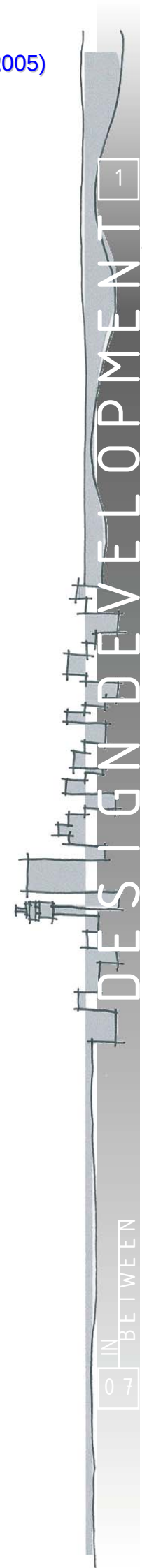


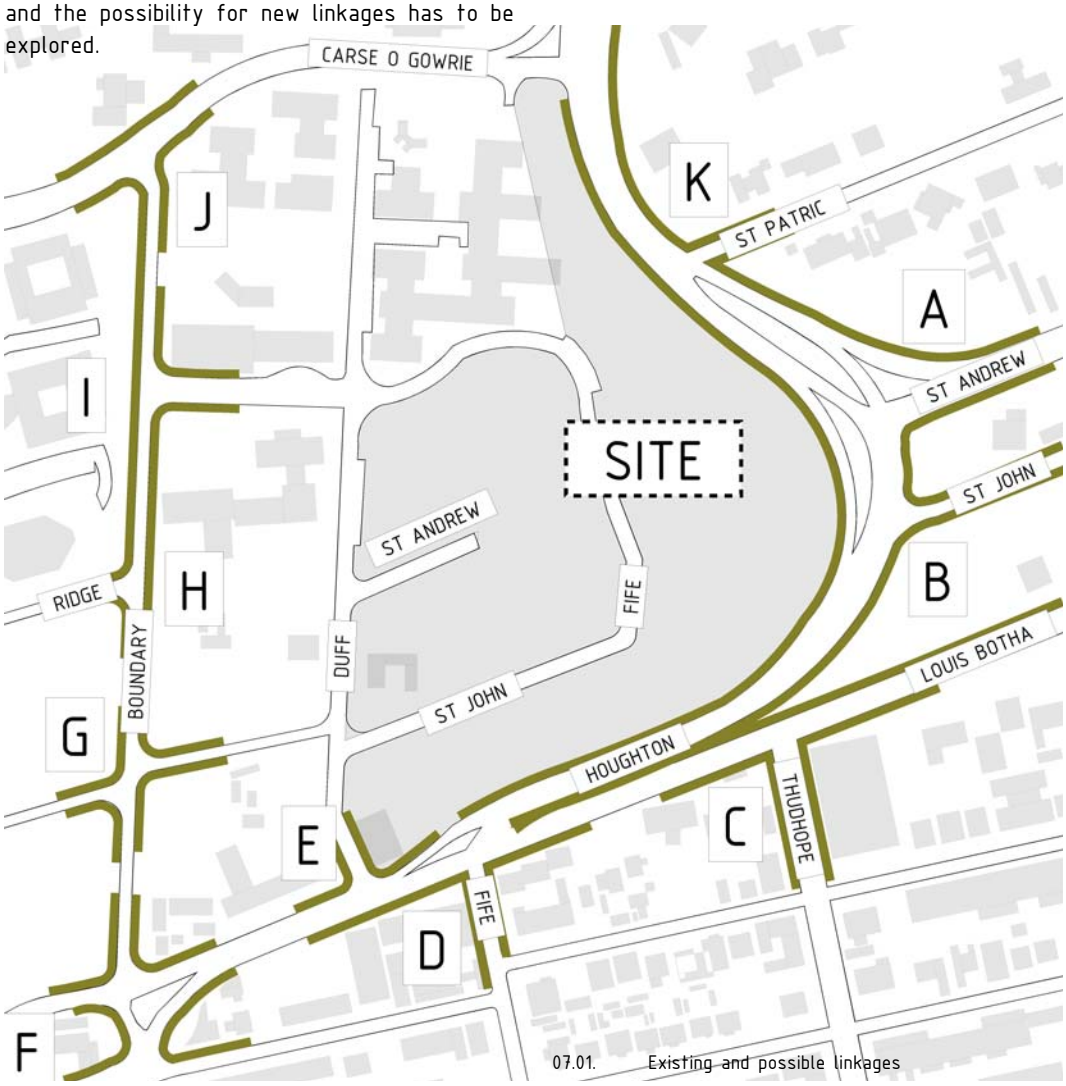
DESIGN AIMS

The development of such a large site so near the inner city will flame debate from both a commercial and an environmental point of view. The aim will be to create a responsive area that would support and enhance the existing functions in the area. Because the site is cut off from its surroundings, the proposal is to reintegrate it with the existing fabric and to create an environment that will draw in people from the very different and segregated surrounding spheres. The focus will be on the creation of platforms for 'accidental interaction' while nurturing the green character of the area. 'accidental interaction' is the creation of spaces and functions that promote exposure to activities which the user did not plan to do.

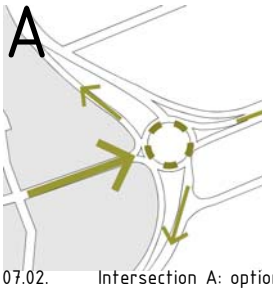
Looking at the site, one's first reaction would be to increase permeability to make the green space accessible to the surrounding communities. Therefore, existing linkages have to be analyzed and the possibility for new linkages has to be explored.

LINKS

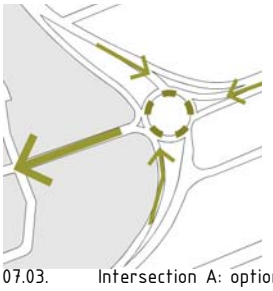
The site is perceived as an island, and although accessibility should be increased, the character of the site should be conserved to retain the experience of an urban sanctuary.



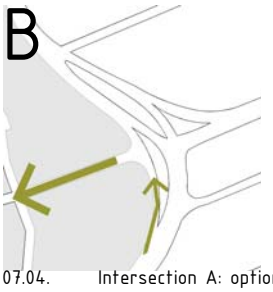
07.01. Existing and possible linkages



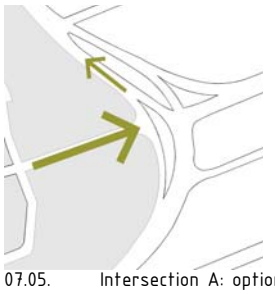
07.02. Intersection A: option 1



07.03. Intersection A: option 1

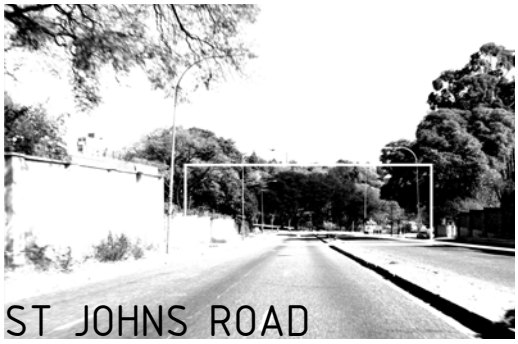


07.04. Intersection A: option 2



07.05. Intersection A: option 2

07.06. View of the site from St Johns Road



Linking Houghton Road with the site at this point would achieve optimum access to the site.

STRENGTHS: This link will give access from Houghton and St Andrews Street and slow down traffic on Houghton Drive.
WEAKNESSES: This link will diminish the existing tranquil, green-island character.
Because of the complexity of the existing intersection, two options were explored.

OPTION 1

Mr Louis Roodt (personal communication 2005), a traffic engineer at the University of Pretoria, suggested a traffic circle to link St. Andrew Street with the site (07.02. and 07.03.).
It would have the following advantages:

- The diversion from normal flow would slow speeding traffic.
- Linking the site with the existing road network through the use of a traffic circle allows for the best permeability and accessibility to the site.

Such a connection would create an elaborate gateway to the site which would have to be justified through the functions and density of the development.
Other considerations are the following:
Such a connection creates an elaborate gateway to the site, which would have to be justifiable through the functions and the density of the development.

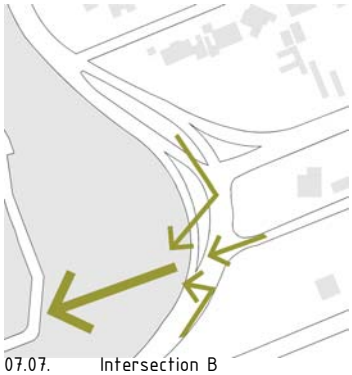
OPTION 2

This option is a connection that gives access only to traffic moving north on Houghton Drive(07.04. and 07.05.). It will create the least disruption to existing roads and traffic flow.

CONCLUSION

The site is a green retreat, a cut-off island, and this quality requires the intervention to be more sensitive to the character of the site. Although accessibility to the site should be increased to achieve the desired permeability from all sides, its character should be respected. Therefore, the brutalization of the site by the creation of inappropriate vehicular links is not the direction the project needs: in turn, such interventions require appropriate levels of commercial development to justify the links, thereby diminishing the character further. The investigation should therefore respect the site to find and reinforce its 'spirit of place'. For this reason, the site is kept as is on the eastern side to conserve the experience of an urban sanctuary.
Pedestrian flow along Houghton Drive will be diverted through the site and over the pedestrian bridge to Berea. Vehicular traffic will be directed by means of signage to vehicular access points.

B

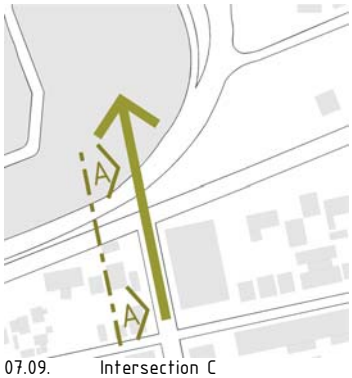


07.07. Intersection B

The conditions of this link is similar to those of intersection A. But St Johns Roads is a quiet residential road that is closed off for controlled access. Therefore a connection at his point would not be justified.

07.08. View of intersection B

C



07.09. Intersection C

Vehicular link impossible owing to topographical difficulty.

The topography allows for a pedestrian bridge to cross Houghton Drive easily, thereby linking Berea to the site. The existing traffic light will ease pedestrian flow.

07.10. Section AA

07.11. Louis Botha Stone retaining wall

D

07.12. Intersection D

Fife Street is a one-way street towards Berea.

At this point, Houghton Drive slips away from Louis Botha Avenue, and Mr Roodt (personal communication: 2005) remarked that such a connection would create too many traffic problems and should not be considered. The close proximity of existing traffic lights prevents the use of another set of lights at this point.

07.13. View from site down Fife Street

07.14.
Intersection E

At the moment only traffic driving east on Louis Botha Avenue can access Duff Road. Due to difficulty level of current intersection it will not be altered

07.15. View from Duff street towards Louis Botha

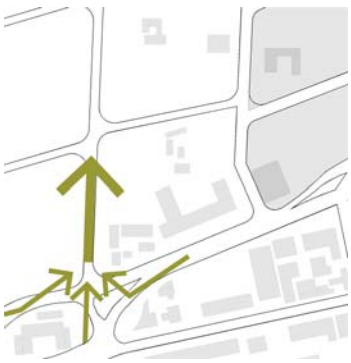
F

07.16.
Intersection F

At the moment only traffic driving east on Louis Botha Avenue can access Boundary Road. Therefore a traffic circle could give access to traffic driving west on Louis Botha and from Hillbrow as well.

07.17. View from boundary road towards Louis Botha

G



07.18.
Intersection G

This existing connection will be enhanced

07.19. View towards site

H

07.20.
Intersection H

Create a road linking Ridge Road with St. Andrews.

07.21.
Intersection I

Enhance existing connection

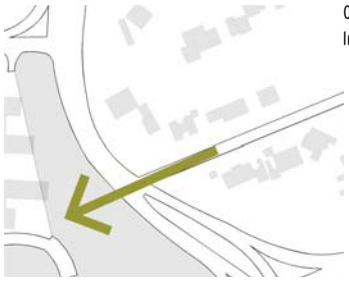
J

07.22.
Intersection J

Enhance existing connection to Parktown

07.23. The Isle of Houghton gatehouse

K



07.23.
Intersection K

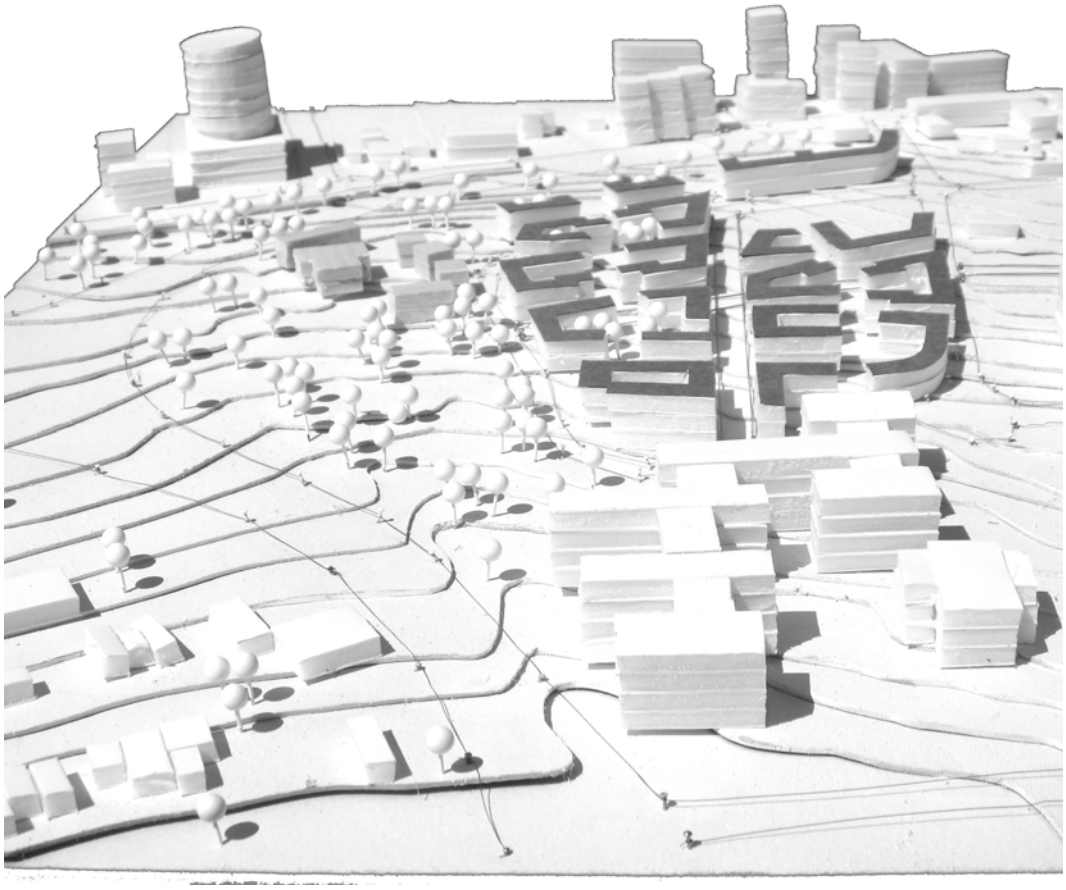
Topographical difficulty

07.24. View of intersection K

CONCLUSION

Because of its context and relationship with the segregated realms, the site presents the opportunity to be utilized to make the journey, both physically and emotionally, from urban to natural. This is evident in the way the site reaches from Berea and Hillbrow in the north towards The Wilds, a nature conservation zone, in the south. The proposed pedestrian link provides the opportunity to bridge the gap between inner-city living and outdoor recreation.

Therefore, the scale and density of the development on the eastern side should be appropriate to emphasize and celebrate the green link. The impact of the link should be intensified by upgrading the streetscape of Thudhope Avenue.



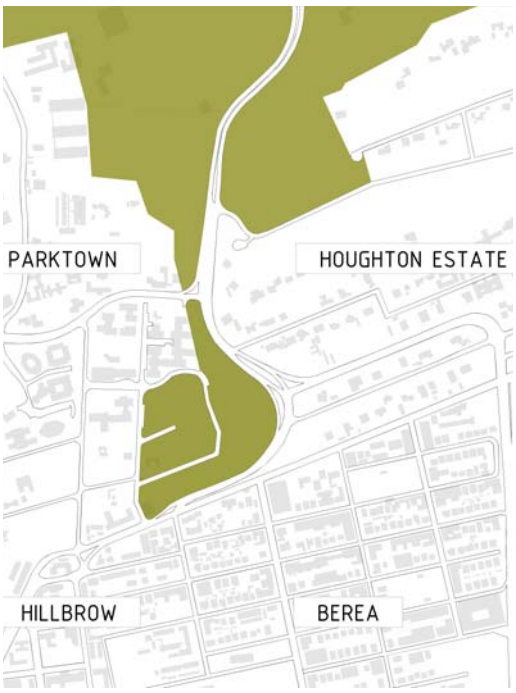
According to a recent SAPOA Office Vacancy Survey in the Killarney / Houghton there is 95,267m^2 of rentable 'A' grade office space, of which 8% is currently vacant, the trend is that the vacancy rate is continually decreasing. The median gross asking rental is R75.00 per m^2. This is an indication of a stable, up market office environment (Fernridge Consulting, 2005).

Because of the evident sufficient supply of offices and a need for housing for students and young working people, the development will focus on high-density housing and recreational facilities.

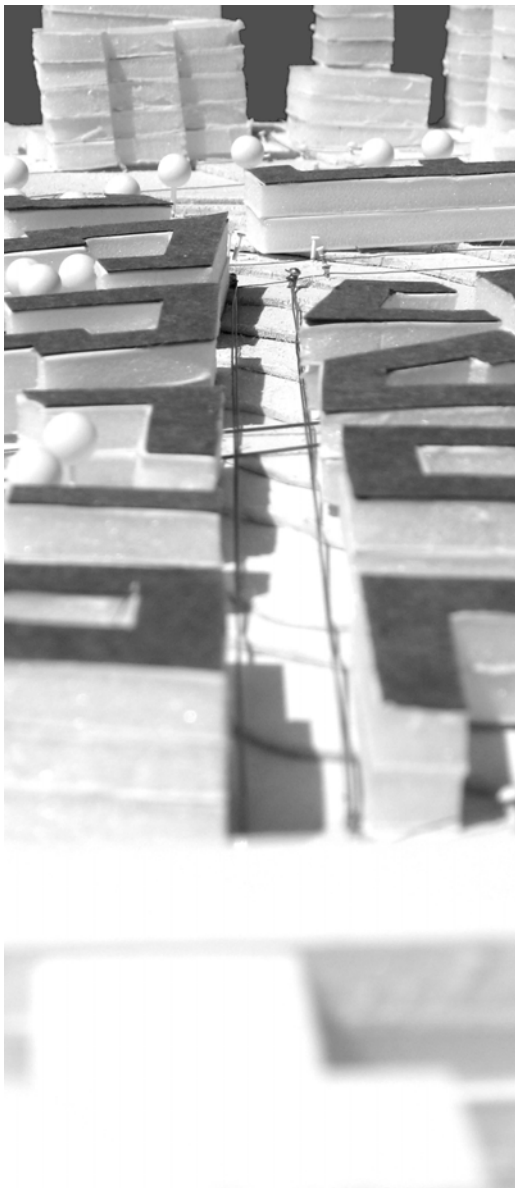
Figure 07.25 indicates current green and undeveloped areas. The aim is to render the western part of the site indicated in grey in figure 07.26 (the part of the project that is easily accessible by vehicles) appropriately dense to keep the western section (indicated in green) of the site's green park-like character and to reinforce pedestrian accessibility to the site. This accessible green space aims at linking the urban environment with The Wilds, a conserved ridge, to the north.

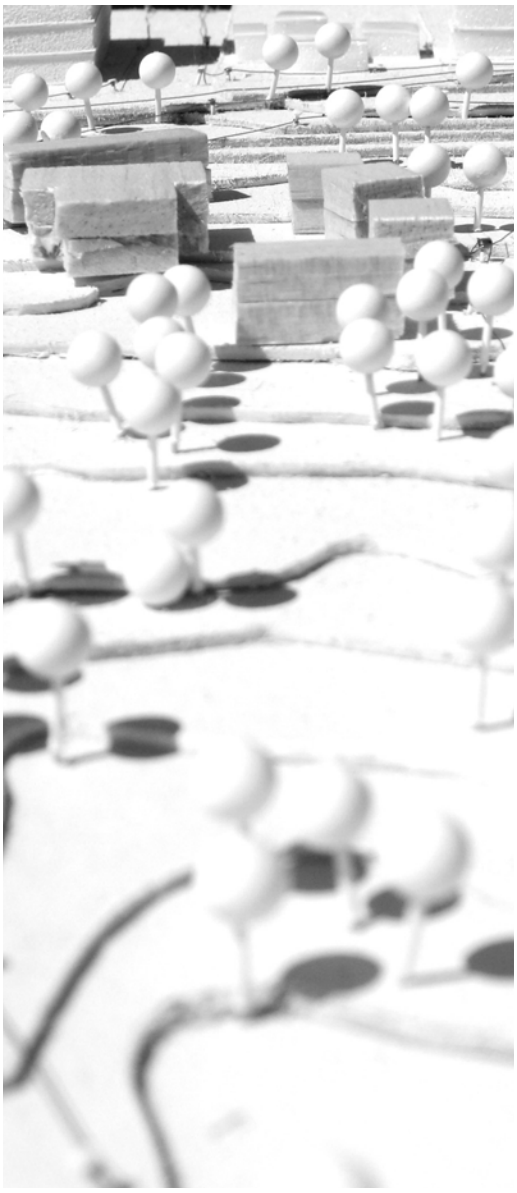
Within the public park section, the thesis project, a community facility aimed at youth and recreational activities, will be situated. The intensity of the development on the western side will, socially and financially, validate the development of public open space in the already lush eastern side.

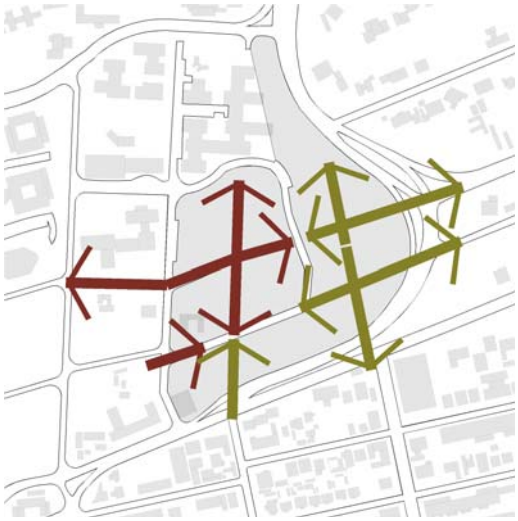
07.25. Green link towards the South



07.26. Develop Western side in order to preserve eastern side







07.27. Existing and possible linkages

PHYSICAL LINKS
VISUAL LINKS

07.28. Viewlines from development to preserved green link informs the pedestrian connections

HIGH DENSITY RESIDENTIAL BLOCKS
VIEW LINES

07.29. Proposed perimeter blocks

HIGH DENSITY RESIDENTIAL BLOCKS
VIEW LINES

07.30. Proposed development with connections to the green link

NEW PERIMETER BLOCKS

FROM URBAN TO NATURAL

The accessibility of the site is inhibited on account of the topographical difficulty of the area and the strong physical and emotional barrier between north and south created by Louis Botha Avenue. To increase accessibility, the barrier should be eradicated and rather serve as a threshold to the next. Therefore, a pedestrian link is proposed. Three options were explored:

1. A crossing on ground level

Although existing traffic light at the crossing of Louis Botha Avenue and Thudhope Road is fitting this option proved unattainable owing to the speed of traffic down the hill, and traffic engineer Louis Roodt (Personal communication: 2005) believes that another traffic light at this point would disrupt traffic flow too much.

2. A tunnel

People live in small, crowded flats and move through dark, dirty alleyways. Natural sunlight is blocked out by multi-storey buildings. A tunnel does not really improve the environment and could become a dangerous, depressing, stale, uninviting and dirty space. In relation to the theory of the 'in-between', a tunnel does not physically personify the bridging of the gap.

3. A bridge

A bridge is a recognisable landmark that dims physical and psychological barriers and embodies the convergence of diverse societies. The physical bridge supports the theoretical approach of searching for the in-between. It increases visibility and surveillance of the area and the park by the movement of people across the site. The bridge provides the opportunity to provide look-out points, which could frame the surroundings, to make people more aware of their environment.

on ground level

07.31.

a tunnel

07.32.

a bridge

07.33.

07.34. View from St Johns - Roedean pedestrian bridge

07.35. The Wilds pedestrian bridge

07.36. St Johns - Roedean pedestrian bridge

A bridge entails design difficulty (or opportunity) on account of the use of ramps to manage an all-inclusive environment; this challenge is further complicated by the steep fall of the site. However, this option was chosen because the opportunities outweighed the problems. The pedestrian bridge element is contextually used twice to link the east and west across Houghton drive. The one bridge links the ridges of The Wilds, the other, more recent structure links St. Johns College with Roedean High school.

The pedestrian bridge connects the urban to the natural environment through the site. The journey between the linear angularity of Berea and Hillbrow to the flowing organic nature of Parktown, Houghton and The Wilds is depicted in the way the bends of the ramp start fanning out at increasing angles, while pause or stop spaces are more detailed and emphasized towards the park. This design increasingly promotes rest and interaction. The route links with pedestrian routes that pass the site to invite pedestrians and cyclists into the site and through the park.

This pedestrian and cycle route is intertwined with the structures. Thereby, the boundaries between static and active, private and public, observer and observed, and inside and outside are blurred. The route moves over, through, next to, and under some of the functions, while maintaining a good visual of interior and exterior functions. The passer-by becomes part of the activities and of the energy exerted, but is still just a by-passer, an observer. The arrangement of functions supports the transition from urban to natural by placing the more physically active and noisy functions closer to the south and filtering the noise and activity levels in phases towards the north.

07.37. View of the Hillbrow telecommunications tower from Constitution Hill

The public route is incorporated into the design with the intention of increasing the safety and security of such an open-park development. By increasing and extending energy throughout the park, passive surveillance is achieved. The elevated position of the ramp gives users a clear view of the whole facility and of the park. In this way, building users passively survey the route while route users survey the park. Numerous exits from the elevated route give users escape routes. The provision of such a route through a park facilitates the need for adequate lighting, thereby increasing visibility and use at night.

The route, which consists of a series of move, pause and stop spaces in the form of ramps, platforms and stairs, is a sensory-enticing experience, which blurs the boundaries between interior and exterior, static and moving, and private and public. The route consciously directs the user from urban to natural.

On the northern side of Louis Botha Avenue, users are directed through hard-edged linear streets. Pedestrian spaces are either completely shaded by residential blocks towering over one another or are exposed to the African sun. Streets buzz with activity and noise, and taxis hoot while racing past. A mixture of smells of vehicle gasses, garbage dumps and dinners prepared in flats fill the air. Pedestrians are directed towards the pedestrian bridge across Houghton Drive, where they swiftly move over the busy road. The pedestrian bridge culminates in a view point from where the vast openness of the sky and the contours of the landscape can be appreciated. From this point the user is lead across a series of ramps descending down into the green retreat.

07.38. View of from st johns pedestrian bridge to johannesburg general hospital

07.39. View of hillbrow and berea landmarks from houghton

PASSIVE EDUCATION

The users are passively educated about the area, local landmarks (such as the Ponte City tower, Johannesburg General Hospital, The Wilds, and the Hillbrow Telecommunications Tower), and facts about the area and Johannesburg, bringing history and context to the wider community to invest a sense of ownership and pride in the area in which they live.

People know very little about their surroundings and its history; their attributes are often mentioned at tourist attractions only. Inspector Naidoo (personal communication: 2005) relates that such an ignorance is especially pertinent in this context towing to the transient quality of the area. People are not emotionally grounded in the area; it is perceived as a temporary stop. The aim here is to emphasise the landmarks, special features and qualities of the area by framing the view and noting features from viewing platforms on the ramp, where seating is provided next to the movement zone. Hereby, the man on the street, which has neither the time nor the interest in the attributes of his community, is (accidentally) exposed to and informed about the area. People are accidentally educated and made aware of their surroundings. The context specific information is intended to harvests a sense of being part of a greater community and history.

TEMPORARY EXHIBITION

The temporary exhibition includes the work of local Johannesburg artists and also pieces produced within the centre itself. The exhibition will be housed in the exhibition foyer and will be a space where people will be accidentally exposed to the work.

07.40. View of from the St Johns pedestrian bridge towards The Wilds

Being integrated into the development, the public route needs to be divided into areas depicting different movement and interaction patterns.

DYNAMIC SPACE (fast moving)

Movement through space creates a continuity of experiences derived from the nature and form through which the movement occurs' (Bacon 1975). Dynamic spaces create barriers needing some effort to cross, and little interaction occurs.

PAUSE SPACE (Slow moving)

'The social intercourse created when people rub shoulders in public is one of the most essential kinds of social "glue" in society' (Alexander 1977). Pause spaces enhance the experience of a space as people are given a chance to interact with each other and to interact with the space itself. Such spaces are inferred by the provision of niches and spaces where people can regress from a dynamic movement zone and sit on a bench or look at the merchandise of traders. The introduction of pause spaces slows down movement, resulting in increased interaction. Sheltered spaces, either natural or manmade, provide shaded gathering points.

STATIC SPACE (Non-moving)

'Together these two elements, the architecture of movement and the architecture of repose make up the city as a work of art, and this is the people's art' (Bacon 1975).
Static spaces create an opportunity for visitors to appreciate the space over time. These are spaces for contemplation and interaction; they are inferred by the creation of sheltered and shaded spaces with a degree of privacy and isolation, while remaining part of an active space. These spaces are differentiated from dynamic ones by means of changes in materials and textures, while increased detailing makes them spaces of interest.

The journey is perceived as a sensory experience in which one is made intently aware of the progression made from urban to natural and one is able to orientate oneself through senses other than sight.

The route supports a great deal of activities that should attract users with different athletic and mental abilities or interests. It should encourage jogging, cycling, skateboarding and roller-skating and other activities to take place along the route.

SENSES	URBAN	INTERVENTION	NATURAL
SEE	Cars, high-rise buildings, street vendors	Pedestrians, children playing	People strolling, picnicking, resting, playing
HEAR	Vehicle engines Taxis hooting	Music from the dance studios and music training rooms Children in play areas Teens shouting while playing basketball Differentiate between the sound of small and big wheels (bicycles and skateboards) on the surface	Birds Wind through the trees
FEEL	Cold smooth concrete Hot tar surface Hot exhaust fumes from vehicles Interplay between hot, full exposure to the sun and completely shaded, cool areas	Textured wood Sheltered spaces with a soft, filtering effect, providing cool spaces like those experienced under trees where warm rays filter through the dense leaves	The use of smooth textured materials such as concrete accentuating the paths and benches within the natural environment.
SMELL	Exhaust fumes	Trees, grass, food and refreshments served in the café, mealies braaied by vendors for people returning from work.	Trees, grass

07.41. View of the intersection of Houghton drive and Louis Botha Avenue

07.42. View of from st johns pedestrian bridge to johannesburg general hospital

07.43. View of the Hillbrow telecommunications tower from Constitution Hill

07.44. View of from the St Johns pedestrian bridge towards The Wilds

PHYSICAL JOURNEY

CROSSING THE BRIDGE

Dynamic space: space that provides an unobstructed continuation of movement.
Pause: An informal retail space gives an opportunity to pause.
Static space: Static space is provided by the proposed café, where people can sit.

FIRST VIEWING PLATFORM

Dynamic space: space that provides an uninterrupted movement towards the ramp.
Static space: space to stand or sit at the edge towards the vast openness to the south. The view entails the green character of Houghton, the profile of the ridges of The Wilds and the open sky. The position clears the treetops by a few metres; therefore, it as an uninterrupted view towards the vast openness.

SECOND VIEWING PLATFORM

Dynamic space: space that provides an unobstructed continuation of movement down the ramp.
Pause: significant elements in the area are framed or pointed at while supporting information can be read on a notice board.
Static space: space that provides seating and an unobstructed view.

The platform points towards the west; therefore, the south-western side of the static space is dedicated to Parktown and the north-western side to Hillbrow

THIRD VIEWING PLATFORM

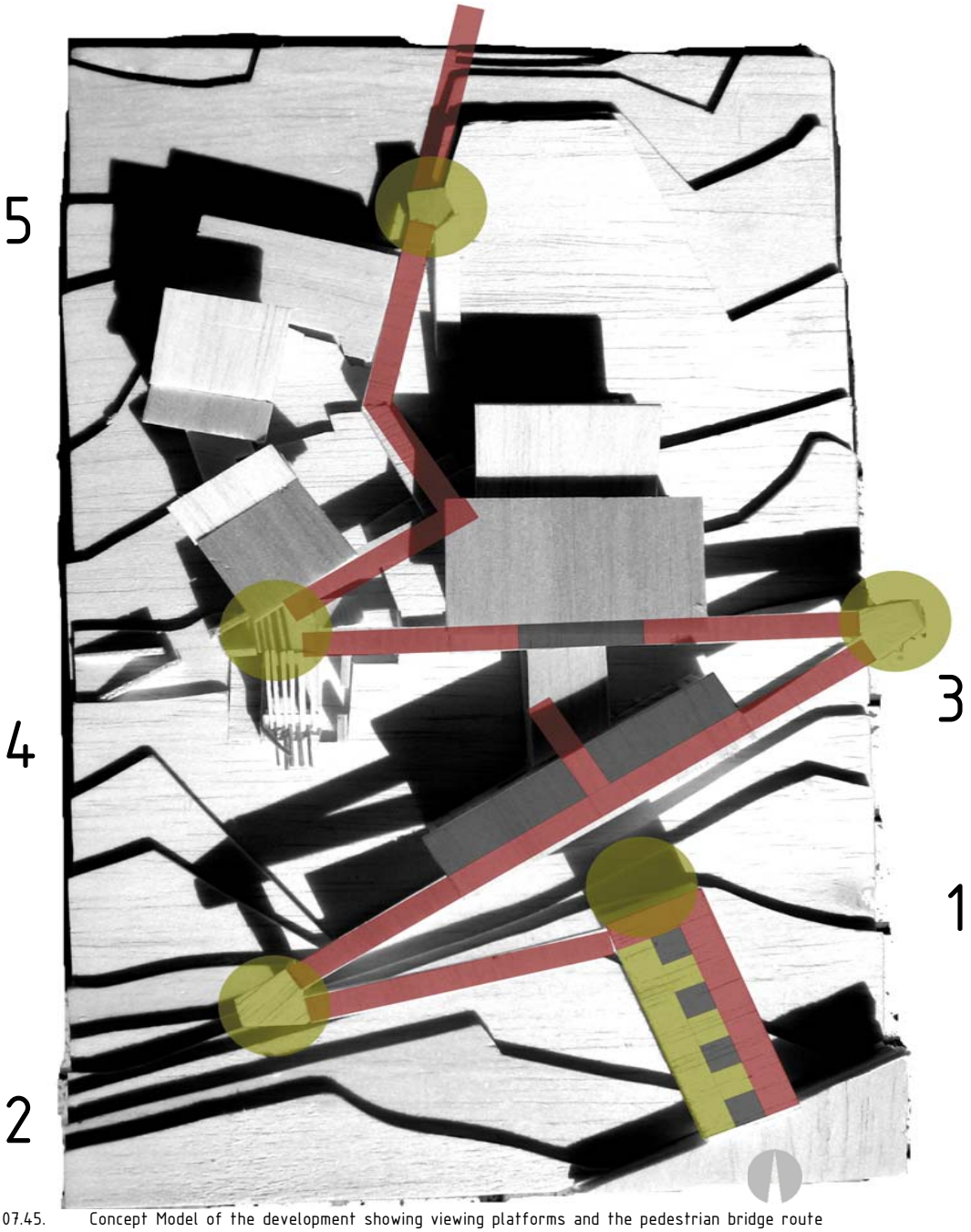
Dynamic space: space that provides an unobstructed continuation of movement down the ramp.
Pause: significant elements in the area are framed or pointed at while supporting information can be read on a notice board.
Static space: space that provides seating and an unobstructed view.

The platform points towards the east; therefore, the south-eastern side of the static space is dedicated to Houghton and the north-eastern side to Berea and Yeoville
The ramp cuts through the multi-use hall; spaces are provided next to the dynamic zone where people can sit and watch performances or games within the space

FOURTH VIEWING PLATFORM

The platform also serves as a landmark element signifying the entrance foyer, while the ramp itself demarcates perimeter of the foyer
Dynamic space: space providing an unobstructed continuation of movement down the ramp and stairs.
Pause: A notice board informs about events and happenings.
The open-volume foyer space is used as an exhibition space. With this arrangement, the wider public is 'accidentally' exposed to the arts.
Static space: space that provides seating and a view of people entering structure.

The route supports a great deal of activities that should attract users with different athletic and mental abilities or interests. It should encourage jogging, cycling, skateboarding and roller-skating and other activities to take place along the route.



07.45. Concept Model of the development showing viewing platforms and the pedestrian bridge route

According to Van der Ryn (1986: xiii), common (threshold) spaces are very important in buildings because of their role in the buildings' energy systems. They are the interface between outside and inside; therefore, they are a source of light; a buffer zone between inside and outside temperatures; and thermal storage zones.

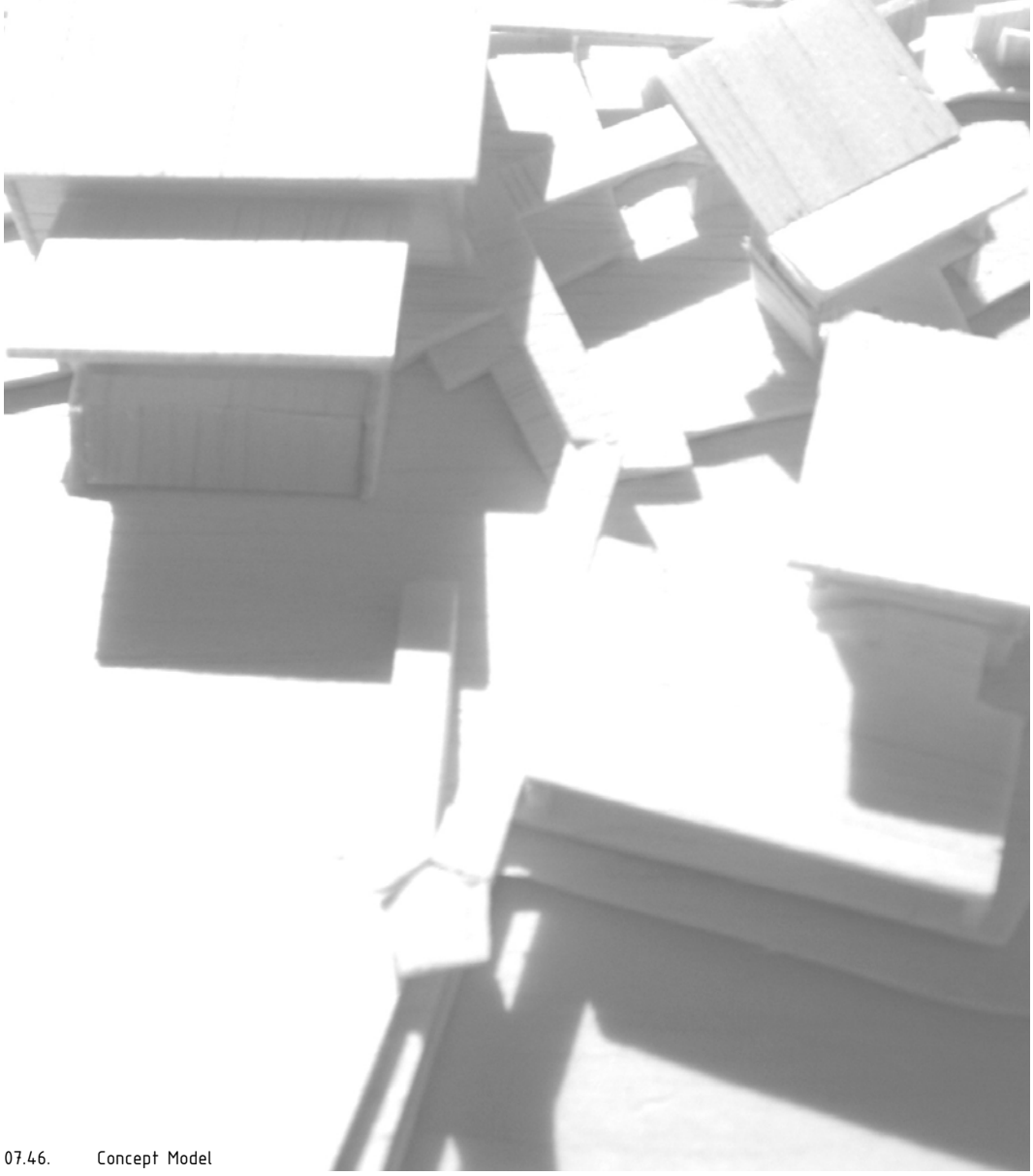
Physical thresholds are emphasized because they are the spaces where transformations between architecture and landscape; public and private; and inside and outside occur. According to Berrizbeitia (2003:82), these spaces are resistant to closure in terms of meaning of space.

The following elements can be distinguished:

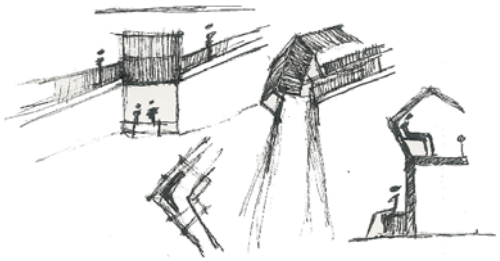
- The use of cantilever roofs increases the depth of the threshold.
- Stoeps are the threshold point where spaces are neither outside nor inside.
- Ramps are floating.

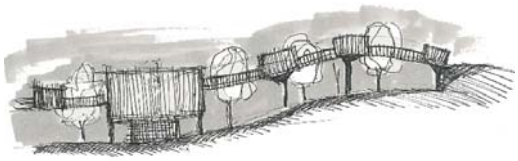
Flowing space: being outside while inside
Western solid facades need to have window penetrations to make it solid yet penetrated

'Contradictory levels of meaning and use in architecture involve the paradoxal contrast implied by the conjunctive "yet"' (Venturi 1977: 23).

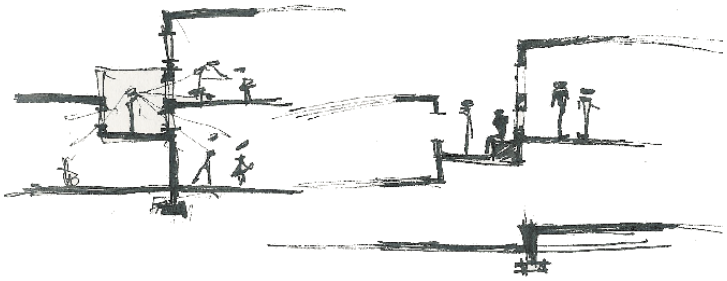


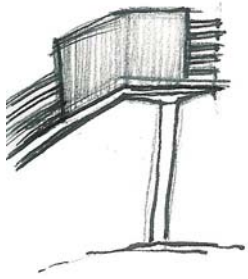
07.46. Concept Model



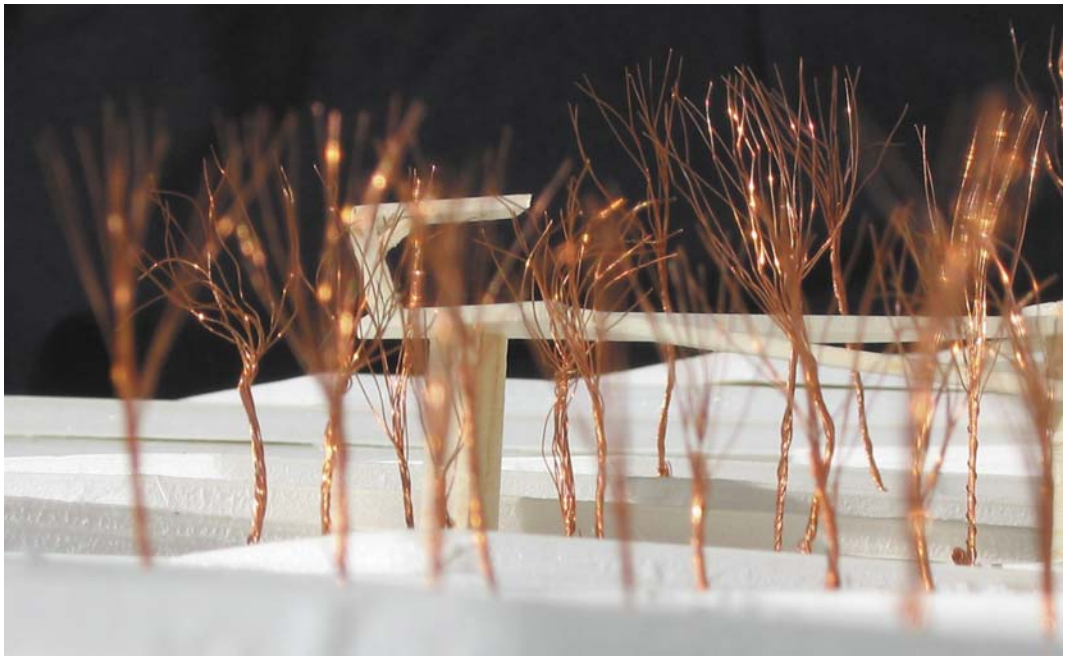


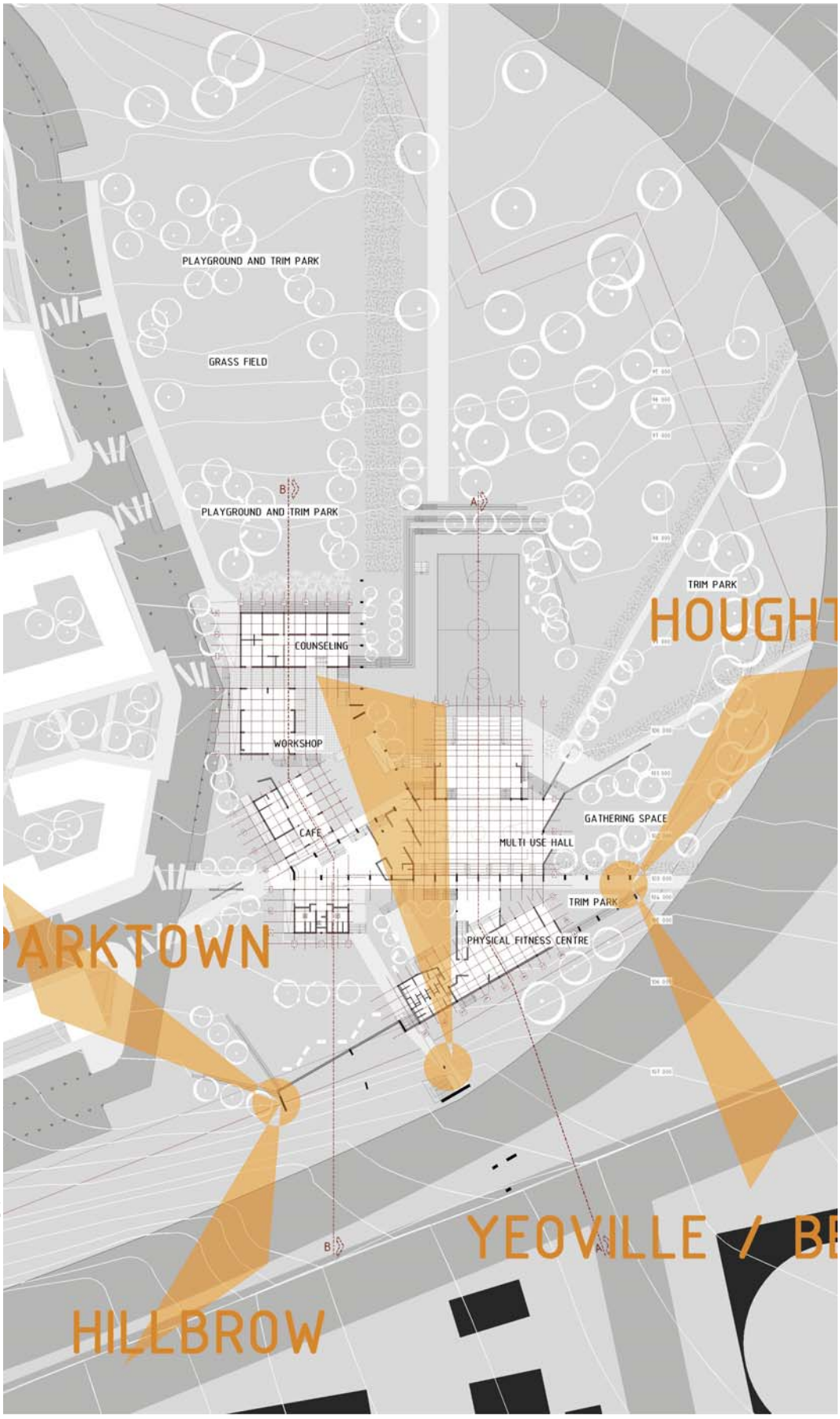
07.47. – 50. Concept development of the pedestrian bridge and its interaction with the structures





"EITHER – OR"		"BOTH – AND"
Security division	YET	Sunscreen
Roof	YET	Ramp
Public	YET	Private
Support	YET	Enclosure
Solid	YET	Penetrated
Inside	YET	Outside
Active	YET	Static





08.24. Views from viewing platforms

01_02 Water harvesting

The highest recorded 24 hour rainfall (mm/ hour) in Johannesburg is 188mm / 24 hours = 7.8mm / hour. This rate and the drainage area influence the sizing of gutters (addendum: rainfall statistics)

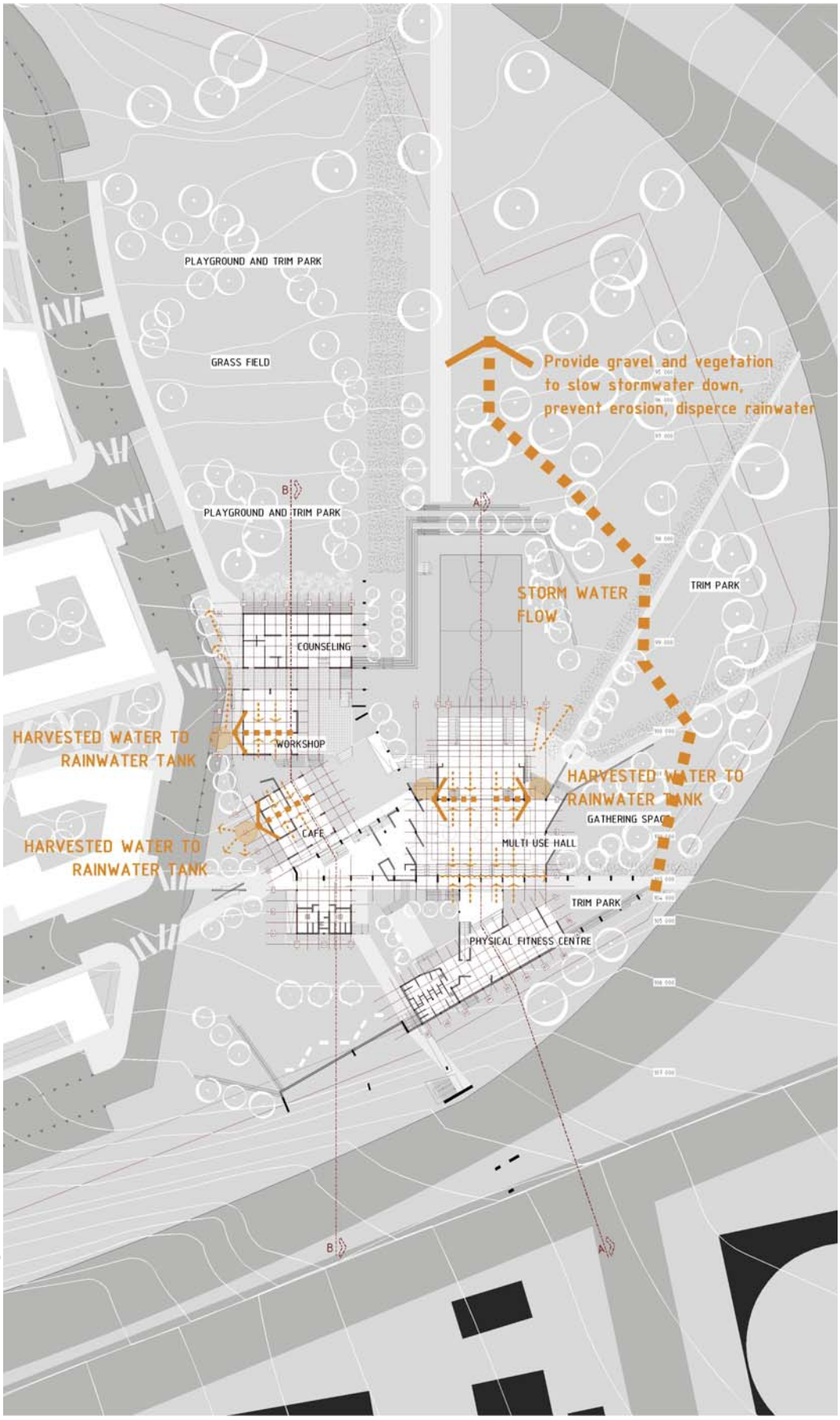
Total amount of rainwater collected from multi use hall roof:
Collected area x annual rainfall
507 m^2 x 713mm
361 491m^2/year

Size of H^2O storage
Collection area x highest month's rainfall
507 m^2 x 125mm (January)
63 375 m^3

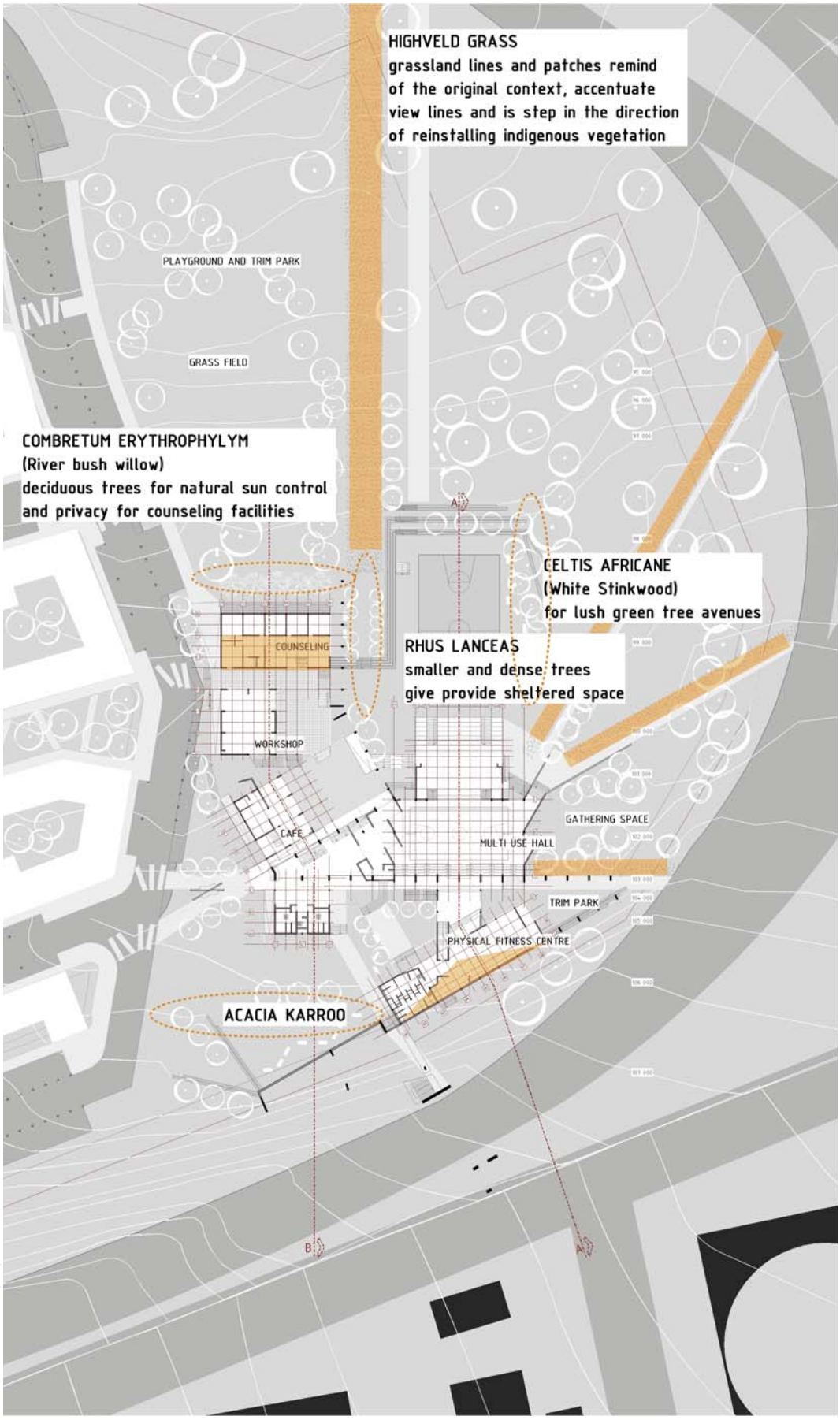
Sizing of rainwater tanks for multi use hall
R = rainfall rate = 7.8mm/hour
Litres/minute = area (m^2) x r (mm/hr)
507 m^2 x 7.8mm/hour
=3954.6 l

WATER NEEDED
150 PEOPLE @ 10 LITRES / WC = 1500 LITRES / DAY
360 000 LITRES / YEAR
90 000 LITRES / 3 MONTHS

WATER STORAGE
01_03 Water storage / wc system
Harvested water is used to flush wc's for three months of the year. Water is harvested from roofs towards gutters from which it is filtered and stored in rainwater tanks. When water levels in the tank are insufficient, municipal water is let in by means of a float valve. Placements of tanks provide water to the flushing tanks via gravity.



08.25. Water management



08.26. Landscape plan