Analysis of the site has provided a host of opportunities and constraints. It has come to light that a collective partnership between postgraduate students of the University of Pretoria, the Tshwane University of Technology, the Department of Education and the Design Institute could result in the site becoming a centre where creative students find the link between their studies and the commercial world. The site has the potential to become a place where artistic students can learn commercial skills, while providing consumer facilities for the public. This partnership could lead to students living, working and playing on site. Why incorporate artistic students? Artistic individuals are most likely to move into an unknown and underutilised space, as they can see its potential and need spaces that are relatively cheap to rent. Once the area is ‘gentrified’ the artists move out and start the process somewhere else as in Soho, Montmartre and Covent Garden. This process has proved to be a successful tool in various applications and could easily be implemented in this context. The development has the potential to become a prototype for various applications throughout the inner city, but it would rely on a delicate composition of client, user and activity. Establishing a node at this site has the potential to create a dumb-bell effect between the pedestrian section of Church Street and the development, thereby generating activity along the street.
Fig. 5.1: Location of Gauteng in Africa
Fig. 5.2: Location of Gauteng in South Africa
Fig. 5.3: Location of the Tshwane Metropolitan Region in Gauteng
Fig. 5.4: Location of the Site in the Tshwane Metropolitan Region
5.1 Introduction

The development will focus on the Arcadia Campus of the Tshwane University of Technology, which is located on the eastern border of the inner city of Tshwane.

- Covering an area of approximately 30,585 m², the site is near the centre of Tshwane.
- Tshwane is the capital city of South Africa with a population just under a million.
- Tshwane lies approximately 50 km north of O.R. Tambo Airport along the R21 highway.
- The site adjoins the eastern edge of the inner city formed by Nelson Mandela Boulevard.
- Its southern boundary is formed by Church Street, a major distribution road, giving good linkage to the heart of the city, Church Square, and the rest of Tshwane.
- The eastern boundary is formed by Nelson Mandela Boulevard, which is a continuation of the R21 highway which links the site to other towns nearby.
- The western boundary formed by Du Toit Street is the main source of pedestrian movement from the south and in particular the Sunnyside area.
- Vermeulen Street forms the boundary to the north and also serves as an important road link.

Fig. 5.5: Location of the Site in the City Grid
Fig. 5.6: Location of the Site in the Study Area
5.1.1 Local Area

The local area includes the blocks surrounding the campus as well as the regional connections along Church Street and Nelson Mandela Boulevard. The aim of studying this area is to highlight the opportunities and constraints presented by the city that have a direct influence on the site.

5.1.2 Site Area

The site is not a single erf but rather an entire city block bordered by the streets of Vermeulen, Du Toit, Church and Nelson Mandela Boulevard to the east. The campus of the Tshwane North College and the commercial sites on the south-eastern corner of the site will be incorporated, as the development will have an effect on the entire city block.

5.1.3 Historic Context

- For the last century the major part of the site has been used for educational purposes, starting with the Pretoria College in 1929.
- The Technikon, now known as the Tshwane University of Technology, occupied the remainder of the site until late in the 20th century when the restructuring of educational institutions resulted in the Tshwane North College occupying the western half of the site.
- The site contains two prominent buildings:
  > The first, designed by Gordon Leith and built in 1929, is on the south-western corner of the site. Being older than 60 years it automatically receives a blanket protection by the South African Heritage Resources Agency as being of historical and architectural importance.
  > The other building, designed by Norman Eaton was designed in the 1960’s and therefore does not receive this blanket protection but is of architectural importance.
Fig. 5.7: Structuring Elements

- Gateways
- Regional Connections
- Mabopane-Centurion Corridor
- Inner City Core
- Rivers

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5.2 City-wide Context

5.2.1 Historical Context

5.2.2 Location

As illustrated in Fig 5.7:

- The site is situated on the eastern edge of Tshwane’s inner city.
- The site borders directly on two regional connections:
  - Church Street links the site to the rest of the city from Atteridgeville to Sinoville.
  - Nelson Mandela Boulevard links the site to Johannesburg along the R21.
- The site is thus an important regional gateway to the inner city.
- The site is positively situated for a commercial development.

Fig.5.8: Historical Fabric of the Inner City of Tshwane
5.2.3 Urban Concepts (see Fig.5.9)

An interview with Mrs Esta Prins (Prins, personal communication, 2006), the town planner for the area at the City of Tshwane, revealed that the frameworks are at a very rudimentary stage of planning and there are no definite plans for the campus. According to Mrs Prins, the frameworks are to be used as a guide for potential developers and propose a vision for the city and not specific sites. Where sites have been highlighted in the frameworks, they are merely suggestions and alternate ideas would be readily discussed and considered by the City of Tshwane.

5.2.3.1 Tshwane Inner City Development and Regeneration Strategy

- The Inner City Core is the area located within a 2.5 km radius from Church Square. The Tshwane Inner City Development and Regeneration Strategy has earmarked this area to focus on intensive development of office, retail, commercial and residential uses. The precincts of Arcadia and Sunnyside to the east of the inner city core are envisioned to be developed as high-density residential areas (City of Tshwane 2005:2).
- The site falls under the Cultural Circle set out by the Tshwane Inner City Development and Regeneration Strategy. The Cultural Circle is envisioned as a series of new contemporary cultural landmarks to be linked with a system of mono-rail and pedestrian routes (City of Tshwane 2005:18).

“The old Pretoria Technikon Building in the Inner City, which hosts many of the Tshwane University of Technology’s arts faculties, should be upgraded and developed to further complement the Capital of Cultural.”

(City of Tshwane 2005:19)
Fig. 5.10: Site location within the GAPP framework.
Fig. 5.11: Site location within the MDC framework.
The following programs and actions are proposed for the development of the Cultural Circle:

- To identify and map all cultural assets.
- To identify ways of upgrading existing facilities.
- To formulate a strategy to package and market these attractions as part of a tourism strategy.
- To develop a public amphitheatre/arena in the inner city for purposes such as public gatherings, music festivals and open air theatre.
- To identify, market and facilitate opportunities for the development of cultural facilities such as museums, theatres and exhibitions.
- To develop an Art-in-Public-Places program.
- To formulate a plan to facilitate and sponsor public art in prominent areas within the capital precinct.
- To formulate a policy whereby at least 1% of the budget of all capital projects must be allocated towards public art.
- To formulate an action plan for the provision of support to the State Theatre through partnerships, sponsorships and incentives.
- To formulate an action plan to attract major cultural events.

(City of Tshwane 2005:19)

5.2.3.2 GAPP Framework

As illustrated in Fig 5.9:

- The site falls within the Mandela Corridor Precinct.
- Please refer to Appendix B for guidelines set out for this precinct.

5.2.3.3 The Mandela Development Corridor Framework

As illustrated in Fig 5.10:

- The site falls just outside the Mandela Development Corridor prepared by Urban Solutions.
5.3 Local Context

5.3.1 Historical Context

The city block in question has a rich educational history; the following forms an analogy with the historical development of the site.

The Establishment of Technikon Pretoria

Technical education in Pretoria began between 1897 and 1906 with the establishment of trades schools. The Pretoria Polytechnic School was opened in 1906 and was located in the East End School, the site north-west of the project area which now houses the eastern part of the Reserve Bank Building. The Pretoria Trades School and Polytechnic were to follow in 1909 when there was a need for new school premises and a hostel. In 1918 a Boys’ Hostel was opened on the corner of Du Toit and Church Streets, where the main college building would later be built (Oberholzer 2002:3-25).

In 1926 the Pretoria Trades School and Polytechnic became known as the Pretoria Technical College, where all vocational education in Pretoria was offered. In 1926 the need for proper facilities became dire. Considering the poor condition of the Boys’ Hostel on Church Street, it was considered to relocate it and erect a college building on its site. Gordon Leith and Partners were commissioned to design both buildings. Once the new hostel had been completed and the old one demolished, construction on the college building could begin in 1928 (Oberholzer 2002:29-36). A lack of funds forced the College to forego the construction of the North-East Wing.
Fig. 5.15: Photograph of the space between the South and Middle
The cornerstone was laid by dr. D.F. Malan, Minister of Education, on the 27th of October 1928, but the building was only ready for occupation towards the end of 1929. By 1930 most of the classes were taught in the new building (Oberholzer 2002:37). This Neo-Classical building still stands with its symmetrical façade facing Church Street. It consists of a three-storey core under a steep clay-tile roof with two short single-storey flanks (bastions) under flat roofs. The ground floor is sandstone and forms a base for the face brick of the upper storeys. The central arched entrance has a recessed double-storey balcony above it, framed by six Doric columns. Sandstone decoration frames the windows and doors (Le Roux 1991:12).

The faculties of physical education, domestic science and art were introduced into the College between 1927 and 1934. The training of apprentices was ceased in 1929 due to low student numbers. In 1937 the Technical Day School of the College became a separate entity known as the Technical High School which later would be known as the Tshwane North College. By 1942, the College facilities were still inadequate, but due to the war there was no financial support for expansion and only a basement was added to serve as a chemistry cellar. Between 1944 and 1945, extensions were made to the college building in the form bastions added to three corners of the building. These bastions were also designed by Gordon Leith and Partners and were built at a cost of £41 000. Between 1944 and 1953 the properties behind the college building were purchased (Oberholzer 2002:41-51). In 1945 plans for three buildings of four storeys each were set aside for these plots. In 1949, severe hail damage had to be repaired on the college building and this further postponed the expansion of the college.

1 The building is a well-known landmark in Church Street and is also the first building designed by Gordon Leith in Pretoria. It was completed in 1929. Leith, the first scholar of Herbert Baker, was also involved in the creation of the Union Buildings in 1911. His was the winning entry for the design of the main building for Technikon Pretoria, then known as the Pretoria Technical College. It was also the first building that Norman Eaton was involved in while he was still a student (Le Roux 1991:13).
Fig. 5.17: Photograph of the East Block
The East Block, designed by *Eaton and Louw Architects* and built by *Engel & Ruyter Contractors* was completed in 1967 (Oberholzer 2002: 90). Above this five-storey block a flat roof seems to float. The ground floor is of face brick and the other floors, while also face brick, are screened by a wall of light grey glazed-tile hollow blocks that serve as sun shading (Le Roux 1991:16). It is in good condition and was refurbished from 1995-2000.

The building is an important example of the later work produced by Tobie Louw in the office of Norman Eaton. The building, completed in 1970-1, is unashamedly Modern. It was built of simple materials and with direct construction methods. The emphasis is placed on the hollow block sun shading that serves as a functional skin wrapped around the building (Le Roux 1991:16).

In 1968 the Pretoria Technical College became known as The Pretoria College for advanced Technical Education. On March 23, 1971, it was resolved to go ahead with the construction of a new Science Building adjacent to the East Block. Designed by *Eaton and Louw Architects* and contracted by *Mr Vic Moore*, the building was fully taken into use in 1975, though sections were occupied since 1973 (Oberholzer 2002: 106-112).
Fig. 5.19: Photograph of Carburettor City and Science Building
On the third of April 1979 the name of the College was changed to Pretoria Technikon and during the following year, the main hall in the College Building was converted into a library. In 1988 the name changed once again to Technikon Pretoria, which it would remain until the formation of the Tshwane University of Technology (Oberholzer 2002:126-154).

The construction of the Technikonrand campus was started in 1983 with the appointment of Mr Piet Engelbrecht as project manager to co-ordinate the development of the new campus in Pretoria West. 1983 also brought with it the purchase of the Breytenbach Theatre which still forms part of Tshwane University of Technology's facilities. As from 1986 departments were moved to the new campus and by 1988 there were more buildings on the new campus than on the old. The cost of completion of the new campus by 2000 was already R320 000 000. In 1989 the transfer to the new campus was signed and by 1991 its address officially changed to the Technikonrand Campus, while the Church Street Campus became known as the Vermeulen Street Campus. In 1990 the main college building as well as the South, Middle and North Blocks were sold to Pretoria Technical College, which is now known as the Tshwane North College (Oberholzer 2002:172-175).

In 1993 the acquisition of the old Hillview High School resulted in the relocation of the art faculty and the formation of the new arts campus. In 1994 the Vermeulen Street Campus became known as the Arcadia Campus and by 1995 the Sasol Library, Administration Building, Student Centre, Gymnasium and Restaurant were added to the campus (Oberholzer 2002:176).
Fig. 5.21: National and Regional Connections to the Site
5.3.2 Location: Local Area

As illustrated in Fig.5.21:

The local area is bordered by the N4/Proes Street to the north, Pretorius Street to the south, Beatrix Street to the east and Prinsloo Street to the west. This is to ensure that an in-depth study of the city blocks surrounding the project area which is bordered by Vermeulen Street to the north, Church Street to the south, Nelson Mandela Boulevard to the east and Du Toit Street to the west.

The local area shows that the project area is set in an urban area rich in heritage, where the close proximity of the Apies River will have a definite impact on any subterranean development. The blocks to the east of the project area are located within the Nelson Mandela Corridor and are thus zoned for upmarket development.

Fig.5.22: East-facing Photograph taken from the ABSA Building
5.3.3 Movement and Access (see fig.5.23)

- Although the site is regionally highly accessible, local access is poor, and with controlled pedestrian and vehicular movement to the city block, public access is limited.
- Vehicular access is limited to Du Toit Street and Nelson Mandela Boulevard, providing parking over 250 cars. Deliveries for the Tshwane University of Technology can make use of entrance on Vermeulen Street.
- There are two pedestrian entrances located on Church Street and two on Vermeulen Street.
- The Tshwane University of Technology provides a bus service which links all three their campuses. The current stop for the Arcadia Campus is located on Church Street which results in students forming a queue along the sidewalk stretching from their Church Street access point to Du Toit Street.
- The possible pedestrianisation of Church Street would warrant the relocation of the bus service to its original position in Du Toit Street or along Vermeulen or Nelson Mandela.

Fig.5.23: Local Area – Movement and Access
5.3.4 Land-use, Activity and Features (see fig.5.24)

- The campus is primarily surrounded by commercial, office and limited residential uses.
- Primary activities in the vicinity of the site include the Nur al Medina Mosque to the north and the Hervormde Kerk and Reserve Bank to the west.
- There are educational facilities in the proximity of the site.
- The site is bordered by a light industrial belt to the east consisting mainly of vehicle workshops which are envisioned to be redeveloped as part of the Nelson Mandela Corridor.
- The State Theatre, Church Square and Union Buildings are within twenty minutes walking distance of the site.
Fig. 5.25: Historical Fabric surrounding the Site
5.4 Site Context

5.4.1 Historical Context
(see fig.5.25)

Recommendations concerning the Heritage Context:

- The educational heritage of the city block is to be conserved and continued in any new development.
- Public access to identified structures should be incorporated into the envisaged framework.
- Guidelines for future development must be implemented in order to protect the integrity of the site and the identified buildings.
- New additions to the site must be clearly identifiable as being added at a later stage and must not attempt to copy existing structures.
- Attempts must be made to create an awareness of buildings of historical or architectural importance.
5.4.2 Location: Site Area

Fig 5.25:

- The site is situated in close proximity to the eastern gateway of Tshwane's inner city. It also falls within the Trans Africa Development Corridor as well as the Tshwane Economic Node.
- The site is linked exceptionally well on a regional as well as national scale by both road and rail.
- The regional connections of Nelson Mandela Boulevard and Church Street border directly on the site.
- The continuation of Nelson Mandela to the south leads to the R21 which links the site internationally via the O.R.Thambo Airport.
- Church Street connects the site to the rest of the city along an east-west axis.
- The site is easily accessible for residents of Tshwane as well as the greater population of Gauteng and South Africa.
- The site thus has the potential to play a key role in the regeneration of the city centre.
Fig. 5.27: Site Area – Land Use and Activities

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5.4.3 Environmental Context

- Please refer to Appendix C for analysis of the environmental context.

5.4.4 Land Use and Activities (see fig.5.27)

- As mentioned, the city block primarily houses educational facilities.
- The land uses include all the facilities needed for the running of both the Tshwane North College as well as some of the faculties of the Tshwane University of Technology.
- The Tshwane North College utilizes its limited facilities so as to create vibrant spaces within the campus.
- The Tshwane University Campus makes limited use of its open spaces while students cram into the library to socialize.
- Both campuses are functioning at maximum capacity and have little or no room for expansion on their existing campuses.

5.4.5 Land Available for Development

- The campus is at its maximum floor space ratio (Engelbrecht, personal communication, 2006). It is therefore evident that some facilities would have to make way for a new development.

5.4.6 Built Environment (see fig.5.28)

The built environment contains buildings of historical or architectural importance and is completely surrounded by walls or fencing. The buildings are ineffectual where their intended functions are concerned, resulting in spaces like the library being used as a social space instead of an academic space.

Fig.5.28: Site Area – Built Environment
Fig. 5.29: Site Area – Pedestrian Movement
Fig. 5.30: Site Area – Vehicular Movement
5.4.7 Movement and Access

The Pedestrian Network (see fig.5.29)

The campus pedestrian network consists of passages, courtyards and one landscaped garden. Pedestrian access is controlled by means of an identification system and the use of turnstiles at all entrances, where congestion is prevalent. Once inside the campus pedestrians move quickly over the concrete surfaces and are reluctant to linger in the cold, barren spaces between buildings. The result is that the public spaces are underutilized.

Vehicular Network (see fig.5.30)

The surrounding vehicular network consists of a boulevard framing the site to the east, an eastbound street to the north and dual direction streets to the west and south of the site. Controlled vehicle access is allowed from the east, north and west. The Tshwane University of Technology’s bus stop is located to the south of the site which results in a long queue forming along Church Street, obstructing pedestrian movement into the city from the east.
Fig. 5.31: Site Area – Urban Design Informants
5.4.8 Urban Design Informants (see fig.5.31)

- The possible pedestrianisation of Church Street needs to be taken into consideration.
- The visual axes of the site need to be acknowledged.
- Serving and served areas need to be clearly defined within the new development.
- The south-east corner of the site is to be dealt with as to create a defined urban edge for the inner city to create a gateway experience.
- The historical buildings should be respected to provide attractions to the site and enhance users’ experience of the site.
- The permeability of the site is to be dealt with as to still allow for security but easy access to the site.
- The congestion along Church Street is to be dealt with.
- Issues of public space should be dealt with so that the campus can become a part of the city instead of being a fortified island within the city fabric.
- Important buildings are to be dealt with so as to create a hierarchy of spaces that define public and private areas.
5.5 Context Analysis: Opportunities and Constraints

In terms of the opportunities and constraints concerning the development of a spatial development framework, several key issues were identified and then summarized into a brief statement.

5.5.1 Integration of the campus into the larger city fabric

The campus, which exists as a fortified island within the city fabric, does not lend itself to free interaction between the students and the public.

Integration Constraints

- Controlled access.
- Unattractive existing urban fabric.

Integration Opportunities

- Due to its function, the site has the potential to become a node of activity, playing an integral role in the regeneration of the inner city.
- The possibility exists of using the site to define the urban edge of the inner city and help create a sense of arrival when moving into the inner city.

5.5.2 Consideration of the Heritage Resources and their impact on development options

Heritage Constraints

- Existing resources are not well known and have to be promoted.

Heritage Opportunities

- Heritage conservation supports development through adding value, but special solutions are needed to make people aware of the value of historic buildings.
- Heritage conservation has a great impact on the sustainability of a development.
5.5.3 The creation of an interconnected, fluid figure of open space

The formation of a public and not merely private space is essential to the scale and character of the campus. The people who will potentially work, live and study on the campus need a clear definition of campus places to enrich their daily lives and their sense of identity. Since the campus is constructed of the typical stopgap approach to campus design (if it could be called such) there is no clear definition of space and functions seem to blend into one another. The smallest addition to the campus will affect the whole.

Open Space Constraints

- The configuration of the existing built fabric on the campus is very confusing.
- There is no defined open space.

Open Space Opportunities

- The demolition of buildings with no apparent historical or architectural importance could allow for the formation of open space which celebrates the buildings that do have historical or architectural importance.
- Removing the clutter of additions to exiting buildings on the campus could result in a clear, uncluttered definition of spaces and their intended functions.

5.5.4 The creation of accommodation on the campus

Accommodation Constraints

- The relocation of faculties will have to take place before accommodation can be provided on the campus.
- The refurbishment of classrooms into loft apartments will have to be considered carefully, as configuration of the existing built fabric on the campus is very confusing.
- There is no defined open space.

Accommodation Opportunities

- The need for student accommodation on the campus is clear as it would result in the campus being utilized twenty four hours a day.
- The North, South and Middle Blocks located on the north-west corner of the city block provides the perfect opportunity for the fashionable idea of loft living promoted for inner cities worldwide.
5.5.5 Creating a hierarchy of public and private domains

Domain Constraints

- At present, the confusing nature of the campus means that no clear definition of public and private space exists.

Domain Opportunities

- With the creation of clear public and private domains the user will be able to feel a sense of belonging by being prevented from accidentally stumbling into private spaces.

5.5.6 The creation of a user-friendly pedestrian network

Pedestrian Network Constraints

- The campus does not allow for the free movement of pedestrians through the site.
- Access is controlled and results in great congestion at entrances.
- Serving and served areas are undefined.

Pedestrian Network Opportunities

- The vast number of pedestrians passing the site provides the perfect opportunity to harvest from an existing energy source.
- Opening up the site to the passing pedestrians will allow the congestion to decrease and allow for the easy movement of pedestrians past entrances to the campus.
- A defined pedestrian network will prevent pedestrians from moving into service areas.
5.5.7 The creation of a sense of community and heightened opportunities for passive surveillance

Community Constraints

- The design of the campus does not allow for any form of interaction between its users.
- Once inside a building, users are unaware of what is happening on the outside and on the rest of the campus.
- Many passages hidden from passers-by pose a danger to users, especially at night.

Community Opportunities

- The creation of opportunities for students and public to interact would result in a greater sense of community to be cultivated on the campus.
- The opening up of isolated passages and limiting their use will result in opportunities for passive surveillance to increase.
Fig. 5.32: Figure ground of existing
5.6 Conclusion

5.6.1 Vision at city scale

On an urban scale the proposed vision for the development has six key elements:

- The creation of a pedestrian open space system to allow for pedestrian movement from Sunnyside to filter through city blocks instead of being limited to streets and sidewalks.
- The possible pedestrianisation of Church Street would increase pedestrian movement along the southern border of the development.
- The definition of the urban edge would result in a gateway experience being created as people enter the inner city.
- The celebration of heritage on and around the site would make the public more aware of the value of historic buildings on the site.
- The creation of a public square as the heart of the development will invite people onto the site.
- The development of a node of activity will have the potential to generate the development of other sites in the inner city of Tshwane.
Fig. 5.34: Figure ground of future vision

Scale: 1:5000

University of Pretoria etc.—Moore, N. (2007)
5.6.2 Vision at campus scale

- Allow the general public to move freely onto the site, thereby making the campus a place where students and public can interact spontaneously.
- Develop a public square and a defined pedestrian network.
- Enhance a sense of appreciation for the heritage resources located on and around the campus.
- Define the urban edge of the site and in that way define the site as the edge of the existing inner city, enhancing a sense of arrival.
- Provide accommodation facilities within the new development.
- Define public and private spaces.
- Use existing and new vegetation as a tool to define spaces and buildings.

Fig.5.35: Vision