





This document is submitted in partial fulfilment for the degree:

Bachelor of Architecture or Master of Architecture [Professional] at the University of the Witwatersrand, Johannesburg, South Africa, in the year 2008.

I, **Darren Reid** (0311408T) am a student registered for the course Master of Architecture [Professional] in the year 2008.

I hereby declare the following:

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I would like to thank:

My mom and brother for providing life's platform through constant love and support.

My girlfriend Nadia for always encouraging me and believing in my abilities.

My best friend Angelo for sharing in life's ups and downs.

My friends and family who have always played an important role.

My lecturers who have contributed to my education throughout my varsity career.

My thesis tutor's Ken Stucke and Nabeel Essa for constant attention, guidance and wisdom.



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“An adults’s city should remain a city for

the child, built of chaos and dreams.”

Lefaivre 1999: 133



Footprints of a 'city child'

Issues

I began this thesis with intention of dealing with a current, relevant issue in South Africa. An issue that an architectural premise could be applied to; an issue that architecture could assist in its wonderful way. None seem more relevant than that of crime. Almost everyone in our country has been directly or indirectly affected by crime. Crime is something that has become an everyday norm for the average citizen, living behind high walls and paying exuberant amounts for private security. The police are by law obligated to serve and protect the community; but they find themselves overwhelmed and drowning in the crime wave.

A further investigation would lead to the fact that a high percentage of the prison population are repeat offenders in their early twenties (Annual Judicial Inspectorate of Prisons 2006/7 Report).

The SAPS are overworked, underpaid and understaffed; not a good combination. Our prison system is no better. Most of our prisons are overcrowded, unhygienic, lack adequate health care facilities and do little to rehabilitate inmates; this is according to the Annual Judicial Inspectorate of Prisons 2006/7 report. My initial idea was to assist in the rehabilitation of non-violent criminals; those that had turned to crime due to life's unforgiving ways. This would prove to be a large task, and rehabilitating these criminals seemed more of a social issue rather than an architectural issue.

This would mean that the majority of the offenders would have committed their maiden crime in their teens. When these teenagers were supposed to be learning or playing sport, they were committing criminal offences. This 'thug-life' culture amongst the children has become a major topic in South Africa. Schools are reporting more fighting, theft and failures than ever before. Children seem to be growing up faster, and the idea of childhood being the best years of your life; has rather become a bitter reality for many South African children. The reason for children at such a young age to be involved in crime may be linked to many circumstances. Studies have taken place concerning this issue of children and crime.

These studies found amongst many other factors that children involved in criminal acts, more often than not; are victims of cultural conflict, poor relationship with parents, slum environment, broken home life and economic insecurity (Pitts 2001: 82).



'Communal living room'
(Hertzberger 1993: 48)

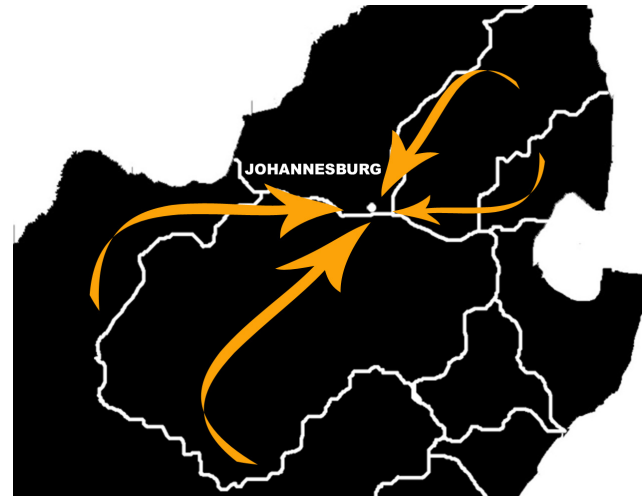
The evolution of factors such as these would evolve from a reoccurrence of events within a city. The power and importance of these events needs to be compared to the effect it is having on its physical environment. This process could be referred to as the 'patterns' of a city. These patterns define the life and soul of a city, they exploit the city for what it is, and show its deepest darkest secrets. These patterns are ever present indications of the quality of life within a city. Alexander stresses how quality of life can come to life in us when it exists within the world that we are part of (1979:62). This means that if the cities and buildings in which we live are not alive, then we ourselves cannot realise this quality of life.

The patterns that define a city are both psychological and physical. Reoccurrence of crime, clash of cultures, financial difficulty, unstable homes and feeling of alienation are examples of psychological patterns. Inadequate living conditions, disorganised urban areas, negligence, and lack of services and facilities are examples of physical patterns. These patterns are often catalysts for the next and are linked one way or the other. If the psychological patterns within a city could be understood and the physical patterns realised, change could take place in order to achieve a better quality of life.

For a child in the city, growing up is a phase of life that is almost entirely out of your control. The conditions of your family and of your environment are determined by these patterns of which you have no control over. The elements that surround you are forced upon you, which you are now forced to deal with at a young age. The environment of an urban child plays a critical role in its psychological and psychical requirements.

The child's vulnerability renders him more susceptible to environmental influences than an adult.

These influences are experienced everyday by the child and are constantly determined by the environment in which they take place. These experiences are due to a child's heightened response of human sense, an indication of a child's inquisitive nature of learning through exploring. Unfortunately the examples of psychological and physical patterns as mentioned before will have negative influences on a child. Hillbrow is a city defined by all of these negative patterns. An analysis of this city will determine the influences of these patterns, whilst allowing a better understanding of inner city life for a child.



Movement into Johannesburg from surrounding rural areas

Hillbrow dates back to 1895, then being one of Johannesburg's first residential areas. From the 1940's the high-rise residential blocks that Hillbrow are now famous for went up, and Hillbrow became the most densely populated suburb in the country. Hillbrow used to be an image of cosmopolitan city life; cafes and shops gave life to the streets and were overlooked by coffee shop balconies above. This historic movement of people into the city was the emergence of the first pattern which would act as a catalyst for those to follow.

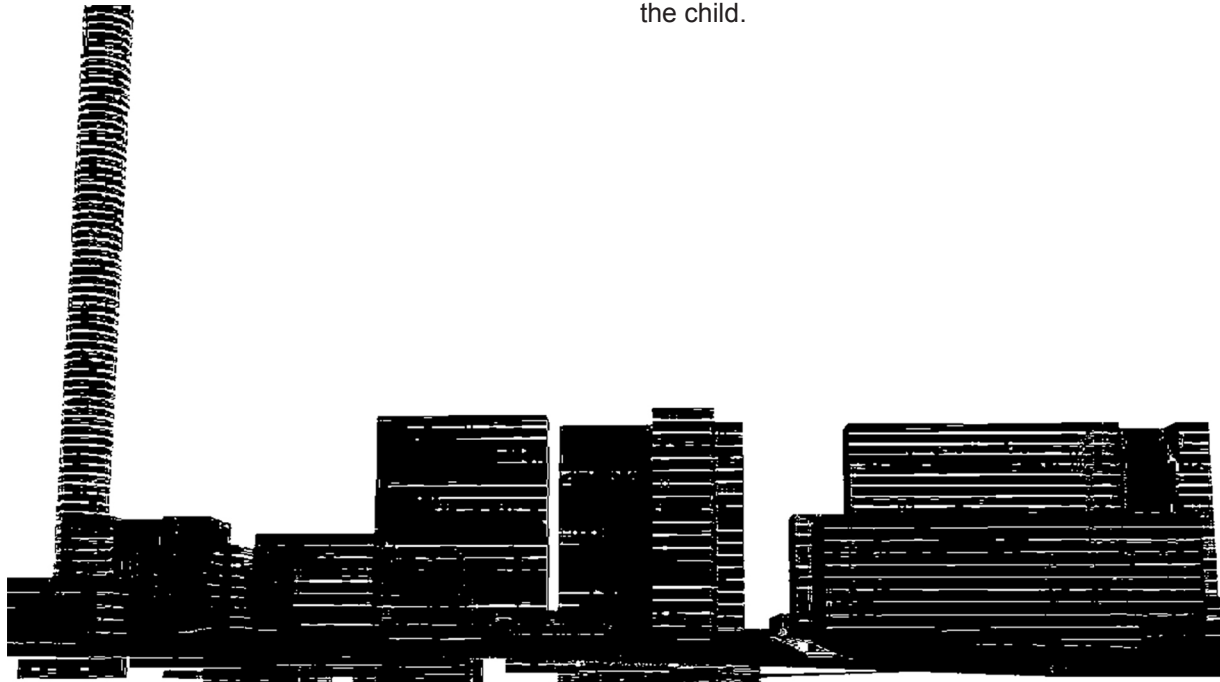
Hillbrow became not only densified, but overpopulated.

This sudden population of people from differing cultures caught Hillbrow somewhat unprepared. Most of this new population came to the city in search of a better life; bringing with them their family, hopes and dreams. Due to their social and economic disadvantages; these new residents carry with them a great burden in adjusting to community living.

This placed a great amount of pressure upon the physical environment. These families are forced to deal with social forces and functional roles or urban society, a society they are unaware of, causing personal and social disorganisation.

This in turn created a disorganised urban area, a pattern which is often linked to crime.

Hillbrow is renowned for its high level of crime, and today is regarded as a no-go area for non-residents and especially for tourists. The dense streets and dark 'slum like' alleys are the perfect feeding grounds for criminals. There are many abandoned buildings within Hillbrow which have no services, yet they are still flooded with residents, refugees and criminals. These conditions are appalling, but are an indication of the quality of life within Hillbrow. The unfortunate victim being reared in what could easily be referred to as the 'gangster's paradise' of South Africa, is the child.



*Hillbrow Silhouette
(By Author)*

Children make up almost a tenth of the population of Hillbrow (Corporate Geo-Informatics Suburb census 2001). This large population of children have little or no supervision beyond school hours. This is due to the fact that there is no adult supervision at home, or that there are no communal facilities that cater for children within the area. Children that don't participate in after school activities are found playing in the streets, on fire escape stairs, in abandoned buildings, and in the public park. These activities are part of a child's learning to live in the city, but they render the child vulnerable to the negative surrounding influences. In the case of a child in Hillbrow, the physical environment more often than not has to assume the responsibility of nurturing, protecting and encouraging the child. Taking into consideration the patterns that define Hillbrow for what it is today; this is a role the physical environment is ill equipped to deal with at present. The question that needs to be asked is:

**How can the built environment of a 'city child' under
such circumstances;
better provide as a space for children?**

Children growing up in an environment such as Hillbrow would surely face more obstacles than your average child, as quality of life as seemingly absent. If these children are forced to live under such abrasive circumstances in this disorganised urban area; consideration of this should be realised within the built environment. The reality of the situation is that provisions should be made for these children in order to alleviate their struggle and prevent them from falling victim to their unfortunate circumstances. There is a need for a space in Hillbrow to be dedicated to its children. A space that will accommodate children and allow them to call it their own. This space should be a secure, inviting, nurturing environment in which the children of Hillbrow are afforded that which they duly deserve.

Proposition

My intervention is that which Lefaivre would refer to as situational architecture, or what I would call cause and effect. The children of Hillbrow are disregarded within its brutal built environment, the streets and buildings are not suitable for them. Children should be taking part in activities of learning and recreation whilst within a more suitable environment. My intervention aims to provide this.

It is a project dedicated to the everyday life of children, a place of celebration; a building which should enhance and sustain dialogue between the community and its children.

The Child Development Centre would act as a place of refuge for children, a safe haven in times of insecurity and danger, a place to escape the brutality that Hillbrow influences in a child's life. The children of Hillbrow need a place to call their own.

A place that is designed for children and their very specific needs in the urban fabric that it finds itself.

It would be a place that celebrates the age of a child offering life experiences and opportunities lacking in the city of Hillbrow. It is an attempt at giving more meaning to the life of a child in Hillbrow. The centre would integrate the elements of Hillbrow that are positive in a child's life such as schools, responsible community members and the church. By involving these elements, there would be cohesion within the community, and the life of a child will be better realised and appreciated.

Group activities within the centre shall afford the children the advantages of group association rather than the segregated, disassociated activities that they currently experience. Recreational activities shall encourage exercise through sport and active play, providing muscle stimulation and learning by doing and experiencing. Play for a child is a means of research through which the child explore themselves, their world, and the relationship between the two. The Child Development Centre shall provide a fuller range of possibilities for play; therefore providing an environment that is better suited to the development of their full potential. Recreational activities that attract the children of Hillbrow shall not only provide these necessities for a child, but will also be taking the children off the streets, and placing them in a more suitable learning environment.



Group activity
(Williams 1958: 145)

Children thrive in the opportunity of shifting their surroundings. Exploring the environment is an adventure that involves solving problems, a process of learning. Exploration and discovery will be encouraged at the centre. Learning is acquired through experience, and because of this the physical environment, as experienced continually by the child, plays an imperative role in the learning process. Outdoor activity will form a large part of these learning activities. Art is a fundamental part of the stimulation of a child's imagination, activities such as painting, drawing and moulding of clay will assist in this stimulation and form the basis of the art programme at the centre.



*Problem solving through exploration
(Stine 1997: 19)*

Community members of Hillbrow that are uneducated or unemployed will be catered for in the upliftment program; which will run during the week as a sub-body of the centre, teaching skills such as reading, writing and computer literacy. On Saturdays the facility will be open to children, as well as holding family counselling and parenting classes. On Sundays the facility will be used by neighbouring churches for Sunday school classes and activities. This integration of community members during the week will extend the daily activity within the centre, thereby giving more life and meaning to this intervention.

It is an attempt at integrating the community into the facility, whilst making them more aware of the activities taking place for children.

The centre will link into the existing urban fabric in which it finds itself, feeding off that positive energy that already exists in order not to alienate it from the rest of Hillbrow. Existing facilities such as the public park and community library shall not only create this linkage, but also provide alleviation of space on site, allowing more space to be dedicated to the other activities within the centre. The Hillbrow Child Development Centre aims to provide for the children of Hillbrow in a sensitive yet effective way, in order to become a monumental figure within the community.



Hillbrow Dissected

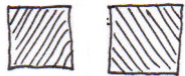
Architecture is a process of understanding and providing. In order to provide for the children of Hillbrow; we not only need the base information covered in the previous chapter, but an ability to extract critical elements as well as an imaginative approach to understanding children in their built environment. The subject of this chapter is to move from the basic understanding of a child's environment and needs, to formulating a means of ensuring a satisfaction of these in the design of this new environment. I will begin at the macro scale by critically examining Hillbrow as an urban context, extracting the design principles that are both positive and negative. Moving onto the micro scale, I will define the design principles that are crucial when designing for children.

Macro

There are many spaces within the urban context of Hillbrow that are **negative**. Solitary buildings sit adjacent each other creating tight spaces with no meaning. These spaces are dark, non-connected, uninviting and non-explorative. Child recreation and learning are better realised in areas that are **inviting**; as well as offer spaces of **linkage** and exploration.



SOLITARY SPACE



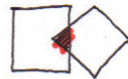
ADJACENT SPACE



TIGHT SPACE



SPACE WITHIN A SPACE



OVERLAPPING SPACE



LINKAGE OF SPACE



SHARING OF SPACE



INVITING SPACE

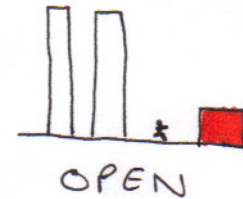
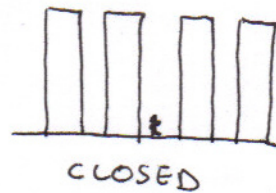
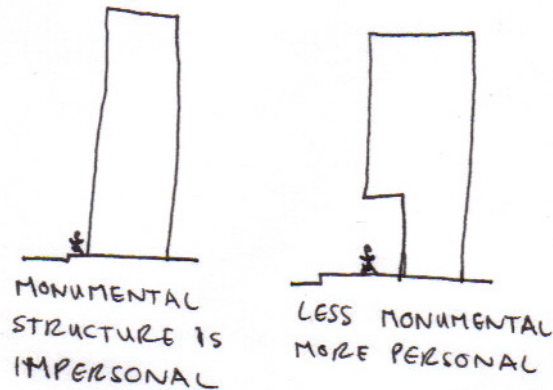


EXPLORATIVE SPACE



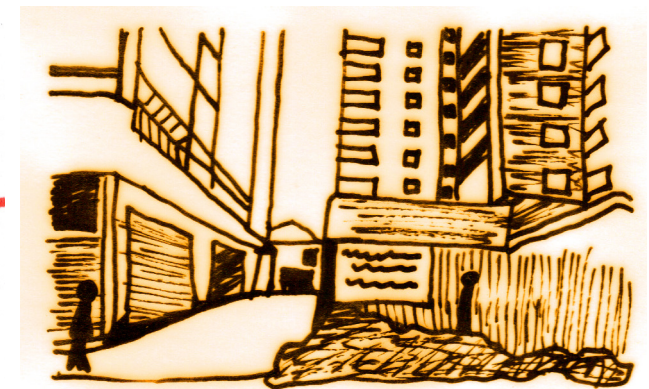
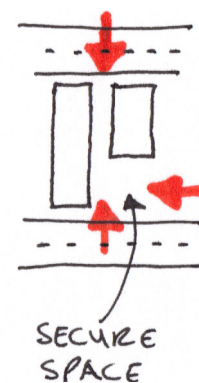
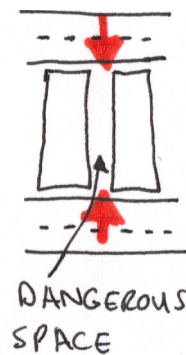
Streets act as connecting spaces, yet they are inaccessible due to vehicular domination

The monumentality of many Hillbrow buildings has a negative impact on children. These structures are un-accommodating and threatening. Simple recesses on lower levels could open the building more onto the street and accommodate pedestrians in a more successful manner. **Open** spaces between these structures decreases the claustrophobic feeling brought on by this monumentality as well as creating spaces of social gathering.



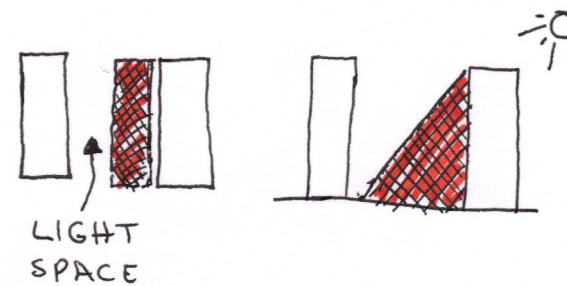
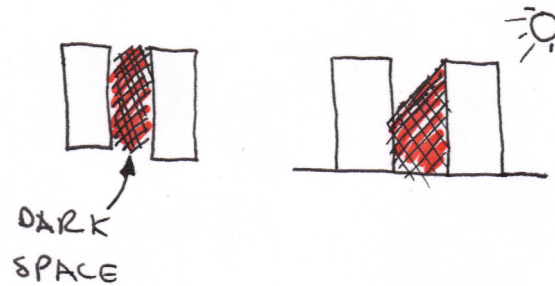
Tight street edges and high-rise structures are a common feature in Hillbrow

Hillbrow is an extremely **dangerous** environment. The urban context accommodates this with its many tight alleys. Once entered, there is a low visibility rate from surrounding directions which isolates the pedestrian from the rest of the street. By exposing these alleys, visibility is improved and possibly instead of an alley it will become a 'pedestrian street'.

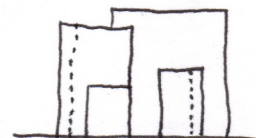
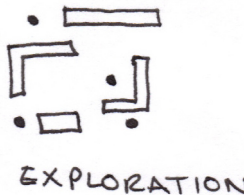
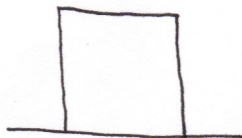
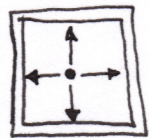
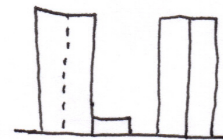
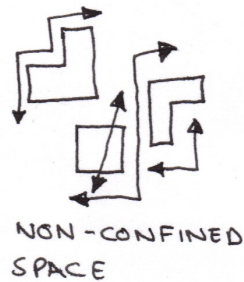
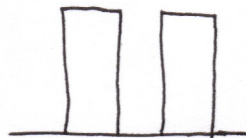
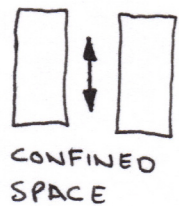
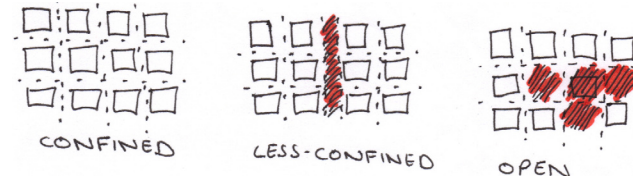


One of the many 'scary' alleys in Hillbrow

Calculated spacing between structures would prevent **dark** spaces by allowing light into the connecting space.

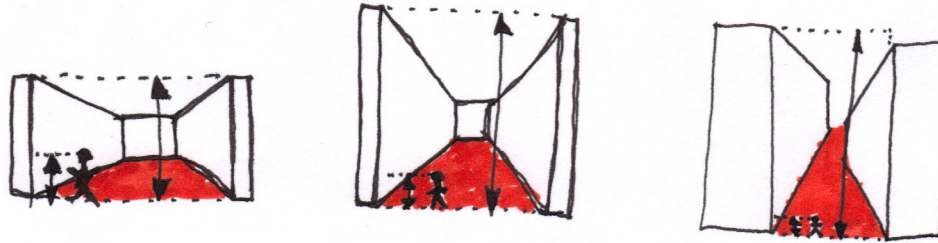


Hillbrow's massing has created many **confined** and **non-explorative** 'passages' which have little to offer. Massing that change in level and size creates areas that are non-confined and explorative. These are properties of space which are necessities when designing for children.

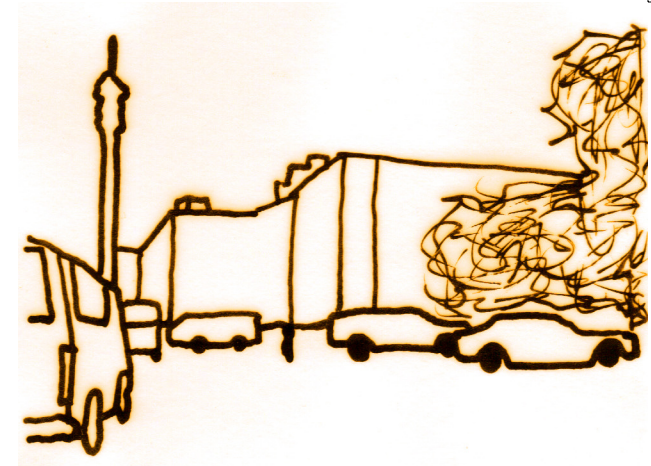


Confined and non-explorative area

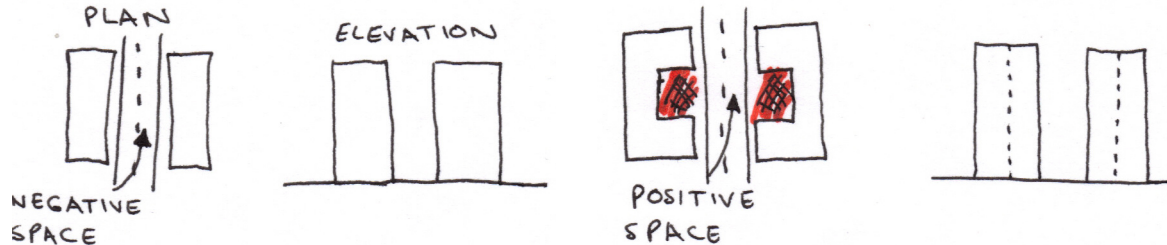
The **scale** and **proportion** of Hillbrow is intimidating. When designing for children these have to be considered and integrated for reasons of comfort and security.



Recessing high-rise structures away from the street creates pockets of activity off-street and creates a space which is **non-vehicular** dominated and soft.



The built mass in the foreground has a different scale and proportion to that of Hillbrow Tower in the background



Extracted 'macro' design principles:

- positive / negative
- adjacent / linked
- dangerous / secure
- confined / non-confined
- scale / proportion
- inviting / non-inviting
- open / closed
- dark / light
- explorative / non-explorative
- vehicular / non-vehicular



One of the more open spaces within Hillbrow

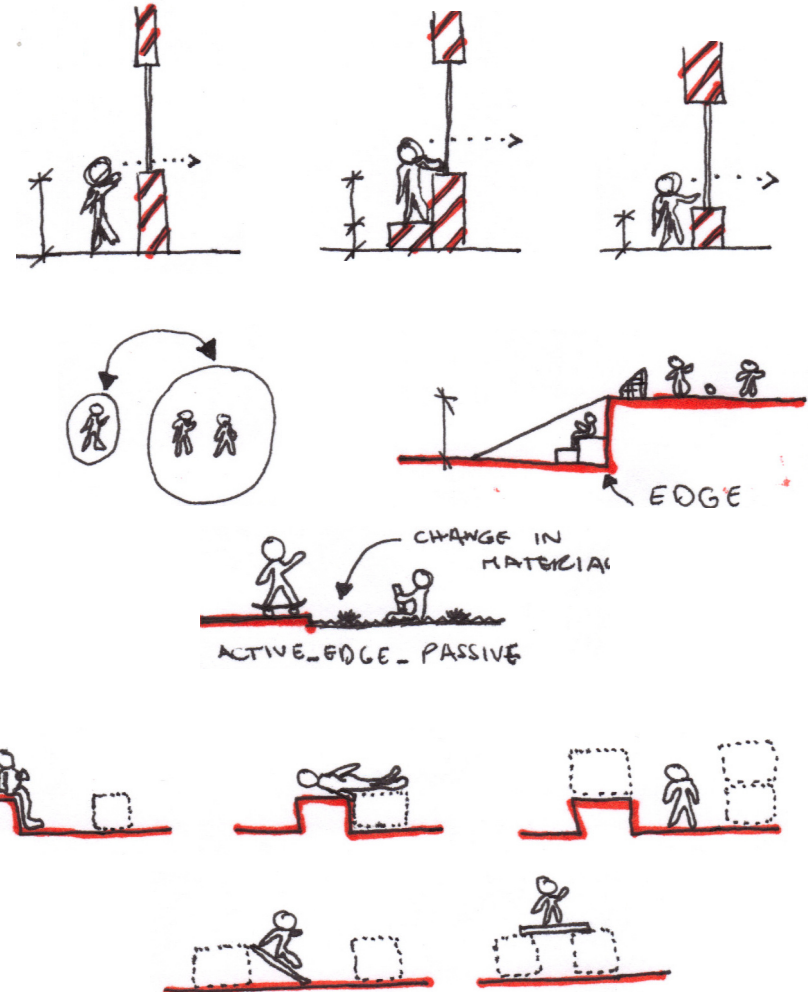
When designing space for children there are many considerations that need to take place. Children differ in many other ways than just proportion. Children have needs and requirements especially in areas of learning. These requirements should ultimately define and shape the space that surrounds them. By interrogating these requirements, the results can be moulded into architectural elements that shall define their built environment.

Micro

Accessibility is probably the most important requirement of a 'child space', children should be able to distinguish between that which they are allowed access to and that which they are not. A raise in level allows the child an un-obscured view through the window whilst placing the window opening mechanism within reach. A change in cill level would achieve the same results.

Children just like adults require both **active** and **passive** spaces. Children enjoy running around and making noise, but also enjoy less social and noisy activities. These spaces differ in activity, sound and area. There are many ways in which the two can be distinguished; the key element seems to be the edge. A change in level provides a smaller space that is quiet and private compared to the level higher up. A change in material defines the activity allowed which in turn creates active and passive space.

Children thrive in the opportunity of shifting their environment. Areas that offer both **permanence** and **change** allow children to explore through interactive behaviour.



Children enjoy a **challenge** that creates a certain amount of **risk**. These allow for exploration of the environment and test the child's abilities and limitations. Repetition of activity gives a child a sense of security and place. A low wall creates a challenge of balance, whilst providing an object to sit and lean on. An accessible rooftop has a sense of risk to it.



Hard and **soft** spaces are equally enjoyable to children. They both provide opportunity of different activities giving children the option of choice.



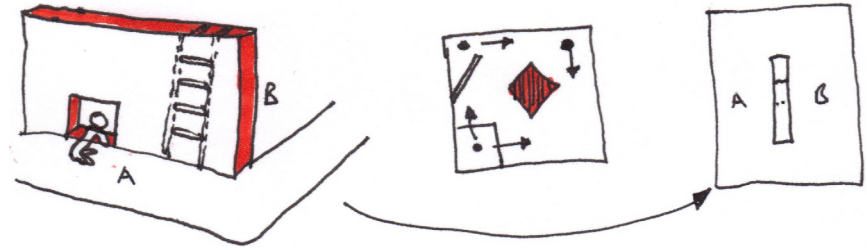
Nature is an important part of children's learning. Sitting on a grassy hill is different to sitting on a concrete bench or a plastic chair. Learning through a simple activity such as this stimulates a child's sense of touch, sight smell and experience.



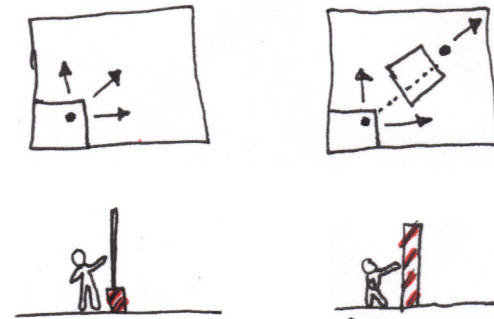
Children enjoy activities that are both social and non-social. **Open** space encourages social interaction between children; a more **confined** space offers opportunity of private activities such as reading or painting.



Children's minds need to be challenged and stimulated. Areas that are both **simple** and **complex** provide opportunity for a child to explore the environment. A wall can be a complex object with cut-outs that encourage a different perspective within that space.



Transparency of surface provides fascinating experiences to a child. Visual connection allows interaction to be shared from two different spaces. Painting on an **opaque** brick wall is different to painting on a **transparent** plexi-glass wall. The solid wall's painting is permanent and makes no change in its transparency. Painting on plexi-glass creates a temporary change in transparency.



Extracted 'micro' design principles:

- accessible / inaccessible
- permanence / change
- hard / soft
- open / confined
- opaque / transparent
- active / passive
- challenge / risk
- natural / man-made
- simple / complex





Precedent Studies

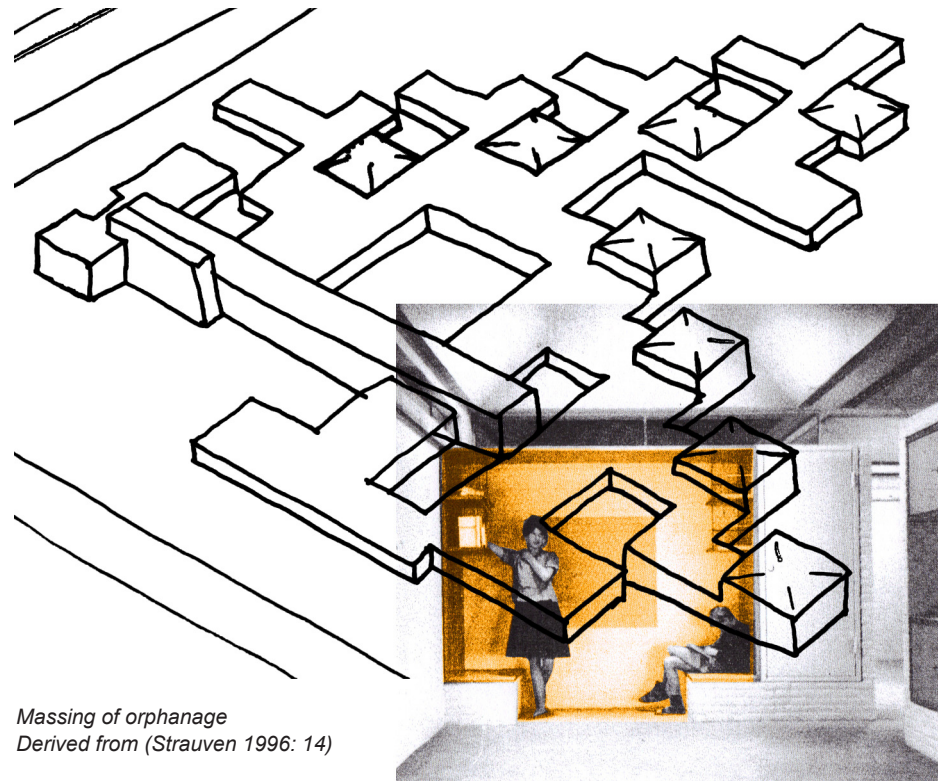
Amsterdam Orphanage

Brief

The Orphanage in Amsterdam was designed by Aldo Van Eyck for youths between the ages of four and twenty. The brief was to create an environment that was designed for children in order to give them a sense of security and acceptance, whilst remaining approachable to children. These children are deprived of a home life; the orphanage should create a community in order to fill this void. The design challenged preconceived architectural ideas; dialogue between the elements was created and a little city within a city was achieved.

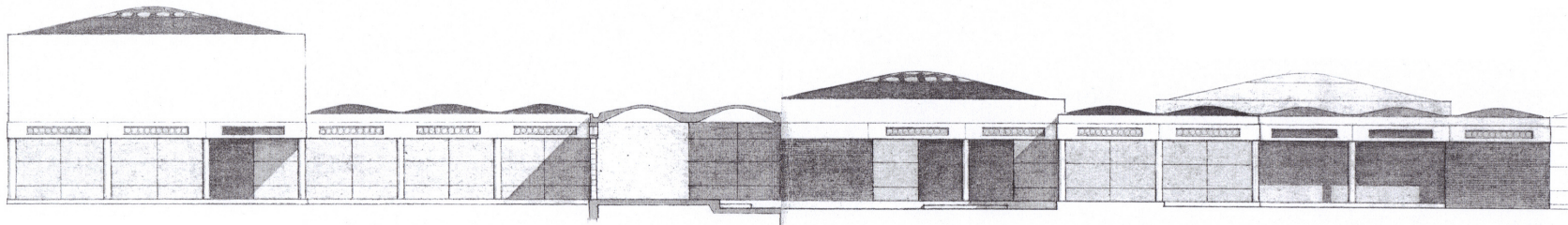
Context

The orphanage is sited just outside the cities south-west periphery in a derelict area. The site is alongside a highway and a sports stadium, and just ten kilometres from an airport. Although the site is on the periphery of the city, the constant vehicular and pedestrian movement past the site binds it to the city. Van Eyck wanted to explore the idea of creating 'dialogues and inbetweening'; (Lefaivre and Tzonis 1999: 66) this large site was the opportunity he had been waiting for.



*Massing of orphanage
Derived from (Strauven 1996: 14)*

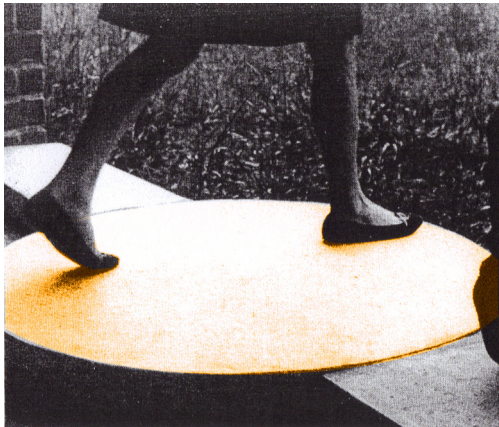
*Scale defines accomodation
(Strauven 1996: 7)*



*Sectional elevation through interior street
(Strauven 1996: 22/23)*

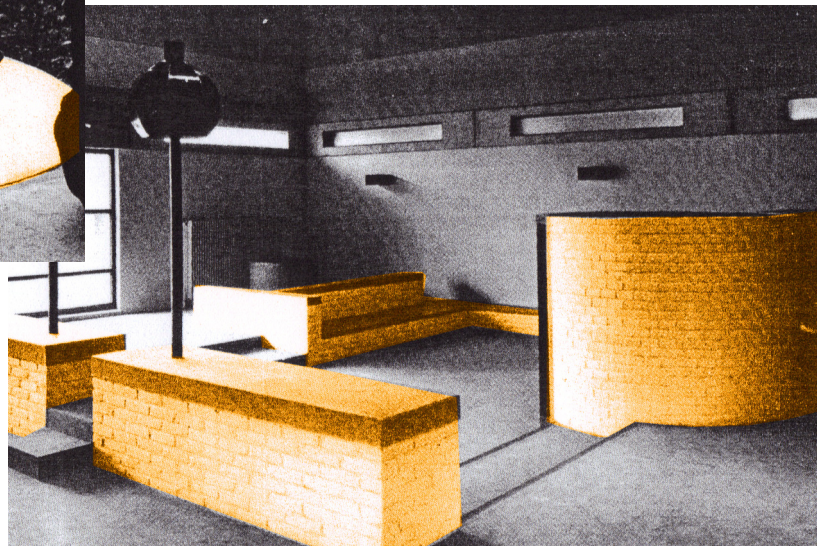
Plan

The plan of the orphanage is arranged according to the ages of the children utilising that specific space. Each section has its own identity and the appropriate facilities are put in place according to the requirements for each age group. The plan has a mysterious quality revealing itself in stages, but there is an order to it which creates a rhythm that accommodates the children. Within the plan is a playfulness of space, as well as with materials. Thresholds are emphasised and simple elements become useful in more meaningful ways. Scale plays a large role in the design, these spaces are designed for children and the appropriate scale is used by Van Eyck to accommodate their size.

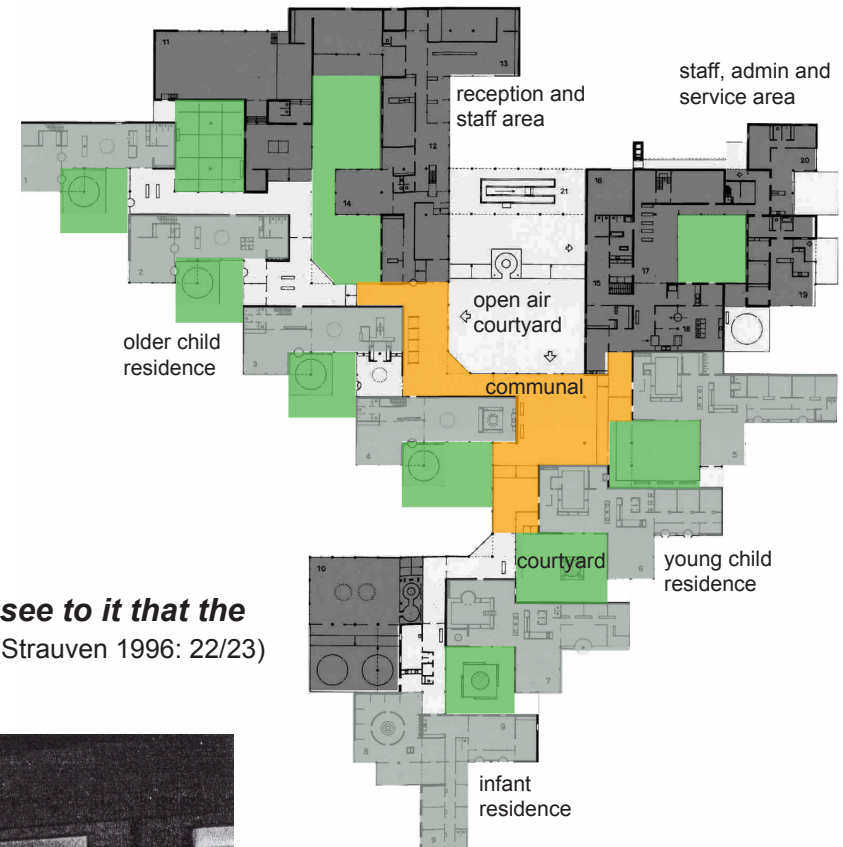


*Threshold defines inside and outside
(Strauven 1996: 37)*

“If childhood is a journey let us see to it that the child does not travel by night.” (Strauven 1996: 22/23)



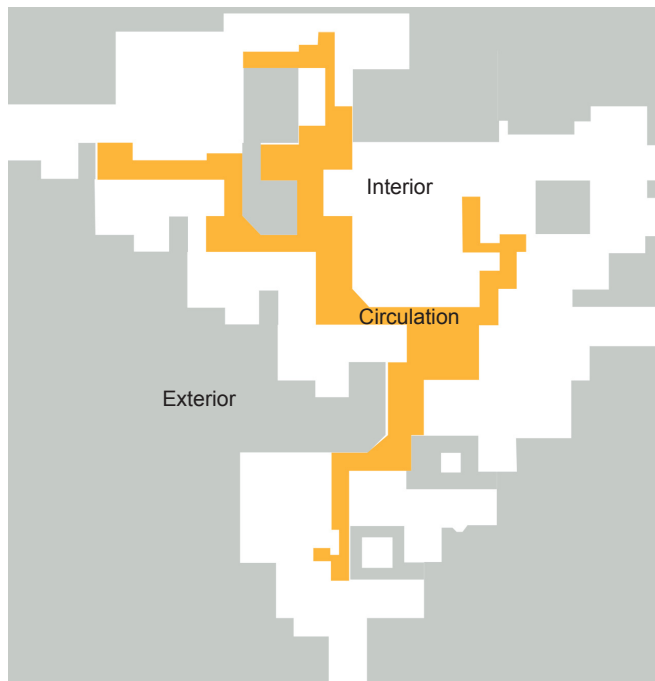
*Ground floor plan of orphanage
Derived from (Strauven 1996: 18)*



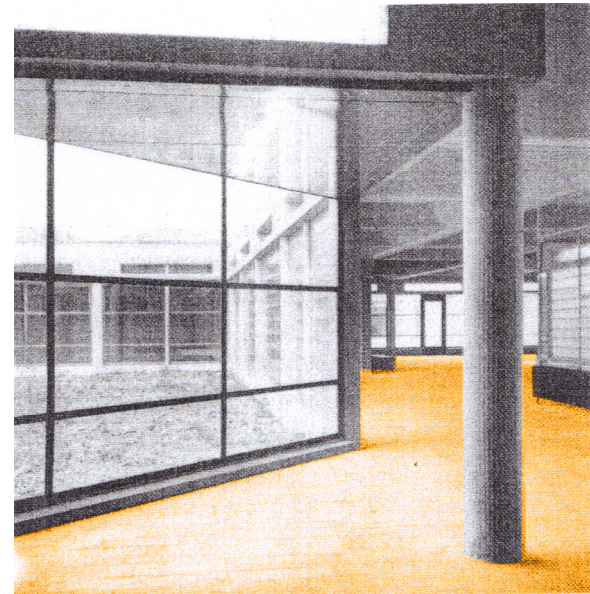
*Playful change in level and materiality
(Strauven 1996: 25)*

Circulation

A large square forms the transitional space on entering the orphanage, and represents Van Eyck's idea of 'inbetweening' of reality inside and outside of the orphanage. The spaces inside the orphanage are scattered in a playful way creating a circulation route that is full of mystery. This circulation reveals the spaces in segments and the linkage encourages social interaction through the discovery of these new spaces (Strauven 1996: 6). This scattered plan has created what Van Eyck refers to as streets, which connect to a number of courtyard spaces. These courtyards create the connection between the inside and the outside. Most importantly the circulation is designed for children, there are no endless corridors where a child can get lost, all 'streets' are connected to a number of spaces creating a cohesion whilst not interfering with the functions of the orphanage.



*Labyrinth of circulation connects interior to exterior
Derived from (Strauven 1996: 18)*



*Interior space encouraging social interaction
(Strauven 1996: 18)*

Extracted Principles

- *children define scale*
- *'child space' needs to be inviting yet secure*
- *children need space to gather as a community*
- *space for children needs to be part of the city*
- *different facilities are necessary for different age groups*
- *circulation should be a journey of opportunities*
- *planning should be playful yet rhythmic*
- *connection of exterior and interior should be defined*

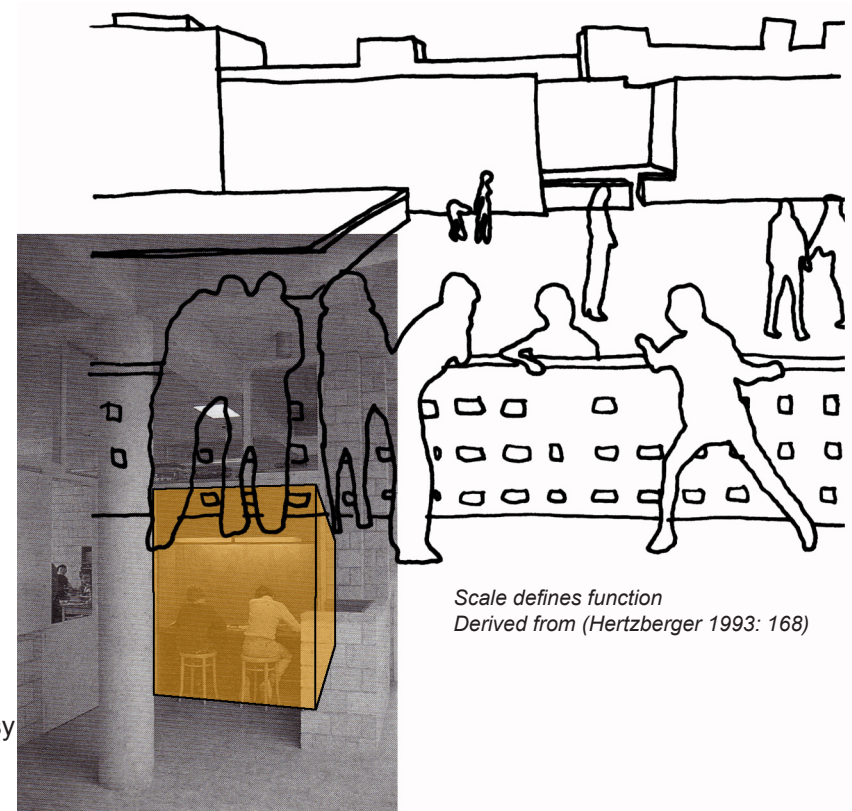
Montessori School

Brief

The Montessori School in Delft was designed by Herman Hertzberger. The brief was to design a school that enhanced the developmental processes of children. The usual row of classrooms was to be avoided and there needed to be a richness to the building.

Context

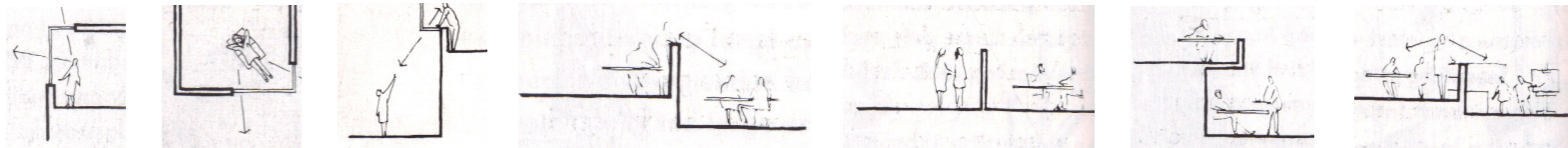
The school is connected to its surrounding context through carefully articulated entrance spaces and views. As the site changes in level, the building makes use of this in a playful and effective way creating privacy and defined spaces. This play on levels makes one aware of the surrounding context, connecting the outside to the inside. The school is made up of a series of spaces which allow the children to feel safe within the context of the site. The structure was to express the process of a growing child's needs, whilst allowing the child to explore and experiment with fantasy and reality in order to develop.



*Scale defines function
Derived from (Hertzberger 1993: 168)*

“Space should be articulated in such a way that places are created.” (Hertzberger 1993: 193)

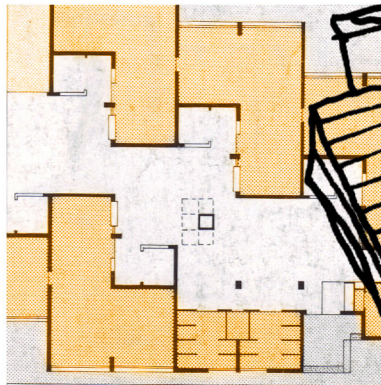
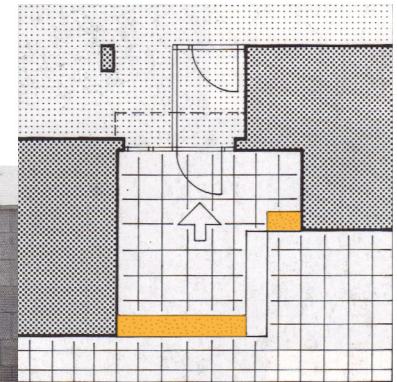
*Pockets of space
(Hertzberger 1993: 165)*



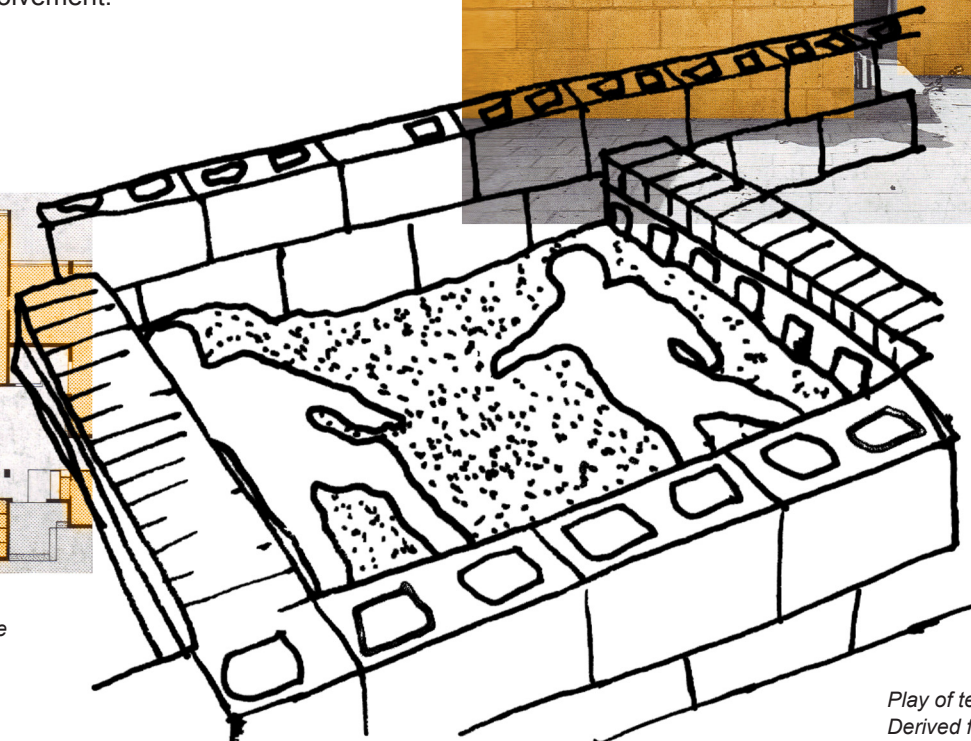
*Playful spaces
(Hertzberger 1993: 203,202)*

Plan

The plan of the school shows a spread of classrooms stepped around a central hall space. The threshold spaces of the classrooms promote the interaction of the children. These articulated spaces are created according to spatial units whose appropriate dimensions accommodate those who will use them (Hertzberger 1993: 193). There is an abundance of smaller spaces rather than a few large spaces because children feel safer in spaces that relate to their scale. These differing spaces accommodate different activities, some of which make children more aware of their environment. Each classroom has their own clothing cupboard and toilet, this serves to teach the children responsibility and involvement.



*Making space by leaving space
(Hertzberger 1993: 153)*



*Low walls become seating and
encourage social interaction
(Hertzberger 1993: 202,203)*

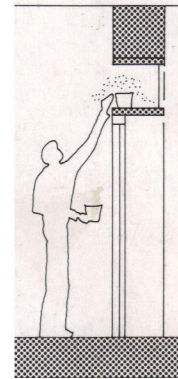
*Play of textures and levels
Derived from (Hertzberger 1993: 193)*

Circulation

Hertzberger uses the idea of the 'street' in order to create circulation throughout the school. As one moves through the school there is a noticeable change from public, to semi-private, to private spaces. The foyer acts as the transitional space connecting all the classrooms, which in turn relate to the foyer in the same way that houses relate to the street. Each classroom is designed for the collective with its own group identity, reflecting the rest of the school. Creative spaces above the classroom doors as well as large windows and sills were designed to display the celebration of this identity. This celebration represents the transition between the classroom and the communal space (Hertzberger 1993: 30). Hertzberger creates playful elements within the building and pockets of space outside of it, all relevant to the scale of a child and allowing the child to manipulate its environment in a playful and interactive way.

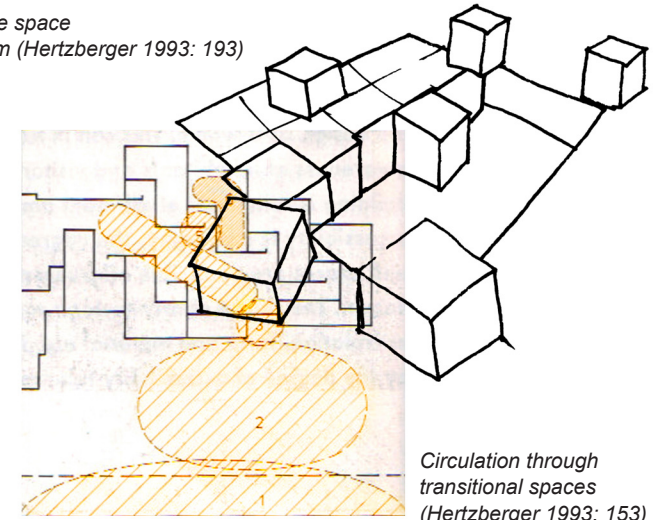


*A simple object becomes a hearth of activity
(Hertzberger 1993: 153)*



*Creative space above
classroom door
(Hertzberger 1993: 153)*

*Manipulative space
Derived from (Hertzberger 1993: 193)*



*Circulation through
transitional spaces
(Hertzberger 1993: 153)*

Extracted Principles

- *connection to surrounding context is important*
- *range of spaces required for private and public function*
- *children need to feel safe*
- *children need space to explore and experiment*
- *plan needs a central linking space*
- *children define scale; scale defines accommodation*
- *children and their environment are inseparable*
- *transitional space is required between spaces of differing functions*
- *'child space' should be playful and celebrative*
- *manipulation of space is necessary for children*

Delft Day Care Centres

Brief

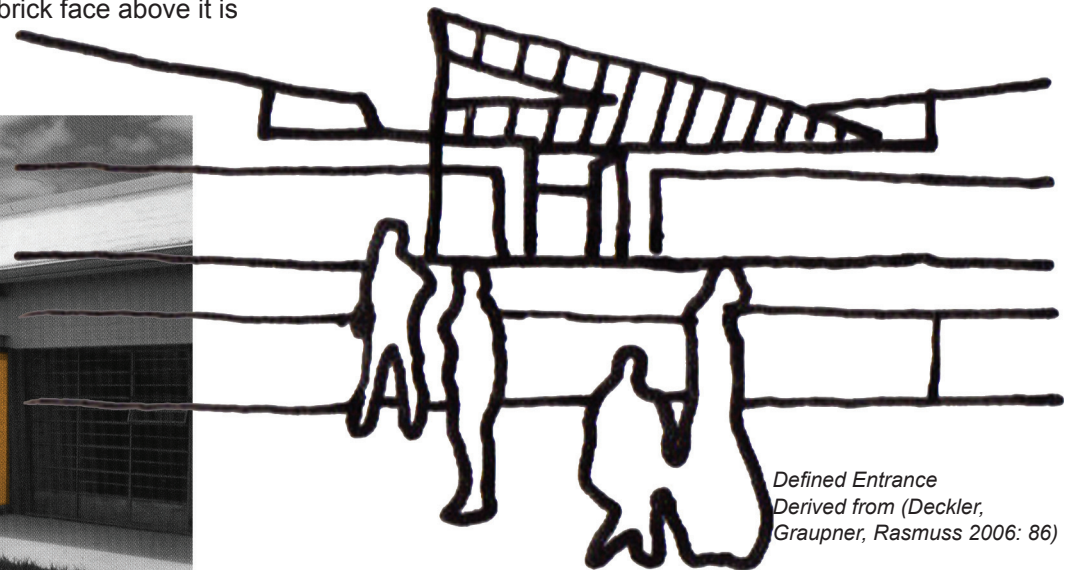
The Delft Day Care Centres were designed by Noero Wolff Architects. The brief for the two projects was to design day care centres for children within the community. The centres were to explore new ways of connecting buildings, landscape and the city together in a contemporary manner. The street seemed a key factor in this connection of both day care centres.

Context

Delft is situated outside the city of Cape Town in the low-lying area known as the Cape flats. The flat topography of the site is in vast contrast to the mountain range in the distance, making the landscape an important feature. An area lacking in architectural precedents, the day care centres set an example. A continuous brightly plastered and painted strip runs around the entire building at a convenient eye level for children. The contrast of this strip against the white painted un-plastered brick face above it is representative of the mountains in the horizon.



*The low walls attached to the vertical element encourage children as well as community members to gather and socialise
(Deckler, Graupner, Rasmuss 2006: 86)*

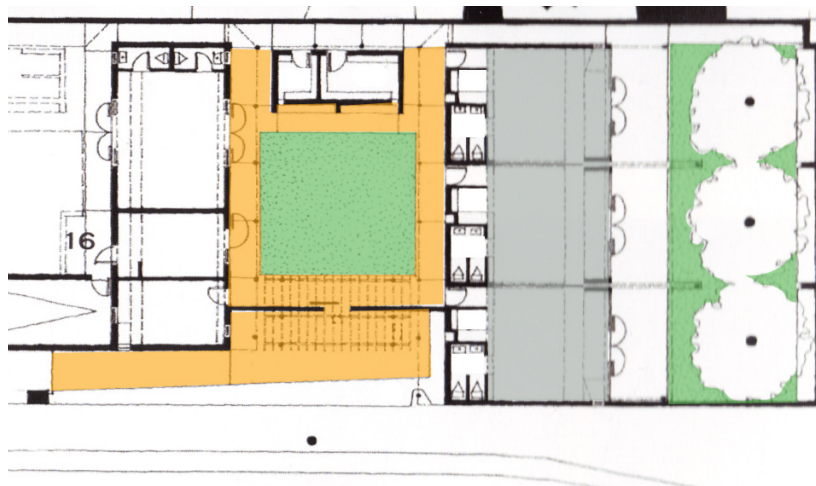


*Defined Entrance
Derived from (Deckler,
Graupner, Rasmuss 2006: 86)*

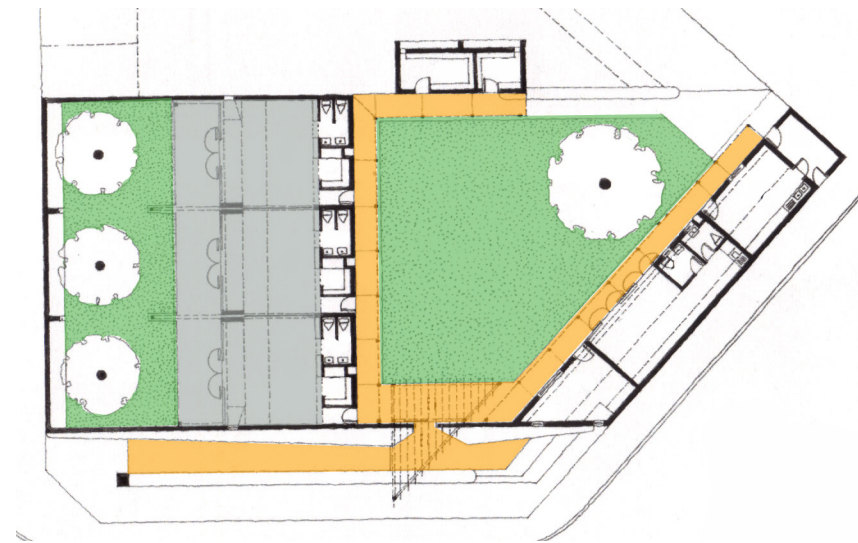
*Manipulative Space
(Deckler, Graupner, Rasmuss 2006: 86)*

Plan

Entrance ramps become street side furniture, available to the whole community even though they form part of the centres. Brightly painted vertical pylons mark the entrance to the day care centres, and have become well known symbols within their respective communities. The concept of protection of children is symbolised by the shade cloth pergolas supported above the entrance gates. This area serves also as an after-school waiting area, and has become an elaborate aspect of the centres (Deckler, Graupner, and Rasmuss 2006: 87). Once passing under the pergola you enter into the multi-purpose courtyard, off which all the activity feeds. The children's activity areas are placed on one side the adult activities on the other. The children are accommodated for with classrooms that hold toilet and storage areas, whilst opening onto their own individual courtyards. Covered walkways lead one to further storage space and the very important toy library. The adult's are provided for with spaces that provide privacy if necessary, yet these spaces allow for constant visual contact with the children and most importantly with the entrance to the centres.

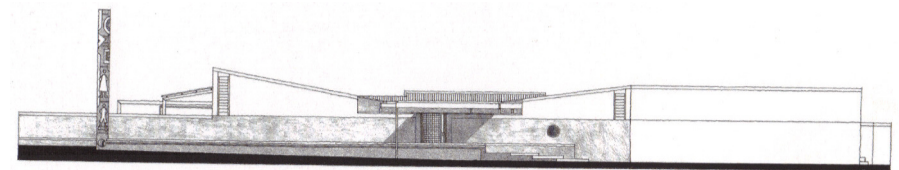


Floor plan of Delft Day Care Centre 2
Derived from (Deckler, Graupner, Rasmuss 2006: 85)

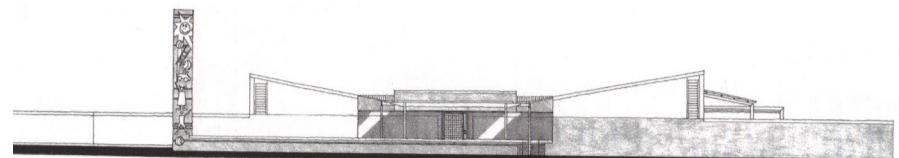


Floor plan of Delft Day Care Centre 1
Derived from (Deckler, Graupner, Rasmuss 2006: 85)

“These centres ‘do the right thing’ in a context that is design hungry. They articulate simple design solutions clearly and directly, and give dignity and civic presence to an otherwise indistinct environment.” (Deckler, Graupner, Rasmuss 2006: 86)



Elevation of Delft Day Care Centre 1
(Deckler, Graupner, Rasmuss 2006: 87)



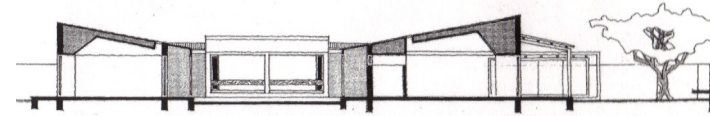
Elevation of Delft Day Care Centre 2
(Deckler, Graupner, Rasmuss 2006: 87)

Circulation

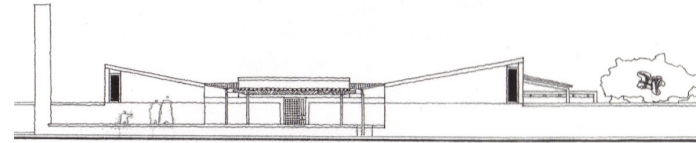
The internal circulation is seamlessly connected to the circulation off the street, an important design tool when designing an entrance for children. The multi-purpose courtyard serves as the hearth of the centres, an important space in terms of entrance, exit and gathering within the centre's walls. The covered walkways resemble streets feeding off different activity spaces. These semi-private spaces take one into the heart of the centre, where the reason for its existence lives. This barrier that has been created by the circulation places the live activity spaces tucked away securely within the site. Important features along the main circulation route of both centres are the toy libraries, painted bright red in order to indicate their importance.



*Unplastered surface above child eyeline
(Deckler, Graupner, Rasmuss 2006: 86)*



*Section of Delft Day Care Centre 1
(Deckler, Graupner, Rasmuss 2006: 87)*



*Section of Delft Day Care Centre 2
(Deckler, Graupner, Rasmuss 2006: 87)*

Extracted Principles

- *connecting into surrounding context is important*
- *child spaces need to be secured*
- *entrance areas should be elaborated*
- *community are to be integrated into children's lives*
- *plan needs a central linking space*
- *children should be able to manipulate their surroundings*
- *planning should be playful*
- *'function' and 'user' define scale*
- *outdoor space is a necessity for children*





Site Analysis

My search for a site began with the underlying issues discussed in chapter one.

I would need to find an area that has the following properties:

- array of differing cultures
- reputation of crime and violence
- slum environment
- poor home life

In correlation to these, the area would need to have an available site with the following properties:

- area to accommodate the facility
- close proximity to neighbouring schools
- close proximity to medical facilities
- allow for connection into existing urban fabric
- area available for outdoor recreational activities

Hillbrow is situated in Gauteng, South Africa. It is located on the northern periphery of the Johannesburg central business district (CBD). Hillbrow forms part of the 'old city' of Johannesburg. It is the edge city of Johannesburg, bordering the 'new city' of Parktown and Houghton to the north. Hillbrow is easily accessible from one of the many major routes that run past the CBD, and link it to the rest of Gauteng. Hillbrow is a well known suburb throughout South Africa, and even the world, unfortunately more often than not for the wrong reasons. These reasons are what have influenced my intervention and have placed it within Hillbrow.



Site Option 1

This site was originally planned as a sports ground for the University of the Witwatersrand. It is found at the corner of Louis Botha and Boundary Road, which is interestingly located on the periphery of the suburbs of Parktown, Houghton and Hillbrow. This site offers great opportunity of linkage between these often very different suburbs; and would create a sense of place and connection between the urban and suburban whilst creating challenges of scale and density.



View of site looking south; Hillbrow tower in the background



Aerial view of site
Google Earth





Closed off road at north end of site



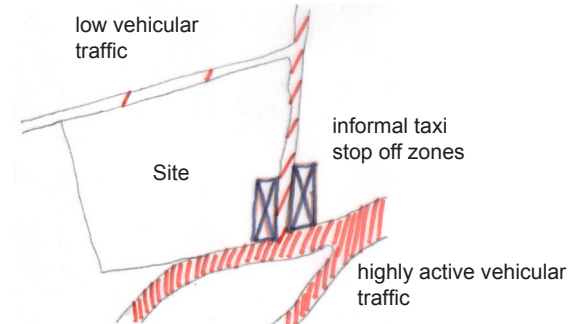
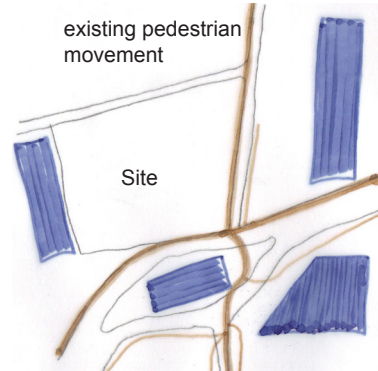
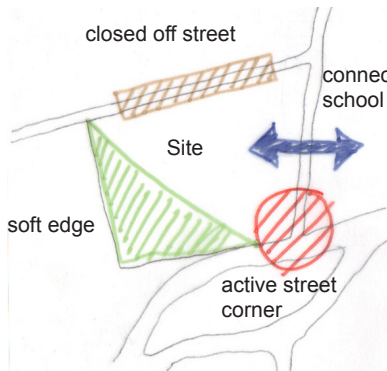
*Aldo Van Eyck post-war playgrounds for children
(Lefavre and Tzonis 1999: 26)*

This 'edge of old city meets new city' site, has an identity crisis, and is located conveniently to cater for more than 5 schools within a 1km walking radius. At the north end of the site is a closed off road, which provides opportunity to re-activate itself and give to the children using the facility. This would allow the children to play in the road as all children desire, but it would be in a secure non-vehicular street.

At the south end of the site is Louis Botha, a highly active vehicular traffic road, this road would create great challenges in terms of 'edge', as well as for children from southern schools to access the site. The site is bound on its eastern side by Boundary road which has a high pedestrian activity level, and would act as the main connection into Hillbrow. The western boundary of the site has great potential in terms of opening onto the site away from the disturbance of Louis Botha. This area has a soft edge, and provides a secure space for outdoor recreational activities.



Children socialising near site



All photos and sketches by author

Site Option 2

This site is located on the boundary of Hillbrow and Berea. It is part of an urban block that is the central park space of these two areas. The part of the urban block i intend on using is currently fenced off from the rest of the park space, as it was zoned as residential, a process which thankfully never took place. The site is found at the corner of Joel Street and Fife Avenue. It sits within a densified high rise urban fabric, and offers a place of spatial relief from this relentless scale. Connection to the surrounding areas is present through the many existing pedestrian networks. This site is well positioned to accomodate more than 5 schools within a 1km walking distance, and allows for connection into the existing urban fabric. The park offers relief of space for recreational activity and could revitalise the urban block as a whole.



Aerial view of site
Google Earth



On the northern boundary of the site is a closed off street. This street could be re-activated as a main thoroughfare for pedestrians commuting into Berea from Hillbrow. The low vehicular traffic around the site is encouraging as a space for children and their safety. The facility on this site would create a more meaningful connection to the surrounding suburbs, and could act as a an identifiable landmark within this community. The site is bound on its eastern side by Fife Street, which connects the site to the main streets of Hillbrow. This edge of the site is sloping from north to south, and offers great potential in terms of lighting and change in level.



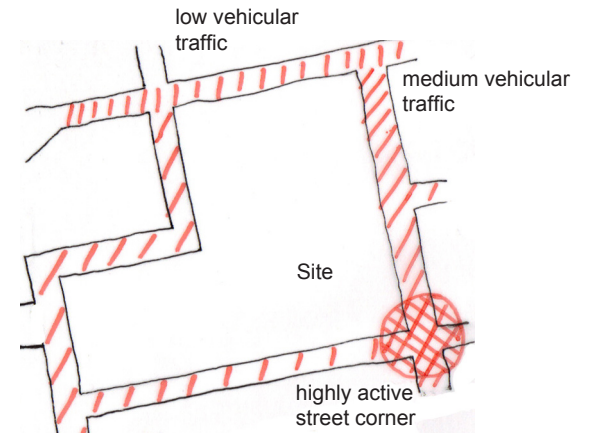
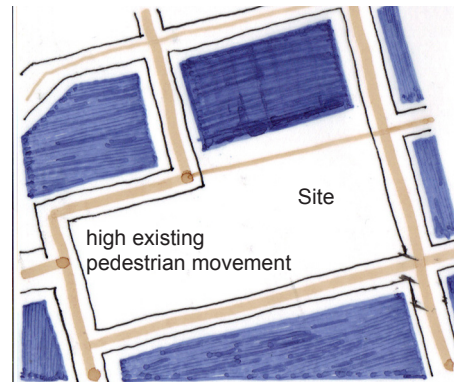
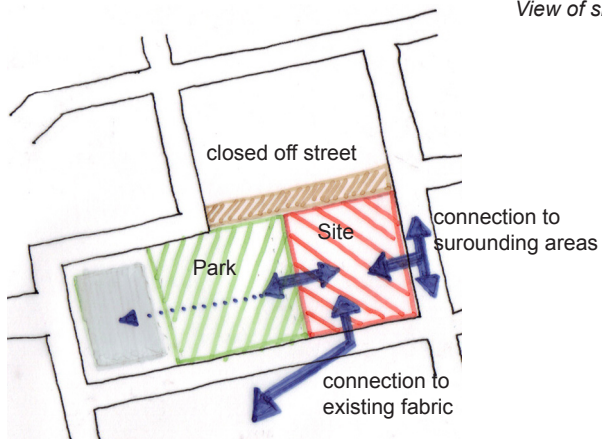
Closed off street is now one of three access points into public park



View of site looking west from sloping Fife Avenue



An attempt at a recreational space for children opposite the site

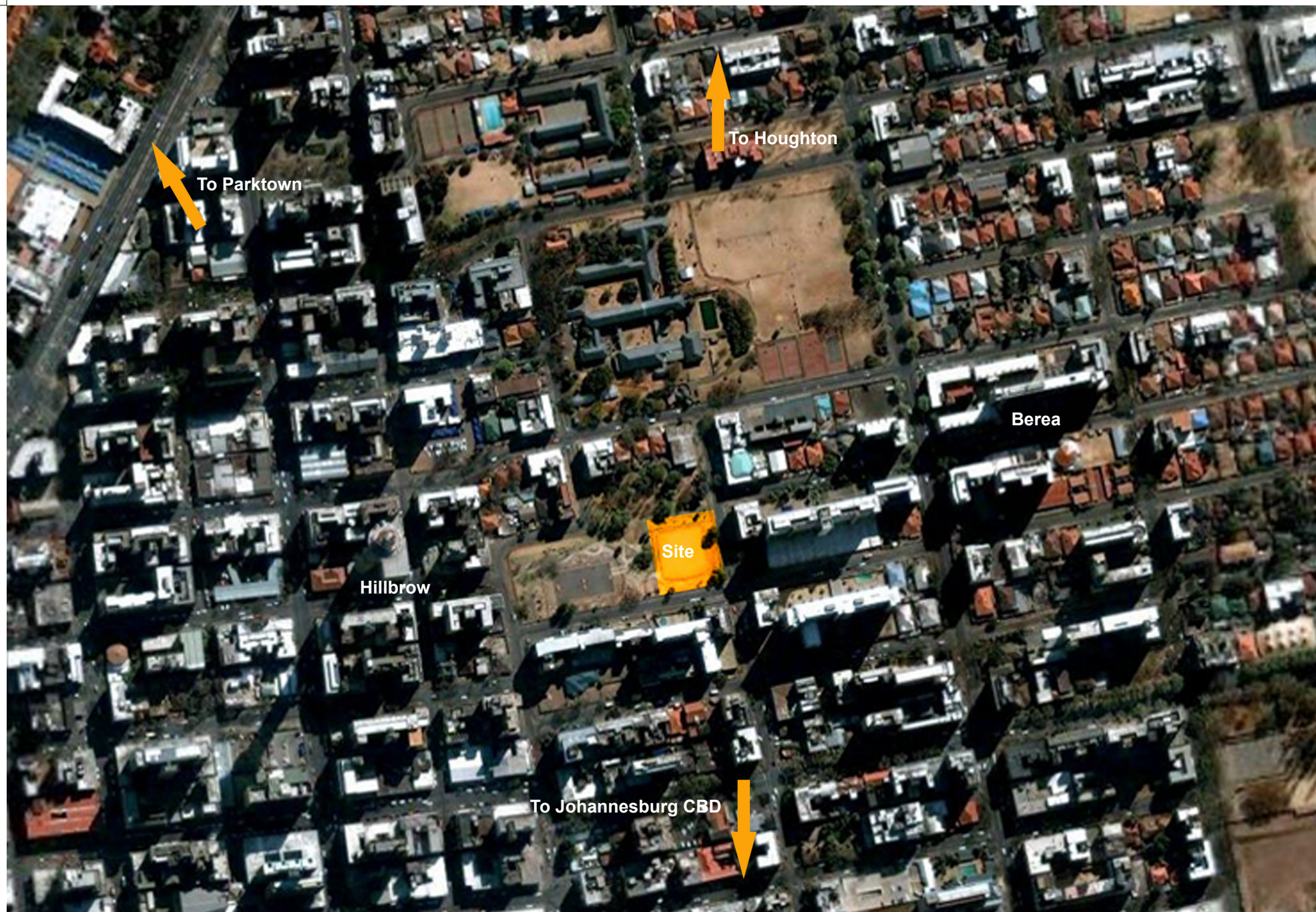


Reasons for not choosing: Site option 1

- The site is inadequately positioned as a space for children
- The sites close proximity to Louis Botha Avenue has a negative impact on it in terms of accessibility for pedestrians
- A buffering of Louis Botha would be necessary and a soft edge would be difficult to achieve with this high activity on the main street frontage
- Space for outdoor recreational activities is limited
- This part of the suburb is predominantly dominated by vehicular traffic
- The informal taxi stop alongside the site would need to be relocated in an already congested area
- The periphery location of this site could create a further sense of exclusion to the communities of Hillbrow and Berea

Reasons for choosing : Site Option 2

- The site is easily accessible to residents and children residing in Hillbrow, as it is already linked to its main roads through its active streets.
- The site is conveniently located between the schools in the area within a safe walking distance, and is easily accessible to people outside of Hillbrow.
- The site is already a hub of activity, and would allow my intervention to become an identifiable landmark within the community.
- The site would allow a more meaningful connection to its neighbouring suburbs of Parktown and Houghton by linking the exterior activity within its context.
- The site is connected to the rest of Hillbrow with its constant pedestrian movement and activity that surrounds it.
- The natural slope of the site provides a security buffer, whilst providing opportunity to create a playful environment by using different levels, views and landscaping.
- The site is within the context of Hillbrow, which affords the children a sense of place and belonging within their comfort zone.
- The site provides opportunity of outdoor recreational activities.
- Vehicular traffic is low



To Parktown

To Houghton

Berea

Hillbrow

Site

To Johannesburg CBD

Mapping

Hillbrow is recognised as a disorganised urban area as well as for its crime and poverty. When Hillbrow children finish school in the early afternoon, where do they go, what do they get up to? Schools in the area have extra mural programs and few have sporting activities available, but this does not cater for a large portion of the child population. The average child cannot wait to vacate the school premises in order to get that sense of freedom. There is a recreational centre on the western boundary of Hillbrow. This centre does not have the facilities or the staff to handle and cater for learning and recreational activities that enhance growth within a child, nor has it become a large attraction to the children. Hillbrow children can be found running in the streets, playing on fire escape stairs and in the park after their school day. These activities are fun, but leave the child vulnerable to the elements that surround them. These elements are destructive and are part of the reason for the siting of my intervention. Children should be allowed to exercise, socialise and learn all at the same time, whilst being in a secure environment.



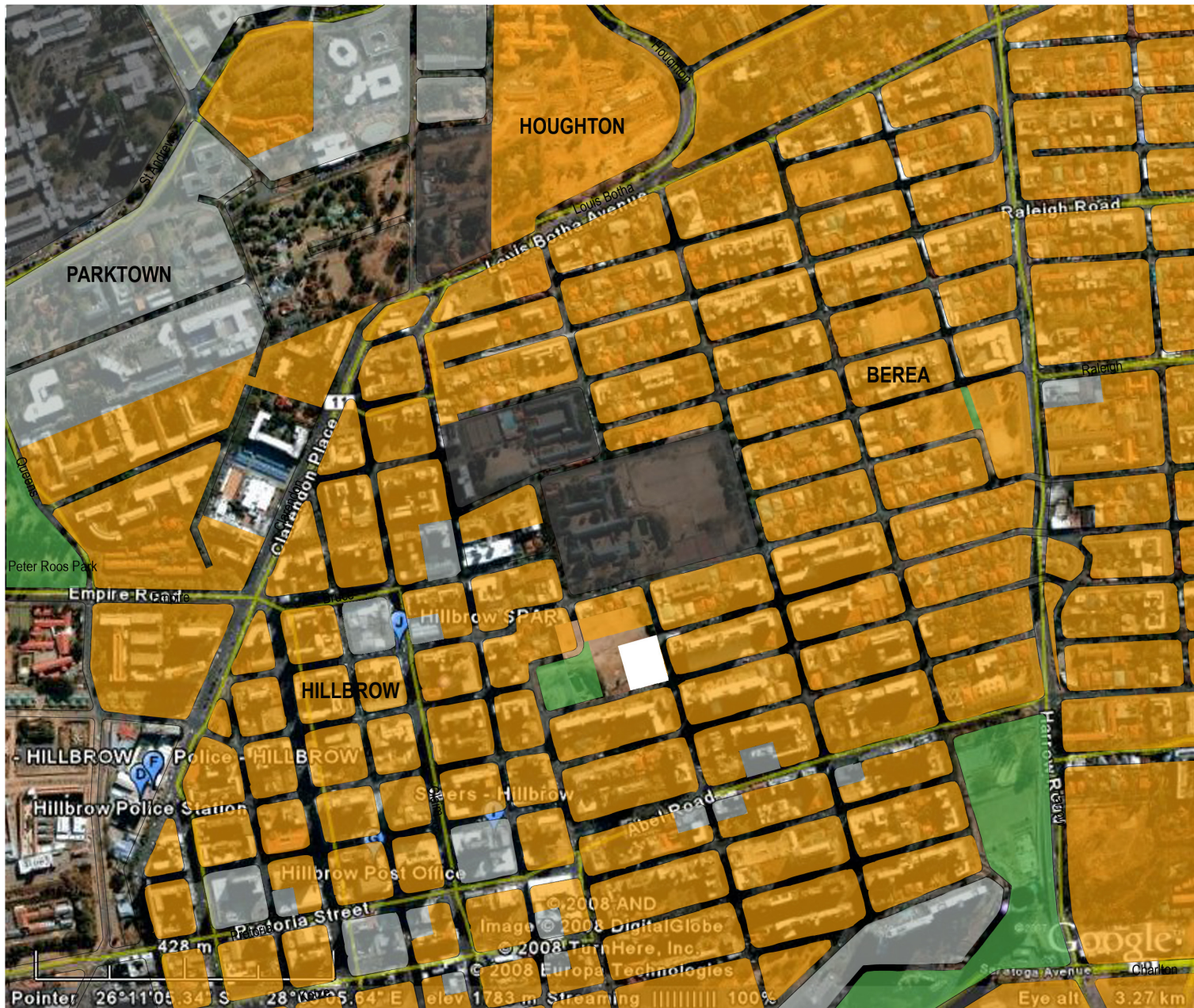
EDUCATIONAL COMMUNITY FACILITIES

- Community Facility
- Educational Facility
- Place of Worship
- My Site

- 1 Roseneath Primary
- 2 Hillbrow Recreation Centre
- 3 Hillbrow Police Station
- 4 Asteri Primary School
- 5 Newgate College
- 6 Fire Station No. 8
- 7 Johannesburg Girls Prep
- 8 Hillbrow Post Office
- 9 Hillbrow Library
- 10 Missionary Church of God
- 11 Berea Christian Tabernacle
- 12 Barnato Park High
- 13 Jacobs Girls High



The majority of Hillbrow is zoned as residential, with patches of business on its main roads. The urban block that my site is on was previously zoned as residential, but the block is used for different activities that make it so much more effective and highly successful in its constant usage and densification. The urban block is made up of a church, residential flats, a park space, a basketball court and my empty stand. At least a third of the block is now zoned as public open space, as this space is in constant usage and is the main attraction on the weekends. My intervention can feed off this energy and make use of the activity already existing on the site.

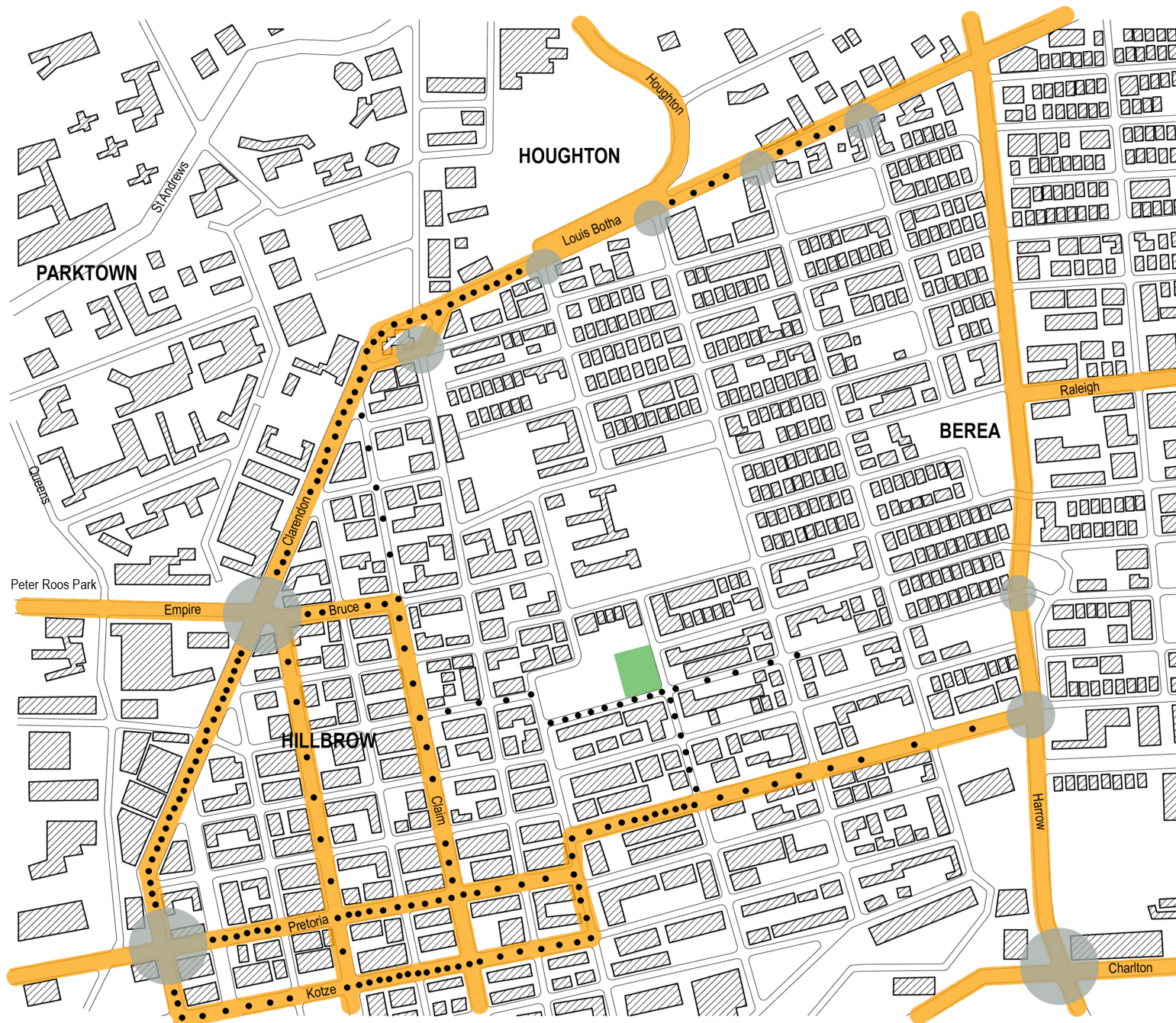


LAND USE

- Education
- Residential
- Business
- Public Open Space
- My Site



Hillbrow is defined on its Western border by Clarendon Place and on its Northern border by Louis Botha Avenue. These main roads act as buffer strips from Hillbrow, once crossed there is a dramatic change in density and scale, a change from urban to suburban. The main roads of Pretoria and Kotze run through Hillbrow and are highly active, feeding the life into Hillbrow. Off these main roads are active streets, streets that go into Hillbrow and carry high pedestrian and vehicular activity. Joel is one of these active streets, full of activity; children in the park, children playing basketball, children outside the library and church, people washing cars and walking to and from the shops. These active streets are easily reached through any one of the many access nodes bordering Hillbrow and Berea.

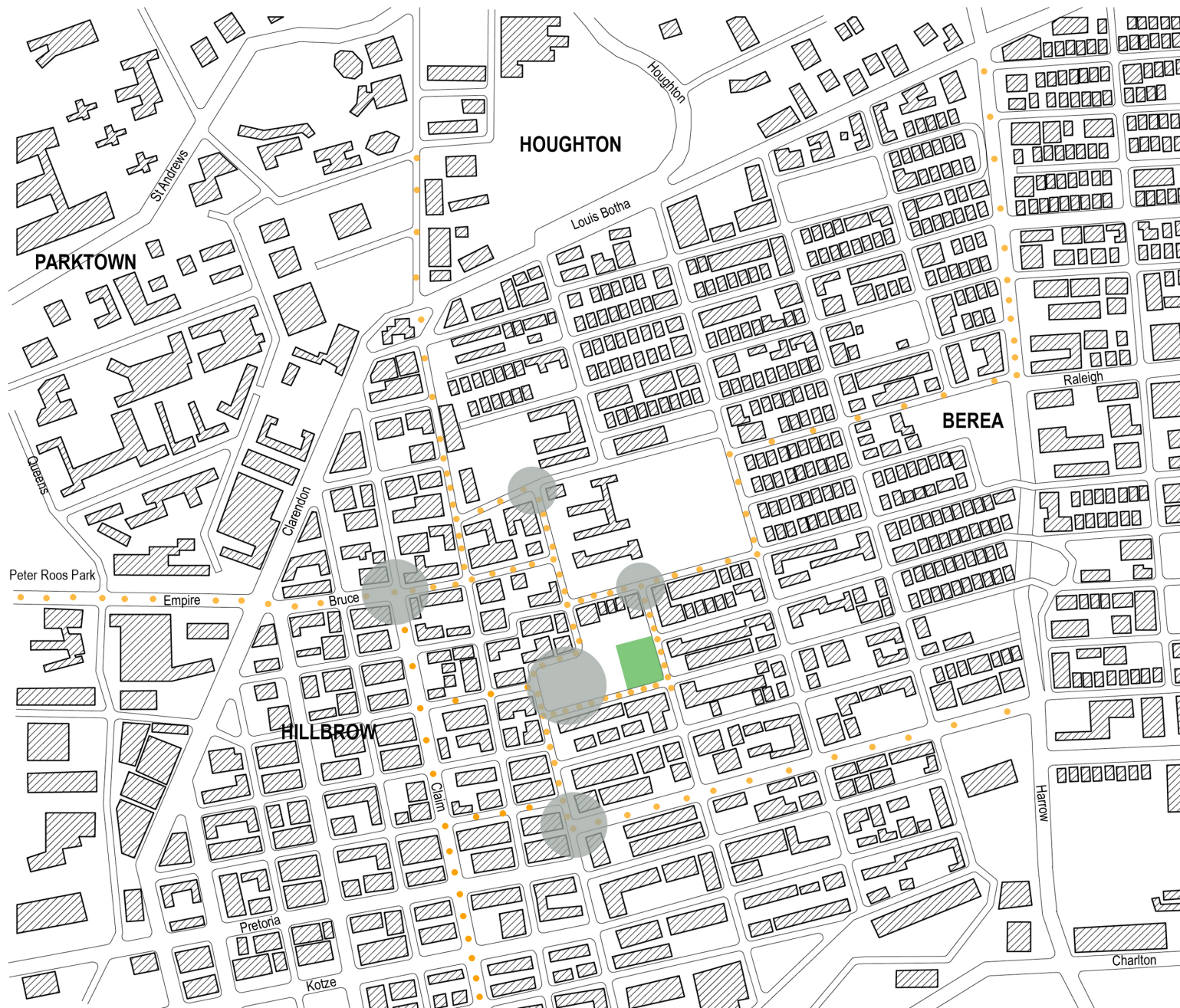


ACTIVE STREETS _ MAIN
ROADS _ ACCESS NODES

- Active Street
- Main Road
- Access Node
- My Site



Strictly speaking there are no actual schools in Hillbrow, but there are more than five schools within a one kilometre walking radius from the site. The location of my site to these schools has set up an interesting child movement pattern before and after school, and has a high attraction to the children. The children have chosen their specific routes into Hillbrow from their schools. These routes take them through their very own activity nodes. These nodes are realised due to shops, take away franchises, community buildings, churches, school borders and park spaces. My site is entirely surrounded by these nodes, and has actually become the hearth of this movement and activity.



CHILD PEDESTRIAN MOVEMENT _ ACTIVITY NODES

- Child Pedestrian Movement
- Activity Node
- My Site



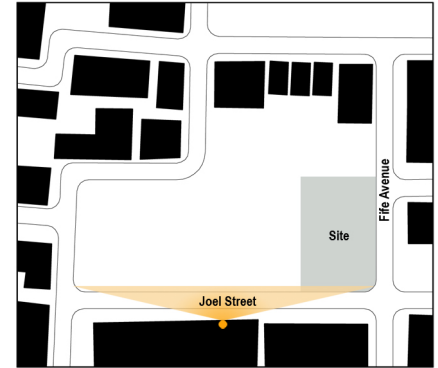
Joel Street-scape

The site is bound at its highest point on its southern boundary by Joel Street. Joel Street has a communal feel about it; it is clean and has many activity nodes along it. The street is bustling with pedestrian movement due to its generous sidewalks and position of linkage between Hillbrow and Berea, vehicular traffic is low. Certain spaces have been claimed on the street edge by residents as social gathering spaces, and car park spaces off the street make pedestrian movement its priority. The activity in the park and on the basketball field can be experienced from this street; the street edge is lined with well aged trees providing pedestrians with shaded walkways. This highest point of the site provides scenic views of Hillbrow's northern context as a built mass carved into the sky.

child sand-pit

basketball courts





community park

my site



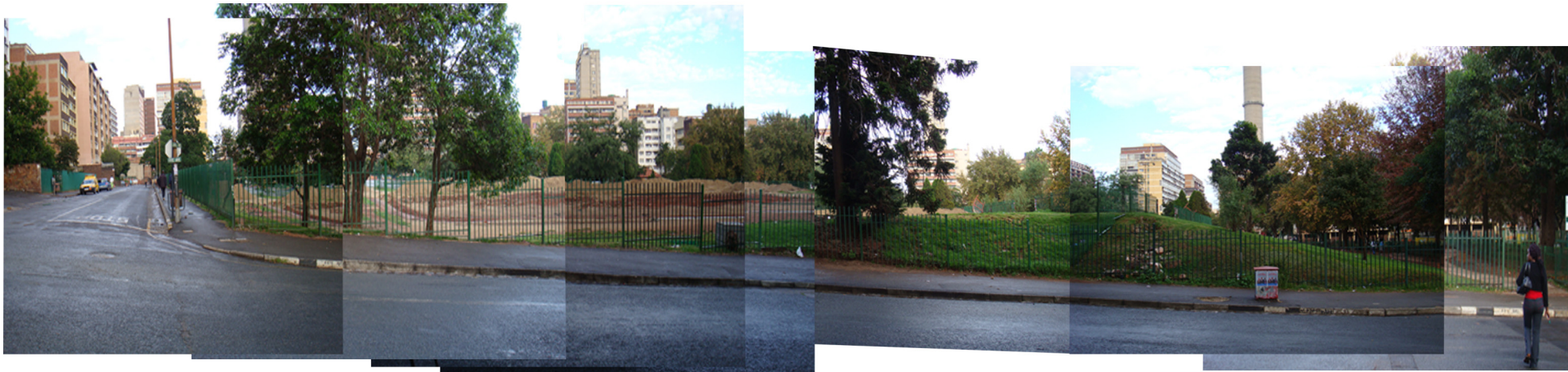
Fife Street-scape

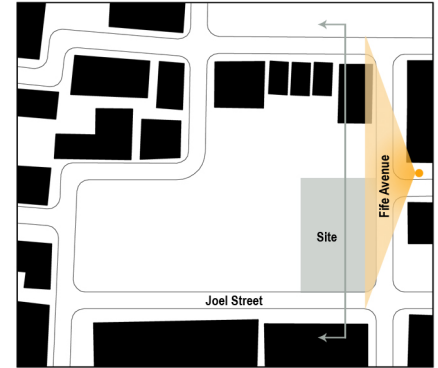
The site is bound on its eastern boundary by Fife Avenue. Fife Avenue is less active than Joel Street due to its properties. These would be the fact that it does not front any residential flats; it also ends in a t-junction at its lowest point cutting off its connection to the rest of Hillbrow and Houghton. What does give the street a distinctive vibe about it is the entrance to the park, providing opportunity for informal trade, as well as the two churches that open onto the street. The singing voices of praise can be distinctly heard and provides an atmosphere quite different to any other streets. During the week when school is out, this lower part of the street is highly active as it becomes a high activity node cornered by the school exit, church buildings and informal traders.

Joel street

my site

comi



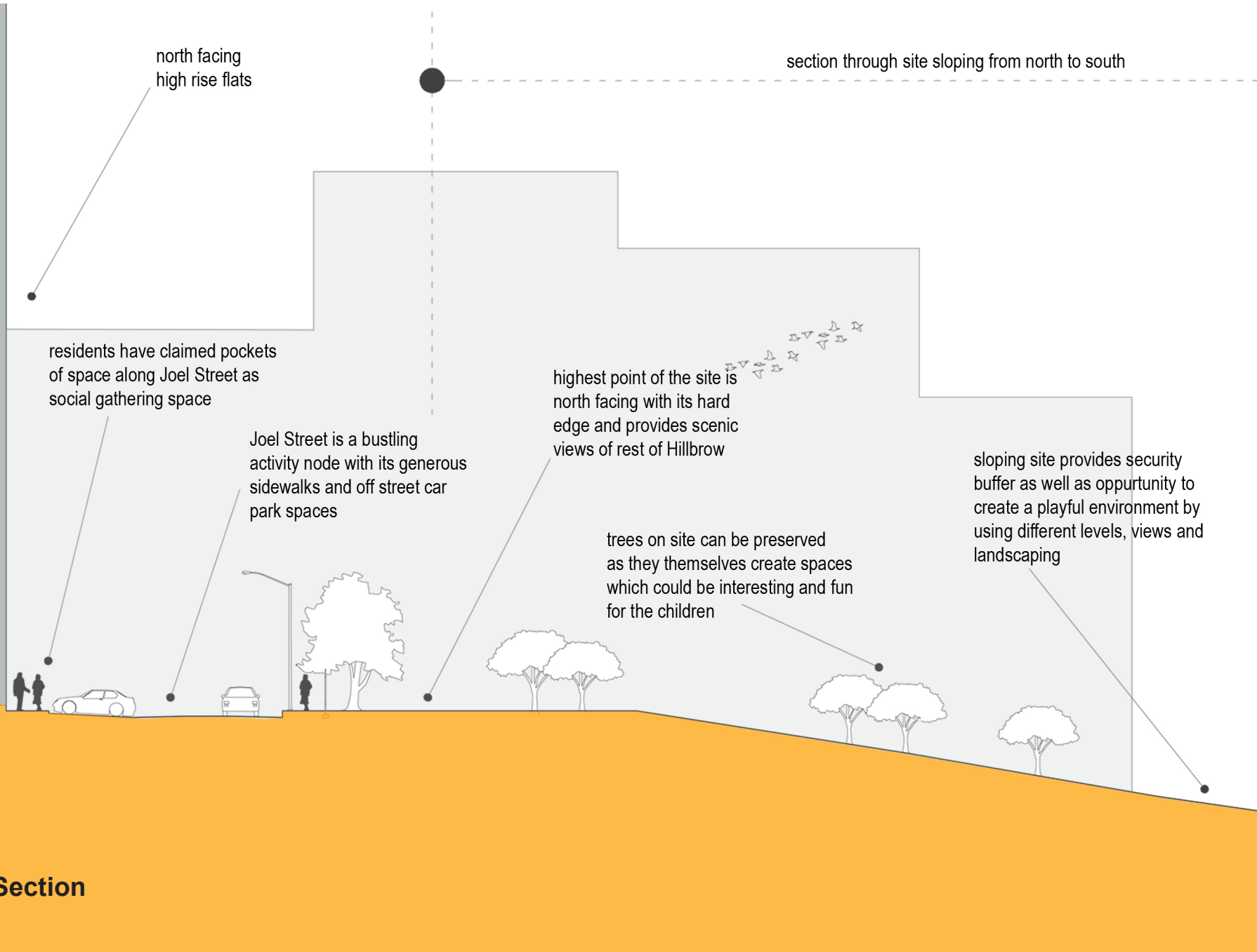


munity park entrance

Missionary Church of God

Barnato street





north facing
high rise flats

section through site sloping from north to south

residents have claimed pockets
of space along Joel Street as
social gathering space

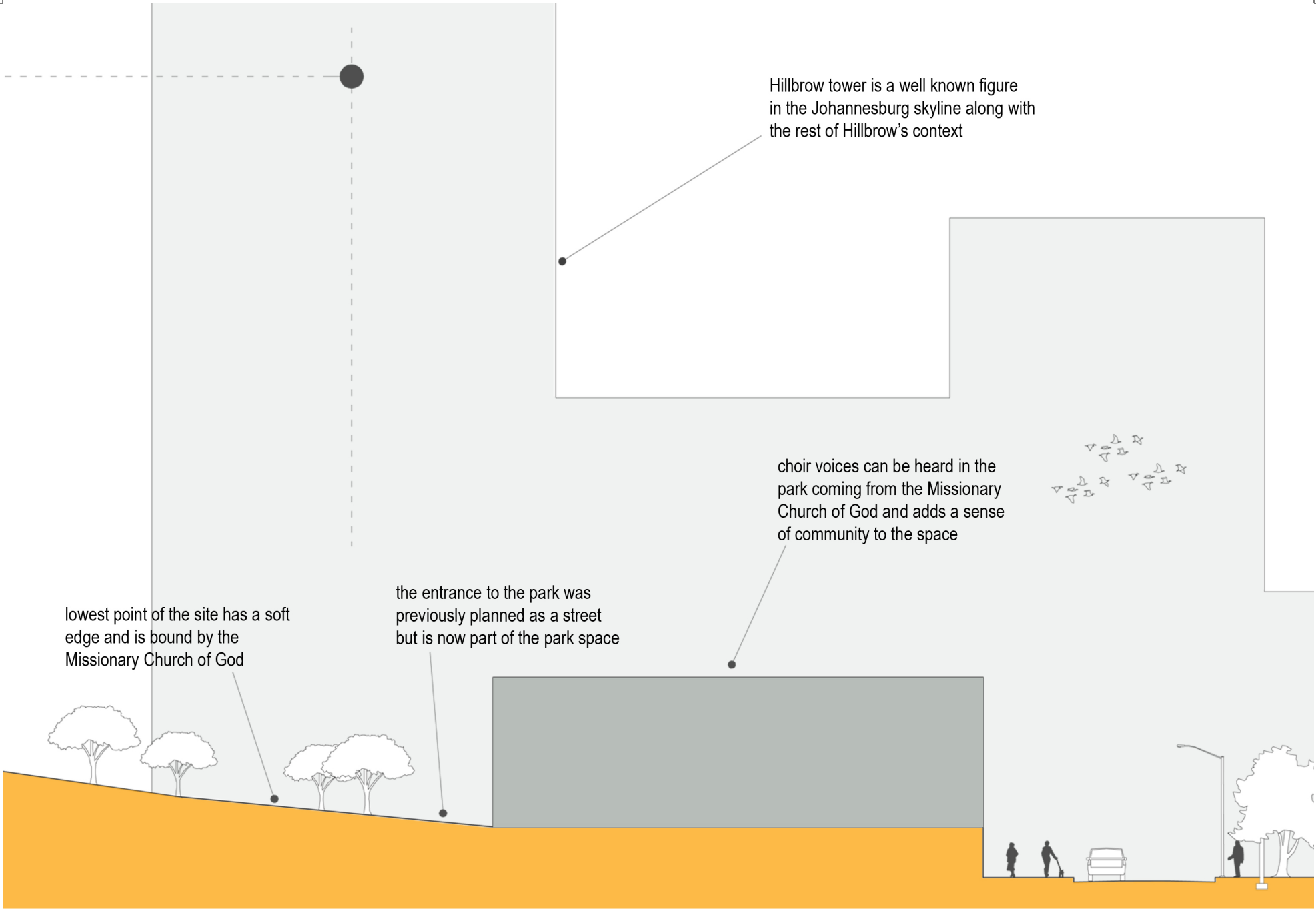
Joel Street is a bustling
activity node with its generous
sidewalks and off street car
park spaces

highest point of the site is
north facing with its hard
edge and provides scenic
views of rest of Hillbrow

trees on site can be preserved
as they themselves create spaces
which could be interesting and fun
for the children

sloping site provides security
buffer as well as opportunity to
create a playful environment by
using different levels, views and
landscaping

Site Section



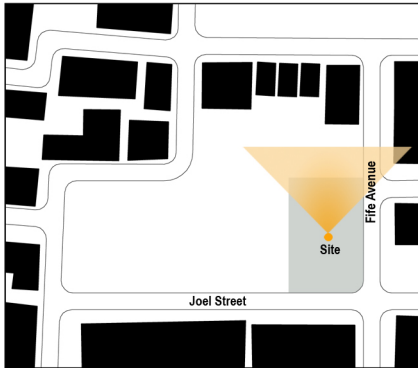
Hillbrow tower is a well known figure in the Johannesburg skyline along with the rest of Hillbrow's context

choir voices can be heard in the park coming from the Missionary Church of God and adds a sense of community to the space

lowest point of the site has a soft edge and is bound by the Missionary Church of God

the entrance to the park was previously planned as a street but is now part of the park space

North View

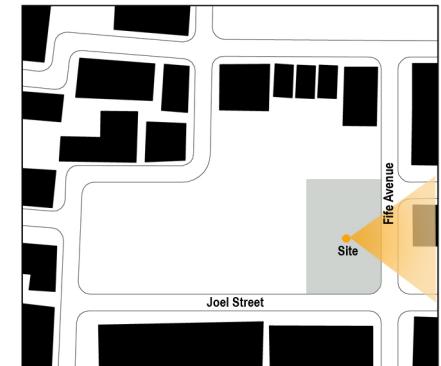


The site is bound at its lowest point by one of the three entrances to the park. This entrance was previously a street but was rezoned at public space. This space is filled with well aged trees which i intend on maintaining and integrating into the design. The space is constantly used by pedestrians crossing between Hillbrow and Berea, and on weekends it is a hot spot for informal trading. This part of the site has a soft edge, and would be an ideal point of entrance into the Child Development Centre with its high activity and secure position. The intensive slope on this edge provides great opportunity for change in level, view and landscape; all key features in the development of a 'child space'.



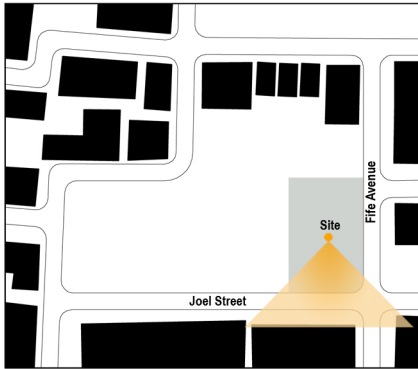


The view to the east would be that which connects Hillbrow to Berea. There is a slight change in density and scale, and a more open feel is sensed through these streets. This view allows for a vital visual connection from the street into the Child Development Centre, and would form a major focal point in terms of community awareness. The intensity of the slope is easily visible from this view. The residential flats and medium level of activity provide a hard edge.



East View

South View



The northern view on the site is one of the many high rise residential flats that characterise Hillbrow. This edge of the site is constantly bustling with pedestrians and social street activities. This connection is the main passage into Hillbrow and would facilitate a large portion of the centres users. The constant activity on this hard edge would dictate the function on this end of the site, a space for gathering and playful activity linking it to that which happens in the street. Although this end of the site is farthest south, the slope down to the north shall provide opportunity with issues of light.



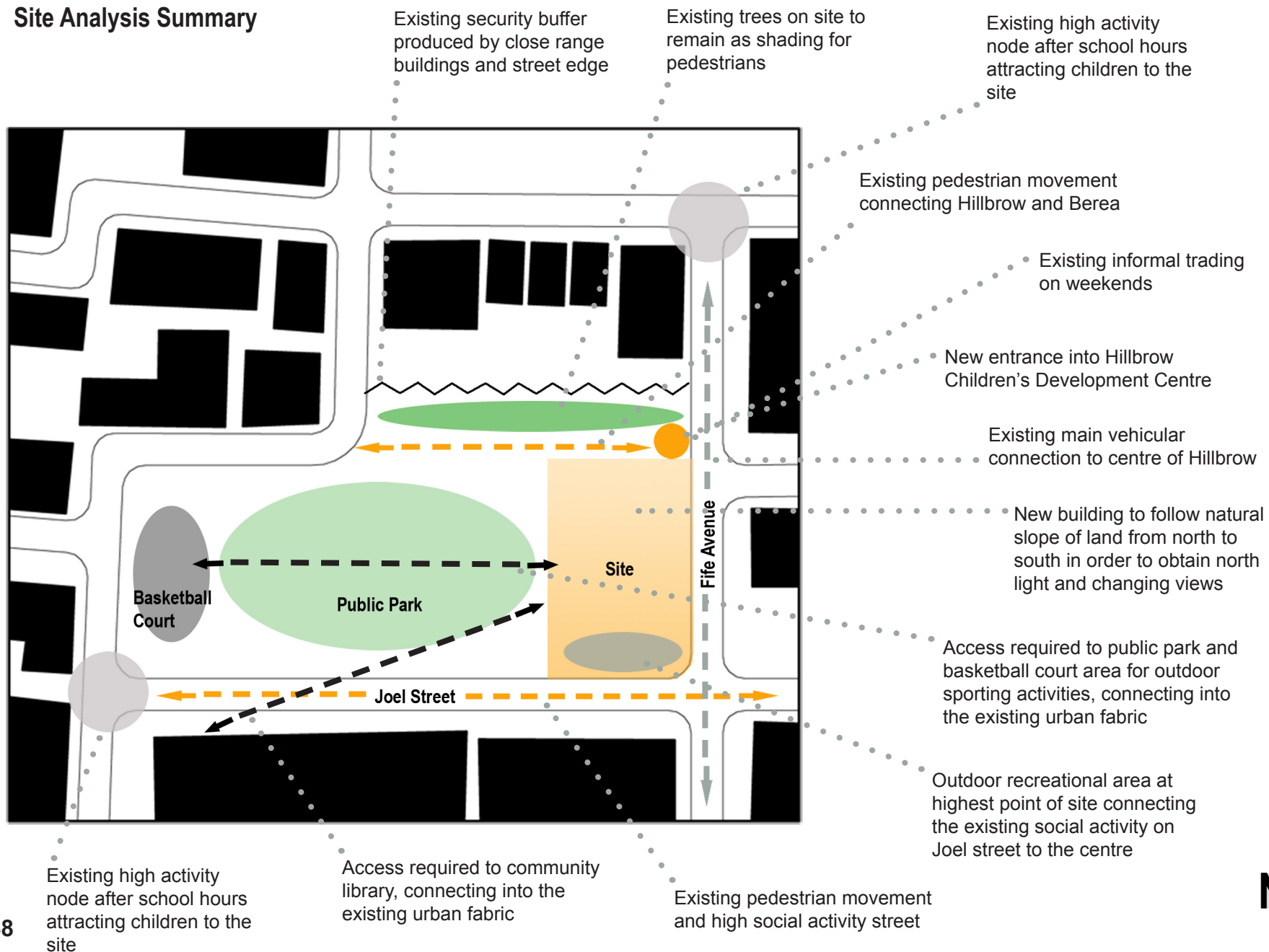


The western view from the site is of Hillbrow in all its glory; high rise residential flats and Hillbrow tower carve their dominance into the horizon. This part of the site has a soft edge and is bound by the park; a high activity zone on weekends and often during the week. The existing connection to the park and the basketball court further down would allow for the centre to open onto these facilities, whilst in a secure and non-intrusive manner. This connection could give a more meaningful connection to Hillbrow and Berea, linking it through that which is common; children.



West View

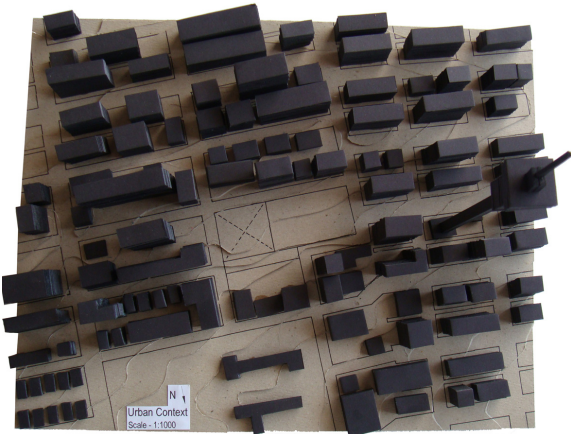
Site Analysis Summary



Site Model



North-west perspective



Bird's eye view



Programme

8:00

9:00

10:00

11:00

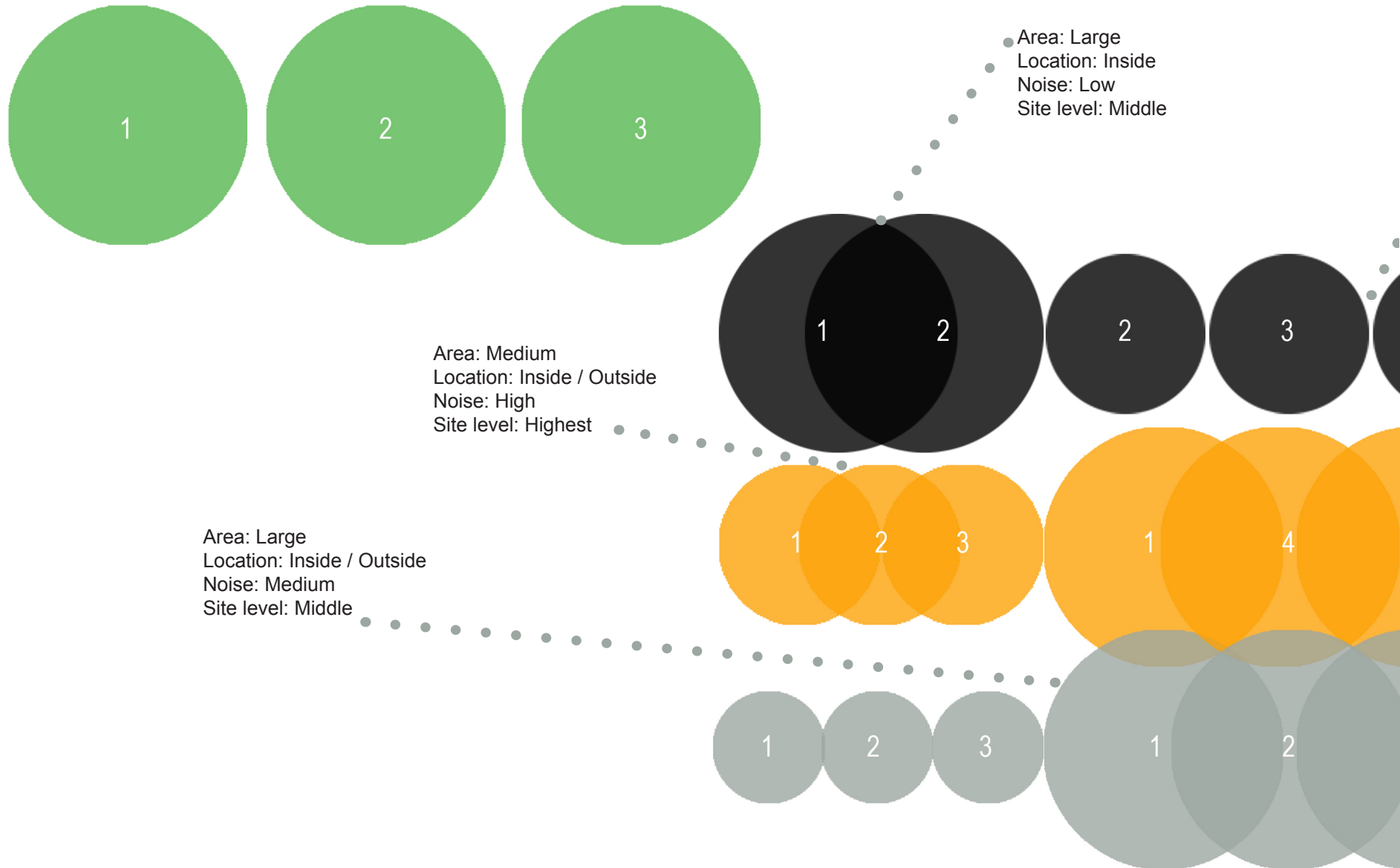
12:00

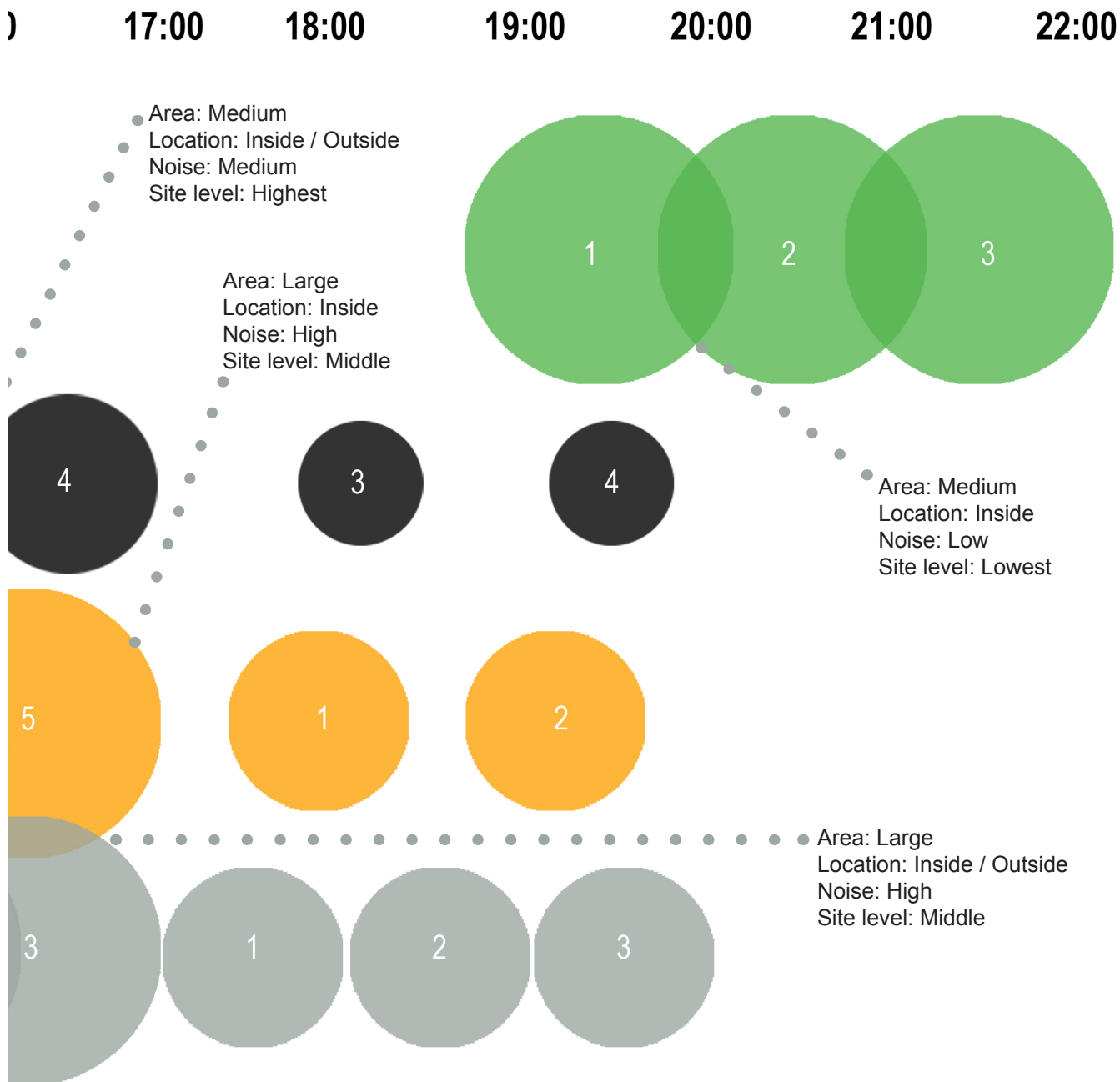
13:00

14:00

15:00

16:00





Time of Day

Community Activities

- 1_ Writing
- 2_ Reading
- 3_ Computer literacy

Learning Activities

- 1_ Homework
- 2_ Reading
- 3_ Building
- 4_ Exploring

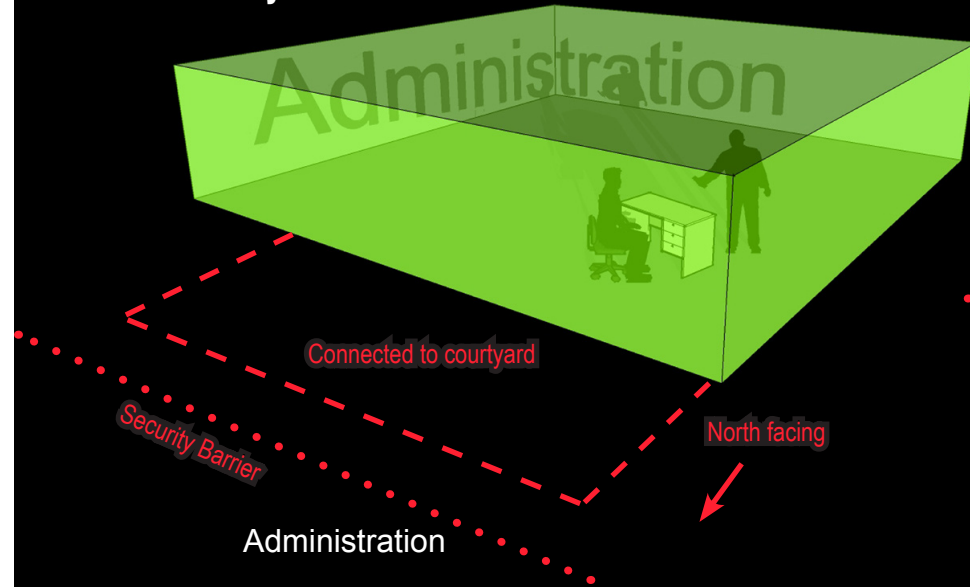
Recreational Activities

- 1_ Play
- 2_ Sport
- 3_ Planting
- 4_ Drama
- 5_ Dance
- 6_ Music

Art Activities

- 1_ Moulding
- 2_ Drawing
- 3_ Painting

Adult Activity Areas



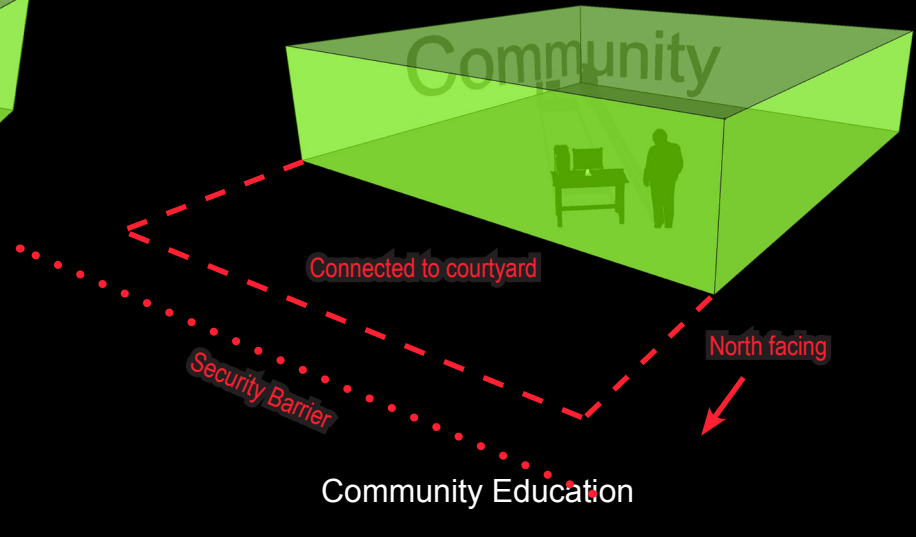
Administration

Accommodation: 190m² area

Requirements: 40m² Reception / Open plan office
 10m² Manager's office
 30m² Staff room
 15m² Kitchenette
 10m² Staff Toilets
 30m² Child Toilets
 15m² First-Aid room
 20m² Consultation rooms
 10m² Guard room
 10m² Storage

Location: Lowest area of site

Properties: Open plan
 Security barrier
 North facing



Community Education

Accommodation: 2.3m² / person
 50 people

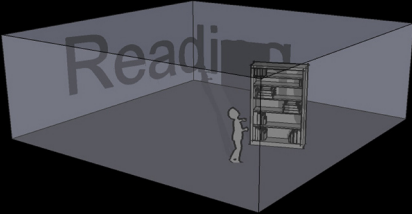
Requirements: 57.5m² Classroom
 57.5m² Computer lab
 10m² Storage

Total: 125m²

Location: Lowest area of site

Properties: Open plan
 Security barrier
 North facing
 Interchangeable
 Connected to courtyard

Child Activity Areas



Reading

Accommodation: 1.1m² / child
20 children

Requirements: 15m² Library
2m² Reading pods

Location: Middle area of site
Below ramps

Properties: Padded void in wall



Crafts

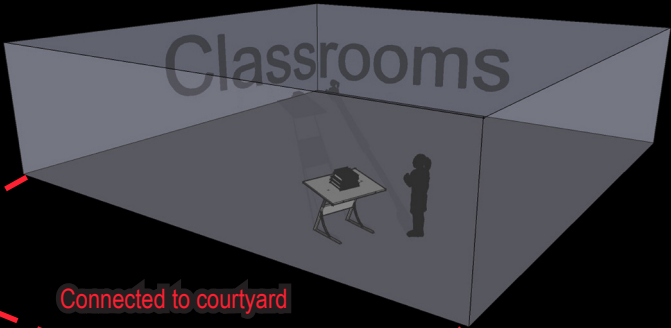
Accommodation: 2.3m² / child
40 children

Requirements: 90m² Open area
10m² Storage

Total: 100m²

Location: Middle area of site

Properties: Velcro padded area
Building block area
Woodwork area
Connected to courtyard
Connected to art



Classrooms

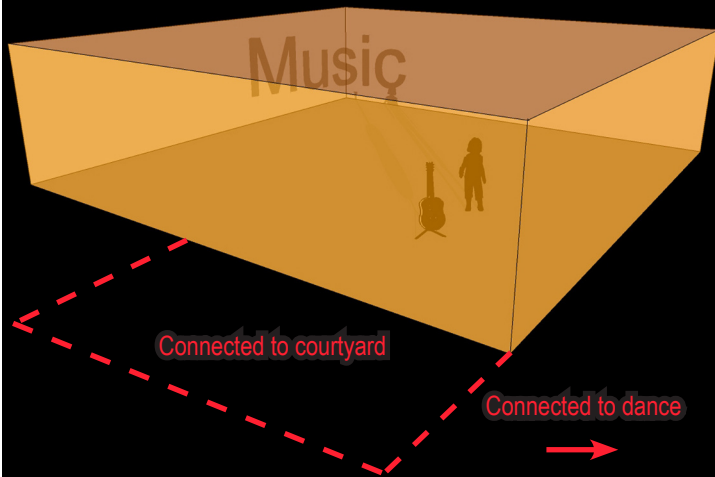
Accommodation: 1.2m² / child incl. circulation
75 children

Requirements: 30m² Classroom
30m² Classroom
30m² Classroom
10m² Storage

Total: 100m²

Location: Middle area of site

Properties: Open plan
Interchangeable
Fully openable
North facing
Connected to courtyard



Music

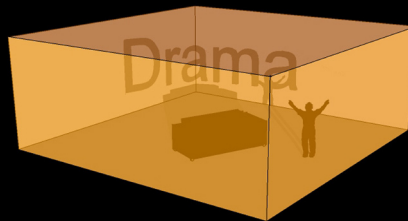
Accommodation: 2.8m² / child
40 children

Requirements: 110m² Open area
10m² Storage

Total: 120m²

Location: Highest area of site

Properties: Acoustic cladding
Performance area
Connected to dance
High ceiling
Connected to courtyard



Drama

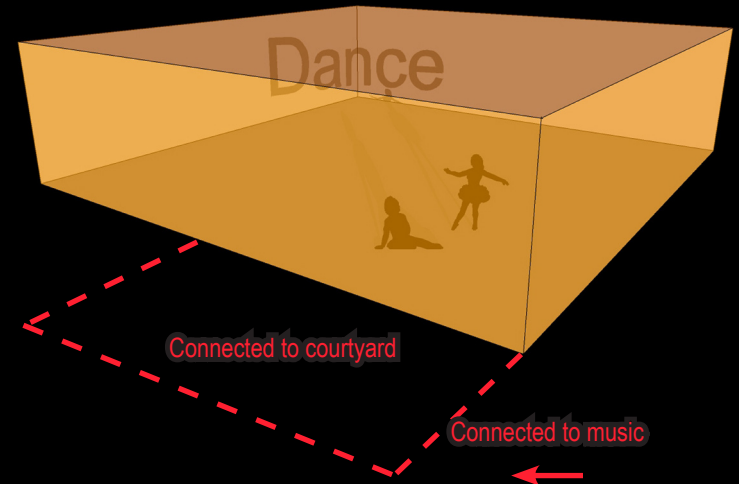
Accommodation: 2m² / child
30 children

Requirements: 60m² Open area
10m² Storage

Total: 70m²

Location: Middle area of site

Properties: Acoustic cladding
Performance area
High ceiling



Dance

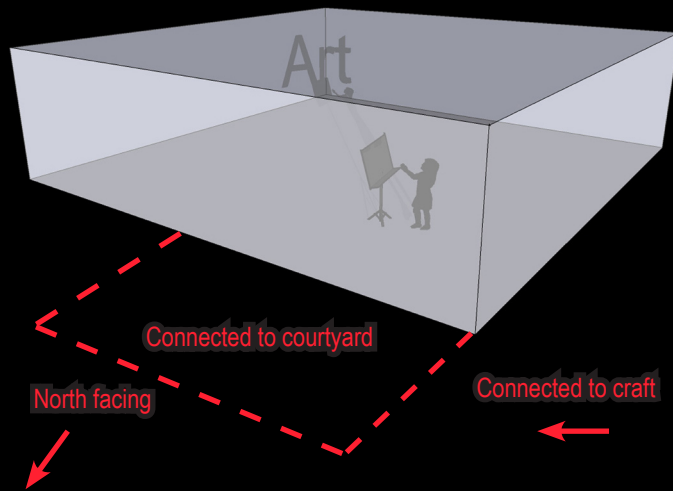
Accommodation: 3.2m² / child
30 children

Requirements: 100m² Open area
20m² Storage

Total: 120m²

Location: Highest area of site

Properties: Non-slip flooring
Performance area
Connected to music
High ceiling
Connected to courtyard



Art

Accommodation: 1.8m² / child
40 children

Requirements: 70m² Open area
10m² Storage

Total: 80m²

Location: Middle area of site

Properties: Robust flooring
Open plan
North facing
Connected to courtyard
Connected to craft

Hillbrow Child Development Centre Programme

1. The child development centre is to run five days a week from Monday to Friday. The formal development programme for school children will run from 12:00pm to 19:00pm in the evenings.
2. On these days between the times of 8:00am-12:00pm and 19:00pm-22:00pm, there will be skills development initiatives run for the community.
3. On Saturdays the centre will be open for recreational activities for children, as well as parenting classes and family counselling for the community.
4. On Sundays the centre is to be open for Sunday school classes for neighbouring churches.



Sketch Design

The building as a playground

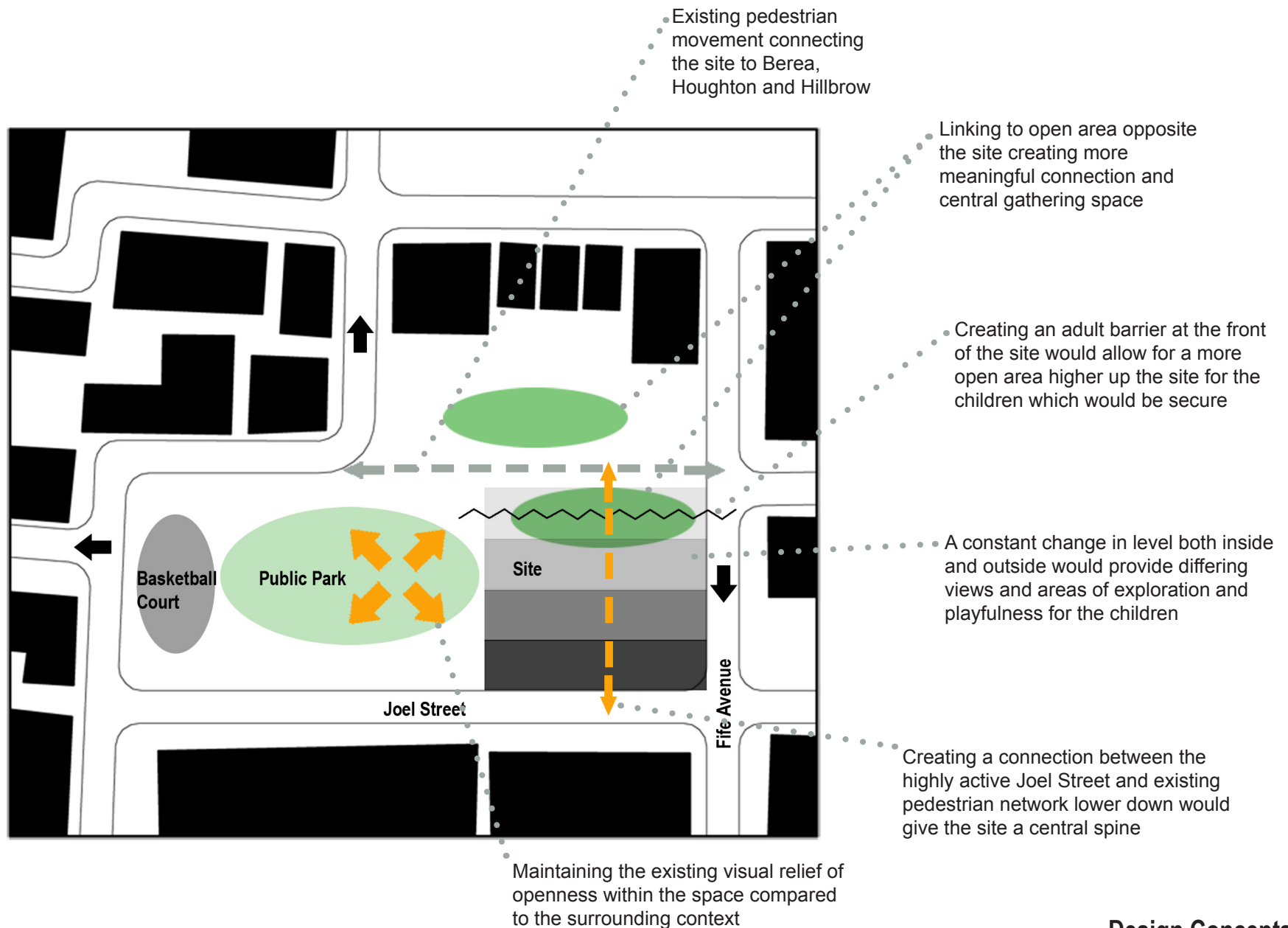
The north facing classrooms are at the highest area of the site with it's courtyard spilling onto the middle area allowing the classrooms to extend outwards.

• Music and dance are connected and share a common courtyard at the highest area of the site as they are noisy activities and can be experienced along the street.

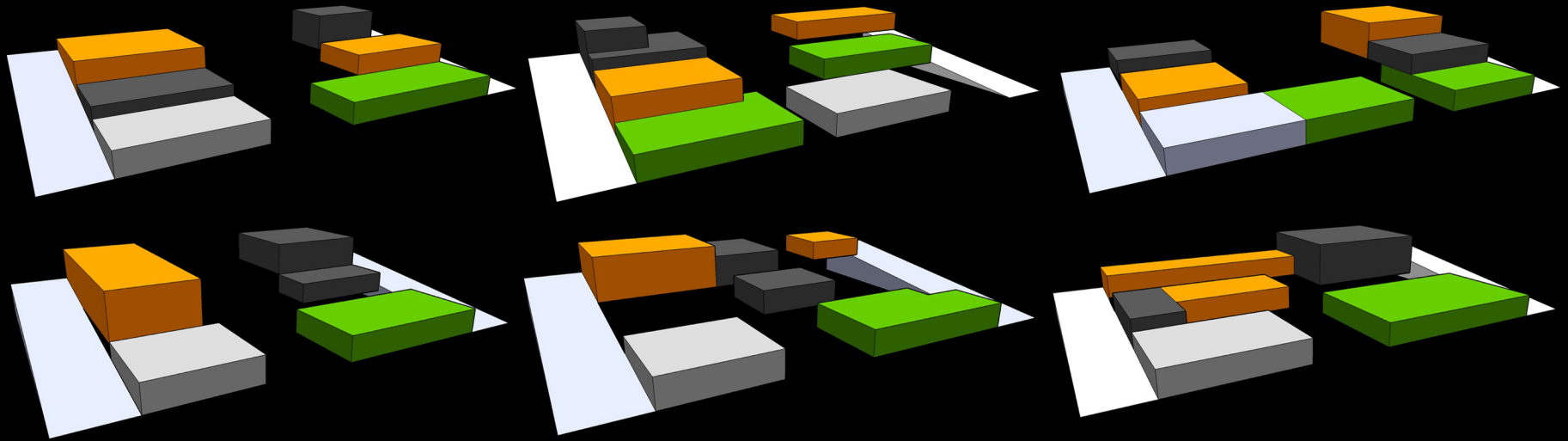
• Art is north facing along with it's courtyard in the middle area of the site. It is connected to crafts which also has a courtyard for outdoor activities.

• Drama is at the middle area of the site as well as reading. The reading pods however are to be scattered throughout the building.

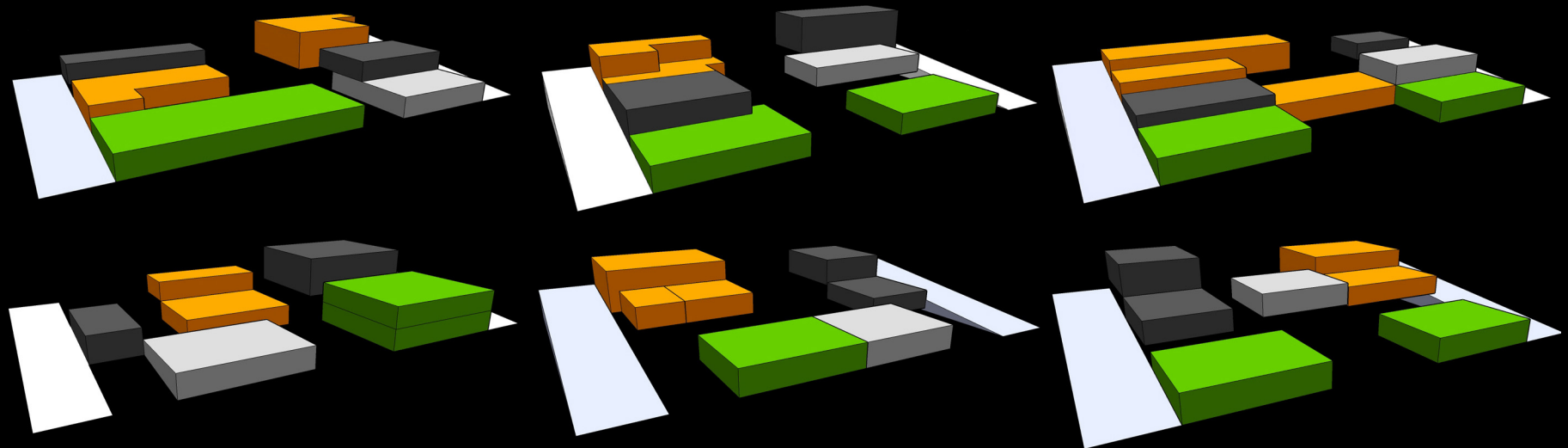
Activity Massing according to Programme



Design Concepts



Activity Massing + Design Concepts



The images represent alternative arrangements of activity massings positioned on site according to the programme and altered to accomodate the design concepts.

+ Macro Principles

The Macro Design Principles are now to be applied to the successful arrangements in order to achieve the final arrangement.

Arrangement 1

The arrangement does not allow for a connection between Joel Street and the pedestrian street lower down, therefore no central axis is created. A more central courtyard is achieved.

The large **scale** mass creates no opportunities around it. The relationship to its surroundings is **non-explorative** because of this.

The arrangement at the front of the site creates the required adult barrier, yet it turns its back onto the open space opposite the site and loses the opportunity of connection into the existing urban fabric.

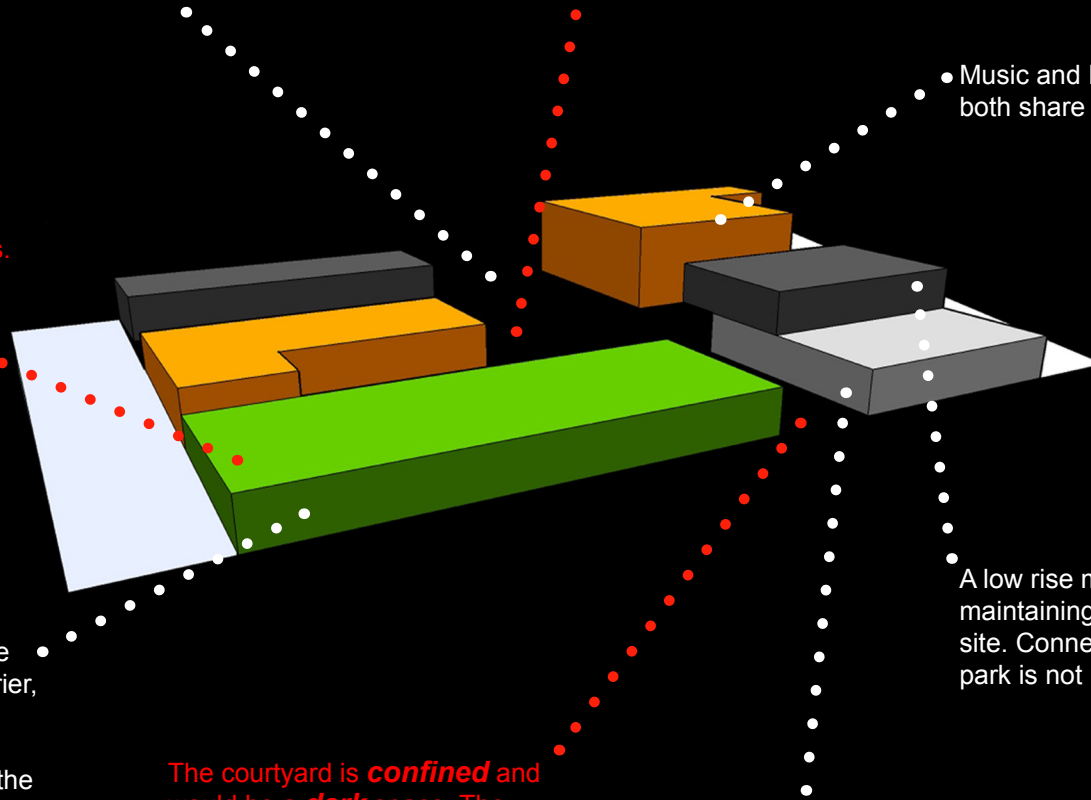
The courtyard is **confined** and would be a **dark** space. The entrance created is **non-inviting** yet the closed nature would make it a **secure** space.

The courtyard is **open** and is **linked** to many masses of differing functions. The space would receive plenty **light** and opportunity of **exploration** would be possible.

Music and Dance are connected and both share a common courtyard.

A low rise massing is achieved maintaining the visual relief across the site. Connection to the neighbouring park is not present.

The arrangement provides an intended change in level, and the connection of art and crafts is achieved, both of which are required to connect further to a courtyard.



Arrangement 2

The connection of music and dance is achieved but the stacked nature of the activity masses does not maintain the visual relief across the site. The activity on top would also not have direct access to a courtyard.

- The high rise mass is not suitable to the **scale** of a child, it further has a **closed** off nature towards a street that has so much to offer.

- This space provides opportunity of connection to the neighbouring park. The tight nature of this connecting space could be **dangerous**.

Although the crafts mass is well situated and has the required courtyard, the connection to art is lost and a void is created between the two activities.

The arrangement provides the intended central axis which allows all activity masses to feed off. The central axis can be secured by the adult barrier formed at the front of the site allowing for a more open and explorative area higher up the site.

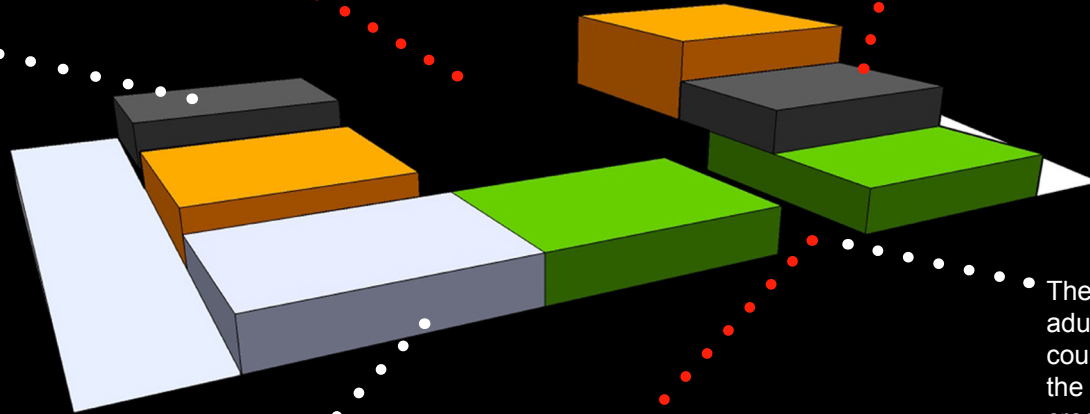
The courtyard creates a **linkage** of space which is **open** and inviting. Connection between the surrounding activities can be shared within the space.

Arrangement 3

The openness of the courtyard at the highest point of the site allows for the space to **link** to the activity taking place on the highly active Joel Street, yet it also provides question of **security**.

The low-rise nature of the mass formation creates a **non-monumental** effect across the site which is in contrast to the surrounding context and successful as a space for children.

The classrooms are well situated at this end of the site, connected to the courtyard and away from the noisy activities.



Art is separated from crafts and is not connected to a courtyard. It should also fall behind the security barrier set up by the adult activities, not sit alongside it. The connection to the open area opposite the site is also lost with this arrangement.

A secure entry point is achieved with this tight courtyard, but it would be **dark** and **confined**. The space still provides a link between activities making it a **positive** space.

The relationship between the adult activities and the common courtyard is a successful one, the central axis is not achieved creating an unnecessary break in connection between the highest and lowest points of the site.

Arrangement 4

The location of art in the centre of the site seems unbalancing, not only does it disturb the central axis requirement, but it fails to connect to the crafts activity mass. This activity would be more successful on a boundary expressing itself with outside activities.

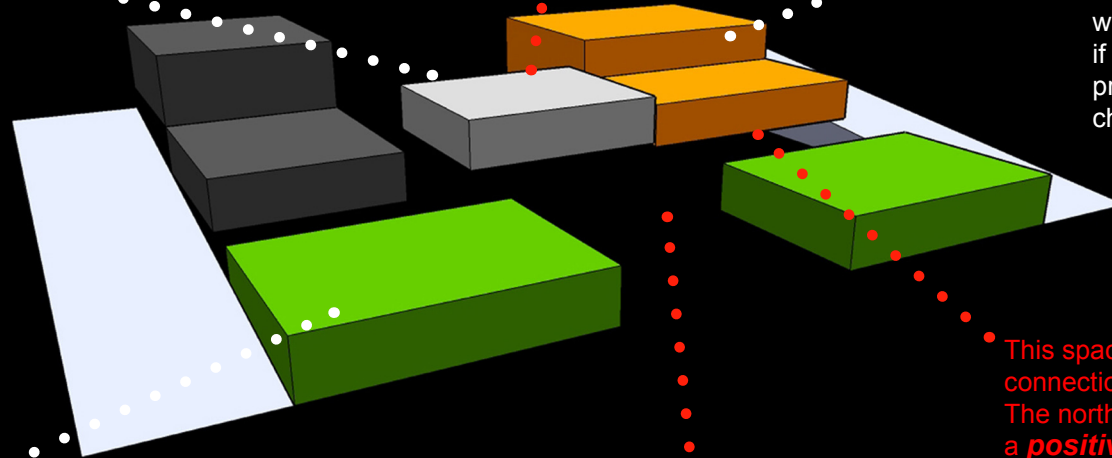
The offset nature of this mass to the street is opposite to the tight street edges associated with Hillbrow. This **open** space is **inviting** as it draws activity off the street into the courtyard.

The location of music and dance seems well positioned alongside the street as well as the park. These loud and busy activities would be better appreciated if opportunity of experience is provided to those outside of the child development centre.

This space provides opportunity of connection to the neighbouring park. The north facing courtyard becomes a **positive** space of overlapping activity.

The achieved courtyard is **explorative** and allows for multi-dimensional movement to take place within it. The activity masses **adjacent** to the courtyard can feed off this movement.

Administration is well positioned at the front of the site and alongside the street edge. This is the access point and the facilities housed in this activity mass are required to serve those entering the site. The courtyard connection is successful for both the administration area as well as the open area opposite the site.



None of the four arrangements accomodate all of the the guidelines set up by the programme, design concepts and macro design principles. In order to attain the correct arrangement a collaboration of the most promising areas of all four arrangements can be put together. By doing this the non-effective areas are eliminated and the most effective activity massing will now be achieved.

A low-rise massing is achieved maintaining the visual relief across the site. A central axis is created connecting Joel Street and the pedestrian street at the bottom of the site.

- The **openness** of the courtyard at the highest point of the site allows for the space to **link** to the activity taking place on the highly active Joel Street whilst in a **secure** space.

The location of music and dance is well positioned alongside the street as well as the park. The connection between art and crafts is also achieved with their respective courtyards.

The classrooms sit well on this edge away from the noisy activities and the park allowing the children undisturbed lessons.

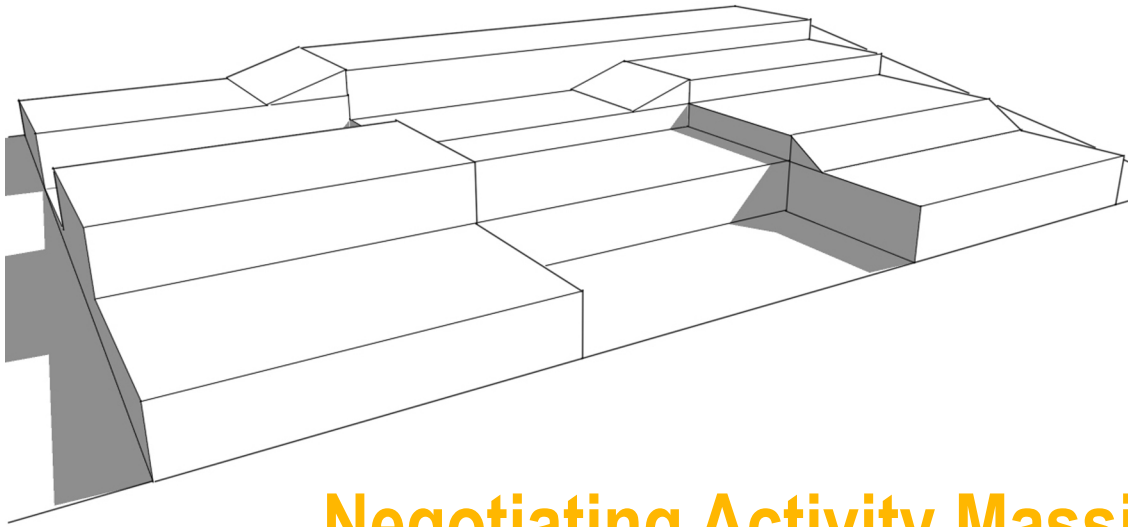
The **non-confined** arrangement of massing achieves areas that are calculated allowing **light** into connecting spaces.

The achieved courtyard is **explorative** and allows for multi-dimensional movement to take place within it. The activity masses **adjacent** to the courtyard can feed off this movement.

The arrangement of the adult activities at the front of the site has created an adult barrier. The two activities share a common courtyard that also serves as an entrance and connects to the open space opposite the site.

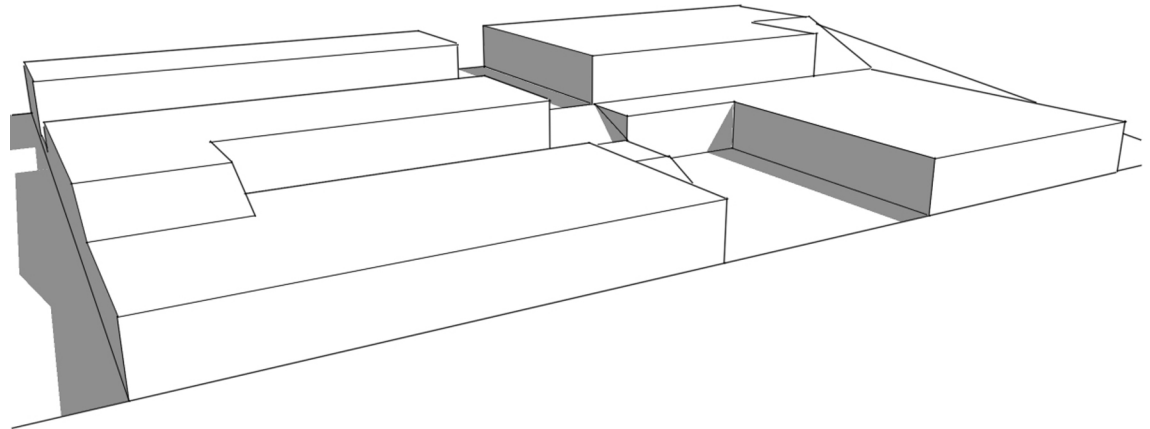
Final Activity Massing Arrangement

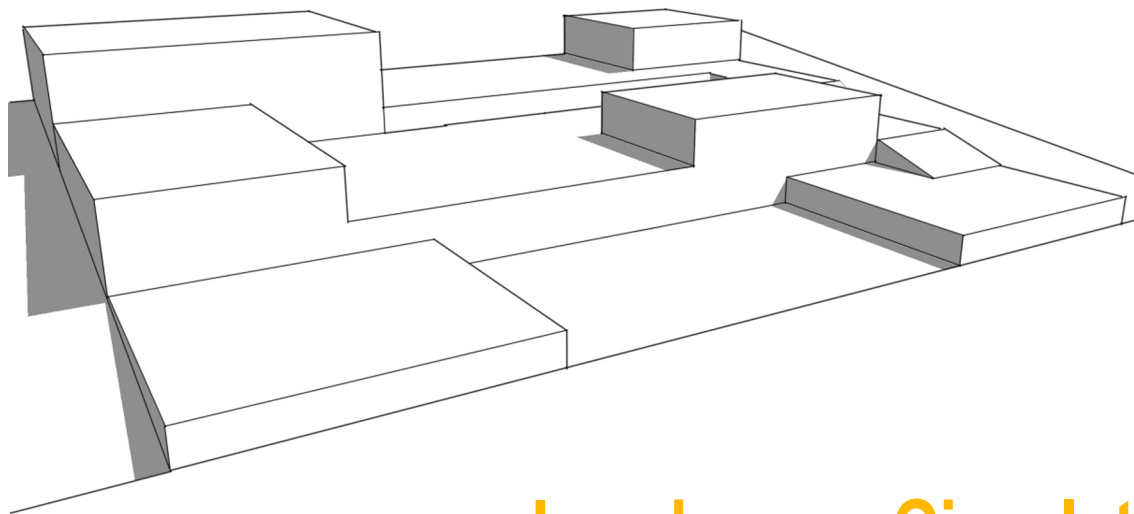
Black Text: Programme & Concept
Red Text: Macro Principles



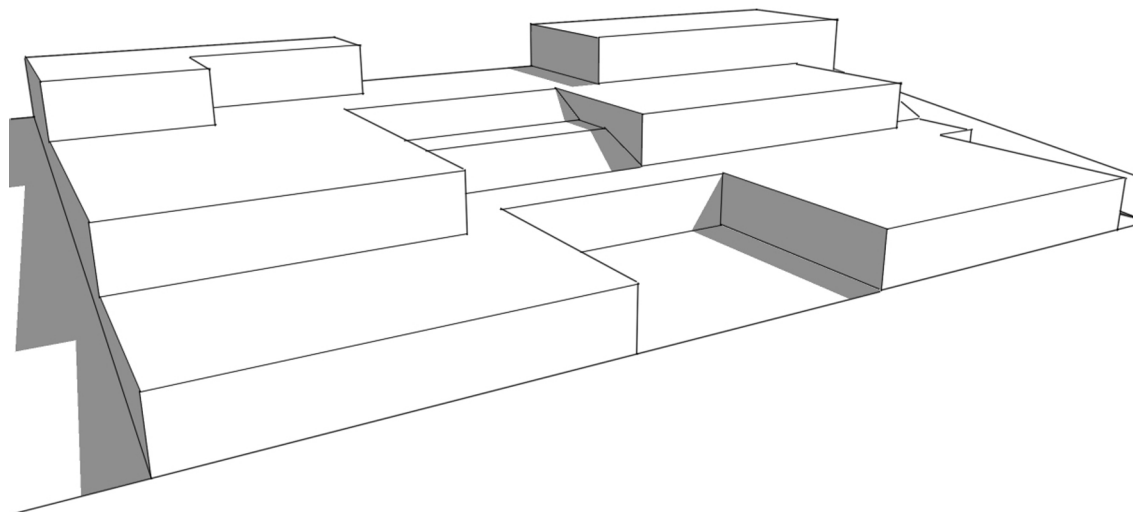
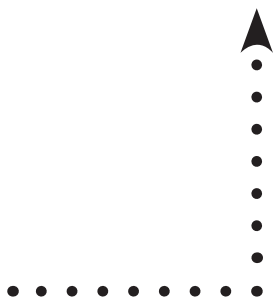
Negotiating Activity Massing and

The constant change in level and central axial movement across the site pose a challenge on circulation. By creating courtyard (pause) spaces along this axis the circulation can be broken into different areas connected by ramps. Not only will this develop areas of differing views and experiences, it allows the children altering journeys of exploration whilst moving from one end of the site to the other.





Landscape Circulation



Continuous change in level both inside and outside

Central spine

Low-rise structure maintains visual relief

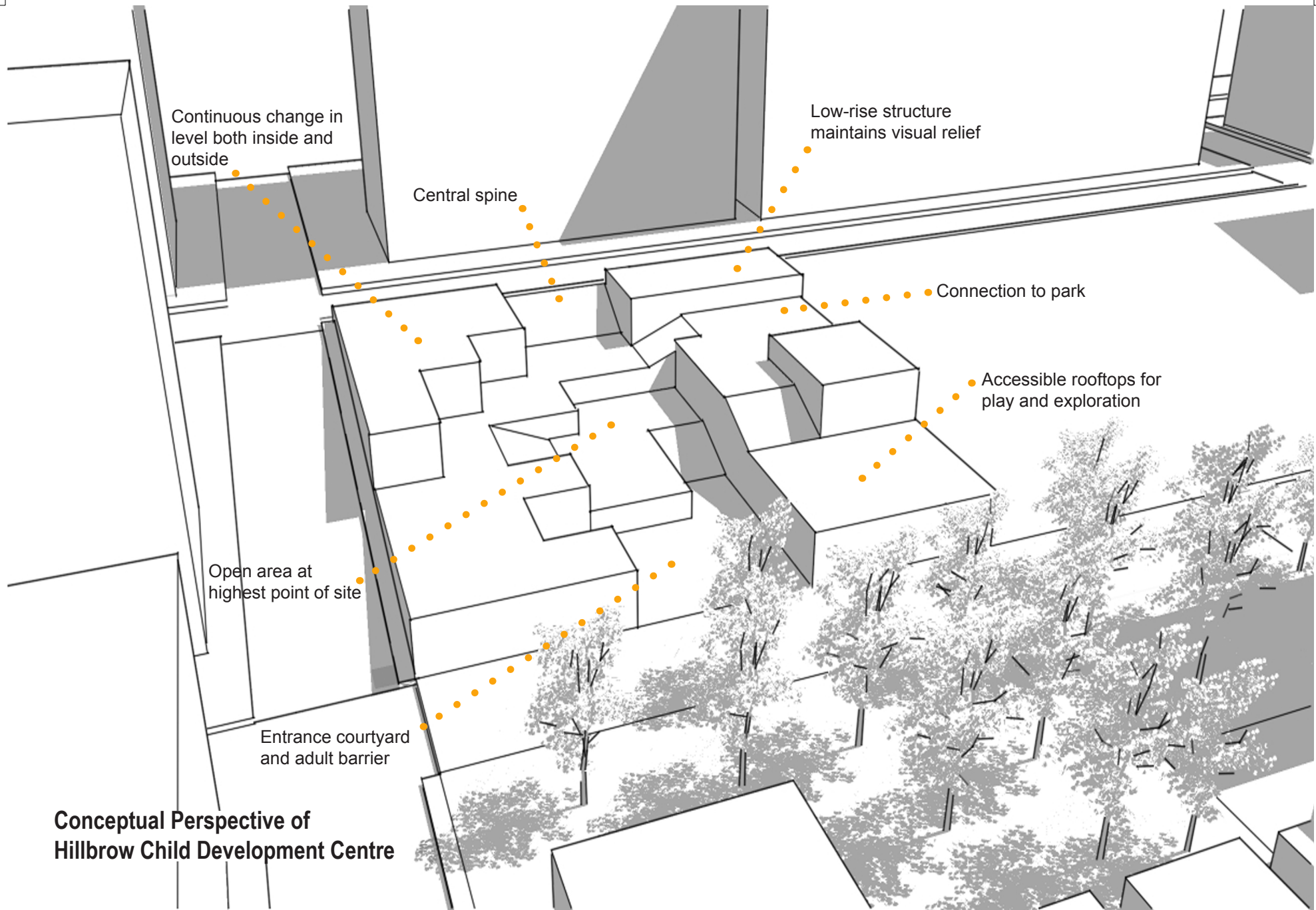
Connection to park

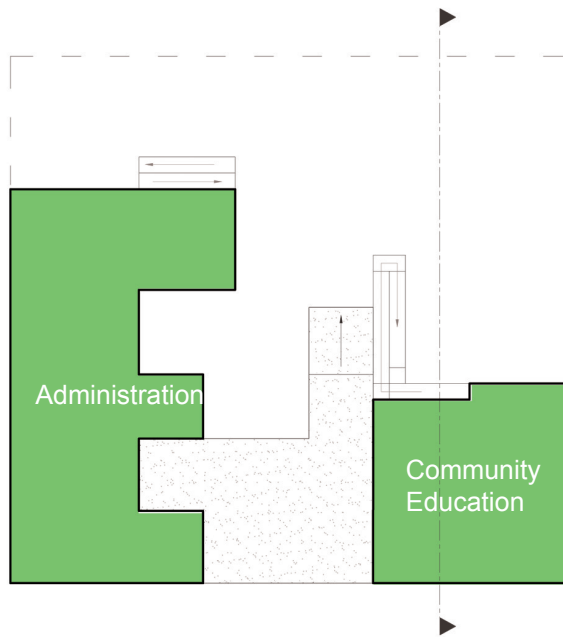
Accessible rooftops for play and exploration

Open area at highest point of site

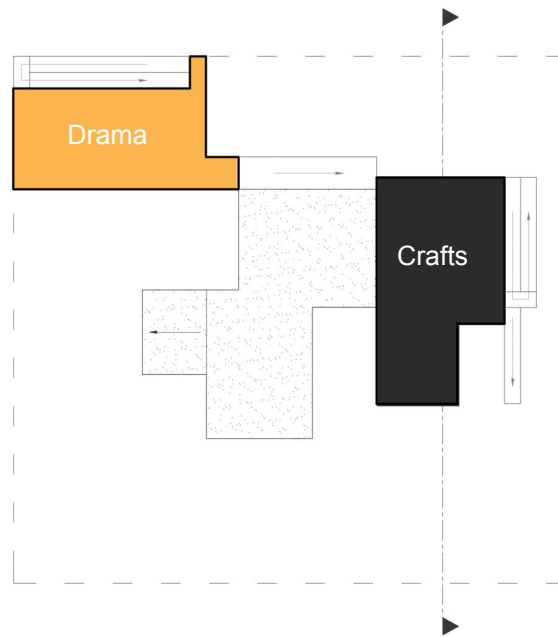
Entrance courtyard and adult barrier

Conceptual Perspective of Hillbrow Child Development Centre

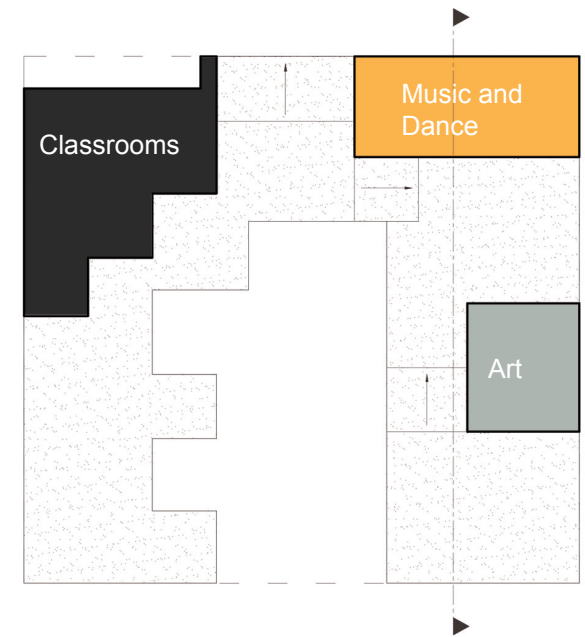




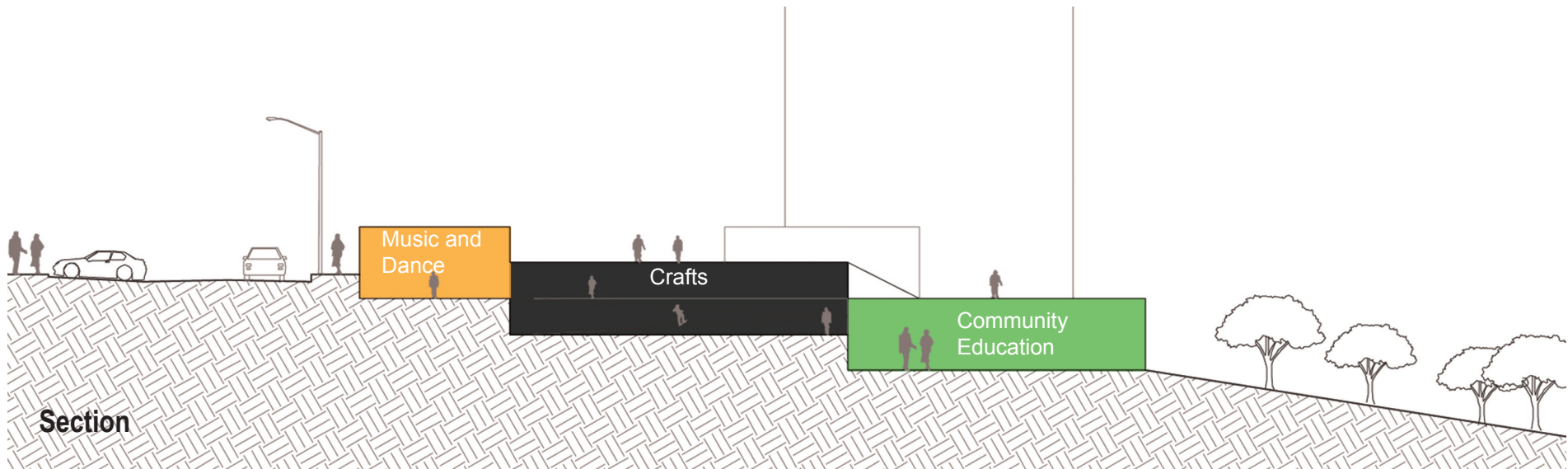
Level 1



Level 2

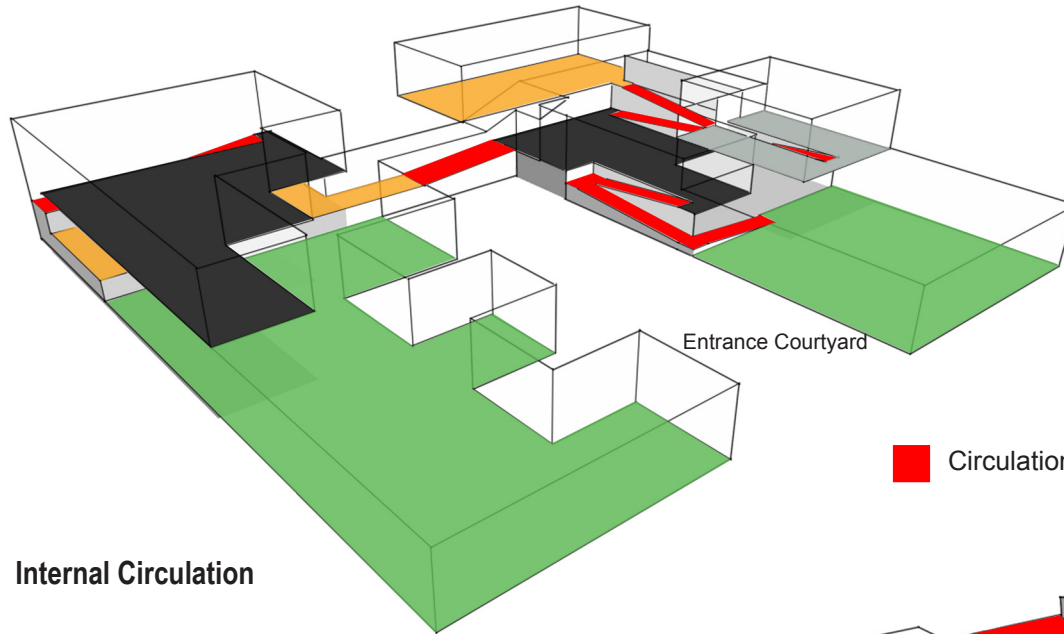


Level 3



Section

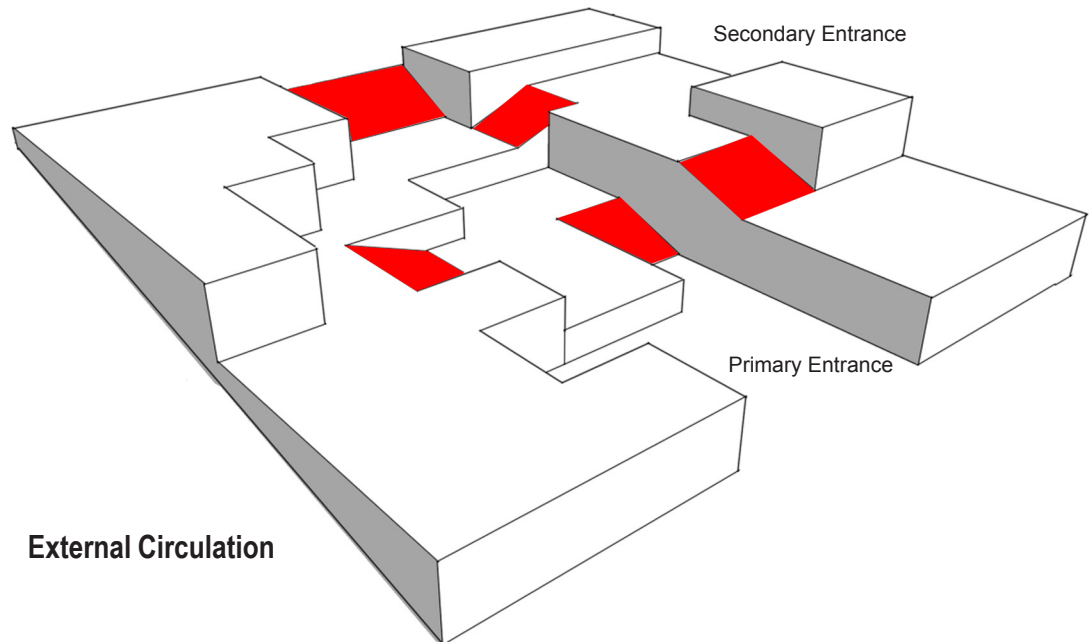
Circulation Study



The external circulation's main access point is at the secured frontage of the site, the secondary access point is from the public park side of the site. This external circulation is an alternative option of moving from areas both inside and outside of the centre. This creates a random and unordered movement pattern across the site accomodating children and achieves a labyrinth circulation route.

Internal Circulation

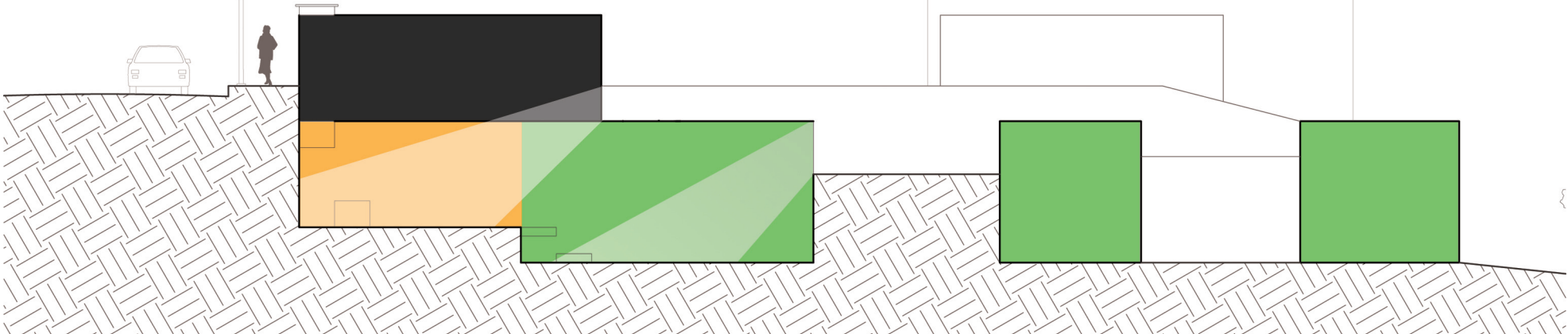
The internal circulation begins at the entrance courtyard into the administration or community education areas. From these points access is available to all other areas of the centre. The concept of movement through the building is a series of activity spaces connected by circulation ramps that themselves can hold activity and be fun and explorative for children.



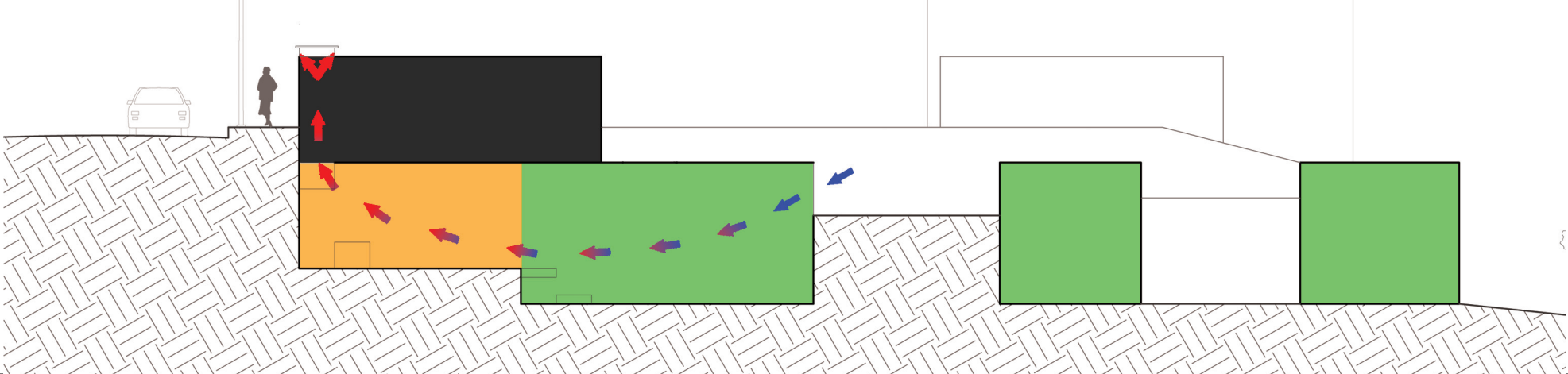
External Circulation

Light and Ventilation Study

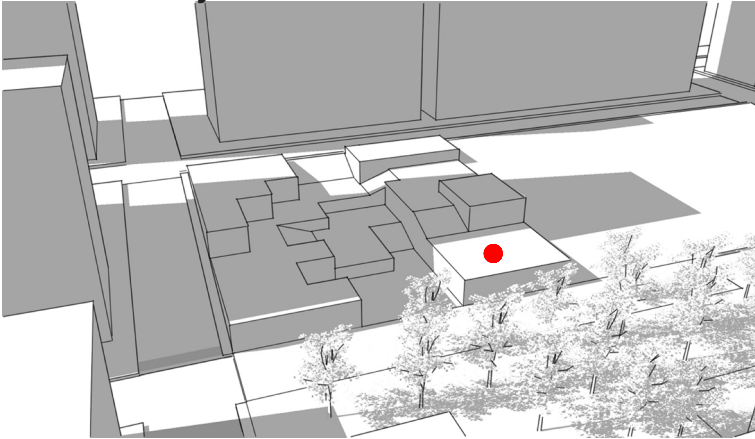
Natural lighting is to be scooped into the back areas of the building with the use of clerestorey windows and courtyards. Light coloured internal materials and finishes are to be used in this particular area in order to reflect and disperse the light as much as possible.



A continuous circulation of fresh air will be achieved by low openings receiving cool air that is then circulated through the back area of the building. Once warm and stale the air will rise to escape out of the building through an opening higher up.

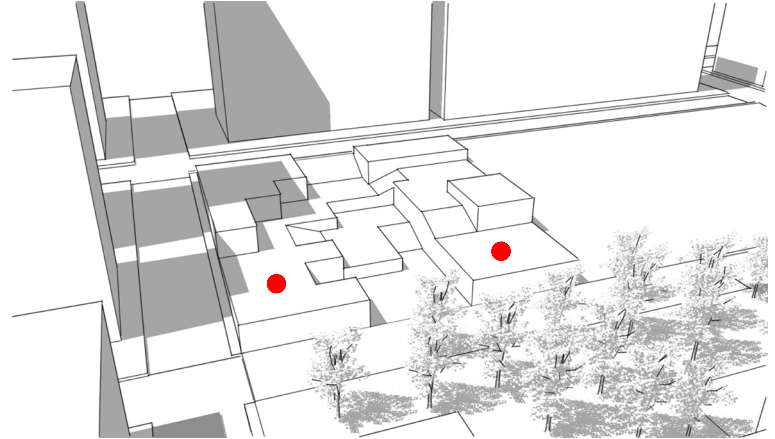


Shadow Study



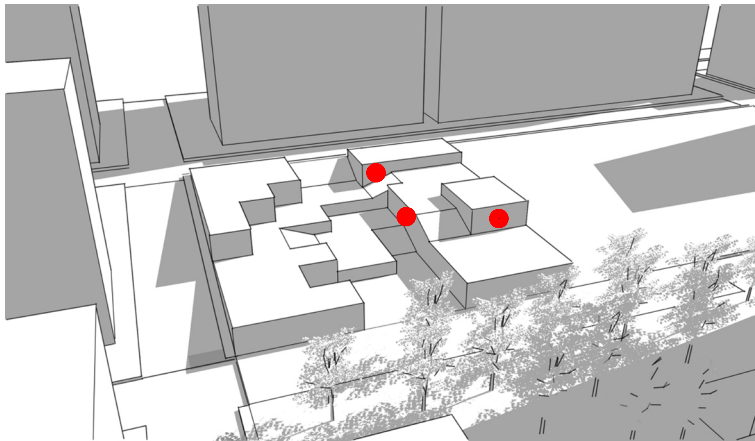
8:00am

- The community education area receives early morning sunlight as it is the first.



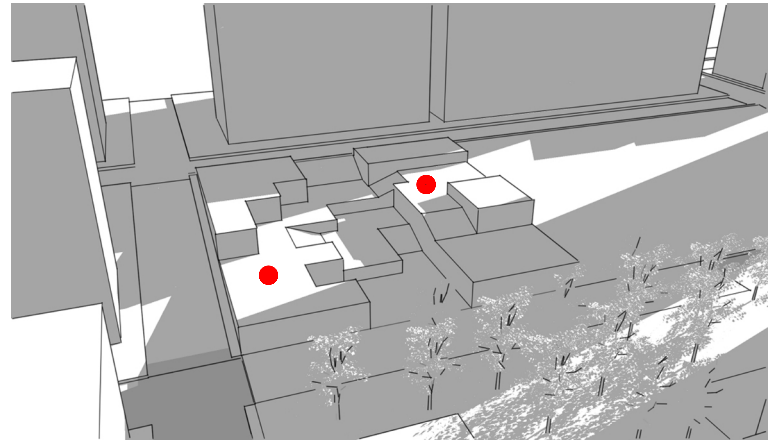
10:00am

- All areas of the site that are active at this time of the day receive sunlight.



15:00pm

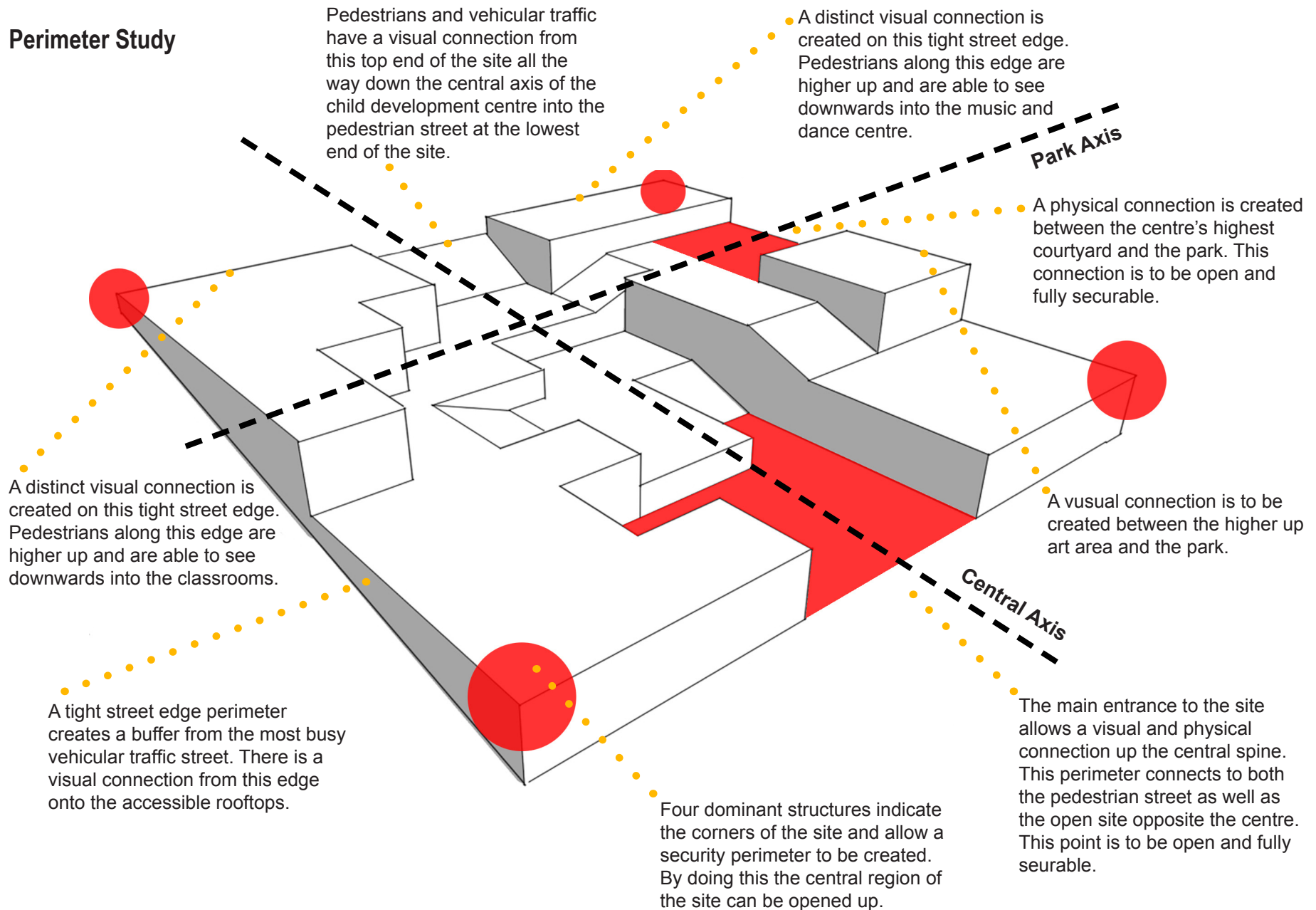
- The art, dance, drama and music areas receive necessary shading for mid-afternoon classes.



18:00pm

- The external courtyards are still sunlight in the early evening allowing for play and exploration to continue regardless of the time.

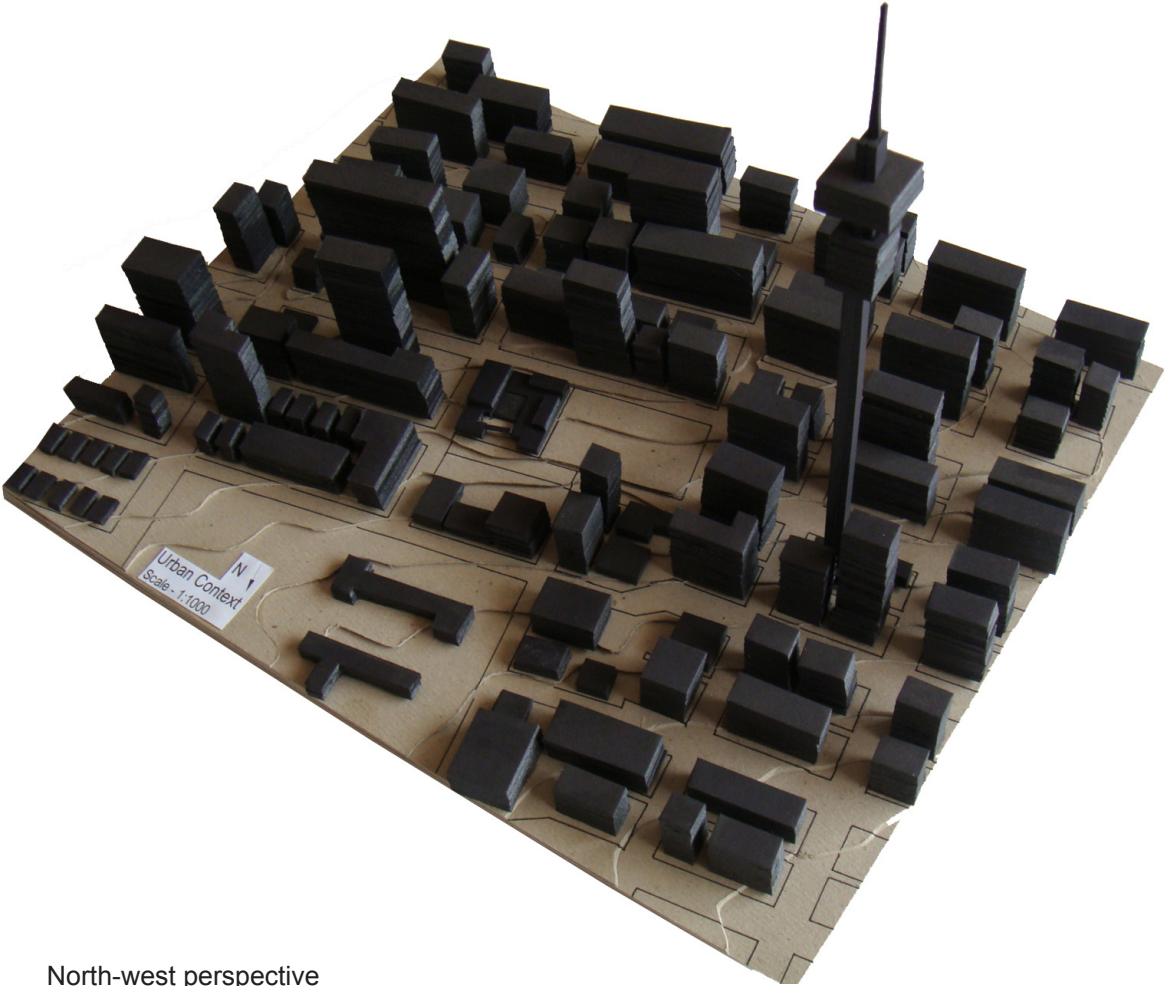
Perimeter Study



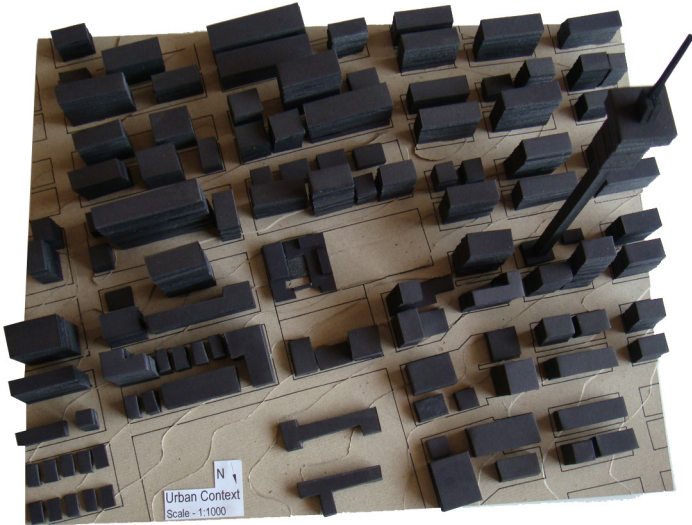
North view down central spine



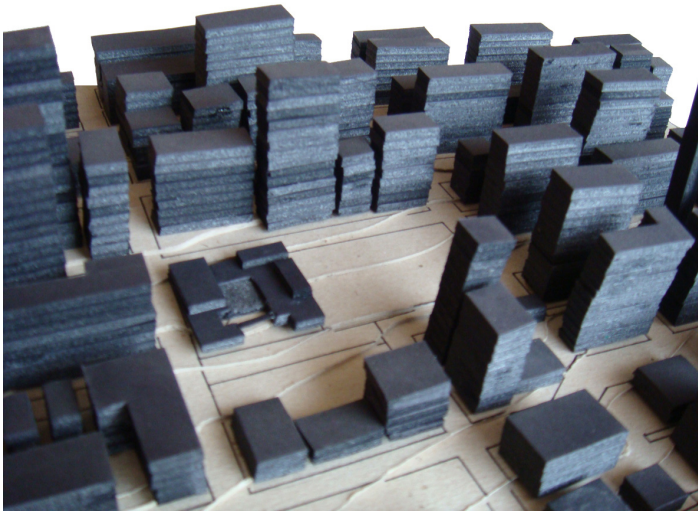
Model on Site



North-west perspective



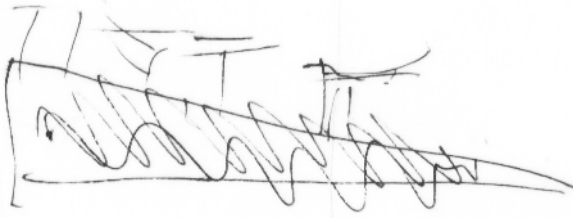
Bird's eye view



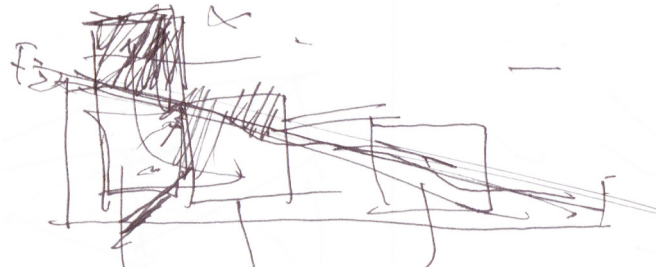
North-east perspective

Sketch Design: Phase 1

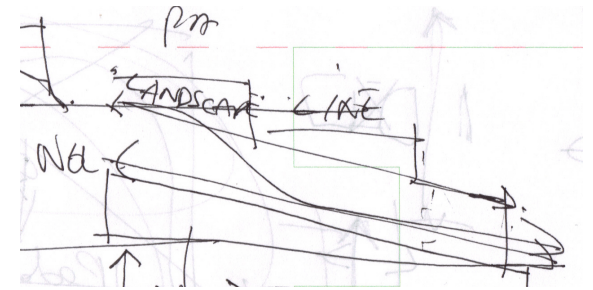
Light and Heavy



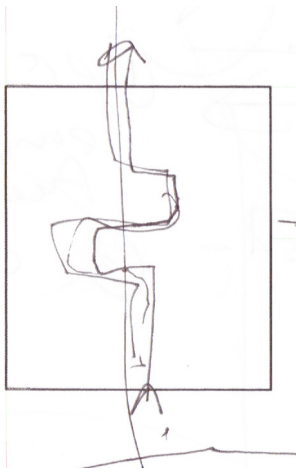
The heavy landscape forms the first layer of the design. The light structure of the building that rests upon this landscape forms the second layer.



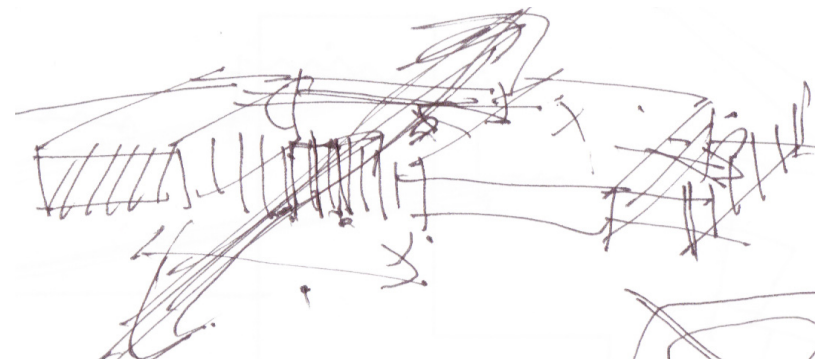
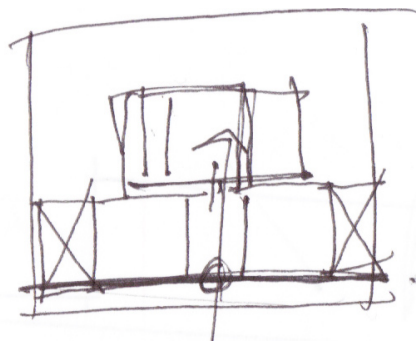
The landscape is to have carved out spaces below the light structure. This structure is to step down from south to north along the natural slope.



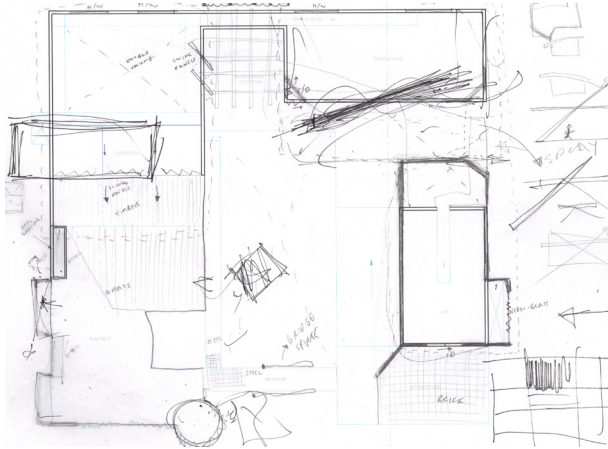
Transition and Circulation



Transition through the building is to be a journey from one activity to the next, avoiding passage syndrome and dark dangerous spaces.

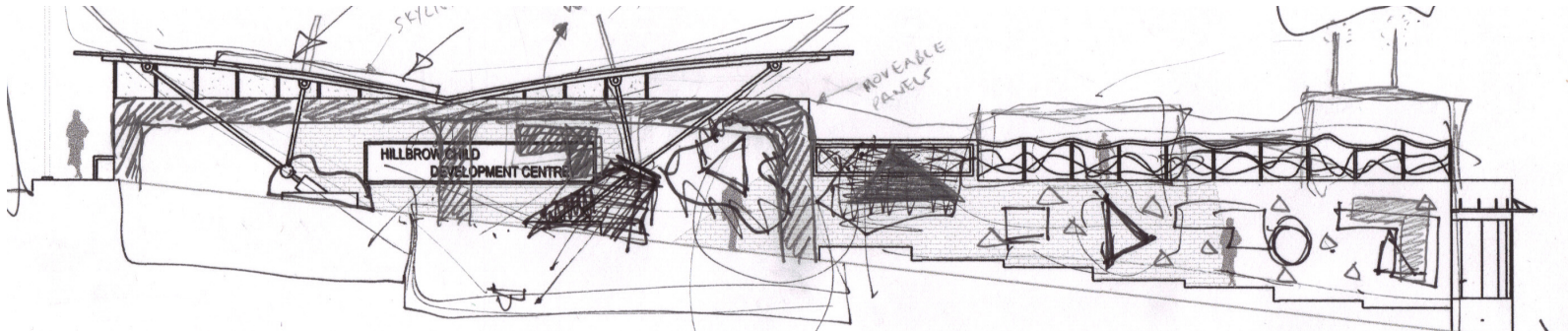


There is to be one main circulation route throughout the design. Off this route are to be a multiple amount of options of secondary routes.

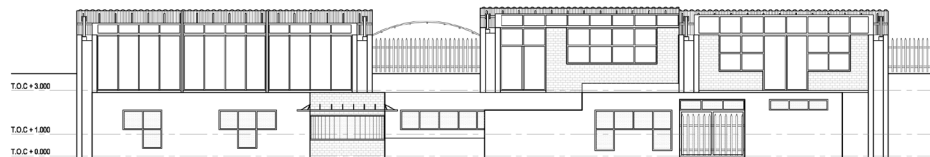


Planning begins to rotate around a central courtyard whilst considering edge condition and the micro-principles set up earlier in the project.

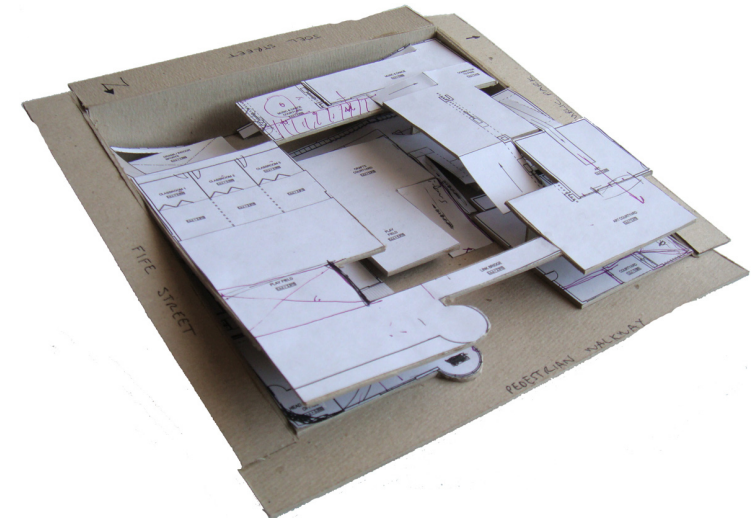
Architectural Language



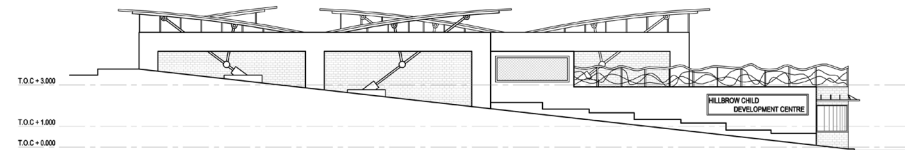
East Elevation : exploration in texture and material, the light roof structure experiments with maximum north light catchment.



North Elevation : playful windows, visible courtyards and expressive entrance elements



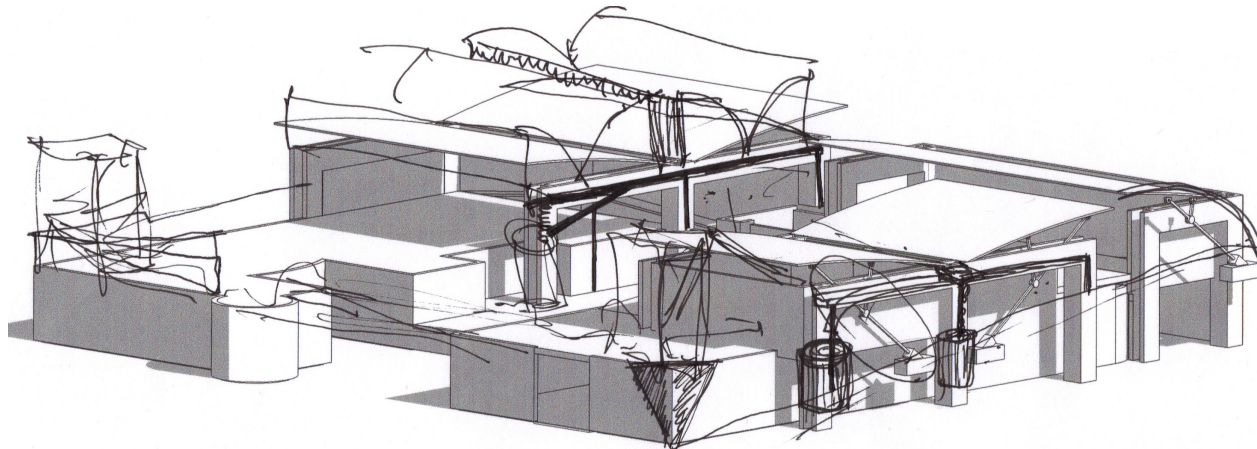
A circulation model indicating the intricate and playful layers of planning connected by a series of ramps both above and below the landscape.



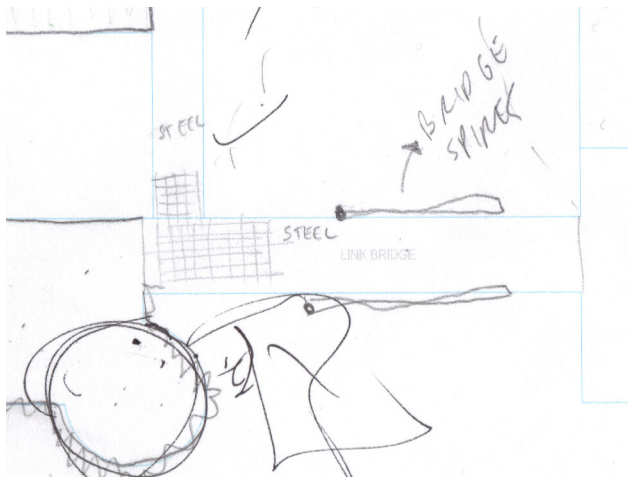
East Elevation : floating roofs, clerestory windows, recessed facebrick

Sketch Design: Phase 2

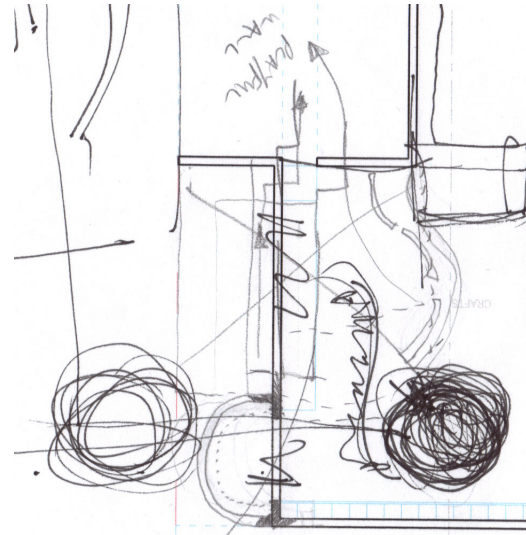
Application of Micro-Design Principles



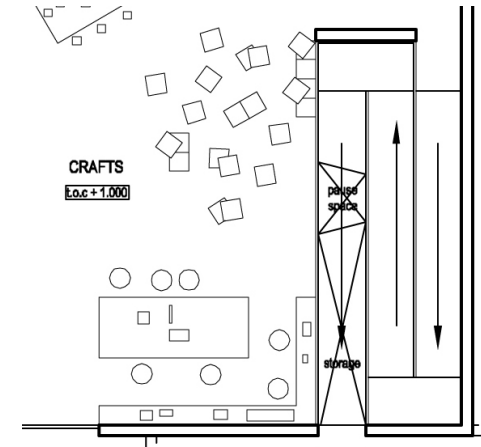
Modelling the building provides questions of the roof, circulation and corner treatment.



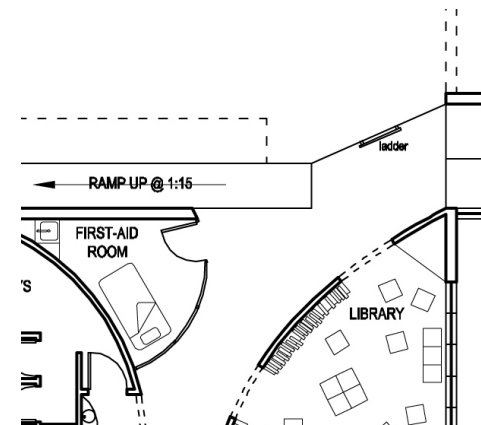
The bridge linking the external courtyards provides greater circulation opportunity whilst creating a challenge for the children that is simple and repetitive yet has a risk to it.



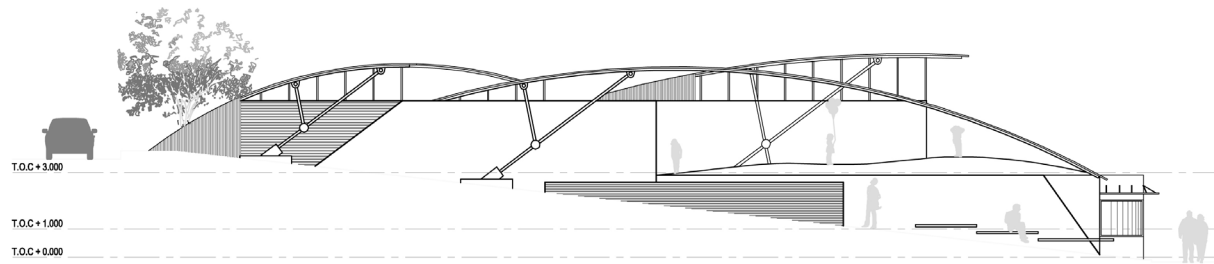
Active and passive spaces both inside and outside are created through level and material change. Complex objects challenge a child's route through these spaces.



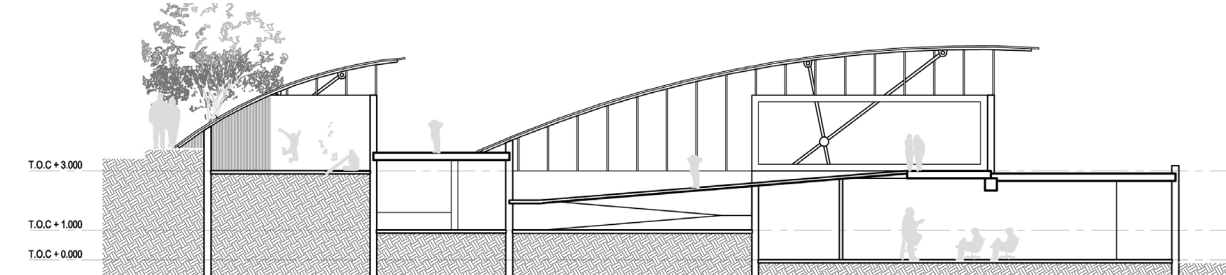
Pause spaces are located below ramps and offer the children a quiet and confined space for reading or resting purposes.



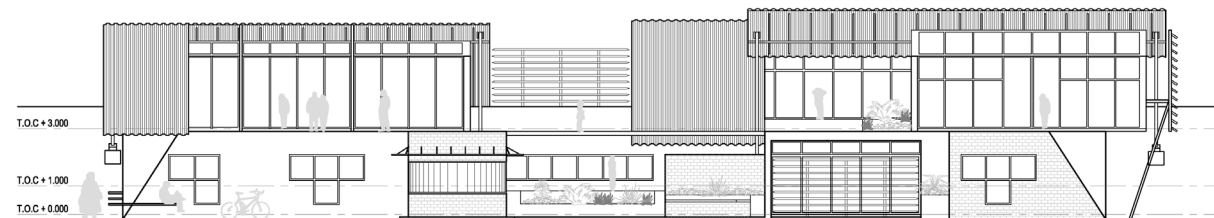
Where a level change is no more than 1000mm, a ladder provides an alternative route.



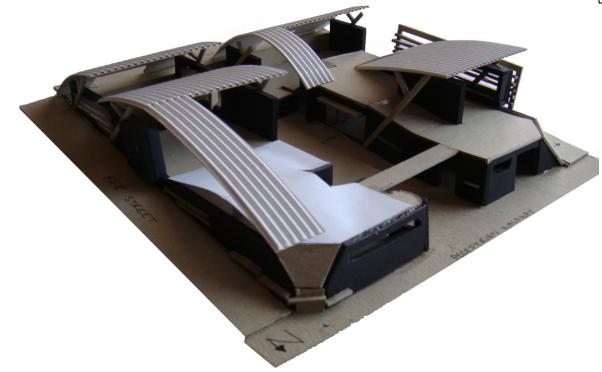
East Elevation: The roof structure has remained light, but now touches the landscape that supports it. The external courtyard has changed in form and texture. The corners have become habitable spaces.



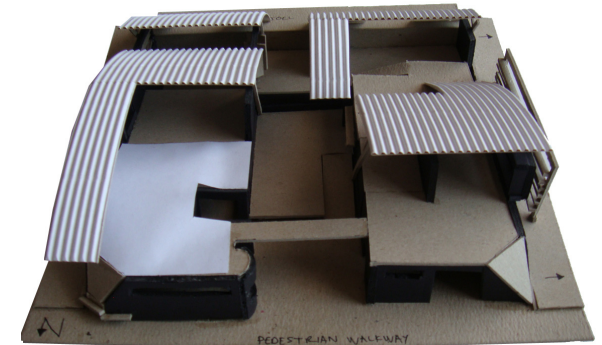
Section: Internal spaces vary in height and step down from south to north. Spaces along the street edge accommodate the pedestrian in the design.



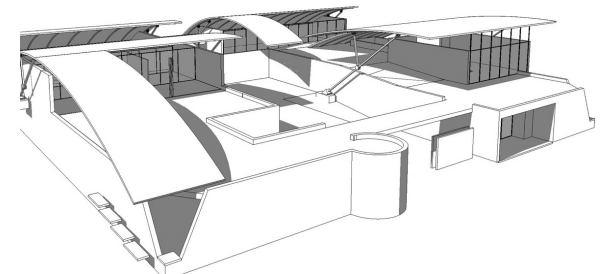
North Elevation: expressive geometry through malleable materials, flowing horizontal and vertical planes, transparency of space.



Physical Model 2: north-east perspective



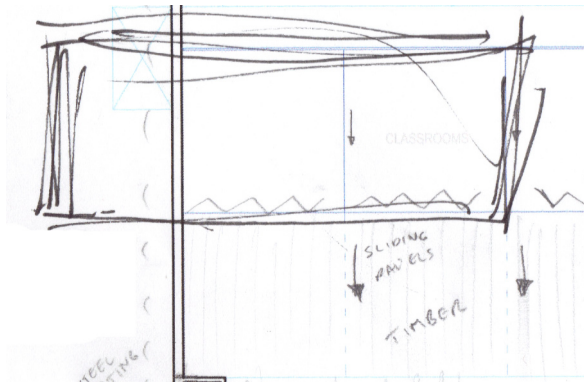
Physical Model 2: north perspective



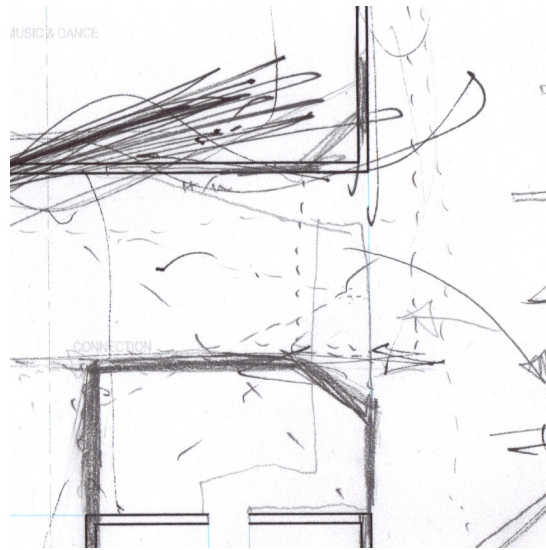
Digital Model 2: north-east perspective showing shaded activity areas and open sunlit courtyards

Sketch Design: Phase 3

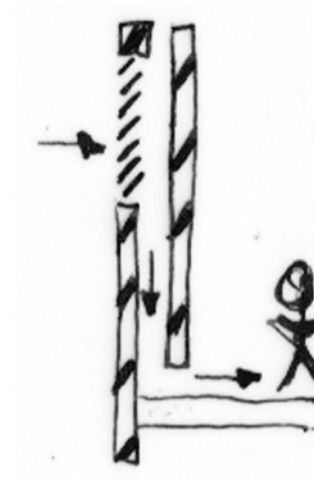
Detailing



Manipulative spaces allow the children to change their environment as they see fit. Classroom areas are able to change in size and location through sliding wall panels.



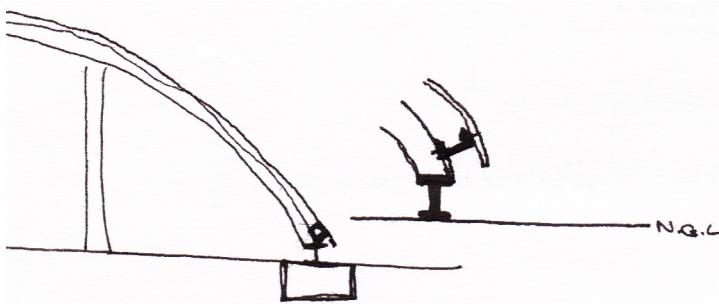
Connection to the park takes place at the highest courtyard and takes one from the child centre through the park towards the sporting activities on the other end of the site.



Air intake will happen at street level and will circulate to lower areas throughout the design.



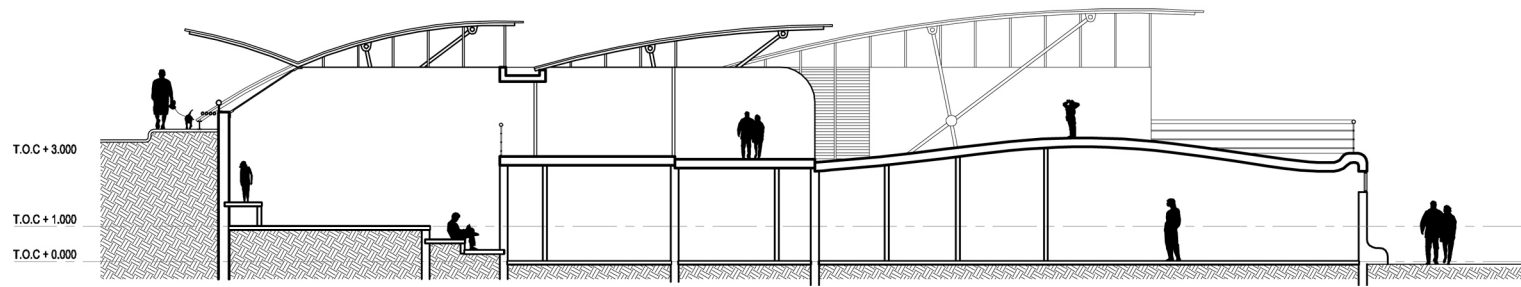
Conceptual sketch of roof metamorphosis into the landscape



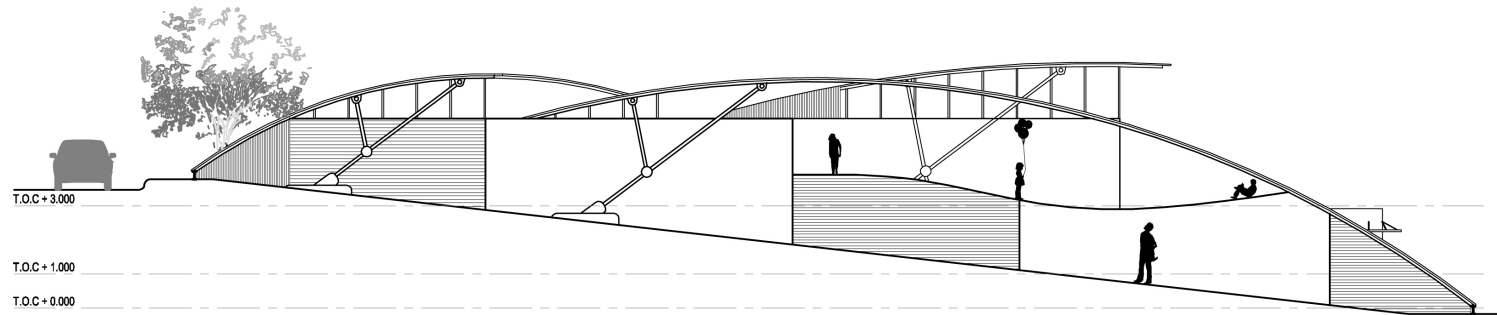
Roof connection detail



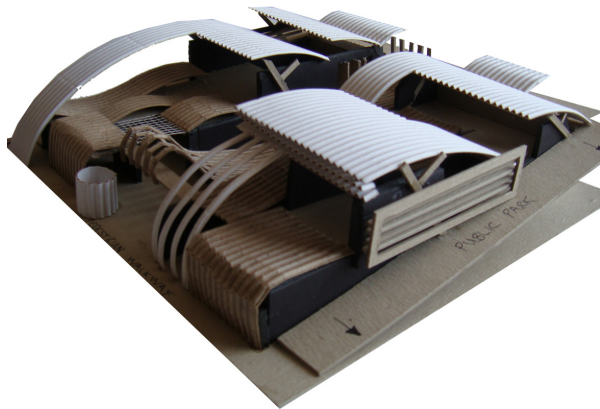
Physical Model 4: Pedestrian niche in building facade facing the street.
Physical and visual connection from building into the park.



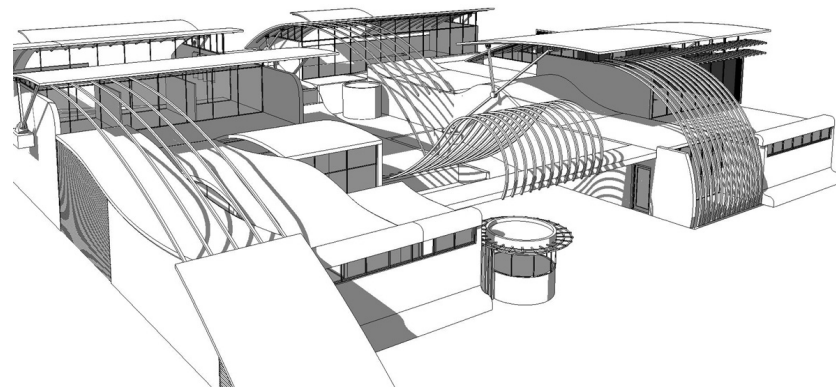
Section: Visual connection from higher up pedestrian street down into building.
 Roof spacing increases to accommodate concrete gutter.
 External courtyard transforms into a landscape, playful roof heights are created below.
 Consideration towards pedestrians at lower end of site.



East Elevation: Secure proximity created between child and pedestrian.
 Dominant curved roof structure returns to become a wall.
 Facade curves to support and accommodate roof structure.



Physical Model 4: north-west perspective

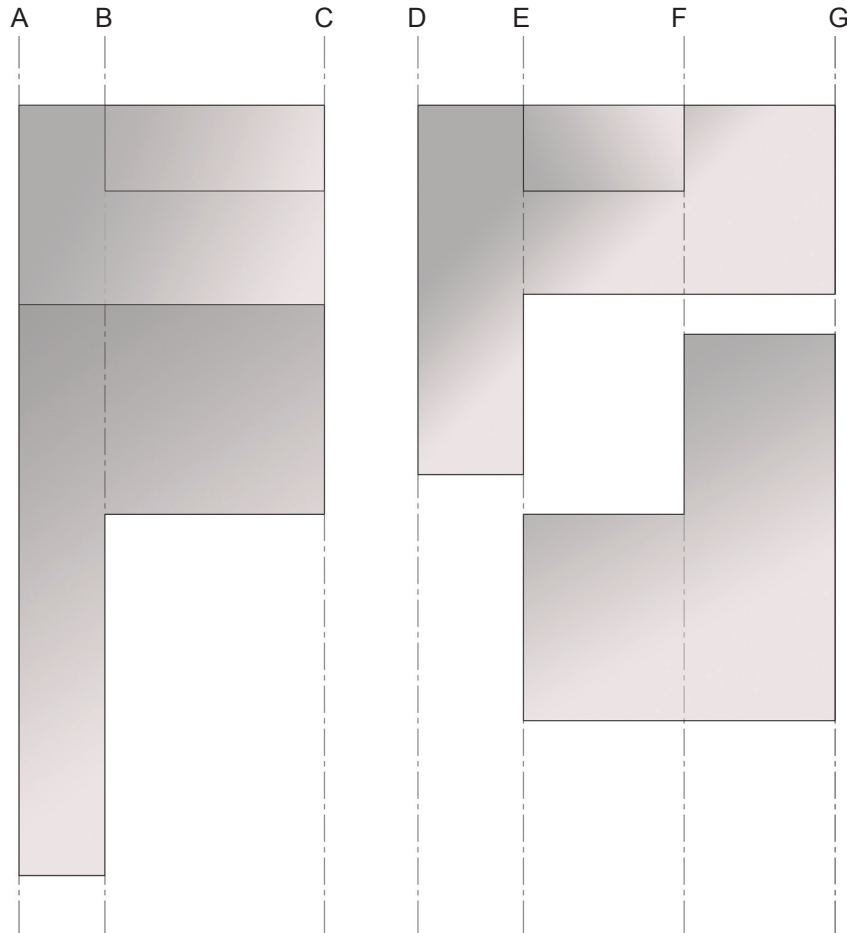


Digital Model 3: north-east perspective

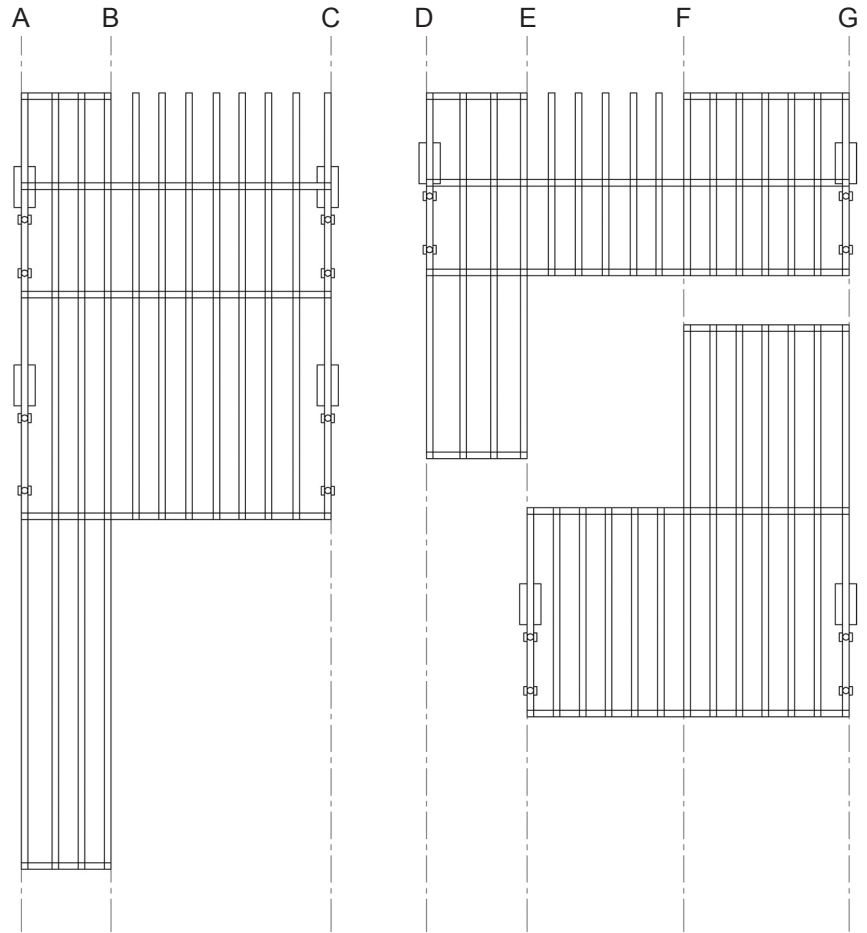
Sketch Design: Phase 4

Layering of Systems

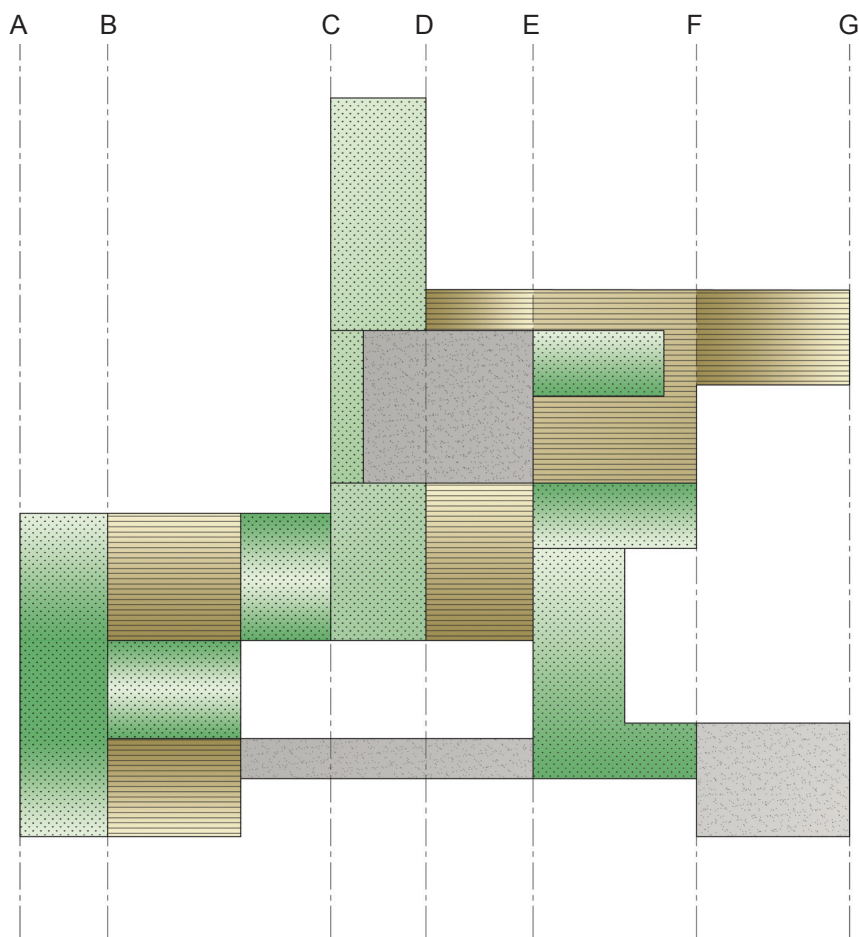
Ultimately the design is a layering of systems. These systems have dominated throughout the sketch phase. By dissecting and arranging these systems, an architectural language will be created that is evident in the design.



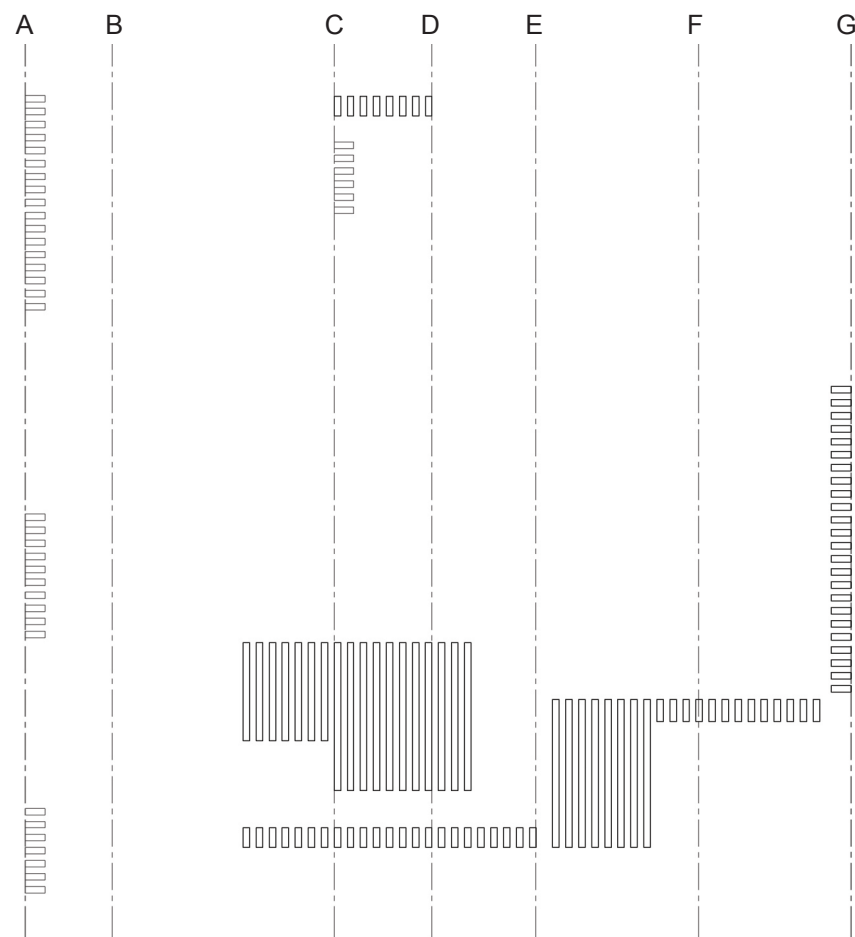
Roof System
106



Roof Structure System



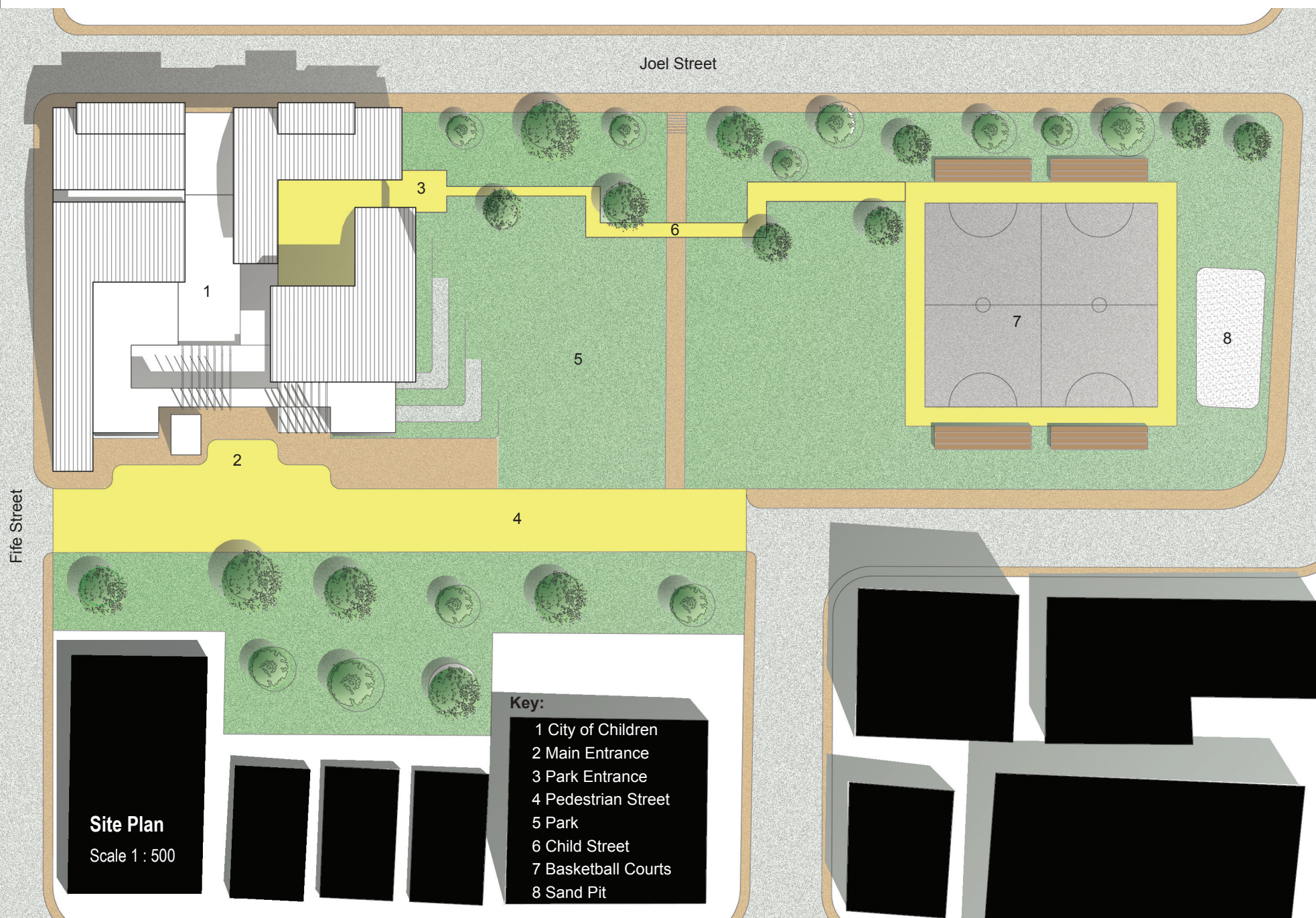
Landscape System



Armature System



Design Development



Joel Street

Fife Street

1

2

3

6

5

4

7

8

Key:

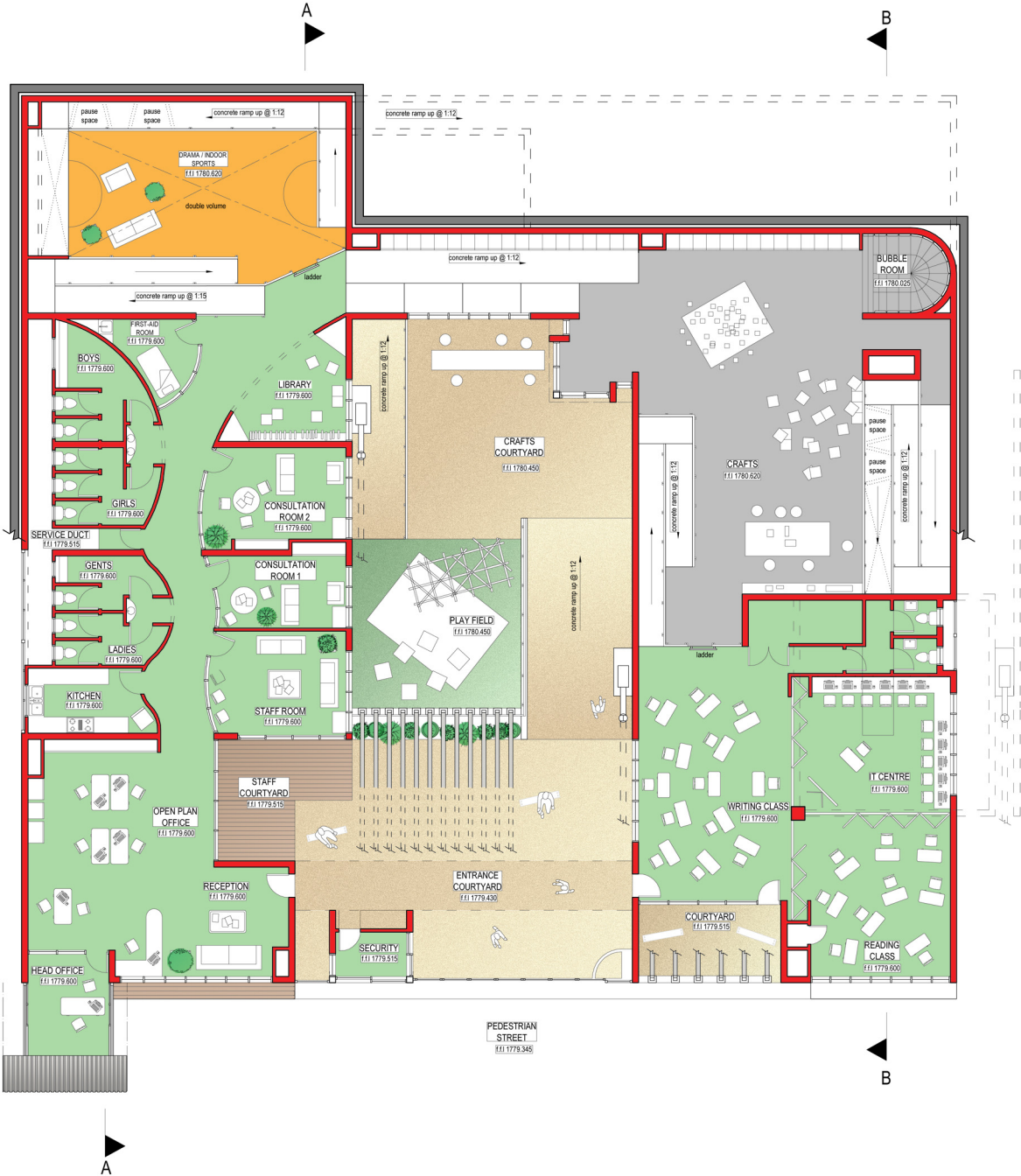
- 1 City of Children
- 2 Main Entrance
- 3 Park Entrance
- 4 Pedestrian Street
- 5 Park
- 6 Child Street
- 7 Basketball Courts
- 8 Sand Pit

Site Plan

Scale 1 : 500

Ground Level Plan

Scale 1 : 250



First Level Plan

Scale 1 : 250



North Elevation

Scale 1 : 200



F.F.L 1783.340

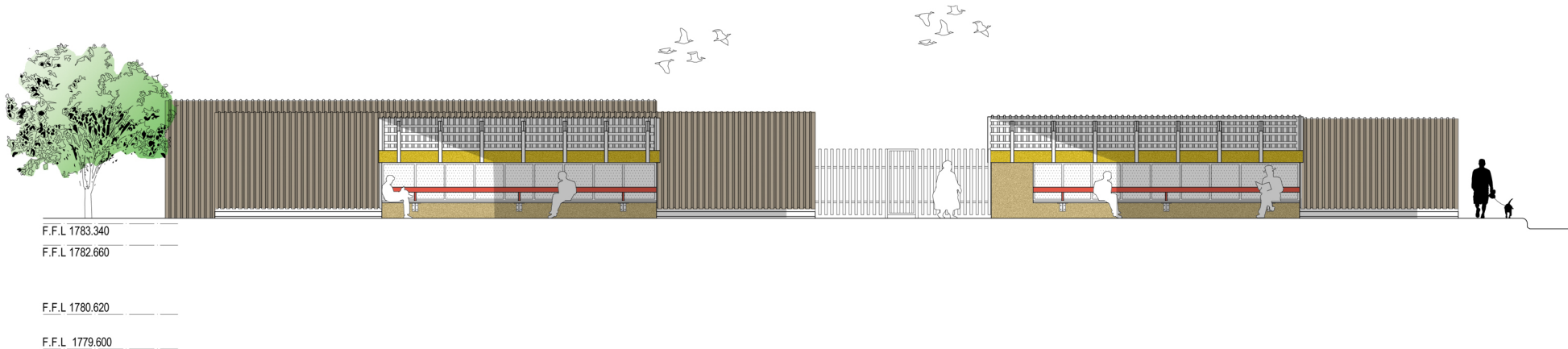
F.F.L 1782.660

F.F.L 1780.620

F.F.L 1779.600

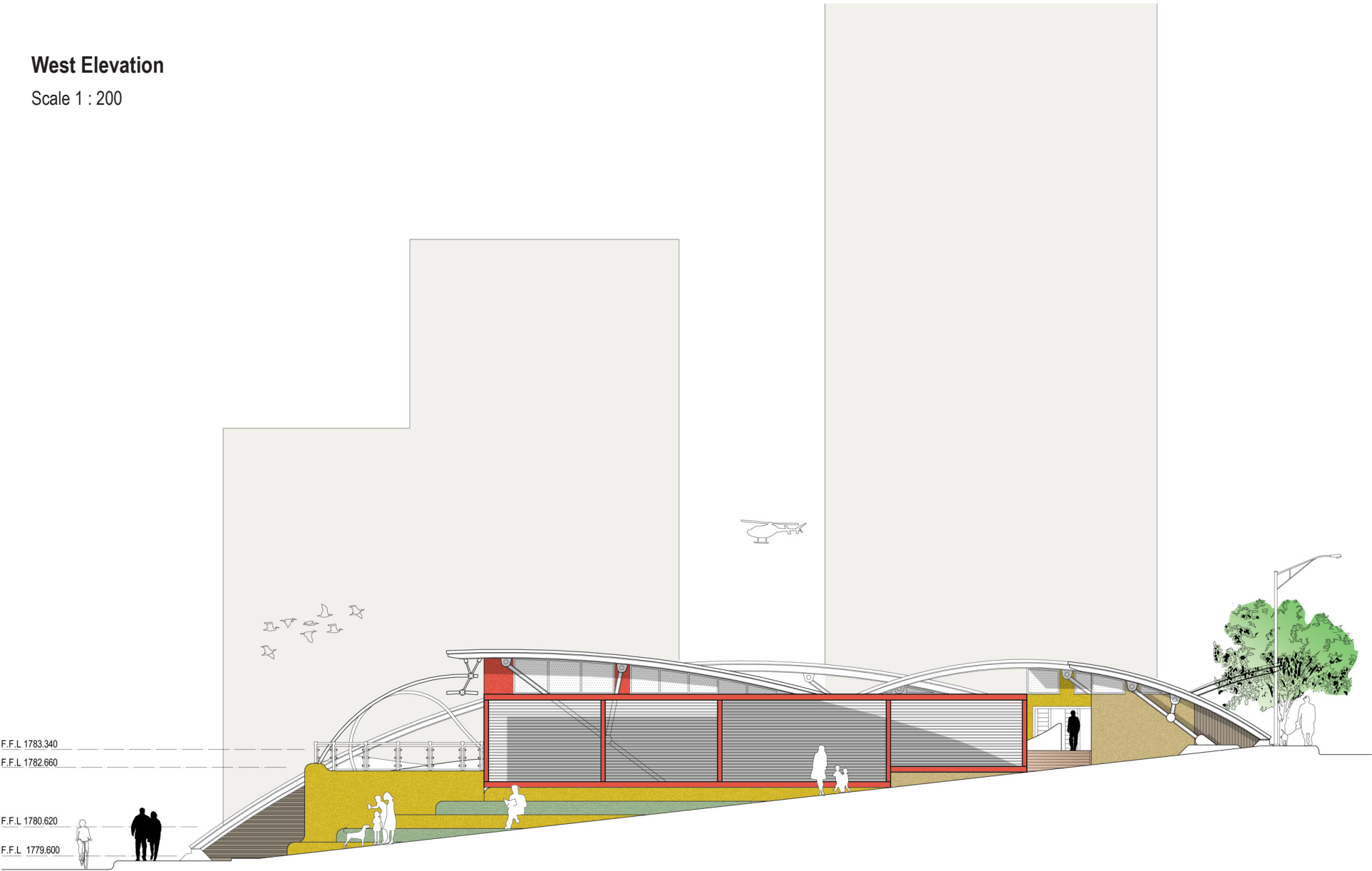
North Elevation
1:100

South Elevation
Scale 1 : 200

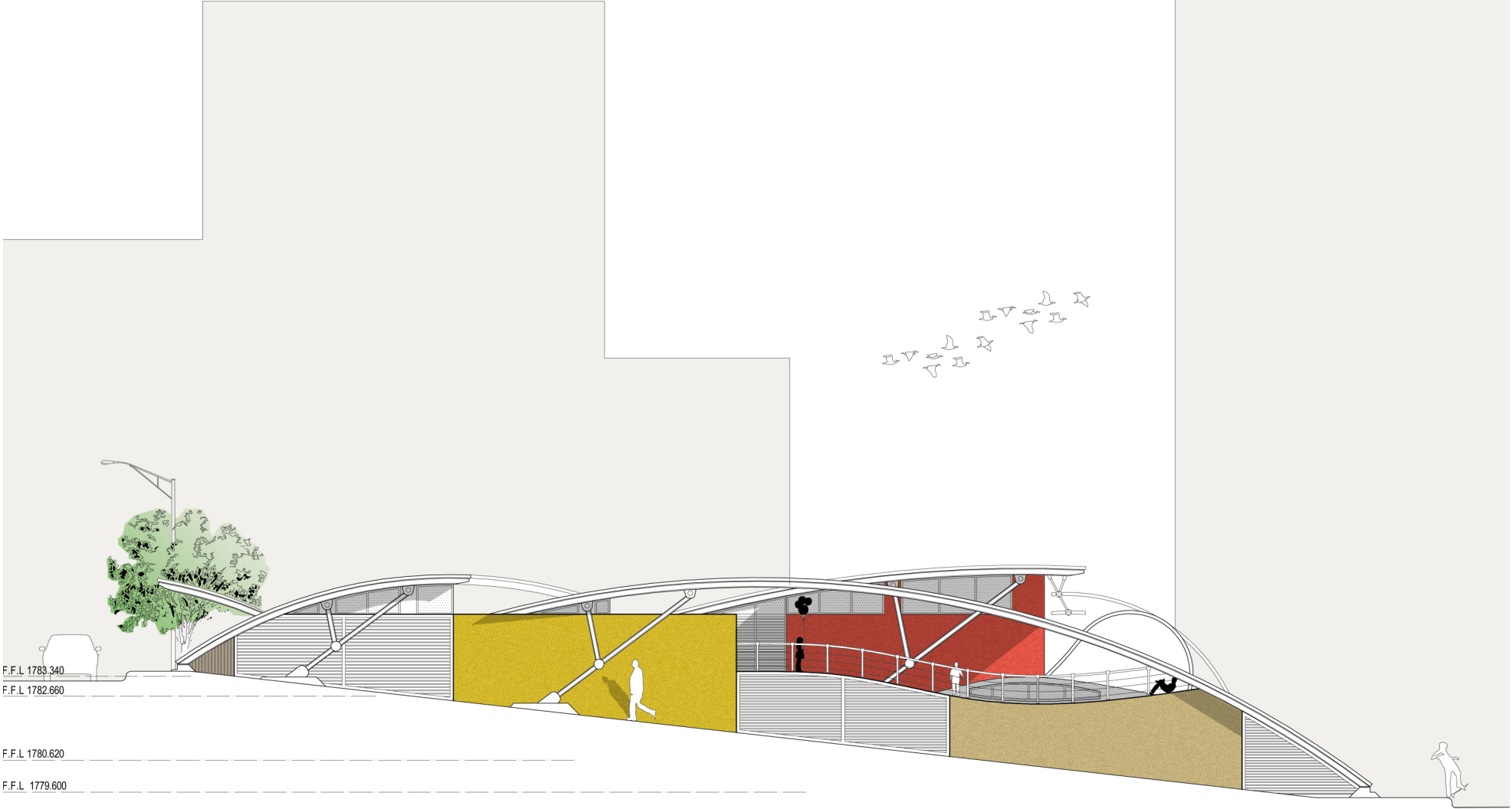


West Elevation

Scale 1 : 200



East Elevation
Scale 1 : 200



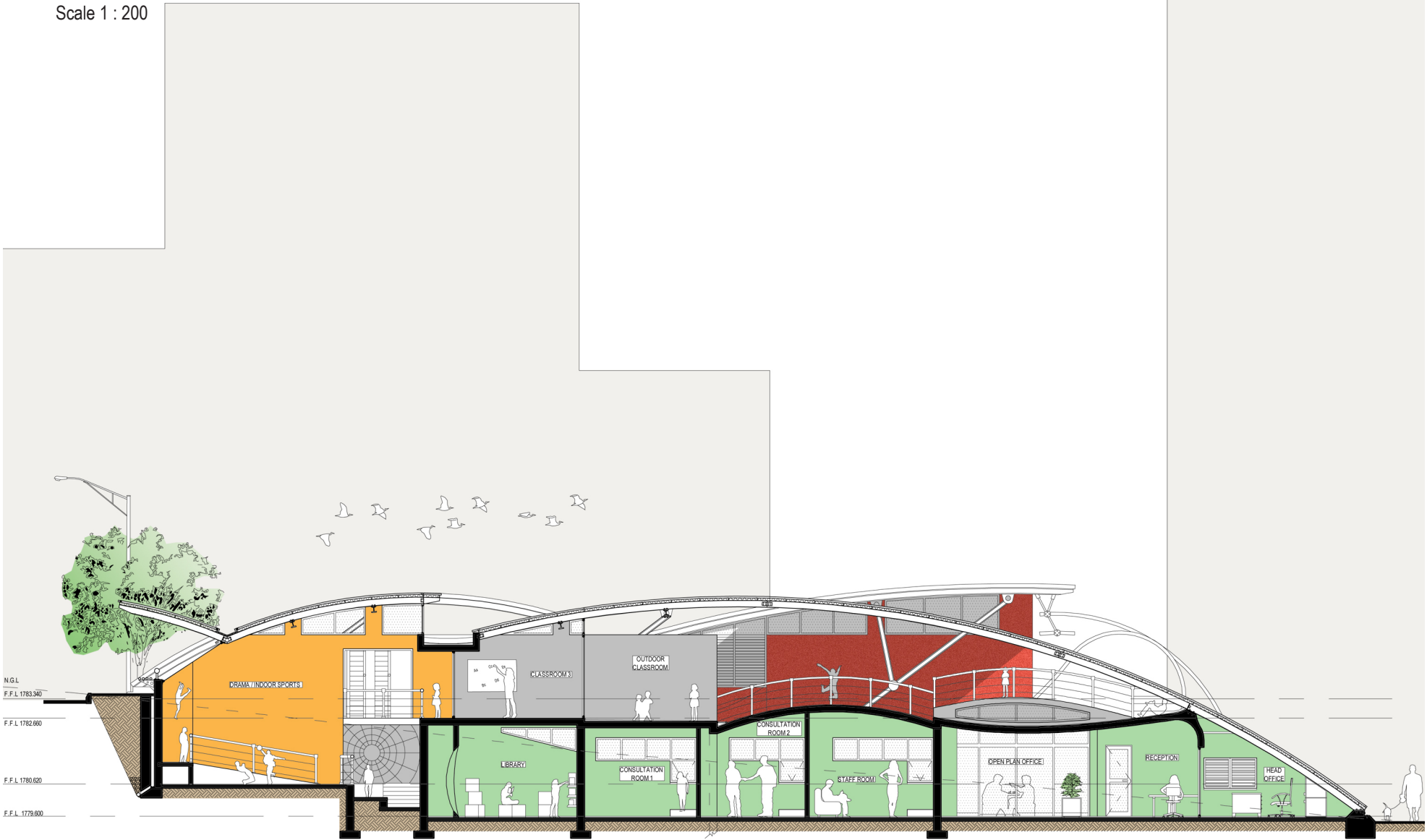
F.F.L 1783.340
F.F.L 1782.660

F.F.L 1780.620

F.F.L 1779.600

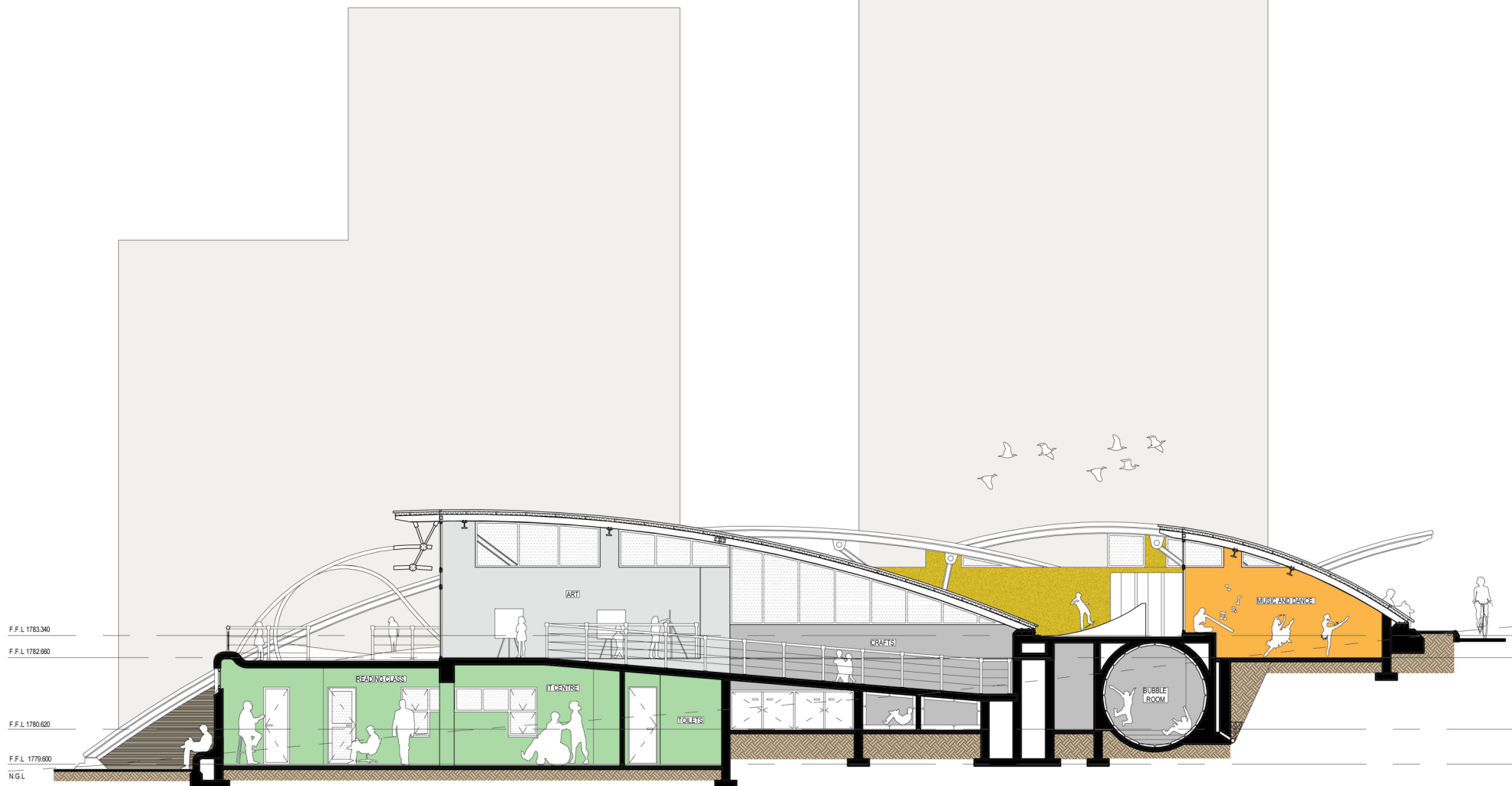
Section A - A

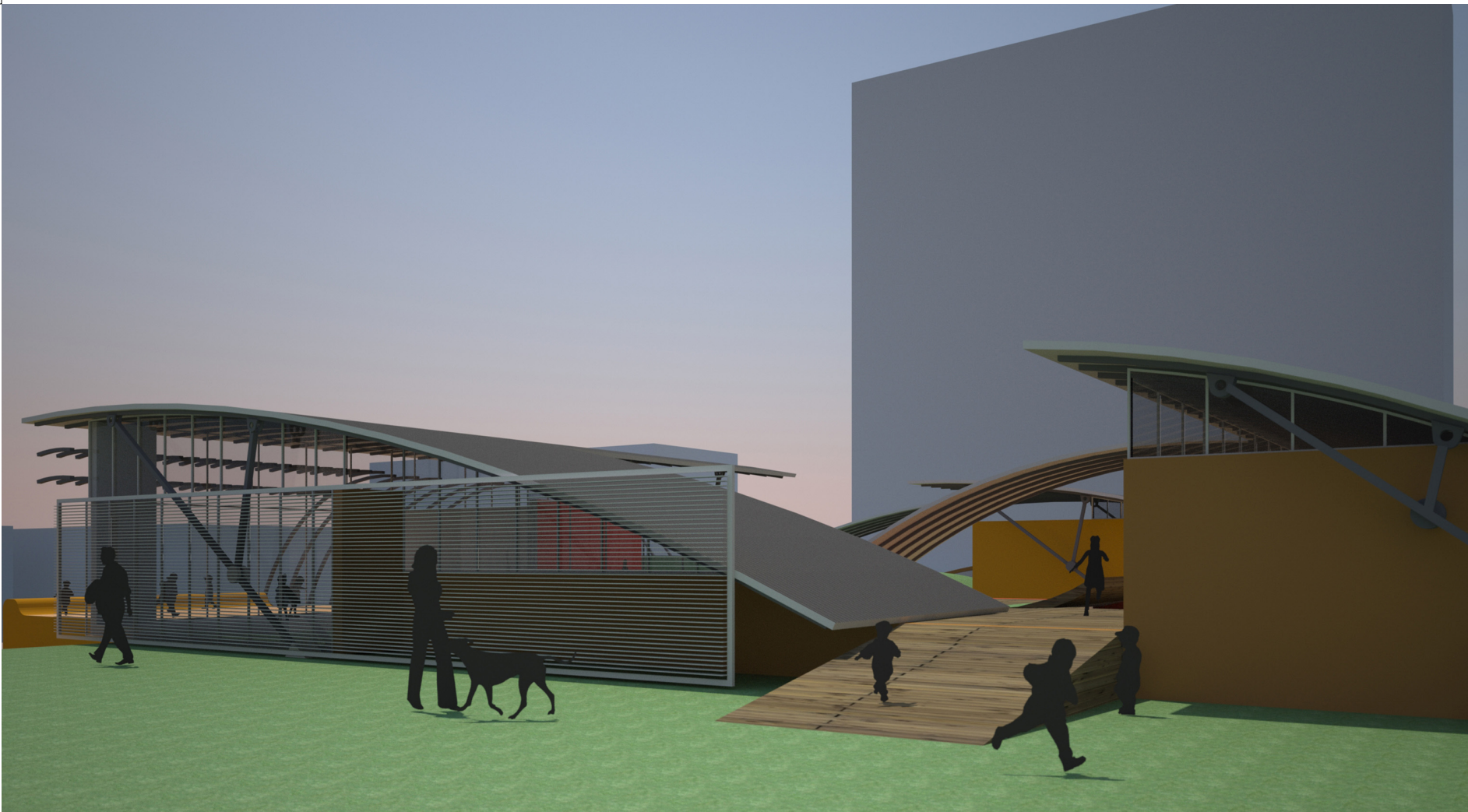
Scale 1 : 200



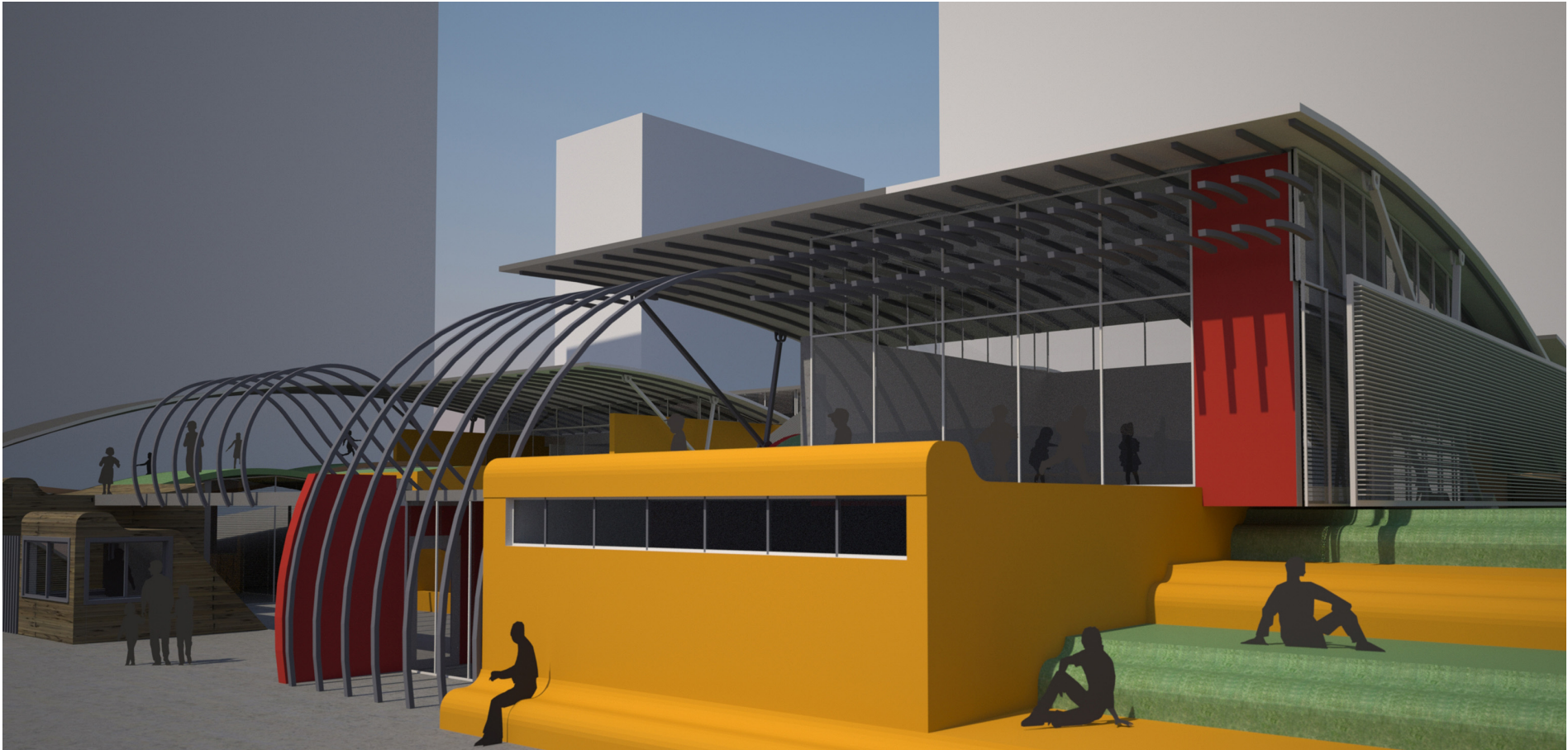
Section B - B

Scale 1 : 200





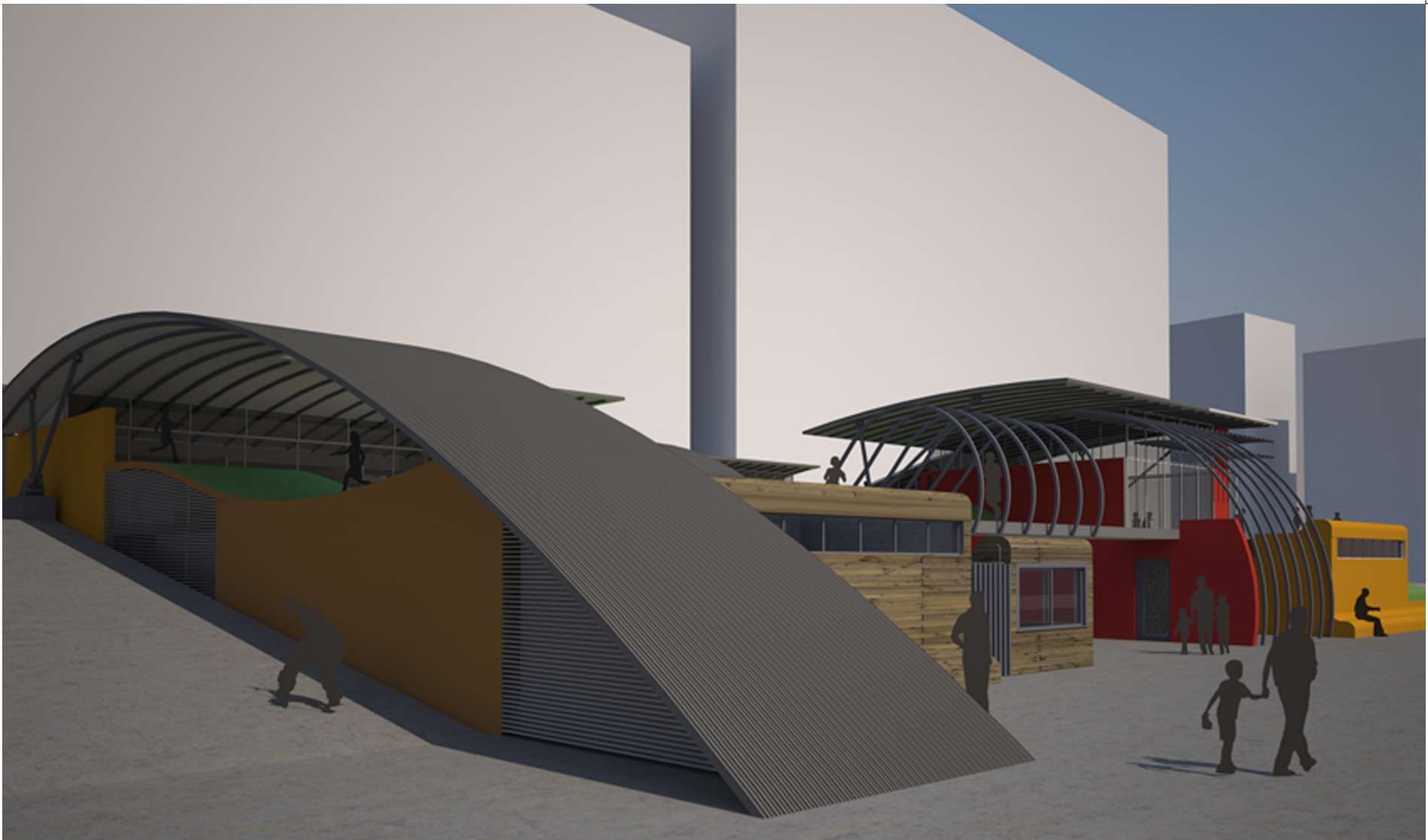
Perspective View of Park Entrance



North - West Perspective View

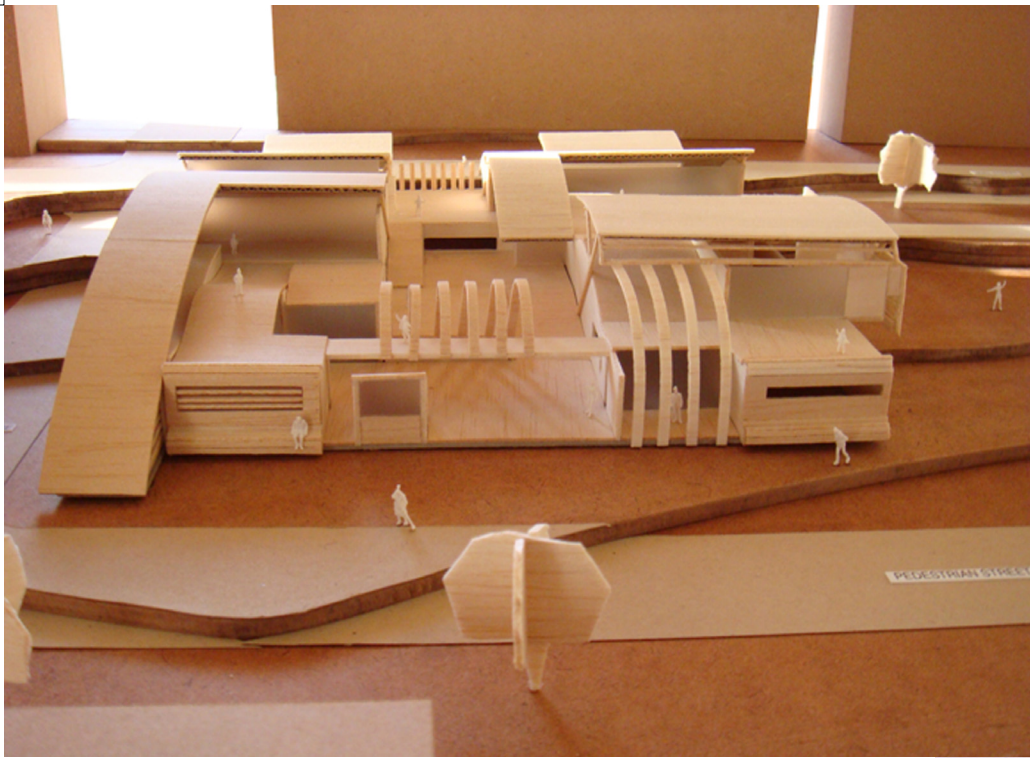


Perspective View of Main Entrance



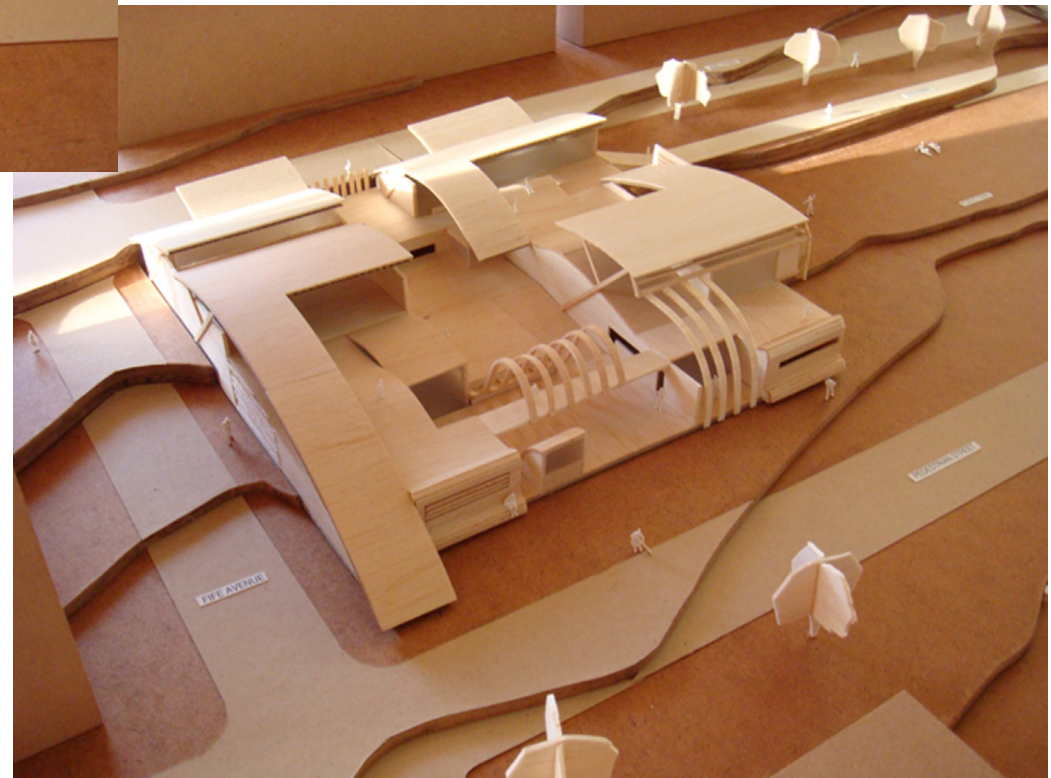
North - East Perspective View



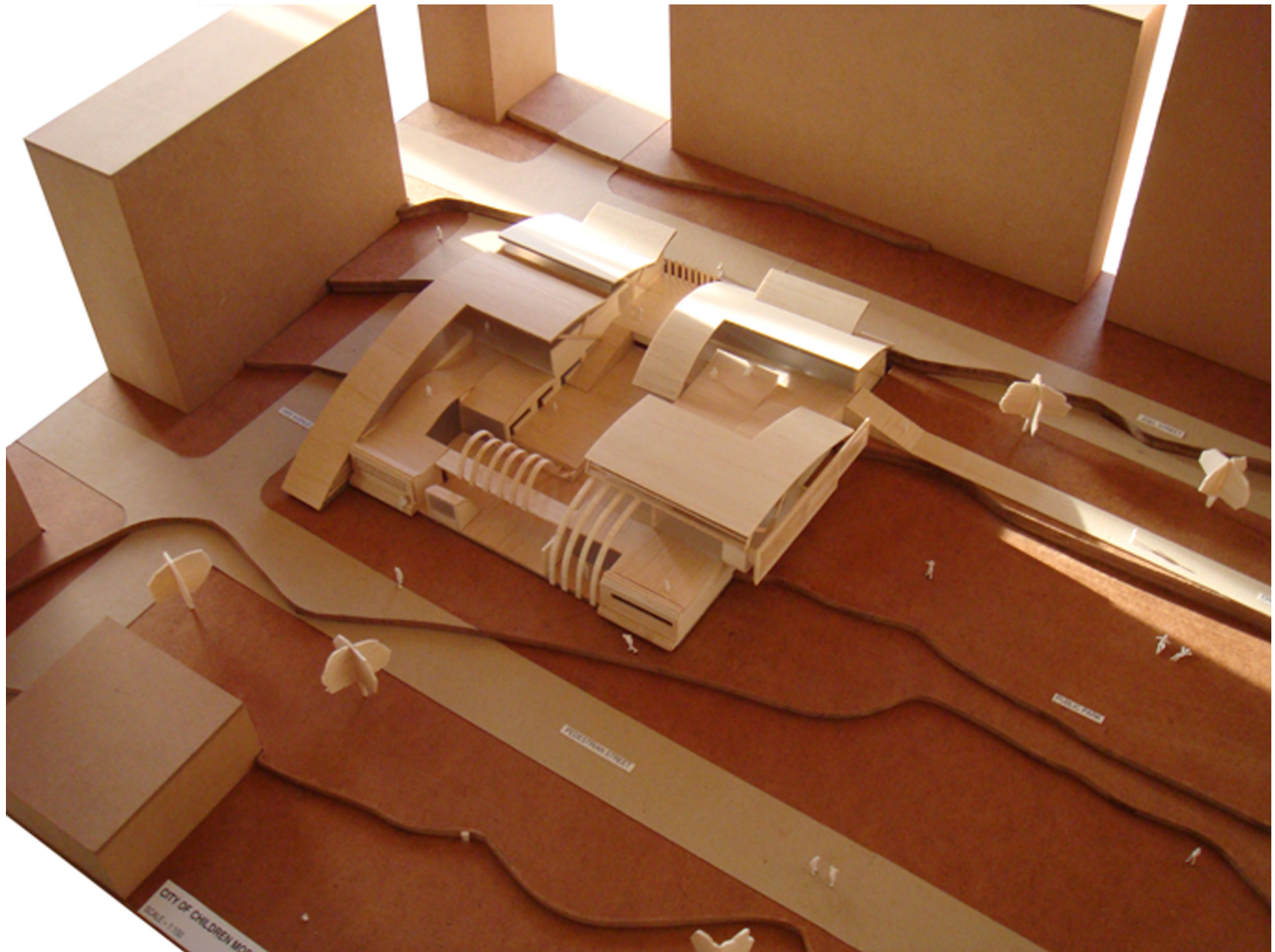


North-East Perspective

North Perspective









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