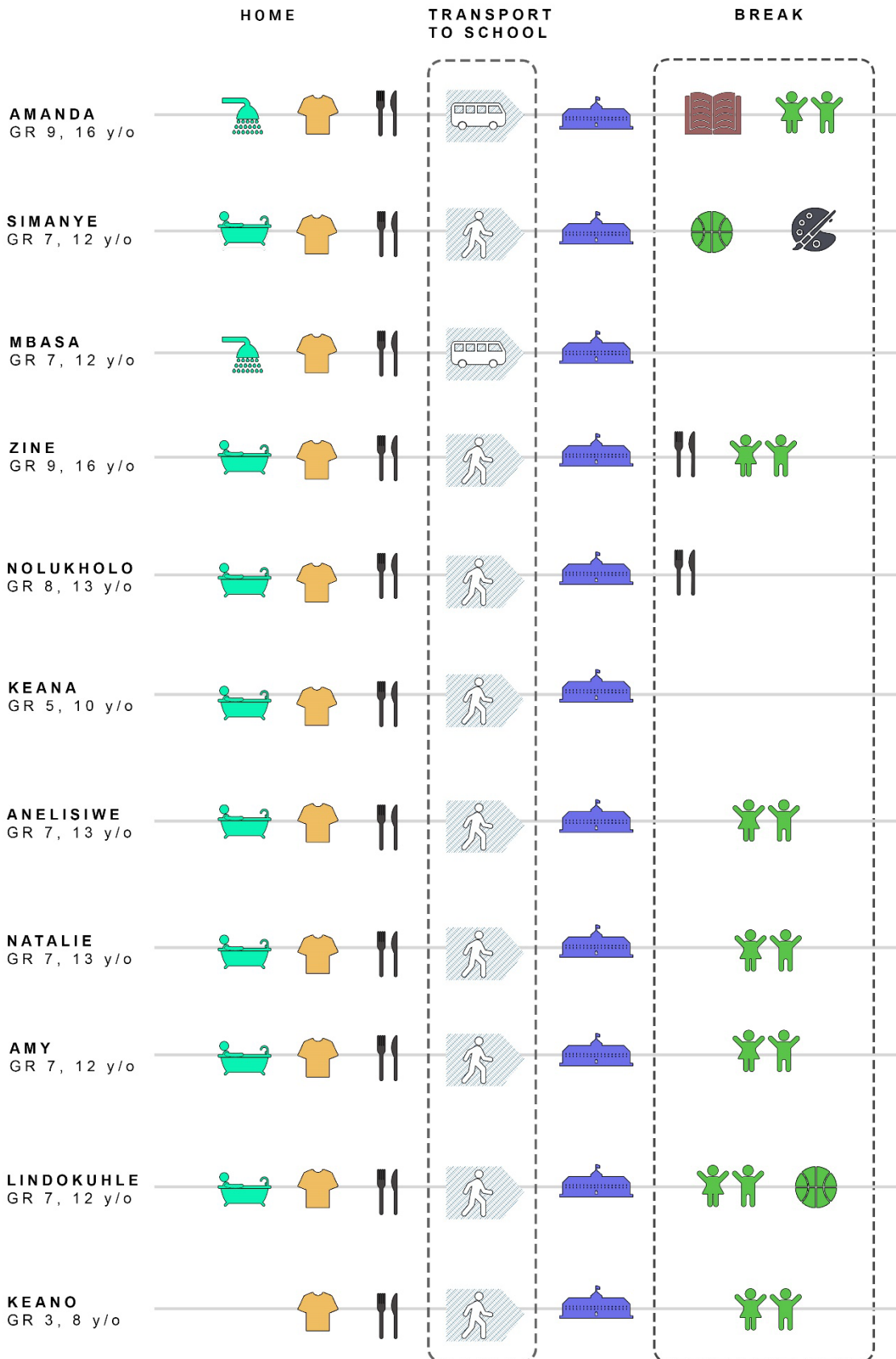
Through the game it became clear that technology plays an important role within the after school life of the children. Due to this fact a lot of children gravitate to the Delft South Library to utilise the free wifi access.

A late addition to the game was to include yellow cards which captured the future jobs which the children aspired to become. Some of the careers which the children mentioned were: a doctor, pilot, fashion designer, lawyer etc. This was a fascinating addition to the game as it captured the dreams and aspirations of the children. This is amazing, but sadly the local resources at the schools do not offer support or guidance in order for these dreams to become a reality. Thus the idea of youth and education becomes an important point of departure for my dissertation as it acknowledges the potential of the youth and the issue of inadequate education resources.



15 Figure: Children placing down their respective activities on the magnetic board. [SoGH 18]

16 Figure: Map produced after the student outreach program, showing the outcome of the board game.



AFTER SCHOOL

WEEKEND

FUTURE

LAWYER

DOCTOR

LAWYER

BUSINESS WOMAN

FASHION DESIGNER

BUSINESS WOMAN

DOCTOR

DOCTOR

DOCTOR

Matrix of Youth Pictures

Supplementary to the children's outreach workshop I did an exercise where I went through the pictures that had been taken during fieldtrips to Delft. The aim of the exercise was to surface what spaces the youth were occupying and what activities they were involved in. The photographic analysis is not meant to be a conclusive investigation but probes certain notions which are important to the dissertation.

Once going through the images I started to categorise the spaces and activities in order to produce a matrix that captured the findings (figure 19 pto). The intention of the matrix is not to capture the images but rather the patterns that emerge from it.

When unpacking the matrix it became apparent that certain clusters emerged. The first big clustering is around the public open space network category which highlights the importance of public spaces such as the street, pavement and parks. These spaces are crucial to the youth as these are the spaces in which the youth use to navigate through Delft. Further developing from this, one should note the importance of architecture in the making of good public space and definition. The notion of the street and the interface between the built environment and the open space network is of utmost importance. Seen in figure 17 the condition of the life of the street is strongly influenced by the architecture which supports it. The idea of spatial definition and interface is important when promoting a positive life of street activity. In the image architectural notions such as frontage, eyes on the street, threshold become important.

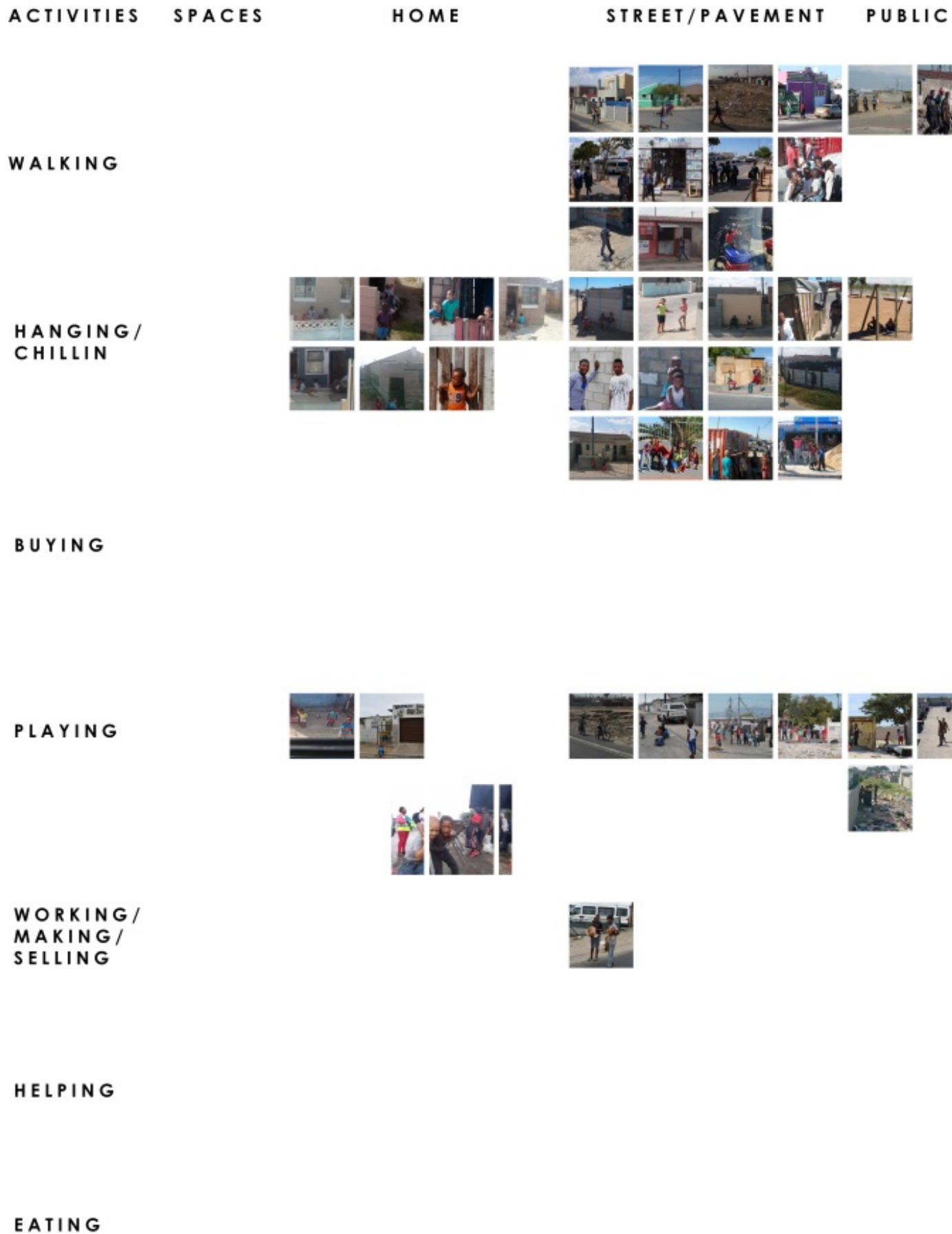
Another clustering of images emerges around spaces of trade. In these spaces the youth are actively involved in the local businesses, be it selling or making goods for trade or they are helping elders, or simply they are socialising in close proximity of these spaces of trade. The importance of the spaza shop as a social space also emerges as these are often spaces where the youth choose to hang out with their friends. Subtle architectural elements seen in the image of the spaza shop (figure 18) such as the steps as a seat as well as a vantage point, as well as the light weight canopy, speak of architectural principles such as threshold, shelter and interface which enables the shop front to become a space of exchange and socialising.

17 Figure: Local businesses create a positive interface to the street which aids in the life of the street.



18 Figure: Local spaza shop as a space of exchange and socializing.

19 Figure: Matrix of pictures produced from analyzing fieldtrip images [SoGH 16-18]



OPEN SPACE



SPAZA/SHOPS



PUBLIC PARKS



PUBLIC BUILDINGS



Education within the context of South Africa has the ability to be a hugely transformative aspect, however the schools, especially in the context of low income areas of Cape Town are inadequate resourced to take on this notion. In a time of social transformation education cannot be seen as the only key to social transformation, but rather it is an important ingredient to social transformation¹.

Dewar notes that the fundamentals associated with education are in the creating of environments which promotes learning. Further mentioning that learning has a formal and informal dimension. The formal refers to the classroom. The informal relates to exposing the youth daily to the everyday conditions of local experiences².

The potential of the city serves as a place of learning. The urban environment could be seen as having an abundance of learning opportunities and resources. The city could be seen as a classroom without walls, one where the people, processes and places that we encounter everyday are invaluable learning resources³.

Thus the dissertation consistently mediates between the ideas of the school as an important education offering as well as the city. The school and the city_the city and the school.

¹ Booyse, J. J., le Roux, C. C., Seroto, J. & Wolhunter, C. C. (2011). *A History of Schooling in South Africa: Method and Context*. Pretoria: Van Schaik.

² Dewar, D. (1995). *Creating vibrant urban places to live : a primer*. Cape Town: s.n.

³ *Yellow pages of learning resources : resources directory area code 800*. (1972). Cambridge, Mass: MIT Press.

FORMAL SPACES OF EDUCATION

For the purposes of the dissertation formal spaces of education are referred to as school institutions where education formally happens in the school and predominantly within the classroom condition.

The analysis of understanding the formal dimension of education started with the analysis of schools on three scales:

Metropolitan scale

The investigation is to look at the location of all the schools in the Cape Metropole relative to its population.

Suburban scale

Here the focus shifts to the scale of the neighbourhood. Delft is used as the area of focus. The investigation looks at the spatially distribution of schools in the area.

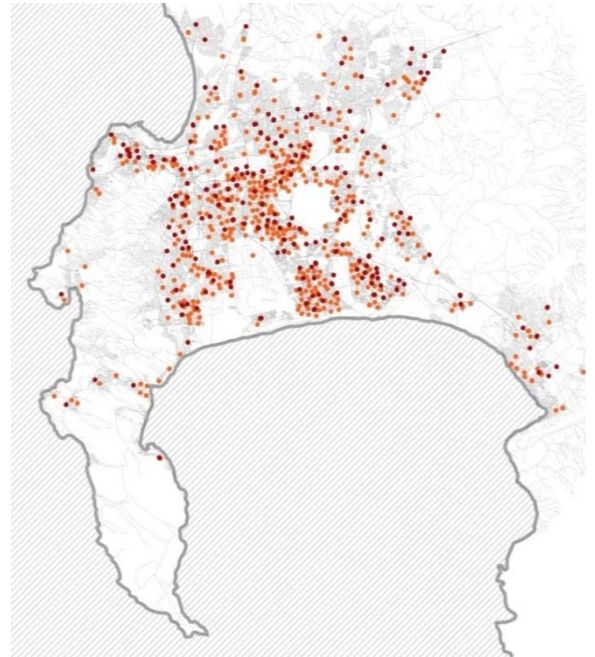
Site Scale

The focus is zoomed into specific sites of investigation, from which the schools are analysed how they spatially contribute to the city. Here the notion of edge conditions and street interface are analysed.

Cape Metropole Scale

The map adjacent (figure 20), which was generated from GIS, illustrates all the schools in the Cape Metropole. The orange dots indicate primary schools and the red dots indicate secondary schools. Figure 21 generated from Adrian Frith Dot⁴ map of the 2011 Census, shows the population spread across the Metropole, one dot is equal to 50 people.

What becomes apparent through the map of the schools is the relatively even distribution of schools across the Metropole. The map of the population shows areas of high density versus areas of low density. The argument to be made is based around the distribution of schools relative to population density. This argument is further developed by research done by CSIR which highlights the Cape Flats area as the area of underserved learner population⁵. Furthermore the research does not mention the difference in the quality of education and available resources from “privileged areas” to that of “low income areas”. From personal experience the difference between my school in the southern suburbs is hugely different to that found in the Cape Flat areas.



20 Figure: Map of the Cape Metropole, illustrating the number and location of primary and secondary schools [CSIR 2010]



21 Figure: Map of the Cape Metropole, illustrating the population density [Frith 2013]

⁴ Adrian Frith. 2013. Dot-maps of racial distribution in South African cities. Available: <https://adrianfrith.com/dot-maps/>. [2018, July 3].

⁵ CSIR Built Environment. (2010). Evaluation of community social facilities and recreational space in City of Cape Town: *current and future provision for 2016 and optimal location of new facilities*. Available: https://nanopdf.com/download/5b004eff7bad1_pdf. [2018, July 3]. Section 4:Pg 20

Suburban Scale

This chapter analyses how schools spatially contribute to the city in Delft. This involved looking through the 'Blue Downs- Delft Structure Plan'⁶ as well as the 'Delft South: *An Amendment to the Blue-Downs Delft Local Structure Plan*'⁷.

Educational Facilities Distribution

The spatial logic of the distribution of schools was clearly defined in the planning document. The document notes that public facilities should be used as design mechanisms to create features in the landscape which should have a positive impact on the urban environment⁸.

The location of schools are strongly linked to the spatial logic of Delft, shown in the diagram adjacent (figure 22) Delft is planned around an activity spine, Delft Main Road (shown in red) and loop roads which feed into the main road which creates neighbourhood cells (shown in blue) adjacent to the activity spine.

Clustering

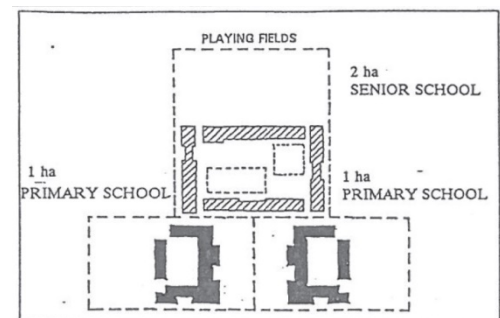
The amendment to the Blue-Downs Delft Local Structure Plan of 1995 included the change of the gross density of the area which had a significantly higher population than previously anticipated⁹. This in return had a direct impact on the provision of social facilities needed in the area. Not only did the amendment reduce the school site size it also promoted clustering and sharing of facilities. This approach is visualised in the school clustering diagram adjacent (figure 23).

The clustering of school sites has three effects:

1. It provides a sense of enclosure
2. It improves integration of and, easier access to facilities.
3. A reduction of maintenance costs associated with large empty sites¹⁰



22 Figure: Delft, planning conceptual diagram of social facility distribution [MLH, 1987]



23 Figure: Conceptual diagram of clustering schools. [MLH, 1995]

⁶ MLH Architects & Planners. (1987) *Blue Downs-Delft: Structure Plan*, Cape Town

⁷ MLH Architects & Planners. (1995) *Delft South: An Amendment to the Blue-Downs Delft Local Structure Plan*, Cape Town

⁸ MLH Architects & Planners. (1987) *Blue Downs-Delft: Structure Plan*, Cape Town. Pg 50

⁹ MLH Architects & Planners. (1995) *Delft South: An Amendment to the Blue-Downs Delft Local Structure Plan*, Cape Town. Pg18

¹⁰ MLH Architects & Planners. (1995) *Delft South: An Amendment to the Blue-Downs Delft Local Structure Plan*, Cape Town. Pg19

Clustering vs Isolated

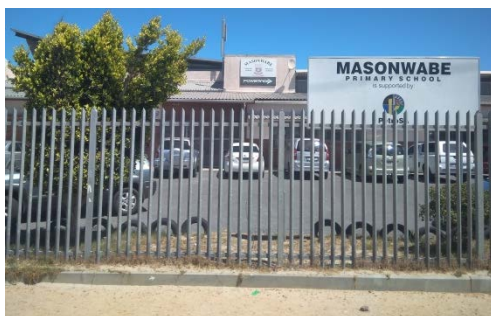
Given the planning idea of clustering schools, it is clearly noticeable that this planning strategy has not become a reality in Delft. The map below (figure 24) illustrates how schools spatially sit as isolated events in the landscape. The spatial layout of schools lack spatial cohesion and thus weakens the connections between schools.



24 Figure: Map of Delft, showing the isolated nature of schools in the area.

Dewar describes the insular nature of schools as a spatial and programmatic problem. He mentions that schools in low income areas attempts to emulate the self-contained institutions found in more affluent areas¹¹. This is of a serious concern because the schools in low income areas do not have the adequate resources to function in the same manner. These schools are often inadequately resourced with no libraries, empty computer rooms and no funds to maintain sports fields¹².

This notion become one of the fundamental informants for the dissertation which probes the notion that spatially schools in low income areas should not be seen as isolate elements but rather an as integral part of the city. As well as the notion that schools in these conditions cannot accommodate all the necessary educational resources and thus resources should be shared amongst school, which caters for the school population as well as for the broader community.



26 Figure: Palisade fencing used as a means of security, school parking space used as a buffer between the street and the school building.
Masonwabe Primary School, Delft [2018]



25 Figure: The intense security barriers which adds to the insular nature of the school.
New Delft South Primary School [2018]

¹¹ Dewar, D. (1995). Creating vibrant urban places to live : a primer. Cape Town: s.n.

¹² Abid

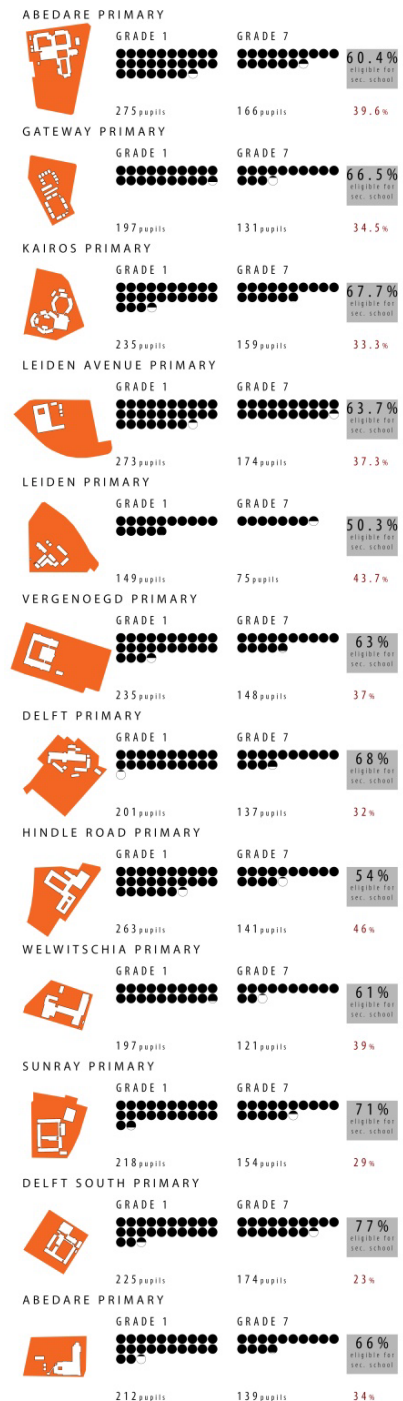
SoGH Mapping 2018

Part of SoGH 2018 Research mapping we looked at the existing school infrastructure available in Delft. The mapping looked at the number of existing schools, the amount of learners in each grade and the matric pass rates for the secondary schools. The data used for the analysis was obtained by WCED find-a-school website¹³ in conjunction with a report by the Department of Basic Education¹⁴.

Primary schools findings

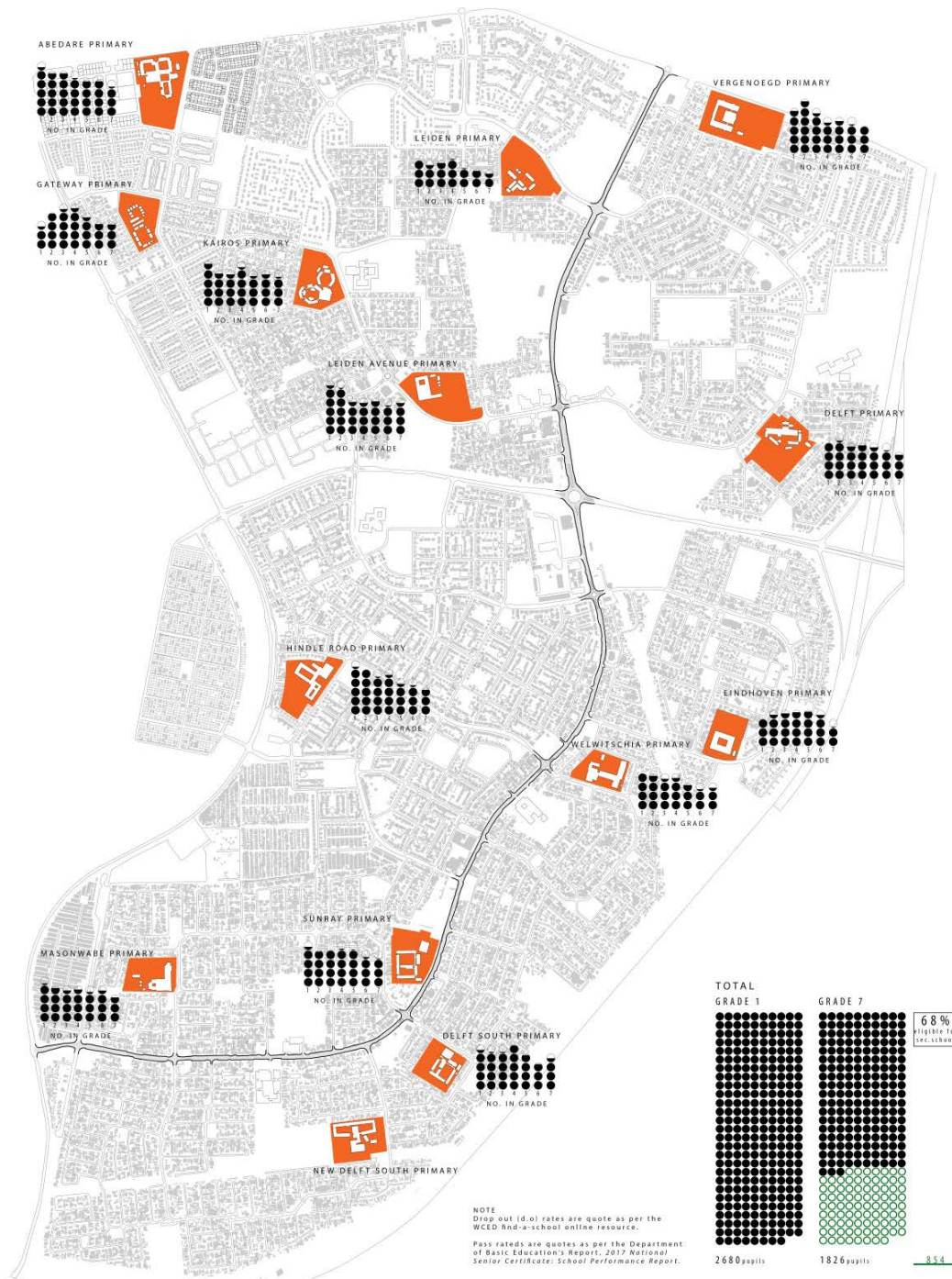
Currently in Delft there are 14 primary schools in the area. The number of learners who start grade 1 is 2 680 pupils and in grade 7 there are 1 826 pupils, meaning that 68% of the pupils who start grade 1 are eligible to go onto secondary school.

27 Figure: Infographic of the Primary Schools in Delft, illustrating the pass rate from grade 1 to grade 7. [SOGH 2018]



¹³ WCED Education Management Information System. 2018. *WCED Find-a-School*. Available: <https://wcedemis.westerncape.gov.za/wced/findaschool.html> [2018 March]

¹⁴ Department of Basic Education RSA (2017). *The 2017 National Senior Certificate Schools Performance Report*. Available at <https://www.naptosa.org.za/whatsnew/2381-2017-national-senior-certificate-analysis-reports> [2018 March]

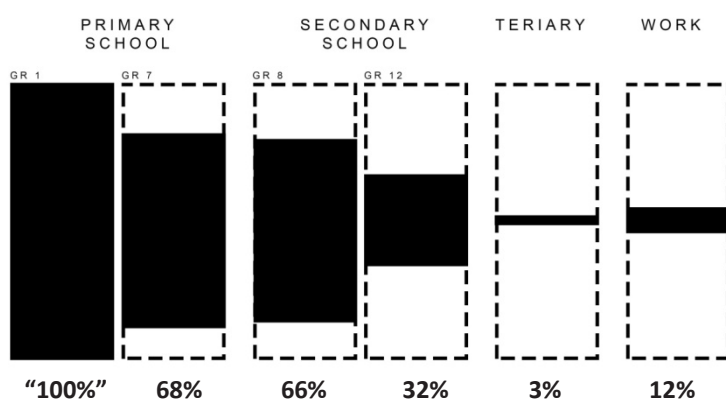


28 Figure: Map of the Primary schools in Delft, showing the amount of learners in each grade as well as the total primary school population in grade 1 to grade 7. [SOGH 2018]

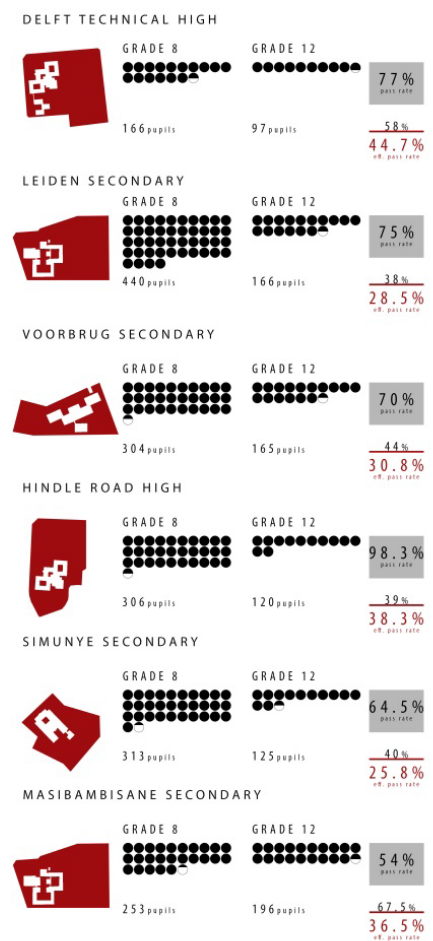
Secondary school findings

Looking at the secondary schools in Delft, there are 6 provided within the area. This is a stark difference to the 14 primary schools provided. Initially we thought that this is a big gap, but looking at the data it becomes clear that of the 1 826 pupils who are eligible for secondary school only 1 782 pupils enter grade 8. Looking at the dropout rate for secondary schools it becomes apparent that most of the pupils drop out in grade 9. This could be due to the fact that this is the legal age one can leave school. It is also important to note that of the pupils which start grade 8 (1 782 pupils) only 869 pupils go on to start grade 12. Thus there is a dropout rate of 51%. Looking at the matric pass rate across the secondary schools, the average is 73%. But if one takes the amount of pupils who started grade 8 relative to the amount of pupils who matriculate, on average only 36% of the pupils who start grade 8 end up matriculating.

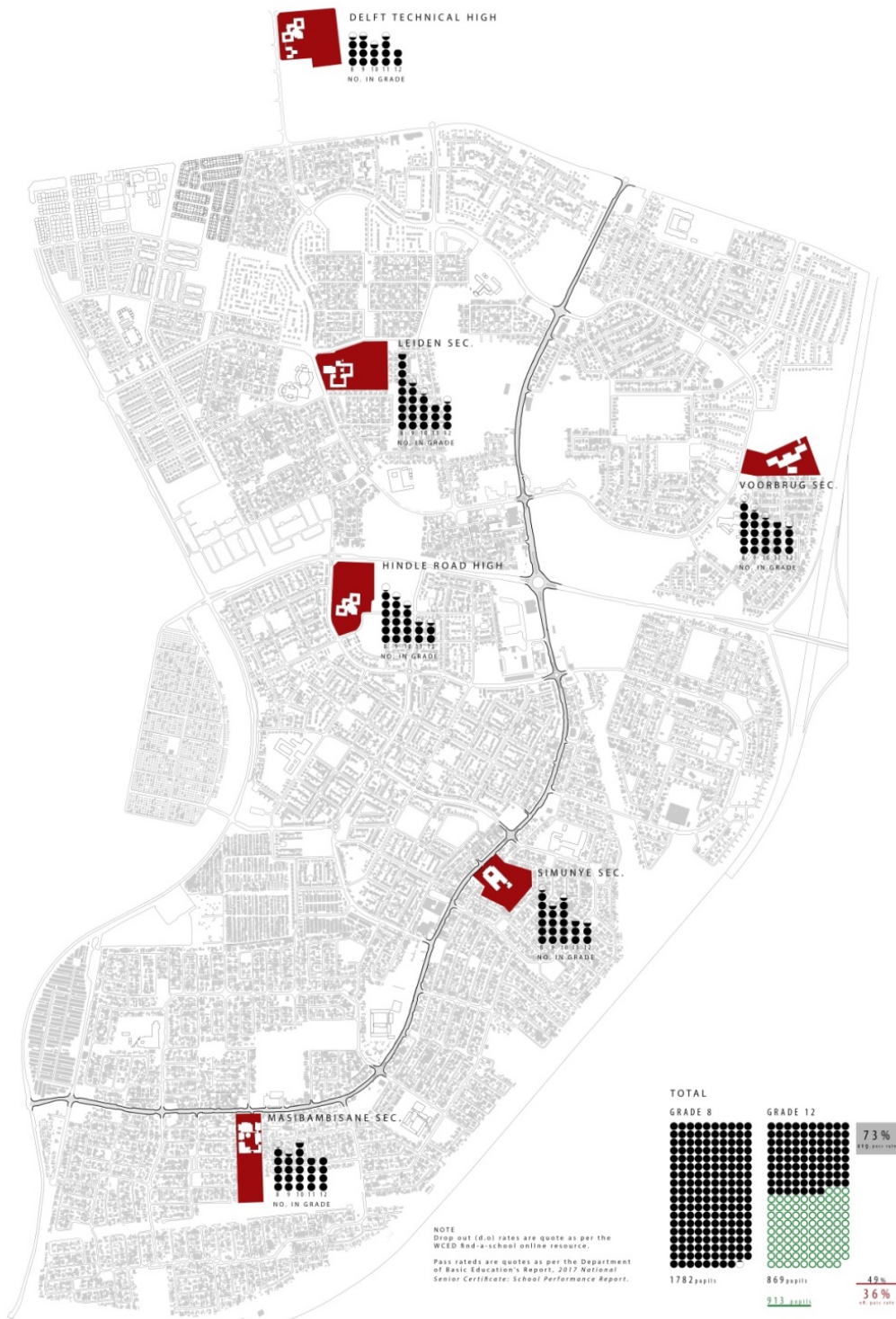
In conclusion the diagram below (figure 30), illustrates the data above. The diagram shows the number of pupils within the education system in Delft relative to the stages of education. What becomes apparent is the decline in the amount of youth actively involved in the education system. If one was to see this data spatially one can argue the fact that if all the pupils who start grade 1 would pass, there would not be enough classrooms/ schools to meet this demand.



30 Figure: Diagram summarizing the SOGH 2018 mapping of pupils' dropout rates relative to tertiary education and work.



29 Figure: Infographic of the Secondary Schools in Delft, illustrating the pass rate from grade 8 to grade 12. [SOGH 2018]



31 Figure: Map of the Secondary Schools in Delft, showing the amount of learners in each grade as well as the total secondary school population in grade 8 to grade 12. [SOGH 2018]

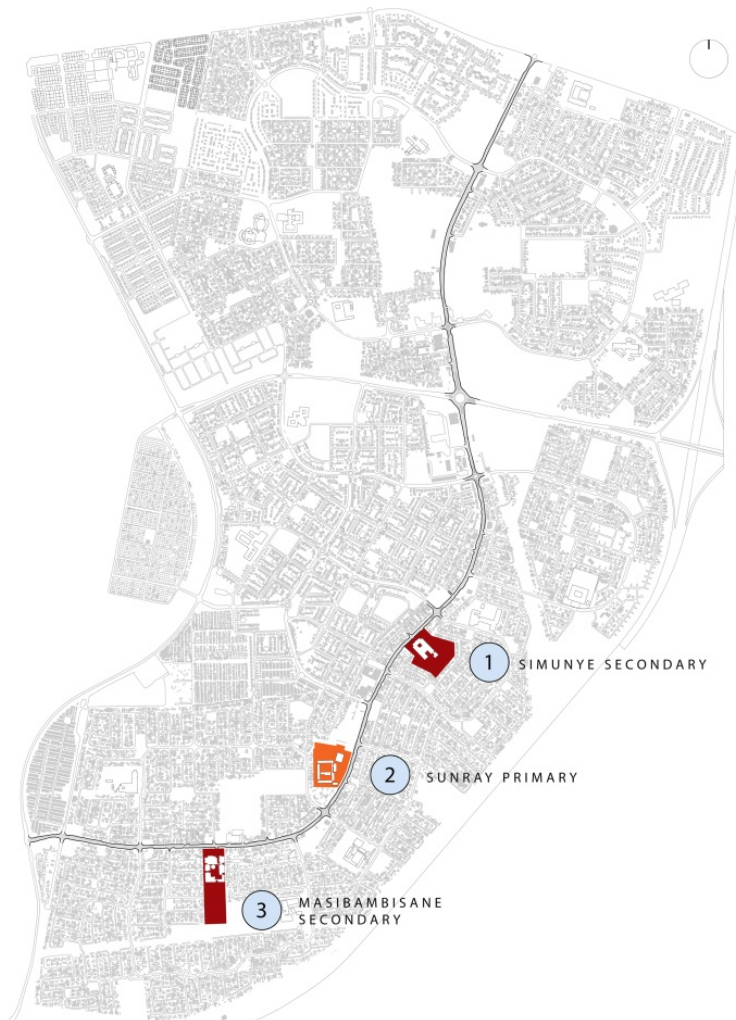
Site Scale

The focus is zoomed into specific sites of investigation, from which the schools are analysed how they spatially contribute to the city. Here the notion of edge conditions, street interface and spatial configuration are analysed.

The chosen case studies include:

1. Simunye Secondary School
2. Sunray Primary School
3. Masibambisane Secondary School

These schools are located along Delft Main Road (figure 32).



32 Figure: Map of Delft, showing the chosen case studies along Main Road



33 Figure: Simunye Secondary School
[Google Earth, 2002]



34 Figure: Sunray Primary School
[Google Earth, 2002]



35 Figure: Masibambisane Secondary School
[Google Earth, 2002]

1. SIMUNYE SECONDARY

Delft, Cape Town

Simunye Secondary school is located along Delft Main Road. The schools interface with the Main Road is that of a soft green nature. The entire stretch of the school which faces onto the Main Road is covered with tall lush trees. This is special because there are not many trees in Delft. Thus it can be said that the school has prioritised this interface with maintenance in order to keep the trees well maintained. The schools main entrance sits 11 meters away from the street and is hardly visible from the road through the lush vegetation. The school also has a chain link fence which allows for security and visual transparency.

Spatially the bulk of the school building sits in the middle of the site, pushed forward to allow for a sports fields at the back. Most of the left over space of the school comprises of 2 small sports fields and dead/ left over space. The larger space at the back of the school is dead space left over from the undeveloped sports field.

The edge conditions comprises of housing to the back and the sides of the school and Main Road to the front.

Seen in the elevation below, one can see that the school does not positively contribute to the street. The building is set far back and the trees make the buildings presence absent and hardly visible from the street. The school has housing to either end which has a more positive engagement with the Main Road. In the elevation to the right one can see how private agencies have taken advantage of being located on Main Road. This is show by the location of a container structure which is a repair shop. The container defines the pavement edge and opens its doors onto the street, positively contributing to the Main Road.

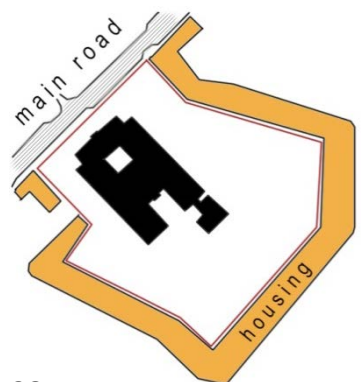
39 Figure: Simunye Secondary School main road street elevation [Google Street View, 2017]



36 Figure: Aerial image of Simunye Secondary School [CoCT Map Viewer, 2017]

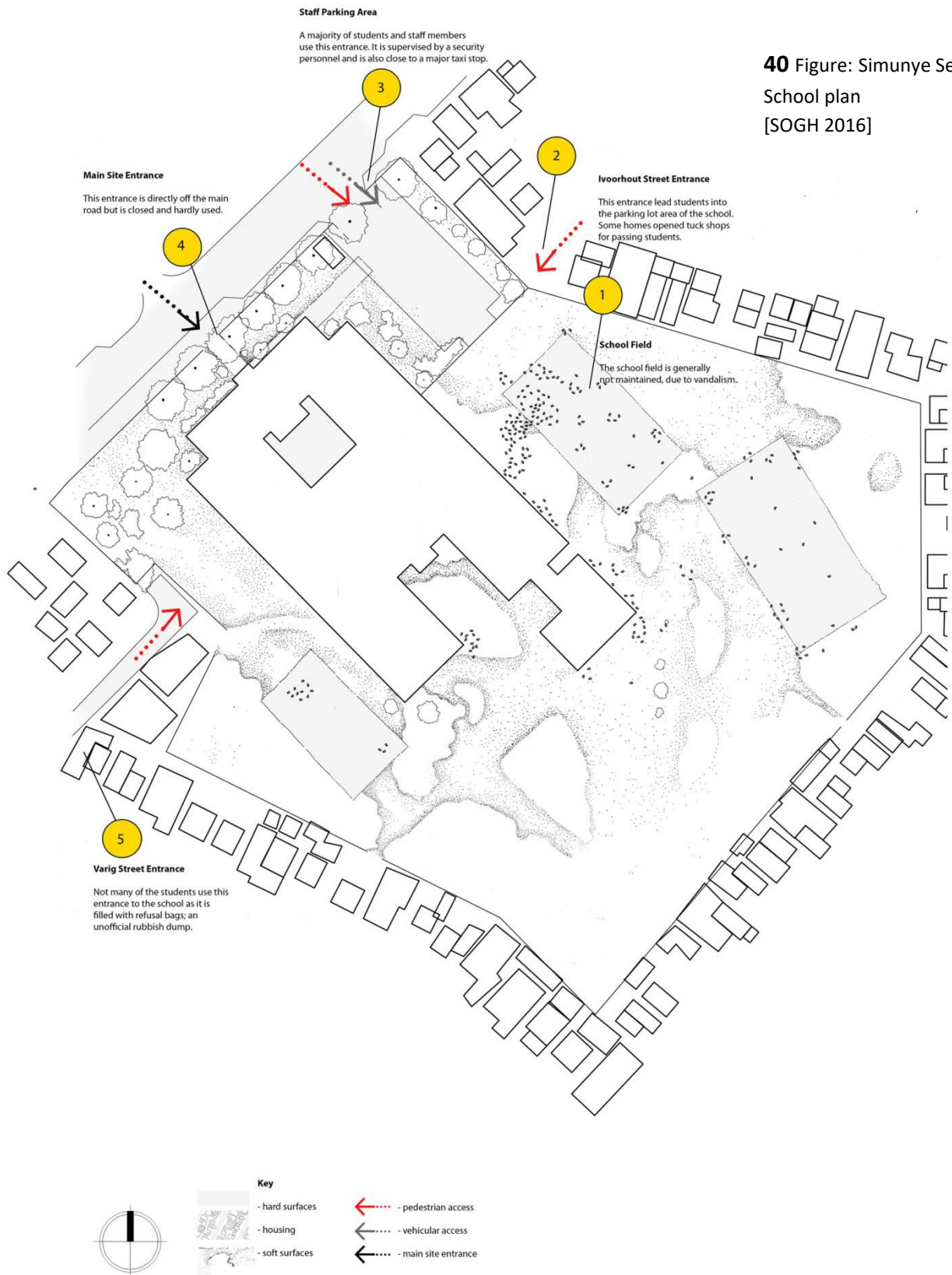


37 Figure: Figure diagram of Simunye Secondary School



38 Figure: Diagram of Simunye Secondary School, showing the edge conditions

40 Figure: Simunye Secondary School plan [SOGH 2016]



2. SUNRAY PRIMARY

Delft, Cape Town

The school's main entrance is located along a pedestrian crossing which helps learners navigate across the busy road. The school's main entrance sits 50 meters away from the street, and thus a large band of open space comprising of a PT slab and parking lot sits in front of the school. Seen in the figure ground adjacent one can see how this space creates a larger buffer between the school and the street.

One should also note the strange erf configuration of the site, which seems to be awkwardly demarcated, thus the school struggles to occupy the space positively.

Looking at the diagram adjacent of the edge conditions one can note the big stretch of street frontage the school has. This opportunity has not been taken on by the school and thus the school becomes vulnerable by sitting back. The spatial configuration of the school has also resulted in weird left over dead spaces around the school's edge. The back of the school is edged by housing and to the north the school has a vibracrete interface with the taxi rank.

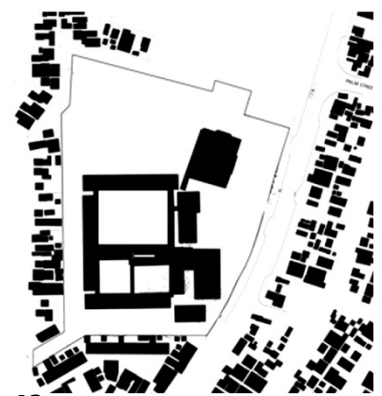
Looking at the elevation, the school hall stands tall and proud as it is the first visual connection one makes and can identify the school. Having said that, the hall sits 26 meters from the street edge and does not contribute to the street. The school hall which should be seen as a community resource spatially becomes disconnected from the city.

The school has a transparent interface with the street, through the use of a chain link fence, with a bricked wall in the middle to signify the entrance. The elevational image was taken during break time and one can notice the buzz of activity at the front of the school. For a brief moment in time the school through the agency of the learners contribute to the city whereas the building still remains static and lacks a contribution to the city.

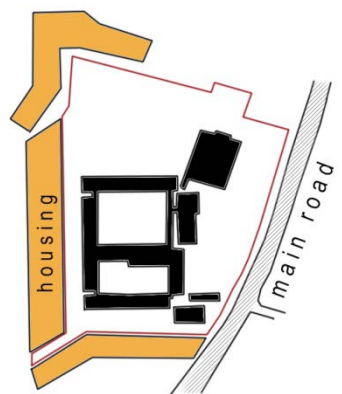
44 Figure: Sunray Primary School main road street elevation
[Google Street View, 2017]



41 Figure: Aerial image of Sunray Primary School
[CoCT Map Viewer, 2017]



42 Figure: Figure diagram of Sunray Primary School



43 Figure: Diagram of Sunray Primary School, showing the edge conditions

main road

housing

dead space

play slab

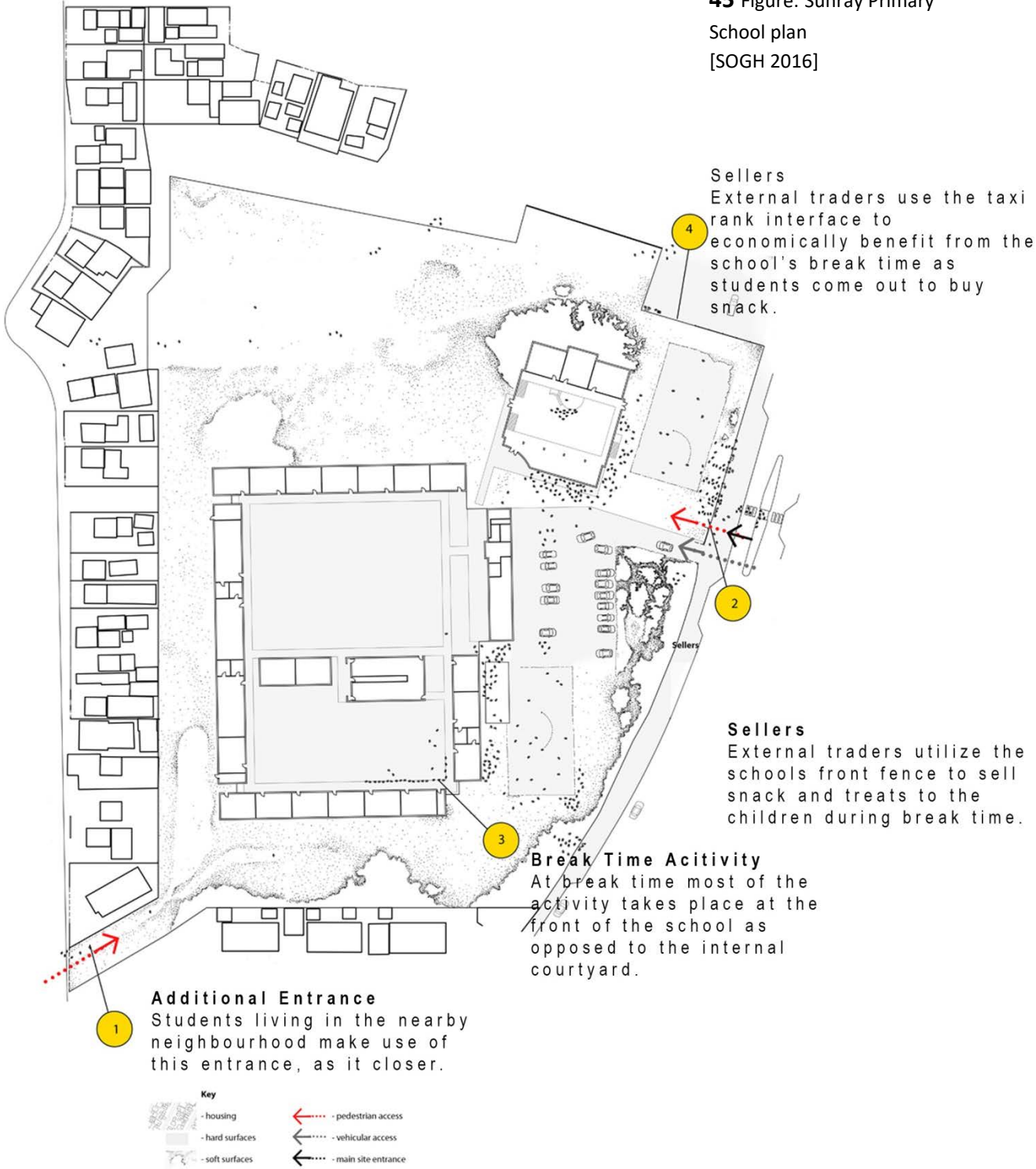
vehicular entrance

p
e



45 Figure: Sunray Primary

School plan
[SOGH 2016]



3. MASIBAMBISANE SECONDARY

Delft, Cape Town

Masimbamisane Secondary school designed by Van Der Merwe Miszewski Architects (VDMMA) sits snugly along the Main Road. The school building sits 28 meters away from the street edge. The school parking lot and a green patch of grass acts as a barrier between the school and the street. Seen in the figure ground, the school has a short frontage with the Main Road. The school building sits tightly on the school erf, with almost no space to its sides but with a large open space to the back.

The sides of the school are held by housing. To the back an open wasteland is left over from an undeveloped sports field.

In the plan (figure 60) one can see that the schools configuration is based around a courtyard typology. This courtyard becomes the place of activity during break time. This scenario is much different from Sunray Primary School, where the activity took place at the front of the school. The school hall and the library sit well within the schools configuration and does not spatially sit as a public resource as it does not spatially and visually offer themselves to the street.

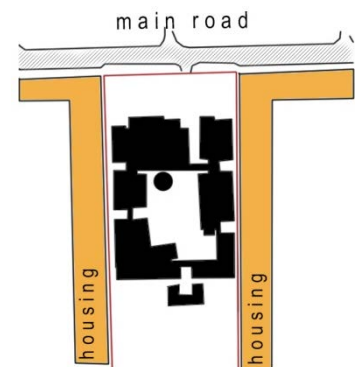
Looking at the street elevation, one can note the small frontage of the school and how the school is held together by housing fabric to either side. The school has a palisade fencing interface to the street which allows for a degree of visual transparency. The school building has a distinctive architectural character which has been lacking in the previous schools. The use of roof lights create a poetic elevation which visually but not spatially announces the schools presence from the street.



46 Figure: Aerial image of Masibambisane Secondary School [CoCT Map Viewer, 2017]

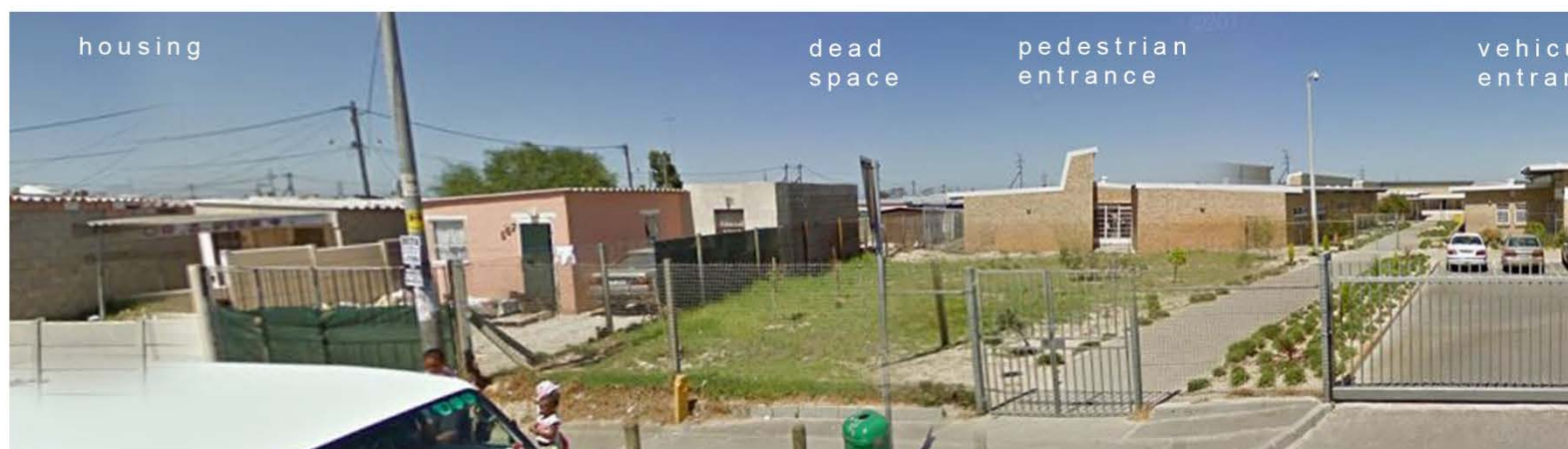


47 Figure: Figure diagram of Masibambisane Secondary School

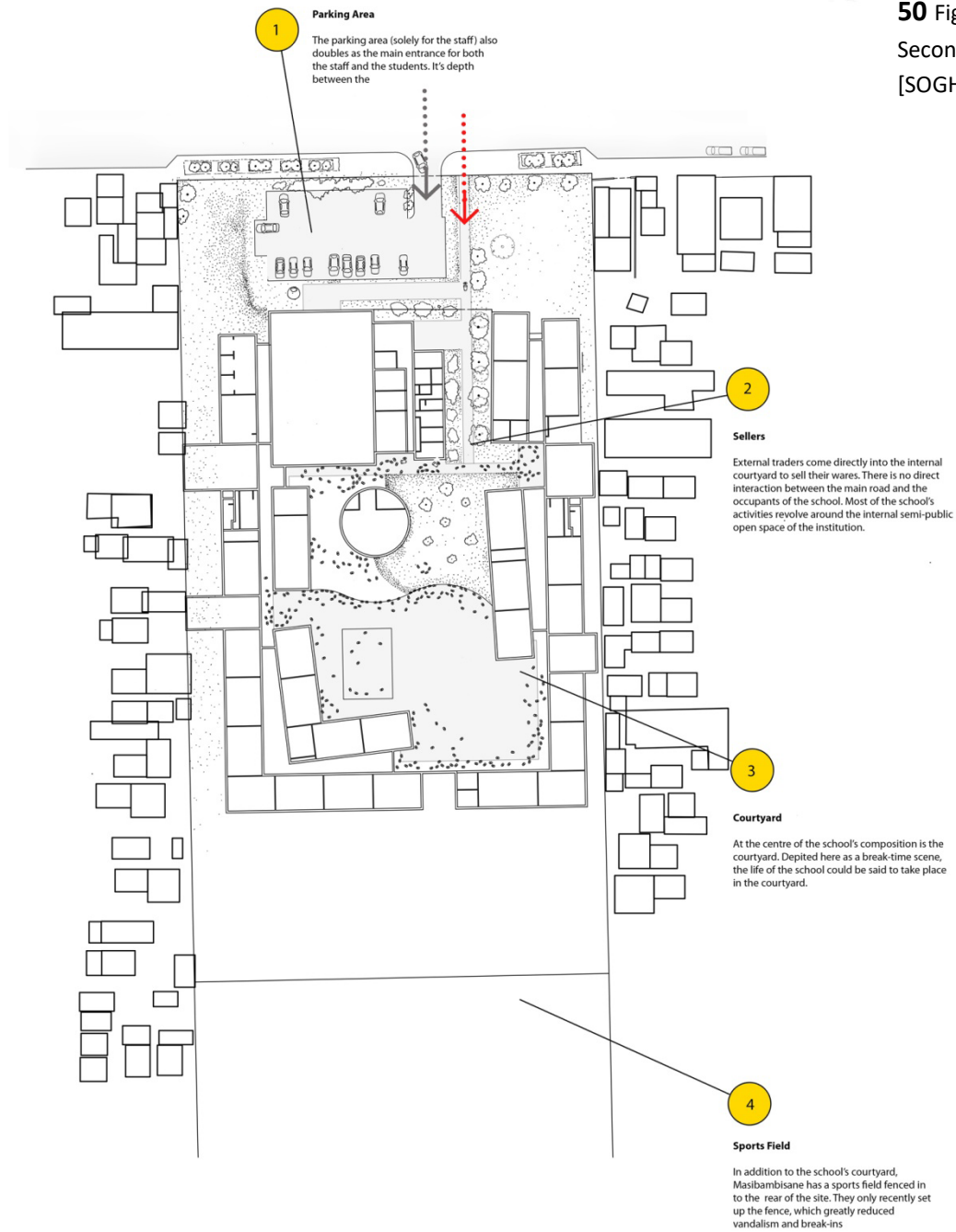


48 Figure: Diagram of Masibambisane Secondary School, showing the edge conditions

49 Figure: Masibambisane Secondary School main road street elevation [Google Street View, 2017]



50 Figure: Masibambisane Secondary School plan [SOGH 2016]



ERF SIZE: 23 034m² (2,3ha)

SCHOOL BUILDING: 5 360m²

COVERAGE: 23.3%



INFORMAL SPACES OF EDUCATION

For the purposes of the dissertation informal spaces of education are referred to as the everyday experiences of Delft. The potential of the city serves as a place of learning.

Looking at the context of Delft, one is immediately struck by the vibrant street trade made up of local enterprises along the streets. These enterprises can be described by what Asef Bayet refers to as the 'quiet encroachment of the ordinary'¹. The residents of Delft set up shop in innovative ways to make a living, to improve their everyday circumstances. The micro enterprises can range from food stalls to building supplies to shoe repairs.

These local enterprises can be seen as local learning communities of Delft. All of which have inherent skills and could serve a means of knowledge production. The local learning communities are the untapped potentials as an educational resource. One would need to identify what are the characteristics of these instances of formal and informal learning in which these two forms of learning engage in cross-fertilisation². Thus learning communities are based on the idea of communities of practice, which identifies the neighbourhood as a learning platform for and in the city³. This conception draws our attention to start realising the learning potential in the people, places and process we encounter everyday⁴. Thus a radical departure is to unlock the powerful of local educational resource that already exists, which Edgar Gumbert refers to as the 'educational networks' within the city, which are of richness and variety and waiting to be unlocked⁵.

¹ Bayat, A. (1997). Un-civil society: The politics of the "informal people." *Third World Quarterly*, 18(1), 53–72. doi:10.1080/01436599715055

² André, I., Carmo, A., Abreu, A., Esteves, A., & Malheiros, J. (2012). Learning for and from the city : The role of education in urban social cohesion. *BELGEO*, (4), <xocs:firstpage xmlns:xocs=/>.

³ Abid

⁴ *Yellow pages of learning resources : resources directory area code 800*. (1972). Cambridge, Mass: MIT Press.

⁵ Kaestle, C. (1973). *The evolution of an urban school system: New York City, 1750-1850*. Cambridge, Mass: Harvard University Press.

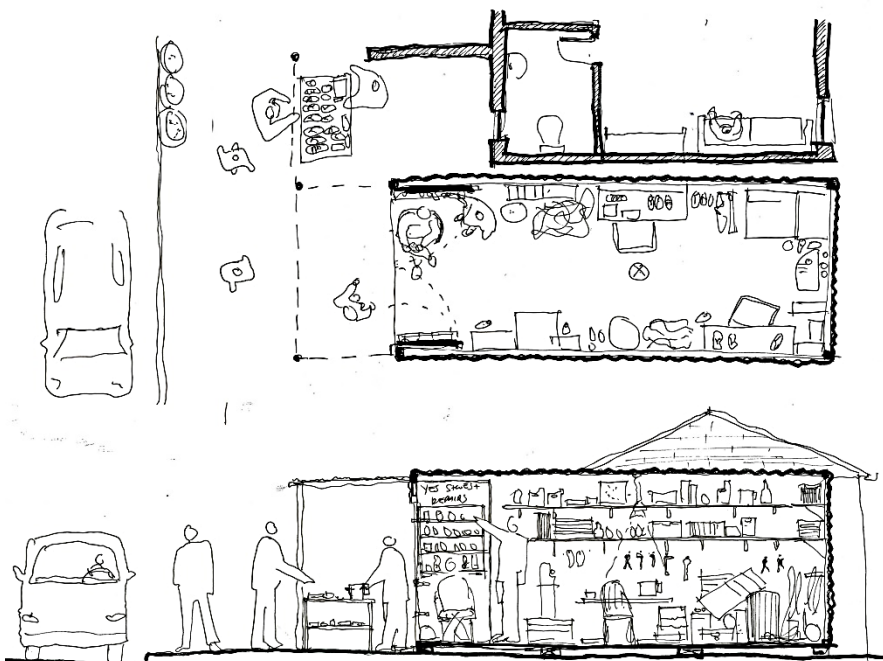
YES Shoes & Repairs

During a fieldtrip to Delft it was discovered that the owner of the shoe repair shop was teaching the local youth to make leather sandals. The owner of the shoe repair shop shares a container with another man who makes weaves (figure 51). The shop consists of a container which is used as the workshop from which he teaches his trade to the youth (figure 52). Once the youth acquire the skills they start trading and making shoes for themselves (figure 53)

51 Figure: Owner of YES Shoes & Repairs standing alongside a guy who does weaves.



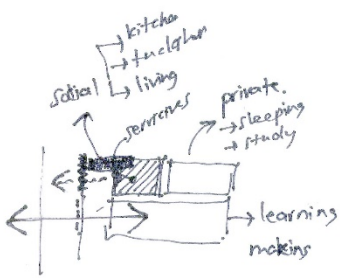
52 Figure: Youth with newly acquired skills



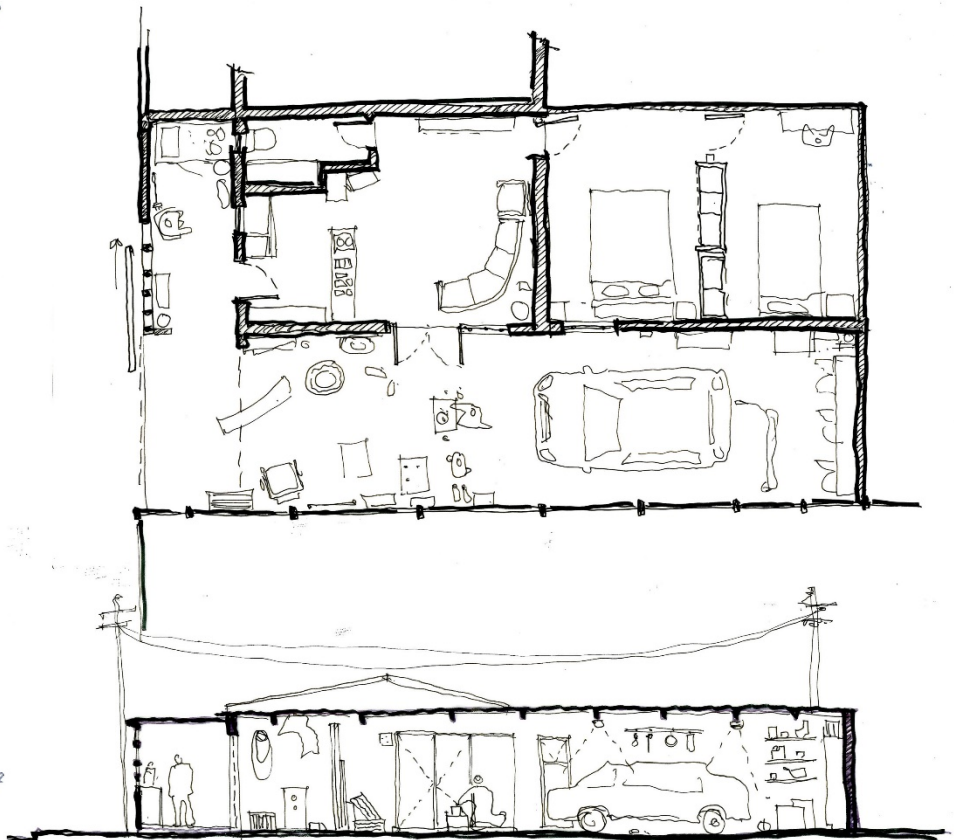
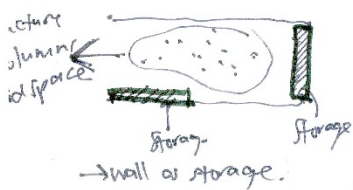
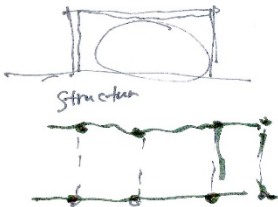
53 Figure: Plan and section of YES Shoes & Repairs

INFORMAL EDUCATIONAL RESOURCES

Local learning communities inherent
in Delfts urban condition

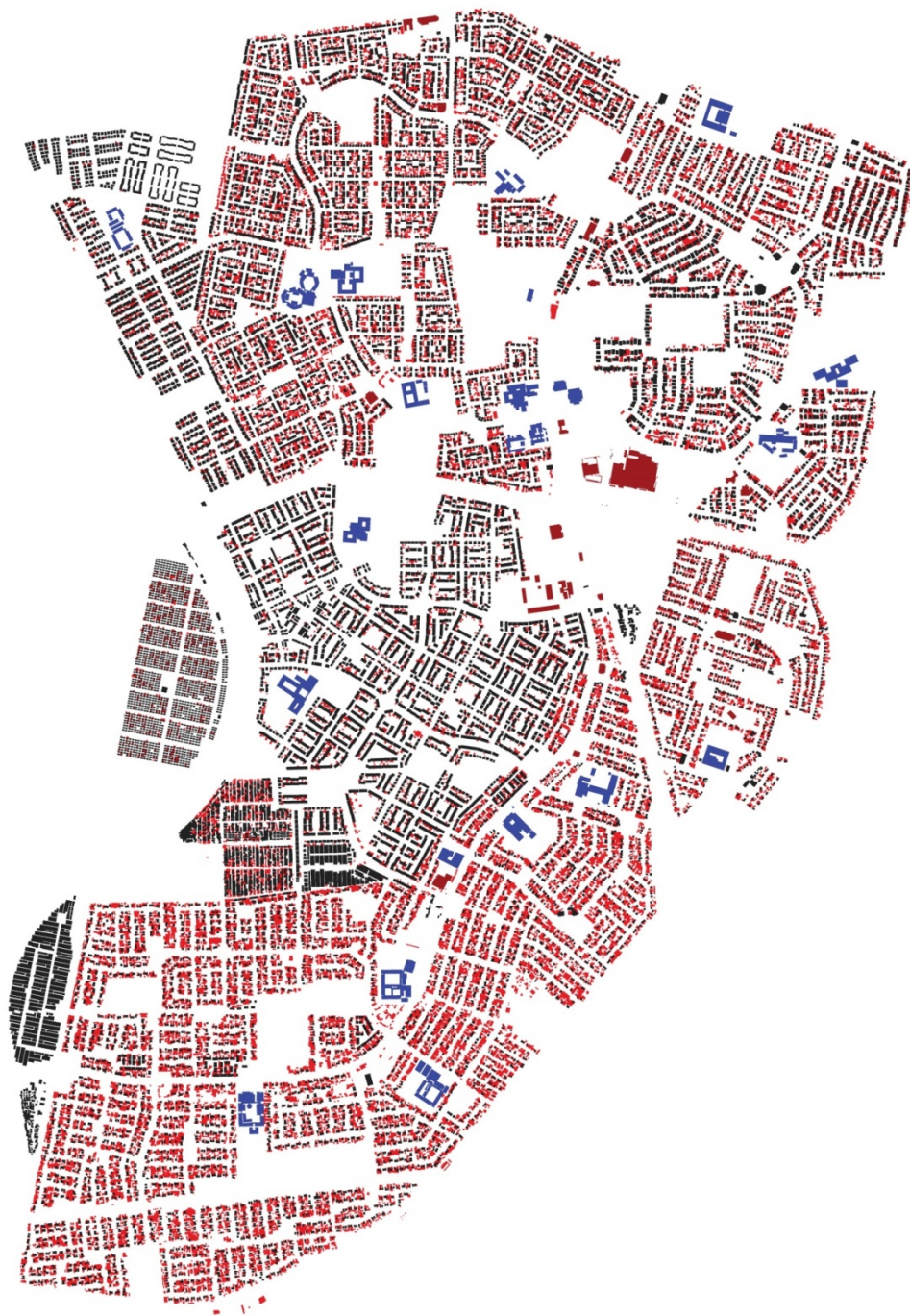


nical.
top.



Static public agency versus dynamic private agency

The map adjacent (figure 54) shows the private investment (in red) versus the public investment (in black and blue) in Delft. What becomes apparent from the map is the large presence of private investment. These are normally in the form of informal buildings which residents of Delft build to improve their livelihoods. This has occurred both at the scale of individual dwellings through the addition of rental rooms and home-based economic activities, and through the transformation of public space for the purposes of trade. This can be described a changing private landscape, however the public institutions provided by the government are seen as static buildings in the urban landscape. These institutions lack a sence of presence in the everyday lives of the community. They contribute to the vulnerability of life on the streets rather than articulate and enhance the urban realm.



54 Figure: Map of Delft illustrating the static public agency (black and blue) versus the dynamic private agency (red) [SOGH, 2018]

Elevational change over time

The street elevation below (figure 55) shows the change over time from 2010 to 2018. The street elevation captures residential fabric to the left versus a school institution (Sunray Primary School) to the right. What becomes apparent is the extensive change in the residential fabric, but very little change to the school fabric.

The changes to the housing fabric significantly contributes to the life of the main road. Be it through the mix-use of housing and businesses and second floor additions which increases density and surveillance over the main road.

The changes to Sunray Primary School include a new permanent building which does not define the main road sitting somewhat 5 meters away. Another change includes temporary classrooms which site far from the main road edge. The additions to the school do not positive contribute to the main road.

2010



Vertical additions to residential buildings

Additions and alterations to accomodate various trade functions.
Use of pavement to extend trade space.

2018



55 Figure: Elevational change over time (from 2010 to 2018)
Delft Main Road [SOGH, 2018]

Dewar notes this phenomena of by mentioning the fact that historically emphasis was given to public institutions and collectives space, but today emphasis has been in favour of the individual¹. This point is further highlighted by Edgar Pieterse who explains that emphasis of public investment has been focused on the individual house and providing the services that come with it. Which results in urban spaces such as pavements, streets and parks becoming neglected and abandoned of investment². The lack of investment and acknowledgment of the importance of public space and buildings in Delft results in very few public forums for community members to engage with other.



Prefabricated classrooms added

Appropriation of the fence.



¹ Dewar, D. (1995). Creating vibrant urban places to live : a primer. Cape Town: s.n.

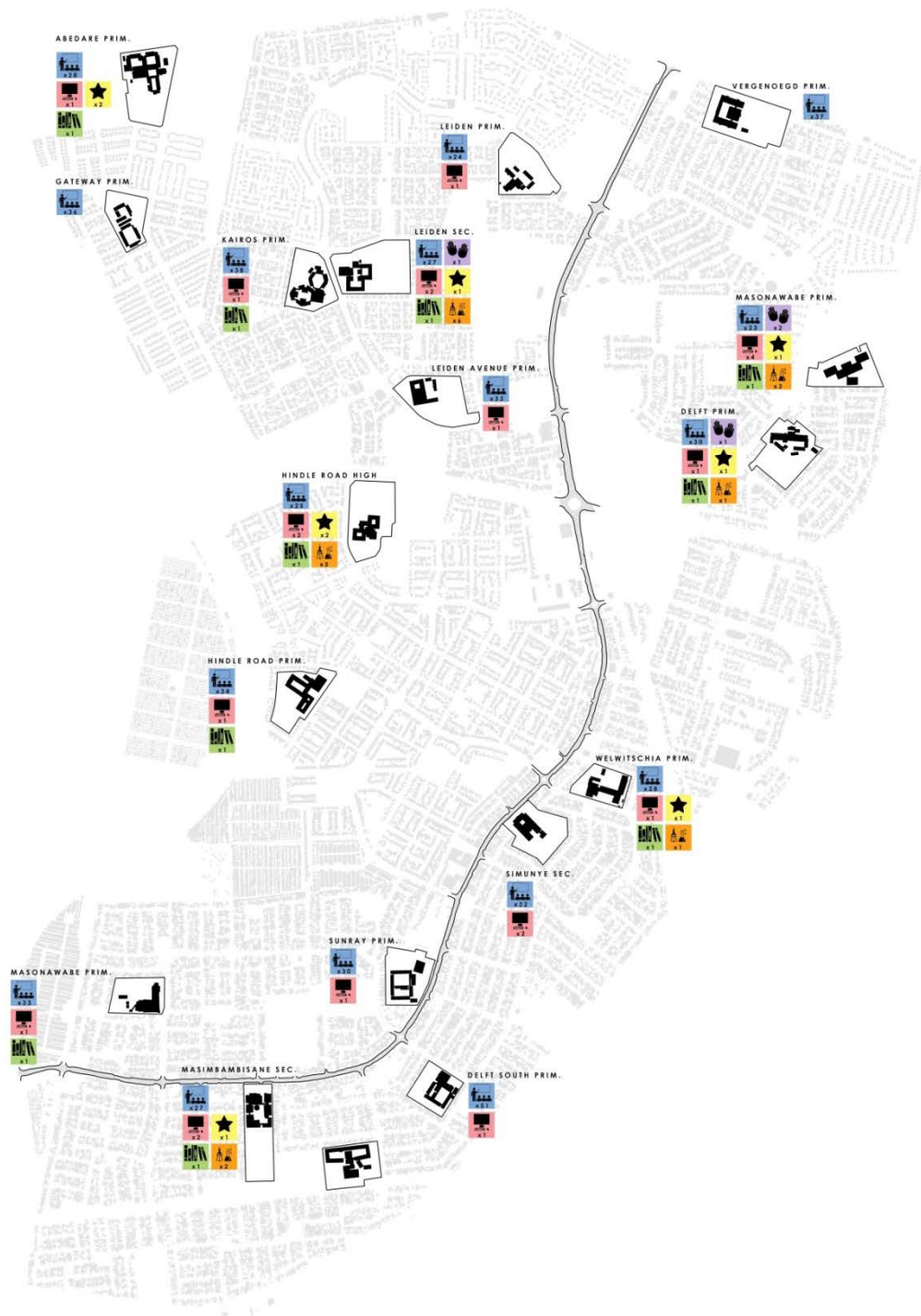
² Pieterse, E. (2013). Reimagining the City from a Different Viewpoint. In M. L. Rosa, & U. E. Weiland, Handmade Urbanism. Berlin: Jovis. p. 186

A NEED FOR EDUCATIONAL RESOURCES

In a time of scarce resources, schools should not only accommodate the immediate school occupants, but should serve as a resource for the community as a whole.³ The realities of scarce resources in Delft, demand that public institutions include spaces and programs which could be shared with the broader community.

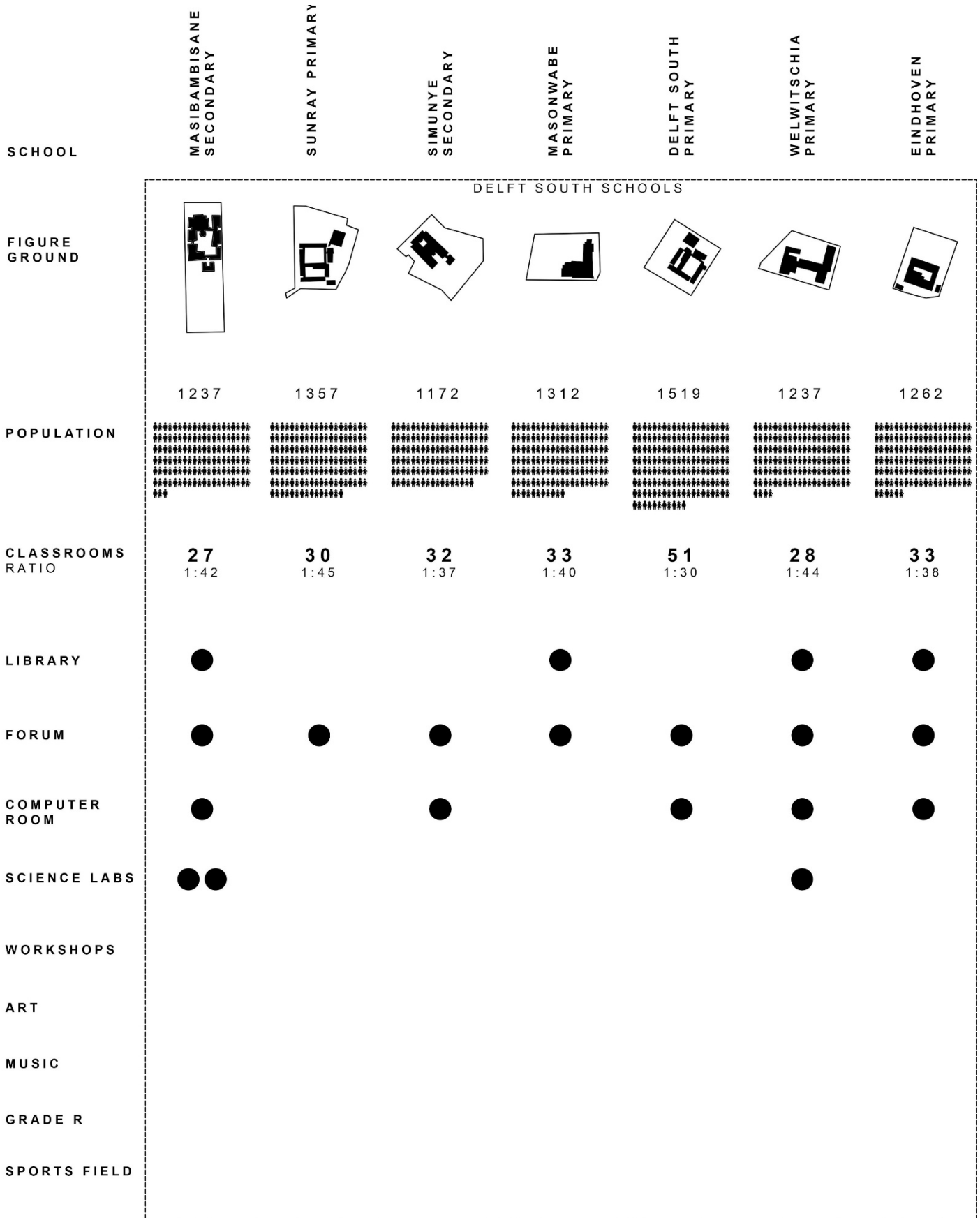
The map adjacent (figure 56) shows the resources of existing schools in Delft. What becomes apparent through the mapping is the inadequate resources the schools have. The schools spatially sit isolated from each other and thus sharing of resources does not occur. Only a handful of school have computer rooms, libraries and speciality classrooms. At the student outreach workshop it was discovered that the schools have accommodated spaces for these resources but they are seldom provided with the infrastructure of computers, books and lab equipment thus these spaces become redundant. Not only do these schools not provide resources for the school learners, they do not provide for the surrounding community.

³ Chapman, R. (1986). Analysis of schooling and its provision for the Coloured population group in Cape Town with particular reference to Bonteheuwel as an urban neighbourhood : urban education project on Cape Town submitted to the Human Sciences Research Council. {Cape Town: University of Cape Town}.



56 Figure: Map showing the available school resources

57 Figure: Comparative analysis of selected schools educational resources_ Showing Delft South Schools, The newly built ASIDI replacement schools, and my school.



HEIDEVELD
PRIMARY

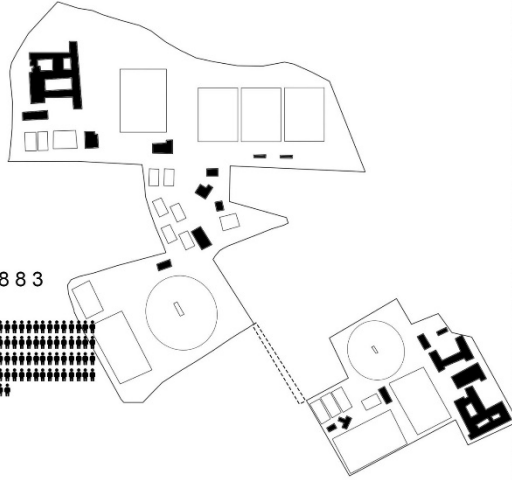
KENSINGTON
SECONDARY

WYNBERG BOYS'
JUNIOR

WYNBERG BOYS'
HIGH

ASIDI SCHOOLS

MY SCHOOL

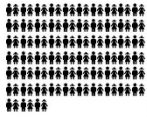


1014

1260

744

883

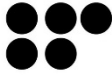


27
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1:26

30
1:29



MAIN ROAD AS A SITE OF ENQUIRY

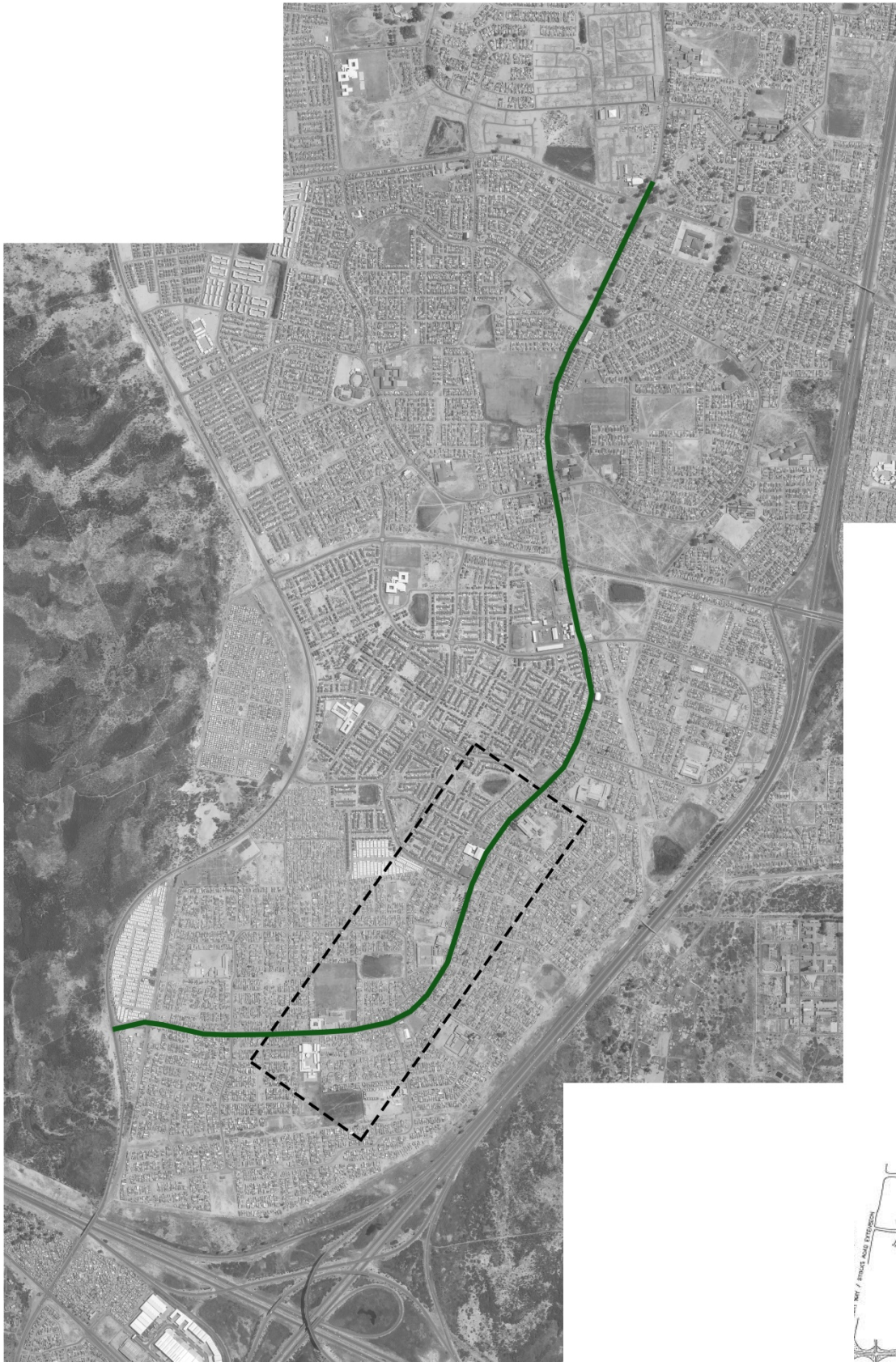
When choosing a site for the architectural intervention I was immediately drawn to Delft South Main Road (figure 58). The interest in this area arose during the group mapping as well as through the children's workshop. Feeding off the idea of the Main Road as an important armature for youth movement and spaces they occupy I began to start unpacking the Main Road further to investigate it as a site of enquiry. Upon further investigation, the urban framework for the project was narrowed do to a certain portion of Delft South Main Road.

The planning of Delft was conceptualised around the Main Road as an urban structuring element¹ (figure 59). The idea was to see Main Road as an activity spine from which the loop roads and neighbourhood cells converge to. Today the locals of Delft have capitalised on the activity spine by opening small business. Delft Main Road comprises of a number or public institutions, informal business, public open space, taxi rank and housing, all of which add a nuanced layer to the activity spine (figure 57).

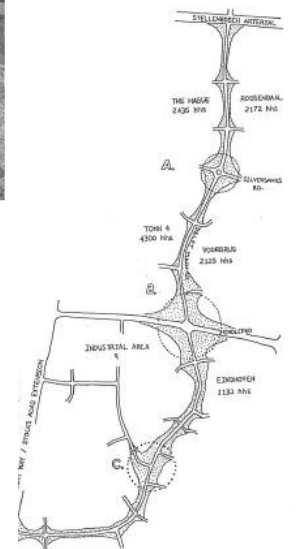


57 Figure: Image of the urban condition of Delft Main Road [SoGH 17]

¹ MLH Architects & Planners. (1987) Blue Downs-Delft: *Structure Plan*, Cape Town



58 Figure: Aerial Map of Delft, highlighting the Main Road and the area of focus

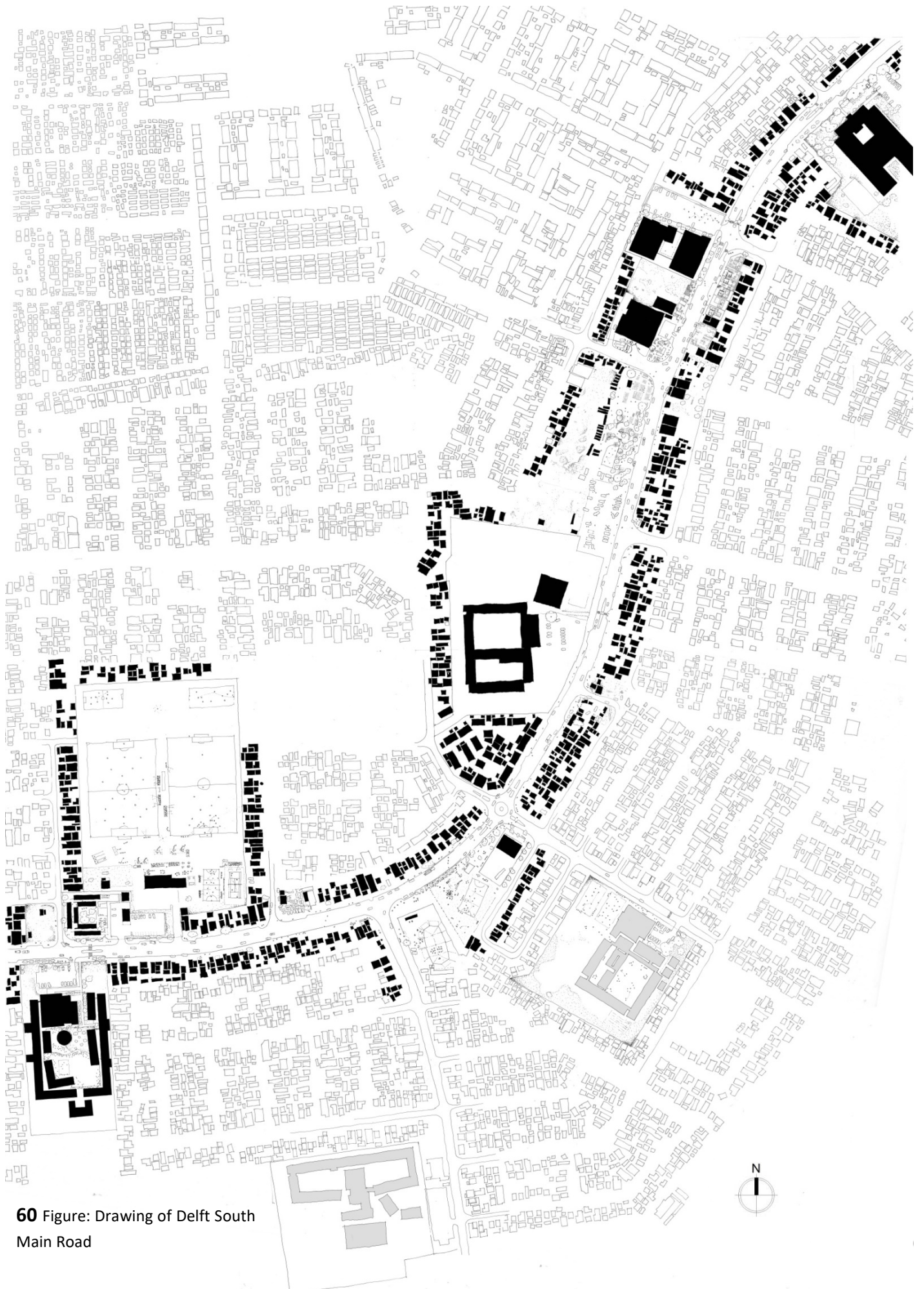


59 Figure: Conceptual diagram of Delft Main Road [MLH, 1995]

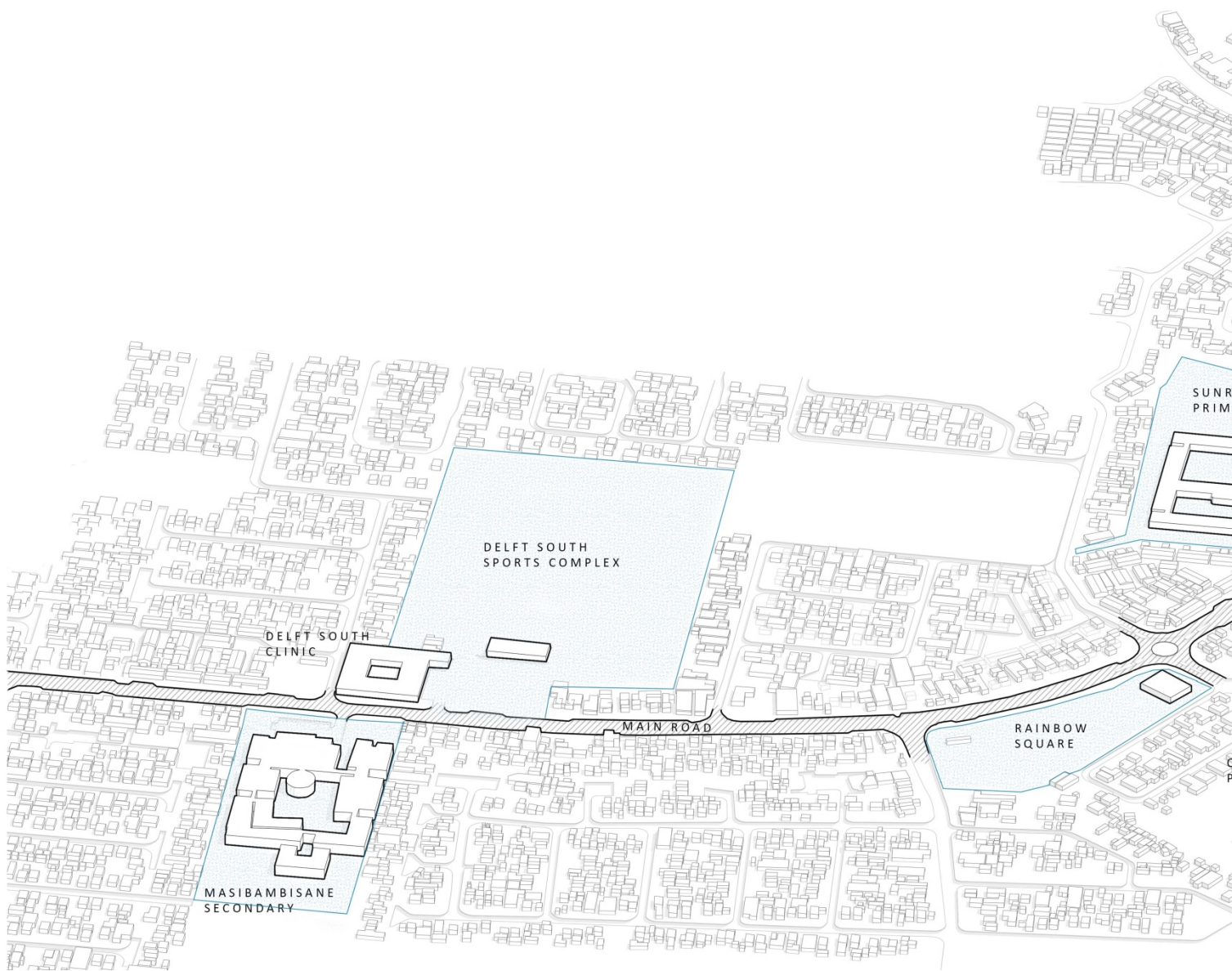
Onsite observations revealed that the intensity of Delft Main Road relies a lot on the activity of the youth. The Main Road is densely populated before and after school (figure 59). This speaks to the presence of school children with in the urban environment as well as on the Main Road. During school hours the Main Road is quieter, primarily inhabited by the small businesses which add another layer of activity to the road. In contrast to the spatial nature of the small businesses which capitalise on the location of Main Road by opening up their spaces of trade to the street, the institutions on Main Road do not capitalises on the social opportunity of Main Road. The institutions are predominantly fenced off and turn their backs to the street (figure 60).



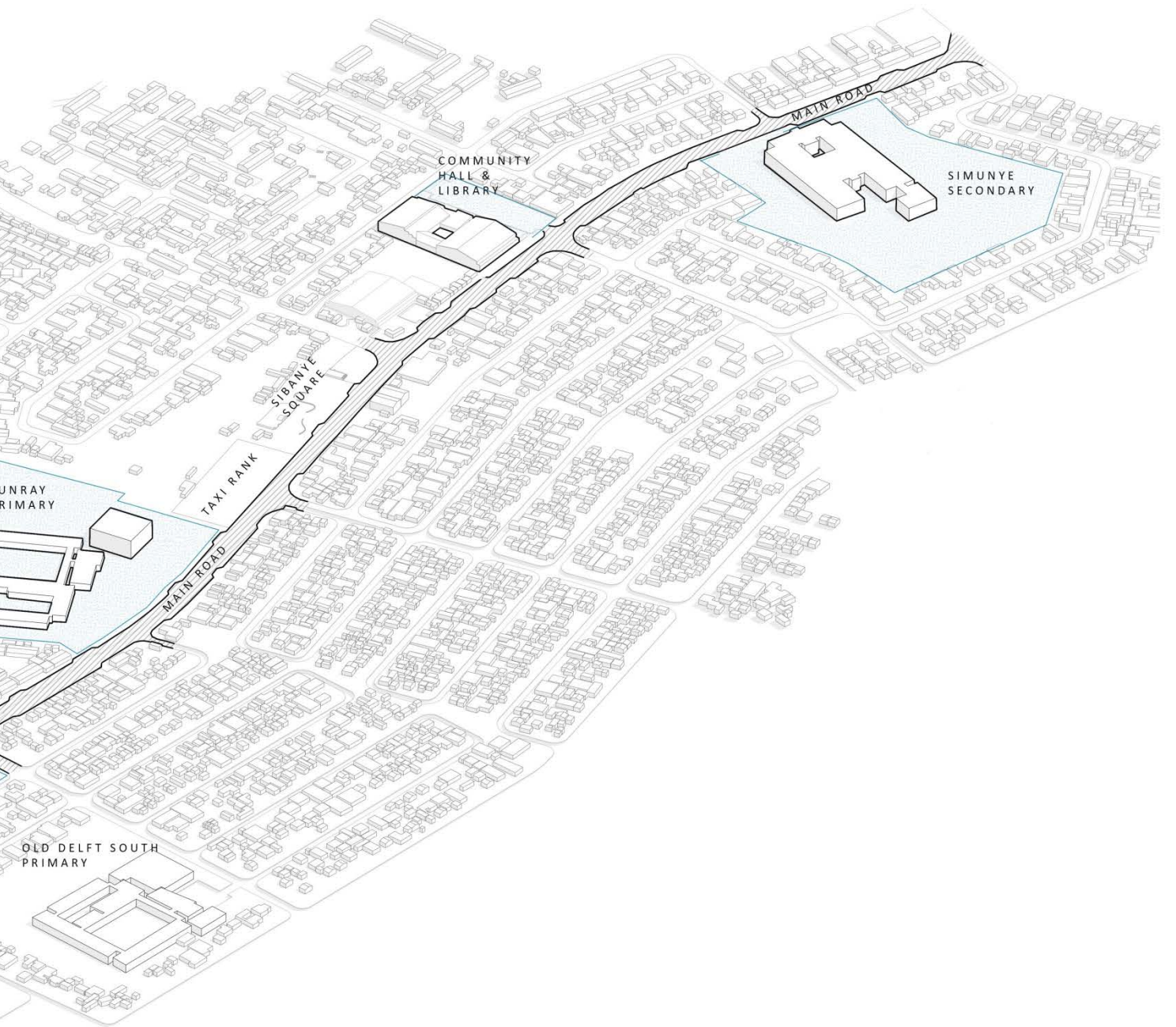
59 Figure: Site image of youth actively moving along Delft Main Road



60 Figure: Drawing of Delft South Main Road

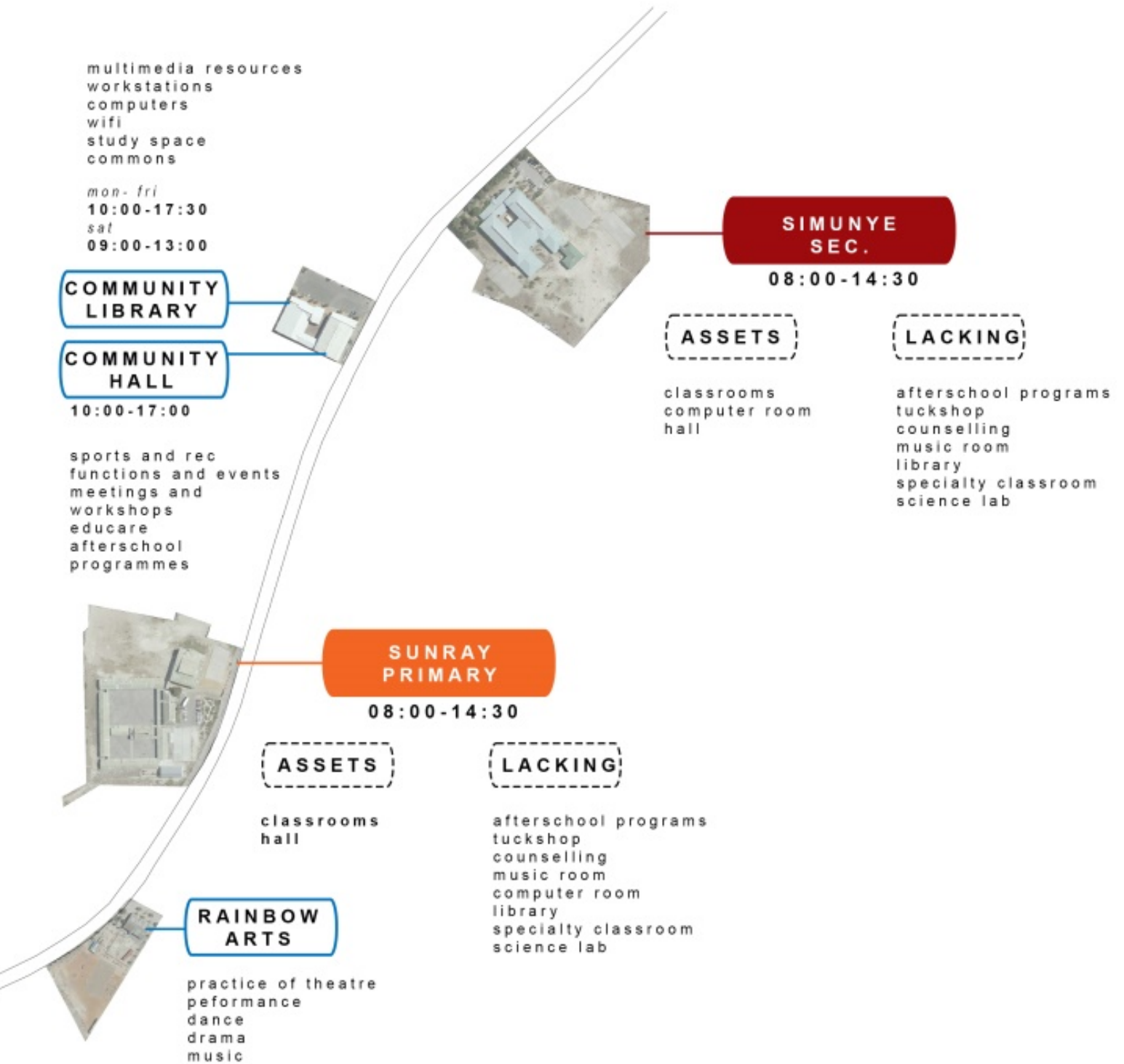


61 Figure: 3D model of Delft Main Road, highlighting the existing public institutions.



To understand the scope of Main Road I started unpacking the existing programs offered by the institutions which are strung along it. The idea of main road as a connecting amateur of educational institutions was derived during this exercise. Main Road with its existing programs presented itself as meaningful educational network. The intention was to notice the lacking resources of the institutions as a means of probing an architectural program for my intervention.





62 Figure: Diagram of Delft South Main Road, highlighting the existing and lack programs of the respective institutions

NOTION OF THE CAMPUS

The notion of a campus arose as a response to knitting the existing institutions along the Main Road together with my intervention. The idea of the campus serves as an important urban response which builds off the way in which youth use the Main Road. Thus the notion of the Main Road as an urban connecting element became the core idea of the campus. The campus is conceptualised as a network of educational offerings.

As a point of departure I thought back to my schooling experience, Wynberg Campus of Schools to unpack the elements which make up a school campus. Attending Wynberg Boys' High School was a privileged due to the well-resourced and educational offerings at the school. Common days at school was spent mostly in the classrooms, which ranged to the standard classroom to the science lab, computer room and breaks was often spent in the library, playing on the fields or socialising in the cafeteria. After school was when the fun began, when the school bell rang I would immediately run to the kit room to pick up my sports equipment from which I navigated to the cricket nets or the AstroTurf. The school serves as an important reference to think about the programs offered and the spatial configuration of the campus in order to offer the same opportunities to the youth of Delft.

Wynberg Campus of Schools

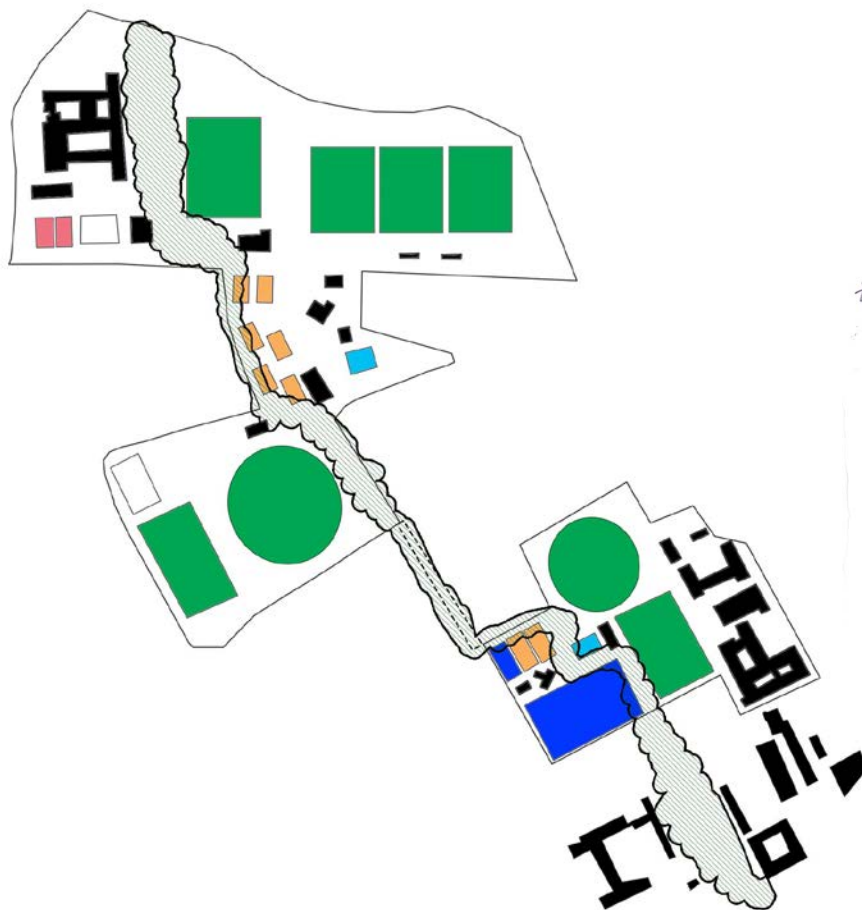
The campus includes the Wynberg Boys Junior and High School as well the Wynberg Girls Junior and High School. The schools act independently, but due to the close proximity of the schools it allows for an opportunity of shared resources and for the schools to work together on certain projects¹. The idea of shared resources is crucial in the context of Delft as it allows for less capital investment and unnecessary duplication of public infrastructure. The campus also provides spatial clues when implementing an urban strategy in Delft.

Spatially the school buildings itself can be seen as anchors within the campus (figure 63). Furthermore the open space network become important as the spaces in-between the buildings. These open spaces are often supported by specialist/ recreational programs such the cricket clubhouse, swimming pools, music centre, arts centre etc. Another strong feature in the campus is the green armature which connects the campus. This is the route predominantly used by pupils whom move between the schools and spaces within the campus (figure 64). The scale of the campus also becomes important when

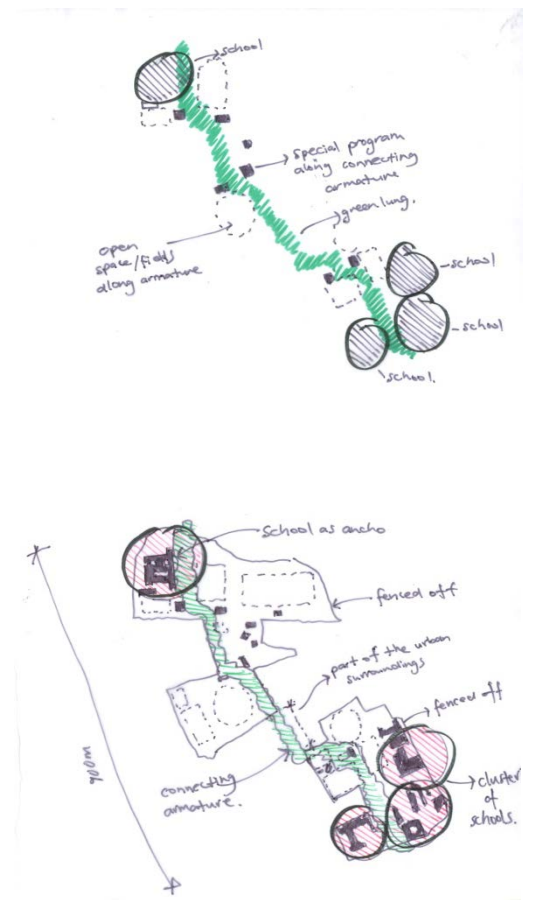
¹ Wynberg Campus of Schools. 2018. *Wynberg Campus of Schools*. Available at: <http://www.wynbergschools.co.za/>. [2018 October14]

calibrating the scale of the proposed intervention in Delft. My personal critique of the campus now that I reflect upon it is that it sits isolated from the surrounding neighbourhood. My proposed architectural intervention in Delft will break away from this logic. The school and the added programs will be seen as an urban gesture which spatially and programmatically contributes to the city.

63 Figure: Conceptual diagrams of Wynberg Campus of Schools



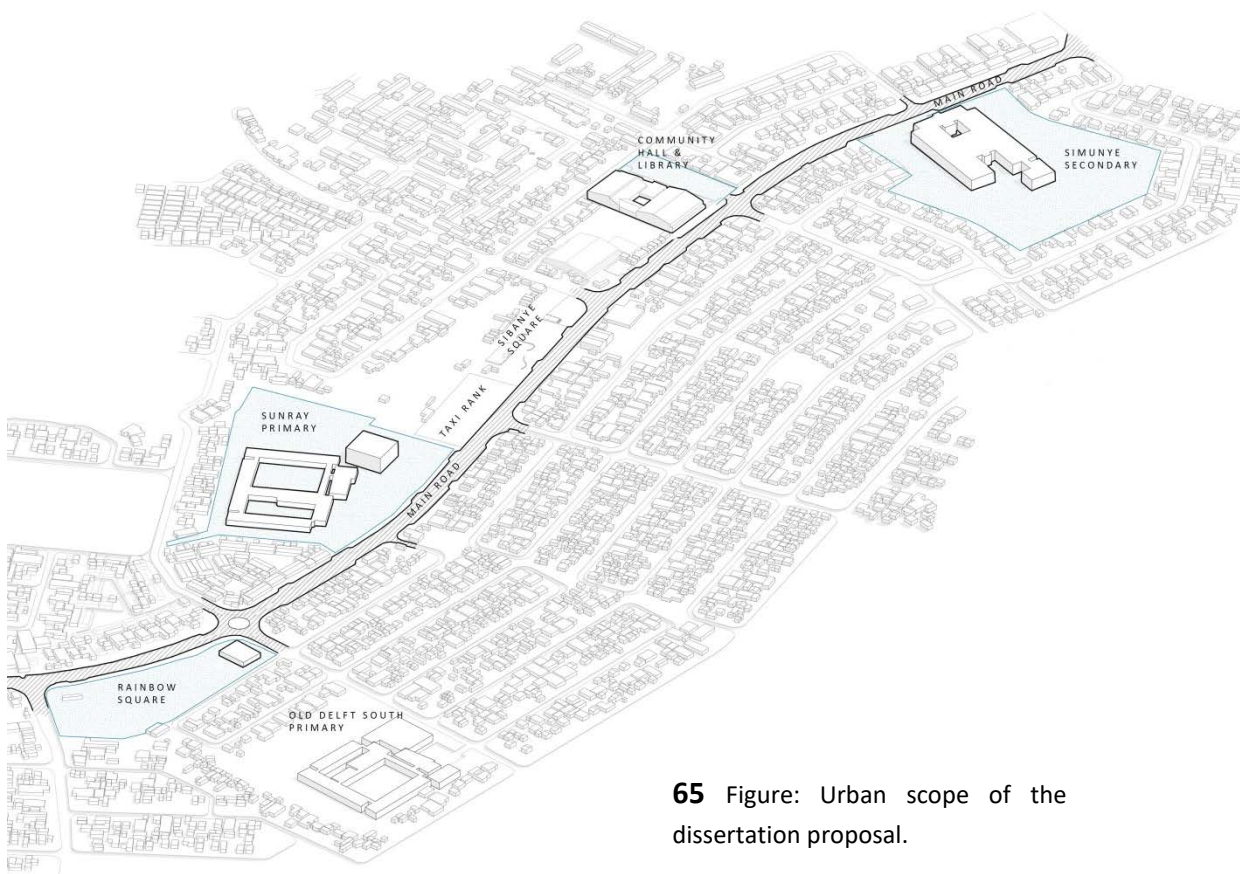
64 Figure: Wynberg Campus of Schools diagram



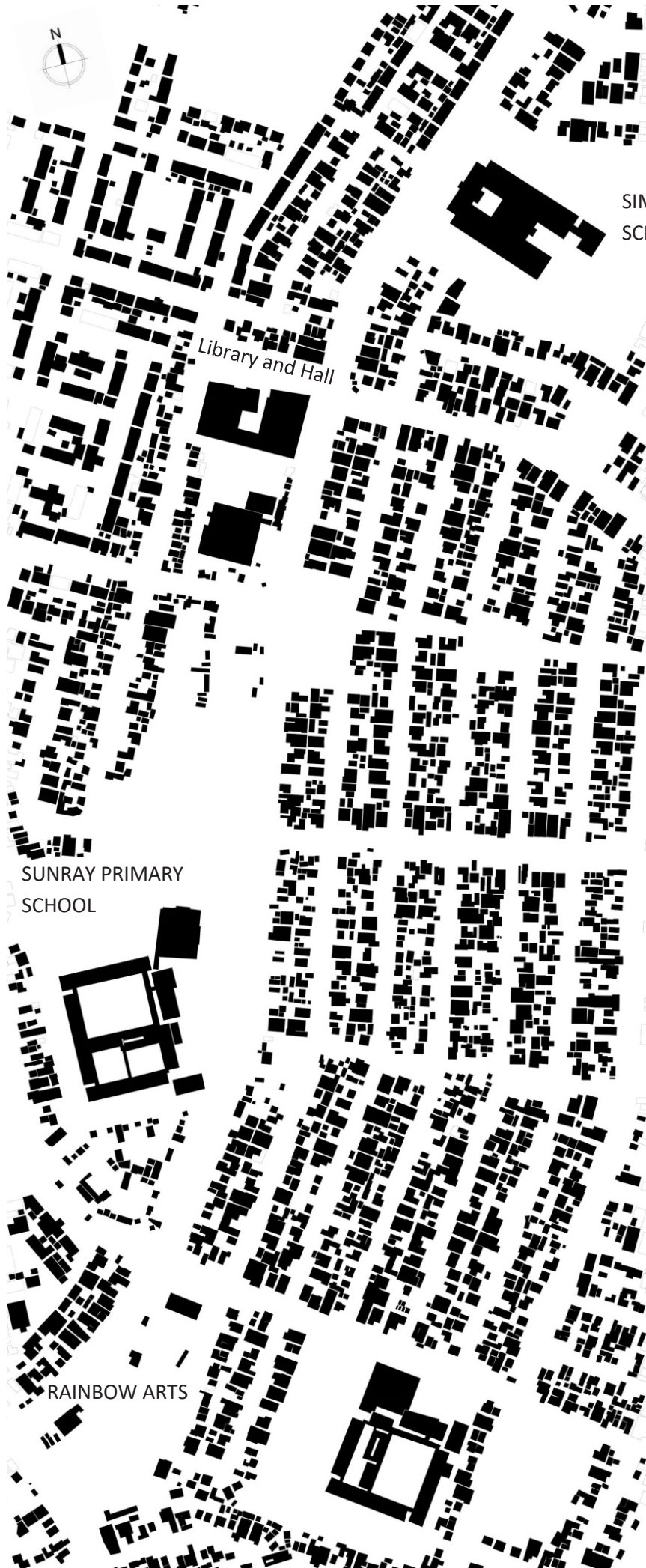
URBAN FRAMEWORK

The urban framework for the dissertation focuses on a certain portion of Main Road, as opposed to the entire stretch. This decision was made to limit the scope of the intervention due to the limited time of the degree.

This specific stretch of Main Road runs from Simunye Secondary School to the north down to Rainbow Arts Organisation to the South. The chosen urban framework focuses on the existing institutions along this stretch in the making of an urban school.



65 Figure: Urban scope of the dissertation proposal.



SIMUNYE SECONDARY
SCHOOL

Library and Hall

SUNRAY PRIMARY
SCHOOL

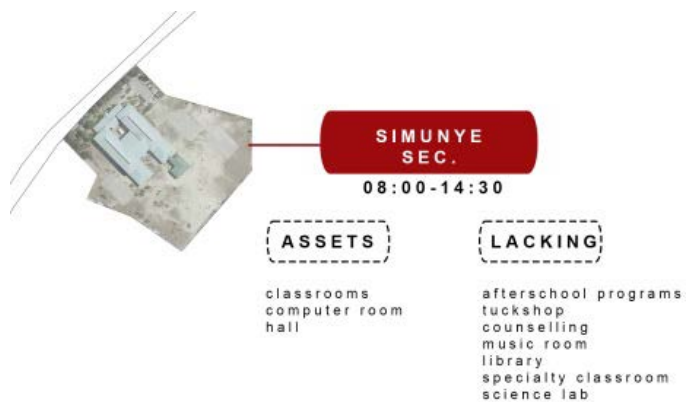
RAINBOW ARTS

66 Figure: Figure ground of existing urban condition

UNPACKING THE EXISTING EDUCATIONAL RESOURCES

Simunye Secondary School

The school serves 1 067 male and female pupils. The school's spatial condition is one of poor lighting and ventilation (figure 68). This is primary due to the fact that the school hall sits in the middle of the plan. Looking at the educational resources, the school lacks important speciality classrooms and programs. Upon researching the school, it became apparent that the school host talents shows, has free wifi, and lacks a school library. The lacking resources and the problems of the hall being situated in the middle of the plan becomes key informants when intervening on the school site.



67 Figure: Diagram of Simunye Secondary school showing the existing and lacking resources.



68 Figure: Image inside Simunye Secondary School [SoGH16]

Community Hall and Library

The Delft South Community Hall and Library serves as important attributes the urban framework. A finding from the children's workshop was that most of the children would gravitate to the library afterschool. This is largely due to the fact that the schools do not have a library nor do they offer any afterschool programs. This however has placed a tremendous pressure on the library, which is often fully packed and under resourced in terms of content and staff. The community hall turns its back to the street thus creates a bad interface with the Main Road (figure 70). The hall provides a useful public amenity for the design as the space is able to accommodate for indoor sports activities which become important to the urban school as a whole. The space behind the library is dead and underutilised. The secluded and safe nature of this space could be used as an early childhood centre.



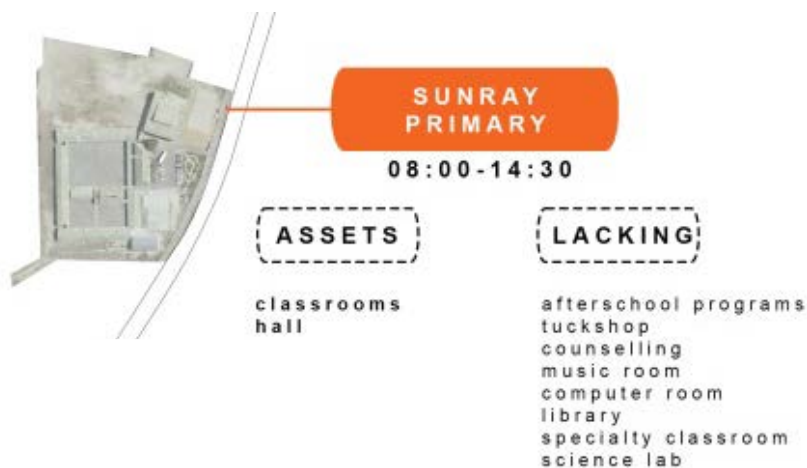
69 Figure: Diagram of the existing programs and space available at Library and Hall

70 Figure: Community Hall interface with Main Road



Sunray Primary School

Sunray Primary School is the only primary school that is situated along the Main Road. The school serves 1 400 male and female pupils. The school is severely under resourced, not having a computer room, library nor any specialty classrooms. Upon researching the school, it became apparent that the school was actively involved in agriculture and farming on the schools grounds (figure 72). One of the school teachers is a qualified horticulturist whom had started the program at the school. The school also has a feeding scheme for the school children and for the broader community, however lacks sufficient kitchen resources to accommodate this. The school hall is used by churches and community members on the weekends. The school also host adult education in the school hall.



71 Figure: Diagram of Sunray Primary School showing the existing and lacking resources.



72 Figure: Farming activity as Sunray Primary School [Miss Earth South Africa 2015]

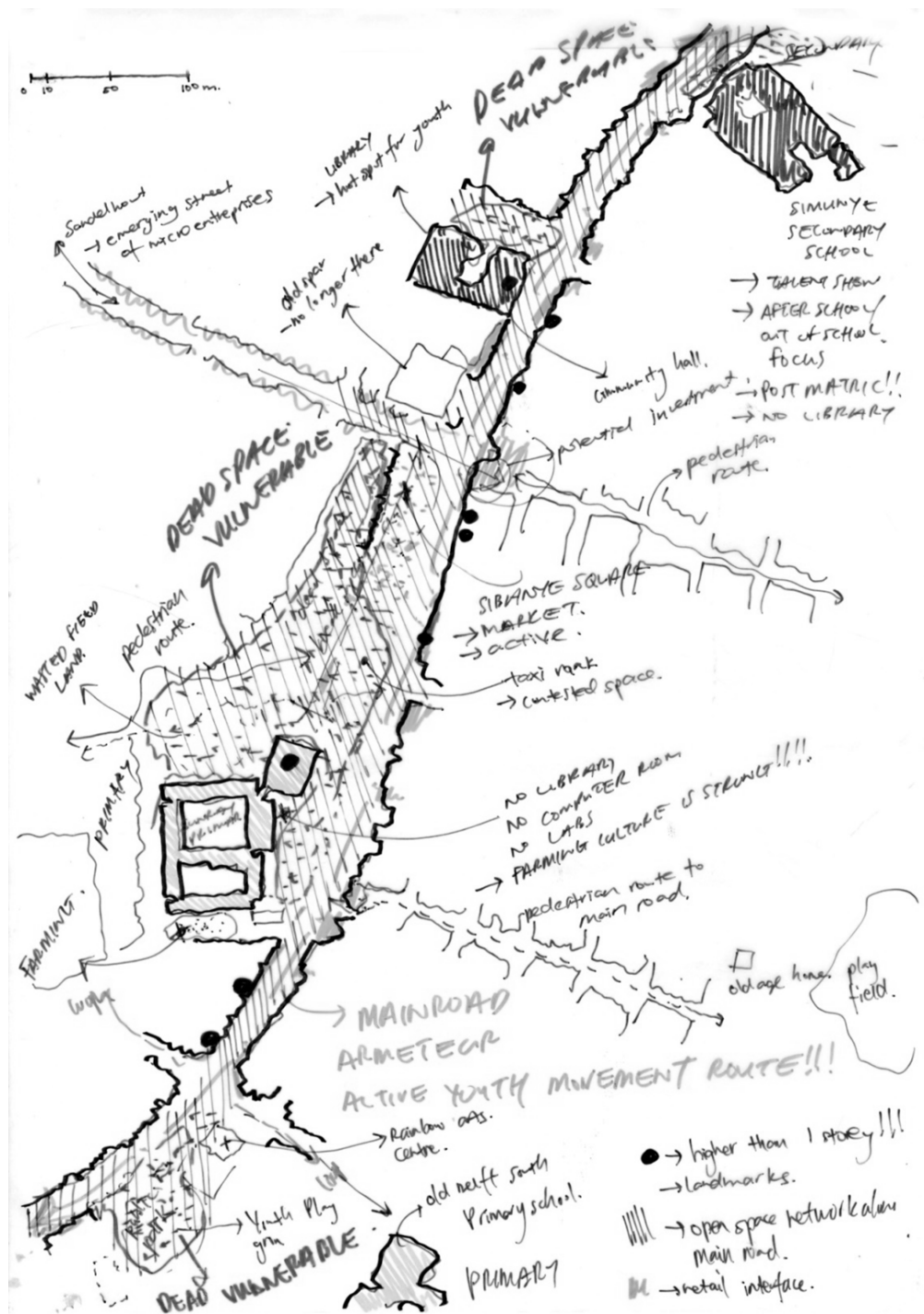
Rainbow Arts Organisation

The center is one of the few recreational centres in Delft. The main goal of the centre is cultural development. The centre is focused on youth programs which accommodates programs for theatre, performance and arts. However the centre lack adquate infrastructure to support these programs. The building program has been adapted from old municipal offices into the new theatre program. Thus the spatial configuration and resources of the center is not adequate to productive teaching and learning. Spatially the building turns its back to the street and is fenced off.



73 Figure: Image of Rainbow Arts Organisation from the Main Road [SoGH16]

The design intervention acknowledges these existing public institutions within the urban response. The conceptual response is to envision main road with its existing public institutions and proposed interventions as an urban school. Thus the interventions adds, upgrades new architectural and programmatic attributes to the current urban condition.



74 Figure: Unpacking the existing urban condition

The urban investigation was the first point of departure to inform the program of the campus of schools. Once understanding the urban scale, the architectural intervention seeks to build off the existing programs highlighted in the urban framework and add much needed educational resources. Building on from the idea that the urban realm is seen as a campus of schools in itself, it becomes important to understand what the programs that make up a school are.

Having said that, the first step to inform program was to look at the newly built WCED schools programs as well as the more “affluent” schools in the Western Cape. This derived into a set of programmatic requirements which will be implanted in the architectural intervention.

Generic Spaces



Classrooms

Speciality Spaces



Forum



art



computer
room



handwork



library



media
centre



music



science
labs

Auxiliary Spaces



feeding
kitchen



tuckshop



ECD



caretaker



counselling

Outdoor Spaces

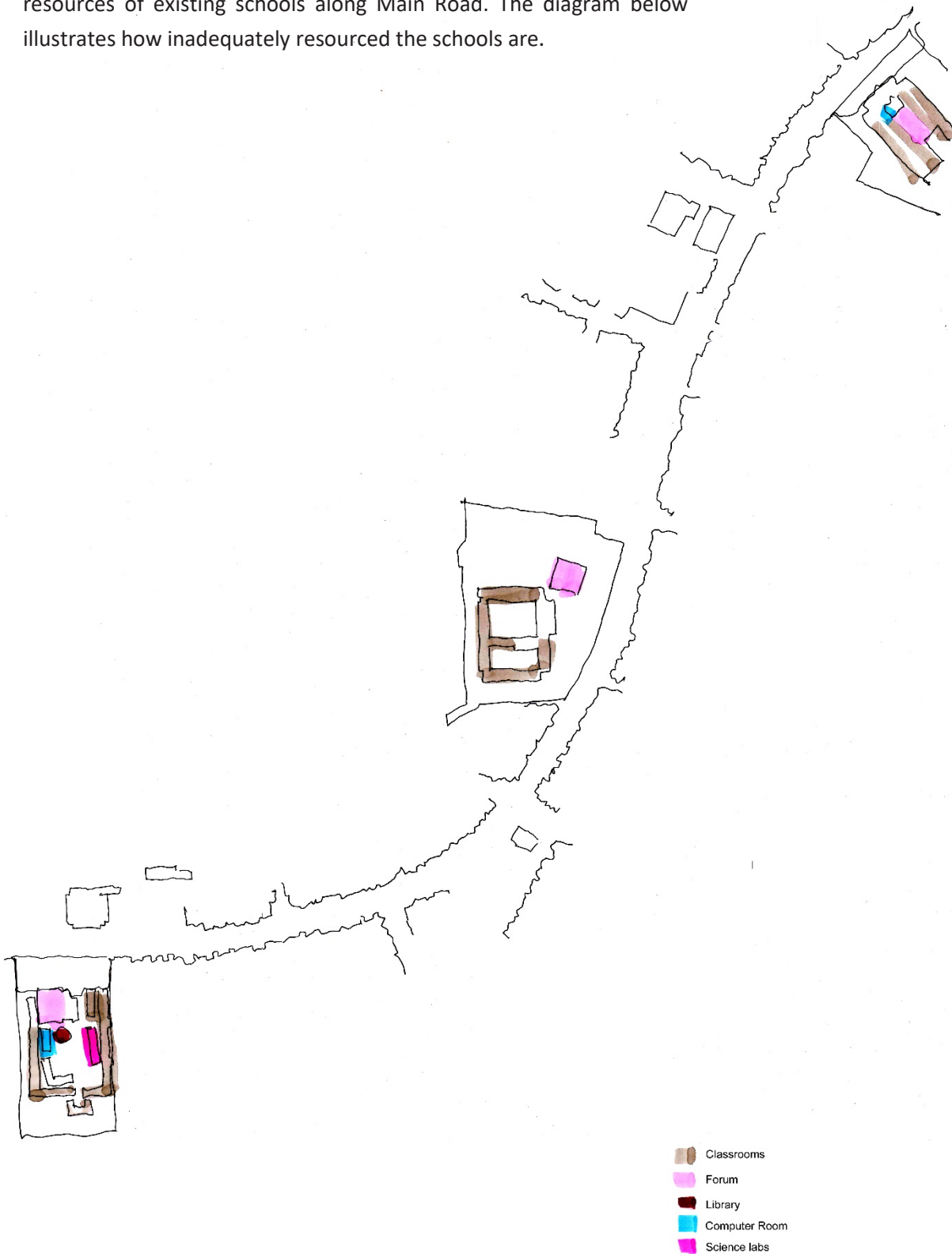


sports
courts



sports
fields

Furthermore the program strategy was informed by mapping out the resources of existing schools along Main Road. The diagram below illustrates how inadequately resourced the schools are.



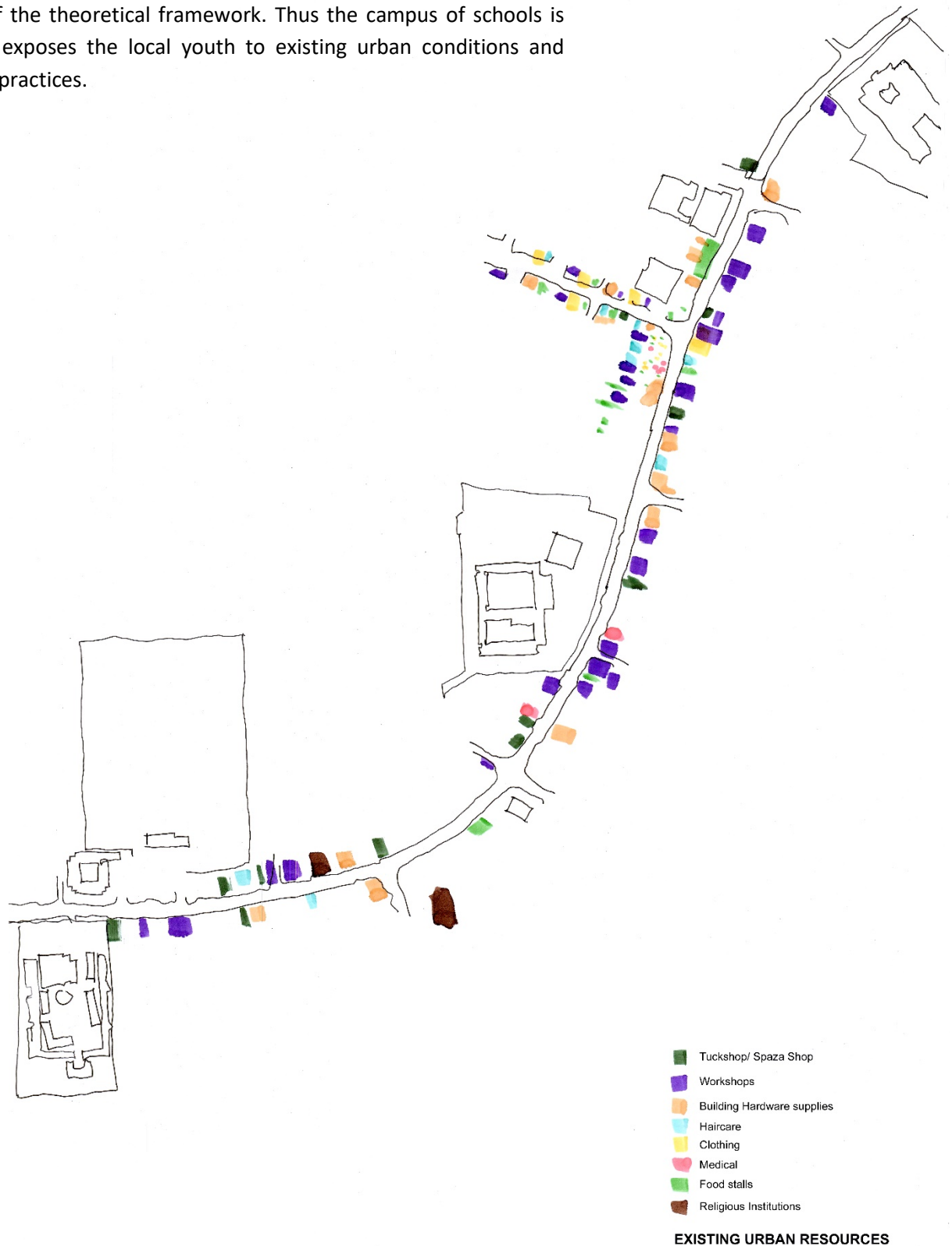
The diagram below illustrates clustering resources which provides each school with all the educational resources necessary. This approach promotes the self-contained model of education. This is a serious concern as it duplicates resources and spatially education becomes a physical enclosed activity.



Thus the intention was to look beyond the school fence, to look for existing educational resources along Main Road. The diagram below identifies the existing community resources, which could be utilised by the surrounding schools. The diagram shows the Delft South Sports Complex, Community Hall and Library and the Rainbow Arts Organisation as useful educational resources for the surrounding schools. The value of utilising and upgrading these resources, as part of the campus of schools is important in that it starts to decentralises the pressure on schools and avoid duplication of resources, thus promoting shared resources amongst the schools and the community. Local practices in Delft show that the Delft South Sports Complex is currently the only spaces that accommodates for an athletics track, which is utilised by the local schools for sports days. Another local practice which was observed during a fieldtrip, was that schoolchildren, supervised by a teacher, walked to the local library during school hours. This speaks to the fact that acknowledging the existing community resources are important for the campus of schools

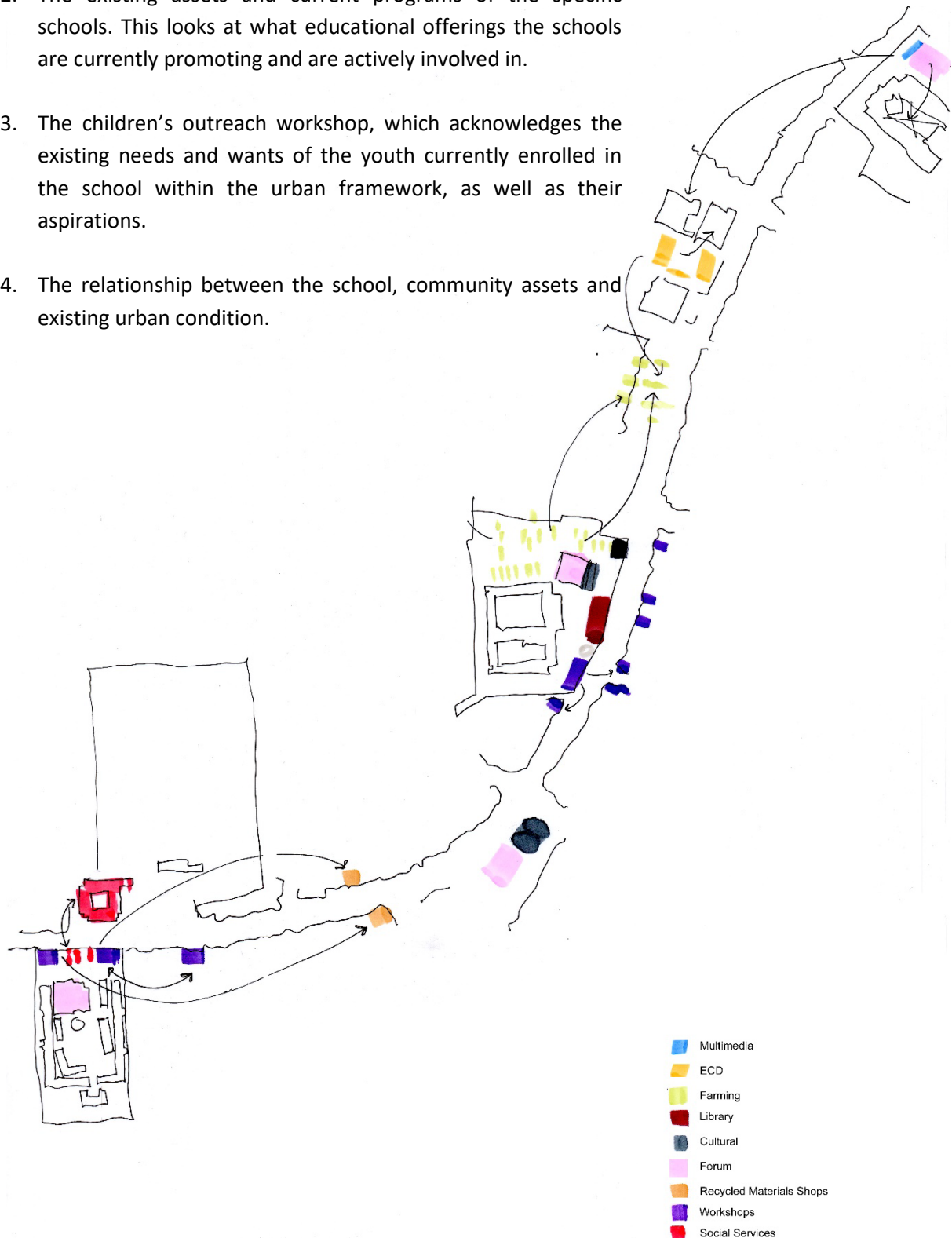


Furthermore, the investigation started to look beyond the existing institutions. The diagram below acknowledges the existing urban fabric of the private agencies of local Delft residence. Looking at the existing informal workshops, churches, madrasah's, spaza shops, recycling yards as potential educational offerings. This approach borrows from way in which local business also offer an educational value to the youth, which was highlighted in the informal education section of the theoretical framework. Thus the campus of schools is one that exposes the local youth to existing urban conditions and everyday practices.



Another important layer was to look at all these layers combined in order to inform the added programs to the specific interventions. Thus the added programs was strongly influenced by:

1. The lacking educational resources of the specific schools.
2. The existing assets and current programs of the specific schools. This looks at what educational offerings the schools are currently promoting and are actively involved in.
3. The children's outreach workshop, which acknowledges the existing needs and wants of the youth currently enrolled in the school within the urban framework, as well as their aspirations.
4. The relationship between the school, community assets and existing urban condition.



MAKING CONNECTIONS

The diagram below shows the urban programmatic response. Thus, the campus of schools is built up from a number of layers of analysis that provides both a programmatic and spatial response. The campus of school promotes education which is not isolated or physically enclosed, but rather an urban condition where learning happens in the classroom as well as being exposed to the everyday urban conditions. The campus of schools also acknowledges the fact that one school cannot accommodate all the education resources but rather the campus can.



URBAN STRATEGIES

Upon investigating the urban framework, I set myself certain urban strategies that responded to the existing urban conditions spatially, architecturally and programmatically.

Mobility

Urban Interface

Urban Beacons

Spatial Network

Programmatic Network

URBAN BEACONS

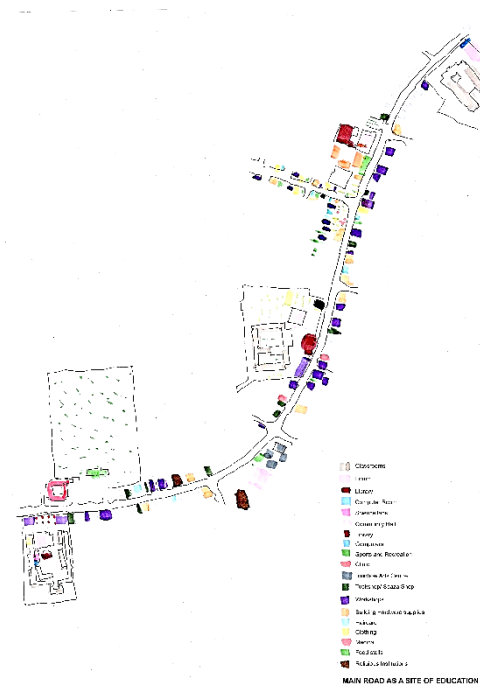
Legibility and landmarks become an important urban condition when navigating through the city. One can start to see the rise in density in the newly developed housing by the residence of delft. These additions can be seen as urban beacons which respond to the public domain on ground floor and eyes on the street on the second floor. The intervention will borrow similar characteristics of these urban beacons in a more nuanced way. The primary focus of the urban beacons at an urban scale to aid in legibility and familiarity of the campus.



77 Figure: Local urban beacons on Delft Main Road

SPATIAL and PROGRAMMATIC NETWORK

Programmatically the intentions was not to supply each school with all the resources they are lacking but rather to segregate the speciality resources within the campus of schools, this allows the urban environment to become a place of education, offering a network of educational resources. This also alleviates the pressure on the individual school. Thus the school becomes part of the city and the city becomes a part of the school. The dispersion of the educational resources also allows for it to be used by the school pupils as well as offers itself to the broader community. The dispersion of resources also creates a network of movement across the campus thus reinforcing mobility and the main road as an urban connecting amateur.

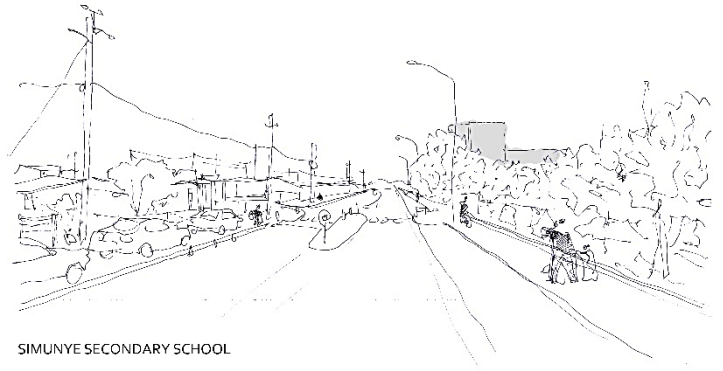


78 Figure: A network of educational offerings along Main Road

The urban response to building up the campus was fundamentally a spatial response, which builds off from the urban principles.

The urban progression, alongside, illustrates how the additional interventions contribute to the Main Road through its massing and its interface to the existing urban spine.

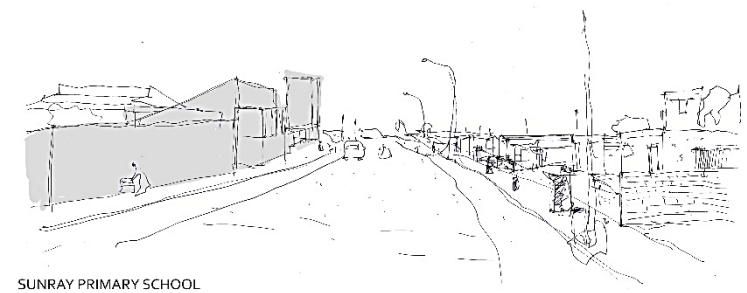
The figure ground adjacent looks at how the interventions aid in spatial definition to its located sites as well as how it fits within the campus as a whole.



SIMUNYE SECONDARY SCHOOL



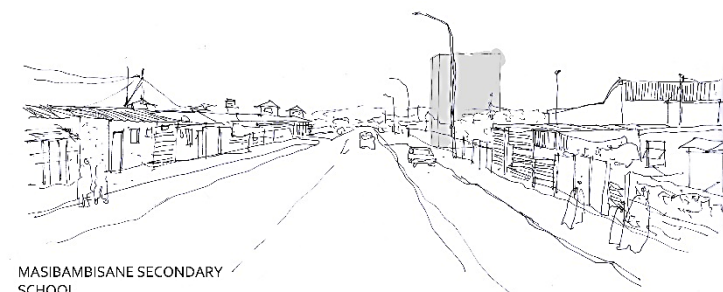
COMMUNITY HALL



SUNRAY PRIMARY SCHOOL

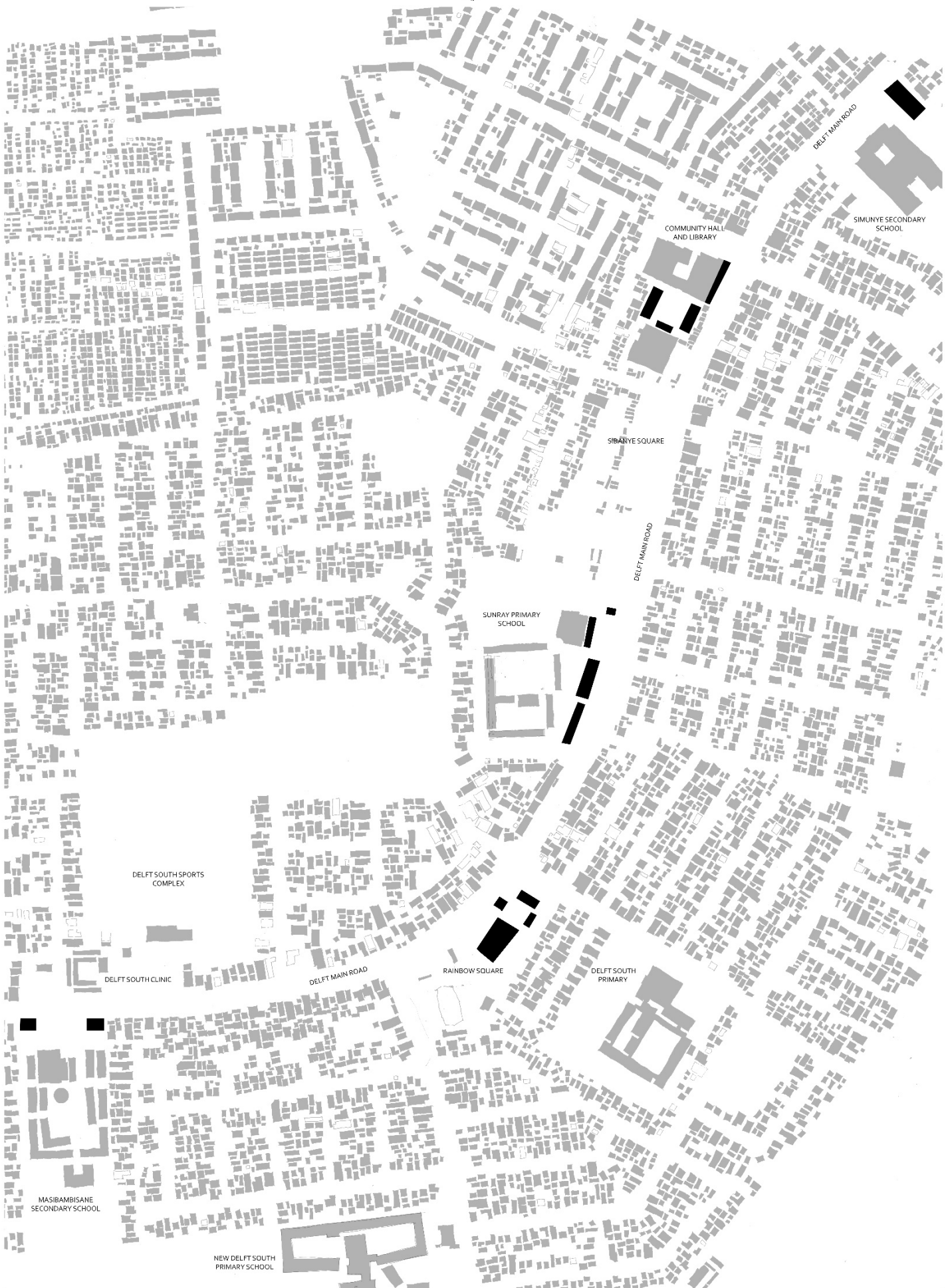


RAINBOW ARTS SQUARE



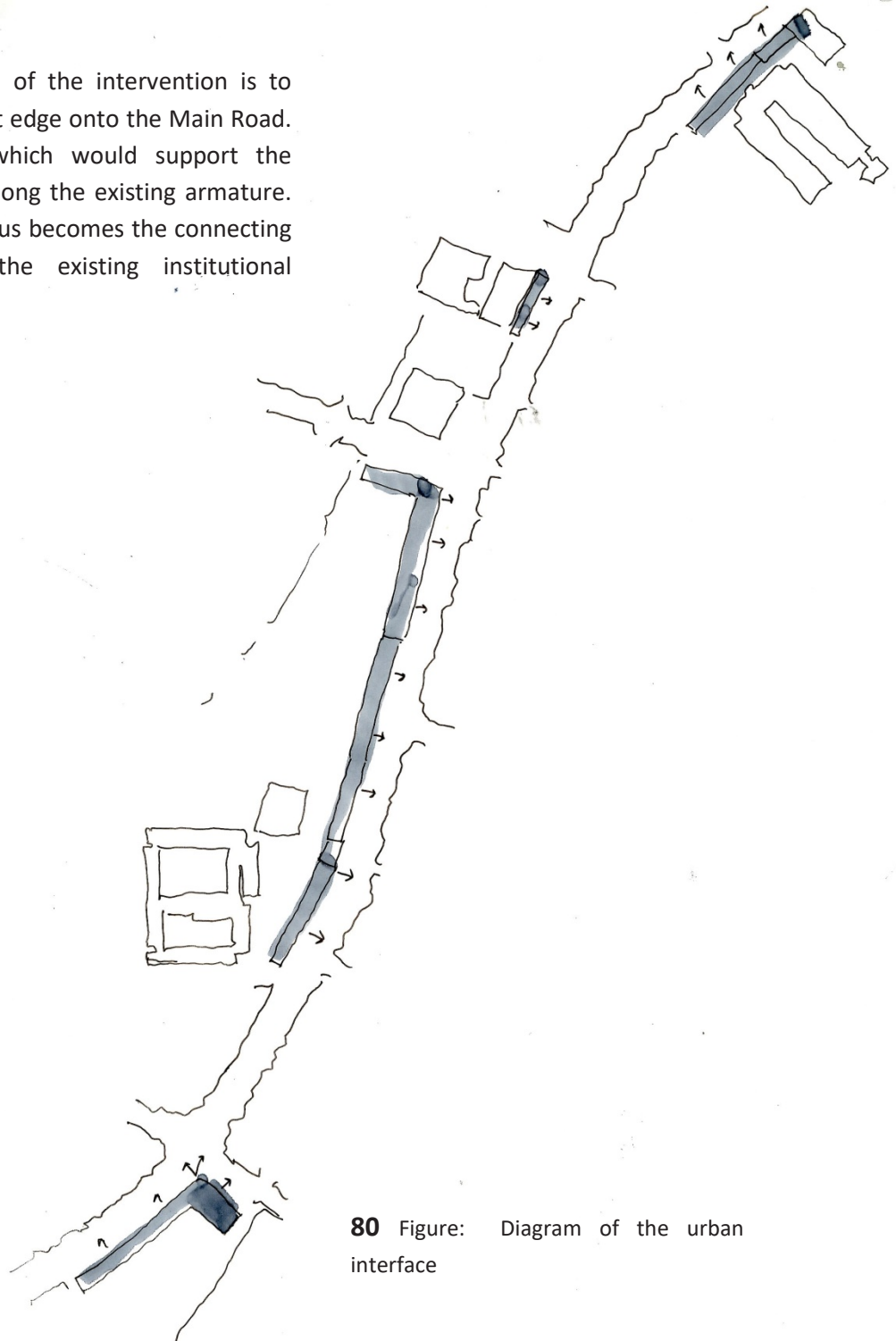
MASIBAMBISANE SECONDARY SCHOOL

CAMPUS OF SCHOOLS FIGURE GROUND



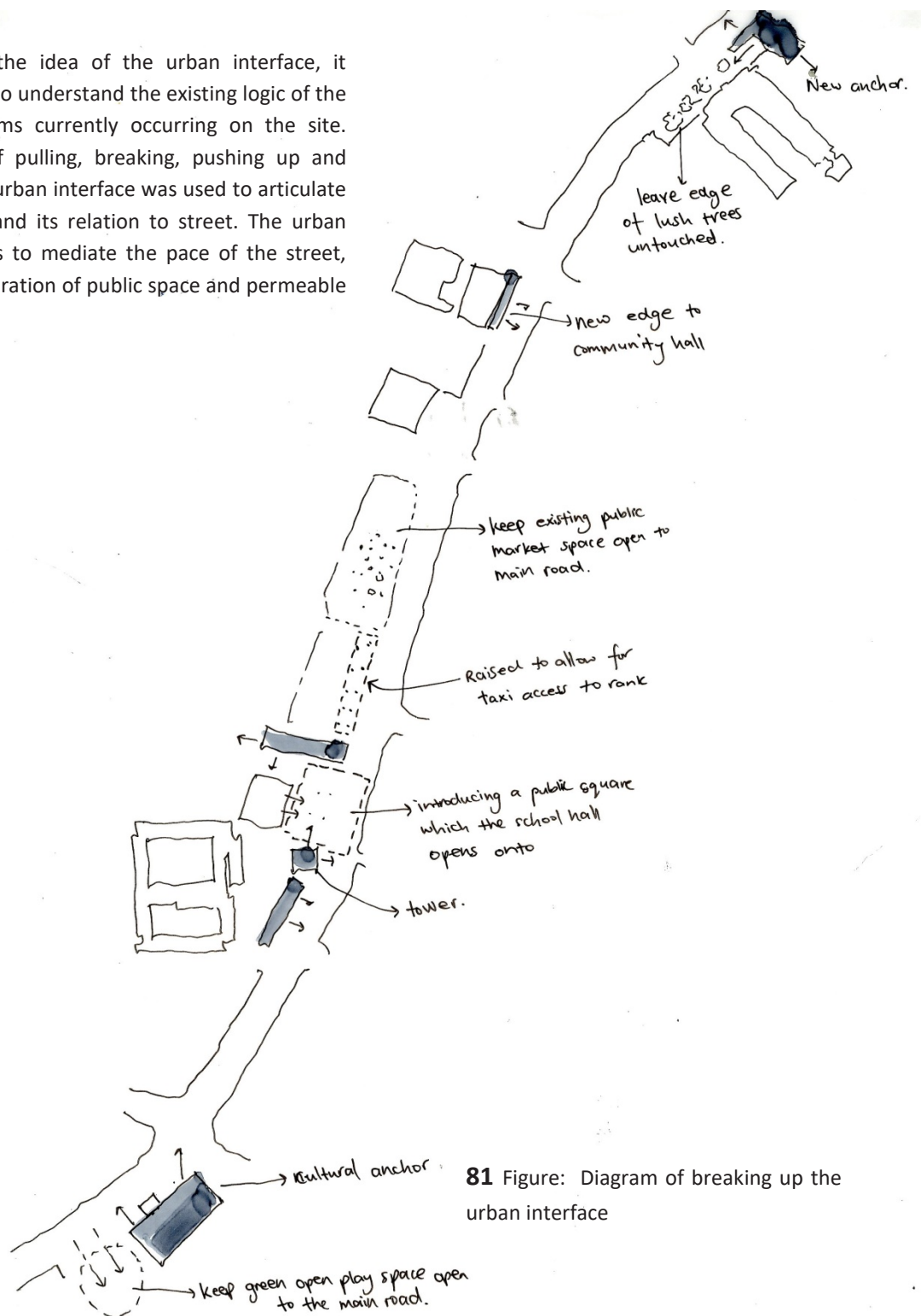
SPATIAL DEFINITION

The primary intention of the intervention is to create a positive street edge onto the Main Road. An edge condition which would support the movement of youth along the existing armature. The urban interface thus becomes the connecting armature between the existing institutional buildings.



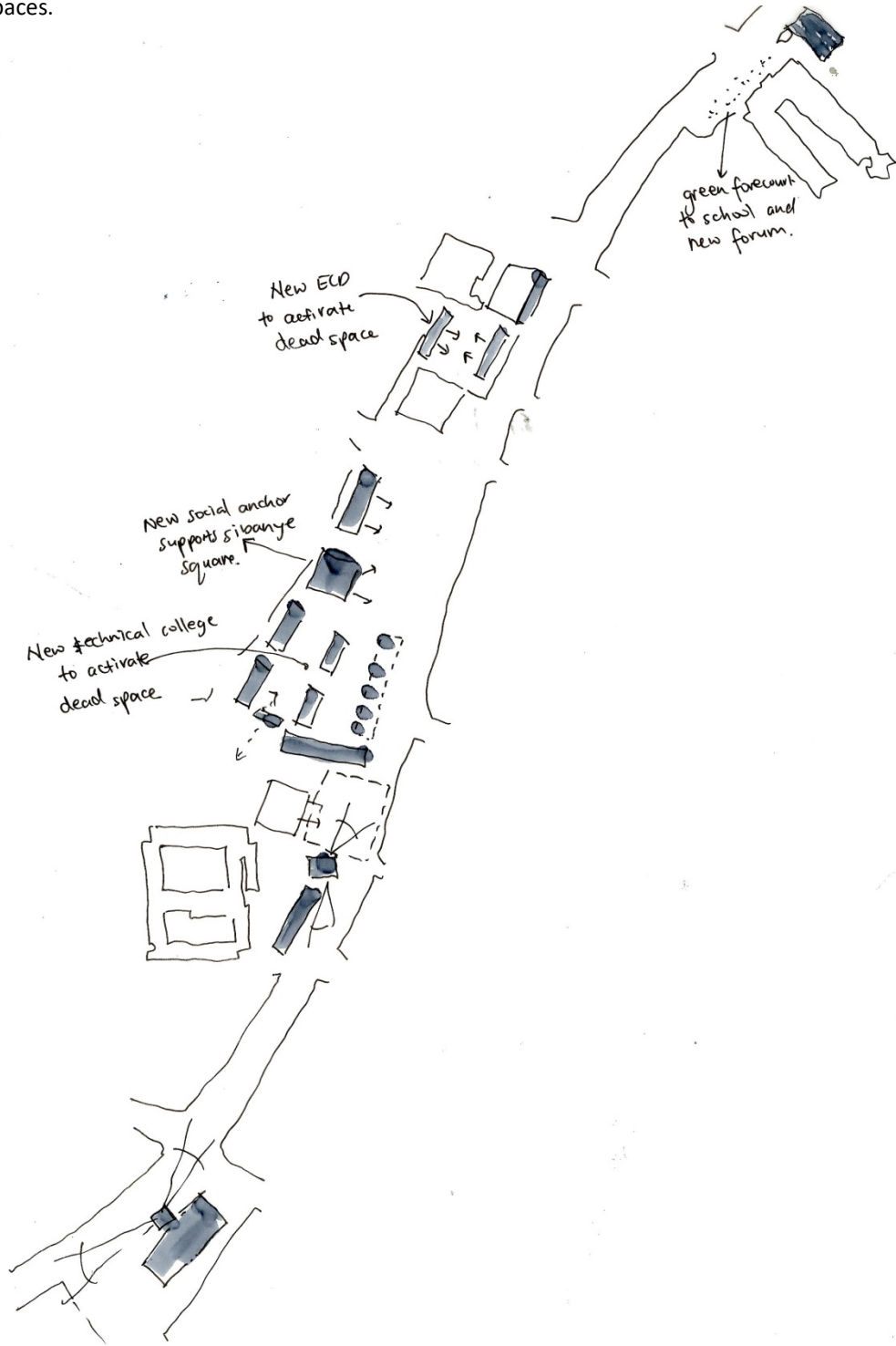
80 Figure: Diagram of the urban interface

Building off from the idea of the urban interface, it become important to understand the existing logic of the spaces and programs currently occurring on the site. Thus the notion of pulling, breaking, pushing up and setting back of the urban interface was used to articulate the building edge and its relation to street. The urban interface also starts to mediate the pace of the street, through the incorporation of public space and permeable edges.



81 Figure: Diagram of breaking up the urban interface

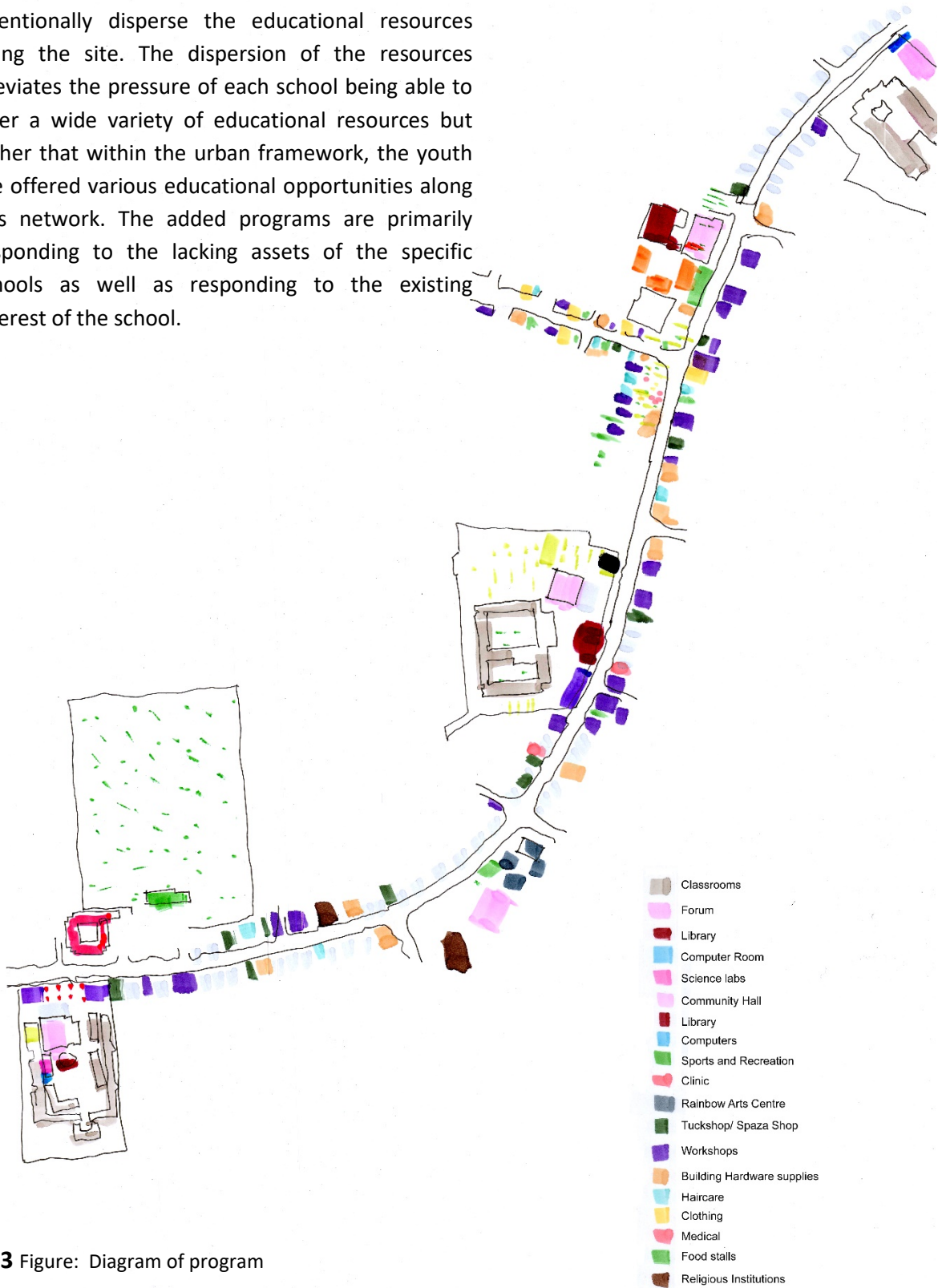
The figure ground starts to formulate a language of a campus which links to existing public institutions, supports public spaces and provides spatial definition to existing dead spaces.



82 Figure: Figure ground

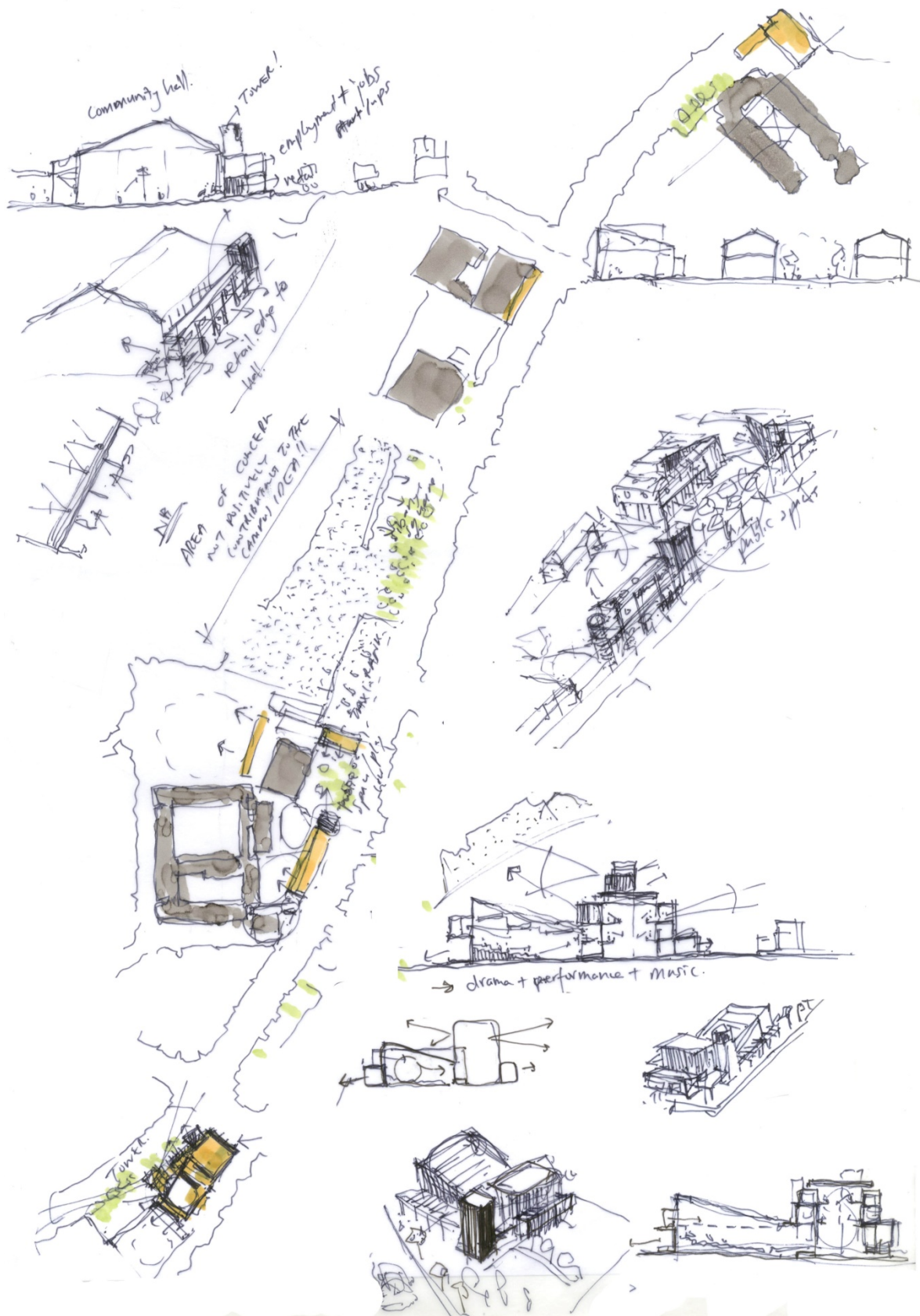
PROGRAMMATIC NETWORK

The fundamental idea of the design was to intentionally disperse the educational resources along the site. The dispersion of the resources alleviates the pressure of each school being able to offer a wide variety of educational resources but rather that within the urban framework, the youth are offered various educational opportunities along this network. The added programs are primarily responding to the lacking assets of the specific schools as well as responding to the existing interest of the school.



83 Figure: Diagram of program

MAIN ROAD AS A SITE OF EDUCATION



84 Figure: Conceptual studies

Looking at the adjacent plan (figure 86) the programmatic and spatial logic of the design is broken down accordingly.

A_Simunye Secondary School

Here the intention is to remove the existing hall from the middle of the school plan to the forefront. This approach is a response to the poor lighting and the spatial qualities of the existing school. The movement of the school hall towards the Main Road allows the facility to serve a community asset. The lush greenery in front of the school is left untouched as this serves as an important green space to the Main Road. The intention is for this space to become the forecourt for the school and the hall. Other additional programs include a science laboratory and library.

B_Community Hall Interface

Due to the spatial configuration of the community hall the approach was to edge the interface with retail shops that speak to street, which allows to the community hall to function as per normal.

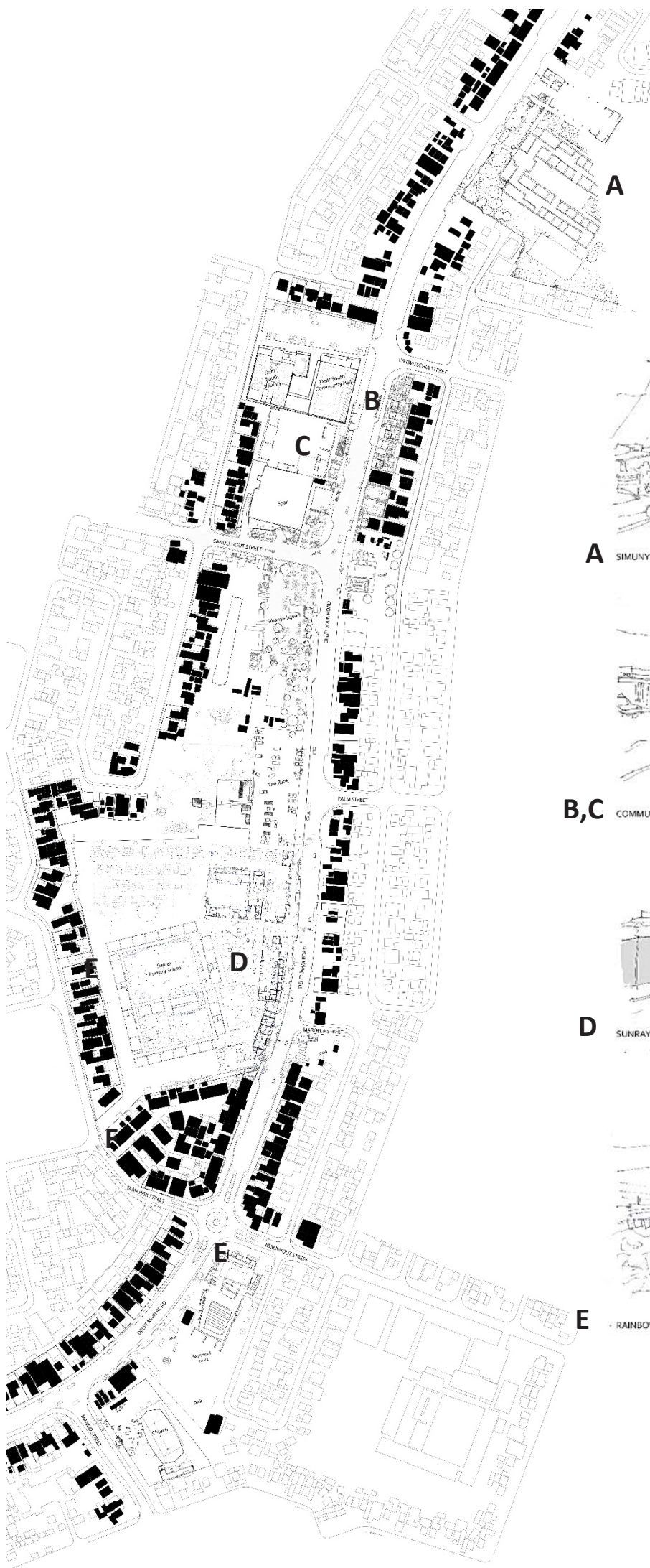
C_Early Childhood Centre

The qualities of the secure dead space behind the community hall and library meant that it was a suitable location for an ECD. Not only is this a much needed program for the community of Delft, but it also recognises that the early stages of life as an fundamental role in education. The spatial configuration allows for a well surveillance play space in the middle.

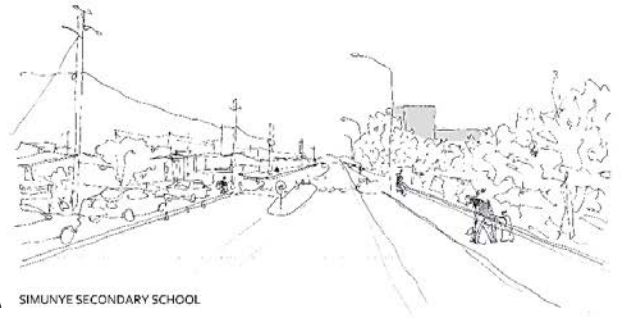
D_Sunray Primary School

The additional program will capitalise on the existing interest of the school in farming. The school field will be turned into a productive farming space which will aid in the existing school feeding scheme – where new cafeteria and kitchen is added to the existing school hall. The addition is conceptualised a plug onto the existing, creating a new public face spatially and programmatic added much needed generic program to the hall, such as cloakrooms, ablutions, a stage and back stage, These programs along the hall to function a community assetm which is currently used for weddings, church service and community gatherings. Above, the admin block is relocated, so that it servals the entrance to the school. A new library for the campus is also added to the school.

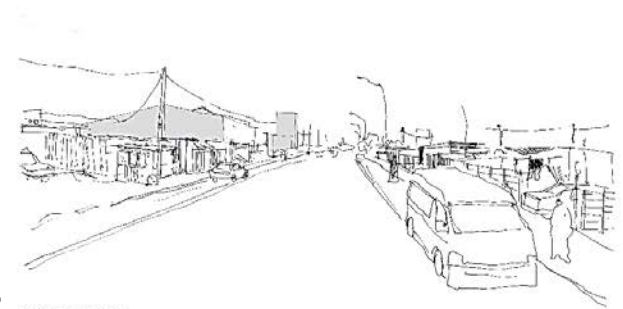
E_Theatre, Performing Arts and Music Centre



A



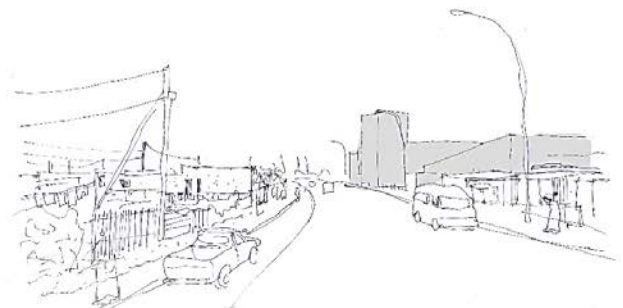
A SIMUNYE SECONDARY SCHOOL



B,C COMMUNITY HALL



D SUNRAY PRIMARY SCHOOL



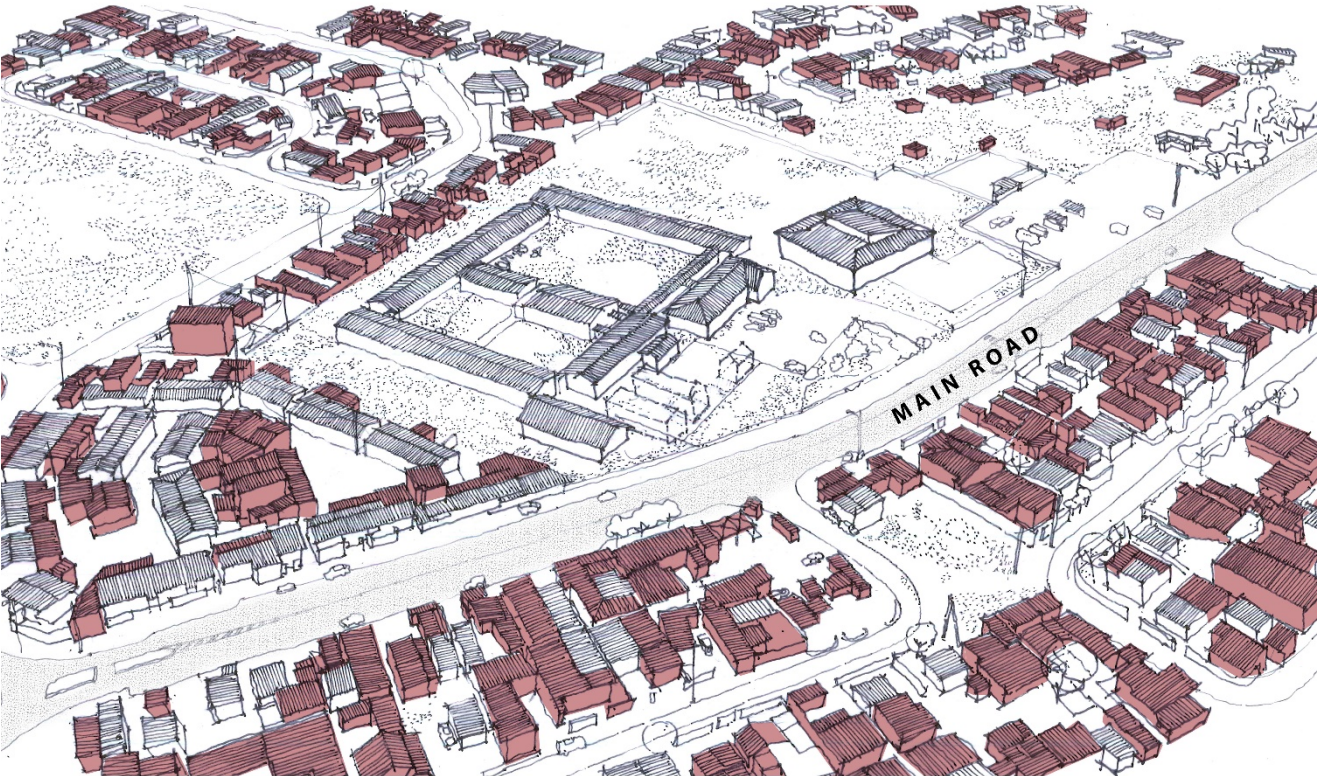
E RAINBOW ARTS SQUARE

Once the urban response was dealt with, the next step in the design process was to take one specific site in order to focus the design energy in the spatial making of the architectural proposition. Upon the urban investigation of the campus it became clear that Sunray Primary School would be the focus site of the design dissertation. It was discovered that this school has the longest dead interface to Main Road and the school had a larger buffer zone between the school and the street. Programmatically the school is the most under resourced within the campus, thus it was in dire need of additional programs. Therefore the spatial and programmatic conditions of the existing school presented itself as a strong argument to propose a design.

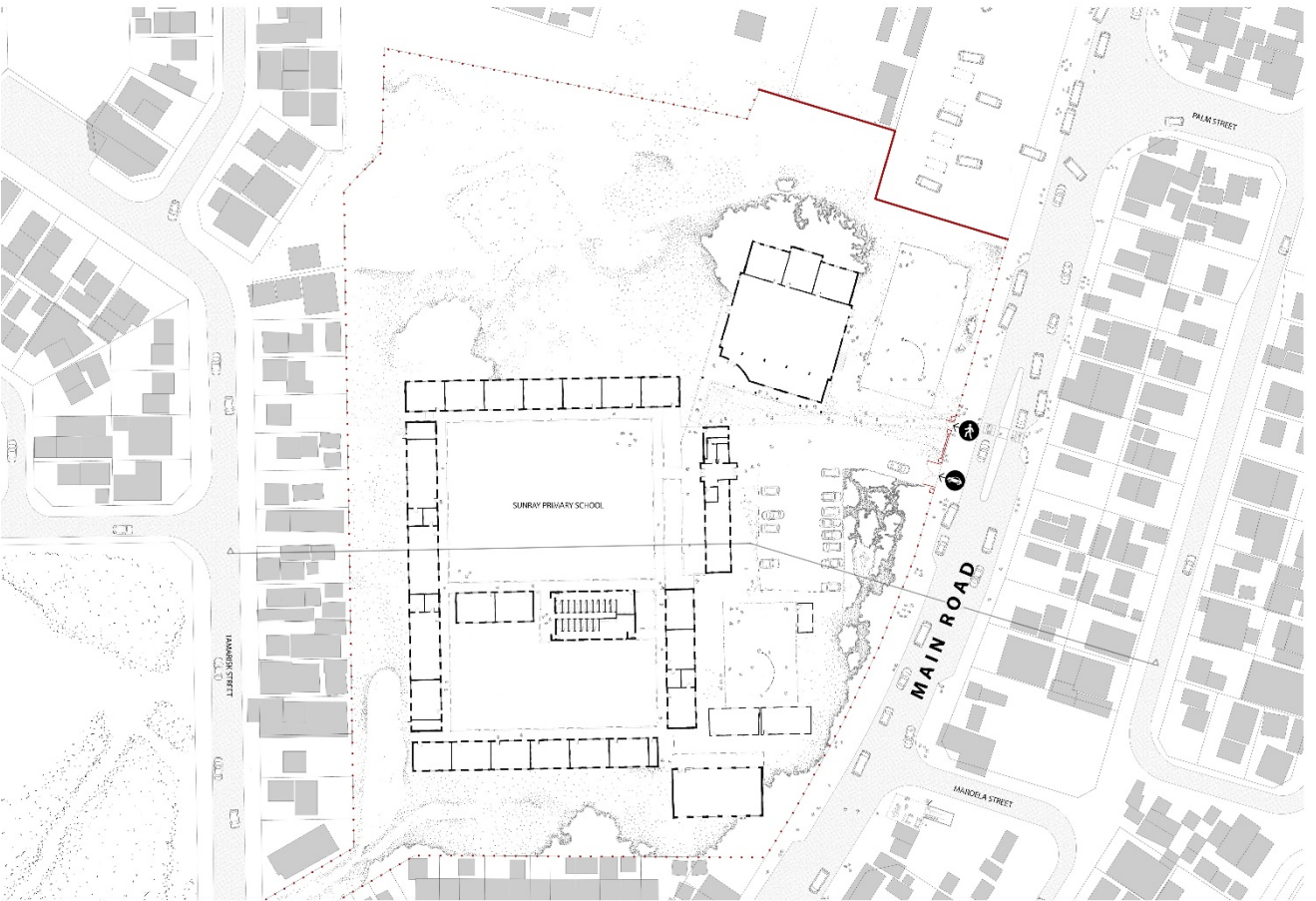


SUNRAY PRIMARY SCHOOL

SAFETY | SECURITY



3D bird's eye view



Plan

COMPARATIVE ANALYSIS: 2010 -2018

Change in streetscape opposite Sunray Primary School

Vertical additions to residential buildings

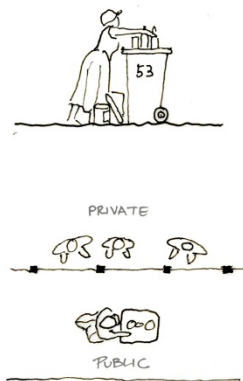
Additions and alterations to accomodate various trade functions.
Use of pavement to extend trade space.



2018



2010



Mobile trade activity is common in Delft South, with vehicles selling fresh produce and women selling snacks and refreshments to school kids through fences at break times.

The advantage of being able to move to more active locations depending on the time of the day makes this a growing sector within the informal economy in Delft.

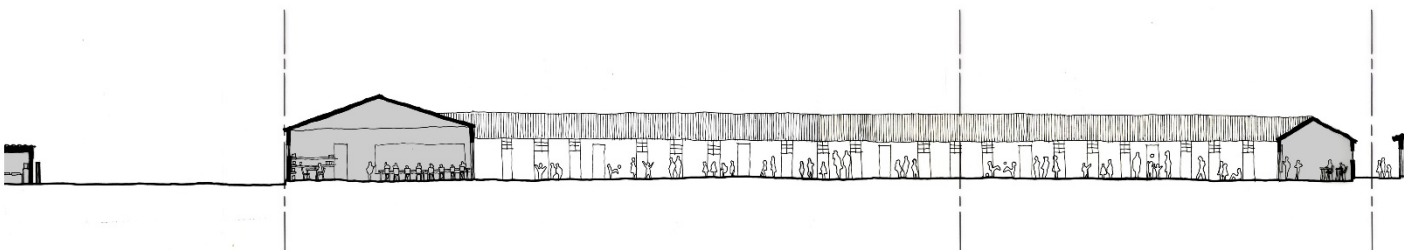
Traders note that formal storage spaces would enhance their experience and reduce the need to carry heavy stock to the same locations daily.

Classrooms. Public Facility.

* Dead space; walled with no interaction or passive surveillance coming from both the residential and school sides. This creates an unused, unsafe space.

Courtyard. Public Facility.

* Safe space for children through its activity and surveillance from the surrounding classrooms



Prefabricated classrooms added

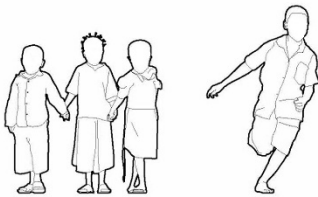
Appropriation of the fence.



A mother of two children shared her worries about safety concerns living on Delft Main Road. She said that living along the transport axis is unsafe and it worries her daily due to the consistent unrest and wreckless taxi driving. Although her location allows for her children to be in close proximity to public amenities, it is still extremely unsafe.

Various incidents have happened to her kids so she now walks to fetch them from school to ensure their safety on the streets.

This may in part be due to the nature of the institutions where they perform their functions wholly internally and thus leave the adjacent street space up to pedestrian vulnerability.



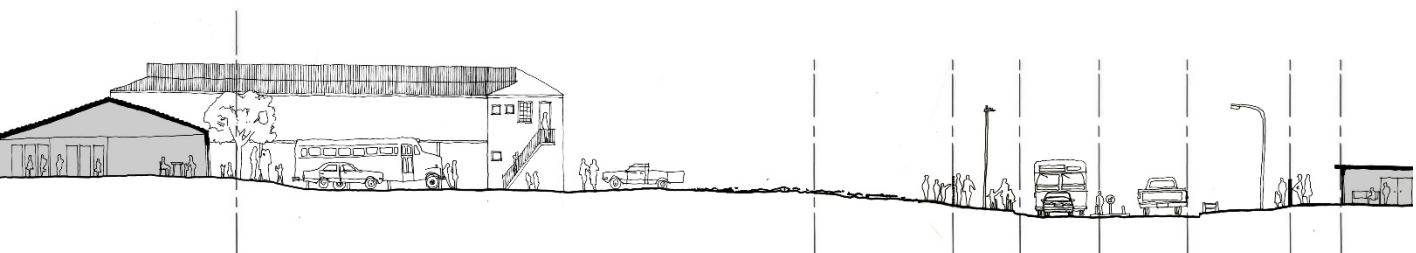
Young school children wait outside the school grounds for their organised taxi to take them home. They say it is unsafe for them to walk home alone. Children who do have to walk home say they need to do so before 4pm because it is slightly safer.

Sunray Primary School. Public Facility.

* Shading and visual barrier

MAIN ROAD

Primary access route





Sunray Primary School:
School learners through play make the most of limited school resources overwriting the poorly maintained outside spaces



The fence becomes an active threshold during school intervals. Local women traders sell snack to school learners at this time.

ARCHITECTURAL PRINCIPLES

From the beginning of the design process, I set myself architectural principles, which was informed by a series of case studies of local schools, as well as by understanding the local practices of schools currently occurring in Delft.

The school case studies included a number of schools in the Western Cape but for the purposes of the paper, I have selected the three most important cases, which have influenced the final design and are located in a similar context as Delft. These schools include:

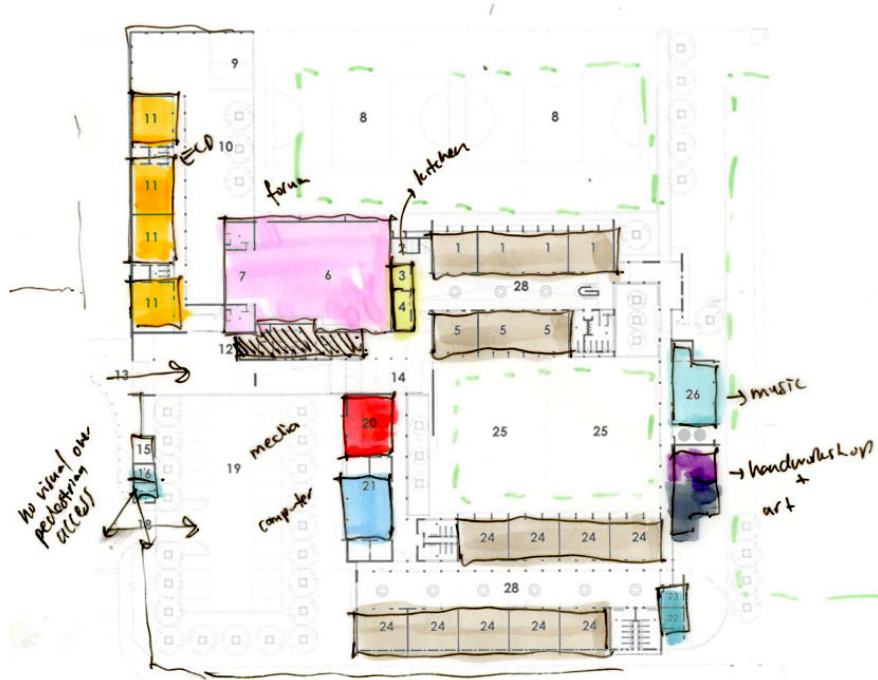
1. Heideveld Primary School
Location: Heideveld, Cape Town
Architects: Meyer & Associates
2. Du Noon Primary School
Location: Du Noon, Cape Town
Architects: Meyer & Associates
3. Usasazo Secondary School
Location: Khayelitsha, Cape Town
Architects: Noero Wolff Architects

Supplementary to understanding how schools work, the images series unpacks the local practices currently occurring at schools in Delft.

HEIDEVELD PRIMARY SCHOOL

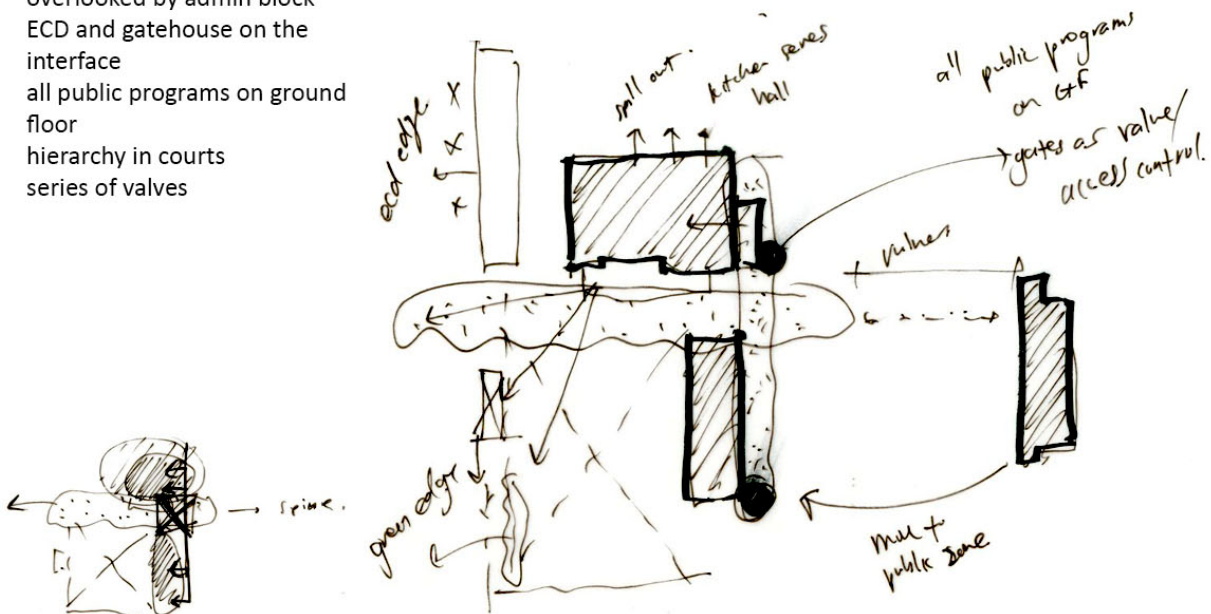
Ground Floor Plan_ programmatic layout

- 1 Intermediate phase classroom
- 2 Book store
- 3 Food store
- 4 Feeding kitchen
- 5 Senior phase classroom
- 6 Forum
- 7 Stage
- 8 New netball court
- 9 Jungle gym
- 10 Grade R playground
- 11 Grade R classroom
- 12 Administration building
- 13 New pedestrian entrance
- 14 External foyer
- 15 Recycle centre
- 16 Refuse store
- 17 Gate house
- 18 New vehicular entrance
- 19 Parking area
- 20 Media centre (specialised)
- 21 Computer lab (specialised)
- 22 Garden/sports equipment store
- 23 Caretaker
- 24 Foundation phase classroom
- 25 PT slab
- 26 Music room (specialised)
- 27 Handwork & art room (specialised)
- 28 Internal covered courtyards
- 29 Sports field



Analysis_

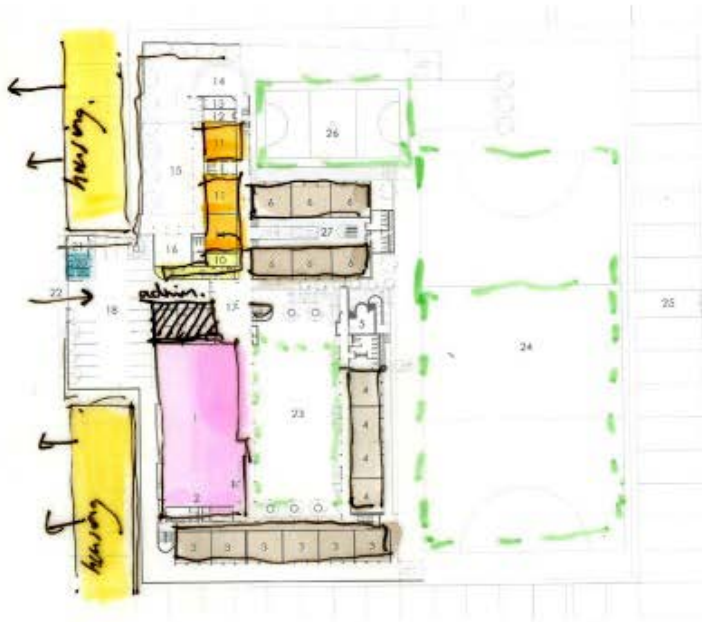
strong pedestrian link
 overlooked by admin block
 ECD and gatehouse on the interface
 all public programs on ground floor
 hierarchy in courts
 series of valves



DU NOON PRIMARY SCHOOL

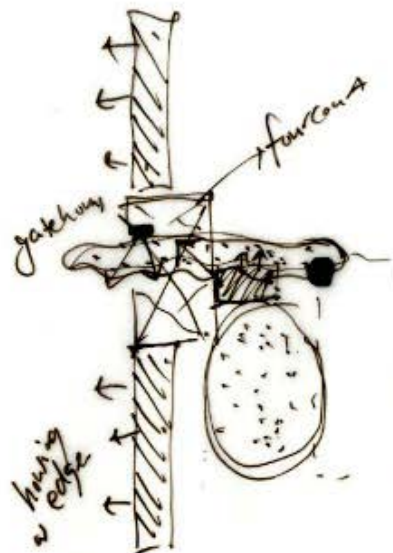
Ground Floor Plan_ programmatic layout

- 1 Forum
- 2 Stage
- 3 Intermediate phase classroom
- 4 Senior phase classroom
- 5 Garden store
- 6 Foundation phase classroom
- 7 Admin building
- 8 Food store
- 9 Feeding kitchen
- 10 Tuck shop
- 11 Grade R classroom
- 12 Water tank storage room
- 13 Bookstore
- 14 Amphitheatre
- 15 Grade R play area
- 16 Open-air classroom
- 17 Entrance foyer
- 18 Parking area
- 19 Gatehouse
- 20 Recycling room
- 21 Refuse room
- 22 New vehicular entrance
- 23 PT slab
- 24 Sports field
- 25 New pedestrian entrance
- 26 Netball court
- 27 Covered internal courtyard



Analysis_

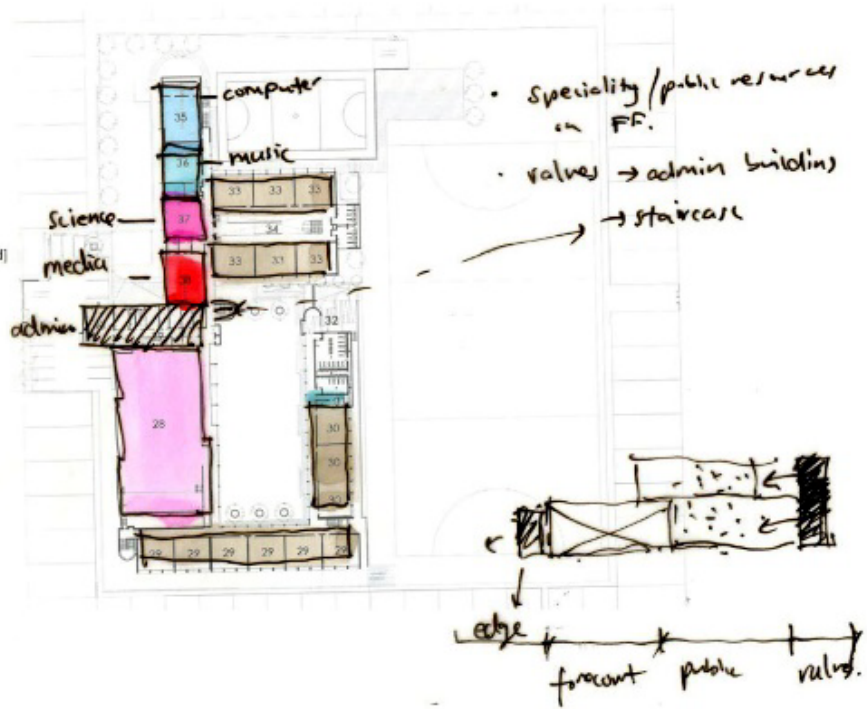
- interface
- thresholds
- valves
- access control
- series of courts



- Ⓐ → hallway
→ forecourt
- Ⓑ → canopy/shelter
- Ⓒ → staircase/spine
- Ⓓ admin block
→ jotted off spaces
→ pinching
→ gatehouse (caretaker)

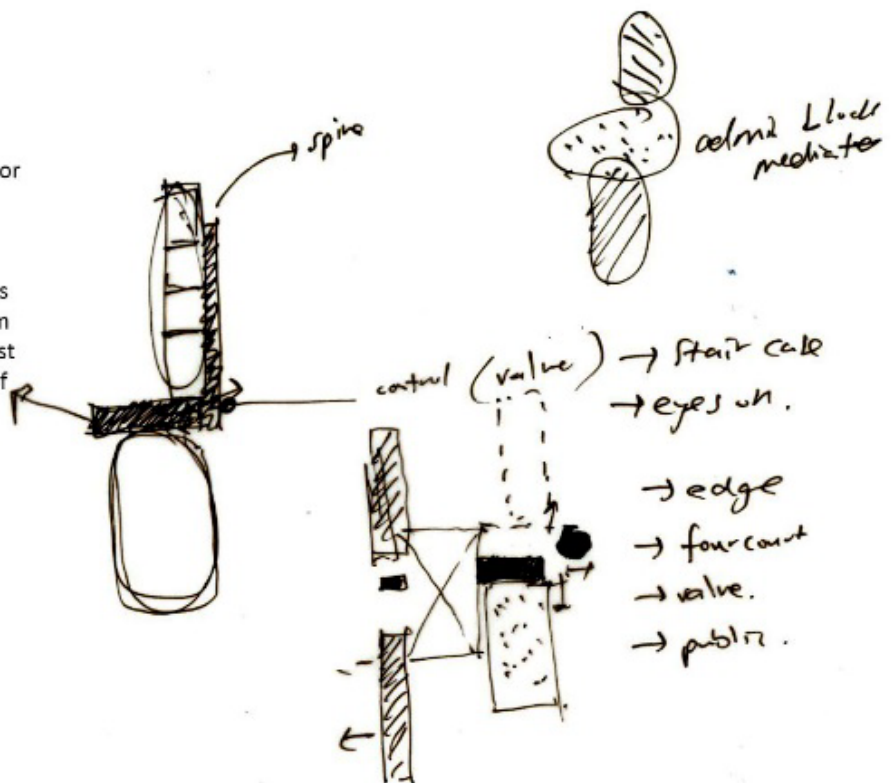
First Floor Plan_ programmatic layout

- 28 Double volume over forum
- 29 Intermediate phase classroom
- 30 Senior phase classroom
- 31 Caretaker
- 32 Wheelchair ramp
- 33 Foundation phase classroom
- 34 Covered internal courtyard
- 35 CAD/IT/classroom [specialised]
- 36 Music room [specialised]
- 37 Science laboratory [specialised]
- 38 Media centre & CAT lab [specialised]
- 39 Admin building
- 40 Staffroom



Analysis_

access control
 admin block as mediator
 overlooking the
 entrance
 forecourt
 certain public functions
 such as computer room
 and media room on first
 floor for safe keeping of
 expensive equipment



USASAZO SECONDARY SCHOOL

Ground Floor Plan_
programmatic layout



Analysis_

workshops as edge
waiting forecourt
scale and articulation of facade
connecting street to urban realm
distinction between community and
school resources and the overlap

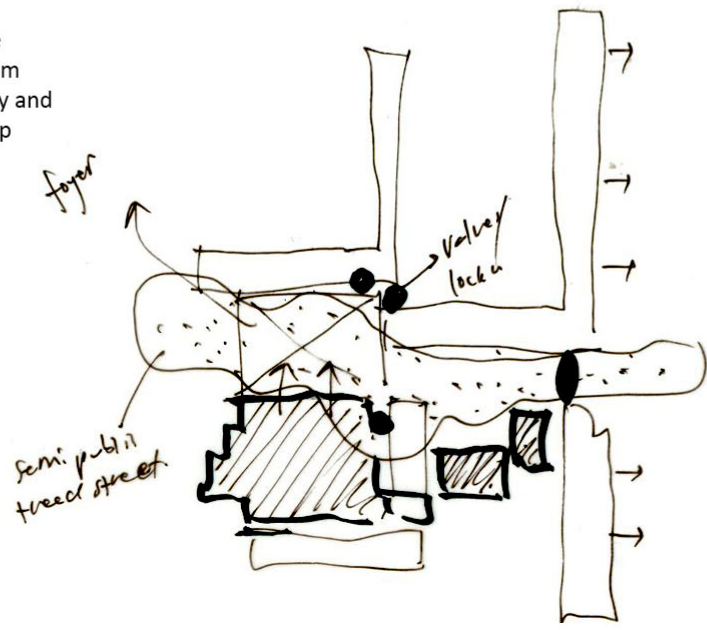
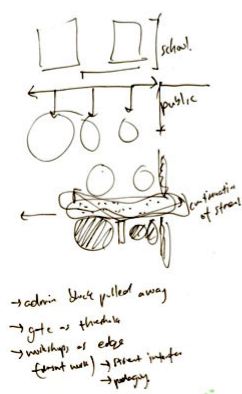




Figure: Usasazo Urban interface



Figure: Usasazo connecting street through the school

DELFT SCHOOL LOCAL PRACTICES

1. Publicness

Identifying the school hall as an important public asset for the school and the broader community. The location of added educational resources should be accessible to the public without hindering the functioning of the school.



2. Programming the fence

Currently the schools in Delft has a weak interaction between the school and the city. The urban interface is often fenced off which does not spatially nor programmatically contribute to the Main Road. The image below demonstrates how through local practices the school fence can be programmed. Thus programming the fence was a big consideration to the design project. Hints from the school case studies also reveal how certain programs of the school could be used to occupy the urban interface between the school and the city.



1. Threshold between the school and the city_School Entrance Point

The connection between the city and the school often occurs at the entrance to the schools grounds. These often take on a gated approach where the threshold between the schools and the city is hard and inhabitable.



Entrance points to schools should be seen as nodes of importance that provides safe places for gathering and waiting as well as for informal trade and urban vibrancy¹. Low further emphasises the importance of the entrance points of school by mentioning that these points assume a high relevance within the stripped down urban fabric and add local value in elevating urban vigilance and contributing to the strengthen of civil society².

¹ Counter-currents : experiments in sustainability in the Cape Town region. (2010). Auckland Park, South Africa: Jacana Media

² Abid

On site observations at the old Delft South Primary School show how the entrance to school is inhabitant once the children leave at the end of the school day. The entrance to the school does not have a forecourt or public space and thus does not provide a safe place for children to wait for their lift. As a result, the children start taking over the street and spill out to various spaces just outside the school.

Here the images depicts how the life of the city changes for a brief moment of time. This speaks to the potential power that schools have in contributing to the city.

In the two images adjacent we can see the lack of design consideration the school has in respect to children waiting for a lift home after school. The threshold between the school and the road is a gated approach which does not accommodate for spaces of waiting and playing. The boundary condition between the school and the city is not inhabitable, with no seating or shelter to provide a space while waiting.

It was also interesting to see how the children start using the corner of the street as a waiting area, outside of the school, with no surveillance. They also appropriate the corner, where they used the residential vibracrete as a climbing wall as well as a canvas to draw on.







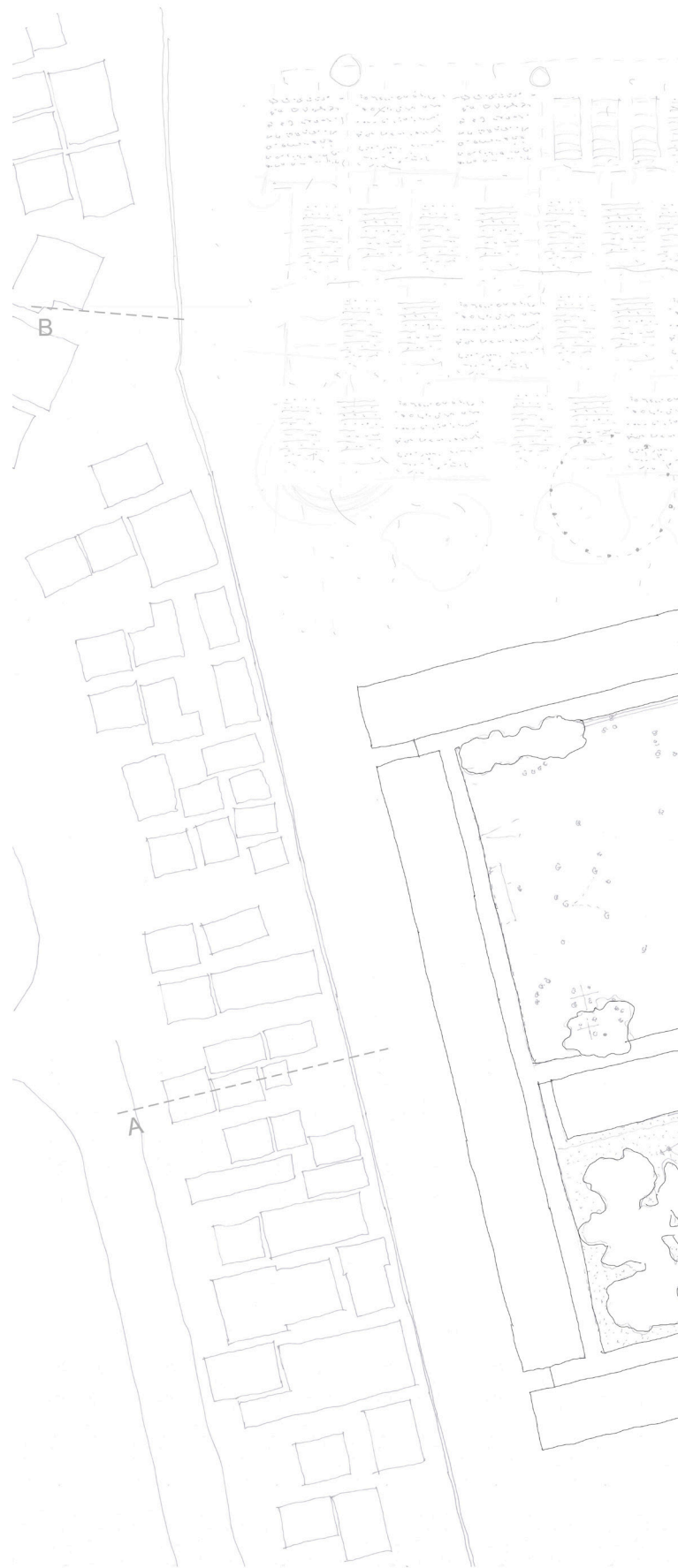
- A_ Grocery retail shop/farming community workshop
- B_ Kitchen
- C_ Cafeteria
- D_ Relocated school reception and principles office
- E_ Existing School hall upgrade with new stage, backstagem cloak rooms and ablutions
- F_ Tuckshop
- G_ New campus of schools library
- H_ Workshops
- I_ School gatehouse, recycling room and refuse room
- J_ Existing School

GROUND FLOOR PLAN

nts



• door
• floor
• kitchen
• bathroom
• living
• dining
• bedroom
• terrace
• garden
• parking
• ramp
• stairs
• lift
• elevator
• ramp
• stairs
• lift
• elevator



A_ NGO Offices

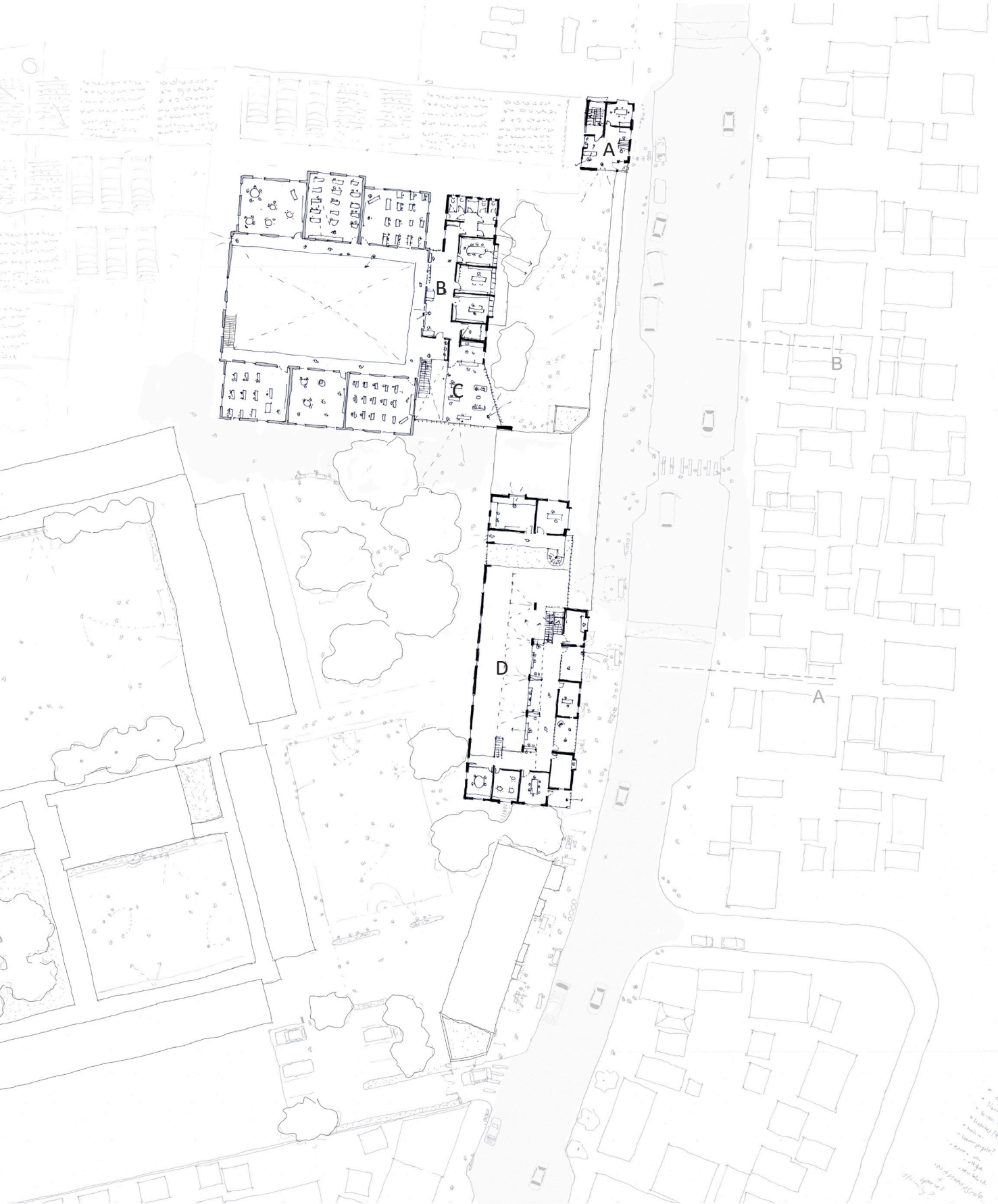
B_ New Amin Block- Offices

C_ Staff Room

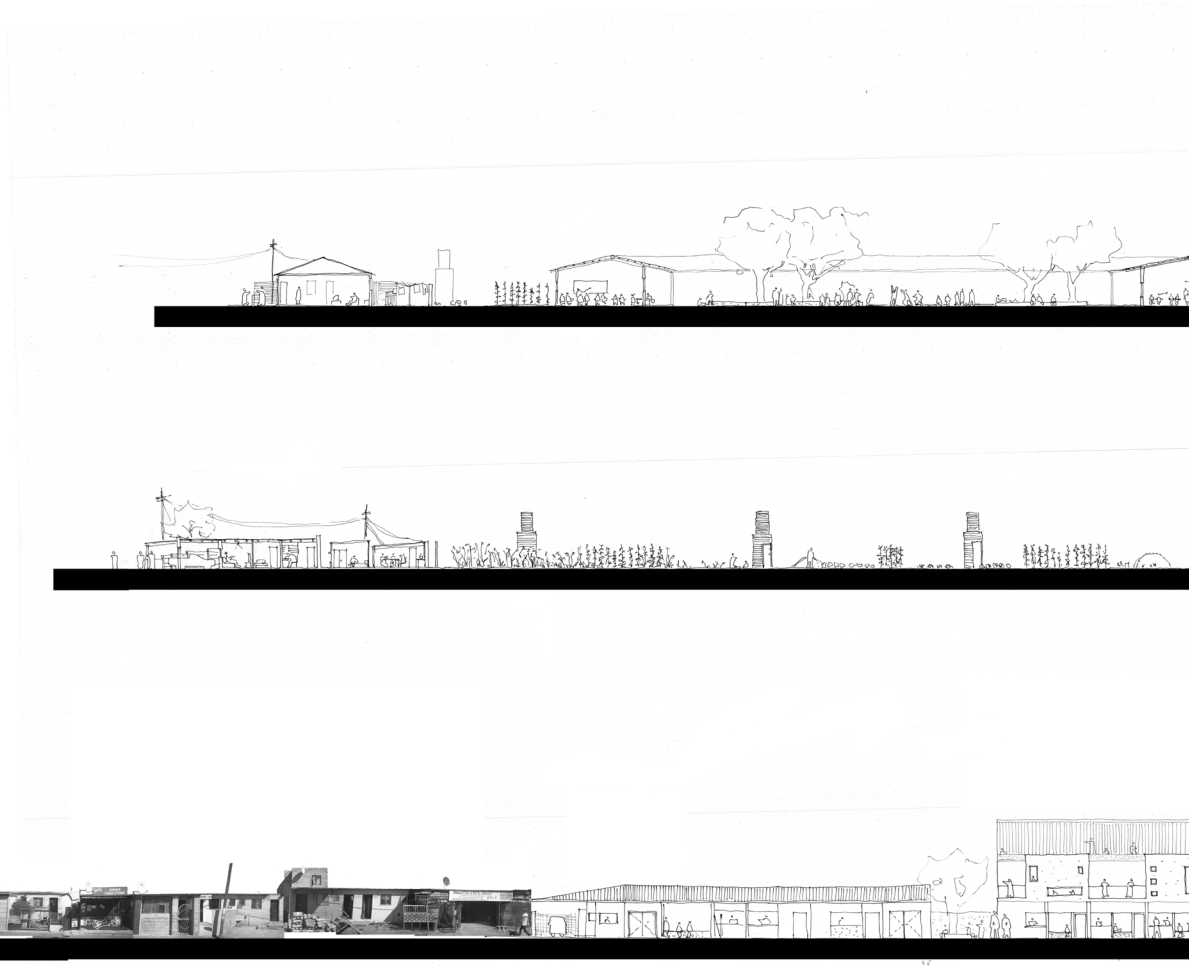
D_ Library

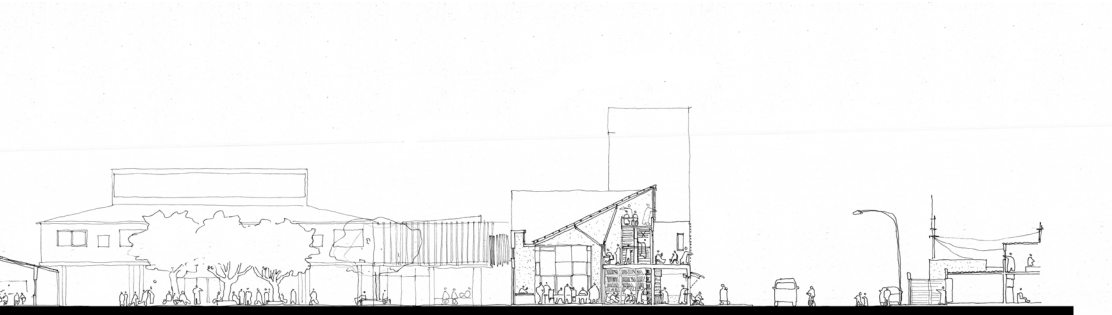
FIRST FLOOR PLAN

nts

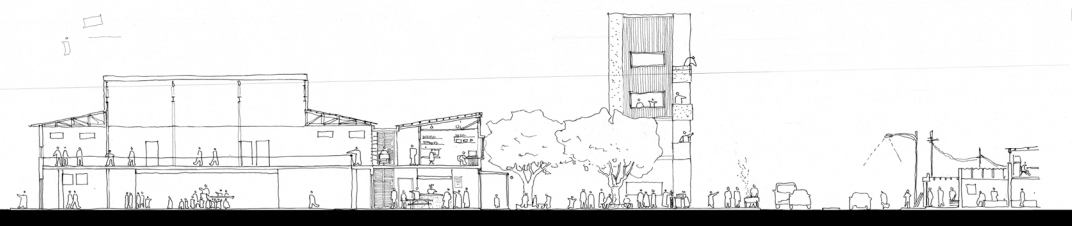


• 0
• 10m
• 20m
• 30m
• 40m
• 50m
• 60m
• 70m
• 80m
• 90m
• 100m
• 110m
• 120m
• 130m
• 140m
• 150m
• 160m
• 170m
• 180m
• 190m
• 200m





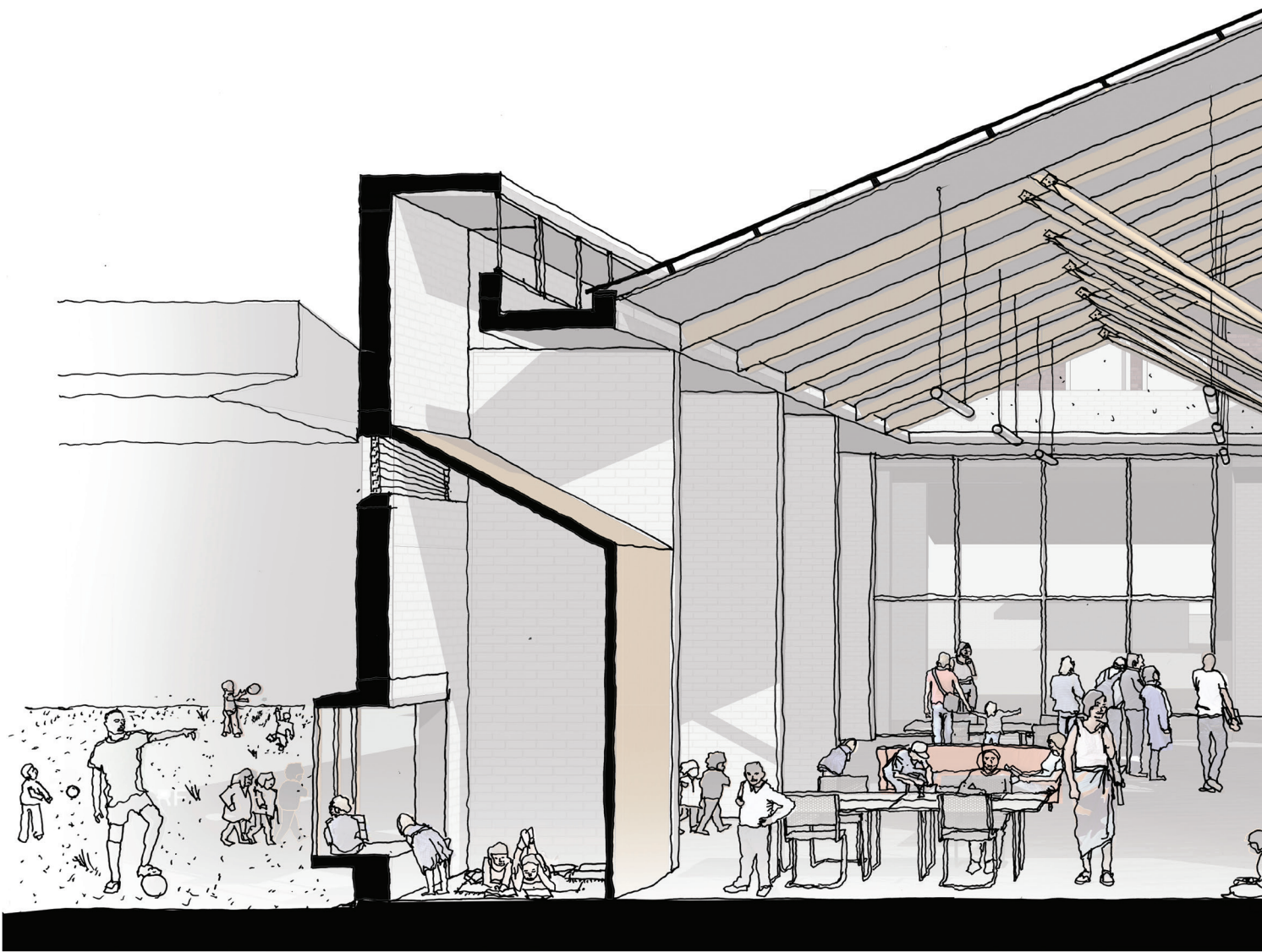
section A-A
nts

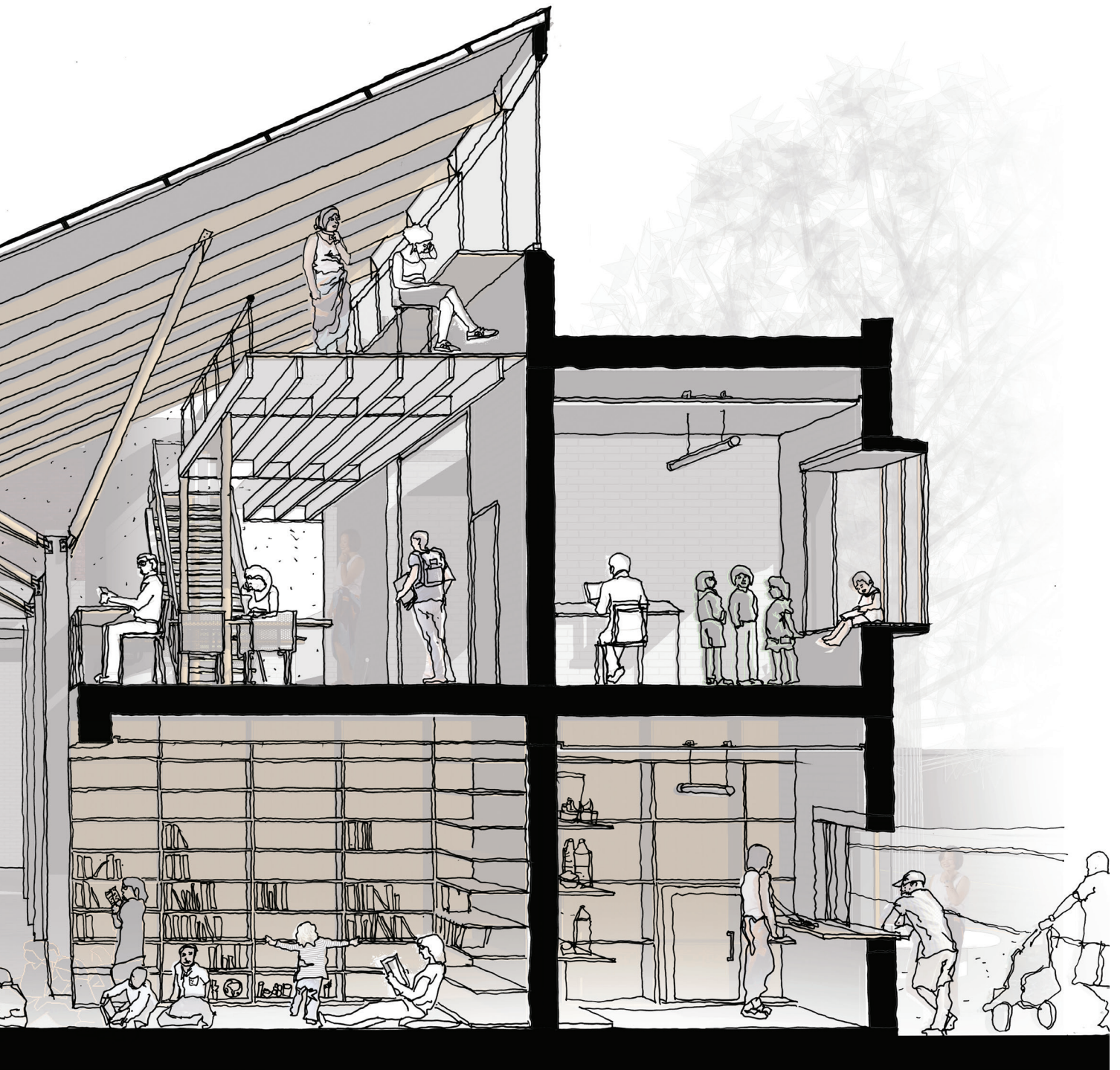


section B-B
nts

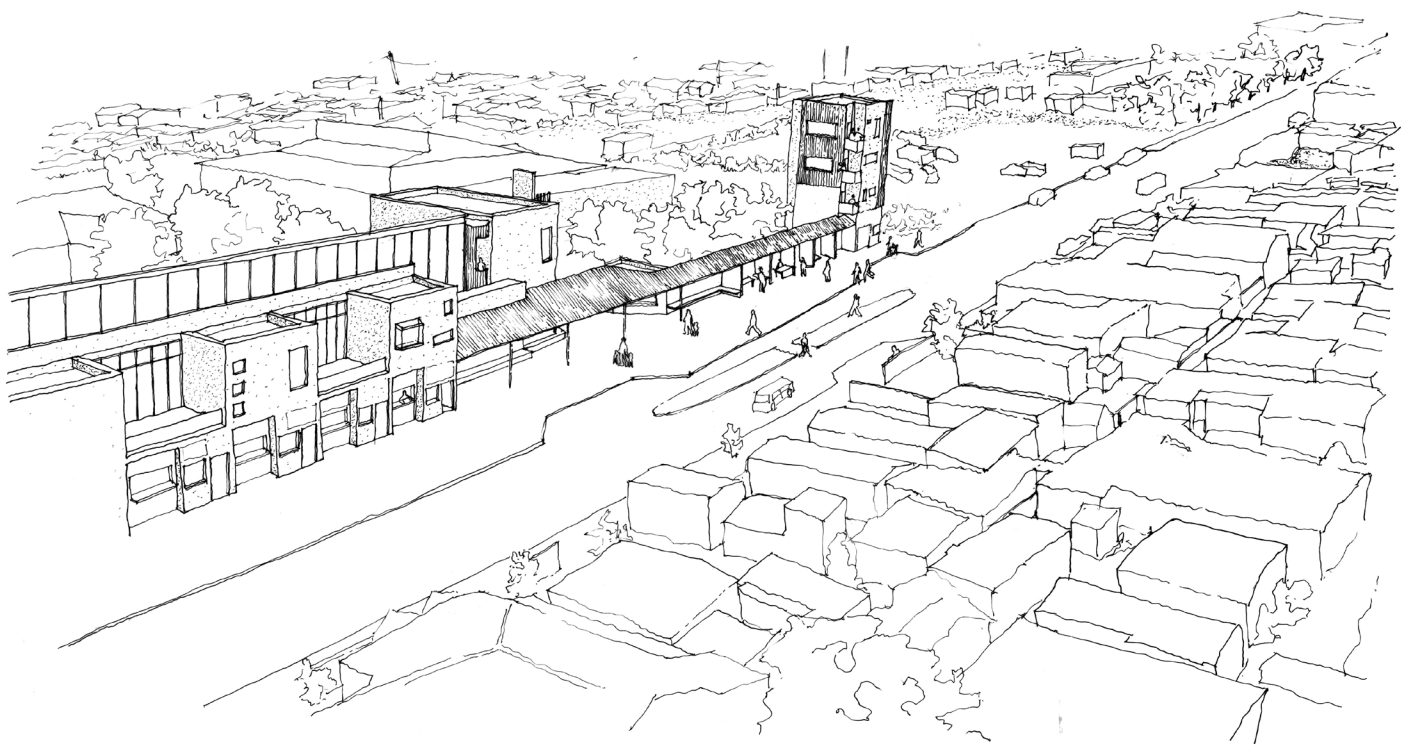


main road elevation
nts

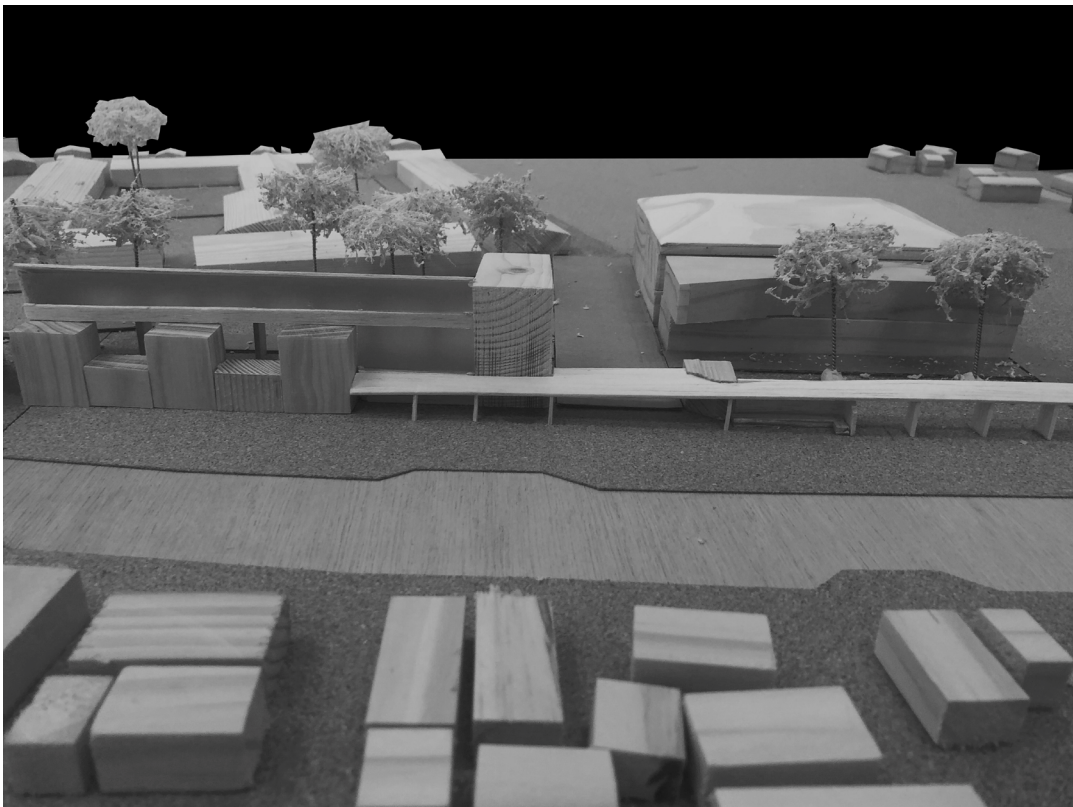


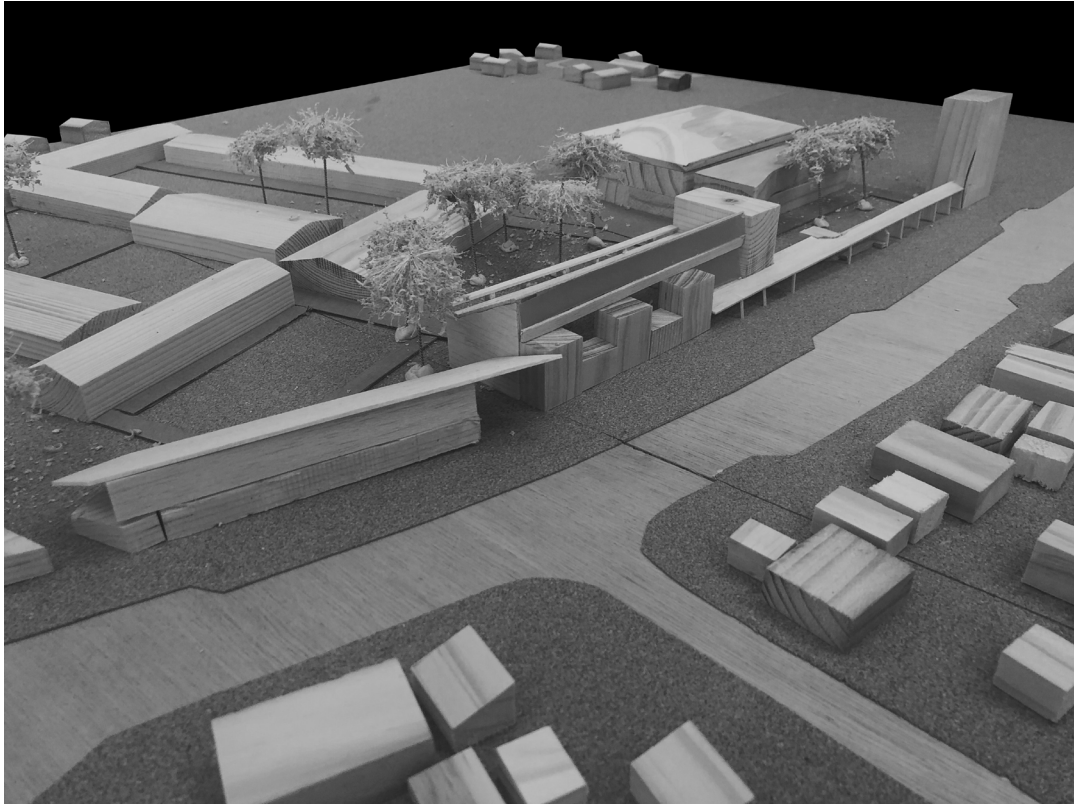


sectional perspective of library
nts









THEORETICAL FRAMEWORK

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14.0

Ethics Approval

Application for Approval of Ethics in Research (EIR) Projects
Faculty of Engineering and the Built Environment, University of Cape Town

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 analyzing 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/eberesearch/ethics/>

APPLICANT'S DETAILS		
Name of principal researcher, student or external applicant	Sean Meyer	
Department	Architecture, Planning and Geomatics	
Preferred email address of applicant	sean@4meyer@gmail.com	
If Student	Your Degree, e.g., MSc, PhD, MEd.	Merch(Prof)
	Credit Value of Research e.g., 60/120/180/360 etc.	120
	Name of Supervisor (if supervised)	Fady Issacs, Nelinda Silverman
If this is a research contract, indicate the source of funding/sponsorship	Click here to enter text.	
Project Title	The School and the City	

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	Signature	Date
Principal Researcher/ Student/External applicant	Sean Meyer	Signature Removed	25.06.2018

APPLICATION APPROVED BY	Full name	Signature	Date
Supervisor (where applicable)	Fady Issacs	signature Removed	20.06.2018
NOD (or delegated nominee) Final authority for all applicants who have answered NO to all questions in Section 1, and for all Undergraduate research (including Honours).	SONJA SPANER	Signature Removed	JULY 2018
Chair: Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the above questions	ADENIYI ISAFI ADE	Signature Removed	10 July 2018

P.P

