

# Conclusion

***Architecture is not all about the design of the building and nothing else, it is also about the cultural setting and the ambience, the whole affair*** (Michael Graves)

The theoretical argument sought to create a heightened awareness of the sensory properties of architecture.

It can be concluded from this dissertation that the sensory aspects of architecture cannot be abstracted to a checklist format that will ensure a sensory experience, but the approach as to how the design problem is addressed, should be a collective approach, allowing individuals to experience space for themselves, through the enhanced awareness of sensory stimulants and encounters that have been formed within and by the design intervention. The proposed cultural centre embraces this approach, by creating an environment that does not try to artificially stimulate each of the individual senses, but rather create spaces and emotional connections that stimulate the complete spectrum of human experiences.

The dissertation has met the intentions and requirements set out in the initial design brief. It is believed that the cultural centre and public activity square are to be a vibrant space that allows humans to interact with the place, stimulating real sensory experience.

In conclusion, it has been determined, that without the human dimension and the vibrant energy human beings bring to the sense of place, all attempts at the creation of a sensory architecture would fail.

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# Appendices

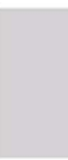
- Mandela Development Corridor group urban design framework
- Design presentation drawings
- Model



Appendix 1:

# Nelson Mandela Corridor

Group urban design framework

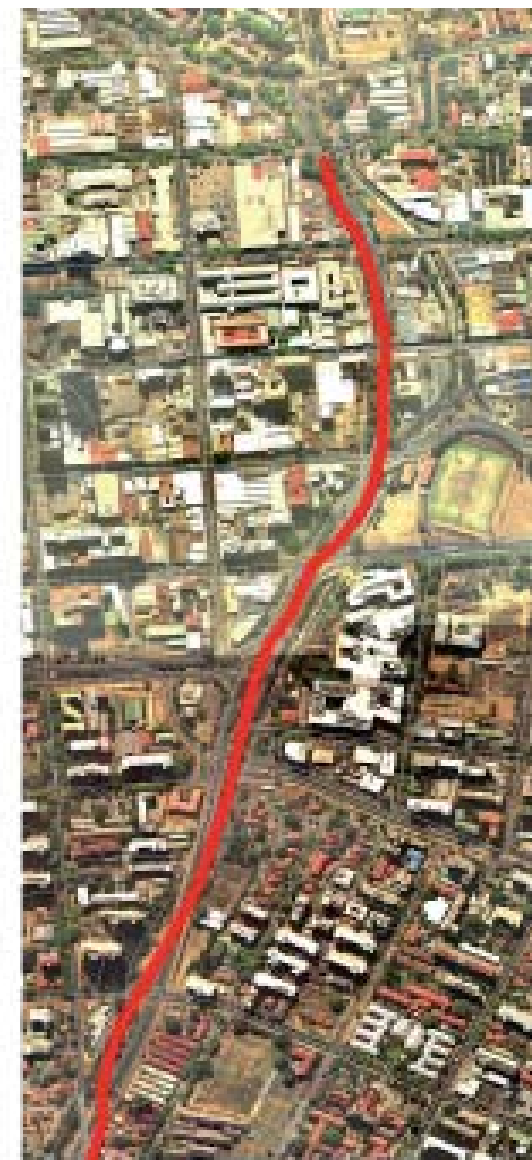




## INTRODUCTION

The study area in question is the Nelson Mandela Corridor, the gateway into the city from the North and the South. A very important spine running along the Apies River feeding the city's East/West orientated streets. It is the opinion of this group that Nelson Mandela Avenue represents a rip in the urban fabric of the city and this group proposes that this rip be repaired by adding buttons, or nodes along the affected area, thus "buttoning up" the urban fabric but still providing enough play for the corridor to develop through a natural process. Four nodes are proposed, namely; Cultural; Business; active Recreational and passive Recreational nodes – placed on strategic crossings along Nelson Mandela Avenue.

Lize Gerneke | Chris Sparks | Gys Ammelman | Tienie Van Rooyen | Lounette van der Westhuizen | Tobias Mahne  
Colin Seak Loo



REGIONAL CONTEXT  
NELSON MANDELA CORRIDOR

**Ward 58** is located in the central part of the city of Tshwane.

54.0% Black  
39.0% White  
4.0% Coloured  
3.0% Asian

31% Afrikaans  
17% English  
11% Sepedi  
11% Setswana

47% Male  
53% Female

#### Environmental Vulnerability

The environmental vulnerability in ward is generally low, with a high environmental vulnerability found in the east, north-east, south-west and north-west. These areas correlate with mountain slopes, degraded veld, woodlands and grasslands.

#### Floodline Priority

This ward has a low floodline priority, occurring along the Apies River in the western and southern parts of the ward. Currently these areas are not inhabited, which limits the amount of people or infrastructure at risk. However, future development along the floodline priority could increase the flood risk to the ward.

#### Industry of Employment

Community, social and personal services (18.0%),  
financial, insurance, real estate and business services (11.0%)  
wholesale and retail trade (7.0%)

#### Income

Moderate

**Ward 59** is located in central part of the City of Tshwane, south of the city centre, amongst the Kwaggastrand Mountains. Various tributaries of the Apies River flow through this area. The geology in the southern part of the ward is characterised by the presence of dolomite.

56.0% Black  
39.0% White  
5.0% Coloured  
2.0% Asian

33% Afrikaans  
22% English  
13% Sepedi  
12% Setswana

47% Male  
53% Female

#### Environmental Vulnerability

Low levels of environmental vulnerability are located in the north-eastern portion with the majority of the ward containing significantly higher levels. The level of environmental vulnerability correlates with areas of degraded veld, grass and woodlands. The topography along the slopes of the ridges combined with the presence of water flow from rivers can also increase the environmental vulnerability of the area.

#### Floodline Priority

A low floodline priority can be found along the banks of the Apies River in the northern region, residential areas are located in close proximity to floodline priority areas which should be monitored.

#### Geology

Dolomite can be found in the south of Ward 59 which poses a significant risk of sinkhole formation in developed areas. Water infiltrating dolomite could cause instability and subsequent sinkholes. However, from land-use maps, it appears that development in this area is limited. Future development should be undertaken with care.

**Ward 60** is situated in the central part of the City of Tshwane.

70.0% Black  
24.0% White  
5.0% Coloured  
1.0% Asian

50% Afrikaans  
29% Sepedi  
22% Setswana

61% Male  
39% Female

#### Environmental Vulnerability

The environmental vulnerability in the majority of the ward is moderate. However, high levels of environmental vulnerability are located in southern and northern parts of the ward which to a large extent correlates with open spaces, degraded veld, wood and grasslands.

#### Floodline Priority

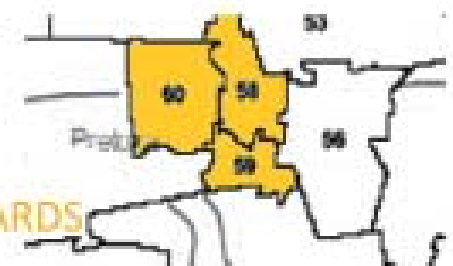
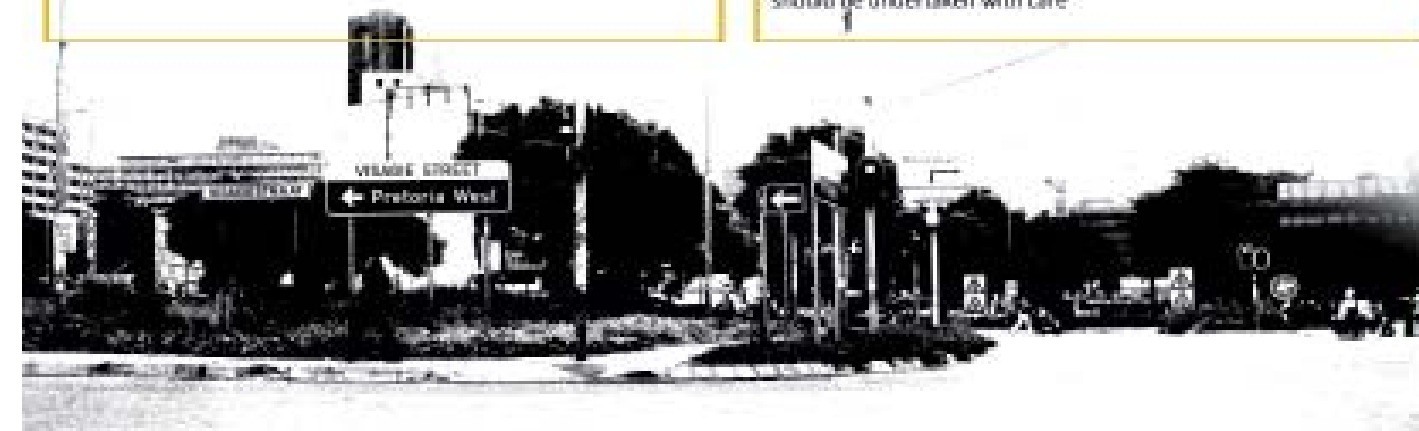
A low level of floodline priority is located in the north section of the ward. This area is a highly developed area and development in floodline priority areas should be monitored.

#### Income

Income levels in Ward 60 are relatively high with 70.0% earning more than R1 600 per month and 45.0% of individuals earning more than R3 200 per month.

#### Industry of Employment

Community, social and personal services (15.0%)  
financial, insurance, real estate and business services (9.0%),  
as well as wholesale and retail trade (8.0%)





#### Integrated Development Plan & RSDF

- Environmental Sustainability
- Increased Accessibility
- Economic Growth
- Tshwane Kopanong/Crossing: Vibrant public square, -Establishing a growth node between Hatfield and CBD while revitalizing Sunnyside (also residentially)
- Centre remains a critical asset
- To enhance Tshwane's national status as the capital of South Africa

#### Inner City Strategy

- Focus Area IV: Celebrating the National Capital and Repositioning the Inner City as a vibrant cultural and government centre
- To enhance Tshwane's national status as the capital of South Africa

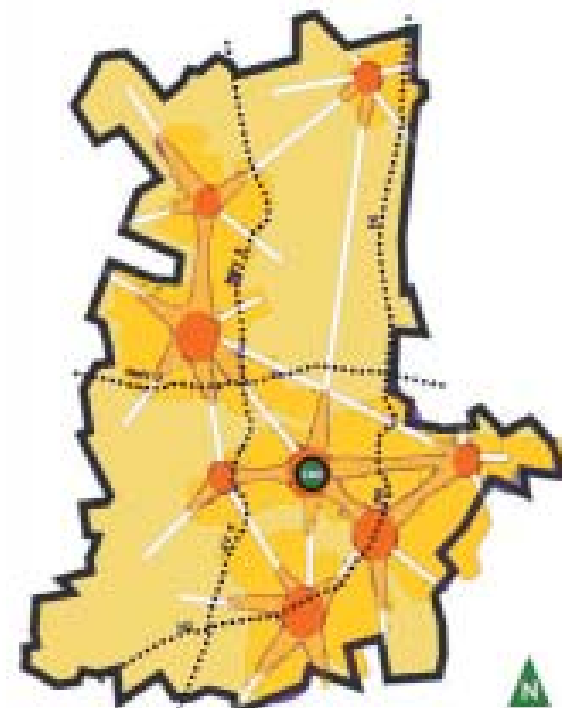
#### MSDF

Inner City has been demarcated as the Capital Core

#### Re Kgabisa Tshwane Programme

- Environmental Sustainability
- Increased Accessibility
- Economic Growth
- Exploring African-ness: Giving content to the notion of an African City using urban art as a metaphor for social dialogue & reclaim public space
- Investing in- and management of public space, 24h City - vibrancy
- City Living Initiative: Focused at young people and - Economically mobile families, Quality public amenities,
- Tshwane CBD with explicit view of consolidating image of SA capital
- Repositories of national culture eg, Freedom Park,
- Places of assembly for national celebration(s)

(Capital Alliance Conference; October, 2005)



## GOVERNMENT STRATEGIES



Being the leading governance city in Africa

Being the embodiment of what it means to be (South) African

Being the prime urban working and living centre in Tshwane

The Functional and Symbolic Heart of the Capital City of South Africa and Africa

The Capital of Culture In Africa, where all aspects of being (South) African can be celebrated

Place of Choice

Announcing the destination- Cultural circle - Capital precinct - MDC and Aples River Promenade - Tshwane crossing - Regeneration - Movement - Exceptional public

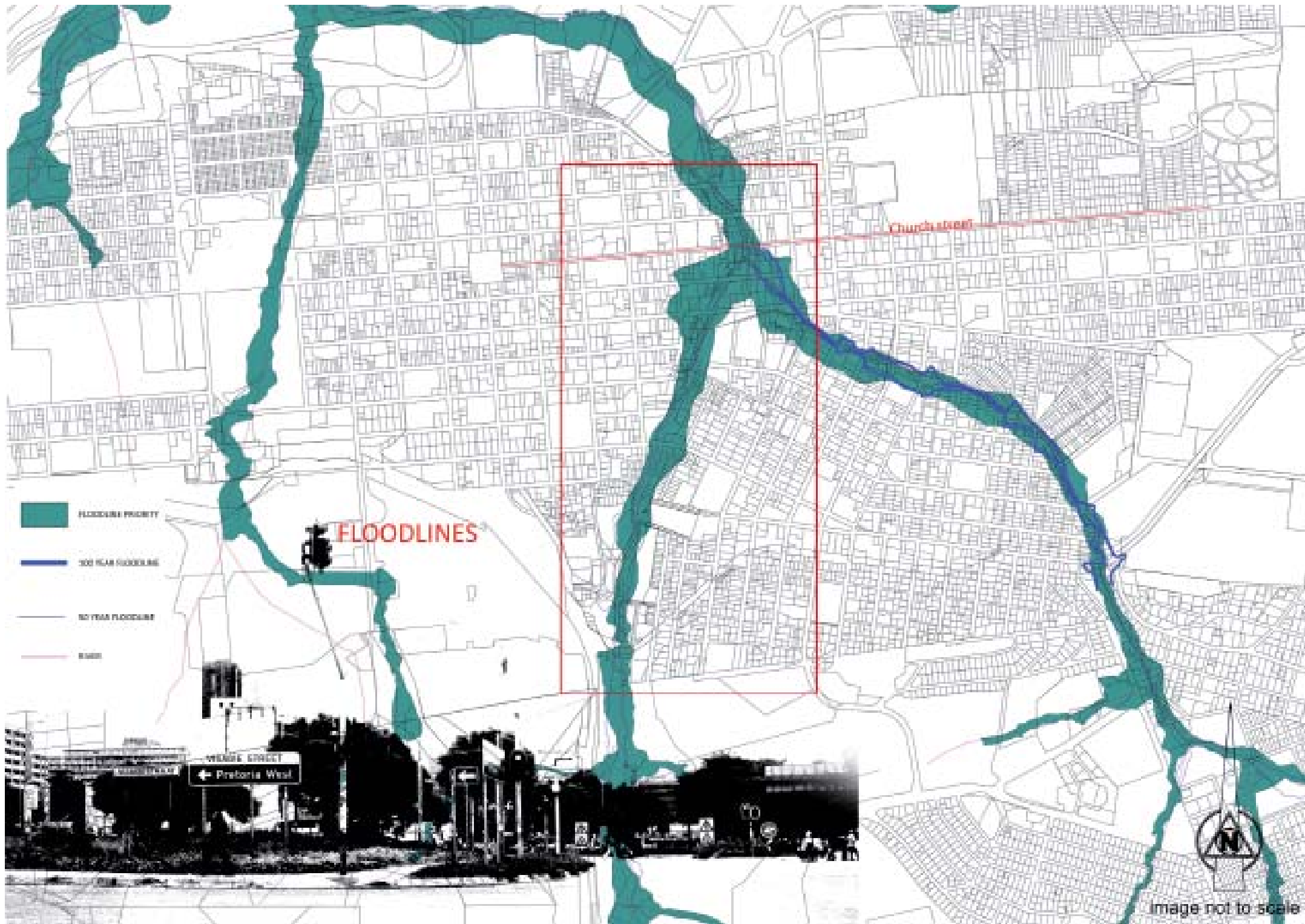
- 0 NONE
- 1 SPECIAL RESIDENTIAL
- 2 GROUP HOUSING
- 3 DUPLEX RESIDENTIAL
- 4 GENERAL RESIDENTIAL
- 5 EDUCATIONAL
- 6 INSTITUTIONAL
- 7 SPECIAL BUSINESS
- 8 GENERAL BUSINESS
- 9 MUNICIPAL
- 10 GOVERNMENT
- 11 RESTRICTED INDUSTRIAL
- 12 GENERAL INDUSTRIAL
- 13 AGRICULTURAL
- 14 SPECIAL
- 15 UNDETERMINED
- 16 EXISTING STREET
- 17 NEW STREET
- 18 EXISTING PUBLIC OPEN SPACE
- 19 PROPOSED PUBLIC OPEN SPACE
- 20 EXISTING PRIVATE OPEN SPACE
- 21 PROPOSED PRIVATE OPEN SPACE
- 22 TOWNSHIP ESTABLISHMENT
- 23 SEWERAGE SLUDGE WORKS
- 24 CEMETERY
- 25 AIRPORT
- 26 SPOORNET

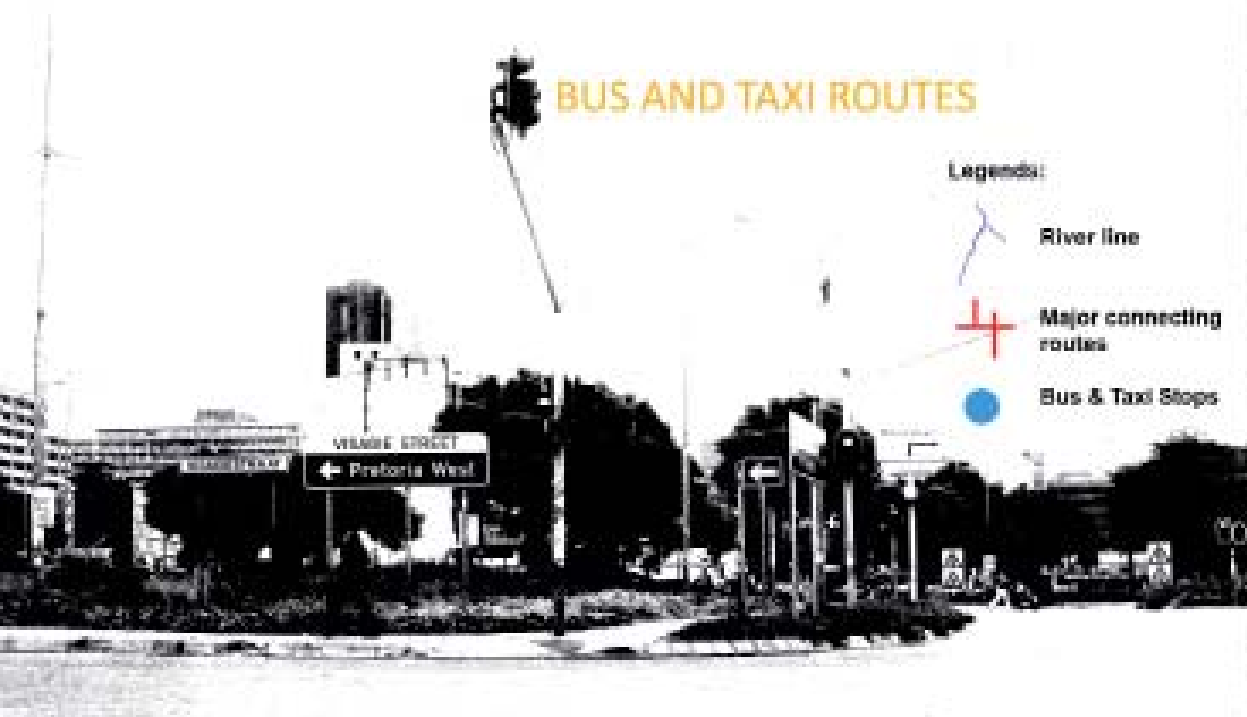


## ZONING

VERBODEN TOEGANG  
← Pretoria West







## BUS AND TAXI ROUTES

- Legends:
-  River line
  -  Major connecting routes
  -  Bus & Taxi Stops



## BUILDING BLOCKS

Announcing  
the destination  
(Gateways)

Cultural  
Circle

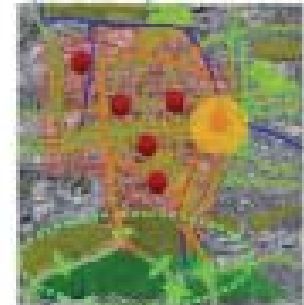
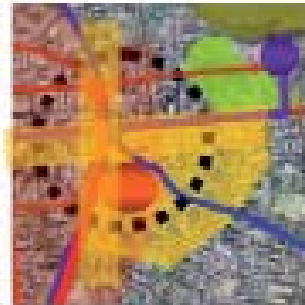
Capital  
Precinct

Mandela  
Development  
Corridor  
&  
Apies River  
Precinct

Tshwane  
Crossing

Urban  
Regeneration

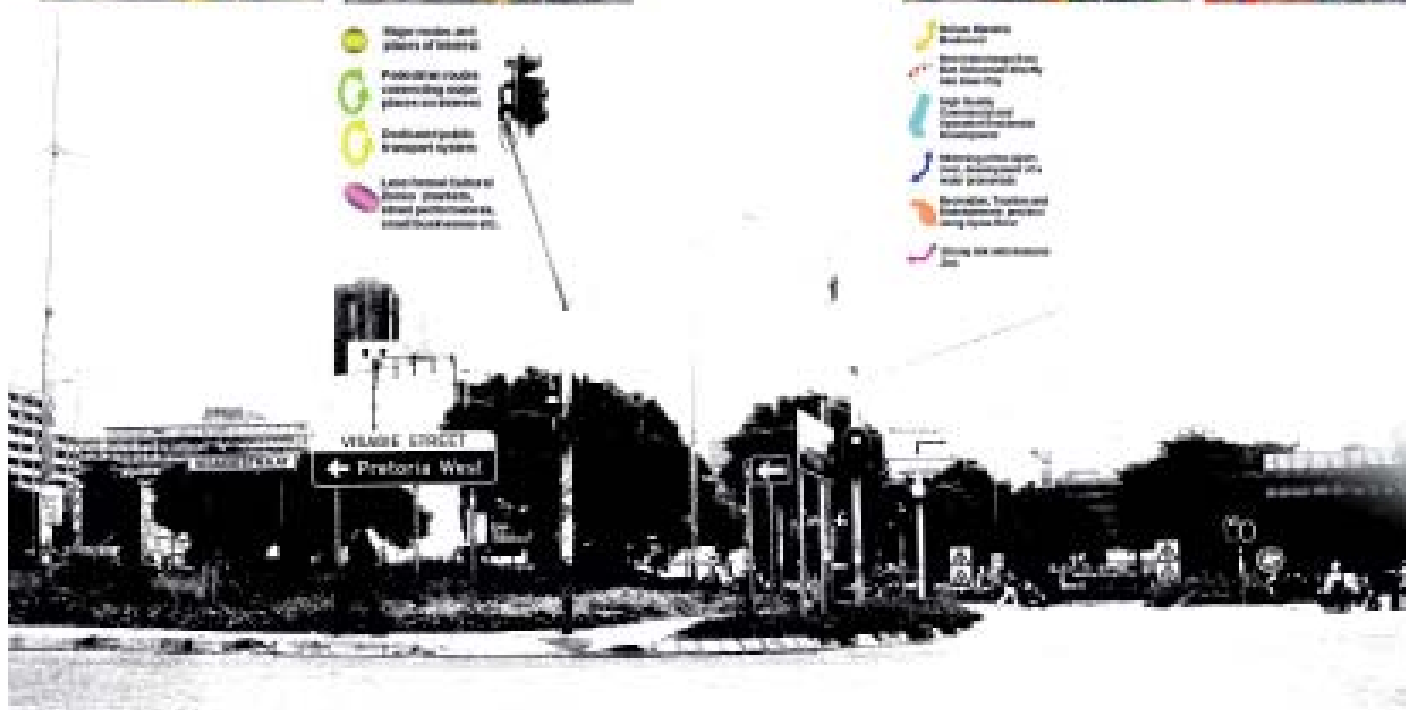
Exceptional  
Public  
Environment



- Major roads and places of interest
- Potential roads connecting major places of interest
- Dedicated public transport system
- Land use and urban form, street performance, street furniture etc.

- Public transport
- Public transport and bus services, bus stops, bus lanes
- High quality, pedestrian-friendly, green spaces
- Water quality and quantity, water supply, water treatment
- Recreation, tourism and entertainment, public space, public art
- Public art and sculpture

- Public transport and bus services, bus stops, bus lanes
- Public transport and bus services, bus stops, bus lanes
- Public transport and bus services, bus stops, bus lanes
- Public transport and bus services, bus stops, bus lanes
- Public transport and bus services, bus stops, bus lanes
- Public transport and bus services, bus stops, bus lanes



TSWANE INNER CITY  
DEVELOPMENT AND REGENERATION  
STRATEGY 2006

## VISION

- The Functional and Symbolic **Heart of the Capital City of South Africa and Africa**
- The **Centre of Culture in Africa**, where all aspects of being (South) African can be celebrated.
- “Celebrating the National Capital and Repositioning the Inner City as a **vibrant cultural** and government centre”
- The Inner City must provide tourism, entertainment and recreational opportunities, for residents and visitors
- The Inner City must be made pedestrian friendly

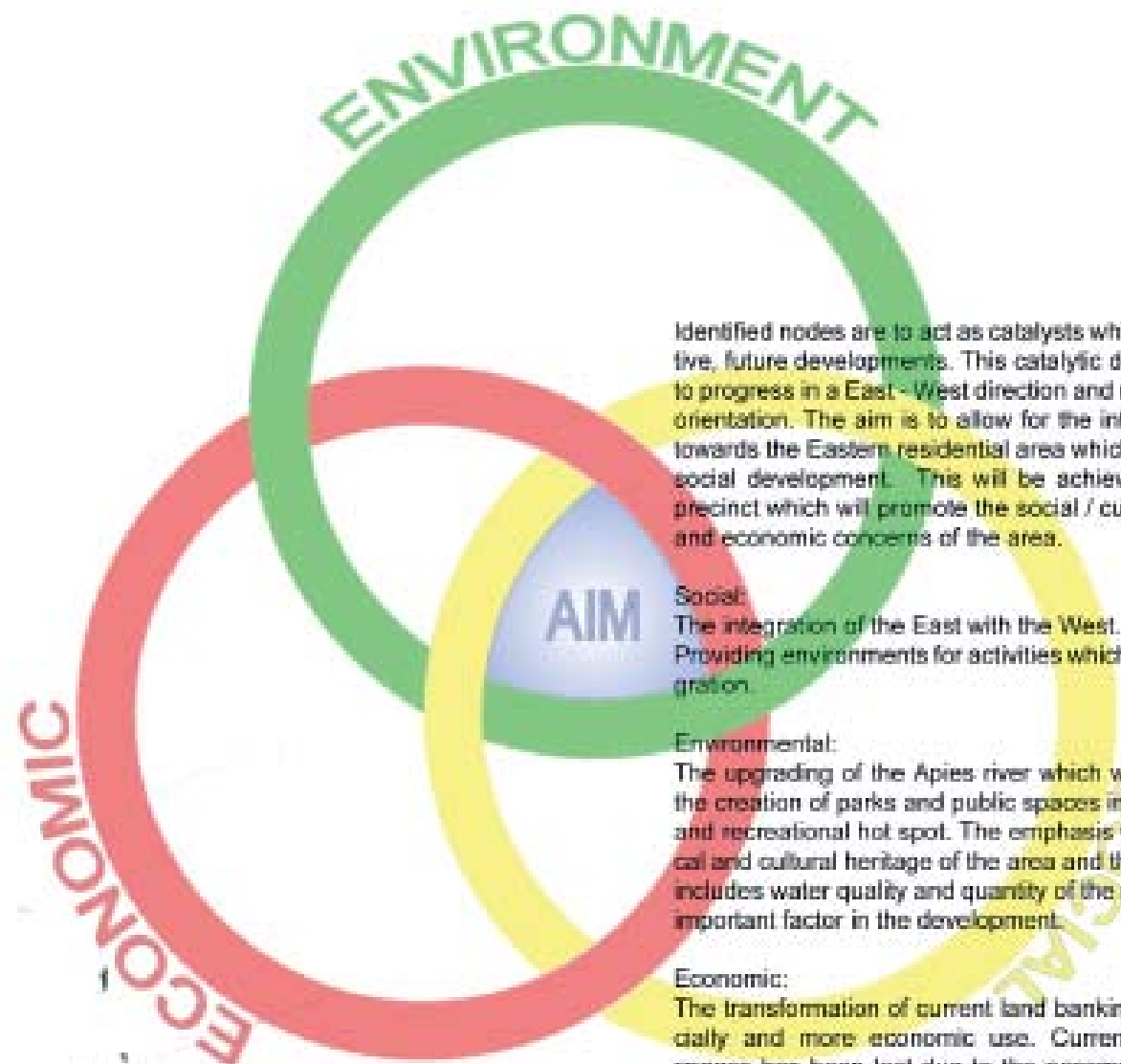


## TSWANE INNER CITY DEVELOPMENT AND REGENERATION STRATEGY 2006

Any capital city needs to also be the cultural centre of that country, which showcases the national culture to the outside world.

The Tshwane inner City is a place of **strategic significance**, not only in the city, but also from a national and international perspective. However, it is generally acknowledged that the Inner City is currently not functioning as it should from an environmental, economic and social point of view. The City Development Strategy, the IDP and the Metropolitan Spatial Development Framework have all identified the inner city, together with its important role within the Capital City vision, as a strategic focus area. **The Tshwane City Vision, namely “to become the leading international African capital city of excellence that empowers the community to prosper in a safe and healthy environment”,** clearly sets out the development goal of becoming the African Capital City of Excellence. H





Identified nodes are to act as catalysts which will promote positive, future developments. This catalytic development is aimed to progress in a East - West direction and not in a North - South orientation. The aim is to allow for the integration of the CBD towards the Eastern residential area which at the moment lack social development. This will be achieved through creating precinct which will promote the social / cultural, environmental and economic concerns of the area.

**Social:**

The integration of the East with the West. Providing environments for activities which promote social integration.

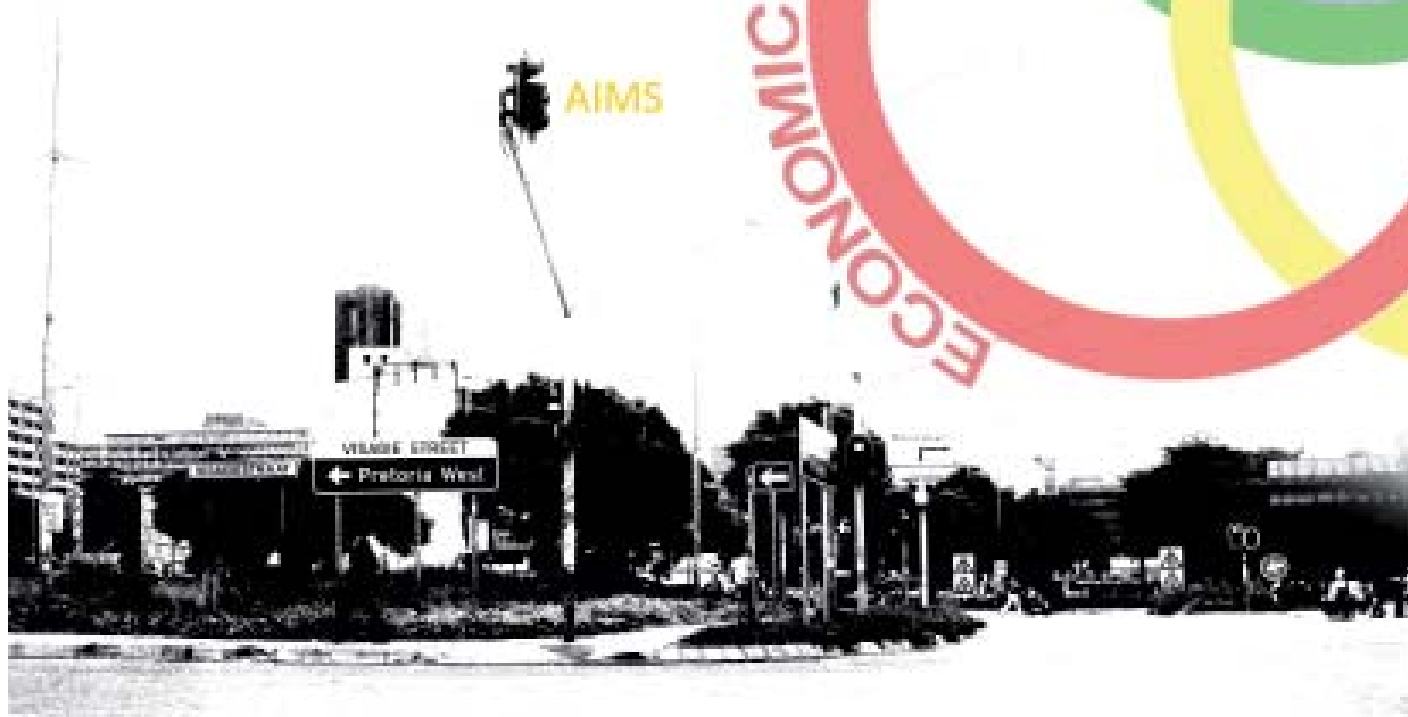
**Environmental:**

The upgrading of the Apies river which will act as a spine for the creation of parks and public spaces into a social gathering and recreational hot spot. The emphasis will be on the historical and cultural heritage of the area and the biodiversity, which includes water quality and quantity of the river will also play an important factor in the development.

**Economic:**

The transformation of current land banking hot spot into a socially and more economic use. Currently lots of potential spaces has been lost due to the accommodation of garages due to the automotive industry, which do not promote for the social or economic issues of the area.

The job creation through potential hot spots via the social integration and gathering of people. As more people will occupy the area, naturally this will create more potential business opportunities which will be needed to cater for the incline of people.





### A River Reborn – Los Angeles River Framework

The Los Angeles River has been canalised and misused, but interested and affected parties started to take action to improve the function and aesthetics of the river.

The importance of rivers:  
River greenways are one of the most important open space resources. A river in an urban setting should be the spine for an open space system that includes parks and public squares.

Olmstead (1930) said that rivers' edges should "...become pleasure ways – greatly elongated parks [with a] variety of scenic effects."

- Strategy:
- Reclaim land along river for parks and wildlife sanctuaries
  - Divide park into sections and plan catalyst projects that gives identity
  - Increase public awareness
  - Address streetscape issues, bikeways, parks, wildlife viewing and public access
  - Turn buildings to face the river or live unto river
  - Protect river as a flyway for birds

- This can be achieved by:
- Assessing all riverside properties that has no buildings or has abandoned buildings and reclaim these to form a network of open spaces
  - Including floodplains, power line and railroad servitudes and schoolyards in the network
  - Involve the public in decision making processes
  - Where possible, removing engineered structures to restore natural floodplains
  - Retrofitting canals (restoration is impossible) to a more natural state
  - Doing biological studies to inform decisions
  - Start demonstration catalyst projects that educates and informs the public

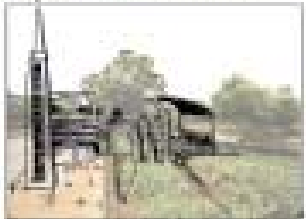
### PRECEDENT







Improve microclimate



Landmarks and transport



Widened river channel

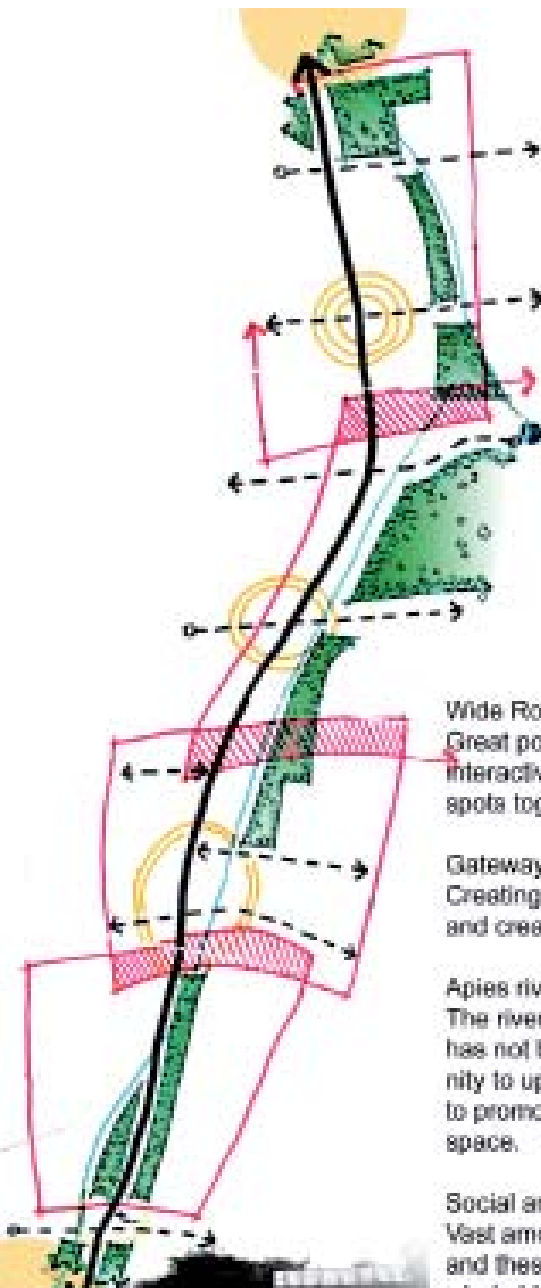


Improve bio-diversity



Informal trading

## OPPORTUNITIES



### Wide Road Servitude

Great potential in the wide road servitudes to create vibrant interactive spaces which links the different zones and hot spots together.

### Gateways and Landmarks into the city

Creating a local identity which adheres to that specific area and creating a sense of place.

### Apies river and green pockets

The river is in a upset state and recreational areas along it has not been looked after or put to good use. Ideal opportunity to uplift the current state and introduce new interventions to promote the area into a positive and socially populated space.

### Social and Cultural heritage

Vast amount of social and cultural heritage exists in the area and these aspects must be brought out and form part of the whole identity of the area.

### Pedestrian lines

Pedestrian access must connect to different spaces, especially between the east and west.





Neglected buildings

## OPPORTUNITIES

### Land Banking

Land banking entails hoarding of land for future development and using it low value entities. To transform these areas into a more social and economical promoting use. Current landbanking includes parking lots and motor retail showrooms.





## PROBLEMS

Pedestrian crossings

Lack of connection \_ East -West

Delapidated buildings

Mono functional buildings

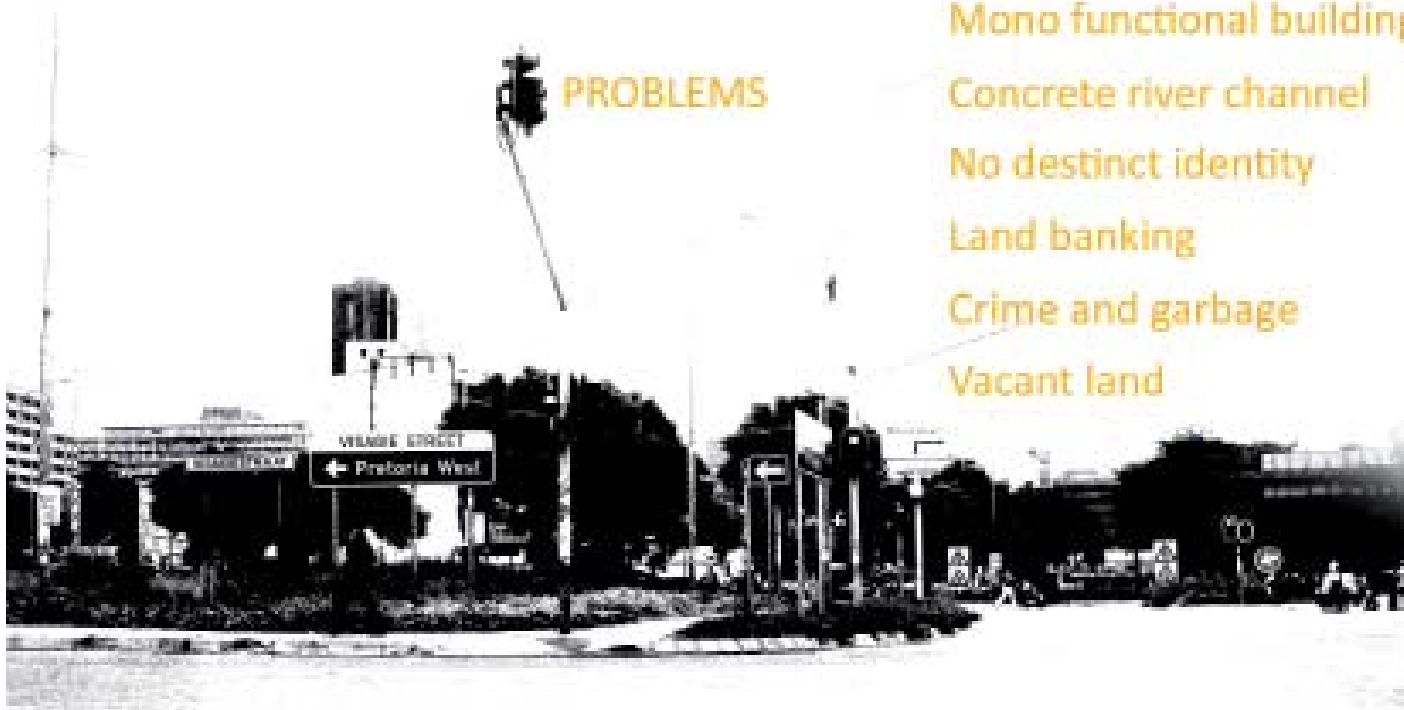
Concrete river channel

No distinct identity

Land banking

Crime and garbage

Vacant land



The Nelson Mandela Corridor is currently seen as an urban wasteland, a defragmenting agent between the East and the West, acting as a physical buffer between the city's two halves. The links and connections between the city and its surrounding neighbourhoods are very poor and needs addressing. Pedestrian integration along Nelson Mandela Avenue is also in a state of neglect – sidewalks are used as refuse depots, street furniture needs upgrading, shade is in short supply, etc. The natural features along the river are unmaintained. There is no informal economy, the buildings are all monofunctional. In short the Nelson Mandela Corridor is lacking an identity.



— Pedestrian Routes  
● Public Transport

**MOVEMENT NETWORKS**  
images not to scale



Figure Ground

## SPATIAL PROPERTIES



Urban Integration



Coleseum Hotel



Unisa



DTI



Reserve Bank



Salvokop/Freedom Park

### Proposed spatial properties for the framework

Promotion and celebration of regional connections

- Johannesburg to the south
- Soutpansberg to the north

Upgrading and creation of Local area connections

- Promotion of east/west connection
- Promotion of Urban Integration

Rejuvenation and upgrading of existing Green Spaces

Promotion and Celebration of prominent public space

- Creation of new public spaces within the new nodes
- Rejuvenation and upgrading of existing public spaces such as DTI, Overzicht Village and the banks of the Apies River

Movement Network

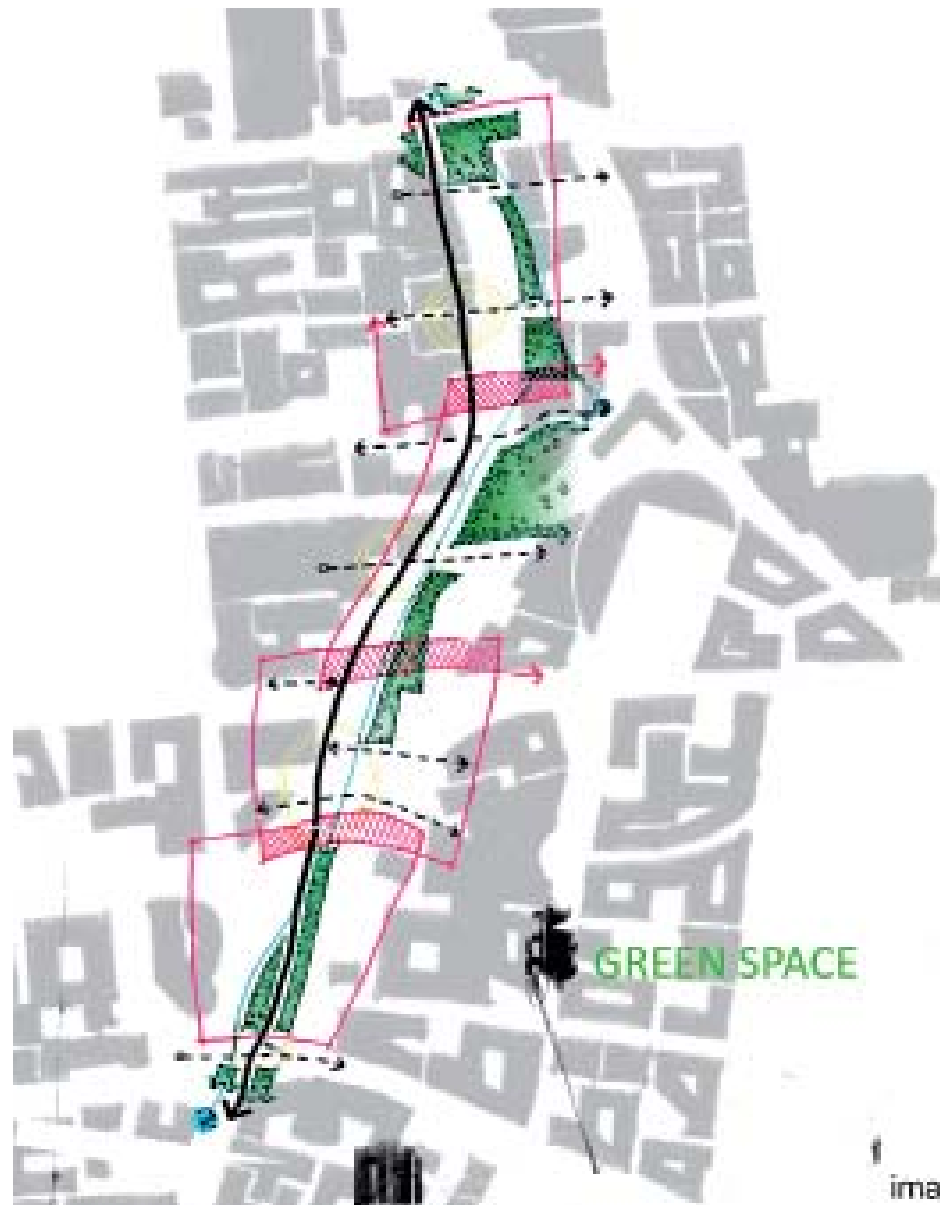
- Connections to important nodes of the city
- Promotion of Pedestrian Routes

Celebration of the built fabric and the promotion of the identity of the proposed nodal interventions

Creation of a sense of arrival into the city - Nelson Mandela Development Corridor as the Gateway into the city

Celebration and connection to existing and proposed landmarks within the precinct





images not to scale



Apies River



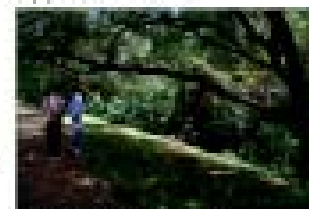
Public Land



Behind Berytenbach



Opposite Unisa



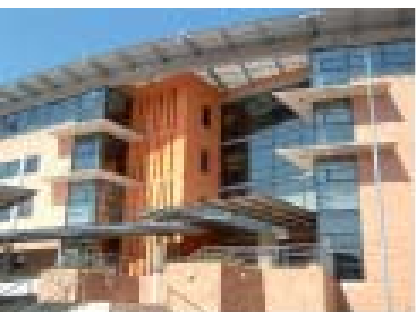
Apies River Boardwalk

Rejuvenation and upliftment of the Apies River  
Integration of existing Apies River Development Framework  
the Nelson Mandela Development framework

**All Green space must conform to the following crit**

- Accessible to the public
- Safe and create a sense of security
- Low maintenance
- Vibrant catalysts for social interaction
- Creation of a pedestrian friendly link through the city
- River becomes a spine, linking all the green spaces
- Green space and apies river upgrade link all the nodes and spaces
- Focus on interaction and blurred lines between the built public spaces and open green spaces





Government Node



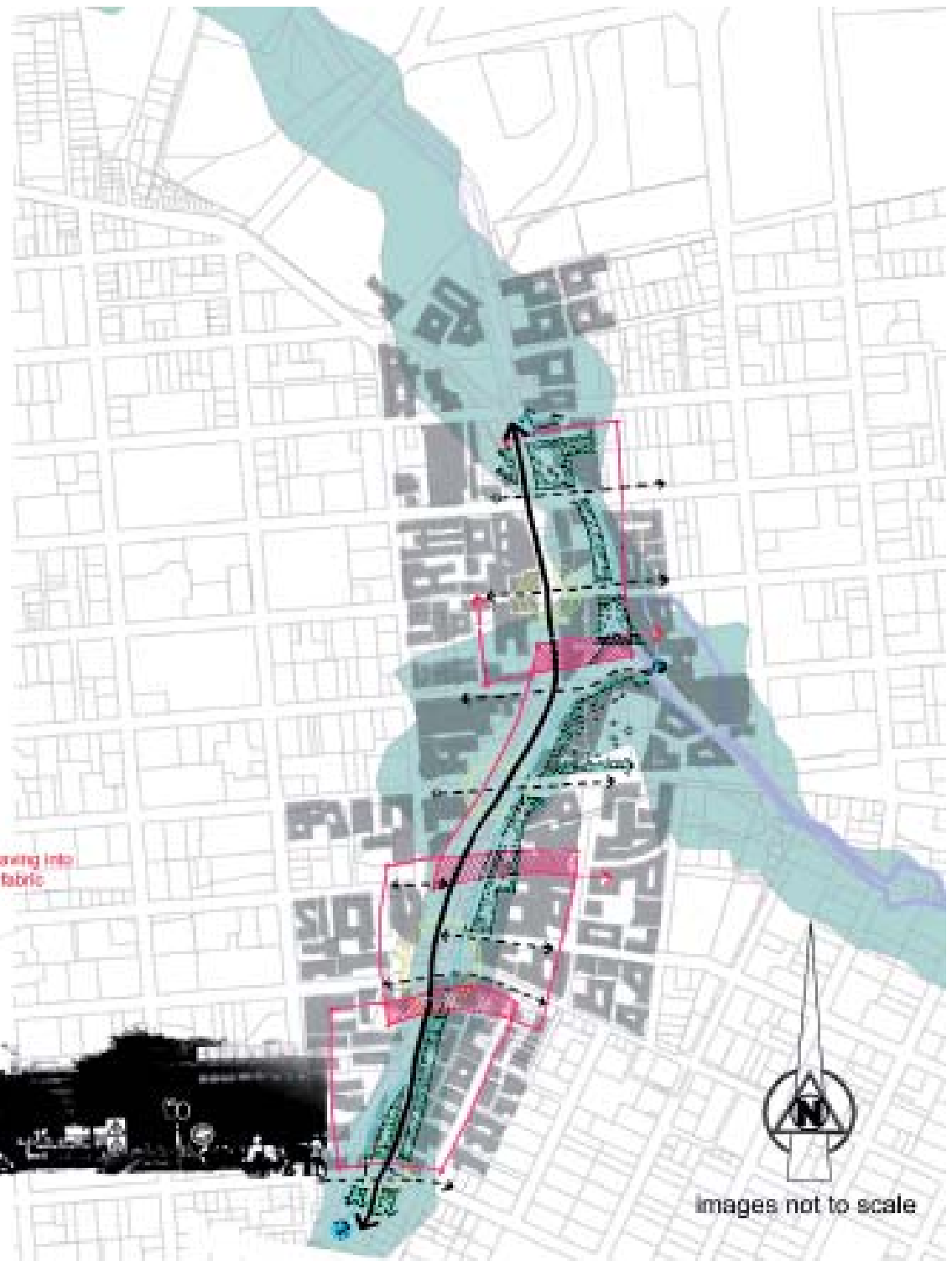
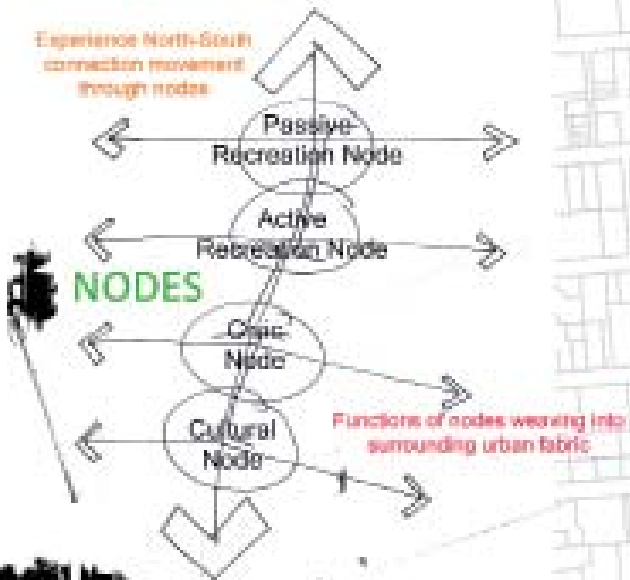
Active sports node



Passive node



Cultural node



Images not to scale

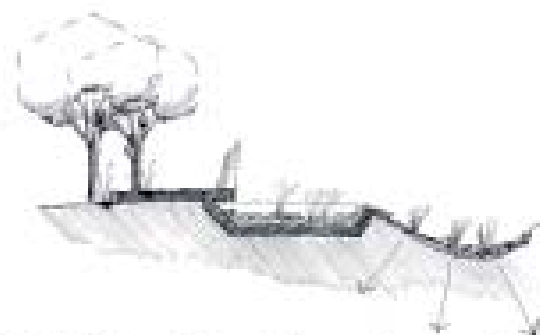
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- NELSON MANDELA DRIVE
- APIES RIVER
- PEDESTRIAN PATHS
- NODES
- ROADS
- OPEN GREEN SPACE
- CULTURAL PRECINCT
- COMMERCIAL PRECINCT
- ACTIVE PRECINCT
- PASSIVE PRECINCT

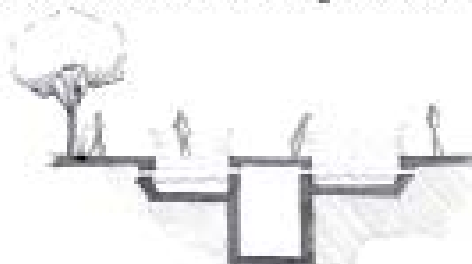
OPEN SPACE



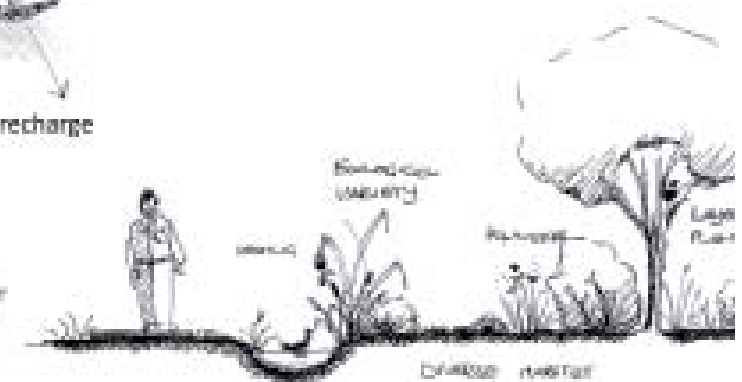




Shallow River with swale for ground water recharge



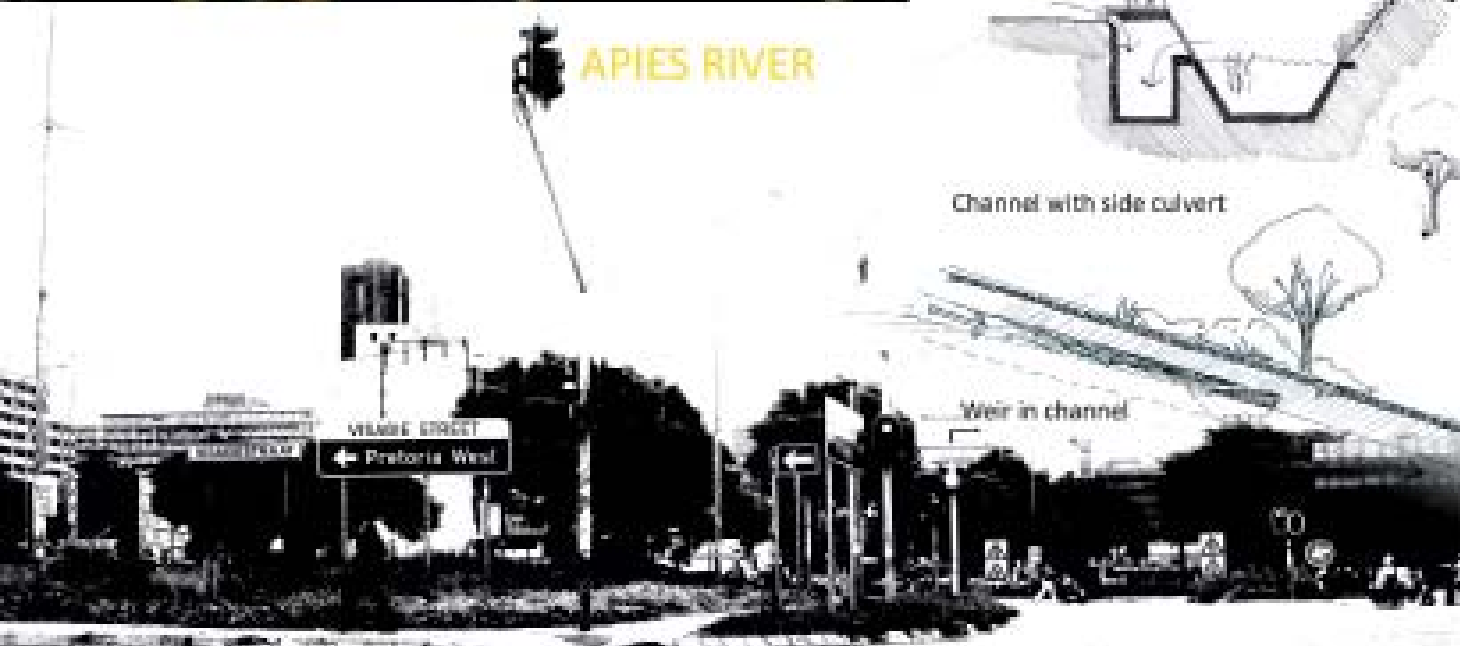
Possibility of splitting river channel



Channel with side culvert

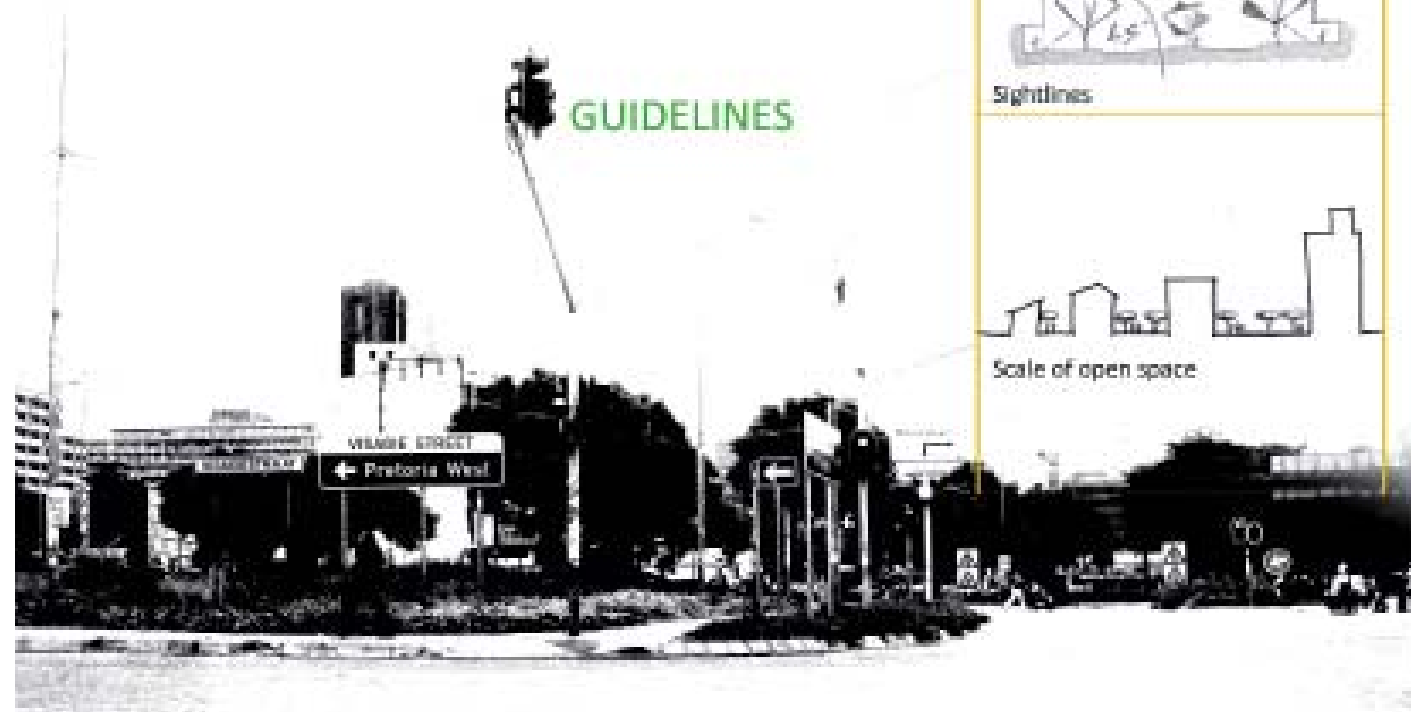


Weir in channel



The Apies River is a prime location within our city and has underutilised in the past. This group feels that the Apies needs to be celebrated – by the buildings along it, the people city, informal traders, and tourists etc. The Apies River needs “branded” and added to the Proudly South African campaign will result in the river being managed and maintained in uplifting the surrounding area and its population – making Apies River a landmark the city can be proud of.

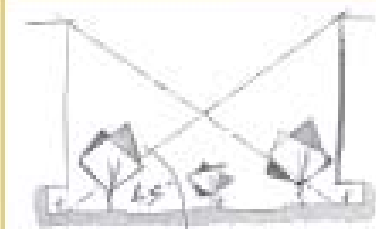




Build to lines



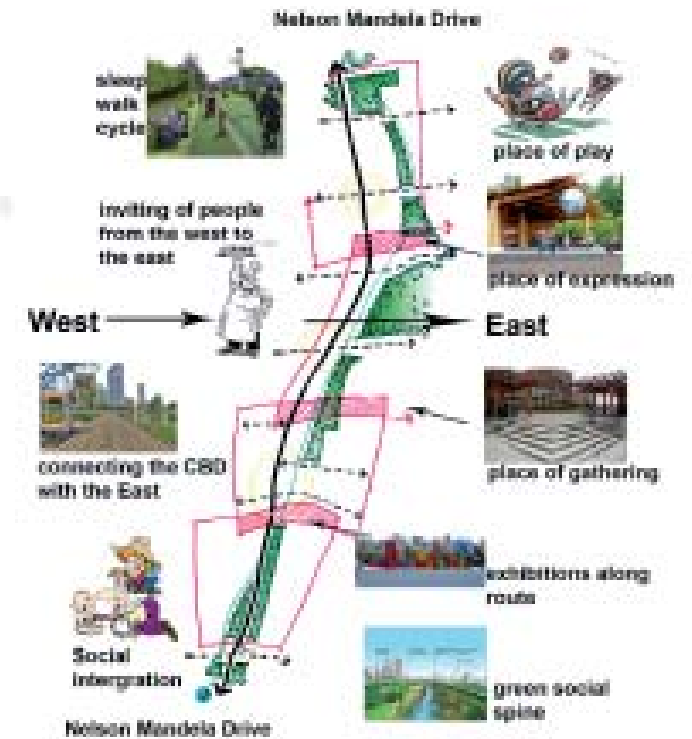
Pedestrian Integration



Sightlines



Scale of open space



#### General access and entrances –

- No service entrances on Nelson Mandela Avenue
- Encourage basement parking
- Formalised street drop-offs
- Orientation of entrances according to individual building

#### Build-to-lines and height restrictions –

##### Build-to-lines

- 5m setback from street kerb
- 7m setback from river edge (100 year flood line)

##### Height

- Arts and culture precinct – 4 storeys
- Government and business precinct – 7 storeys
- Active recreation precinct – 4 storeys
- Passive recreation precinct – 4 storeys

## 7 guiding principles of successful places (CABE: 2006:5)

### Character – a sense of place and history

Character is how we distinguish one place from the next. It is about place-making (Manifesto for change, 1991:2). It reflects local culture, tradition and context. It establishes recognisable patterns through the use of natural features, distinctive landscapes, diverse spaces, and physical and psychological clues that are imbedded in a spatial identity, the blueprint of that place. It enables environment, encapsulating timeless qualities in space.

### Continuity and enclosure – clarity of form

What should be open what should be closed? Who should have access and who should not? Good public space has a clear hierarchy and definition between public and private space. Positive urban environments require freedom and constraint, setting preconditions for activities and growth to occur (Manifesto for change, 1991:23). Deliberate/purposeful articulation of urban space therefore ensures the development of healthy ownership roles and public care. Definition should occur by means of buildings that define these spaces at a scale that responds to character of the place and that feels

### Quality of public realm – sense of wellbeing and amenity

The public realm is the zones of greatest interaction, and therefore the areas of greatest opportunity (Manifesto for change, 1991:17); it is the setting for the formation of social networks and public ties (Manifesto for change, 1991:18). These spaces usually have distinct and clear routes and a good sense of safety and security, provide equal access to public amenities, and are detailed with good lighting, urban greenery, street furniture and public art. These spaces are structured to respond and adapt to the needs of everyone.

### Ease of movement – connectivity and permeability

Movement is vital in our daily ritual of life, for it is the method by which we get from one place to the next. Therefore, the urban fabric should be developed to improve ease of movement with a choice of safe, high-quality connector routes. Roads, footpaths and public spaces should be well connected and provide high accessibility to public transport systems.

### Legibility – ease of understanding

Places should have focal points, landmarks, distinct views and gateways that act as points of reference, provide visual order and guide passage through space. Good articulation of built form, adequate lighting, signage and creative way-markers provide the basis for a good sense of direction and provide the clues needed to equip the user to navigate public space.

### Adaptability – ease of change

Spaces that can only be used for a single purpose, remain empty most of the time. Therefore it is essential for spaces to have flexible uses, and to be adaptable to current and future spatial requirements. Adaptive re-use of buildings with historic value also improves the quality of the public realm and enhances the character and legibility of a space.

### Diversity – ease of choice

Monotony is the enemy. Diversity increases the range of choices that people are exposed to (Manifesto for change, 1991:17). Places should be multifunctional and provide for a mix of compatible uses and programmes. These places should cater for the diverse communities and cultures and offer a wide spectrum of activities and communal functions. Spaces that possess a healthy diversity of people, culture and architecture are the groundwork for positive social interaction and expression.

## What makes a good urban space?

There are no predesigned solutions to creating a successful urban space. Each scenario has its own inherent spatial, cultural and contextual aspects it needs to respond to, in order for the intervention to be regionally responsive. However, there are guiding principles present in every successful urban place that can be adopted and adapted to guide the urban development.



The proposed framework aims to develop the MDC to act as a gateway into the Tshwane Inner City, where visitors and residents are greeted with a sense of arrival celebrating the identity of the greater Tshwane context. The idea is to encourage the MDC as a destination point and not have it act just as a crossing or thoroughfare

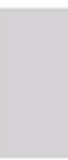
The primary intention of the MDC framework is to repair the tear/rip in the urban fabric left as a result of previous inadequate planning decisions. We wish to stitch back the cultural and historical identity into the area and create a sense of place and space for future generations to appreciate.





Appendix 2:

# Design Presentation





[illegible][illegible]

Figure 1. Comparison of the site character.

[illegible]



# ‘Genius Loci’ A cultural centre for the visual and performing arts



Precedent - BOC Glass Box - Foreign Office Architects



Precedent - Leica Gallery Gallery - O'Donnell and Tunney



Precedent - Concert Hall - Gehry Partners



South African State Theatre - Hans and Rosalind Botha

## Problem statement

In our society that is infatuated with image, sight is often the only sense that is ever sought to be stimulated in the creation of architecture. Many new buildings do little to stimulate the other senses and this has resulted in many spaces possessing little character and providing the users of the buildings with limited spatial experiences. Architecture should be conceived as a sensory phenomenon, where people should experience architectural space through all of the senses.

## Research questions

1. How architecture can influence our experience of space through the stimulation of the senses?
2. How can we produce a creative urban realm that celebrates our cultural identity, while allowing individuals to contribute to the performance of life?
3. How can appropriate architectural articulation conduct, orientate and guides the user successfully through various spatial experiences?
4. How can visual and physical connections be established between the visitors of the centre and the artists and performers, without disturbing their creative processes?
5. How can a building of the nature and scale respond to the existing residential scale of the existing structures on the site?
6. How should an architectural language that enhances the sensory experience of this built environment be developed and explored? Should we return to architectural place making strategies of the past in order to create spaces and places for people to interact in today?

## Client



## Design brief

- To inspire the creative genius in us all by nurturing artists in an innovative contemporary centre for the performing arts**
- Create a vibrant and interactive destination.
  - The main intention of this project is to create a building of regional significance which contributes towards inner-city regeneration and helps to establish the precinct as a location of social, economic and cultural vitality.
  - The user of the realm must feel a sense of belonging within the space and the everyday users of the space should have a connection with the various facets of the performing arts industry in order to gain a better understanding
  - The aim of the development is to develop a synthesis between arts, culture, economy and urban vitality by creating a platform for the arts.

## Theoretical Premise

There are very few spatial experiences that can stimulate the full spectrum of our senses. Most art forms attempt to simulate the sense of lived experience, but architecture is the only art form capable of producing lived experiences. Architecture provides the spatial boundaries within which we experience space, however most experiences of space can be reduced to a singular experience of sensory bliss.

How can an environment of a civic nature be created which addresses the full spectrum of sensory phenomena, stimulating the performance of life whilst allowing individuals the opportunity to master and nurture their skills, and express their unique individuality? How do we create such an environment?

For the proposed space to be successful, it should be easily accessible to all and encourage ongoing and frequent use. It should house a variety of activities, thus sustaining the ever-changing user requirements.

The built intervention should enhance the natural phenomena of the site. Yet how should an architectural language that enhances the sensory experience of this built environment be developed and explored? Should we return to architectural place making strategies of the past in order to create spaces and places for people to interact in today?

### The theoretical investigation explores the how the senses can be stimulated

- Touch - Materiality**
- Physical and emotional responses
  - Use of different textured materials
- Sight - Light**
- Lower intensity of light creates more soothing environment
  - Shadow - contrast of light and dark
  - Visual connections to performers and artists
- Smell - Natural ventilation**
- Smell of materials
  - Connection with the surrounding outdoor environment - plants, river etc.
- Hearing - Reverberation of sound**
- Create feelings of intimacy and isolation
  - Hear natural environment
  - Music and sounds reverberating throughout the centre
- Taste**
- Inclusion of restaurants

## Light



## Materiality



## Spatiality



## Massing



## Inspiration



Quality of urban context at Melbourne Arch



Urban performance space, Farnham and the Melbourne Arch



Social interaction at Melbourne Arch



Visual interaction between passers by



Digital media screens activating public space



Section through principal performance space (06 June 2006)



Section through secondary performance space (06 June 2006)



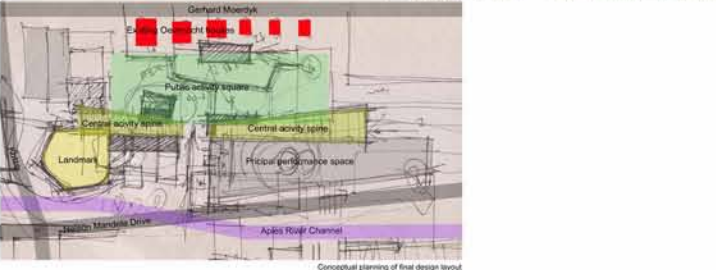
Conceptual planning of final design layout

## Design development and planning

### Design Concept

- The aim of the project is to introduce a development that promotes and celebrates the cultural identity of South Africa
- Celebrates the unique setting of the site
- Develop the centre as the cultural gateway into the city
- Development to encourage public participation in the creative process
- Create a heightened awareness of the visual and performing arts industries
- Create a platform for social interaction between the general public and artists
- The project proposes that an urban activity square be created, which is enveloped by the proposed cultural centre
- It is the intention that the activities of the centre will be brought together through the creation of the urban activity square
- Movement through the centre is to create memorable journey for the user
- The centre is to be a 24/7 hive of activity through the introduction of offices, apartments and retail activities
- The aim of the project would ultimately be to develop a synthesis between arts, culture, economy and urban vitality by creating a platform for the arts

### Design Process



### Conceptual approach

The overall architectural concept employed throughout the design process can be explained as the influence of architecture on the senses

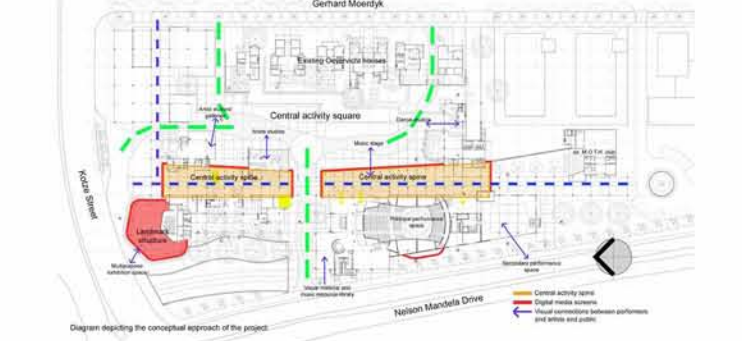
**"The building must create an experience and a sense of place for its increasingly demanding audience"**

(Hammond, 2006: 24)

This notion has been explored on three scales:

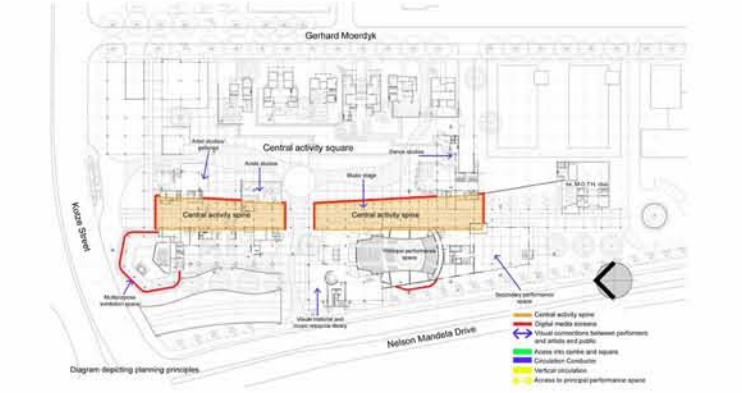
- Urban
- Individual
- Public Scale

These 3 aspects are manifested in the form of three basic design concepts



### Planning

- Central activity spine represents the programmatic divide between the external and internal functions of the project and acts as a semi-private transitional zone
- Exterior experience of the public activity square will be created by the digital skin and the visual connections to the artists through large glazed facades
- The interior experience, is only understood and appreciated once one has entered the central activity spine as the various artistic processes are experienced in closer proximity
- On a spatial level, the square will form a vibrant activity space
- Passers by will be incited into the centre who the placement of glazed facades of various performance and rehearsal spaces on passing main vehicular and pedestrian routes
- Movement and circulation routes through the atrium will be slightly separated from the main functions of the building, allowing the public moving through the space to experience the artistic process, whilst still giving the artists a sense of privacy
- All circulation will be housed within of just off the central activity spine





## Design solution



Entrance into square from Nelson Mandela Drive



Southern entry to central activity spine and studio theatre



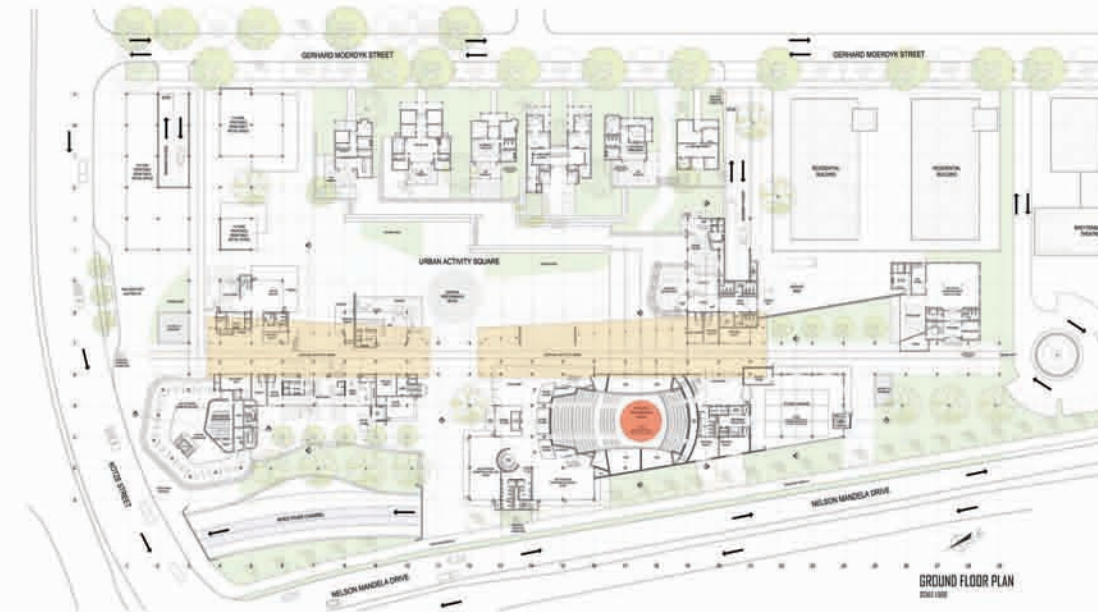
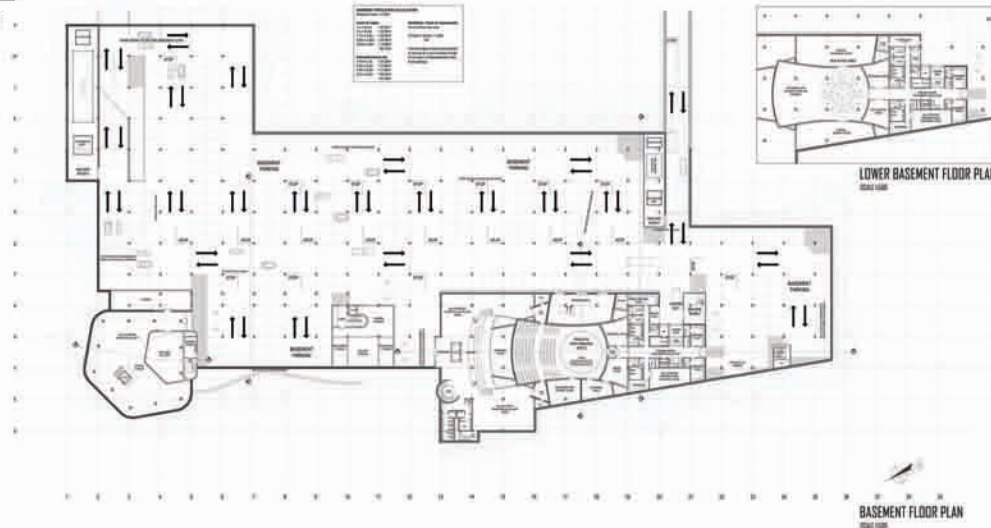
Perspective of artist studio apartments onto open green space alongside the Apies River Channel



Northern elevation



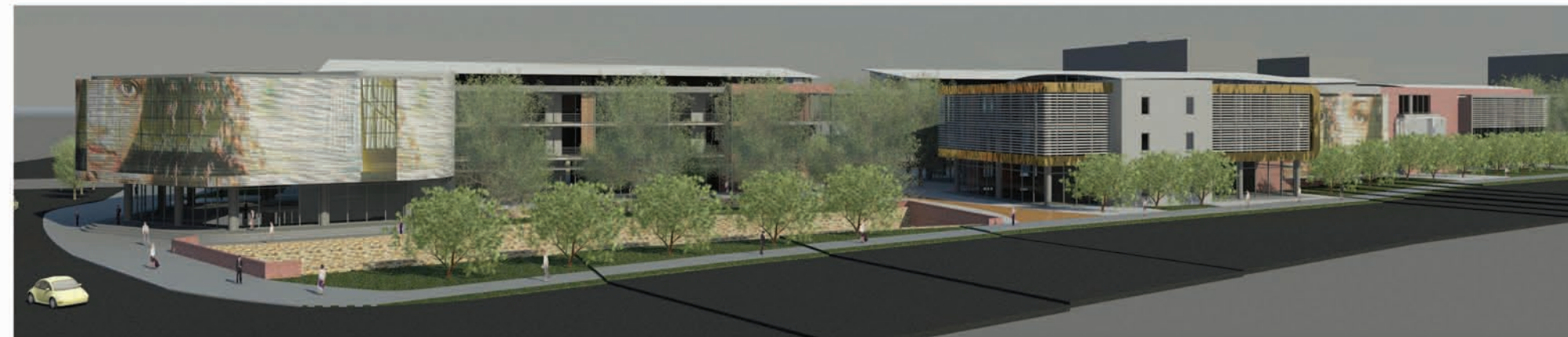
Exterior western facade treatment of Media resource library



Perspective of square in relation to existing Oerverzicht houses



Perspective of square



Western elevation



## Design solution



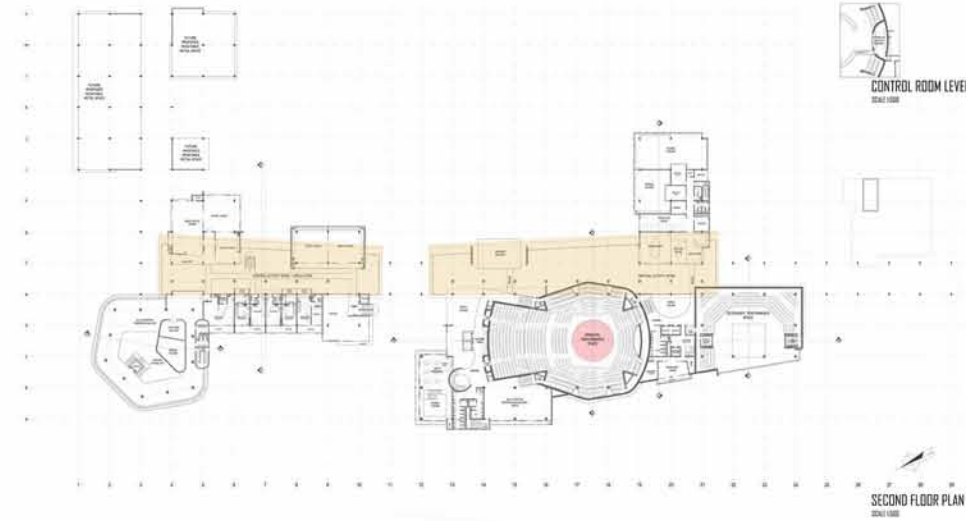
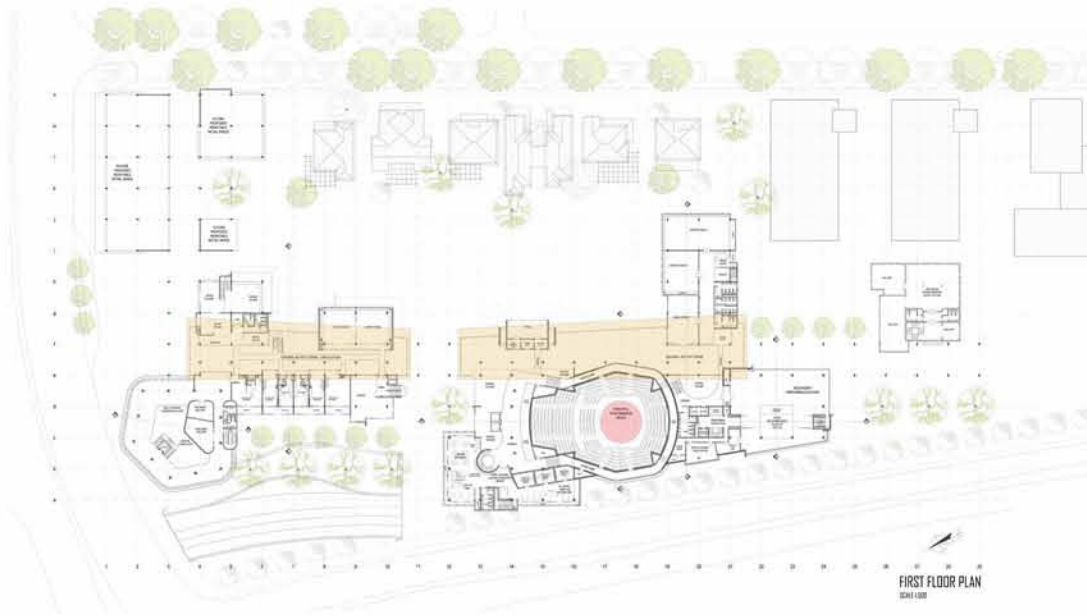
Perspective looking at artist studios- mechanically operable aluminium shutters



Perspective of restaurants alongside Apies River Channel



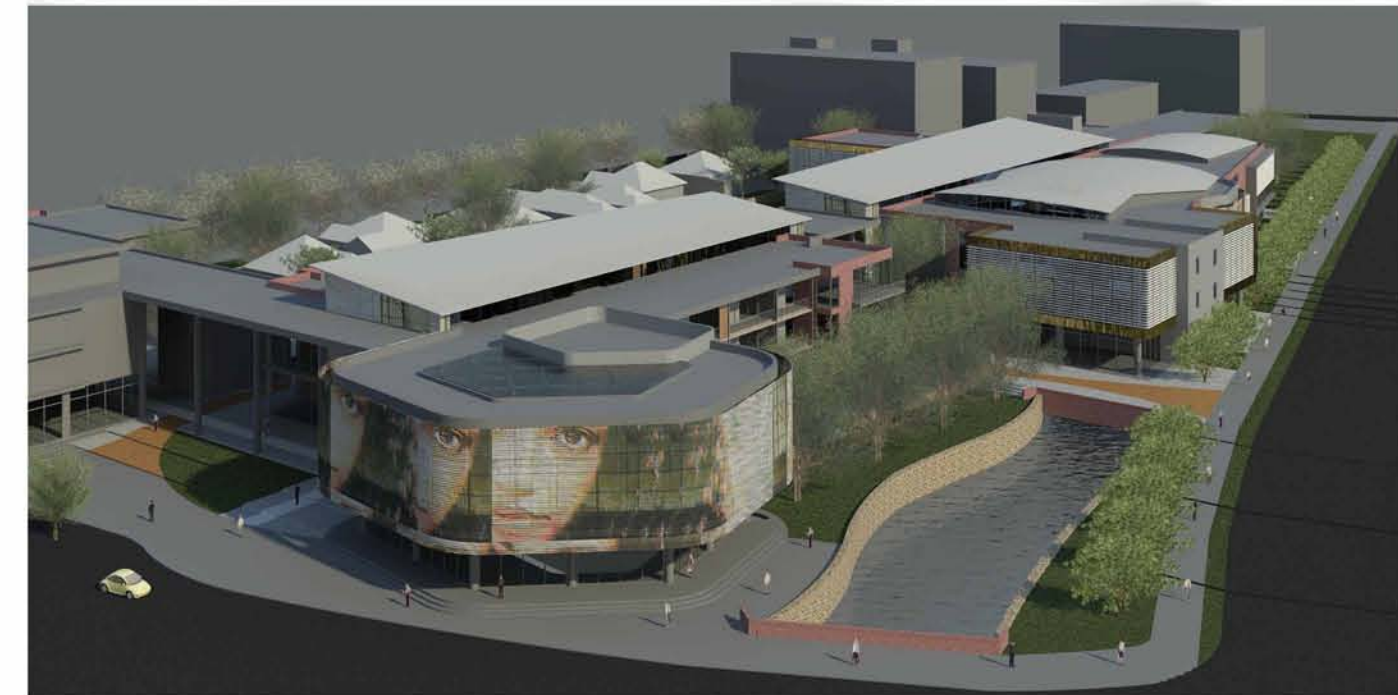
Multi-purpose exhibition space- treatment of corner of Nelson Mandela Drive and Kotze Street



Eastern Elevation



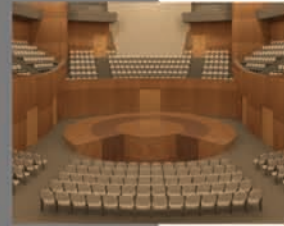
3d perspective of development from south-west corner



3d perspective of development from north-west corner



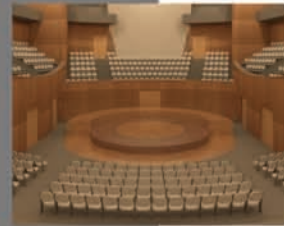
## Principal performance space



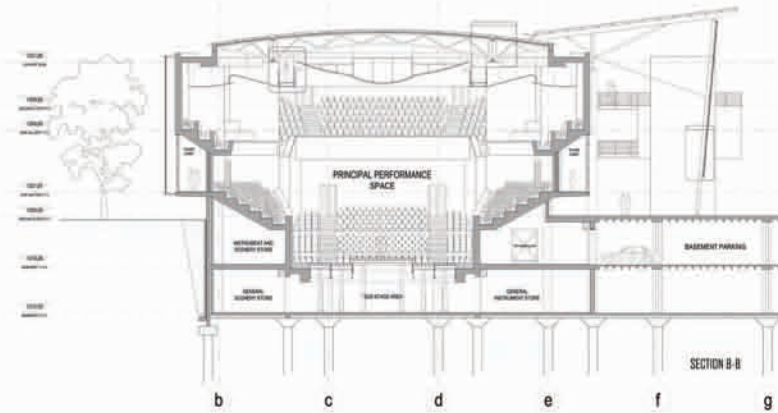
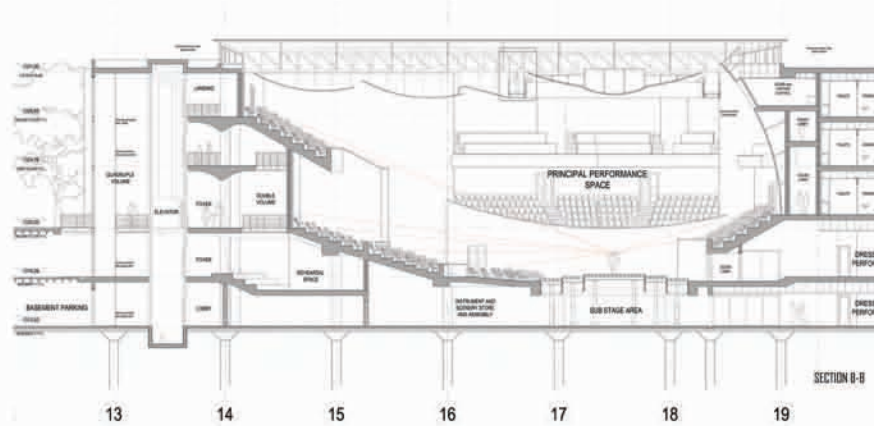
Stage configuration 1 - Sunken orchestra pit



Stage configuration 2 - Stage components positioned in uniform level



Stage configuration 3 - Sunken forestage, elevated rear to accommodate choir



Lowered ceiling for more intimate performance with less audience capacity

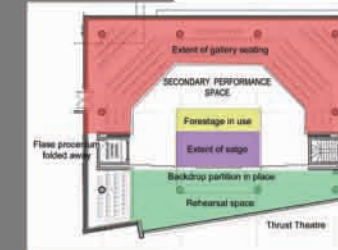


Interior perspective looking towards northern gallery seating

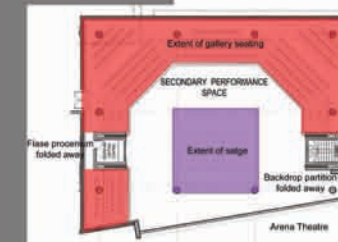


Interior perspective principal performance space

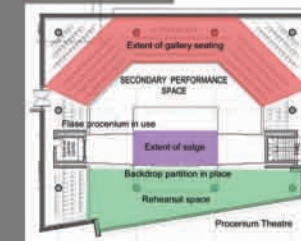
## Secondary performance space



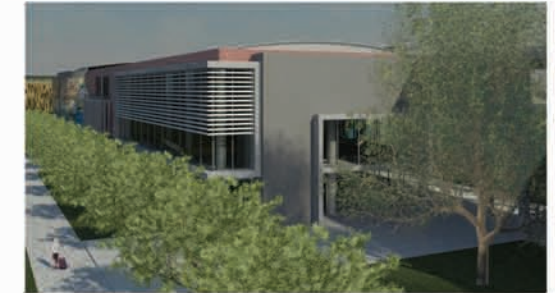
Secondary performance space arranged as thrust stage



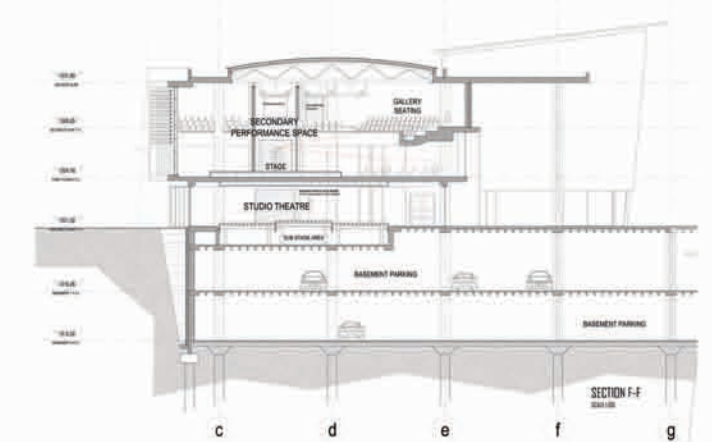
Secondary performance space arranged as arena stage



Secondary performance space arranged as proscenium stage



Glazing and shading device of secondary performance space



Interior perspective secondary performance space





## Technical investigation

### Reinforced Concrete

Reinforced concrete will be the principal structural material used in the cultural centre. Because a concrete structure is robust and requires little to no maintenance, all floors, columns and some roofs will be constructed from the material. Off-shutter methods for the cast-in-situ concrete walls will provide tactile textures to surfaces, and iron oxide pigment will add colour to the surfaces. The plasticity of concrete makes it possible to mould it into the complex forms required for the cast-in-situ walkways, the exhibition space and the terraced seating of the principal performance spaces.

### Brick

Brick is the principal vernacular building material in our country and is an integral part of the Pretoria aesthetic. Brickwork is a sustainable building material as it contains a low embodied energy and provides good thermal mass. It is also a very durable material and does not need very skilled labour to lay the material.

### Copper cladding

It is a relatively low maintenance and durable material. Profiled copper panels, which are available in a variety of shapes and sizes and can also be pre-manufactured and specified with embossed patterns and designs, will be used to clad certain areas of the exterior of the centre. The copper panels are usually fixed to a substrate before they are fixed to the building in one of three ways: cleating, nailing, and screwing. All fasteners should be made of copper, a copper alloy or a neutral stainless steel alloy.

As copper and its principal architectural alloys are relatively active metals, when left unprotected they tend to oxidise and weather, which over a long period of time results in the formation of a naturally protective gray-green patina on the surface of the material. This natural weathering can, however, be hastened through chemical means and clear coatings. For this project, the material will be left to weather naturally over time, as copper tends to weather extremely slowly and maintain its lustre for decades in the Pretoria climate. Copper is mined locally in Phalaborwa, which makes it a sustainable building material, when compared to other aluminium and stainless steel wall claddings.

### Steel

Steel will be used in the building to support the numerous skins of the building, including the digital media screens that wrap the centre and the shading devices. Steel will also be used as the structural support, frame and base for the central walkways and corridors that are housed in the central activity spine, as well as the balconies on the western edge of the artist apartments.

The slender nature of steel profiles will aid in the creation of a visually lighter skin. Steel structures can be easily adjusted or removed from the building and be recycled if necessary.

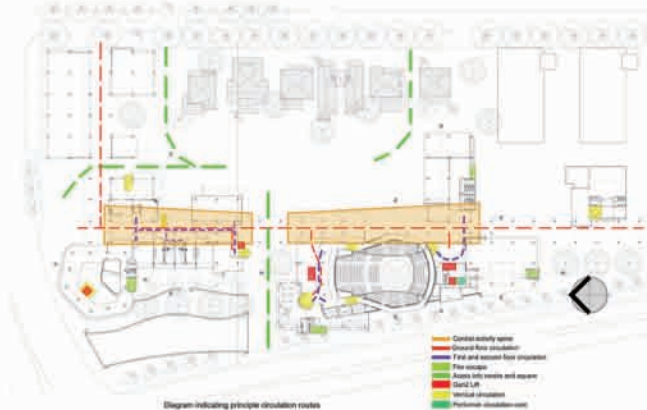
### Floor finishes

Throughout the project, different floor surfaces are to be used to mark different movement routes and define specific interior and exterior spaces. Edges and thresholds are to be marked and defined by changes in material.

As most public spaces throughout the building will be subjected to heavy traffic, the floor finish needs to be robust. A 50mm cast-in-situ and power floated pigmented concrete screed will be cast on top of the reinforced concrete floor slab in all public areas. This screed will be sealed with polyurethane sealant in order to produce a hard-wearing floor finish. Mosaic and timber inlays as well as colour changes in the screeded floor are to be used to mark certain spaces and movement routes within the building.

The public square is to be treated with a combination of different brick pavings. All pedestrian routes through the square and central spine are to be demarcated by an exposed aggregate concrete screed. Certain areas within the square are to be grassed and planted. Upper floor walkways and movement spaces will be constructed from Q-deck permanent shuttering spanning between steel beams. The shuttering will be finished off with a 40mm pigmented screed. This type of construction will add to the light and transparent nature of the atrium space.

## Circulation



## Rain water Calculations

### Water requirements for landscaping

Area of landscaping (m<sup>2</sup>)

Water required for landscaping (l/m<sup>2</sup> Water)

Calculations:

Area of landscaping x 0.16 = Volume water required per month

8000 x 0.16 = 1280 m<sup>3</sup> per month

Therefore landscaping requires 1280 kilolitres per month

### Roof catchments

Catchment area (m<sup>2</sup>)

Roof area - (total area) (m<sup>2</sup>)

Precipitation average annual in PTA (mm)

Run off coefficient

Calculations:

Area of harvesting x Monthly rainfall x run off coefficient = Harvested water collected per month

Total annual harvested water 7322.14 kilolitres

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# Appendix 3: Model



