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# chapter two

## nearer proximities

From the background study, the selected work area of Pretoria West was identified and investigated. The area was studied through observation and mapping. This concludes in choice of a specific site to further meet the project aims.



# context

## pretoria west, tshwane

The greater proximities study and background research, along with the greater theoretical positions led to an intense search for a site that can address the issues locally. The urban laboratory of Tshwane, more specifically the city of Pretoria, hosts a number of the global symptoms that were listed previously: it has issues of scarcity versus density; it is in a constant state of transition and reformation; and the urban environment deals with many variations in proximities - of time and distance and scale.

Within the city of Pretoria, the area of Pretoria West was identified as an important historic and current industrial sector. Within this study area, a greater framework vision was developed [Pretoria West Group, 2010] and the Old Pretoria West Power Station was identified as the site with the most potential to develop on.



south africa



site: the old pretoria west power station

pretoria west industrial sector framework area: pretoria west, Pretoria West Group 2010

greater pretoria west industrial sector

tshwane

gauteng

Figures 11b (top) and figure 11c (opposite): Pretoria West - study area defined from background studies and greater proximity studies. The focus became the development of Pretoria West and then Pretoria West Power Station as an energy point [Pretoria West Group:2010]



<<< discovery of site

the old pretoria west power station



framework area >>>  
urban framework and analysis  
developed for pretoria west  
[Pretoria West Group, 2010]

church square

sunnyside

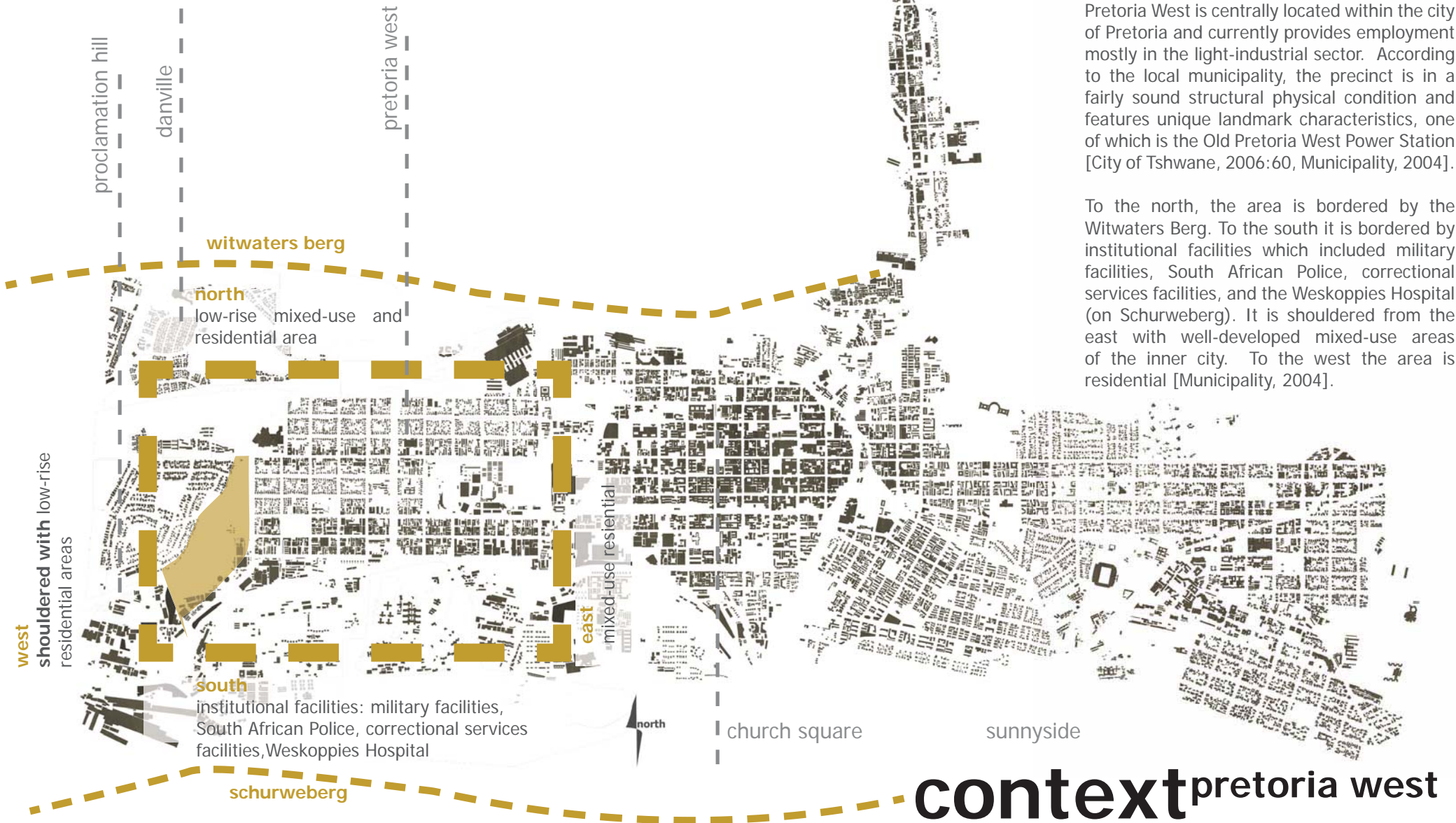




# l o c a t i o n

Pretoria West is centrally located within the city of Pretoria and currently provides employment mostly in the light-industrial sector. According to the local municipality, the precinct is in a fairly sound structural physical condition and features unique landmark characteristics, one of which is the Old Pretoria West Power Station [City of Tshwane, 2006:60, Municipality, 2004].

To the north, the area is bordered by the Witwaters Berg. To the south it is bordered by institutional facilities which included military facilities, South African Police, correctional services facilities, and the Weskoppies Hospital (on Schurweberg). It is shouldered from the east with well-developed mixed-use areas of the inner city. To the west the area is residential [Municipality, 2004].



Figures 12 and 13 (opposite): Analysis [author, 2010].



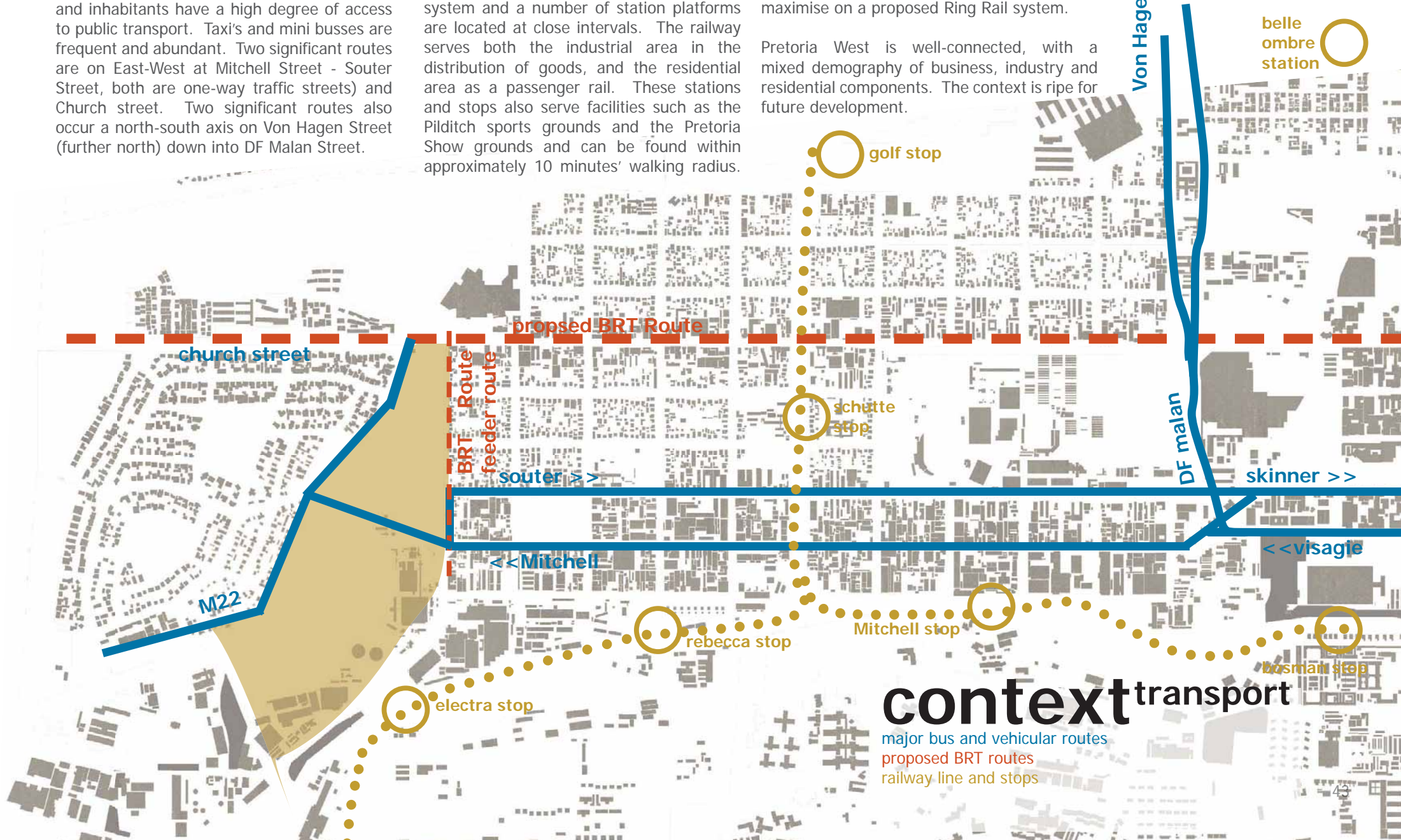
# a c c e s s

The road system has bus stops on most blocks and inhabitants have a high degree of access to public transport. Taxi's and mini busses are frequent and abundant. Two significant routes are on East-West at Mitchell Street - Souter Street, both are one-way traffic streets) and Church street. Two significant routes also occur a north-south axis on Von Hagen Street (further north) down into DF Malan Street.

The area is also intertwined with a railway system and a number of station platforms are located at close intervals. The railway serves both the industrial area in the distribution of goods, and the residential area as a passenger rail. These stations and stops also serve facilities such as the Pilditch sports grounds and the Pretoria Show grounds and can be found within approximately 10 minutes' walking radius.

Furthermore, the site is aptly located to maximise on a proposed Ring Rail system.

Pretoria West is well-connected, with a mixed demography of business, industry and residential components. The context is ripe for future development.



# context transport

major bus and vehicular routes  
proposed BRT routes  
railway line and stops





Figure 14a - Passengers - Rebecca train stop

Ample stops from the combined passenger and freight rail provides generous accessibility to public transport. The power station (in the background) is also connected to this rail, at the Electra Stop, just further south down the track from the Rebecca stop [Pretoria West Group, 2010].



Figure 14b - Passengers - Rebecca train stop



Figure 14c - Freight

Freight, goods and coal is provided by rail also. Coal is transported all the way from the province of Mpumalanga, and is stored on site in the existing coal bunker [Pretoria West Group, 2010].

## context getting into Pretoria West

Figures 14a- 14f: Collection of photographs showing that passenger and freight rail is a very good distributor of residential inhabitants, workers and goods for the Pretoria West sector

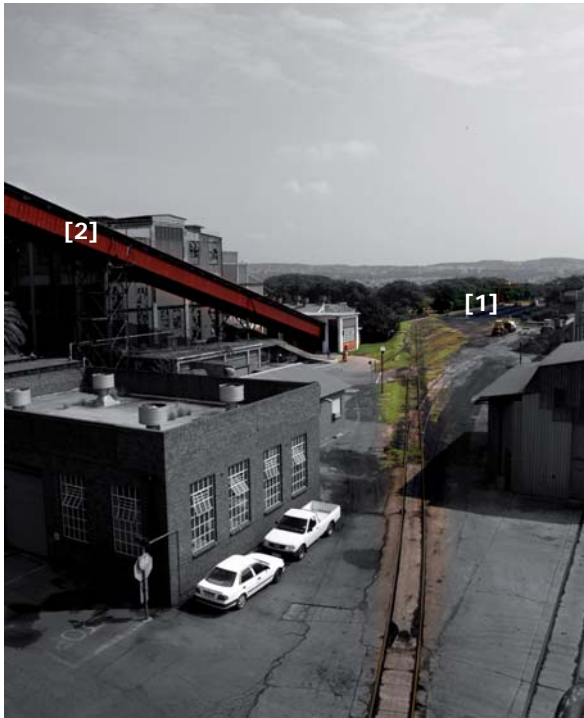


Figure 14d - Coal

Coal is brought in by rail and deposited in the coal bunker [1]. Then the coal is transported via a conveyor belt [2] from the underground bunker to Station-B for combustion [Pretoria West Group, 2010].



Figure 14e - Taxi's on Buitekant street

There is a bustling taxi culture for the workforce of the light industries and local and regional inhabitants. The site is extremely well located for other public transport also. There are many bus stops and a proposed Bus Rapid Transport route is also planned along Church street with a feeder route from Buitekant Steet [author, 2010].



Figure 14f - Access by private car

Pretoria West is extremely accessible by private transport. It is almost always busy on Mitchell Street (above), though traffic loses momentum quickly as one moves away even one block north or south from Mitchell Street [author, 2010].

**context** getting into Pretoria West





Figure 15a - Mixed-use light industry and residential

Although Pretoria West sector is not a particularly wealthy socio-economic sector, there is a healthy mix of industry, small businesses and residential components just a couple of blocks north of the power station [Pretoria West Group, 2010].



Figure 15b - Mixed-use commercial and residential

There are some residential apartment blocks (background) towards the north, intertwined with light-industry and smaller businesses [Pretoria West Group, 2010].



Figure 15c - Mixed-use rentals

Offices and apartments are available to rent across the entire sector, mixed with light industry and automotive industries [author, 2010].

## context working and living in Pretoria West

Figures 15a- 15f: Collection of photographs showing proximity of industry to residential and informal urban activities





Figure 15d - Presence of the power station



Figure 15e - Presence of the power station



Figure 15f - Presence of the power station

Informal urban activities occur right next to larger industrial processes, but without interaction or contact between the two. The power station (background) is completely shut out from the city, but is still has an imposing presence and contribution to the character of the area, the streetscapes and neighbourhoods [author, 2010].

The site of the power station (background) as landmark is even visible from homes that are a couple of blocks away [author, 2010].



Figure 16a - More affluent areas

Just two blocks north of Mitchell street, the light-industry [right] infiltrates into the semi-suburban setting [left] [author, 2010].



Figure 16b - More affluent areas

Proclamation Hill is a well-maintained residential area, not even one kilometre away from the power station. This is a small park within this residential area [author, 2010].



Figure 16c - More affluent areas

Moving closer towards industry, the two programs of urban living and production intermingle [author, 2010].

## context working and living in Pretoria West

Figure 16a -16f: Collection of photographs showing proximity of industry to residents and informal urban activities variety of living conditions





**Figure 16d - Signs of dilapidation and neglect**

The backstreets of the industrial areas however, also have the same scale and potential as the rest of the precinct, but show signs of considerable neglect [author, 2010].



**Figure 16e - Potential for great vegetated urban spaces**

The old vegetated and urban landscape has potential for great urban experiences, especially along the railway and towards stations [author, 2010].



**Figure 16f - Hidden poverty**

There are many signs of poverty, especially along the railway tracks, many shacks are hidden away in the rich landscape [author, 2010].





Pretoria West Power Station

carl street (back street)

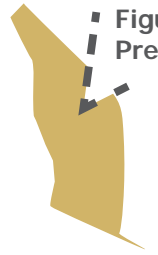


Figure 17: Panoramic view from the power station towards city of Pretoria [author, 2010].



Figure 18 : [1] Looking down Mitchell street towards Pretoria West Mixed-use, light industrial character [author, 2010].



Figure 19 : [3] Looking down Mitchell street towards Pretoria CBD the close proximity of the sector to the Pretoria CBD (background) [author, 2010].

# context pretoria west

views from the power station towards the east and Pretoria CBD [author, 2010]





Figure 20 : Panoramic view from the corner of Mitchell Street and Buitekant Street [author, 2010].



Figure 21 : View from the railway bridge towards the east opposite view to the above panorama [author, 2010].



Figure 22 : [2] The corner of Mitchell Street and Buitekant Street Opposite view to the above panorama [author, 2010].

# contextpretoria west

views from the power station towards the east and Pretoria CBD [author2010]

# context

## pretoria west, tshwane

An urban framework study was conducted. Through observation and mapping, the framework concluded that among other urban problems of safety, vacant lots, abandoned sites and poor cross-programming, the Pretoria CBD is experiencing urban sprawl and emptying Pretoria West is suffering from this the most.

The framework vision for Pretoria West is to become an urban support cell to encourage a greater urban renewal for the inner city of Pretoria and counteracting urban sprawl. Having this support cell on the periphery of Pretoria CBD could aid in such an urban reform. The general negative perceptions on Pretoria West and industrial sectors dilutes the development potential of the site. The framework analysis revealed valuable properties and interests specific to the study area.

This sector is filled with hybrid programming that needs to be built on and enhanced. Stable urban infrastructure is already in place, making it easy to develop the site into a walkable, live-work sector of the city. The area can support a wide range of programmes as it is directly connected to provincial and national systems of production, trade and transport. The city grid block sizes are also the same as inner-city of Pretoria and this indicates that the entire area can exceed its current densities. Lastly, this area has a very rich heritage value as it is more than a century old and contributed not only to local history, but also national history.

These issues are investigated further.



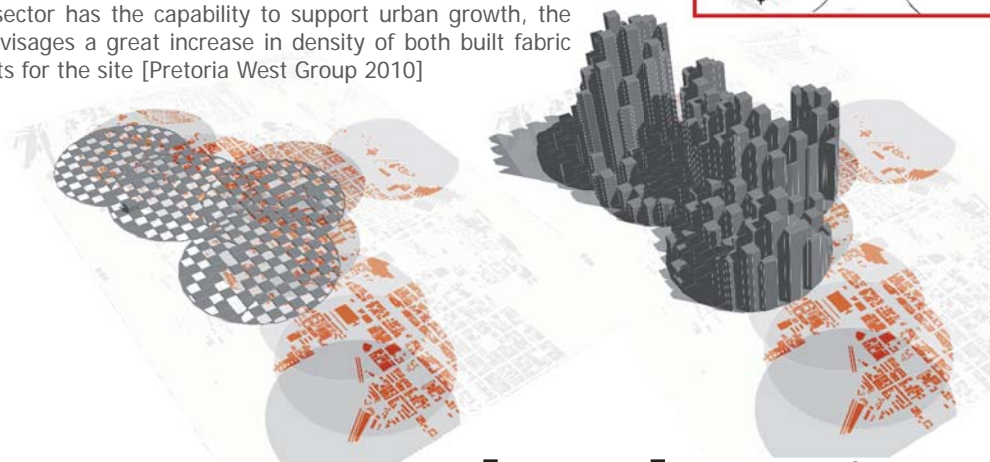
**Figure 23 (top) : Density and distance mapping**

Understanding the potential of the work area by connecting proximities - places of importance, routes of importance and residential densities [Pretoria West Group 2010]



**Figure 24 (below) : result and vision**

because the sector has the capability to support urban growth, the framework envisages a great increase in density of both built fabric and inhabitants for the site [Pretoria West Group 2010]



**context** pretoria west densities  
work area density studies





Figure x: Key landmarks  
[Pretoria West Group 2010].

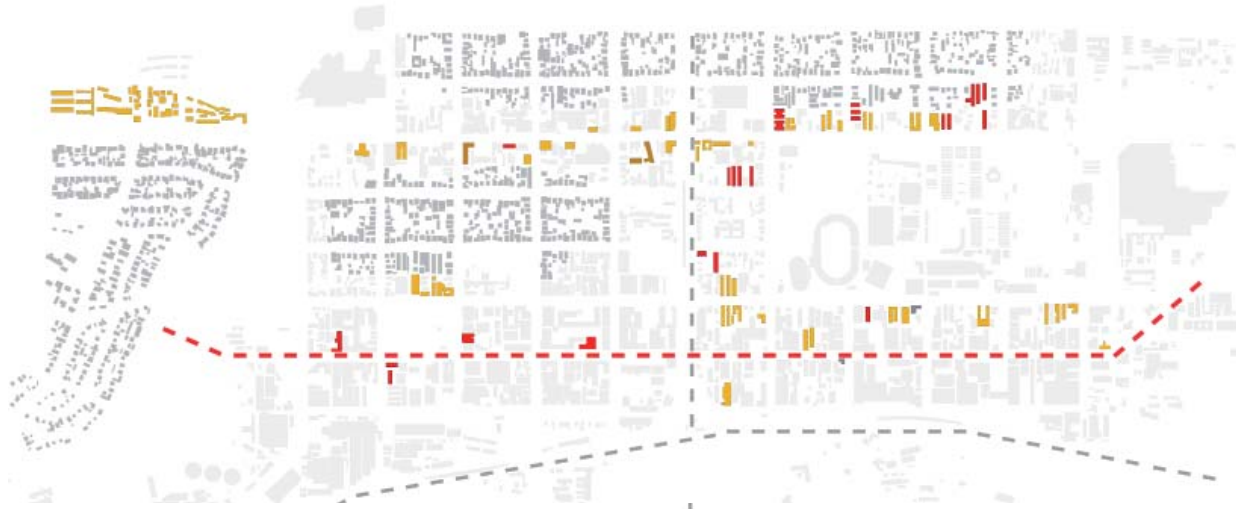


Figure 25 : Housing mapping  
understanding the density of housing in the sector and Mitchell Street [Pretoria West Group 2010].

higher density  
medium density  
low density

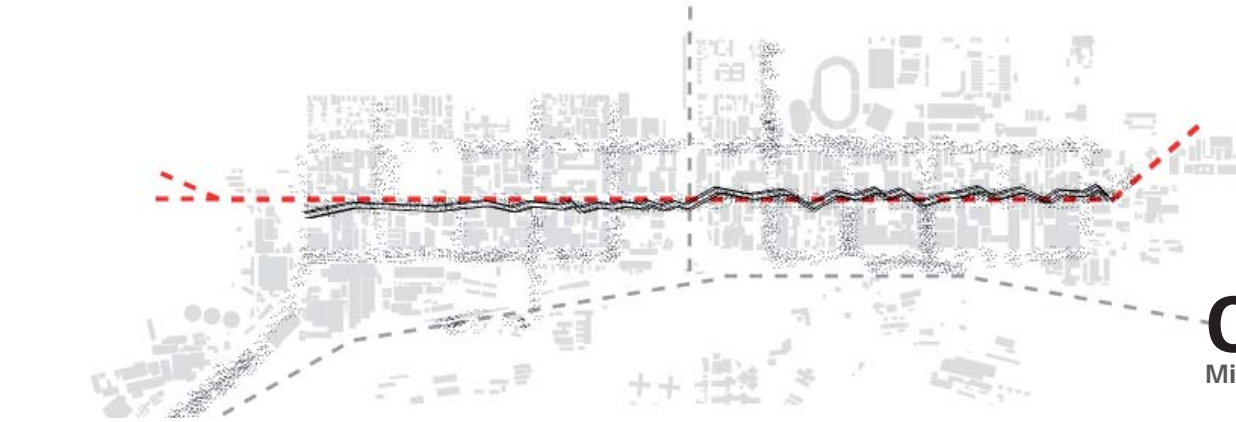
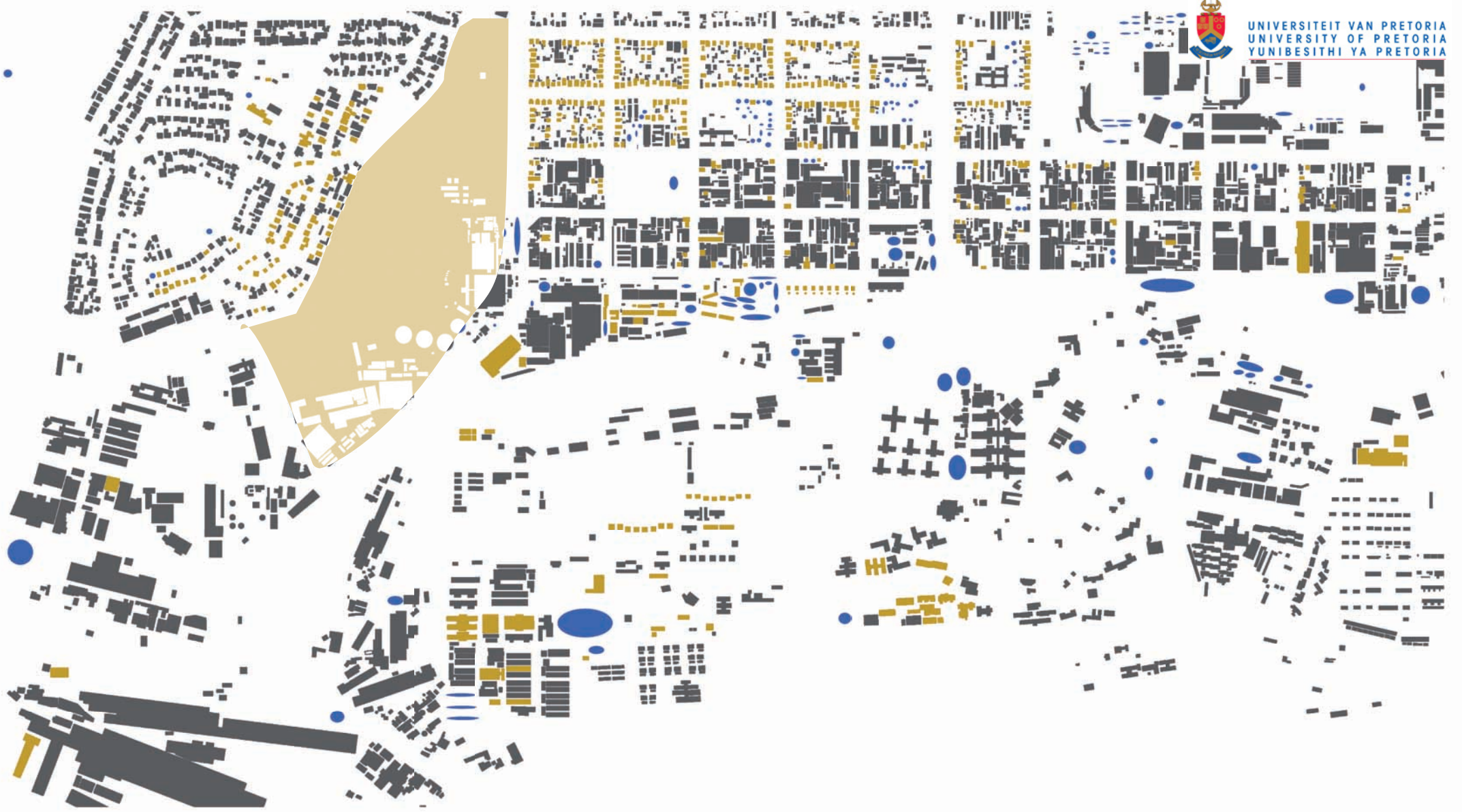





Figure 26: Pedestrian movement across Mitchell street towards the power station [Pretoria West Group 2010].

# context Mitchell street

Mitchell street housing, movement and landmarks around Mitchell street



-  **Current built fabric**  
 Most existing built fabric towards the north is low-rise mixed-use. The existing built fabric towards the south has mostly industrial buildings.
-  **Existing heritage buildings**  
 Remaining heritage buildings of the area. The power station as a whole is a heritage site.
-  **Lost heritage**  
 Buildings that were destroyed or demolished.

# context heritage mapping

Figure 27: Work area, understanding the heritage value of Pretoria West [Pretoria West Framework, 2010].



# work area

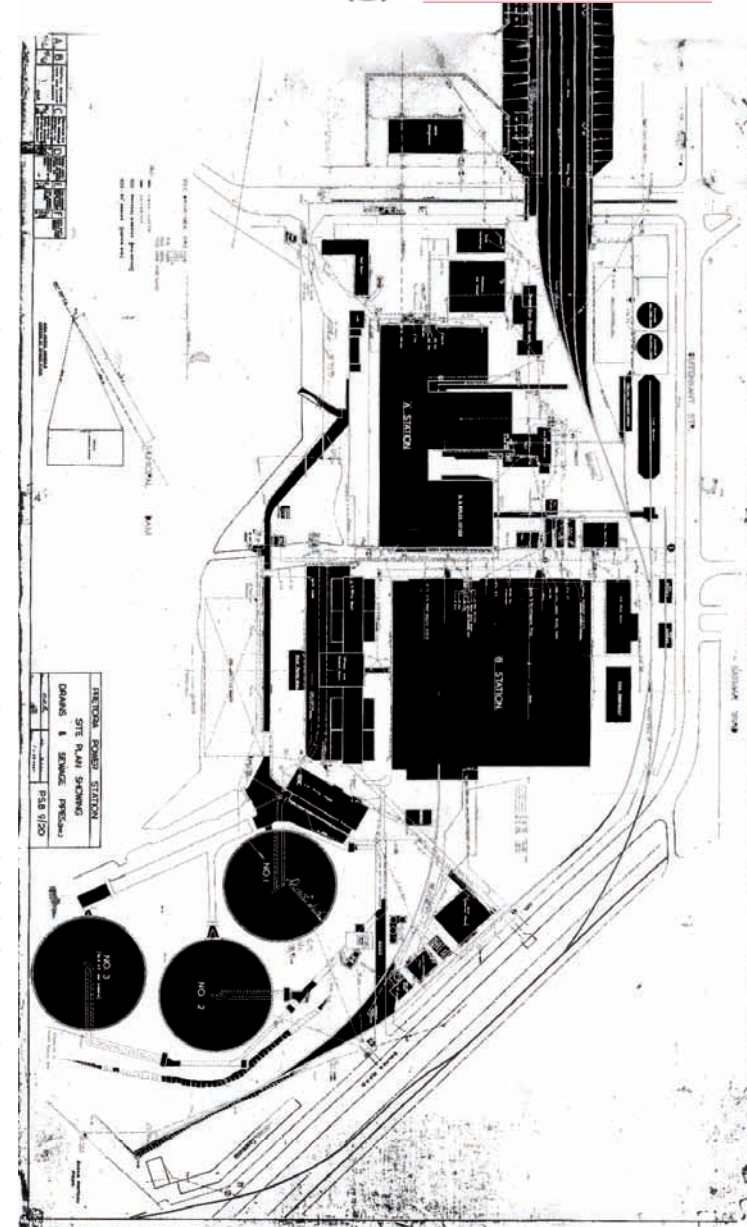
The Old Pretoria West Power Station has the most potential for development. The vision for the Power Station site is to aid in the creation of a light-industrial productive precinct - a continuous productive urban landscape for Pretoria city. The site aims to build on its industrial heritage as a place of production and distribution. It can also distribute its goods and produce not only locally, but also nationally because of its in-place, on-site infrastructure of a freight rail.

The new programs proposed for the site and its precinct must therefore focus on energy influxes and distribution. Energy, not only in the form of produce, but also in the development of skills and knowledge.

The Old Pretoria West Power Station has the potential of becoming a small city in itself - the existing built fabric has a positive urban scale (4-6 storeys) and the buildings are robust and in good structural condition. Furthermore, investigation has proven that the site will be decommissioned in the near future [Masut, 2010]. The character and quality of the site is valuable and must be retained, not only because of its heritage in building stock, but because it is a landmark for Pretoria, and South Africa also. Further development of this site makes it possible to become an exciting gateway for the west of Pretoria.

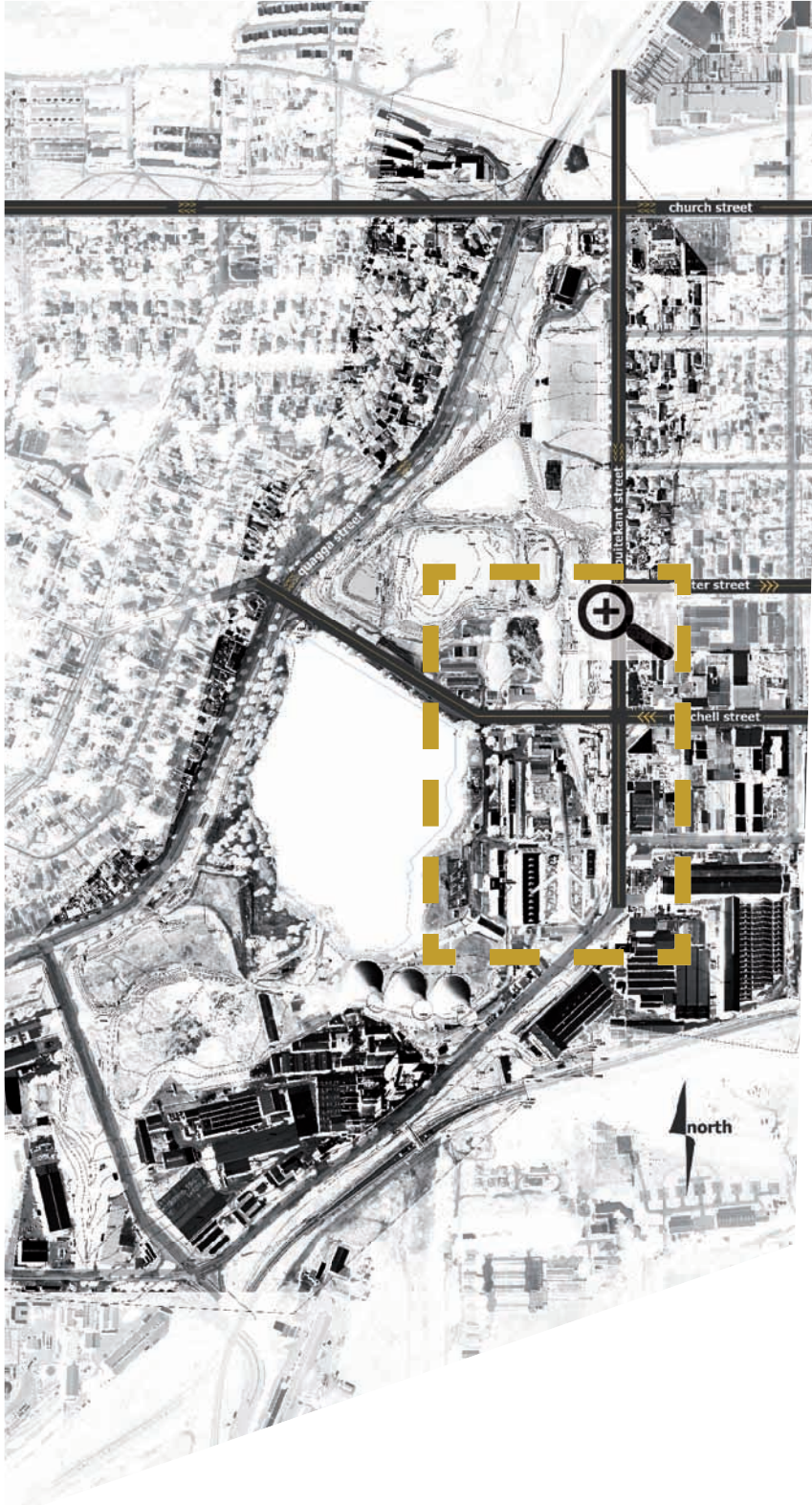
A specific work area is investigated further.

**Figure 28 (left): Site drawing**  
The site of the Old Pretoria West Power Station [author, 2010].  
**Figure 29 (right): Site figure ground**  
Built fabric and footprints on the site [author, 2010].



# context

work area, understanding the heritage value of Pretoria West







**context** conditions on site

Figure 30: Rich vegetated landscapes around the ash ponds [author, 2010].



# d e a t h   t h e   o l d   p o w e r   s t a t i o n   l i f e



The Pretoria West Power Station is doomed for desertion and abandonment unless intervention occurs. As a power station, it cannot continue in its current form as coal-fired power generator and it cannot evolve into a new contemporary form for power generation. It cannot be demolished as it has measurable physical value (it is still perfectly operable and on grid, the buildings are robust and all infrastructure systems are in working order) and it has historic industrial heritage value. It cannot be kept, it cannot be destroyed: the site is stuck in time, illustrating a proximity of the past to the present to the future in a single environment.

The site is also not unique - there are thousands of sites in similar conditions nationally and also globally, yet currently the reappropriation is always different and equally unsustainable [www.nbi.org.za, 2010]. Via site and program choice, the new project illustrates the relationship between global and local proximities.

From the urban framework vision, the new intervention must be productive, provide employment and integrate industry into the urban environment. Urban agriculture meets this requirement as it not only provides an accessible interface for the public to industrial environments, but also aids in the rehabilitation of the landscape of the site. Furthermore, the high-content coal and ash in the landscape is especially beneficial for growing plants. This is evident in the lush vegetation on site, especially around the ash ponds (opposite).

The project will establishing the Old Pretoria Power Station as a foothold for urban agriculture for the city of Pretoria.

## Council Minutes: City of Tshwane Metropolitan Municipality, 27 March 2008

- National Energy Regulator of SA (NERSA) will not support any major curtailment of mothballed generation units country-wide
- Grid price does not effectively compensate for running the Pretoria West Power Station
- Spoornet is not supporting the process of coal delivery for the Pretoria West Power Station
- A study on the conversion of gas into electricity was undertaken at the station (no reports on results found to date)



Figure 31, 32: Abandoned buildings overtaken by nature

During its lifetime, numerous upgrades for the station caused the commissioning of new buildings on site, leaving older structures useless and ultimately abandoned. Vegetation starts to infiltrate into the dilapidated buildings [author, 2010].

## Interview: Mr. Fio Masut

station engineer  
25 February 2010

- the buildings are unable to expand or be adapted for larger scale coal-fired electric power generation and in all probability need to be abandoned when upgrading the station
- no reports or results indicated the conversion of the existing coal-fired system to a any new alternative energy system
- The station currently has no positive outlooks and will in all probability be shut down in the next 10 to 15 years, the site will be abandoned and/or demolished completely.

“Only the consciousness of context, the knowledge of the milieu in which he constructs, can permit him (the architect) to find a real sense. That is to say, a physical, historical knowledge of this milieu - the consciousness of the possibility of evolution during the life expectancy of the proposed building - and a human knowledge - how the milieu is felt by those who live in it, what is expected of the building to be created, whether there is a suitable balance between the program and its social vocation...”

## jean nouvel

selections from *Doctrines and Uncertainty Questions for Contemporary Architecture: Lectures at the Centre Pompidou*, 1997:56

“...a conviction that the structural and conceptual framework of modern architecture has the potential for environmental benefit, that architectural progress is not about re-styling. The main issue is how technology is used, who controls it, and to what end.”

## richard rogers

at the *World Sustainable Building Conference, Tokyo*, 2005

# context prevent abandonment

the project aims to prevent the abandonment of such a valuable resource such as the Old Pretoria West Power Station



**Figure 33a - Building stock**

**Figure 33b - Building stock**

**Figure 33c - Spaces**

**Figure 33d - Station-B and the conveyor**

The building stock has a positive urban scale and the built structure and infrastructure is in place and sound.

Spaces between buildings and under the conveyors or hoppers are vegetated with large trees and other plants.

Coal is conveyed from the underground coal bunker to Station-B for combustion. Many other buildings are vacant.



## context<sup>the buildings</sup>

Figure 33a - 33d: collection of photograph showing buildings stock is on the southern half of the site [author, 2010]





Figure 33e - Thriving landscape



Figure 33f - Thriving landscape



Figure 33g - Thriving landscape

The high coal content in the soil and water is beneficial for plants. Vegetation around ash ponds are especially lush and prosperous.



## context<sup>the land</sup>

Figures 33e - 33g: Flourishing vegetation and a dramatic landscape on the northern half of the site [author, 2010].





# proximities

The framework research indicated that the site deals with the following proximities:

## 1 biophysical proximities

- i. the proximity of human individuals to physical objects as both are ever-increasing in density within the urban environment
- ii. the proximity of product to consumer
- iii. the proximity of the local to the global
- iv. the proximity of varying programs towards each other and at what point multiple programs are perceived as a single holistic program
- v. the proximity of heritage building stock to the changing needs of the current and future urban conditions
- vi. our proximity to the "natural" and to the "man-made" environments

## 2 metaphysical proximities

- i. our proximity to both the past and the future in a single environment
- ii. our proximity to invisible environments and processes and visible environments and processes
- iii. our proximity to circumstantial evolution and evolutionary directions made by our own conscious conduct
- iv. our proximity to global problems that demand real-time local solutions





# investigation

The specific site of the century old site of the Old Pretoria West Power Station illustrates:

## Proximities of singular objects

i. The site is an urban fringe condition, an environment both isolated from and integral to the current urban condition. The site is also isolated and integral to the future of that same urban environment that it fringes upon

## Proximities of points of produce to points of consumption

ii. The site and current program has visible and invisible interchanges of multiple energies. Both local and regional energy inputs and outputs can be found and these energies range from people (residential inhabitants to industrial workforce), vehicles (cars, trucks, trains) and visible and invisible products (coal, ash, electricity).

## Proximities of "beginning" to "end"

iii. The site is a paradox: the same initial scale of buildings required for the station to be operable is now also its limitations, the cause of its desertion and abandonment.

## Proximities of time and history

iv. The site is a landmark not only as a physical object, but it indicates to a point in time of human development [20th century past]; reflects a global condition [present] and asks for a future-orientated local solution [21st century future].

# s y n t h e s i s

The site is representative of these constructs and also provides opportunity to express many of them further. The program was developed along the same thinking and together the architecture is developed so that site and its new program will be perceived as one. In the same way that the site and program were one thing when it still was a power station, so should the new program also reflect this character of the site.

The site is further investigated.

# discovery pretoria west power station

a site where the physical and the metaphysical meet

Figure 34: View from west, looking across the lake. First site visit, 2 February 2010 [author, 2010].