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[RE]dress

A Fashion Event Facility in Pretoria West

by Jaco van Biljon

Course Co-ordinator: Arthur Barker
Study Leader: Carin Combrinck
Co-study Leader: Raymund Königk

Submitted in partial fulfilment of the requirements for the degree Masters in Architecture [Professional]
in the Faculty of Engineering, Built Environment and Information Technology,
Department of Architecture, University of Pretoria, 2010.

thank you

_to all who have supported, inspired, motivated, listened, advised and loved.

_to my parents and family: for your help and support throughout my life journey so far, this is only the beginning.

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_Raymund: for asking all the right (and difficult) questions.

_Arthur: for teaching me to simply draw the problem and the solution, diagrammatically.

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abstract

This dissertation deals with the regeneration of Pretoria West as a sub-support district that will act as catalyst for the regeneration of Pretoria CBD. The project focuses specifically on the adaptive re-use of an unused existing building at the Pretoria West Power Station and acts as a possible solution for re-using an old building.

The theoretical discourse of this dissertation explored the reasons why new areas in the city develops and other areas fall in a state of disuse. It looks specifically at unused industrial areas and what they can be used for after they have outlived their purpose.

The picturesque quality of vacant industrial buildings has recently attracted many fashion photographers and has informed the programme for the project by providing a facility for the fashion industry, together with other proposed functions within the unused buildings at the Pretoria West Power Station in order to add new public functions into the existing urban fabric of Pretoria West. The dissertation investigates the similarities between the fashion industry and architecture, how they influence each other and ultimately how fashion can inspire the design of a new building within the envelope of an existing industrial building.

Die verhandeling ondersoek die herlewing van Pretoria Wes as 'n sub-ondersteunings distrik wat as katalisator sal dien vir die herlewing van Pretoria se middestad. Die projek fokus spesifiek op die her-gebruik en aanpassing van 'n bestaande gebou by die Pretoria Wes Krag Stasie wat nie tans gebruik word nie. Die projek dien as 'n moontlike oplossing vir die her-gebruik van 'n bestaande gebou.

Die teoretiese bespreking van die verhandeling ondersoek die redes waarom nuwe areas in die stad ontwikkel en ander areas in onbruik verval. Dit ondersoek spesifiek ongebruikte industriële areas en waarvoor dit gebruik kan word wanneer hul oorspronklike funksie vervul is.

Die skilderagtige kwaliteit van ongebruikte en vervalle industriële geboue het onlangs menige mode-fotograwe gelok as kontrasterende agtergrond om hulle onderwerp af te neem. Dit het aanleiding gegee tot die nuwe program, 'n fasiliteit vir die mode-bedryf, tesame met ander publieke funksies, binne-in die ongebruikte geboue by die Pretoria Wes Krag Stasie. Die verhandeling bestudeer die ooreenkomste tussen die mode-ontwerp industrie en argitektuur, hoe hulle mekaar beïnvloed en gevolglik hoe die ontwerp van 'n nuwe gebou binne-in 'n bestaande gebou ingelig kan word deur mode-ontwerp.

Keywords:

Urban Regeneration
Drosscapes
Adaptive Re-Use
Architecture
Fashion
Pretoria West

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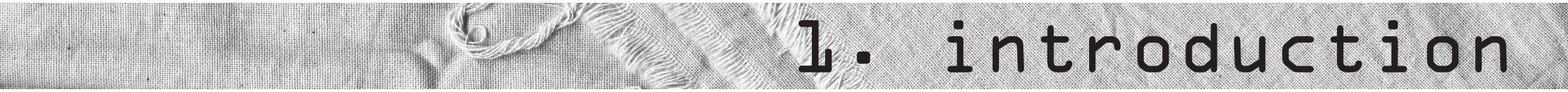


1. introduction

10%

of the world's population lived in cities in 1900

50%

live in cities today

75%

is an estimate for the year 2050

1.introduction

1.1_background

Cities have always had a magnetic pull. For over 5000 years people have been streaming into cities in the hope of finding freedom and a better future (Nowak, 2001: 6).

In recent years, cities all over the world have been growing rapidly due to increasing populations and almost aimlessly stretching the edge or periphery of the city. Because urban populations continue to decentralise, businesses, amenities and heavy industries have followed in this pattern of moving to new suburbs. As a result of these city growth patterns the public amenities and open space in the inner city are now in severe decline and disinvestment (Berger 2006: 205).

As the cities grew in population, so did the area that the city covered. Cities grew horizontally, rather than increasing the density of the well established core of the city. This process of horizontal growth in the city is called 'urban sprawl'. The energy that was once synonymous with urban environments has moved with the residents and businesses to the periphery of the city, leaving many of the buildings in the inner city to become disused and derelict.

Waste Landscapes emerge out of two primary processes: first, from rapid horizontal urbanisation or urban sprawl, and second, by the de-industrialisation of older city areas (the city core) and the rapid urbanization of newer city areas (the periphery). De-industrialisation is a result of improved technology and industrial growth (Berger 2006: 200). Sadly, these waste landscapes are an indicator of urbanisation and healthy economic urban growth, to the detriment of the old urban city core (Berger 2006: 203).

All buildings, once handed over by the builders to the client, have three possible fates, namely to remain unchanged, to be altered or to be demolished (Scott, 2008: 1). The idea of alteration / adaptation of a building offers an alternative to preservation or demolition. It becomes an act of transition or translation, from past into present, with logically also a consideration for the future of the host building (Scott, 2008: 11). Industrial buildings are especially well suited for adaptive reuse due to their large open spaces.

Pretoria is no exception to these waste landscapes in and around the inner city as a result of urban growth patterns with an increasing low-income population that cannot afford to stay close to the city, resulting in informal settlements on the periphery of the city in areas such as Attridgeville, Mamelodi and Soshanguve.

Improved technology and an increase in the number of consumers resulted in production facilities in the industrial area west of Pretoria CBD moving to newer industrial buildings with newer technology and a bigger capacity to produce in areas such as Rosslyn, Silverton and Centurion.

In these post-industrial sites, the current buildings were designed with function as main form-giving factor. Because these buildings are not used and offer big open 'work spaces', they are well suited to be reprogrammed with "light" and "clean" industries. These industries have a limited impact on the environment during the production process. Examples of these are Clothing Manufacturing, Furniture Manufacturing, Food Production, consumer electronics and household items.

Policies from the Department of Trade and Industry suggest limiting international imports and increasing local procurement of products, as well as supporting technology upgrading and skills development in the local industry, especially in the Clothing and Textile Industry which have been on a downward path in the long run (Breitenbach, 2007: 43).

Although Pretoria West is laid out on the same infrastructural grid as Pretoria Central, there is a much lower density of buildings. Current building stock is built according to a production typology. The vision for the area is to motivate production of goods through clean industries and giving smaller manufacturers the opportunity to develop their products. The reality is that South African export markets are threatened by international trade agreements, especially with countries in the Far East (Breitenbach, 2007: 36).

1.2_problem statement

As the city grows and the investment energy is focused on new developments in newer parts of the city, the historic centre of the city becomes under-used and under-utilised.

How can one retain, preserve and improve buildings in these 'forgotten' historic areas in a way that will revitalise the surrounding urban fabric?

Industrial manufacturers have moved to new warehouses which can facilitate a higher running capacity to cope with growing populations. The industrial area in Pretoria West is an example of this. The Pretoria West Power Station, for example, is currently running at full capacity but only contributes approximately 3% of the power for the City of Tshwane. To upgrade the Pretoria West Power Station to

serve current needs with new technology is not economically viable and demolishing it is too expensive (Masut, 2010). The inevitable future of the power station is that it will be decommissioned within the next ten years. If this 'landmark' in the west becomes derelict, businesses around it will follow, which will have a negative effect on the urban quality of that area.

1.3_project aims: [RE]dress

The definition of redress is the act of correcting an error, the making right, reformation, correction, to put something in order again. The aim is to implement this process of redress on different scales, by identifying the problems or errors, correcting them through new interventions and translating them from a disused problem state into a functional vibrant state.

On an urban scale (Pretoria West) and site scale (Pretoria West Power Station), an Urban Framework was developed to address the problems of the area and offer guidelines for the re-development of the area.

On the intervention scale the project looks at the existing buildings, their significance and how they can be redressed to accommodate the new program.

The spaces in and around the existing buildings at the Pretoria West Power Station offer a unique, imposing character, a quality that should be retained and enhanced with new functions. These dilapidated settings also have a picturesque quality and fashion photographers have used the charm of these settings to film their models in. The contrast between the existing buildings and the models puts emphasis on the models' beauty, their outfits and how they move through the space

The metaphor of the process of re-dressing the district, site and buildings, as well as the juxtapositioning of old industrial buildings and new contemporary additions, informed the program: a facility for the fashion industry with an adaptable space which can be used for events like fashion shows and work spaces for fashion designers and a production house where they can manufacture their clothing. This would be just one of many new programs in the Pretoria West area which will offer new opportunities to residents and have a positive effect on land values in the area.

For Pretoria-based fashion designers to manufacture their designs, they need to outsource the process to Clothing Manufacturers in either Johannesburg or Cape Town, where there is a more stable textile industry (Meijering, 2010). Local designers would benefit if there were a facility in Pretoria where the manufacturing process could take place.

1.4_design problem

To work with an existing building offers an array of challenges. The aim is to add a new layer onto, into and over the existing buildings by implementing a new program into them. The existing building should be redressed to be able to accommodate the new functions.

In order to redress the new programs, the problems usually associated with it need to be identified and addressed.

1.5_research methodology

The theoretical component of the study investigates urban growth patterns: what causes a city to grow and the results of rapid urbanisation. The study investigates the possibility to adaptively re-use an existing building as an alternative to demolition or restoration The picturesque quality of industrial areas that fall in a state of disuse called for an investigation of fashion photography and the parallels between the fashion industry and architecture.

Previous examples of projects where an existing buildings are adapted are analysed in order to determine the approach to working with existing buildings, as well as the way in which the buildings handle the threshold from public to private spaces. The study also investigates the effect these buildings had on their surrounding context.

Site visits to the Pretoria West Power Station and surrounding area served as the informant about the character of the spaces in and around the buildings on the power station site. This unique sublime character informed the intuitive decision to create a facility for the fashion industry in the existing buildings.

Personal interviews with fashion designers gave more insight into the fashion industry in South Africa, as well as the needs of local fashion designers. Visits to various clothing manufacturers informed the author of the clothing manufacturing process and their part in the creation of a fashion brand.

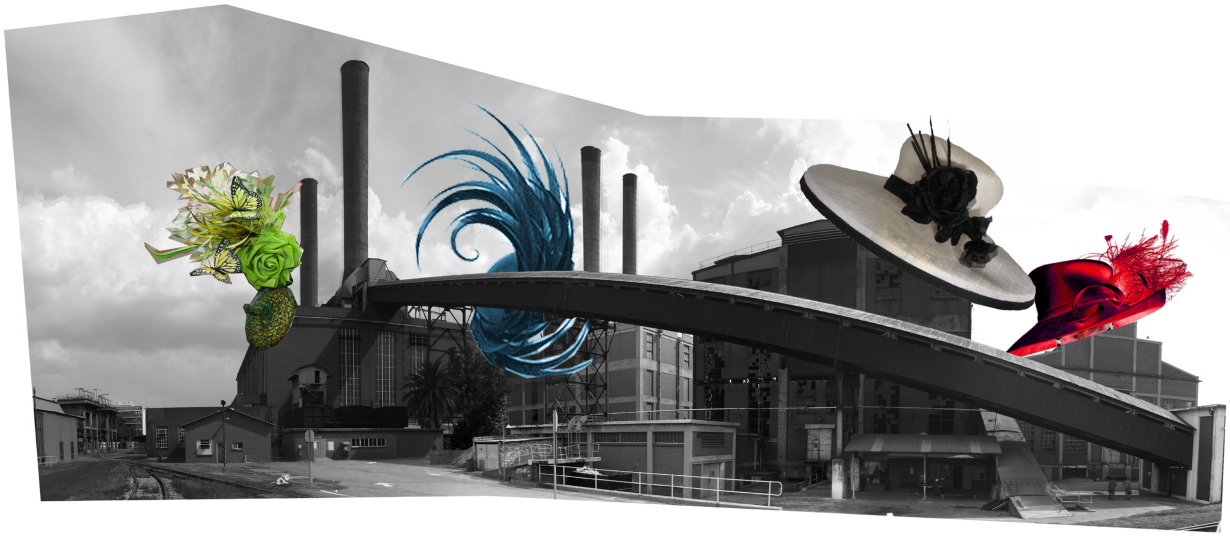


Fig 1.1 [RE]dress

2. theoretical discourse

2.theoretical discourse

2.1_influences on the urban environment

2.1.1_urbanisation

More and more people all over the world leave their villages and move to the city seeking economic opportunities, education, housing and mobility. This urban migration has resulted in a rapid population growth as well as physical urban growth. Cities are stretching their boundaries further and further to make way for new developments, opportunities and amenities for the growing population (Nowak, 2001: 8).

In 2004 the London School of Economics started with the Urban Age project, where they brought together mayors from European and American cities to discuss the links between physical form and social well-being of residents in cities. They realised that the big questions facing cities were clear – globalisation, immigration, jobs, social exclusion, sustainability (Nowak, 2001: 8). Given that more than half the world's population is now living in cities – a number that is likely to reach 75 percent by 2050, while it was only 10 percent in 1900 – these urban questions truly have become global ones.

2.1.2_urban sprawl

Cities all over the world are growing rapidly due to increasing populations. Because urban populations continue to decentralise, businesses, manufacturers and amenities have followed in this pattern of moving to new suburbs. As a result public amenities, new developments and investments in the inner city are now in severe decline (Berger 2006: 205).

Cities are growing horizontally, rather than increasing the density of the well established core of the city. This process of horizontal growth in the city is called 'urban sprawl'.

The suburbs with the manicured lawns, the treeless cul-de-sac, the sterile shopping mall, the corporate campus, the vast parking lot doesn't necessarily match the lifestyle dreams of families. The clogged highway has become a tolerable annoyance and inevitably fails to serve its desired function as soon as it is built. Yet most people who live among these icons of suburban growth aren't terribly troubled by them. Perhaps it is tolerable to so many families, because it has become so familiar. Even if the process does use up rural and agricultural land, it disturbs the coherent fabric of community life, and decreases the economic activity of older towns and central cities. As a city ages, crime and other urban problems encourage many of the affluent residents to move out to the suburbs (Mitchell 2001: 54), where they feel safer and they can buy into an exclusive lifestyle. In addition lower-income residents in search of a promising future in the city, can't afford to stay in or close to the city, so they too move to informal settlements on the periphery, adding more commuters to the highway.

Smart growth of cities rests on the assumption that we should curb sprawl by building better kinds of new communities, by fixing up and filling in the old ones, by finding ways to get people out of at least some of their cars and start walking or using public transport, and by going out into the countryside to preserve large tracts of open space before the developers can pave them. Only time will tell to what extent this expectation can be met (Mitchell 2001: 63).

2.1.3_drosscape

The energy that was once synonymous with the urban environments of the historic city core has moved with the residents and businesses to the periphery of the city, leaving many of the buildings in the inner city to become disused and derelict. These 'dying' urban landscapes are called "Drosscapes".

Waste Landscapes or "Drosscapes" emerge out of two primary processes: first, from rapid horizontal urbanisation or urban sprawl, and second, from the leaving behind of land and buildings as debris after economic and production systems have ended. Businesses move from the city's de-industrialising inner core to its sprawling periphery and the transitional landscapes in between (Berger 2006: 199). Sadly, these waste landscapes are an indicator of urbanisation and healthy economic urban growth, to the detriment of the old urban city core (Berger 2006: 203).

A "Drosscape" is created by the de-industrialisation of older city areas (the city core) and the rapid urbanization of newer city areas (the periphery). De-industrialisation is a result of improved manufacturing technology and industrial growth (Berger 2006: 200). Mass production of goods on a global scale, and long-distance distribution of goods, has become the norm and the cheaper option as opposed to producing goods locally.

Due to these economic forces of rapid horizontal urbanisation and de-industrialisation, the urban landscape has become a "holey plane". These "holes" being currently unused areas, consequently results in an interrupted spatial coherence. These "in-between" surfaces left over in the older

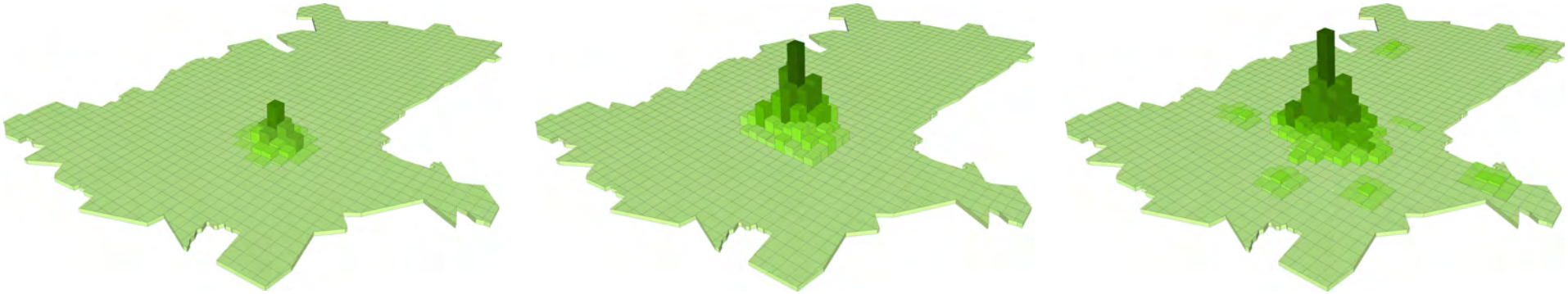


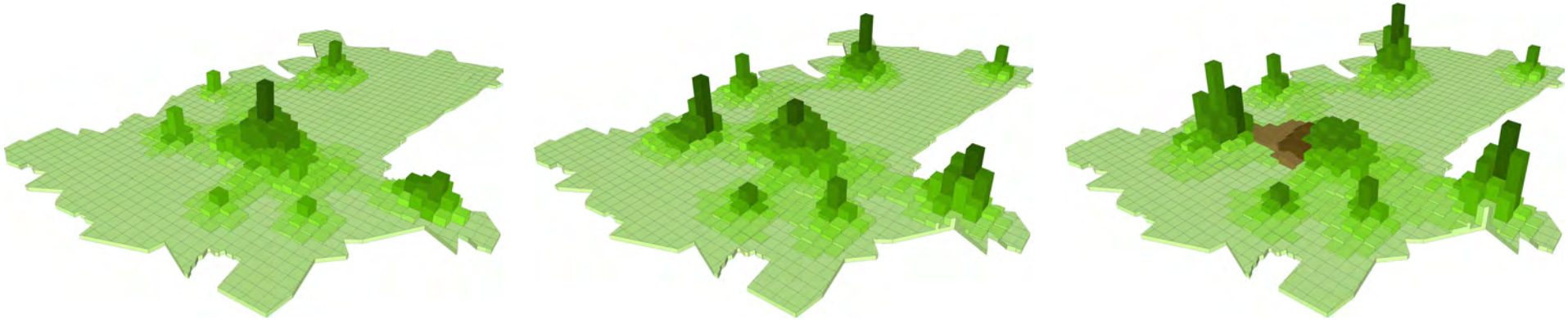
Fig 2.1 Drosscape forming: Energy diagram of the City of Tshwane growth pattern

part of the city offer great potential for future development (Berger 2006: 201). "Drosscaping" is a "scavenging" of the city surface for left-over useful landscape remains (Berger 2006: 210).

These emergent urban conditions demand that designers and planners revise their approaches toward the making of projects. The design profession can no longer solely rely on the beauty of an object, they should also be concerned with infrastructure and other services that contribute to the functioning of the city (Wall 1999: 234). When these waste landscapes are identified, designers should propose a strategy to productively reactivate and integrate them back into a cohesive urban fabric. These waste landscapes usually have a detrimental effect on the area around them, consequently they can't be addressed in isolation, but rather as a part of an area in need of regeneration.

"Drosscapes" require a design that is capable of adapting to changing circumstances, avoiding being too open-ended as to give way to future functions that are better suited and organised (Berger 2006: 211). The energy that goes into rapid population and urban growth reach temporary limits, which can be used to refashion and organise the stagnant in-between realm of waste landscapes in the city, going back like an artist to touch up on the rough parts of an otherwise elegant piece of art (Berger 2006: 214).

The significance of these spaces in the city has begun to surface. Architects and developers are all in pursuit of sites with ambiguous social histories. Some interpret these urban wastelands as a modern embodiment of the classical



romantic ruin and that these can be a new form of urban debate which highlights the contradictory relationships between the old and the new, the abandoned and the developed, the imagined and the real (Papastergiades, 2000: 45).

A city which is dominated by monofunctionalism is a brutal city; some residents may find comfort in such a city. Yet a city, in order to evolve, must also incorporate difference and multiplicity in function (Papastergiades, 2000: 51).

2.1.4_contextualise problem

In the larger municipal area of the City of Tshwane, we can see how the city grew during the last couple of years: developers buy vast open pieces of land – previously used for agriculture – to develop new low-density housing estates (e.g. Pretoria East, Centurion, Zambesi); Lower income populations have moved into informal settlement areas even further away from the city (e.g. Attridgeville, Mamelodi and Soshanguve). Other areas that are rapidly expanding as new economic nodes are Hatfield and Menlyn. Investors would rather develop here, because it is closer to new neighbourhoods and residents and land-values are cheaper. This has caused businesses that were once in the inner-city to move to these areas, slowly taking the energy out of the city.

Industrial manufacturers have also moved to new warehouses which can facilitate a higher running capacity to cope with growing populations. The industrial area in Pretoria West is an example of this: only a few manufacturing businesses remain in the area between the railway-line, Mitchell and Soutter Street, which are presently zoned as

Fig 2.2 (a),(b),(c) 44 Stanley A
Johannesburg, South Africa

Industrial. Most buildings are currently used for second-hand car dealerships and panelbeaters. The Pretoria West Power Station is currently running on full capacity but contributes approximately 3% of the power for the City of Tshwane. To upgrade the power station is not economically viable and demolishing it is too expensive. The inevitable future of the power station is that it will be decommissioned within the next ten years (Masut, 2010). If this 'landmark' in the west becomes derelict, the few businesses around it will follow, which will have a negative effect on the urban quality of the area.

Pretoria West offers great potential for developers: It is laid out on the same infrastructural grid and very close to Pretoria CBD. There is a well-established infrastructure that services the area, including transport (rail, buses and taxis). There are large numbers of existing buildings that can be adapted to serve current and future needs. The greater part of Pretoria West consists of lower density housing. Some of the factors that prohibited the density in the area from increasing, is the monofunctional industrial zoning as well as the negative perceptions that accompany these industrial areas: pollution, noise and crime.

2.1.5_adaptive re-use

The Pretoria West study area has always been associated with heavy industry. However, because the city is stretching beyond borders, we have to consider alternative 'in-between' places to develop. If Pretoria West were to be developed, that industrial quality should be retained, because it is part of the history of that area. Jane Jacobs mentions in her book The 'Death and Life of Great American Cities' (1961) that "cities need old buildings so badly, it is probably impossible for vigorous streets and districts to grow without them, not museum-piece old buildings, not old buildings in an excellent and expensive rehabilitated state – although these make fine ingredients – but also a lot of plain, ordinary, low-value buildings, including some run-down old buildings" (Jacobs, 1961: 200).

New usages continually retire or reshape buildings. "The old factory, the plainest of buildings, keeps being revived: first for a collection of light industries, then for artists' studios, then offices and something else is bound to follow" (Brand, 1994: 2). Buildings are shaped and adapted by changing cultures, changing real-estate value, and changing usage. An example of this is 44 Stanley Avenue in Johannesburg, where old buildings have been adapted into trendy designer clothing shops and coffee shops. Industrial buildings are especially well suited for adaptive reuse due to their large open spaces.

All buildings, once handed over by the builders to the client, have three possible fates, namely to remain unchanged, to be altered or to be demolished. The price for remaining unchanged is eventual loss of occupation, the threat of alteration is a possible failure, and demolition is the promise of a new building (Scott, 2008: 1). Old buildings in an area add to the character of the area, especially industrial buildings, they are designed according to a certain typology, functionality is the key form-giving factor, materials and structure are exposed in a honest way, expressing how the building was constructed. If such buildings remain unchanged it would not be occupied, and if it were to be demolished, the industrial character of the area will be lost. Ultimately the most viable fate for an industrial building is to be altered or adaptively re-used.

Because of a lack of famous associations and their functional design, many industrial buildings were historically ignored, unlike country homes, palaces, and castles which early preservationists valued for their associations with famous people (Cantell, 2005, p. 5). They have architectural significance as artefacts from an industrial age, which makes the process of adaptation easier, as there is little sentimental value associated to prominent people or events. They are often overlooked due to their ruined surroundings, polluted landscape and 'ordinary' architecture. Such a belief, due to negative perceptions, ignores the rich architectural detailing, character-defining features, and unique public spaces often created in industrial complexes (Cantell, 2005, p. 5). Among the most admirable and enjoyable sights to be found along the sidewalks of big cities are the adaptations of old precincts to new uses (Jacobs, 1961: 207).

The idea of alteration/adaptation of a building gives an alternative to preservation or demolition. It becomes like an act of transition or translation, from past into present, with logically also a consideration for the future of the host building (Scott, 2008: 11). Improvements should be done by supplying the conditions for generating diversity in functions and users that are currently missing (Jacobs, 1961: 210).

In conclusion due to rapid urban growth patterns in Pretoria, the city has shifted its boundaries. The energy that distinguishes a city from others, once concentrated in the inner city, has moved with property investors to newer suburbs on the periphery, leaving parts of the city to decay. The Industrial area that supplies the city with infrastructure and goods does not have the capacity to supply the growing demands of the city, they too move to newer areas on the periphery of the city to build bigger warehouses and use newer technology and equipment. Industrial areas form part of the history of the city-growth, even if these areas are unsightly to some, they should be remembered. These existing building 'ruins' offer great potential to be re-used and reprogrammed with new functions. This is the alternative to demolishing the history of the area, or leaving it unchanged which usually results in severe decay and to be a catalyst for many urban problems.

2.1.6_(RE)dress

The definition of redress is the act of correcting an error, the making right, the amendment, reformation, correction, to put something in order again. Translating this process to the existing context, the aim is to improve, enhance, add and adapt at different scales to put the context and their buildings in order again. This approach can be applied on different scales: an urban scale, site scale, existing buildings and building program.

At an urban scale – according to the Pretoria West group framework, the larger scale aim/vision for the Pretoria West area is to make it a sub-support precinct for Pretoria CBD. The aim is to provide and increase the necessary density to support urban renewal frameworks of the inner city and Marabastad. In addition the aim is to minimise further urban sprawl towards Attridgeville in the west by introducing more housing, work opportunities and hybrid layers to the area. It's important to retain the historic industrial character of this precinct by putting emphasis on new light industrial, clean manufacturing processes of production as building programs, as well as adding the ingredients (housing, commercial, amenities) that are missing to invigorate the area.

The site – The Pretoria West Power Station is currently a prominent landmark in the West, with large scale building stock and large open picturesque fields. It was chosen as an energy generator for the larger vision of the Pretoria West area. The power station is deemed to be decommissioned within the next ten years (Masut, 2010). Vacant and abandoned properties impose numerous social costs upon the local jurisdictions within which they are located. In addition to reducing property values and attracting crime, there is a cost involved by straining the resources of local police and fire departments (Cantell, 2005: 5). In order to prevent vacant buildings from becoming a negative catalyst in the area, it can be turned into a positive resource, by developing the open spaces as a public park for the people of the community, and redressing the buildings by adding new programmes that will benefit the community and the area around the site, thereby contributing to the city at a larger scale.

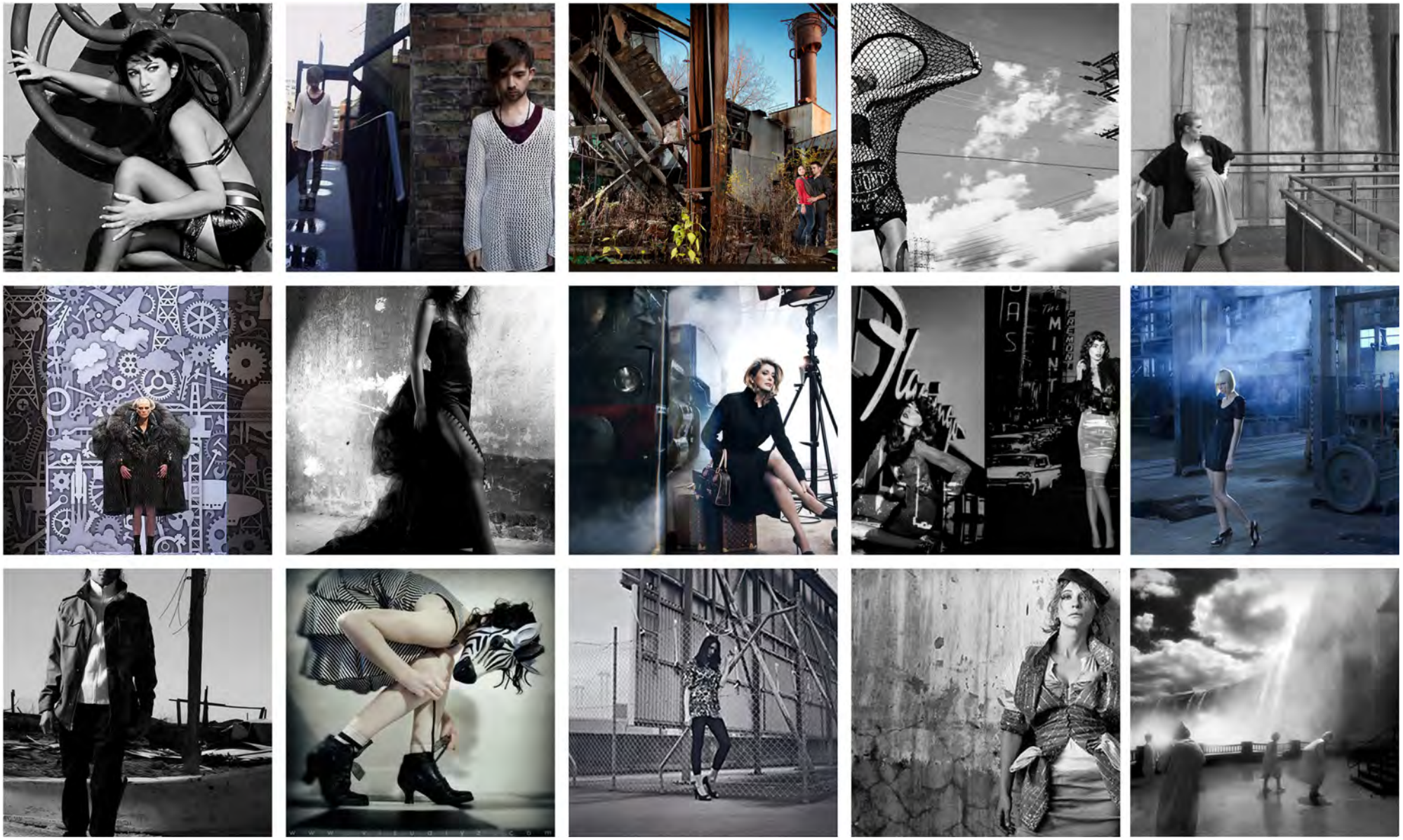
The buildings on the power station site have always been closed off from the public for security reasons, designed to serve a mono-functional purpose. The aim is to open the site to the public, adding another contemporary layer to the existing fabric and adapting the buildings by building over them, into them and onto them, then reprogramming them with public functions.

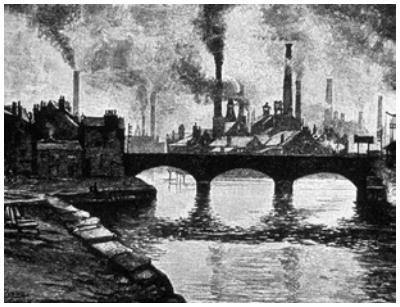
Within and around the existing buildings on the site lies a spatial quality that is often hard to find in an urban environment. The spaces were pragmatically designed for big machinery and vehicles to move and turn, giving it a non-human, almost godly scale with an almost coincidental sublime quality. This rich spatial quality which is wrapped by heavy industrial materials, decay and history, becomes poetic and romantic simultaneously and holds far greater potential than to be left unused.

What can we do with these existing unused buildings or ruins? In recent years fashion photographers have started to notice the picturesque quality of industrial settings. They place their models in these delapidated settings - almost like objects - to put emphasis on the beauty of the model, the clothes they wear and the way they move through the space. The juxtaposition of old and new, decay and beauty, public and private functions, reality and fantasy, as well as the metaphor of the process of [re]dressing the area, site and building informed the program. An adaptable space has been envisioned which can be used for events such as fashion shows and work spaces for fashion designers, together with a production house where clothing can be manufactured.

Many Pretoria-based fashion designers need to outsource the manufacturing process of their designs to Clothing Manufacturers in either Johannesburg or Cape Town, where there is a more stable Textile Industry. Designers would benefit if there were a facility in Pretoria where they can manufacture their goods and be more involved in the manufacturing process (Meijering, 2010). Even with cheaper clothing imports from countries in the Far East, a big market exists for locally inspired and produced fashion. Fashion designers start out by producing a smaller quantity of items to sell, keeping the design more authentic. However, a need exists for more facilities that can assist designers with this process (Minnaar, 2010).

Fig 2.3 Fashion Photography in an industrial setting





2.2_Fashioning Architecture

The fashion and architecture design disciplines possess many similarities and differences. The process of designing and manufacturing clothing holds many parallels to the architectural profession. 'Disposable, ephemeral and fickle' are the words most often associated with fashion, emphasising not only the speed at which it moves but also the industry's notoriously short attention span (Castle, 2000: 58). Some architecture firms place extreme emphasis in the wrapping of spaces in wonderfully designed skins, neglecting the spaces that they eventually wrap. The problem arises that in architecture we see an increasing number of buildings designed as disposable objects with a short life-span in terms of its urban relevance, function, form and adaptability. Not only is this approach unsustainable, but contemporary architecture artefacts will become lost for future generations. Today's architecture will only be immortalised in photographs and images.

2.2.1_similarities between fashion and architecture

The shapes of fashion, in their extensive range of historical styles right through to shocking contemporary fashion experiments, are seldom independent of the architecture around them. As doorways widened during the Regency period, skirts reached extreme proportions as their hoops and panniers extended to unprecedented widths. The black top hats of the mid-nineteenth century came into fashion at the outset of the industrial revolution and grew in popularity to become the very symbol of industrialisation. Also known as 'stovepipe' hats, their resemblance to tall manufacturing chimneys and factory smokestacks symbolised the industrialists themselves. Men's tailoring has always contained associations to their professional dedication: the robes of priests, the armour of medieval knights and even the suits of Edwardian bankers were made to echo the architecture of the institutions they served (Quinn, 2003: 1).

Fig 2.4 (a),(b),(c) Top Hat (Stovepipe Hat) and imagery from Industrial Revolution

The connections between the two disciplines are significant: both rely heavily upon human proportions, mathematics and geometry to create the protective layers in which we envelope ourselves. Fashion and architecture revolve around the scale of the human body to inform their dimensions, requiring an understanding of mass as well as space. They both manage energy and material, and map the boundaries of the body by creating climatic environmental systems around it (Quinn, 2003: 5). Fashion becomes objects within architecture and architecture becomes the shells in which we live.

Both buildings and garments are created by hand and machine to enclose, yet display the human body in all its physical, cultural and personal dimensions. Each is an extension of the body, which touches and is touched, seen and felt. With their curves and fluidity, their layering and transparency and their variety and richness of materials, some buildings today remind us of clothing (Frank, 2000: 94).

Fashion, like architecture, is a physical expression of culture. Both translate a dream into material form and offer that dream to people to clothe and represent their identity (Frank, 2000: 96).



Fig 2.5 (a),(b),(c) Medieval Armor and Medieval Castles

Fig 2.6 (a),(b),(c),(d) Priest Robes and Catholic Cathedral




The clothing envelope that we wear make us experience pleasure, beauty, power and self-confidence. Is it not possible that a building envelope and the spaces in between can evoke the same experience?

2.2.2_identity

Urban space is a collection of people bound together within the built environment as they struggle to define the territory around them. Rural folk would dress up to visit 'town', while urban dwellers only wear their 'country' clothes as they escaped the confines of the city. The polarities of urban and rural clothing correspond to the formal façades of the city and the rustic architecture of the countryside. The visual coding of fashion frequently corresponds to the type of architecture it was intended to be worn in, transforming the figures moving through urban space into walking representations of it (Quinn, 2003: 25). Often fashion represents the traditions of urban life, evoking the glamour of city nightlife and social status, paying tribute to an exclusive lifestyle, showing who you are or who you would aspire to be, rather than expressing the lived experience of the man on the street (Quinn, 2003: 25).

Consumption plays an important and proactive role in the formation of identity. By choosing and buying certain goods, the consumer identifies him/herself with a status, lifestyle or social identity (Rendell, 2000: 10). Magazines like Wallpaper*, Dwell and VISI make it perfectly clear, it is only in the combining of places – shop, home, work place and play space – and in the juxtapositioning of beautifully designed things – dresses, forks, computers and bricks – that we fully articulate who we like to think we are (Rendell, 2000: 11).

2.2.3_non-place / heterotopia

Modern architecture makes a radical statement, declaring that the liberation of man's thinking and the open plan cannot be distinct from each other. As a public place, the ideological goal of urban space would seem to be the total transparency of information. Urban 'places' are planned as spaces that attract or repel a representative public, who convey meaning through the events and rituals performed in them. In modern cities, public areas and open spaces frequently function in opposition to their intended purpose, fragmenting urban interactions or inviting unwanted activities. This is especially evident in the zones sustaining leisure, sport, shopping and transport, which are interpreted as the 'non-place' by Marc Augé. Non-places are often transitional spaces of the urban realm, areas that facilitate the movement of bodies as well as the constant flow of information in and around urban space (Quinn, 2003: 26).

As a reinterpreted concept of space, heterotopias are sites that appear to be out of place or paradoxical, places that mediate socially erroneous practices and often facilitate a sense of danger and defiance. Heterotopias are constructed as spaces that are simultaneously mythic and real, imbued with elements of fictional space and material space (Quinn, 2003: 28).

The presence of heterotopias question architecture's ability to organise space (Quinn, 2003: 28), as they are usually a coincidental result of urban growth. Heterotopias do not exist in isolation, but become visible through their contrasting characteristics in relation to its surroundings.

2.2.4_industrial / ruin

The fashion space typically ascribed to haute couture took on new meaning as it was deployed in an arena with conflicting meanings and values (Quinn, 2003: 28). Industrial areas outline a new form of urban discourse that translate them as discarded objects in the city or the modern equivalent of the romantic ruin (Quinn, 2003: 30).

While the recent trend to photograph fashion amidst urban decay is a subtle attempt to re-fashion these spaces, it is also a trend loaded with deeper ideological significance. Cutting edge fashion photography rarely sets out to engage with the meaning of clothing, usually intending to make a strong comment about the body, sexuality or urban life. The ruin associated with industrial areas and urban social housing is typically attributed to poor planning and lack of maintenance, but for many fashion photographers their form and style creates an irresistibly edgy backdrop. As a setting for fashion, non-places and heterotopias are intended to generate a realistic feel (Quinn, 2003: 30). This setting offers viewers the opportunity to relate to the reality or surreality of the image.

2.2.5_realism of decay

Deconstruction, in a physical sense, is also a metaphor for the dilapidation and disintegration associated with urban decay, voicing a strong comment on urban culture. Fashion photography taken in dilapidated settings can be regarded as an indication of a type of fashion held back from the emptiness of repetitive mass-production, where the challenges of city life might portray mortality and a reunion with the realities of the decay of the body. This experience of urban life is characteristic of non-places and heterotopias. In the face of restless times, 'deconstructivist' fashions transform these uncertain urban realities into a fashion language or urban identity confronting the unease a city might evoke (Quinn: 2003: 73).

Fig 2.7 (a),(b),(c) Urban Fashion designed by Gareth Pugh

Architecture, like beauty, can evolve from our desire to see everyday life transformed into art. The void created by the 'death' of a city or buildings, staged artistically as the genre of tragedy, is represented in architecture as a poetic costume that gives romantic form to its terrible reality (Quinn, 2003: 86).

Such destruction is characterised by a lack of new investments, its absence further emphasizing the loss of control and order. The juxtaposition of haute couture and derelict architecture harms fashion's glamorous allure, but makes it more accessible and easier to relate to by the public. It projects a desire to experience danger and excess, even if it is only found voyeuristically in the image (Quinn, 2003: 193). Models appear to relate to their surroundings with unresponsiveness, as the abstractions and seductions typical of fashion photography are replaced by an opposing culture of urban realism. The architecture of the urban place does not stand outside the frame of the image, but becomes part of the story (Quinn, 2003: 193) almost capturing the 'behind the scenes' image of the fashion world. Urban Decay represents what the media are reluctant to show, making the image which we aspire to, more realistic and accessible (Quinn, 2003: 201).

2.2.6_the images of [st]architecture and fashion

Fashion imagery has long been labelled as vain and superficial for its representations of traditional beauty and perfection. Yet, there has been intense resistance towards the trend to construct 'harsh visions of realities'. Rebecca Arnold, a fashion photographer in support of real fashion spaces argues that she always wants to show the truth in

photographs and the personality of how people really are. Fashion is usually very blind to these qualities (Quinn, 2003: 199).

Images are also the real currency of architecture, often outliving the structures they created, no less than fashion, they are both so dependent on the traditional media of newspapers and magazines (Pawley, 2000: 7). The way architecture and fashion are marketed and sold is through images. Form is no longer following function, form follows image (Sudjic, 2006: 278). This is the current sad reality of contemporary architecture, the success of the building is based on its exterior. There should be a shift to focus on how people use these buildings, how it ages and how people adapt and appropriate it during its life-span. The way buildings age is the true science behind architecture and should once again become the challenge for contemporary architects.

Apart from a handful of stars and one or two globalised architectural design firms, the majority of the architectural profession is unknown to the general public (Pawley,2000:7). Yet, everyone aspires to become famous and shift the boundaries of architecture by designing 'sculptural' objects in the urban landscape that promote the program, or brand a product or even themselves.

Like famous names selling sunglasses, internationally recognised architects now hover above an integral set of regulations and scientific realities to design the enclosures of spaces by means of the thinnest and most translucent skin imaginable, taking place in conditions of utmost confidentiality (Pawley, 2000: 7). The work from large globalised architecture firms aims to shock, shift technological boundaries and create new landmarks in cities. When these qualities are missing in architecture the buildings might seem dull and uninspired, so they are necessary and they do add value to their context. However, they sometimes neglect the basic fundamentals of architecture: to focus on the actual user of the building and what their needs, wants and dreams are.

2.2.7_architecture as object

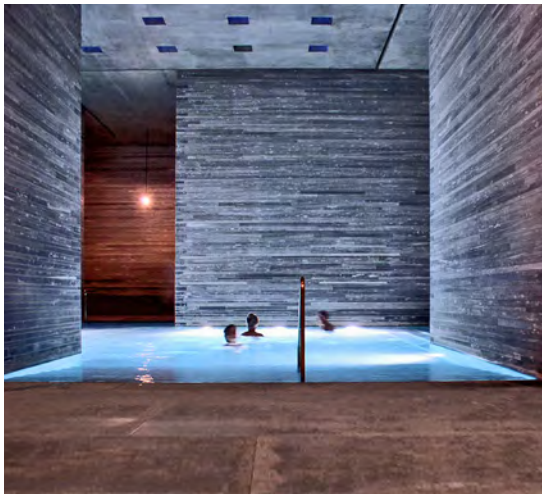
Today's fashion is about bodies enclosed by the thinnest and most translucent skins, just like buildings. The essence of the common ground of architects and fashion designer is to be immersed in technicalities. The proof is their shared use of the word 'fabric' (Pawley, 2000: 7).

Architecture does not consist of a series of isolated and monumental objects in space. Rather, outside and inside are interwoven to create a city fabric where internal and external spaces are experienced as corresponding aspects of daily life. The central idea here is that of 'porosity' (Rendell, 2000: 10). Architecture gives the urban environment texture, a rich and complex composition of diverse objects, people and activities (Rendell, 2000: 10). All these different elements within the urban fabric work together as a system. New buildings should for this reason be informed by their context, but also have the ability to add value to the context and inform and guide the potential future for the context.

The museum has become the ultimate building task in post-modern development. In the early stages of this shift, museums were characterised as the new cathedrals of society, based on the theatrical power of architecture (Steiner, 2000: 21). Museums, by virtue of their architectonic conciseness,

Fig 2.8 (a), (b) Frank Gehry's Guggenheim Museum, Bilbao, Spain

Fig 2.9 (a),(b) Therme Vals, Switzerland. Designed by Peter Zumthor



have become places where lifestyles are staged (Steiner, 2000: 21). People are becoming more interested in art galleries than in art, and Gehry was one of the first architects who could build a gallery and pack in an audience as well, without the need to fill it with art (Sudjic, 2006: 279). Museum architecture has become a commodity in cities – designed by famous architects – with intricate layouts and details, becoming a piece of art – a container – in which to exhibit a collection of art or artefacts.

Gehry's design for the Guggenheim was a sensation because it looked nothing like an art gallery, nor for that matter, much like a piece of architecture as architecture had previously been understood. With its puckered titanium-skinned roof, swooping and soaring through the bridges and embankments that line Bilbao's river, the Guggenheim was more like a train crash than a building, a home-made mutant version of the Sydney Opera House (Sudjic, 2006: 278).

Its biggest achievement was seen as its objective to economically transform Bilbao from a grimy and run-down industrial backwater plagued by terrorism, with just a couple of international flights a day, into the sort of place where affluent Americans might spend a weekend, and which could figure in the opening sequences of a James Bond-movie (Sudjic, 2006: 278).

Gehry's Guggenheim Museum wasn't constructed to last forever, and is following the rules of the tourist industry and be left to fall into ruins if its economic return on capital comes to an end. Of course, the Guggenheim Museum – signalling 'spectacle' – has been used as a location in several advertising campaigns and many cities across the world wants to invest in a similar 'Gehry-product'. But who

would have expected that a quiet, remote building like Peter Zumthor's bath house and spa in Vals, Switzerland, would have a similar effect? It is used as a backdrop for fashion shoots, music videos and advertising in order to create a 'spiritual' atmosphere and at the same time to appeal to a certain target group with architectural knowledge (Steiner, 2000: 23).

The question as to whether architecture can withstand the world domination of consumerism has now been answered: every cathedral and museum is a shop. Architecture should be 'promotional architecture' or it is not architecture at all (Steiner, 2000: 23). While fashion is by its very nature contradictory and temporary, architecture used to be about permanence and longevity (Castle, 2000: 61).

Architecture, especially museum and retail architecture has become disposable shells, which lose its relevance as soon as a new architectural trend is discovered and explored. Architecture has become an event, by changing to adapt to current needs, wants and trends. There is a sense of excitement if things, places or buildings change in the city.

2.2.8_architecture as clothing

Urbanism means multiplicity in the urban fabric – not the (false) multiplicity within one bounded place like a shopping mall, rather, the city should be layered with many functions, meanings, cultures, activites and shared public amenities, to provide more options to a wider range of users.

Thinking of architecture as clothing can reintroduce embodiment and lived, sensory experience into architectural discourse and education, but the designers/writers/readers should 'wear' the buildings themselves, feeling, as well as seeing them (Frank, 2000: 94). The designer needs to know what the 'wearer' of the building would feel when using it.

Clothes that we wear on our bodies, that we feel and move in, that we care for and become attached to, bring us to the possible intimacy of architecture, to where it 'touches' us in so many different ways. It is no longer out there in front of us at a distance. It is instead all around us, whether we are indoors or out, giving us feelings and sensations, encouraging us to move in certain ways and not in others. Being within the space says something, as clothes do, about whom we are and who we wish to be. And we may develop strong feelings of attachment, associating a building with experiences we had there so that, like a favourite dress or jacket, it becomes part of a personal history. While the connections between building, identity and memory are particularly strong for houses, this is also true of public buildings and events that take place there (Frank, 2000: 95). The same qualities that clothes offer us to feel comfortable and safe can be translated into architecture, to create spaces that are warm, adaptable, hides flaws, speaks of your own unique identity without standing out in a crowd.

It becomes important to ask, what it will feel like to touch the handrail, to grasp it and slide one's hand along it. How will it feel to open the door or window? What sounds will I make as I walk? Many of the answers are found in materials, which can be selected for their sensory qualities (Frank, 2000: 95). In fashion design the form will also be influenced by the type of material and its respective possibilities and limitations.

2.3_conclusion

Cities around the world are currently growing at a quicker rate than 50 years ago. They are stretching their boundaries and are taking up large areas of land. Although this is a signal of positive economic growth, this sprawling phenomenon has a negative effect on the historic core of a city. This problem of sprawl and the influence it has on the city cannot be undone. It can also not be resolved with one single strategy. The solution would be for designers, developers and builders to have collective efforts to fill in older communities and to regenerate existing areas, which will subsequently have a positive effect on the original historic core of the city. The improvements should be done by supplying precedents for similar projects and offering conditions that will facilitate a diversity in functions and users.

Photographers, and specifically fashion photographers, have started noticing the picturesque quality of decaying suburbs. These areas are immortalised in seductive imagery, which usually attracts people to discover the gems that still exist in that area.

The sad reality is that seductive airbrushed images in magazines and websites, just like fashion, are what drives contemporary architecture. The science of how people use, adapt and appropriate a building during its life span are becoming less important. What is the spirit of our time in architecture? Are we designing buildings the way we design clothes - to have relevance for one season only?

The similarities between architecture and fashion are endless, people dress according to the type of architecture they live and work in. However, architects tend to forget about the permanence and longevity of a building and that it needs to last much longer than the latest trend. Buildings should speak of the time they were built in as well as holding the the potential to change for future needs. The thrill to shock or impress the public with unprecedented architecture becomes as essential as creating and manipulating space so that it would be comfortable and productive spaces to live and work in. New architecture should become part of the urban fabric, be informed by it as well as enhance it. Architects should be aware of the needs of the population, as well as the realities of the urban context and how architecture will influence these realities.

Fashion and architecture both say a lot about the culture and identity of the population, as it is a translation of their dreams and visions.

Fig 2.10 (a)-(i) Various images of Pretoria West Power Station and surrounding context.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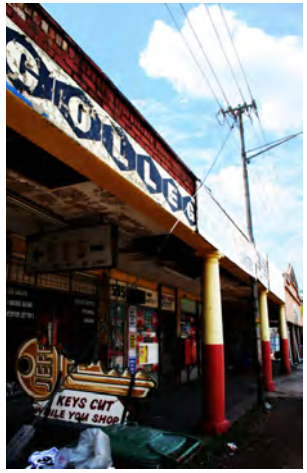
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3. precedent studies

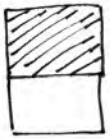
3.precedents

3.1_introduction

The precedent study aims to look at different examples of adaptations to existing buildings and focuses on:

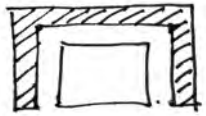
- the architect's approach to working with an existing building
- the threshold
- the effect on the urban context

building onto



Caixa Forum, Madrid, Spain

building over



Santa Caterina Market, Barcelona, Spain

building into + next to

Turbine Square, Johannesburg, South Africa

3.2_Caixa Forum, Madrid, Spain (2008)

Herzog & de Meuron Architects
in collaboration with
Patric Blanc

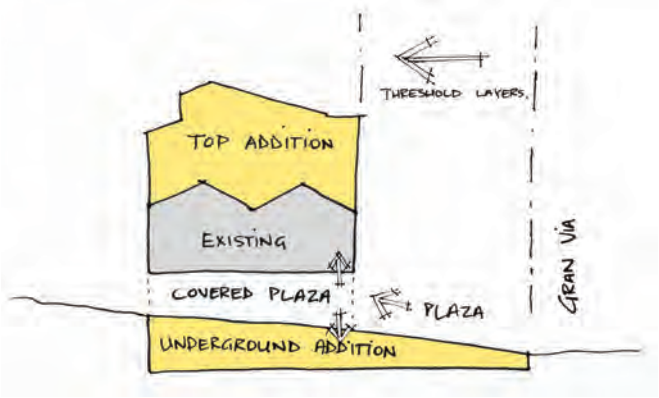


Fig 3.4 Parti diagram showing existing building, new addition and threshold

Fig 3.1 Caixa Forum, Madrid, Spain

Fig 3.2 (a), (b) Existing power station building before adaptation.

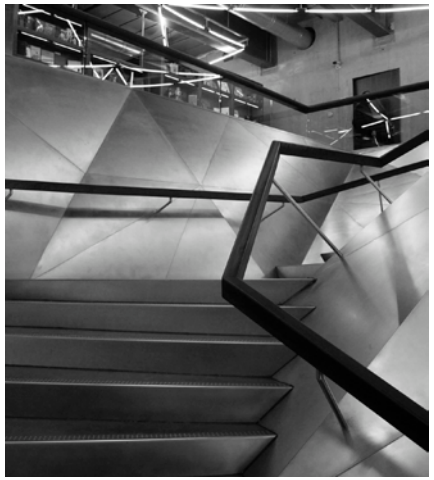


Fig 3.3 (a), (b) Interior of new adapted building.

3.2.1_problem / intention

The Gran Via is one of the busiest vehicle and pedestrian spines in Madrid, lined with Museums and public spaces on the one side, but lacking public buildings on the other.
An old derelict power station building was identified to be converted into a showcase for contemporary art and a generator for intellectual energy for the surrounding area, to reinforce the spirit of the place and to retain the character of what was there before (Webb, 2008: 46).

3.2.2_description

Smaller scale and bold structure reinforces the urbanity of the city's cultural boulevard on one side and network of narrow streets on the other.

A massive, richly textured block that hovers over a gently sloping plaza – and as a raw-edged frame for innovative new work. To achieve an equilibrium of mass and lightness, the solid building mass is contrasted with a public gathering place underneath it, by removing the granite base of the landmark 1901 building (Webb, 2008: 46).

It sets off the handsomely restored brickwork of the old building and the new crown of pierced dappled patterns in rusted cast iron wrapped around the restaurant and administrative offices on the upper level, recalling Spain's Moorish past and provides a dramatic alternative to the cool even lighting of the galleries (Webb, 2008: 54).

3.2.3_critique

Additions to the existing building are severe, yet the designers went to great lengths to retain the skin of the existing building. Industrial quality and vast open spaces associated with industrial buildings, as well as the marriage between the existing and the new is not evident in the interior. The existing building is merely part of the façade of the new building which was informed by the scale of the surrounding buildings.

The plaza in front of the building creates a dramatic threshold between the busy street, to the covered plaza, to the interior of the building. The architects managed to respect the historic building, by literally adding a contemporary layer to the existing urban fabric and re-using a building which was previously unused.

The plaza offers a public space which was lacking on the one side of the busy Gran Via motorway, resulting in a new energy and interest in the surrounding area for new developments and businesses. The new building is certainly a new commodity on the Gran Via museum strip and the architects' intention to revitalise an old part of Madrid has been achieved.

3.2.4_design influence

The architects' approach was to completely change the existing building in order to house the new programme without being sympathetic and sentimental, but still respecting the existing surrounding character. An opportunity was missed to experience where the new and existing meet in the interior.

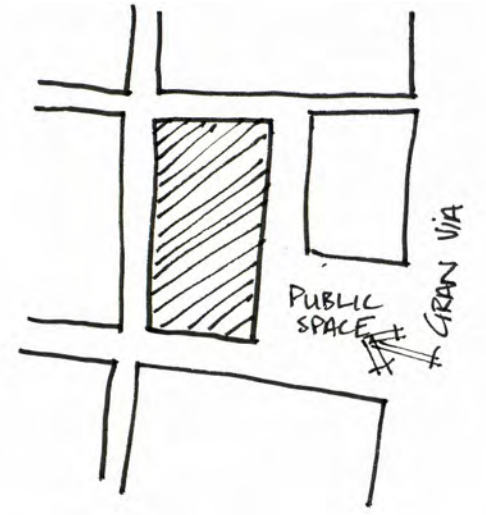


Fig 3.5 Figure Ground Study of building with public space in front.

3.3_Santa Caterina Market, Barcelona, Spain (2005)

Enric Miralles Architects

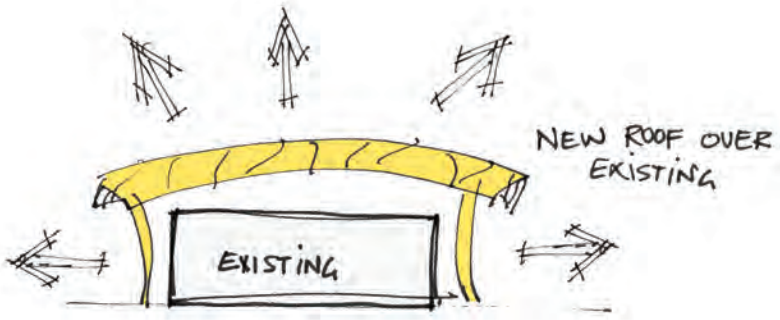


Fig 3.10 Parti diagram showing existing building with new addition

Fig 3.6 Santa Caterina Market, Barcelona, Spain

Fig 3.7 Fruit and Vegetables on display at Santa Caterina Market.

Fig 3.8 Roof of Santa Caterina Market and surrounding context.

Fig 3.9 New roof over existing building.

3.3.1_problem / intention

Markets are an essential part of Barcelona life and they are an important neighbourhood focus for both economic and social exchange and their presence helps to cultivate a strong sense of place and community (Slessor, 2006, p. 52). The Santa Caterina Market has been occupying the same site since the nineteenth century, but was starting to suffer commercially and civically in the 1990's. Though close to the city centre, it serves a relatively poor area, surrounded by dense, dingy apartment blocks. Covered by a decaying pitched roof, the market's mess and stench had become a local eyesore and some thought it should be demolished (Slessor, 2006: 46).

The architects (who incidentally stayed in the area) knew that demolishing the market would be a loss to the area, and convinced politicians and city planners that the market could be the opportunity for a piece of urban regeneration, by including new housing blocks and improving routes through the dense urban fabric, whilst retaining the market (Slessor, 2006: 46).

3.3.2_description

The architect's scheme keeps the market's low arched walls on three sides, containing and defining the site. Its roof is a fifth elevation that drapes and swells over the market hall like a coloured blanket or camouflage net, visible from the surrounding apartment blocks. Extending the Catalan tradition of mosaic ornament, and a reference to the mosaics in the work of Gaudi, it is clad in hexagonal ceramic tiles that make up a pixellated abstract pattern of colours usually found in a fruit and vegetable market (Slessor, 2006: 46).

Below ground, to minimise mess and disruption, is the business end of the market. Lorries deliver fresh produce to a busy loading bay, from where it is moved to the main market hall by a system of goods lifts and porters (Slessor, 2006: 46)

3.3.3_critique

The new design addition has a strong reference to the city and to markets in general. It is built over the existing building and dominates the surroundings, in such a way that the existing building itself becomes subdued.

This addition to the original market building – with the help of other interventions and renovations in the area – had a very positive effect on the land values in the area. However, it lacks the informal welcoming character of other Barcelona markets. The Santa Caterina Market now sells products (including clothes and jewellery) to a higher income group. The area that was once a relatively poor area in Barcelona's Gothic District has seen a rapid increase in land values and new 'designer' shops and bars.

3.3.4_design influence

This intervention has another approach; by keeping most of the original building facade and building a new sculptural roof over it, giving the surrounding neighbours a more pleasant view. There is however, a lack of reference to the existing building in the new design.

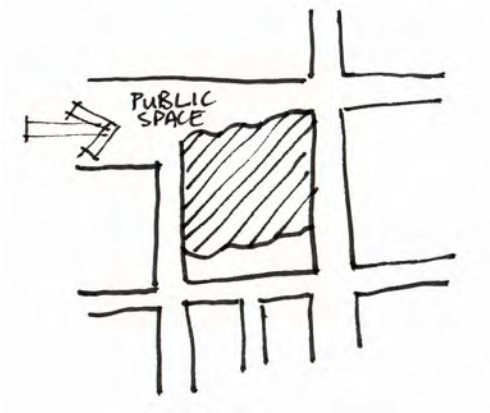


Fig 3.11 Figure Ground Study of building with public space in front.

3.4_Turbine Square, Johannesburg, South Africa (2007)

TPSP Architects

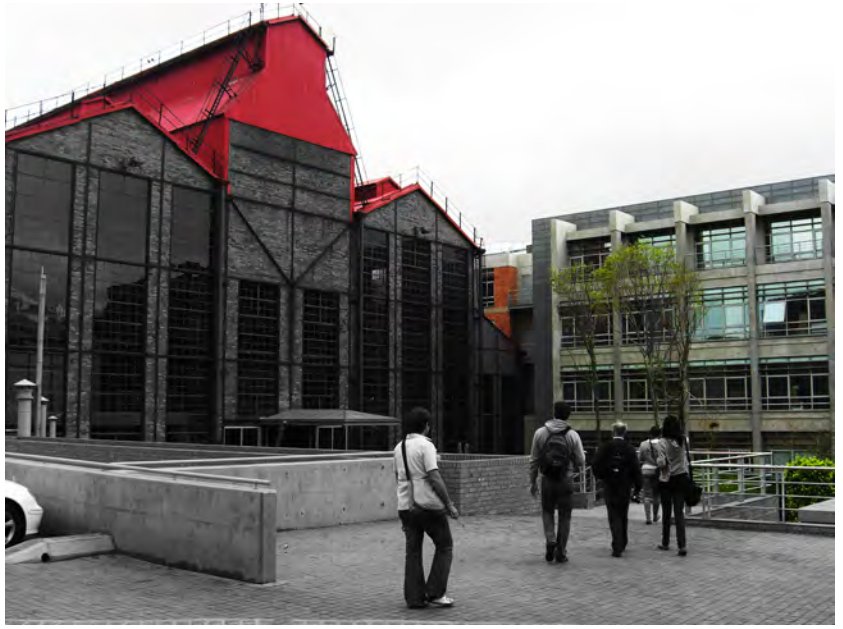


Fig 3.12 Turbine Square, Johannesburg, South Africa

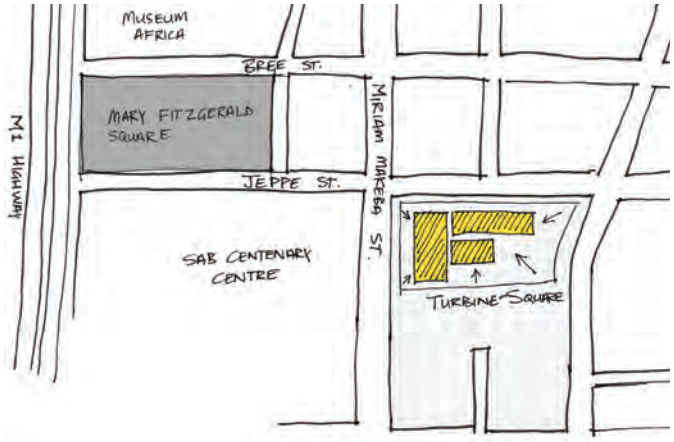


Fig 3.16 Sketch showing Turbine Square in relation to Mary Fitzgerald Square, Newtown, Johan-

Fig 3.13 Existing building before adaptation

Fig 3.14 Aerial photo of building with surroundings

Fig 3.15 Fig. (a),(b) Interior of adapted building

3.4.1_problem / intention

Much of Johannesburg's physical growth during the early decades of the 20th century depended on mining activity, which in turn was linked to the production and consumption of electricity. Improved mechanisation needed to amalgamate gold extracted from deep levels, required a bigger source of power. This prompted the creation of the Power Station in Newtown (Gaule, 2004: 47).

The Newtown site, owned by mining houses and occupied by squatters in the 1990's, threatened the ongoing viability of the area. The electricity buildings were considered a significant landmark in the area (Gaule, 2004: 48). The mix of industrial and commercial buildings in Newtown has long interested architects and the existing built fabric offered exciting opportunities. In the 1990's the gold division of Anglo American separated from the parent company and AngloGold Ashanti was founded. The new company was in search of a new premises and together with the architects, TPSP Architects, the site of the Turbine Hall in Newtown was identified as their new proposed offices (Nuttall, 2009: 41).

The concern of the architects was to connect the complex with the city and to achieve transparency and continuity of space within the urban context (Nuttall, 2009: 42).

3.4.2_description

The Boiler House forms the new entrance to the complex through which to enter the Turbine Hall, which was converted into office space and meeting rooms, as well as the new wing that offers three floors of office accommodation above three floors of basement parking. The structure has become the aesthetic: floor slab beams, columns are articulated. Original steel diagonal braces are mimicked by new diagonal concrete braces in the new wing (Nuttall, 2009: 44).

3.4.3_critique

This building's link, through history, to the mining and manufacturing of gold is astounding. The architects took a rather sensitive approach in the design of the extension to the existing building, by using the same proportions, structural gridlines, expressed structure and materials in the new extension. Adaptations to the existing buildings are few, retaining the industrial character and spatial qualities of the existing buildings.

The building and the areas around it are cut off from the context by fences. The architect's intention was to achieve a continuity in the Newtown urban fabric, but public access to the building is limited.

3.4.4_design influence

This project differs from the previous examples, as the architect's approach was to mimick the existing rather than contrast it. The new extension is submissive to the existing building and doesn't detract any attention away from it.

The Newtown district in Johannesburg has an exciting charm due to the regeneration and revitalisation of an area with many historic layers. It is rather enthralling to discover this part of Johannesburg, however the fact that the Turbine Square is fenced off from the immediate context is disappointing and a missed opportunity.

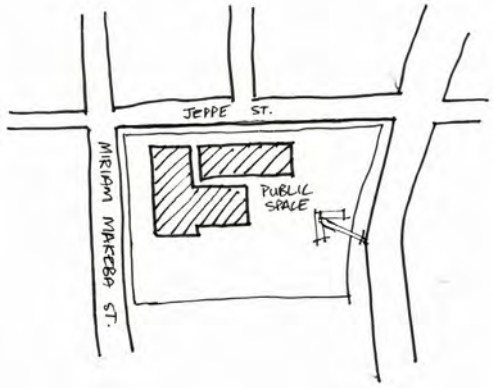
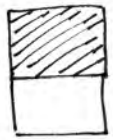
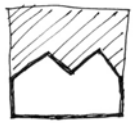
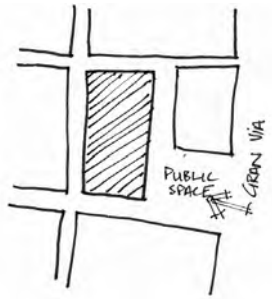
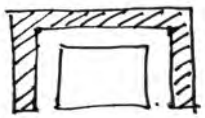
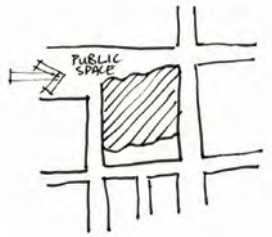
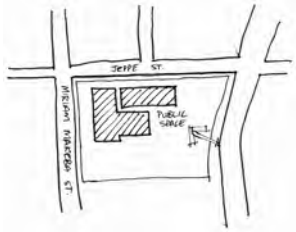


Fig 3.17 Fig. Figure Ground Study of building with public space in front.

type	building	parti	figure ground
 building onto	 caixa forum		
 building over	 santa caterina market		
 building into + next to	 turbine square		

3.5_conclusion

3.5.1_design approach

There are different approaches to working with an existing building which ranges from reproduction/mimicking to contrasting.

Adaptive re-use projects that mimic the existing are often strong but subtle, hard to capture in photographs, and best appreciated in person.

Adaptive re-use projects where the intervention contrasts with the existing usually has a much bolder statement of the significance of what was there before and what the new building should be.

In recent years, fashion photography depended on this contrast to convey the beauty of the models and the clothes they wear. The decision that the new intervention should contrast with the existing buildings would be a suitable approach.

3.5.2_threshold

The discussed buildings are all close to busy streets and rely on a public space in front of the buildings to announce the entrance of the new buildings. The threshold allows for a gradual transition between the busy public street to the more quiet private spaces inside the building.

3.5.3_effect on urban context

In all the above-mentioned scenarios, the project was part of a bigger urban framework to uplift a district in a city and there has been a positive effect on the surrounding environment. Land values increased, small quiet streets are now bustling with activity.

When an area or building is re-used or revitalised and it possesses different layers of history and meaning, a rich subconscious quality develops with the users of that building or space. There's an excitement to discovering old hidden gems in a city and redressing them so they can have a purpose in a contemporary urban environment, which usually brings a new energy to the surrounding area.

4. context

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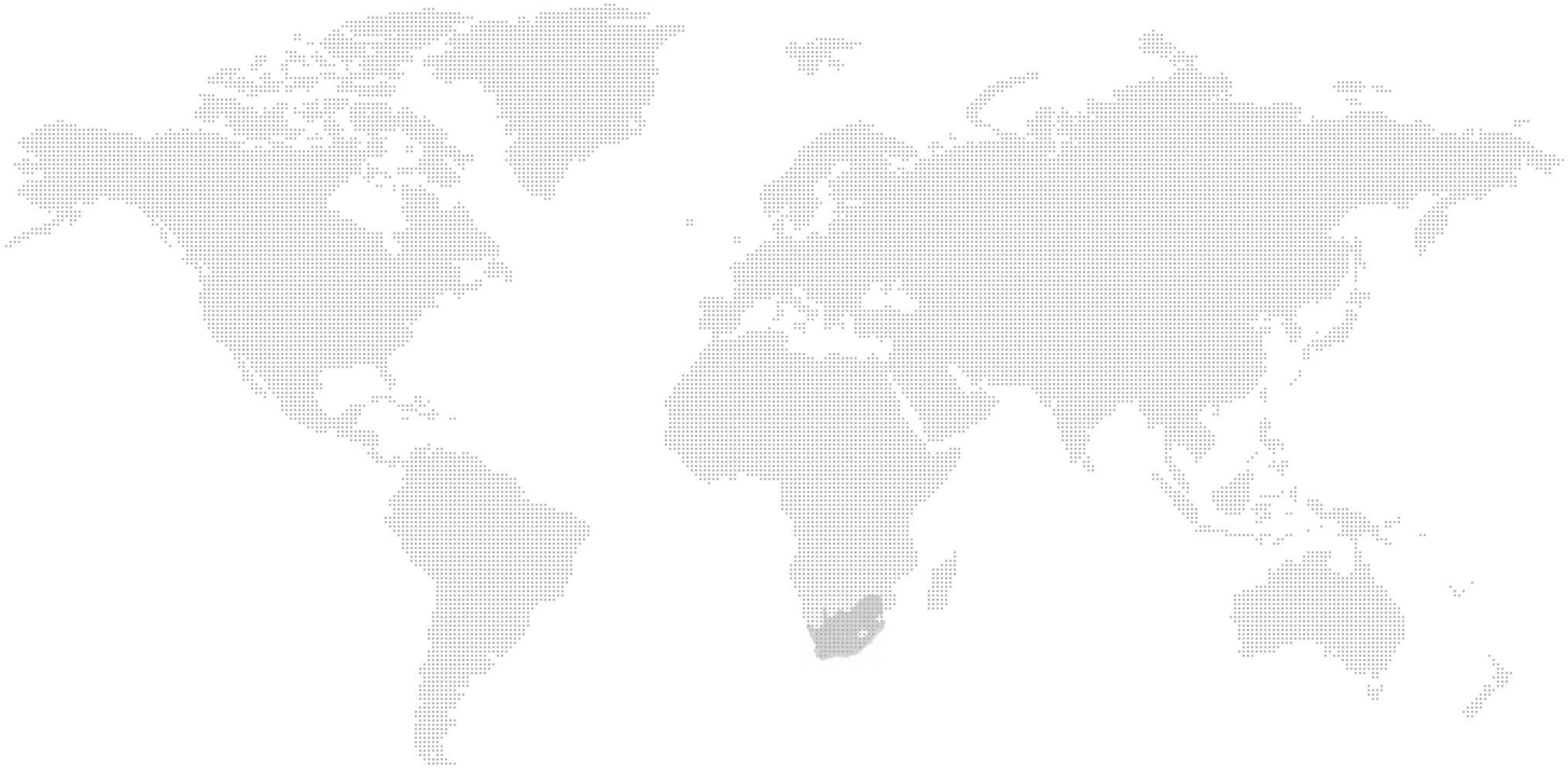
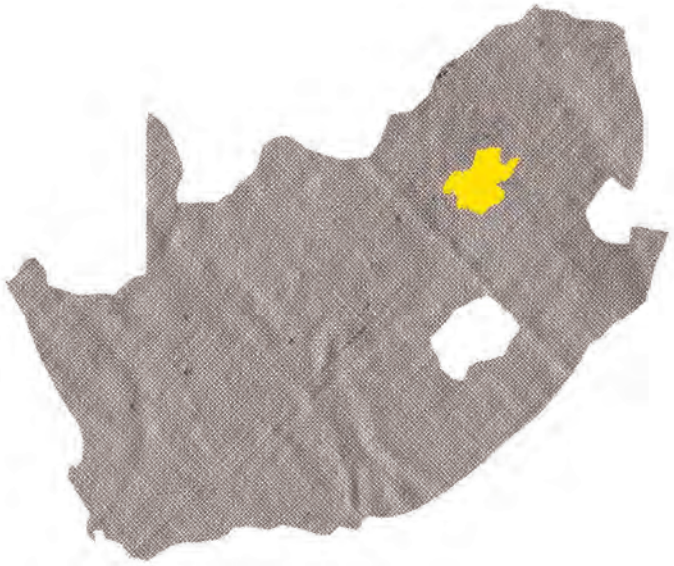


4.1_physical context

Greater Pretoria (City of Tshwane)

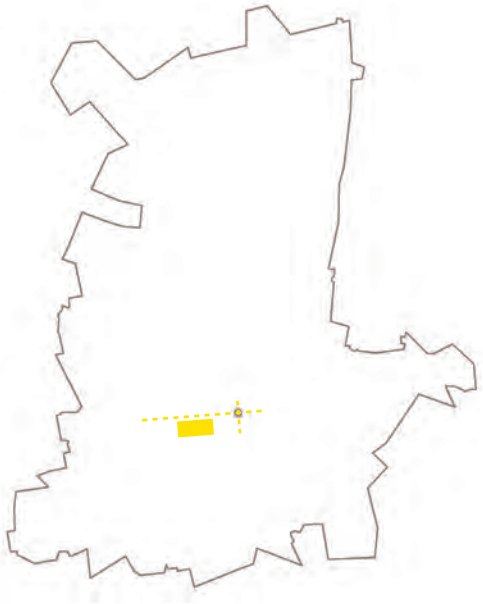
Location:	25'45'S ; 28'15'E
Average day temperatures:	Summer 15-28°C
	Winter 6-23°C
Average annual Rainfall:	700mm
	(summer rainfall region)
	(Heydenrych, 1999: 2)

Fig 4.1 (a)-(d) Series of maps showing South Africa, Gauteng Province and location of site in the City of Tshwane.



south africa

gauteng province



city of tshwane

4.2_urban context

4.2.1__background

Pretoria West – currently a part of Pretoria associated with industrial activity, pollution, noise, poverty, panel beaters and mechanics – was established in 1892 and has a rich history.

In the 1870's this part of Pretoria was surveyed for burgerright erven. There was an agreement that the Voortrekkers would receive farms in the Transvaal area, but many rather preferred large stands and they settled mostly in Pretoria West. After 1902 farmers flocked to the city from the platteland, and so the Goede Hoop residential area in Pretoria West developed rapidly. The primary school, called Burgerright School, recalls the historic area of Pretoria.

With the rapid growth of the area, there was initially a lot of criticism about the urbanisation of the area – especially from the Uitlanders and newspapers who preferred that the area, which contained a park and race course (the current Show Grounds) retain its rural character.

Many railway employees lived in the area of Goede Hoop and with the establishment of Iscor in the area, which acted as a catalyst for industrial activity and growth, the need for more housing grew. Today the rural past of Pretoria West is long forgotten and due to its location close to Pretoria CBD the area shows phenomenal potential for growth. (Pretoria News, 1996, p. 8)

Fig 4.2 Aerial photo of Pretoria West and its relation to Church Square and Pretoria CBD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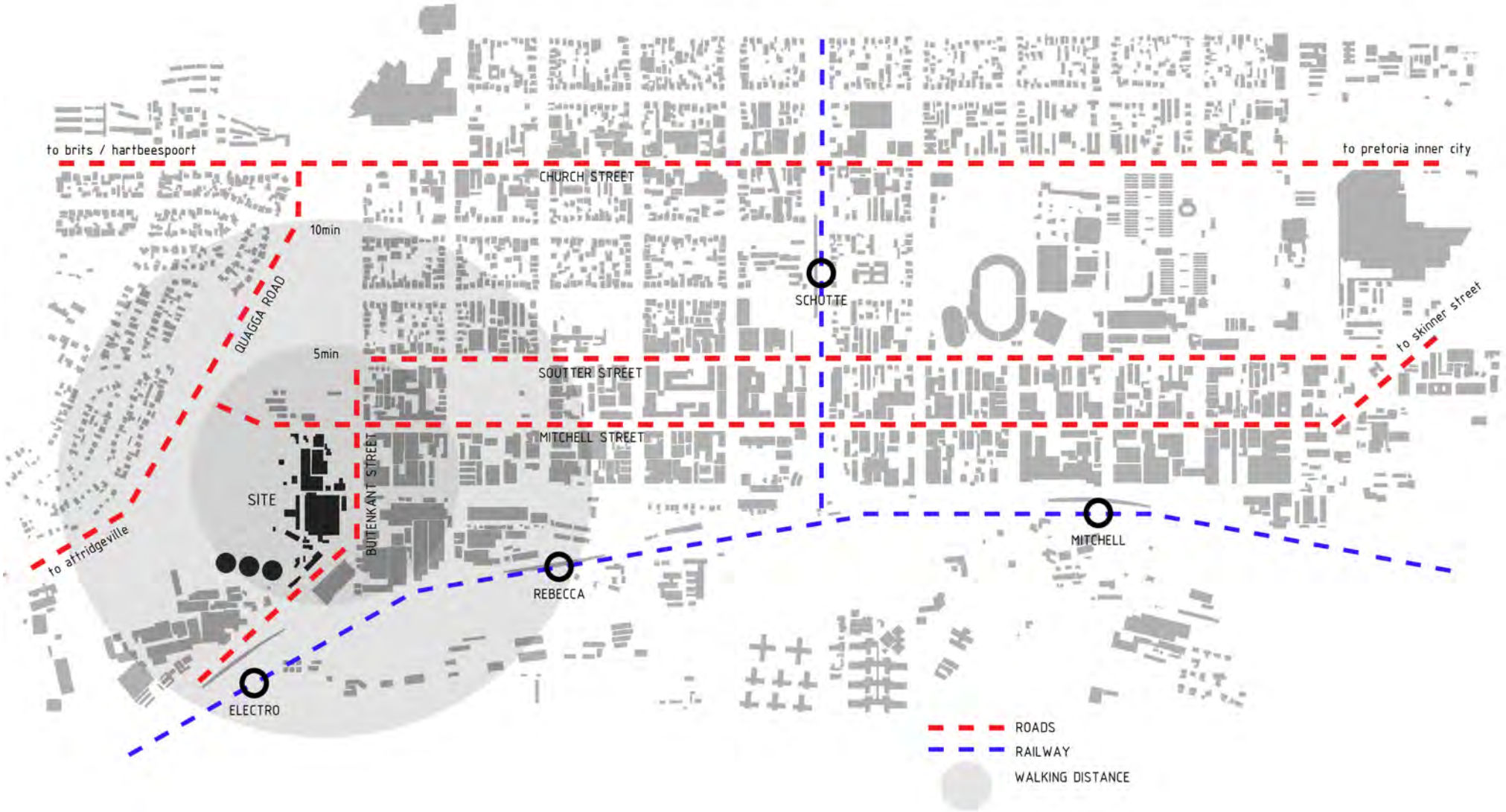
marabastad
pretoria west residential
church square
pretoria CBD
proclamation hill
pretoria west industrial
pta west power station
weskoppies mental hospital
pretoria military
pretoria police training

4.2.2_ major access routes

Pretoria West Power Station is within 5 minutes walking distance to major access roads that link the site with Pretoria CBD and Attridgeville. The site is also currently within 10 minutes walking distance of two train Station, Electro and Rebecca, which also provides access to Pretoria Station and Attridgeville.

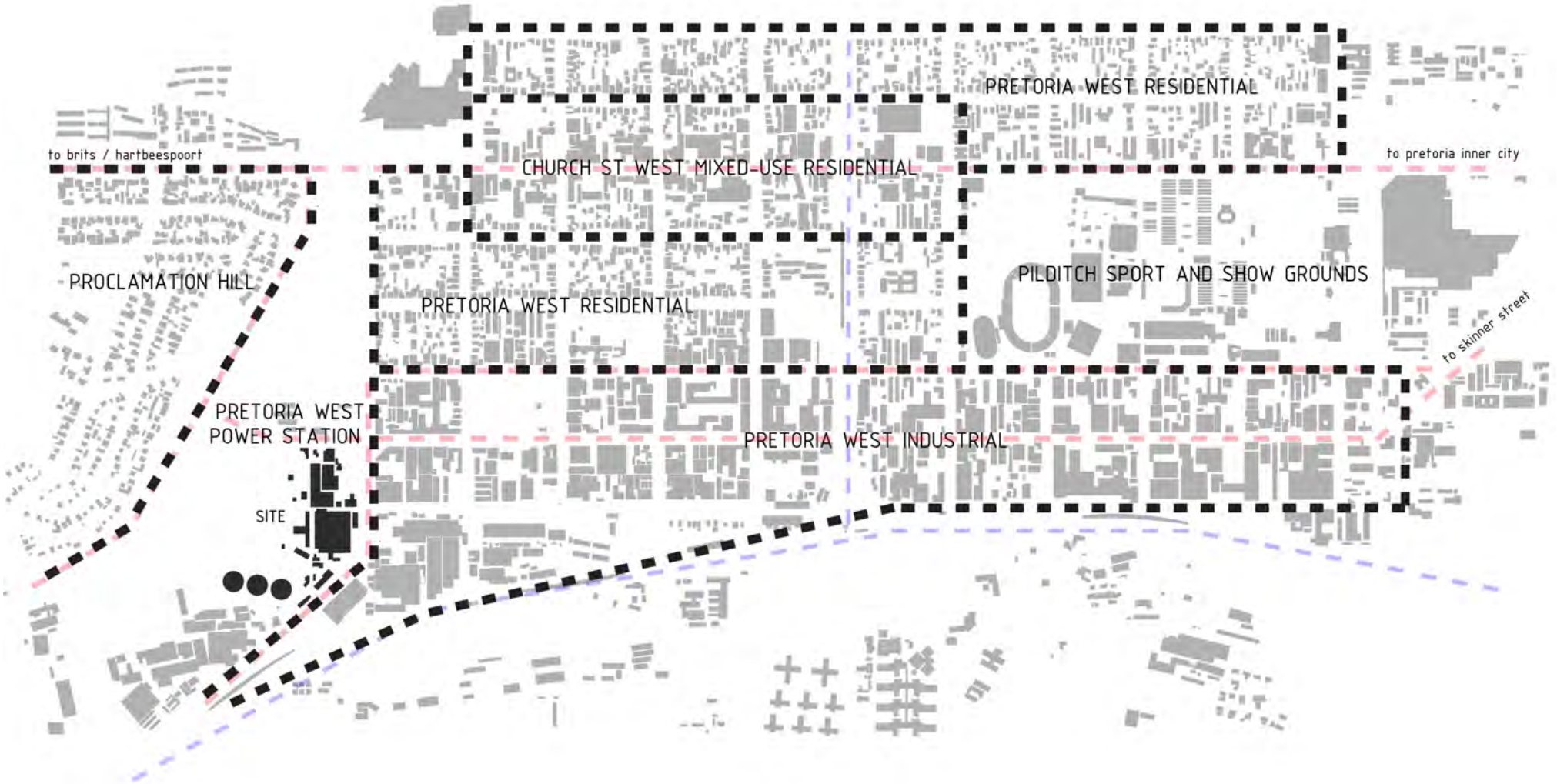
Fig 4.3 Figure Ground Study of Pretoria West showing major vehicular and rail access routes.


to brits / hartbeespoort
to pretoria inner city
CHURCH STREET
10min
QUAGGA ROAD
5min
SCHOTTE
to skinner street
SOUTTER STREET
MITCHELL STREET
BUITENKANT STREET
SITE
to affridgeville
MITCHELL
REBECCA
ELECTRO
ROADS
RAILWAY
WALKING DISTANCE

4.2.3_ districts

Within the Pretoria West district there are smaller areas that have similar functions e.g. the Industrial area north of the railway tracks, Church Street with more commercial activities and apartments, Pilditch Stadium with other recreational activities, and residential in the remaining areas.

Fig 4.4 Figure Ground Study showing smaller districts within the Pretoria West


PRETORIA WEST RESIDENTIAL
to brits / hartbeespoort
CHURCH ST WEST MIXED-USE RESIDENTIAL
to pretoria inner city
PROCLAMATION HILL
PRETORIA WEST RESIDENTIAL
PILDITCH SPORT AND SHOW GROUNDS
to skinner street
PRETORIA WEST
POWER STATION
PRETORIA WEST INDUSTRIAL
SITE

4.2.4_ land use

There is a diverse collection of land use in the Pretoria West Region. There are more industrial and commercial activities along major access routes, with lower density residential in the quieter streets. The Old Power Station, which will be adapted to offer more public functions, might have a changing effect on the rather mono-functional industrial area north of the railway lines, with more commercial and residential activity.

Fig 4.5 Figure Ground Study showing the different land use in the Pretoria West area.


CHURCH STREET
QUAGGA ROAD
SOUTTER STREET
MITCHELL STREET
BUITENKANT STREET
SITE
1 storey
2-3 storey
>4 storey
industrial
housing
commercial
special

4.2.5_ landmarks

Within the Pretoria West region there are certain buildings that act as landmarks or way-finding elements. The areas immediately surrounding these landmarks usually offer enormous potential to be developed, due to the existing identity of such landmarks. Pretoria West Power Station is one of these landmarks in the area because of the massive buildings, dam and Cooling Towers.

Fig 4.6 Figure Ground Study showing landmark buildings within the Pretoria West area.


pilditch
show grounds
SOUTTER ST
park
sunbake
barrel inn
MITCHELL ST
tavern
railway bridge
corner cafe
silo
silo
power station
metrolane mall
BUITENKANT ST
SITE
cooling towers
weskoppies


PRODSURE


Barrel Inn

4.2.6_ nodes

Within the Pretoria West region there are small activity nodes that were formed. Their location is usually informed by other activities or where major access routes cross. An example of this is the Kwagga Mall, where the railway crosses over Church street, around Pilditch Stadium, on the eastern side of Mitchell Street around the Barrel Inn Hotel and around the Old Power Station. These areas also offer the potential for further development due to existing activity and energy around these nodes.

Fig 4.7 Figure Ground Study showing nodes (concentration of activities) within the Pretoria West area.


quagga shopping centre
commercial activity
CHURCH STREET
shops
commercial activity
pilditch sport
recreational activity
QUAGGA ROAD
SOUTTER STREET
park / recreation
and economic activity
MITCHELL STREET
hotel and shops
economic activity
SITE
BUITENKANT STREET
power station
private activity

4.3_pretoria west power station

(site and surroundings)

4.3.1_background

The period between 1920 and 1940 was marked by very extensive development in power distribution all over the Union with the establishment of large power stations, the rapid development of outdoor lighting and the increased use of electricity to drive workshops and machinery. (SA Engineer and Electrical Review, 1942: 17)

The first electrical undertaking in Pretoria was established in Schoeman Street in the year 1891 by a private company. In December 1904, the station was taken over by the Municipal Council and in 1910 a system of electrical tramways was inaugurated. During this period the station had been enlarged and extended several times.

In 1919, owing to the increase of building operations and the extension of the town, the demand for electricity increased in such a way that it was decided to build a new power station. The suitable site, commanding an adequate supply of water for condensing purposes, had been selected at a point about three miles west of Church Square. The erection of the building was proceeded with in accordance with the design and specifications of Messrs, Clark and Partner, consulting engineers of Johannesburg. (SA Engineer, 1927: 43)

In December 1923 Pretoria West Power Station was the only provider of electricity for Pretoria and the power station in Schoeman Street was shut down. Today this facility in Schoeman Street is known as the Tram Shed, a shopping complex and market. (Masut, 2010)

Fig 4.8 Aerial photo of Pretoria West Power Station

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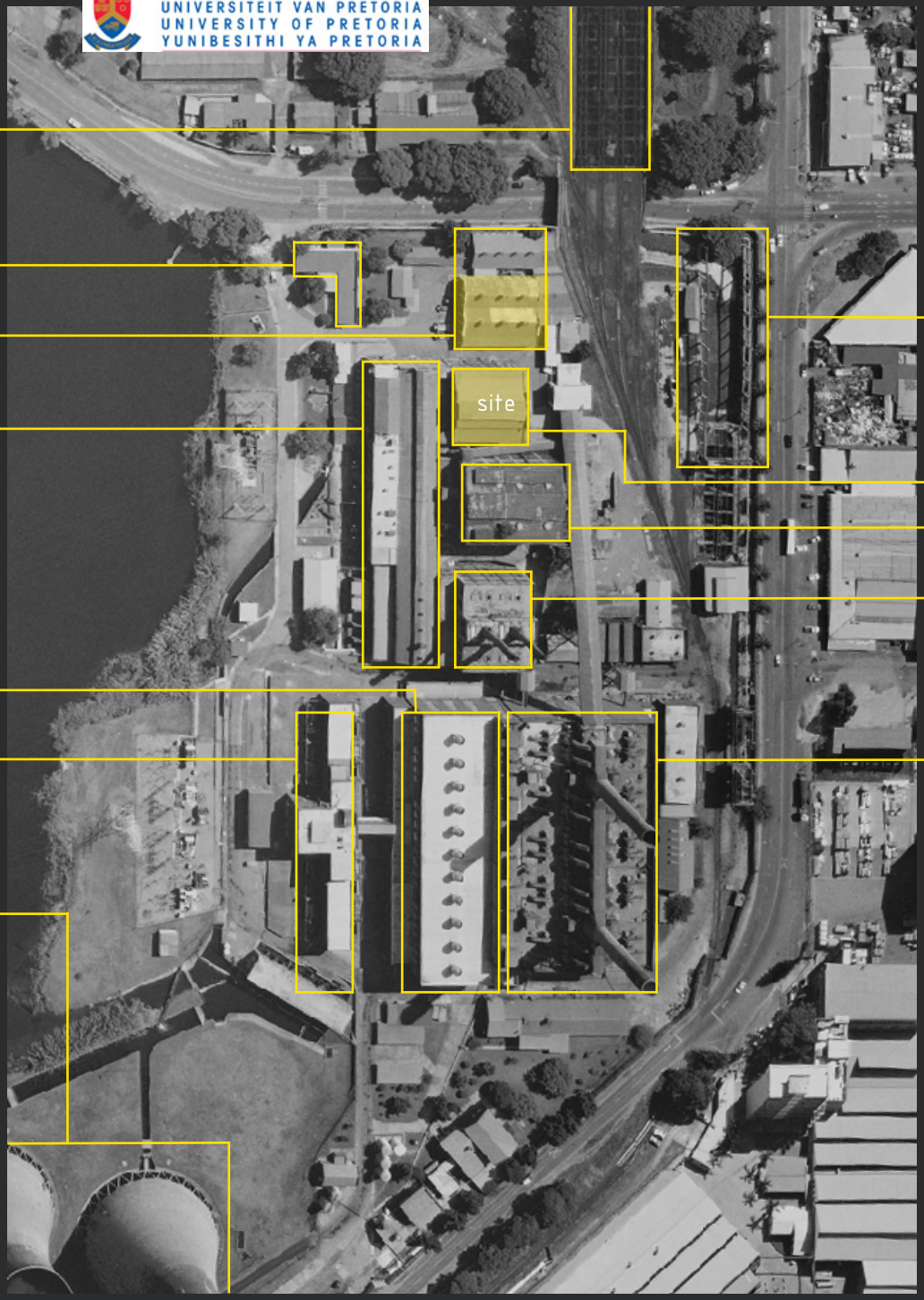


new coal bunkers

security office

workshops (unused)

old turbine hall (unused)

new turbine hall

administration building

cooling towers

old coal bunkers
(unused)

old boiler no.1
(unused)

old boiler no.2
(unused+structurally unsound)

old boiler no.3
(unused)

new boiler

pretoria west power station

scale 1:2500

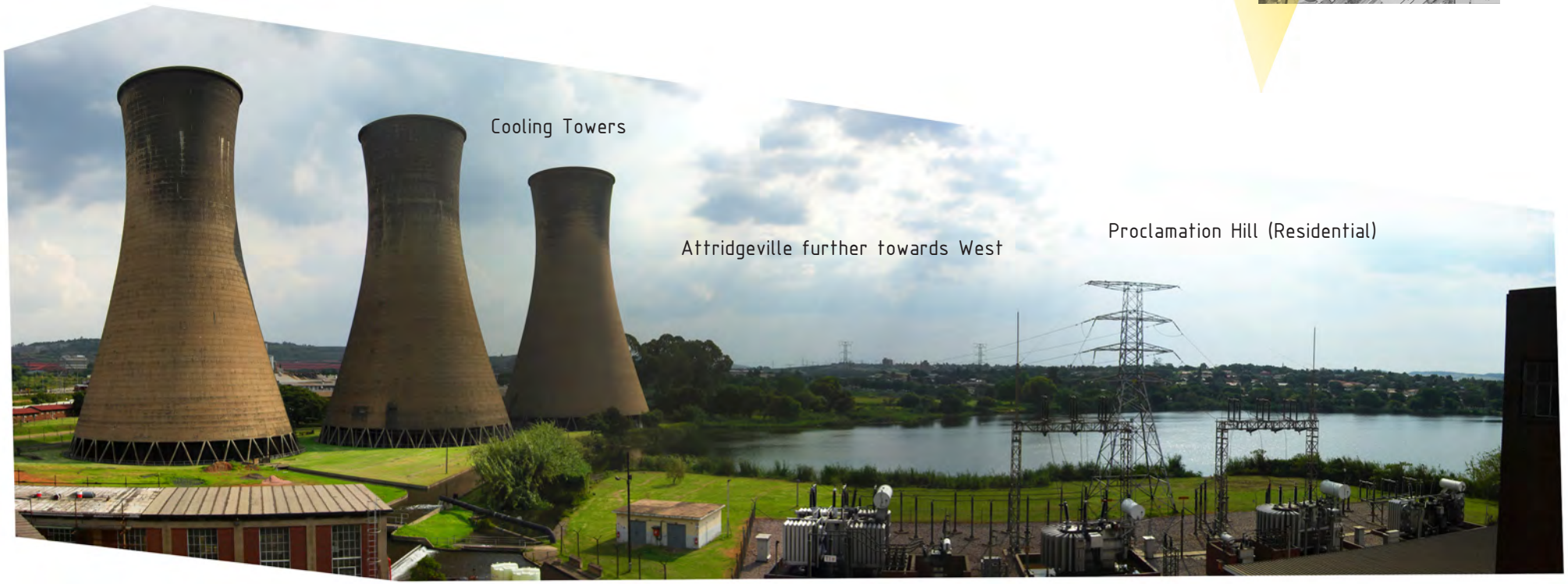


Fig 4.9 View from Admin-Building looking west

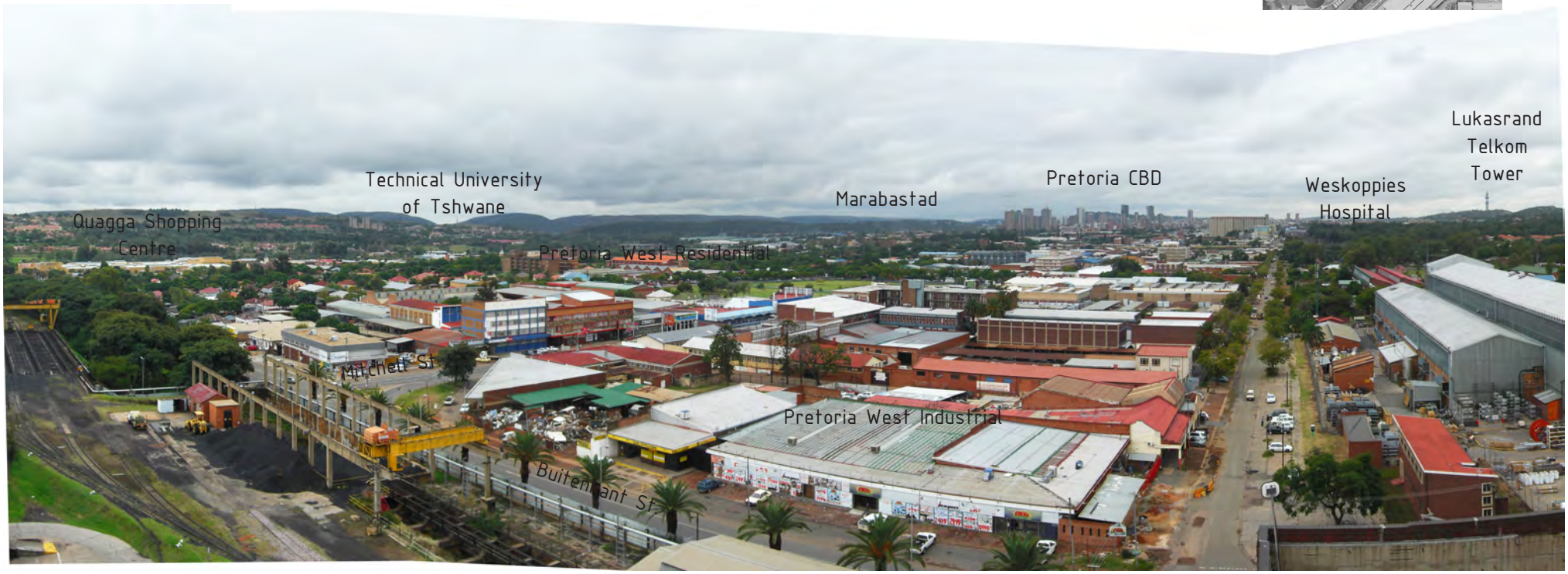


Fig 4.10 View from Power Station looking east towards Pretoria CBD

4.4_site

4.4.1_background

During the late eighteenth century, the engineering profession achieved professional recognition, subsequently they have risen to dominance in the construction industry. Their advanced technical knowledge about materials allowed them to design structures with the biggest spans and the least materials, with functionality and pragmatism as the only criteria for the building form, without ever considering what 'style' they should apply to the building (De Botton, 2006: 46).

This approach from the engineer was contradictory to those of the architectural profession. According to Karl Friedrich Schinkel, an architect's duty was to "turn something useful, practical and functional into something beautiful" (De Botton, 2006: 47).

The site for the specific project was identified as the 1924 Boiler House and Workshops. These buildings were of the first buildings to be built at the Power Station and although they were designed primarily with functionality in mind, they are some of the only buildings at the Power Station where the 'beauty' of the building was still an important consideration by applying subtle hints to an aesthetic approach in the original early 20th century Industrial Architectural design.

It is therefore appropriate that the new programme, a facility for the fashion industry, which primarily deals with beauty, be housed within these existing buildings. The new programme includes a public event space for fashion shows, studios for fashion designers and a clothing factory where they can produce their products. The event space should be adaptable to present the option for other events like independent cinema and film festivals, or community gatherings.

4.4.2_heritage charters

According to the Burra Charter, places of cultural significance "enrich people's lives and provide a sense of connection to community, landscape, the past and to lived experiences. They are historical records, that are important as tangible expressions of an identity and experience. They are irreplaceable and precious" (Burra Charter, 1999: 1).

The Burra charter also supports the approach to "do as much as necessary to care for the place and make it usable, but otherwise change it as little as possible so that its cultural significance is retained" (Burra Charter, 1999: 1).

The charter stipulates that a statement of significance be prepared, which will provide the foundation in the decision making process, when new work or adaptations are done to an existing building (Burra Charter, 1999: 4). Adaptations and new work is acceptable where there is minimum impact on the significance of the place and the new intervention should easily be identifiable as new work (Burra Charter, 1999: 7).

Fig 4.11 View of unused and current power station

Fig 4.12 View of existing 1924 Boiler House and Workshop buildings in surrounding context

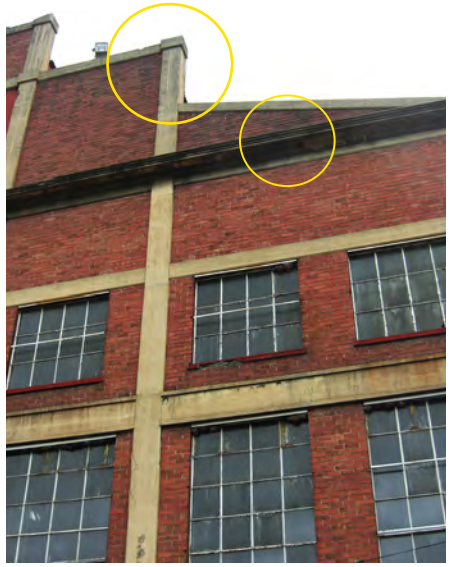
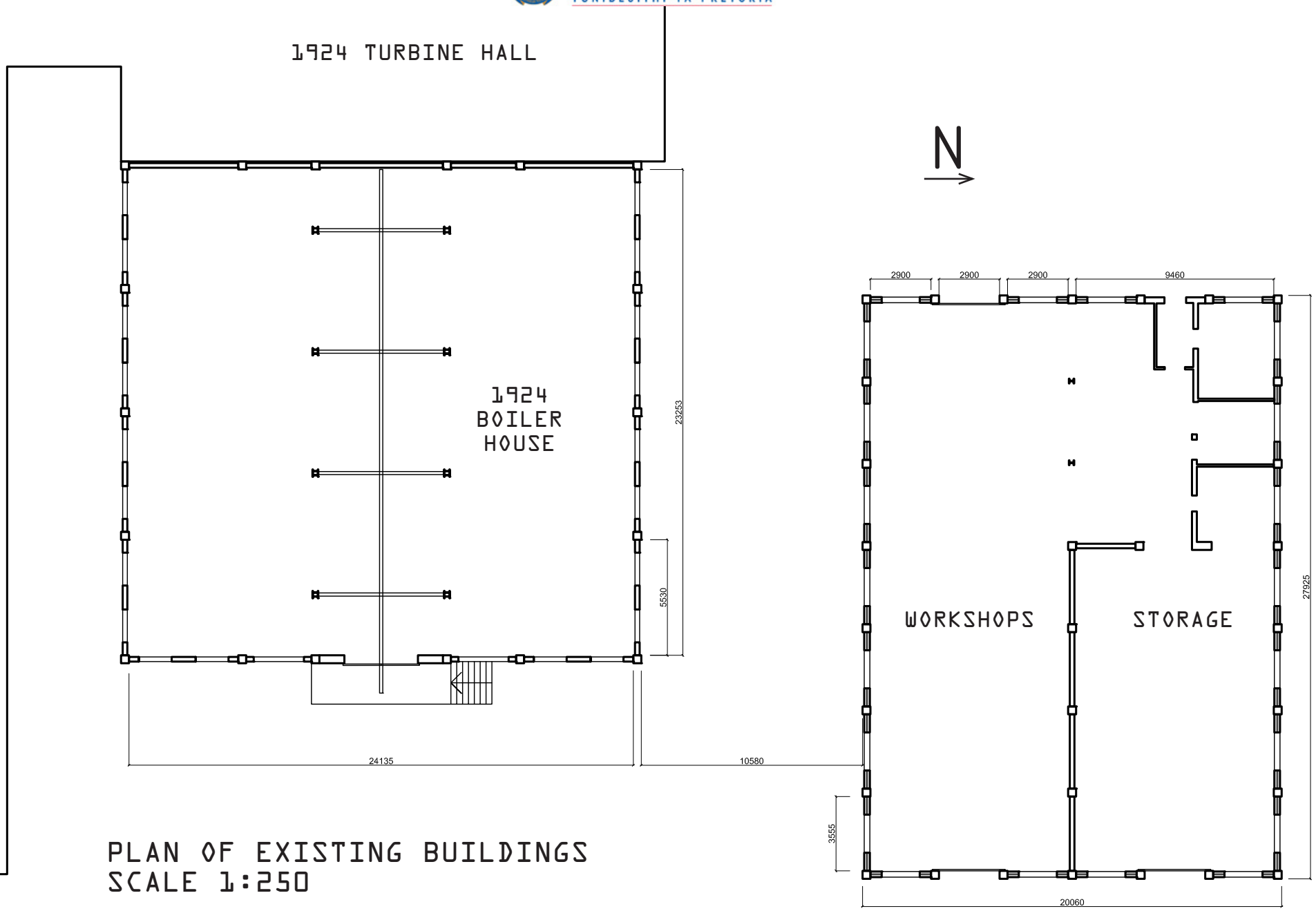


Fig 4.13 (a) 1924 Boiler House gable,
(b) subtle hints toward an aesthetic approach

Fig 4.14 (a), (b) Interior of Boiler House

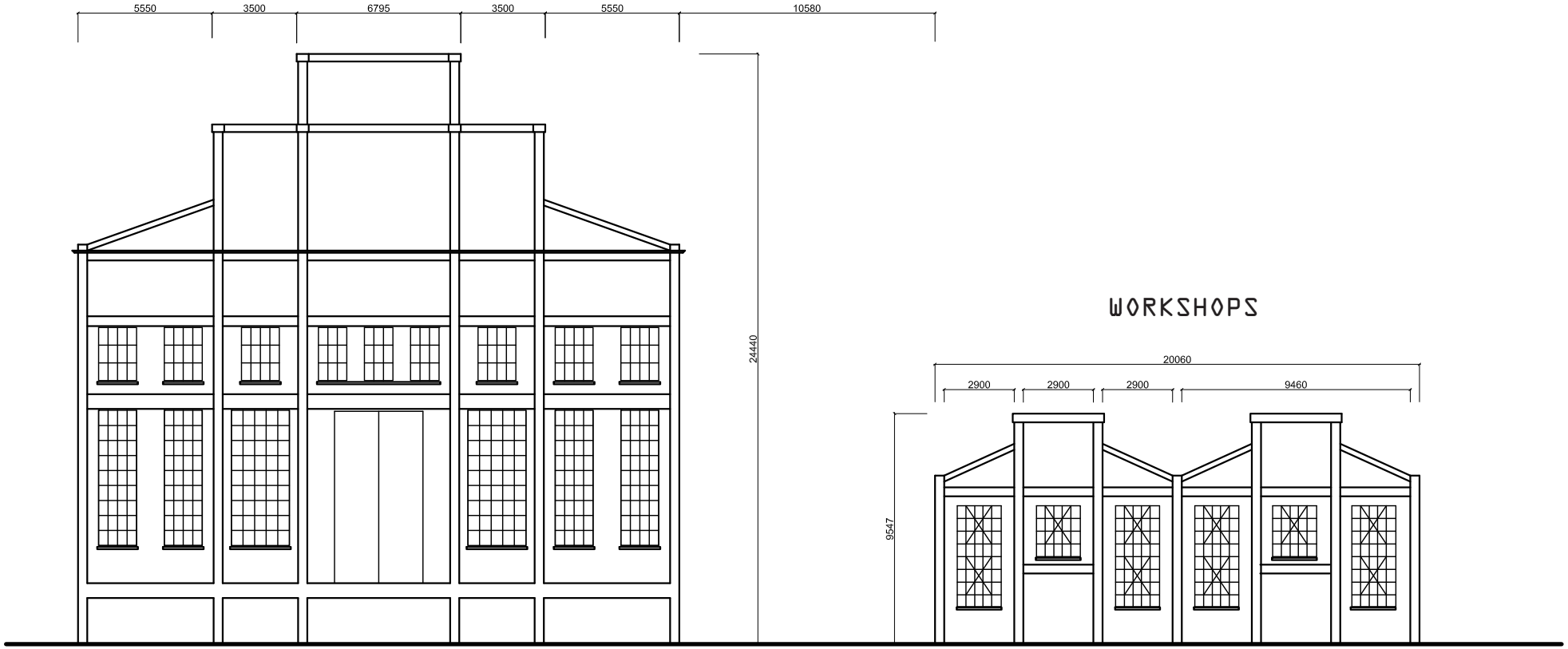
Fig 4.16 Workshops

Fig 4.15 (b) Workshops Interior



PLAN OF EXISTING BUILDINGS
SCALE 1:250

1924 BOILER HOUSE



EAST ELEVATION
SCALE 1:250

site (continued)

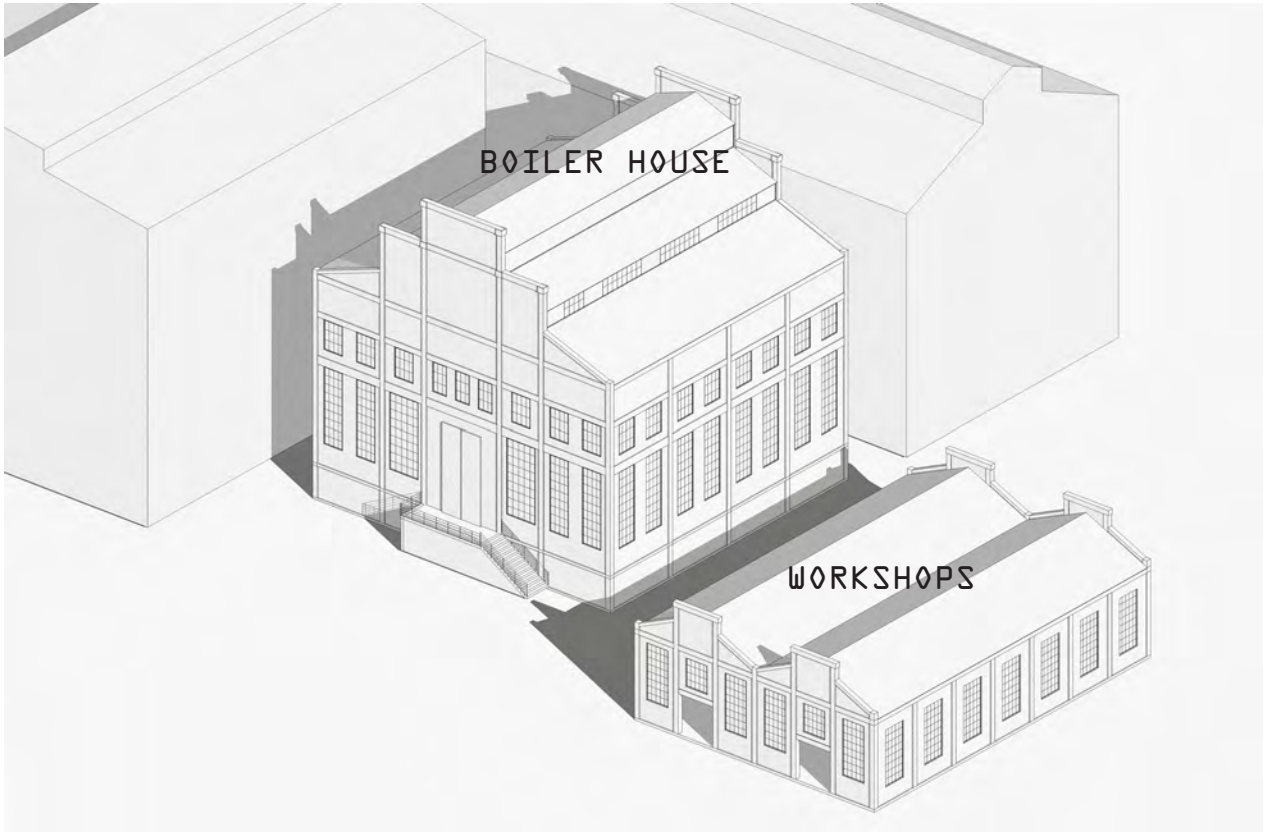


Fig 4.17 3D model of existing buildings

4.4.3_history

This building was built during a confused age in architecture where the engineering profession was well established and they demanded that factories and industrial buildings be built according to their function only, which was to house large machinery and equipment (De Botton, 2006: 47).

It was also during this time that there was a self-conscious tradition or movement in architecture. Cleveland Amory wrote in an interview with Philip Johnson in Vogue Magazine (May 1924) that "Civilisations are remembered by buildings. There's nothing more important than architecture" (Jencks, 1973, p. 50). Architects wanted to be immortalised by designing monumental architecture and were serious about taking the duty to turn something practical and functional into something beautiful (De Botton, 2006: 47)

4.4.4_boiler house

description

The building was originally used as a Boiler Room where - as the name suggests - water was boiled to extreme high temperatures to create compressed steam that was transferred to the turbines in the neighbouring Turbine Hall to generate electricity. The interior of the building is a large open volume which could house the boiler machinery. The façade and especially the gable ends were given a unique identity in an early 20th century industrial architecture, with subtle hints towards an aesthetic approach in the original design. The eastern facade of this building reads as the front of the building.

The building is constructed with reinforced concrete columns and beams/lintels, filled in with brick and big windows. On the eastern side there are huge steel roller doors which announce the entrance. Currently the building is not actively used and acts as storage for unused steel shelves and drawers (Masut, 2010).

significance

The significance of this building lies in the volume that the building envelopes. The space offers the opportunity to be adaptable for different functions. The building is proudly located next to the new proposed public space. It therefore lends itself to the use of public functions.

4.4.5_workshops

description

Just like the Boiler House, the eastern, as well as the western facades of this building are articulated with gable ends in an early 20th century Industrial Architecture aesthetic.

The building is also constructed with reinforced concrete with brick infill. The building was originally used as a workshop to make or repair broken equipment from the power station. Currently the building is used to store equipment used on the Power Station site.

significance

The significance of this building lies in the architectural language which is similar to that of the neighbouring Boiler House. The skin / envelope of this building becomes important as it doesn't speak of industrial activity, but rather a pastiche façade that resembles that of the neighbouring Boiler House with its decorative elements and hides away industrial activity inside.

The interior space of this building is also very adaptable and to honour its historic function the new building program should be of a productive / working space nature.

site (continued)

4.4.6_approach towards existing buildings

Buildings are like pages in a history book. They speak of the time they were built in. Industrial buildings, especially, were designed primarily as containers to house a specific function. The buildings on site, the 1924 buildings designed in an early 20th century industrial architecture, with subtle hints towards an aesthetic approach in the original design, shows that even during a time when the engineer had the majority influence on the design of an industrial building, the architect wanted to voice the importance of 'beauty' and aesthetics in architecture, metaphorically adding their page to the history book. "Civilisations are remembered by buildings" (Jencks, 1973: 50).

As the Power Station's need grew and the amount of buildings grew as well, the building façades became less aesthetically driven and purely functional. These buildings become significant, because they are good examples of industrial architecture and how it changed through the years. However they do not possess any famous associations towards a specific historic figure in the country's history, but rather a memory of what has happened there before (Cantell,2005: 5).

The paradox of architecture is that the adored city must be destroyed to allow for the new. The approach to intervene is that one sets out to alter, but at the same time to respect and protect a building (Scott, 2008: 167). Historic buildings add to the different layers of a city that accumulated through time. When intervening on them, it shouldn't be copied or mimicked because it doesn't necessarily speak of the time that the alteration took place. New layers should be added to them so that the distinction between the old and the new become more apparent.

The fitting of the new into the existing is a challenge, and so the fit is likely to become less clear than the more explicit requirements that can be made with a new building and, of course, the new identity often needs to be made explicit within the old context. The relationship between the new programme and original use should contain meaning for the overall project (Scott, 2008: 172).

David Chipperfield was commissioned to alter and restore the Neues Museum in Berlin. His approach to alteration is that architectural presentation – like fashion – changes through the decades. "That which was once acceptable in one period, is not acceptable in another." The architect or engineer's original concept of the building is part of the original building and is not identified as a mistake, but the way we address and restore the building and present it as an object in the 21st century is different from when it was originally built.

4.4.7_conclusion

Alteration to existing buildings needn't be an exercise to restore the building to its original form and function. Buildings change over time and adapt as their needs change. This is also part of the building's history. To alter a building, it is important to address and redress its shortcomings to translate it as an object of the 21st century (Chipperfield, 2009). Due to the contrasting nature in fashion photography, a contrasting approach will be taken in the design of the new building, which will emphasise the spirit of the time when the original buildings were built, as well as when it was adapted.

neues museum, berlin, germany (2009)

david chipperfield architects

description

The original Neues Museum building was built between 1841 and 1859 and was designed by Friedrich August Stüler and was one of the first museums on the island in the River Spree in Berlin. During the Second World War, the building was badly damaged during bombings with some parts completely missing and others severly damaged (Neues Museum, 2010).

approach

The aim was to restore the building to its former glory. The architect incorporated all the original parts of the damaged building into his new design, without imitating them. He therefore translated the spatial qualities of the original building into a contemporary architectural language. In an interview with David Chipperfield, he had the following to say about the central 'Treppenhalle' staircase: "One voice said restore it to its original state, the other voice advocated that we take advantage of the space, creating a radical piece of modern architecture. We pursued both concepts for a year. But we realised that when we listened to the building there was only one solution. We saw in the configuration of the windows, porch and doors that the historical stairs had measured the room, enabling visitors to experience it, travelling both vertically and horizontally through the space. Without the stairs one became a passive spectator, a voyeur unengaged with the space" (MacLean, 2009).

design influence

Chipperfield's approach to restore a building to its former glory is remarkable, yet he doesn't imitate the original building and materials. This translates the building from its former neo-classical glory to a contemporary piece of architecture, whilst retaining the original spatial qualities of the original building.

Fig 4.18 Treppenhalle at Neues Museum, Berlin, Germany in 1850 (a) and currently (b). The structure behind the murals are exposed in David Chipperfield's alterations

5. design development

5.1_accommodation

5.1.1_fashion design studios

Spaces where fashion designers can work and design new clothing lines and plan fashion shows.

5.1.2_clothing manufacturer

Facility where fashion designers can manufacture their products while they have constant surveillance on the delivery of materials, the making process as well as the final product before it is exhibited in a fashion show or exported to be sold in shops around the country.

Ancillary spaces for these functions:
- Toilets
- Storage
- Canteen area and other relaxation areas
- Materials delivery, handling and export area

5.1.3_adaptable event space

Used primarily for fashion shows, but must be able to adapt for other uses e.g. independent cinema or film festivals; community meetings.

Ancillary spaces for the event space:
- foyer
- bar
- toilets
- backstage preparation area for models
- circulation

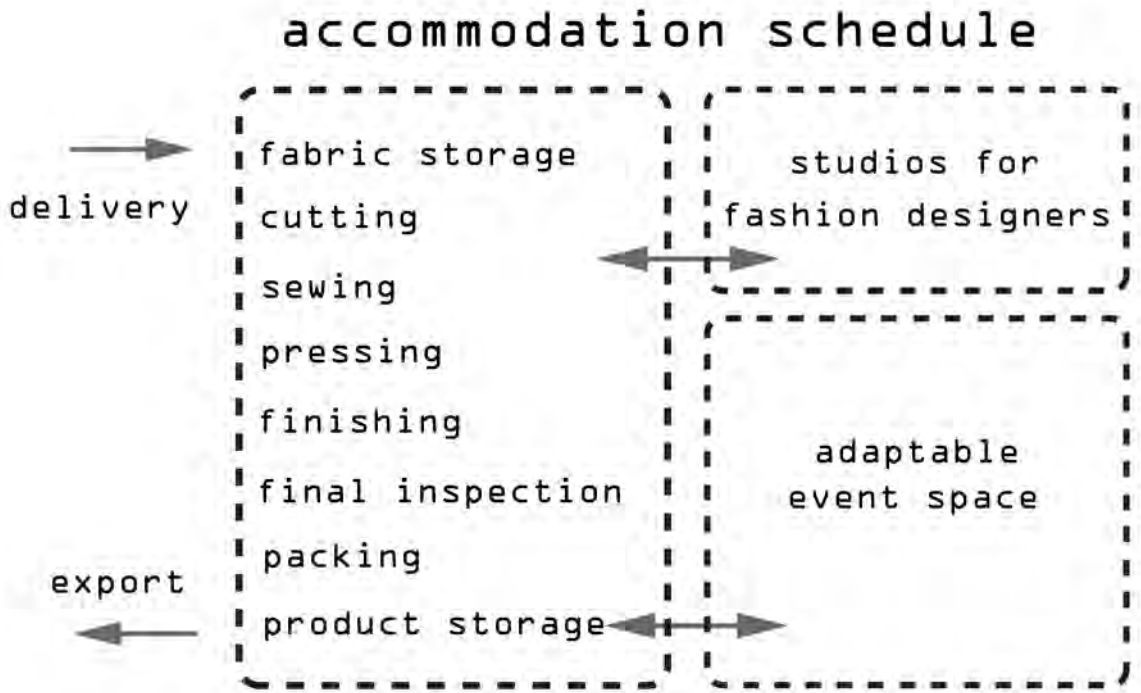


Fig 5.1 Diagram showing accommodation schedule and the relation between different functions

5.2_design informant.1
pretoria west framework

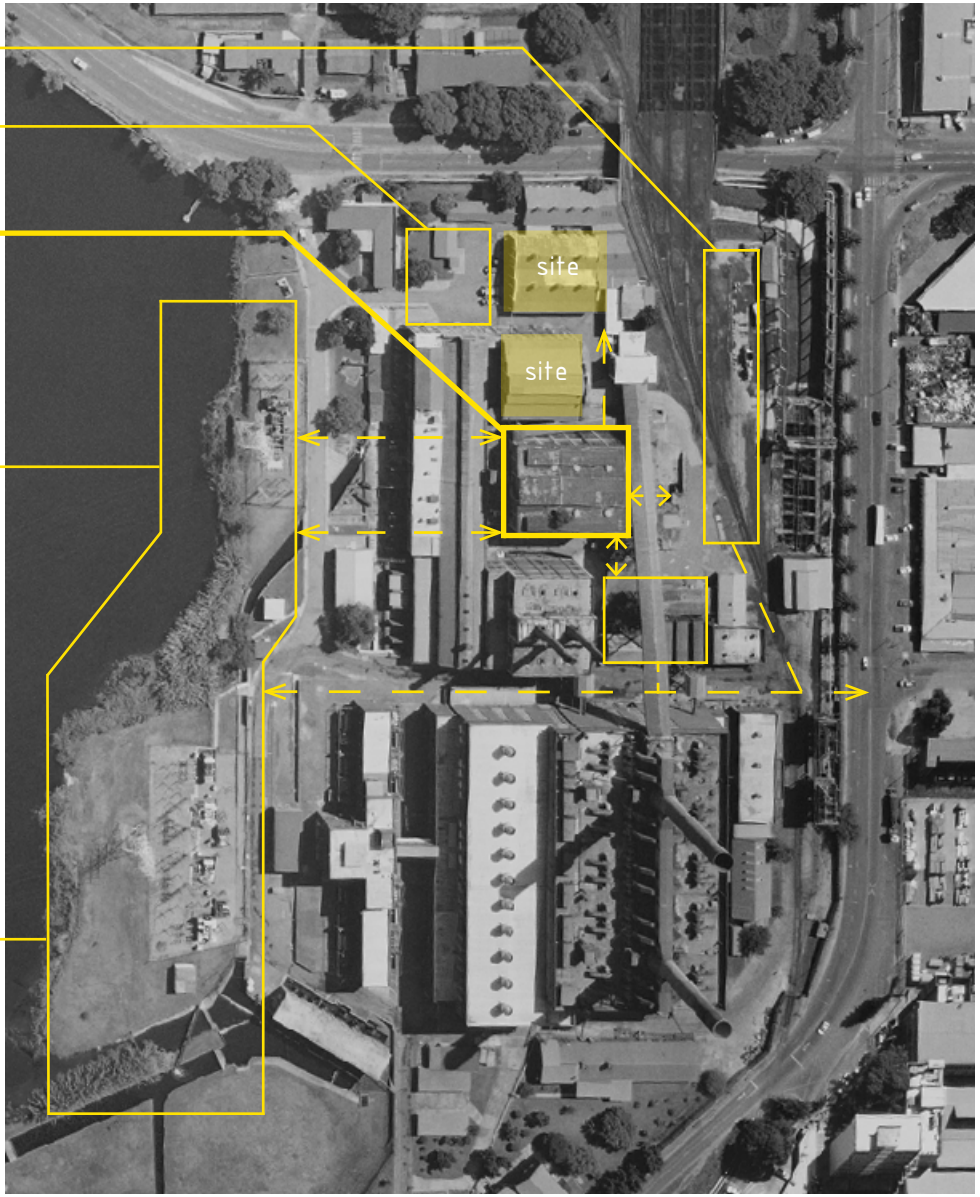
train station

service area
staff parking, material deliveries + export

primary public space
structurally unsound building removed, but steel frame will be retained to create a public space

waterfront development

recreational waterfront



public space network

Fig 5.2 Aerial photo indicating basic planning according to Pretoria West Framework.

The Pretoria West Framework identifies the area as a sub-support precinct that needs to develop which will have a positive effect on the development of Pretoria CBD.

Pretoria West offers enormous potential, with an established public transport system and infrastructure. The framework aims to change the negative perceptions linked to industrial areas, such as noise and pollution, by adding and changing the building functions in the area to include new housing, job opportunities and more public amenities.

Pretoria West Power Station was identified as a potential node for development within Pretoria West. The power station will be decommissioned within the next 10 years and some of the buildings on the site have already fallen into disuse (Masut, 2010). The framework proposes that the Power Station site be opened to the public, as it was previously fenced off for security reasons. Existing buildings will be adapted with new public functions, whilst keeping an element of production to honour the industrial history of the area.

Various public spaces on the site have been identified that act as orientation spaces on site, which will make the site more readable. The newly adapted buildings will be linked to these public spaces from where pedestrians will gain access to them.

A new train station is proposed on the old power station site. This will enhance it as a node in the area from where pedestrians can return to and commute from.

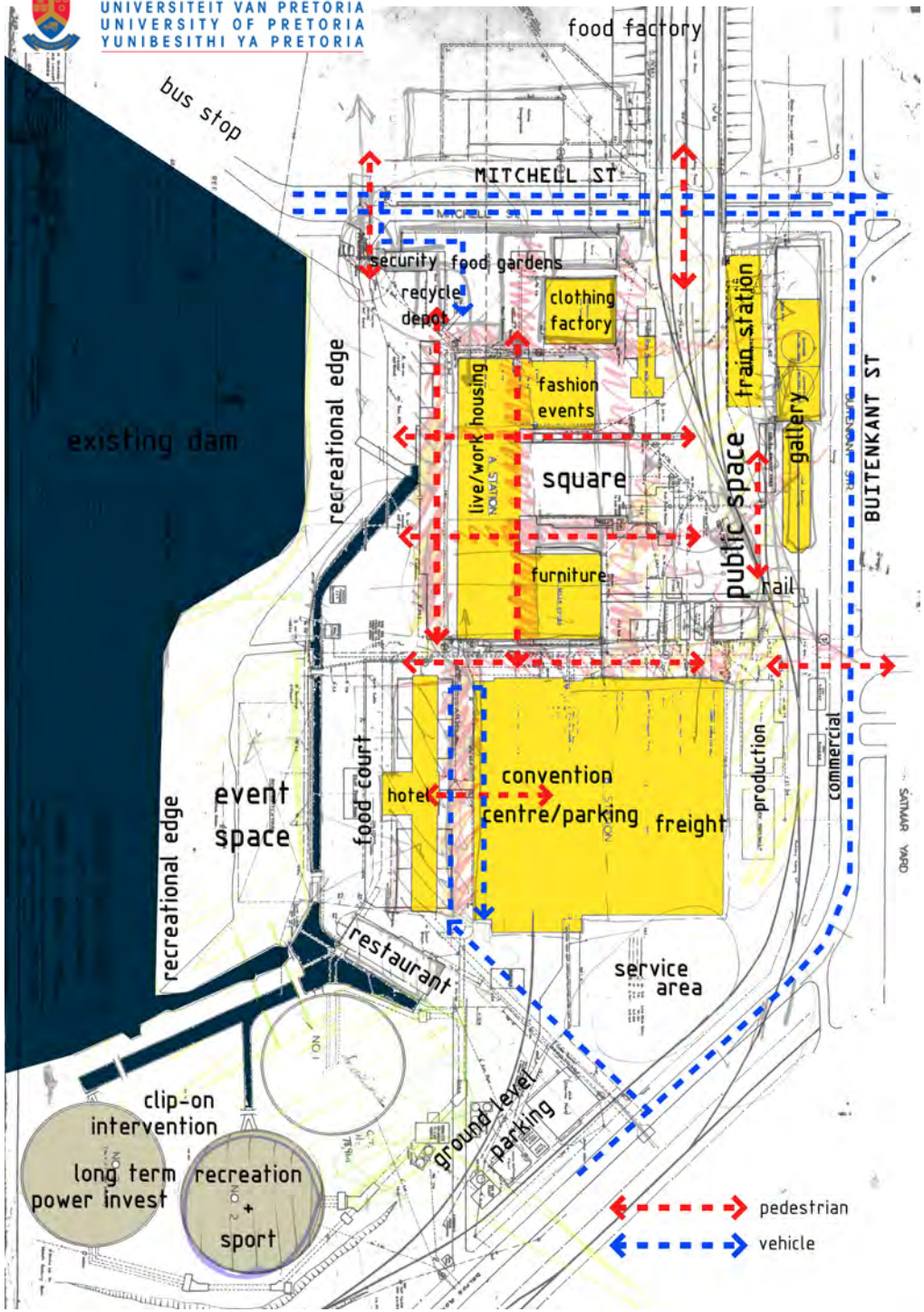


Fig 5.3 Diagram indicating buildings to be re-used and vehicular and pedestrian movement around the site.

5.3_design informant.2
existing buildings

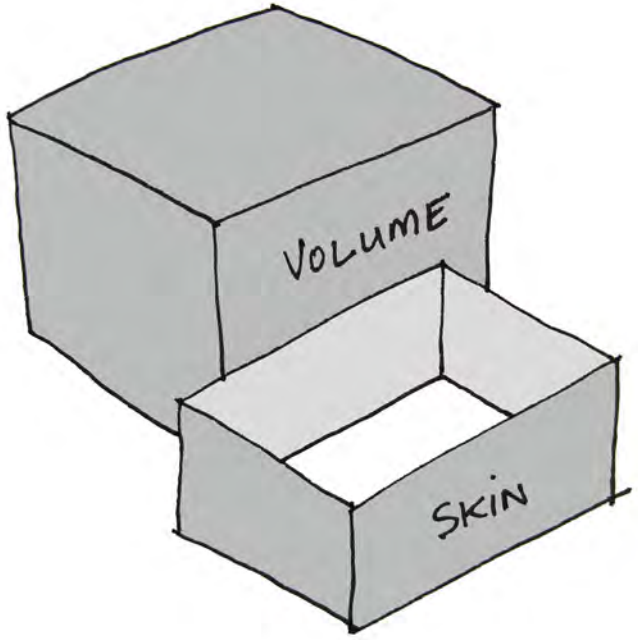


Fig 5.4 Main significance of existing buildings

_statement of significance

The existing buildings are proposed to be altered, to house a new function. It is important to know which are the significant parts of the building that should be retained and/or respected in some way.

Boiler House

The significance of the Boiler House lies in its *volume*. Although the building envelope is also unique, the thing that separates this building from its neighbours is its volume. The building reads almost like a container. According to the accommodation schedule, the new program for this building should be of a public nature. The new design / alteration should be inserted into this existing 'container', to emphasize the volumetric quality of the space.

Workshops

The significance of this building is its *skin*, which has a similar architectural language to that of the neighbouring Boiler House. The building doesn't read as an industrial building, but merely a shell that houses an industrial function. According to the accommodation schedule, the new program for this building is of a private nature. Although the building will primarily be experienced by the public from the exterior, the spaces inside the building should be made more comfortable for the people that work inside it. The new design / alteration should ultimately make the space a better working environment. It will be inserted into the existing building, give shape to the exterior, and be visible to the public.

The architectural similarities between the two buildings and the conversation between them is also significant, because the new building programmes also have a strong link.

5.4_design informant.3
building programmes

Fashion Design Studios

The work space for designers is not very prescriptive. An open plan layout is desired as it can be adapted repeatedly according to the workers' preference. Designers require a workstation with desk, computer and ample surface space on which to draw. Surfaces where rolls of material can be unrolled and walls where drawings can be pinned up are also required. Shelves will be needed for the storage of files, documents, patterns, as well as storage for material samples.

Clothing Manufacturer

The work space for clothing manufacturers also requires an open plan layout. Many workers repeat the same part of the manufacturing process and are part of a chain in this process. The open plan is helpful as it allows for surveillance by a manager to see where production is progressing too fast or too slow. Big rolls of materials are handled and also require that the space be simple and uncluttered to allow for easy movement of the product. Bundled up pieces of material and off-cut pieces generally make these spaces look untidy and cluttered.

Adaptable Event Space

The event space becomes the volume for a fashion designer to plan their extravagant shows in. The space should not be too prescriptive as to what the layout of a fashion show should be. When other events like film festivals are held, seating should be changed to allow for this purpose. The roof should be able to handle big loads that could potentially be suspended from it.

5.5_concept

[RE]dress

The definition of redress is the act of correcting an error, the making right, reformation, correction, to put something in order again.

The existing buildings were once designed with a specific function in mind. The problems and requirements for the new programme need to be identified and redressed by adapting the existing building and translating it into a more current architectural language.

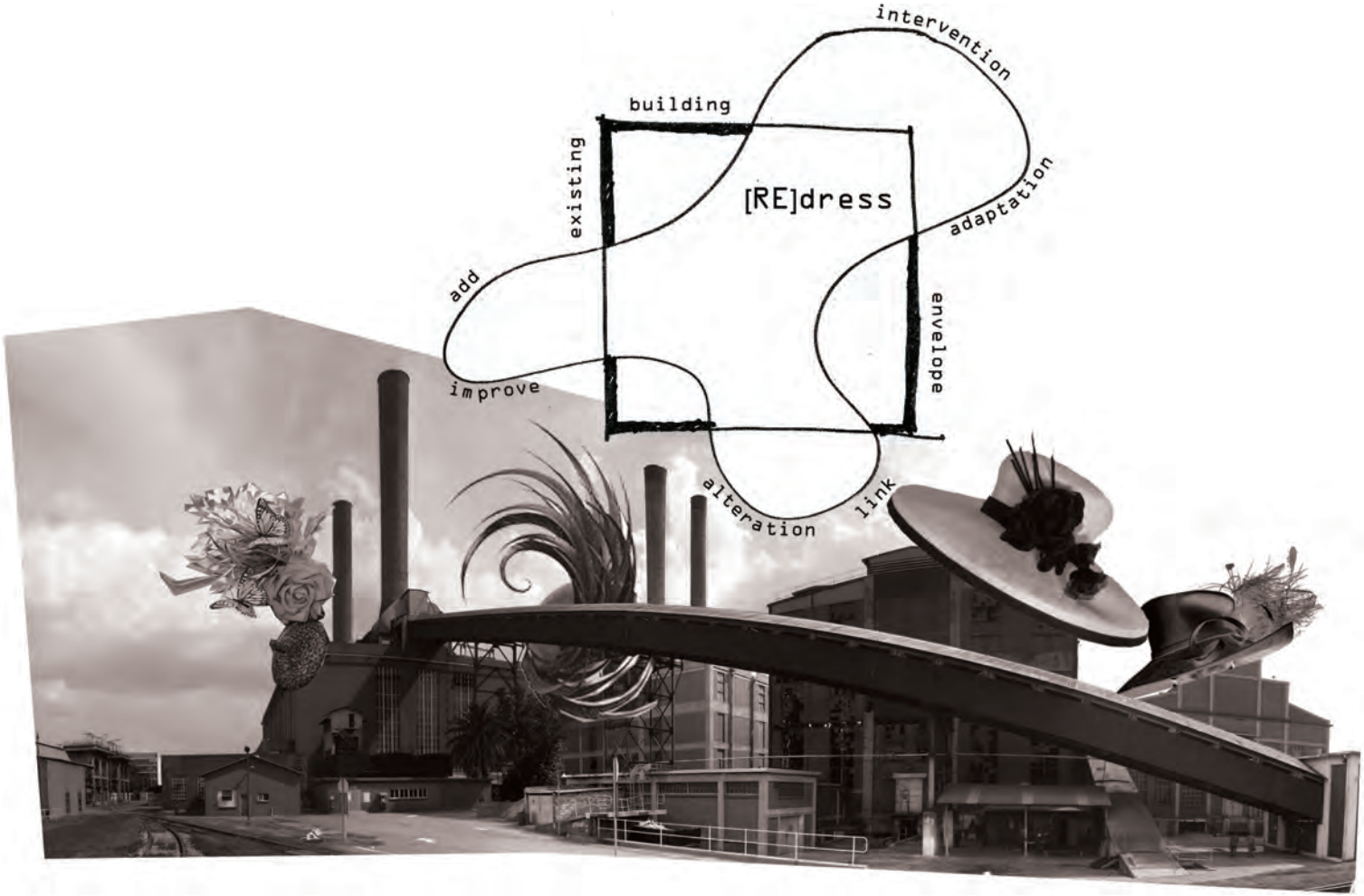
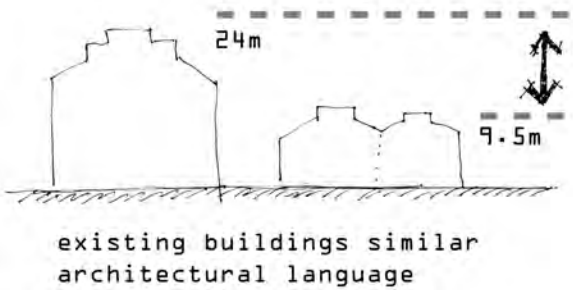
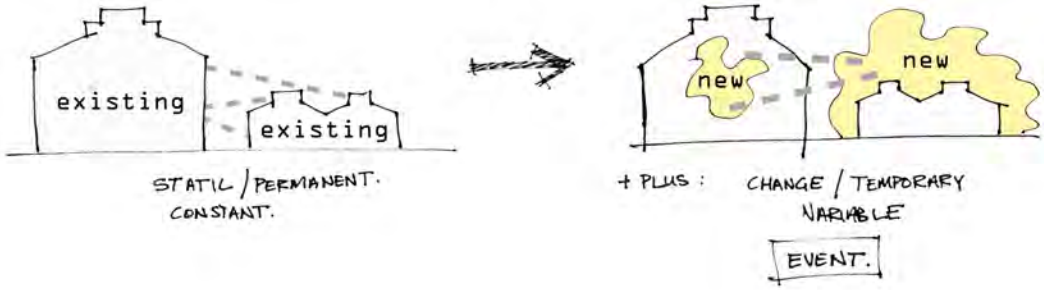


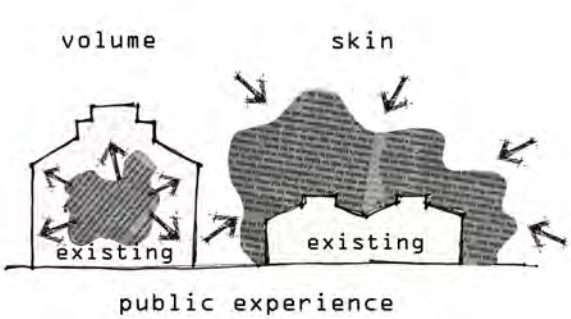
Fig 5.5 [RE]dress conceptual drawing

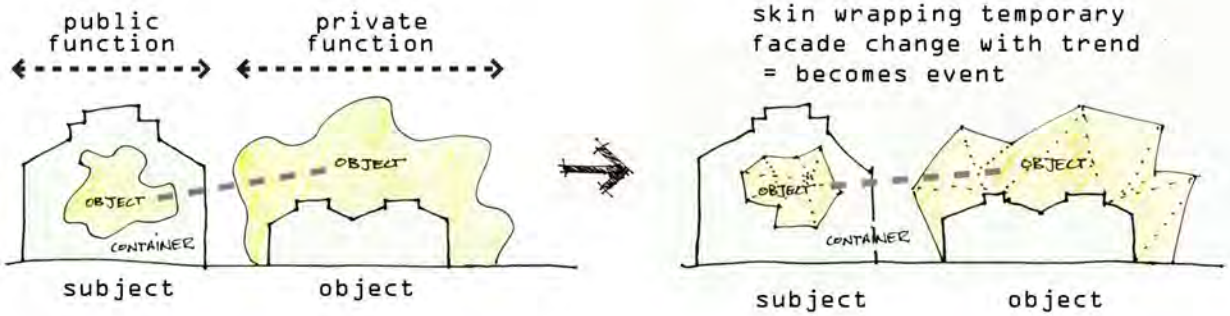
old/new





object/subject





concept statement:

[RE]dress -- [urban fabric
existing buildings
building program] -

The act of correcting an error, the making right, the amendment, reformation, correction, to put something in order again.

intentions

to address and redress urban issues in pretoria west

_opening pretoria west power station to the public, so that this object in the urban landscape can fulfill social and economical needs and offer subjective qualities for residents

_adapting the building program to serve current and future needs

_changing the bad perception of heavy industries with clean industries that don't disturb the vicinity

Fig 5.6 Conceptual drawings

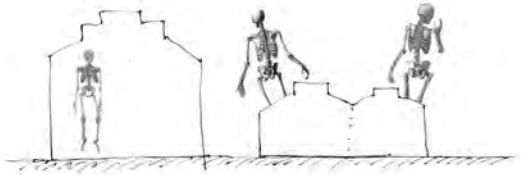
skeleton /STRUCTURE
stability
form giving element

muscle /FUNCTION
building program
pragmatics

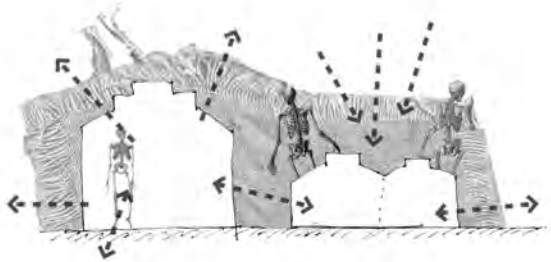
skin /ENVELOPE
comfort
protection

clothing /EVENT+TREND
identity
adaptable

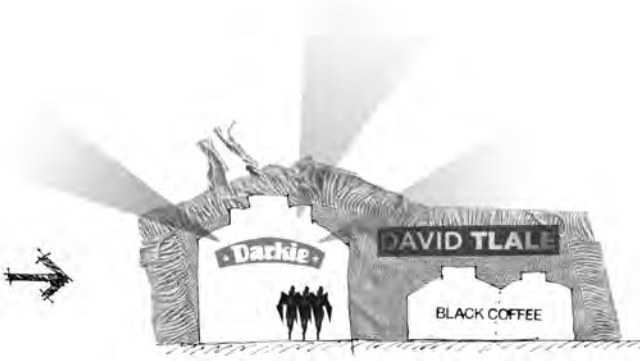
structure/skin



structure



wrap program



brand/identity/event

Fig 5.7 Conceptual drawings and design approach

concept (continued)

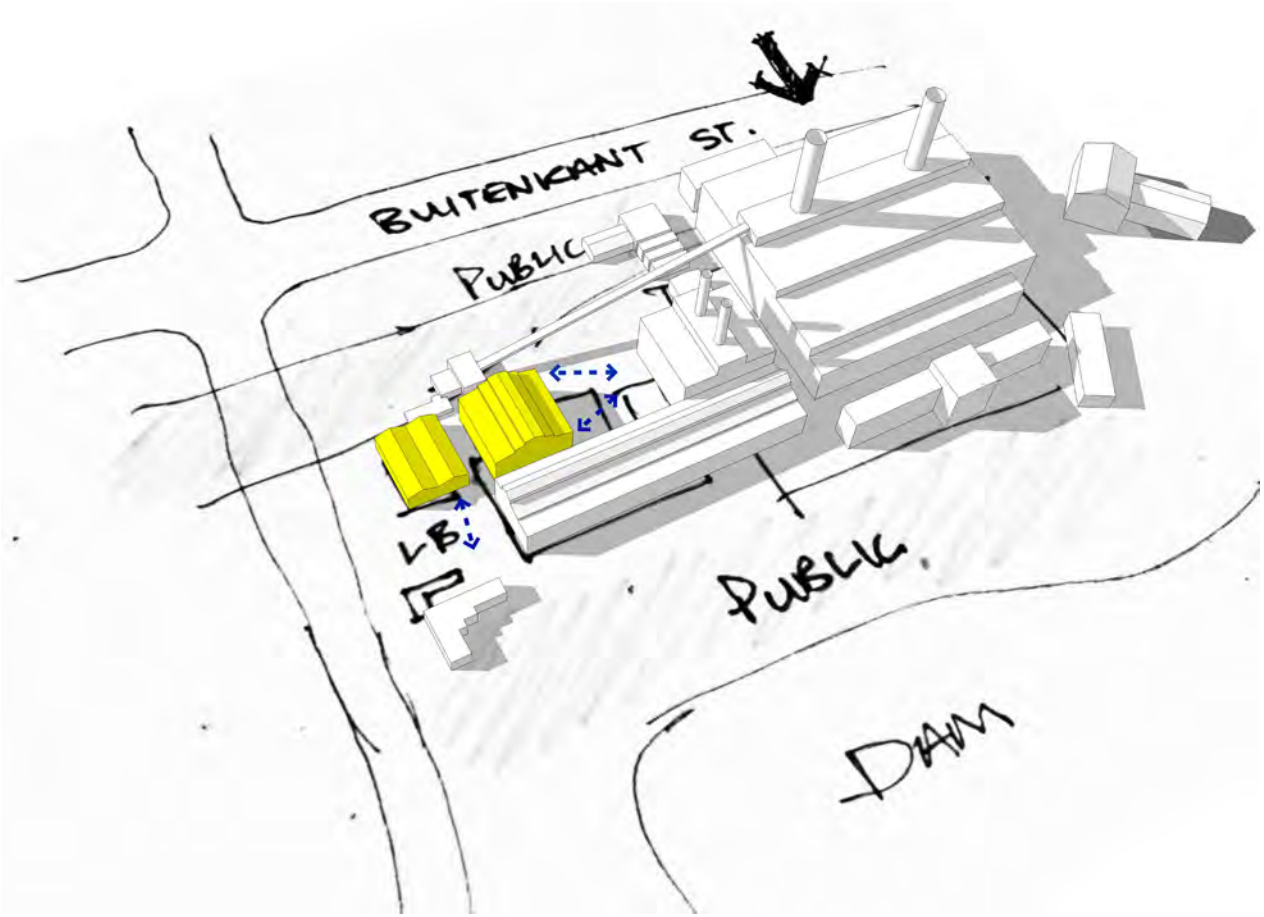


Fig 5.8 [RE]dress existing buildings in terms of framework

5.5.1_[RE]dressing the Design Informants

The errors / problems with the design informants should be identified, consequently they can be addressed / redressed and the building can be dressed with a new layer of identity:

Pretoria West Framework

The Old Power Station site is fenced off from the public for safety and security reasons. Some of the building are currently unused and others are used by the Power Station which will be decommissioned within the next 10 years (Masut, 2010). Thus, the site has no public function or access and this is the primary error to be corrected with the Pretoria West framework.

The new framework for the development of Pretoria West Power Station proposes a new public square on the southern side of the Boiler House, a secondary public space east of the Boiler House and Workshops and a service area on the western side of the Workshops where deliveries of material will be received and finished products will be exported from. The existing buildings need to be redressed so that they communicate to these framework proposals.

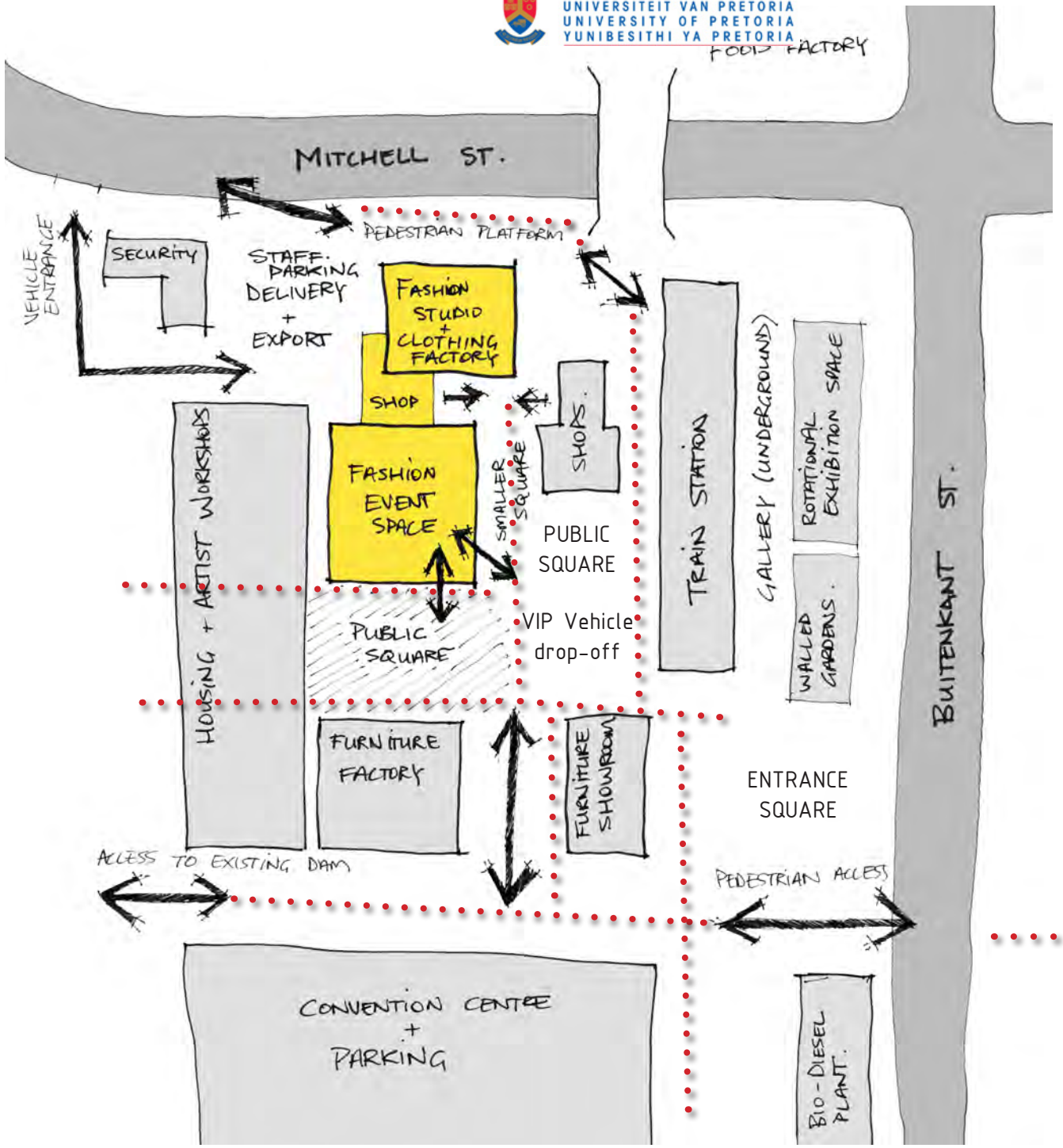


Fig 5.9 Context around building informed by the Pretoria West Framework

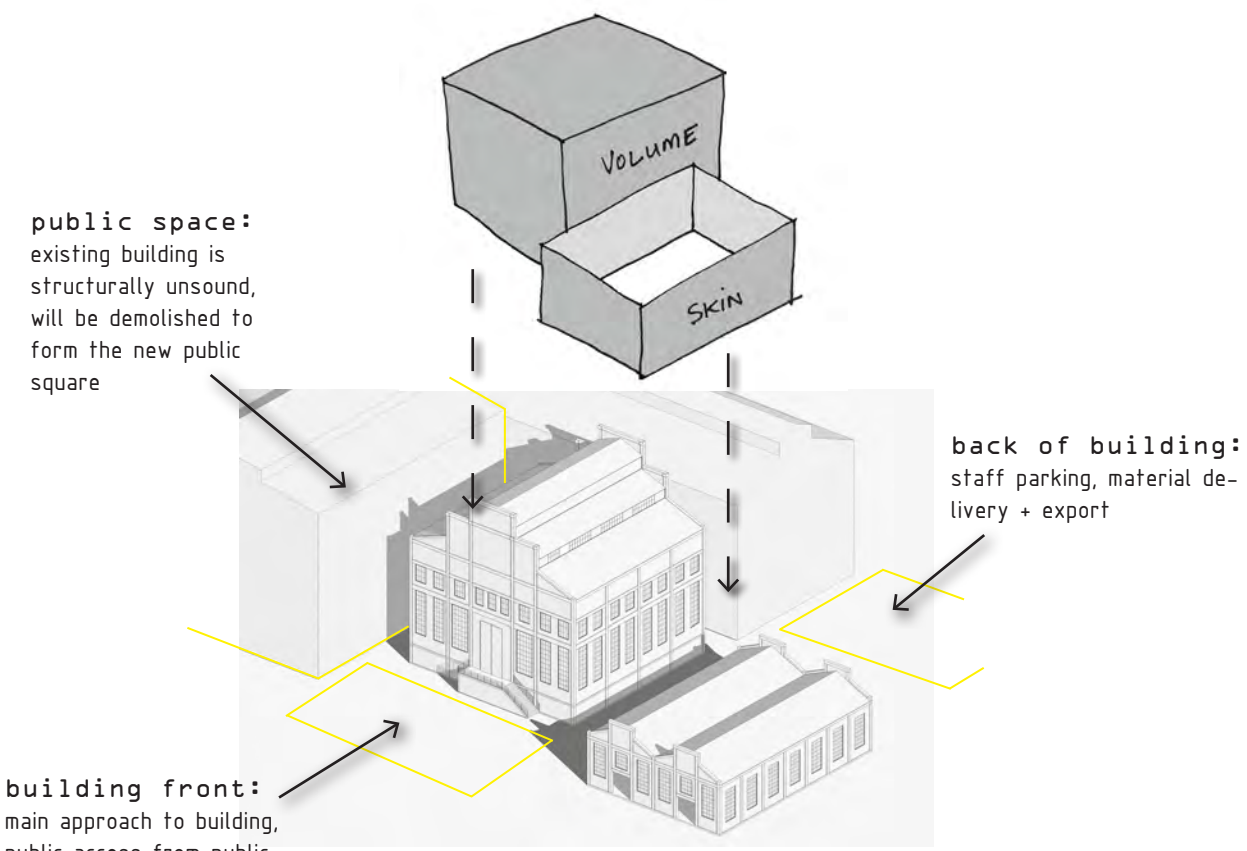


Fig 5.10 [RE]dress existing buildings in terms of their significance and the proposed framework

Existing Buildings

The existing buildings were originally designed for a specific function. Although these buildings are in essence large open spaces which can easily be adapted, they need to be altered in such a way that it links with the new proposed framework for the site.

The adaptation to the existing buildings will also be informed by the needs of the new programme, retaining the significant elements of the existing buildings (Boiler House: VOLUME; Workshops: SKIN).

A contrasting approach will be taken when design decisions are made so as to allow the adaptations and extensions to be more apparent and to emphasise the spirit of the time in which the original building was built and the new interventions took place.




Building Programs / Functions

Adaptable Fashion Event Space

This space will be catering for public functions, primarily fashion shows. The space should provide the opportunity for the fashion designers to alter the space according to their specific needs in each fashion show.

The event space is in essence a volume which needs to be serviced with a backstage area where models can prepare for a fashion show, a control room from where lighting can be controlled and images/movies can be projected from. Basic amenities like ablutions and a bar area where drinks can be served before or after an event should be provided. Because the event space is in a closed environment, mechanical ventilation should be provided.

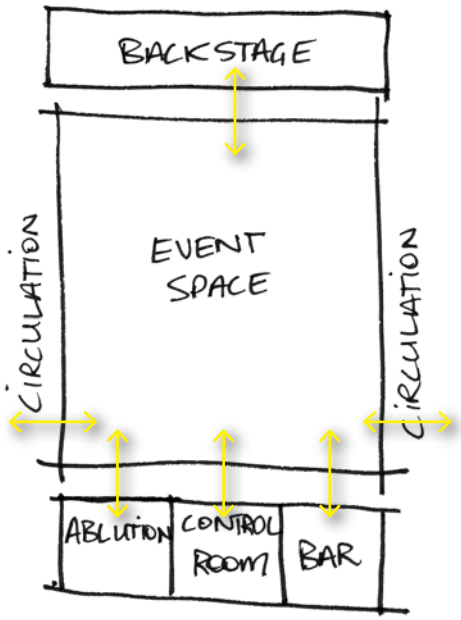


Fig 5.13 Diagram showing Event Space and its ancillary functions

Fig 5.11 (a)-(c) Various runway fashion shows.
Fig 5.12 (a),(b) Backstage area of fashion shows.

power supply cables suspended from ceiling, looks untidy

parts of garments and off-cut pieces lie in bundles, looks untidy and gathers dust

Fig 5.14 (a)-(d) Various Clothing Factories showing basic layout, untidy appearance and relaxation spaces.

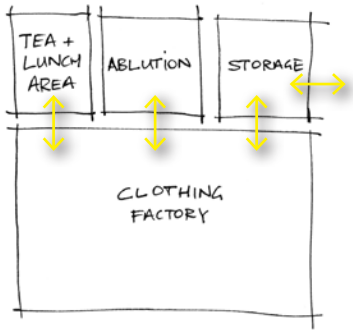
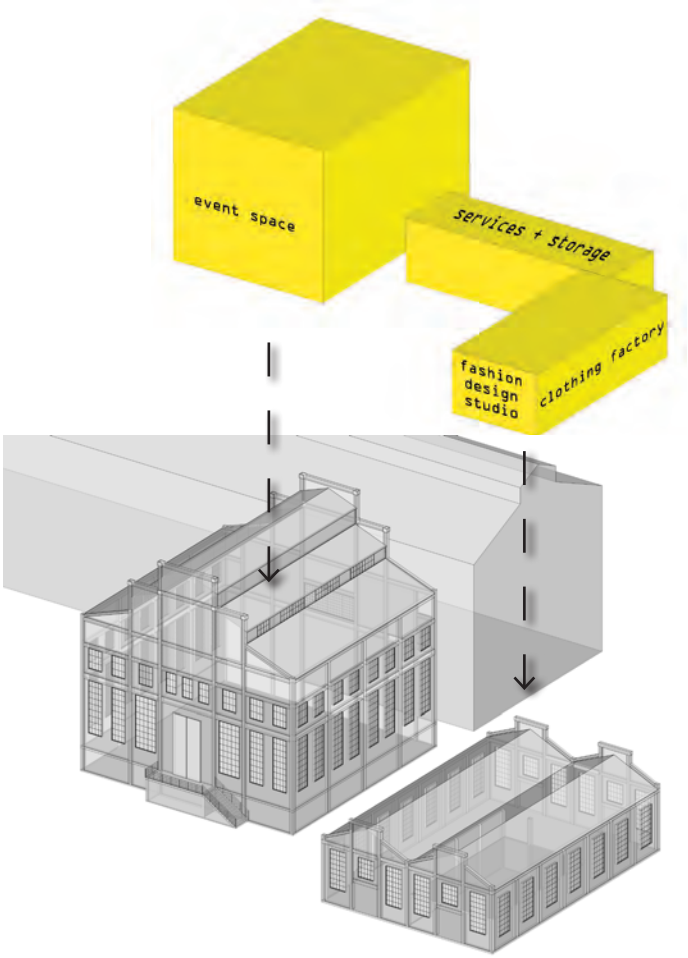


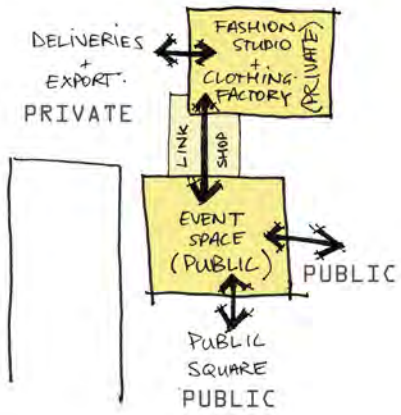
Fig 5.15 Diagram showing Clothing Factory and its ancillary functions

_Fashion Design Studio and Clothing Manufacturer

These building functions usually work well in a basic open-plan layout, to allow for easy adaptation in the future. In clothing factories that were visited, a common problem, is general untidiness due to messy power reticulation, lack of storage for materials as well as untidy workspaces where off-cut materials and loose threads are scattered around. The relaxation spaces where staff have their tea and lunch breaks are usually tucked away in a corner.

The current Workshop building is in essence a warehouse and lends itself to the accommodation of a clothing factory and design studio. To make this building more comfortable for the users, basic services should be added to the building, e.g. ablution facilities, ample storage space for materials and spaces that can be used by the workers to relax in their lunch and coffee breaks.





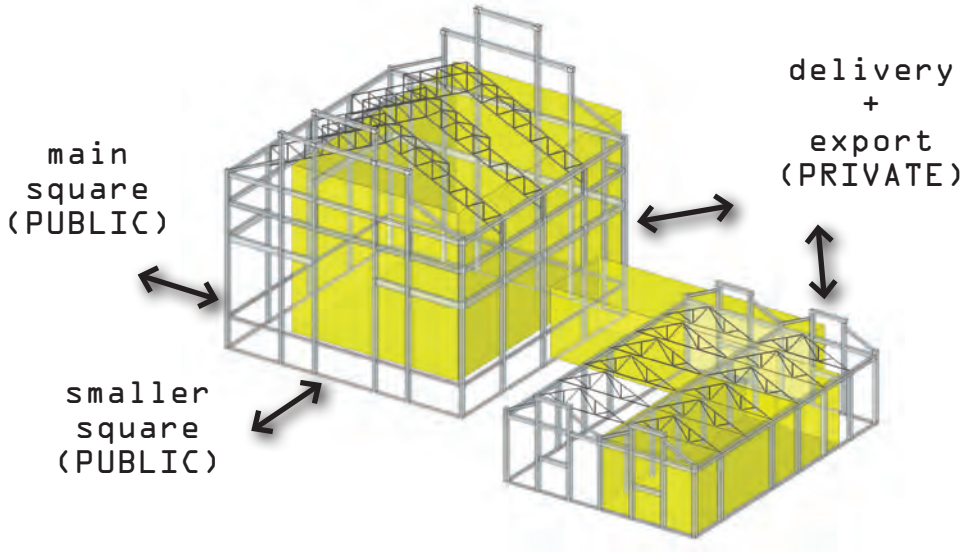


Fig 5.16 New programme layout is influenced by the Public and Private spaces as proposed in the Pretoria West framework. Existing buildings are adapted to accommodate these new programmes and respond to the new context according to the framework.

5.6_design development

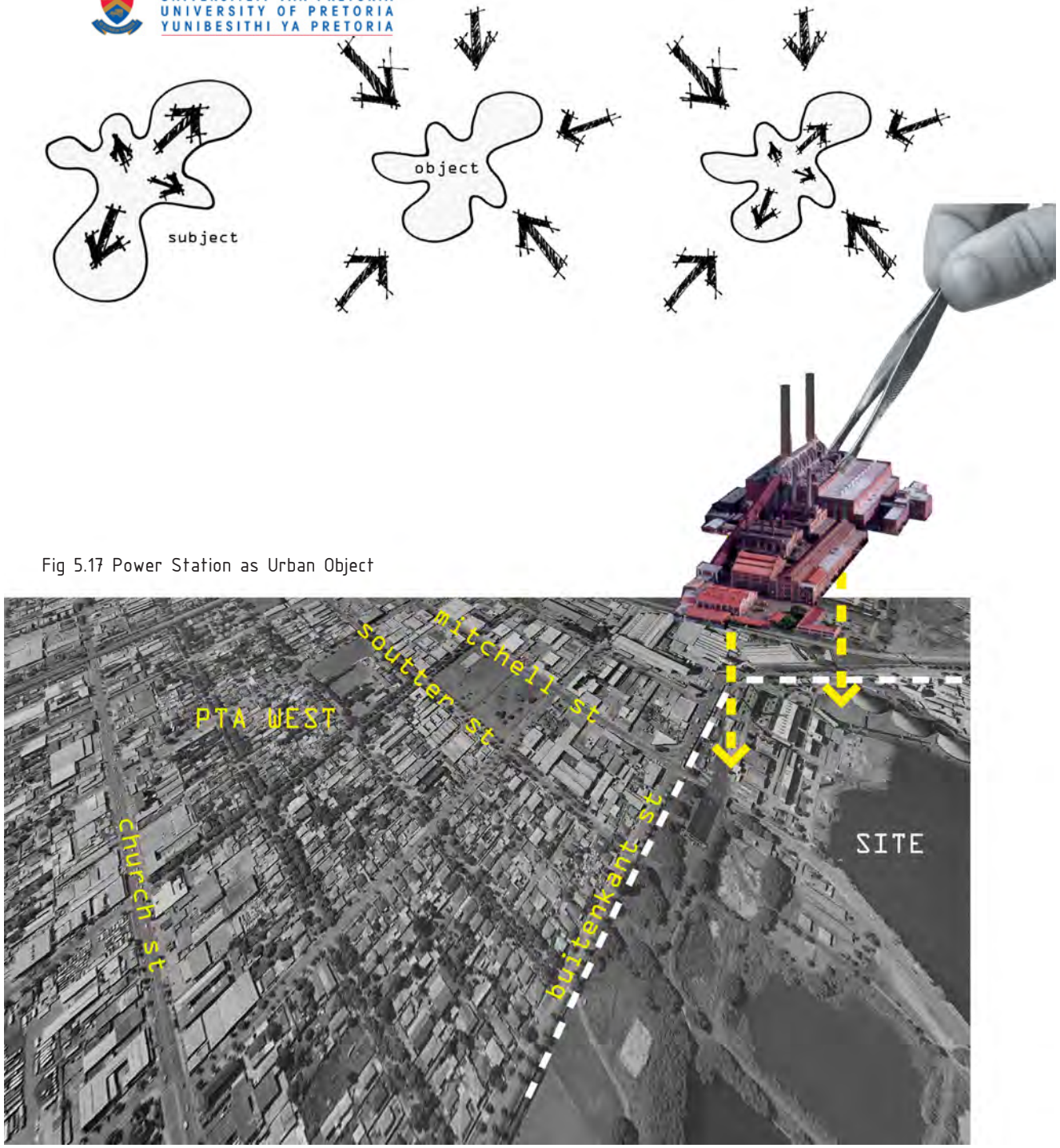


Fig 5.17 Power Station as Urban Object

5.6.1_power station as object

Pretoria West Power Station is closed to the public. Residents from the area perceive the power station as an object in the landscape because they have no physical access to it.

The aim is to open the site with public functions, allowing the public to experience unknown subjective qualities from a known object in their neighbourhood.

A subject is one who perceives or is aware. He has an experiential quality due to an object. An object is the thing perceived or the thing the subject is aware of.

The aim is to [re]dress the urban object to facilitate subjective qualities; the building envelope becomes the relationship between the subject and the object.

model as object

Model placed in contrasting surrounding. Tension between fashion and industrial space puts emphasis on the object. and surroundings

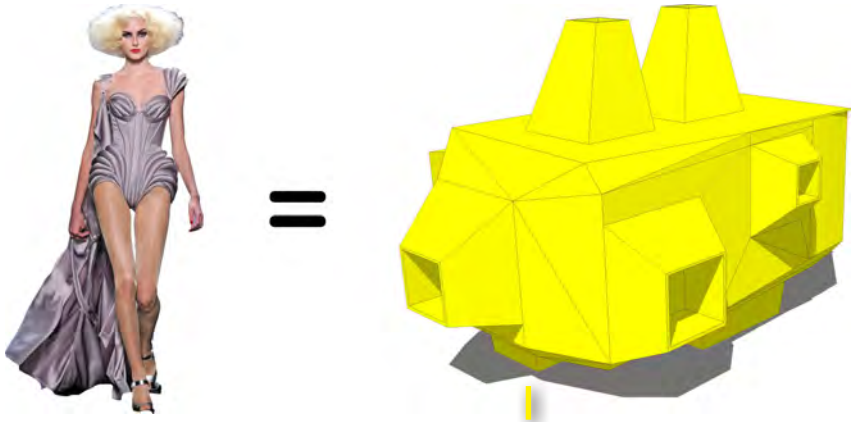
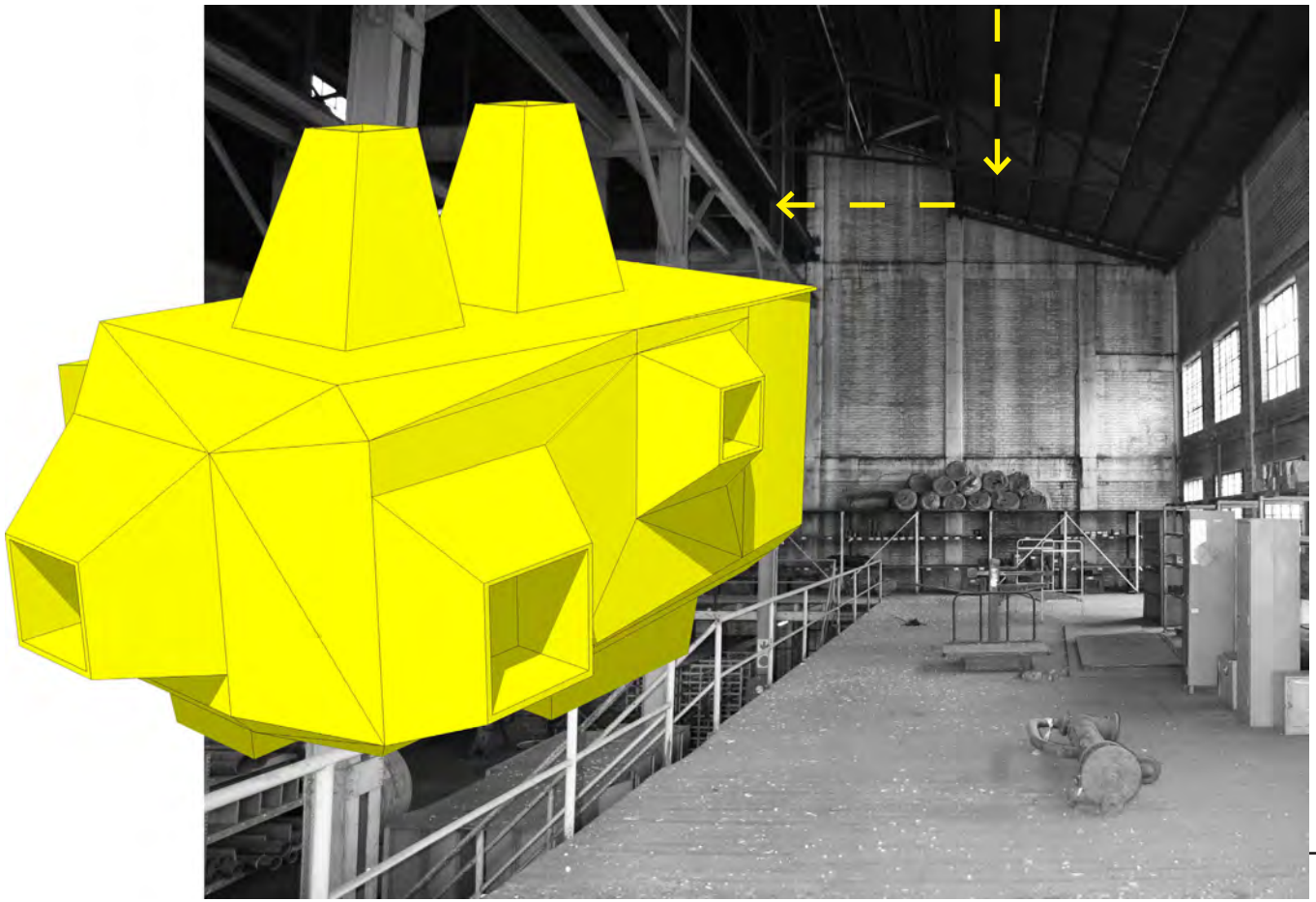
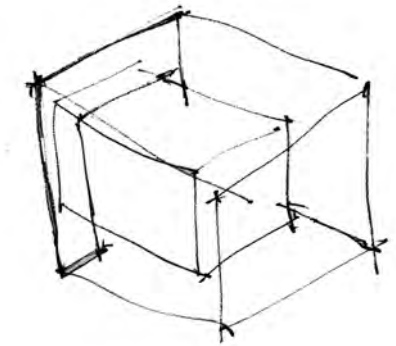


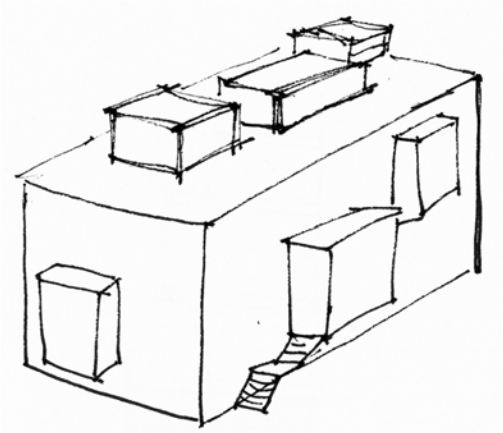
Fig 5.18 Model as Object = Architecture as Object



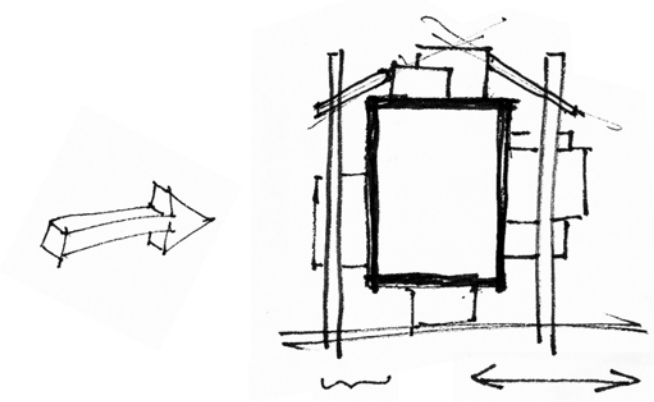
5.6.2_development of event space



new box inside existing volume



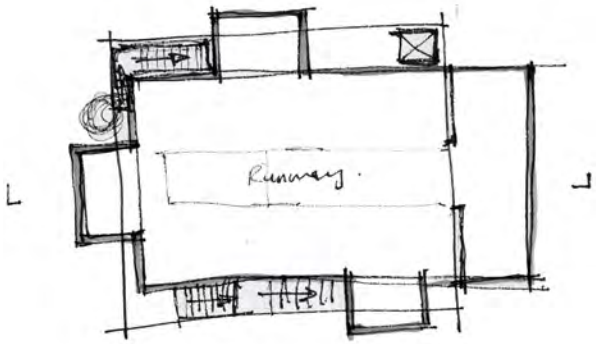
event space box with functional boxes protruding for entrances, control room etc.



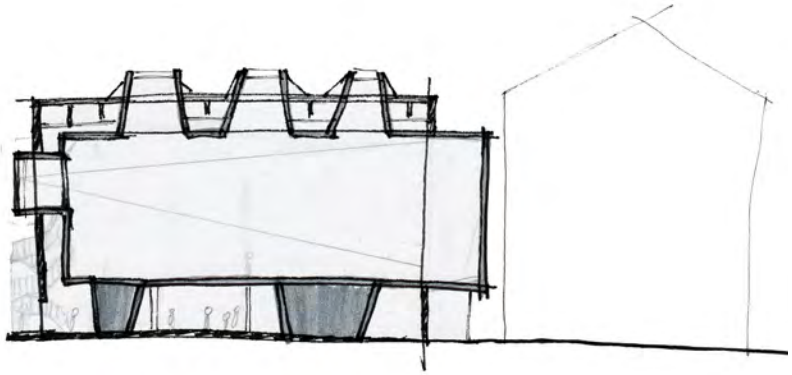
circulation in cavity between old and new

movement through historic layers

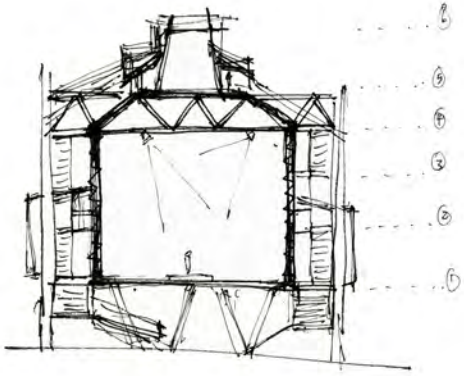
Fig 5.19 (a)-(c) Design Sketches



plan of event space



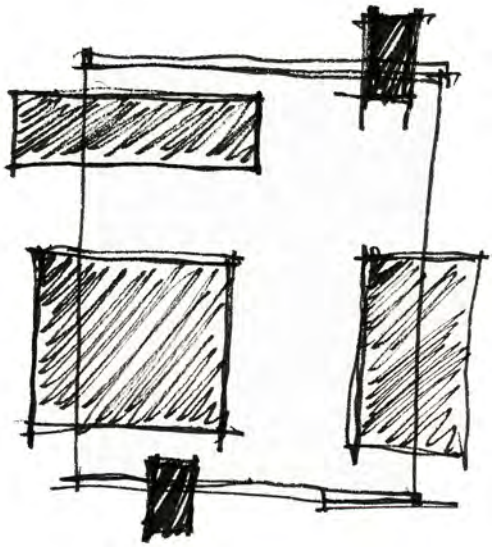
longitudinal section



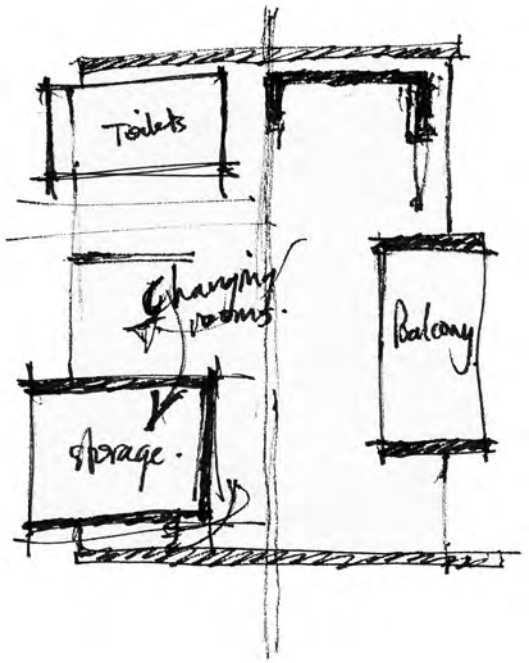
cross section

Fig 5.20 (a)-(c) Design Sketches

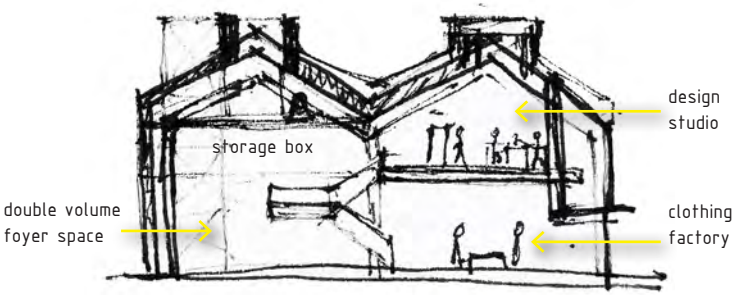
5.6.3_development of fashion studios and clothing manufac-



new functional boxes inside existing building and transforming the skin of the existing building

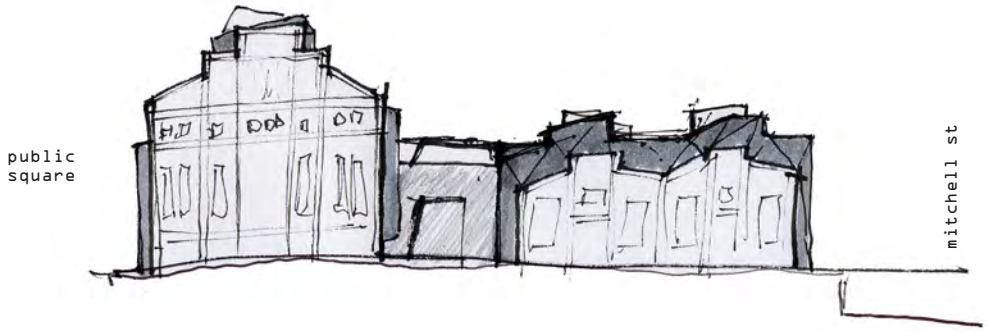


existing building is suitable for the use of the new program, but needs ablution, storage and balcony to allow for a more pleasant working space

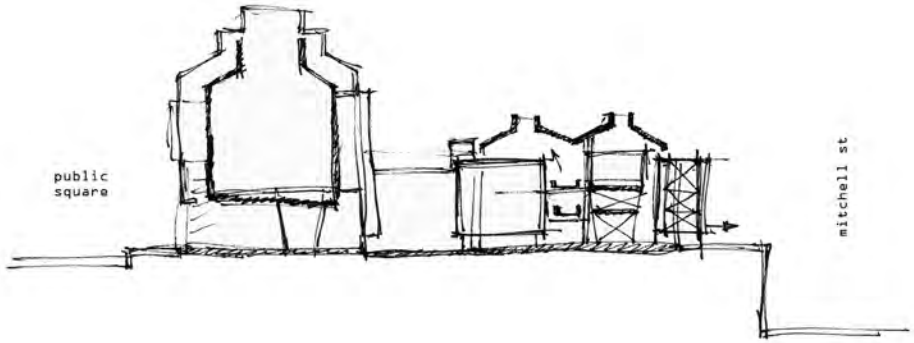


cross section through workspaces

Fig 5.21 (a)-(c) Design Sketches

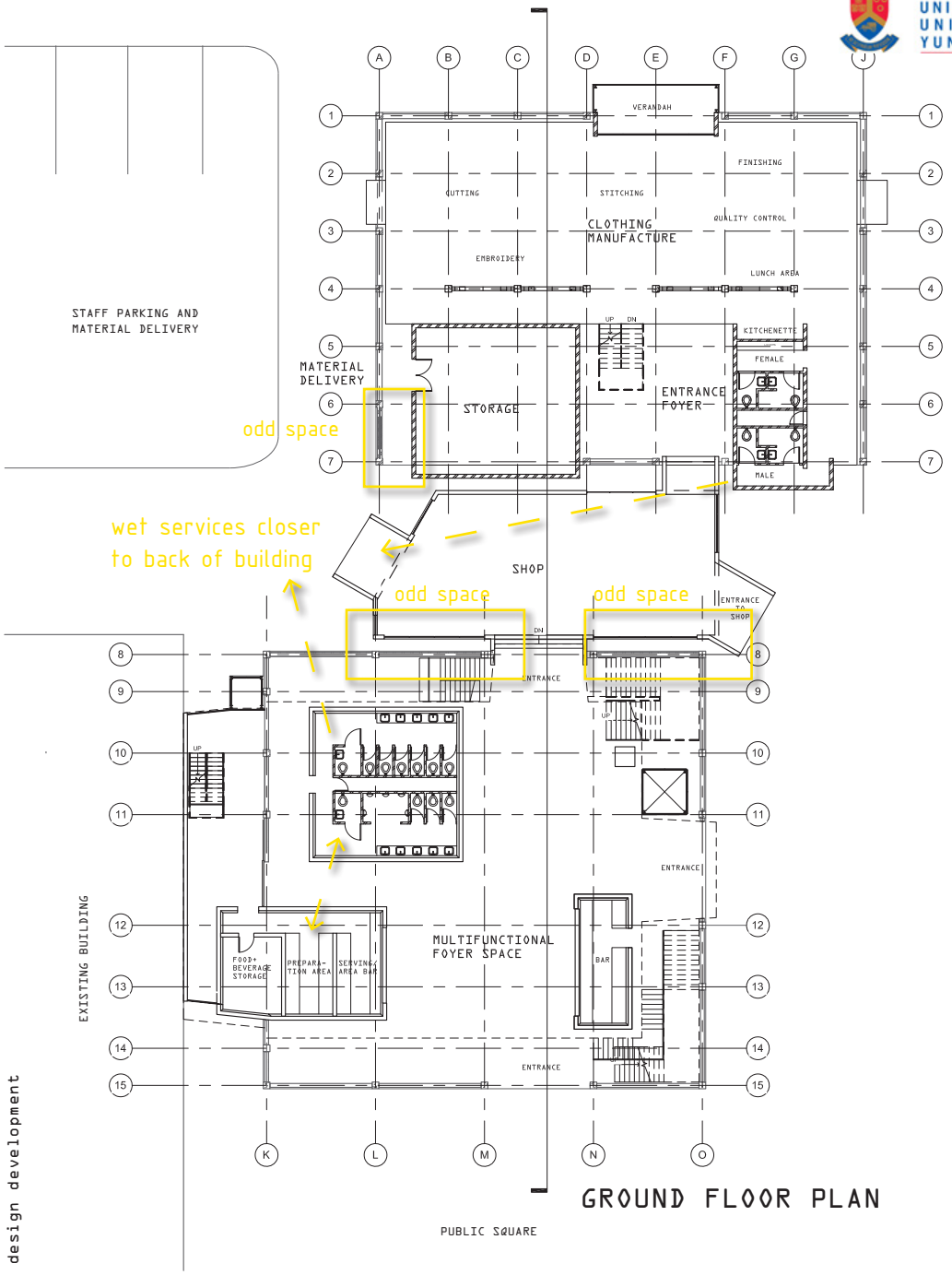


eastern elevation
subtle protrusions from behind main facade

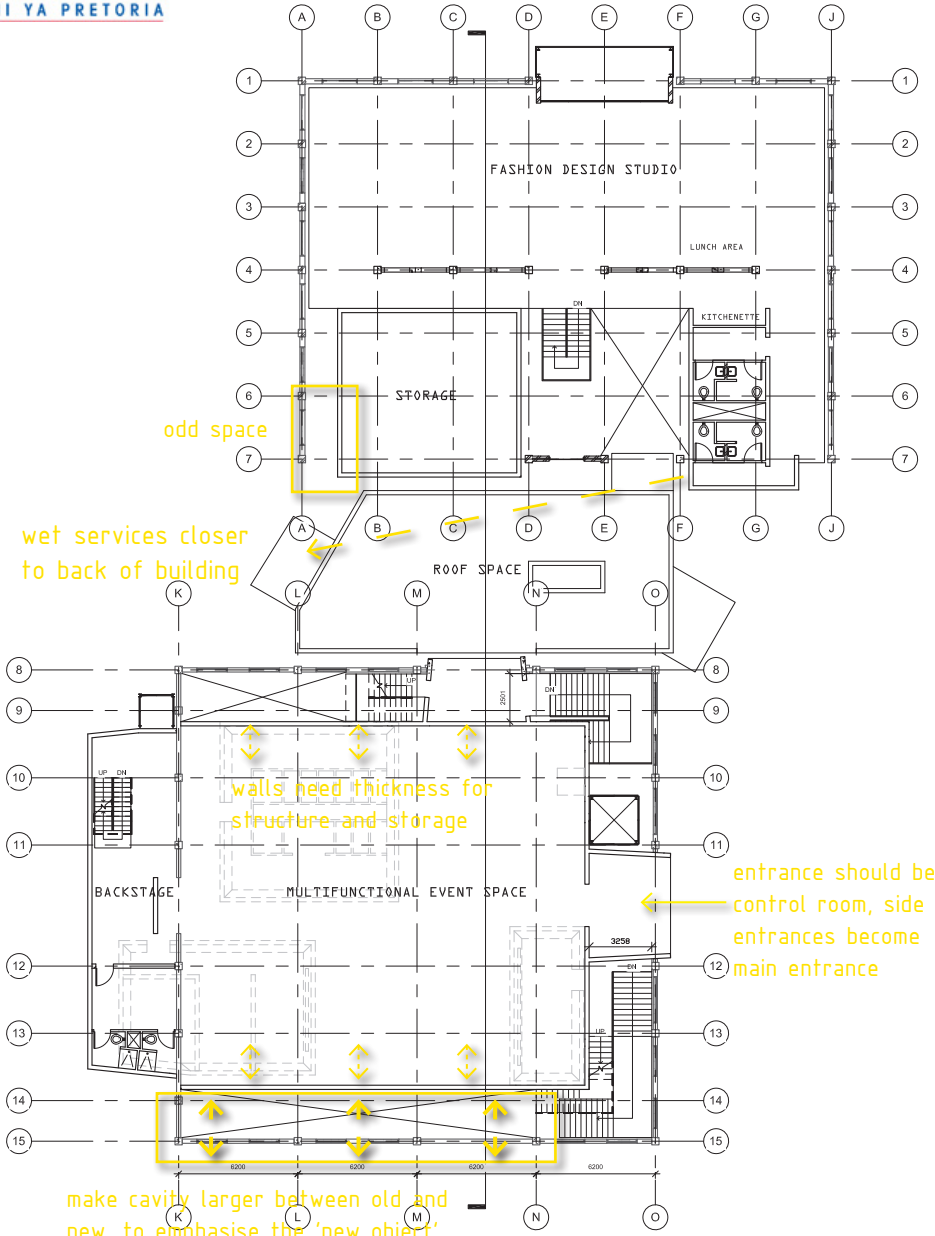


cross section
new programmes in new box objects,
punching through existing buildings

Fig 5.22 (a)-(c) Design Sketches

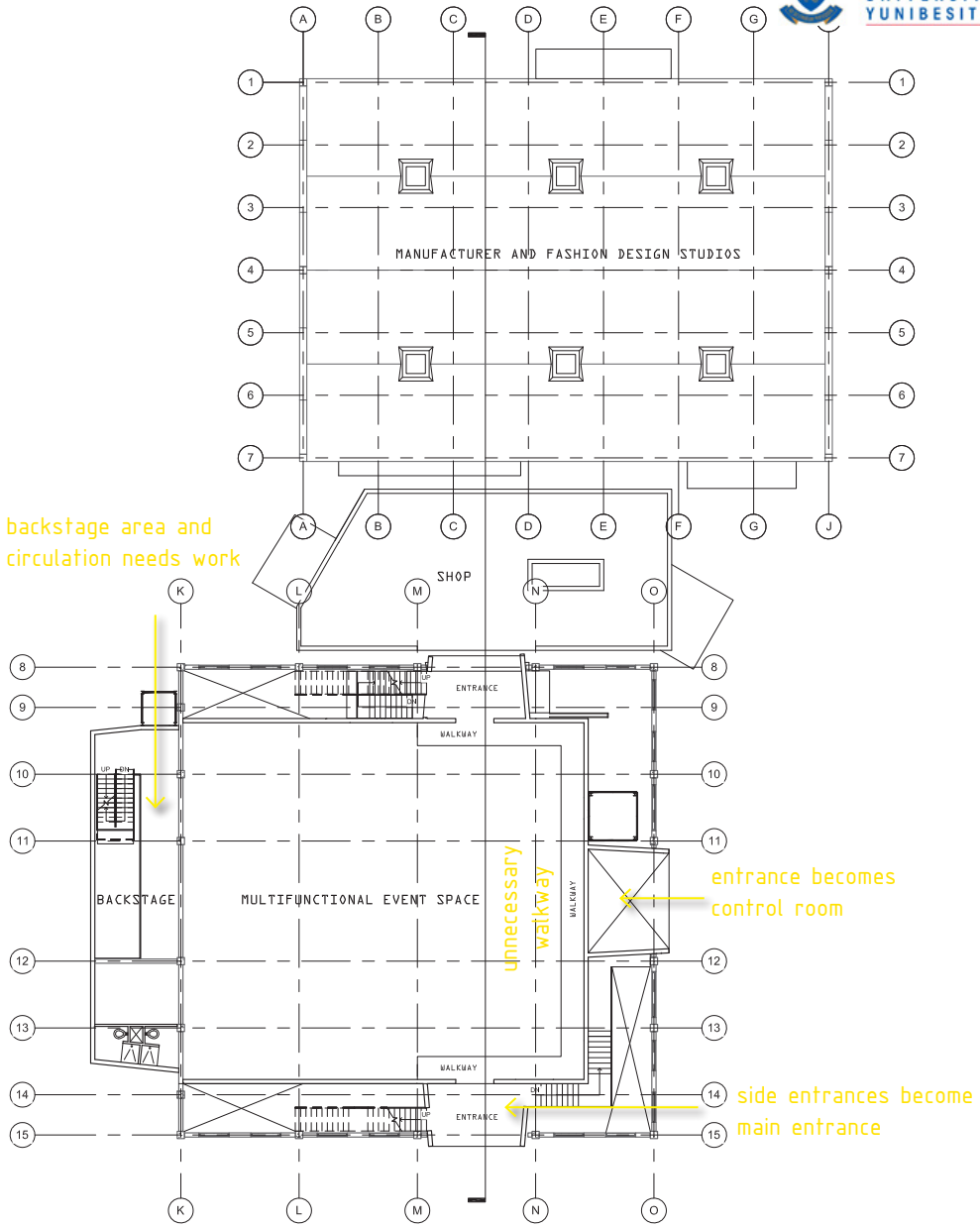


GROUND FLOOR PLAN

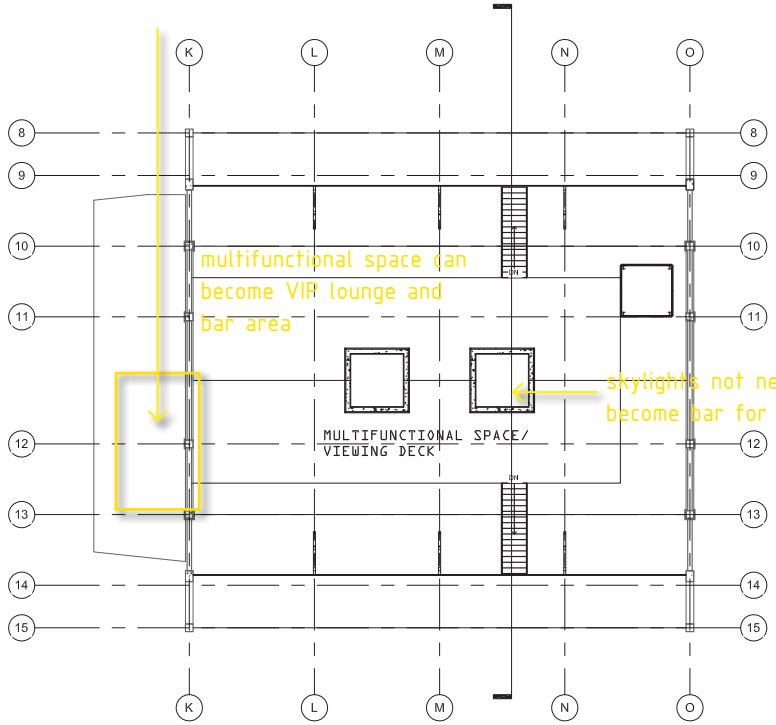


FIRST FLOOR PLAN

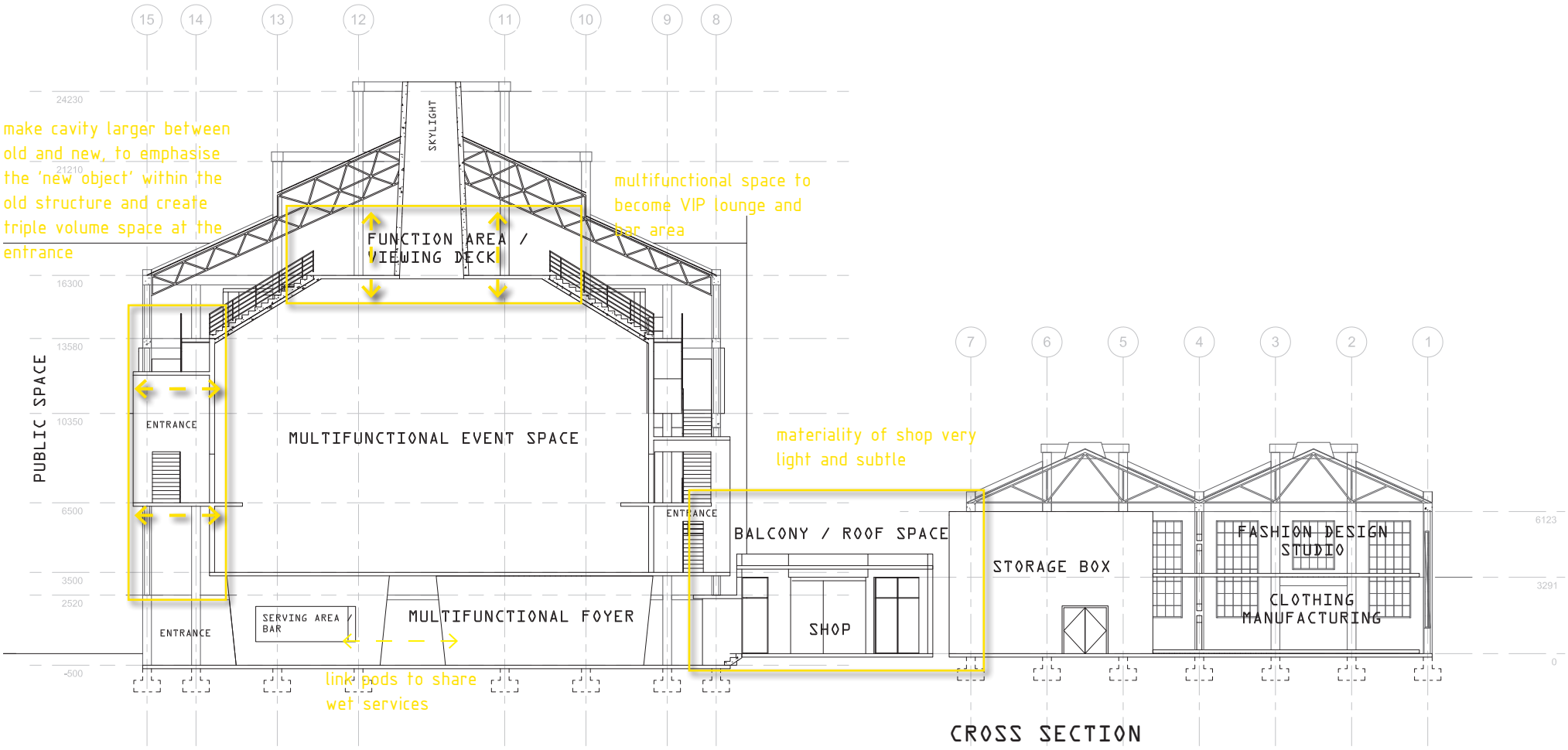
5.7_sketch plans



SECOND FLOOR PLAN



THIRD FLOOR PLAN



CROSS SECTION

6. technical investigation

6.technical investigation

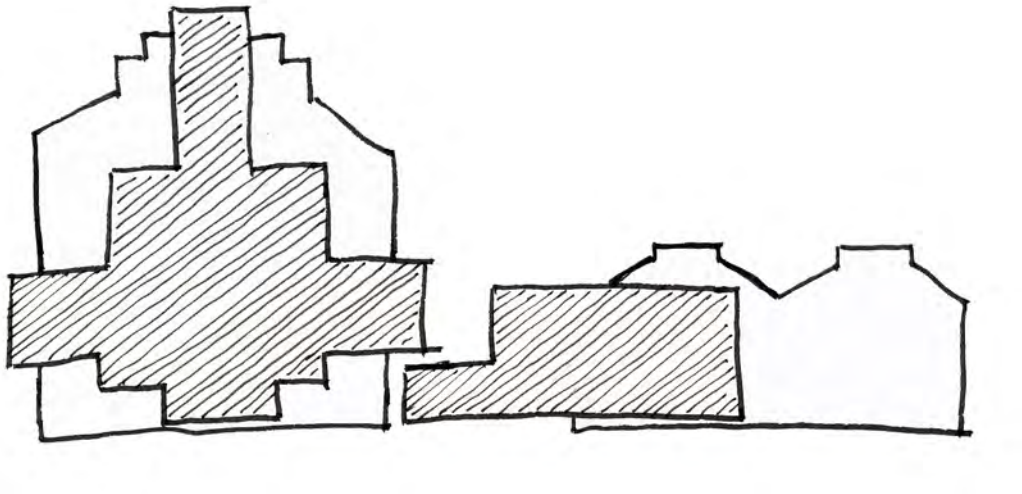


Fig 6.1 Diagram showing conceptual intention of how new building is inserted into existing structure.

6.1_conceptual approach towards technology

This chapter deals with the technical aspects and decision making process of the design

In the new extensions to the existing building a contrasting design approach was taken, this approach will be maintained in the technical investigation and resolution of the building. As with fashion photography where a model is placed in a contrasting environment, so will the new extensions to the existing building be placed in it, in a contrasting fashion. This is to emphasise the age and technology used during construction of the existing building as well as the new extension.

6.2_structural system

The existing building structure consists of concrete columns and beams laid out on a regular grid. This concrete frame was filled in with brick to act as bracing. The structure of the existing building is exposed.

The new design extension will have a steel structure, this is to contrast the heavy concrete frame structure. Since the new building is on the inside of the existing building, it will also be easier to assemble the new part if it was a steel structure, which consists of prefabricated parts that can be joined together once it arrives on site. To contrast the exposed structure of the existing building, the new steel structure will be cladded on the outside and the inside to hide the structure. The cavity between the outside and inside can be used for services and storage.

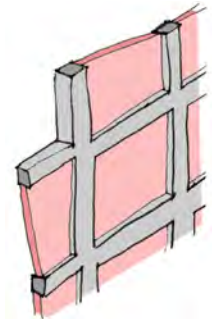


Fig 6.2 Structure of existing building consists of concrete frame with brick infill, structure is exposed.

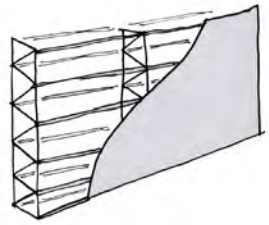
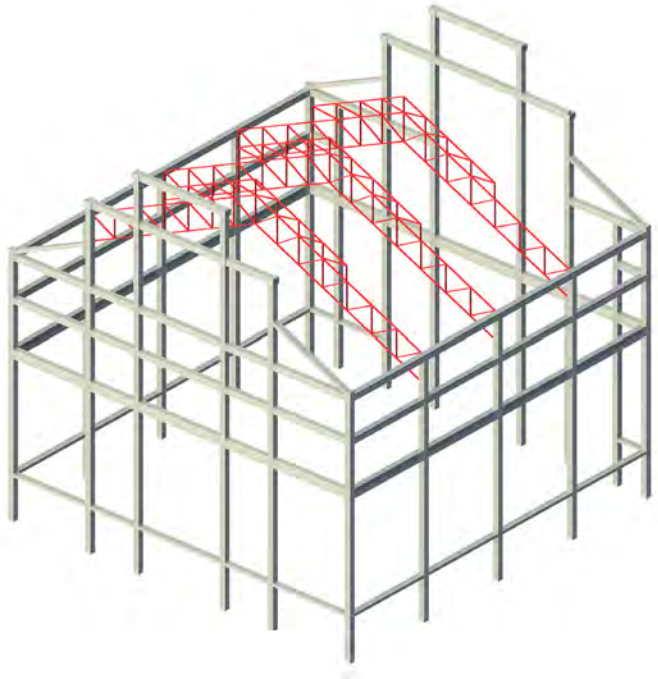


Fig 6.3 Structure of new building consists of steel frame with cladding, structure is hidden.

6.2.1_structural calculations



new roof for existing building

The existing Boiler House's roof is supported by steel columns. These steel columns need to be removed to make space for the new building inside the existing. New deeper roof trusses will be inserted to span the length of the existing building.

Depth of new roof truss:
Span = 24m
L/d = 15
24000/15 = d
min d = 1600mm

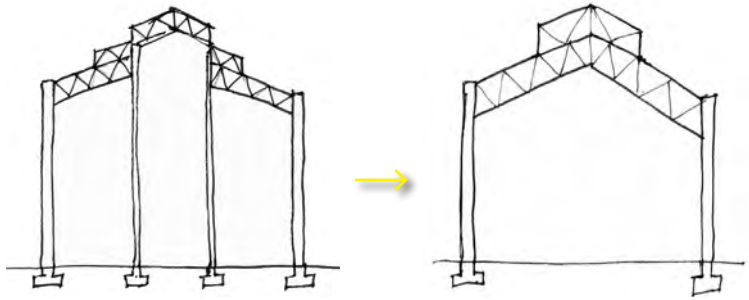


Fig 6.4 (a),(b) Diagram and sketches showing the new roof for the existing building.

bottom structural support for event space

The structural support below the event space are hidden within the walls of the of the ablution and bar area, as well as the ticket sales booth. These areas read as extrusions from the event space.

Thickness of vertical hollow section steel support:
Height = 4m
h/d = 20-25
4000/20-25 = d
d = 160mm to 200mm

base of event space

The base that forms the base for the rest of the structure of the event space.

Depth of steel girder truss
Longest span = 10m
L/d = 15-25
10000/15-25 = d
d = 400mm to 660mm

floor of event space

Depth of steel girder truss
Longest span = 3500
L/d = 15-25
3500/15-26 = d
d = 140mm to 230mm

Cantilever = 3000
L/d = 8
3000/8 = d
d = 375mm

walls of event space

Lattice columns
Height 9.5 m
h/d = 20-25
9500/20-25 = d
d= 380mm to 475mm

roof of event space

The roof space above the event space is a VIP bar area. In order to reduce the chance of an acoustic sound bridge, two steel girder trusses are used that span independently from one another, one will support the floor above and the other will support the ceiling and lighting on the inside.

Span = 13.4m
L/d = 15 - 25
13400/15 - 25 = d

Fig 6.5 (a),(b) Diagram showing the base structure and floor structure of the new Event Space.

STRUCTURE OF EVENT BOX

PRIMARY STRUCTURE

SECONDARY STRUCTURE
(CLADDING SUPPORT)

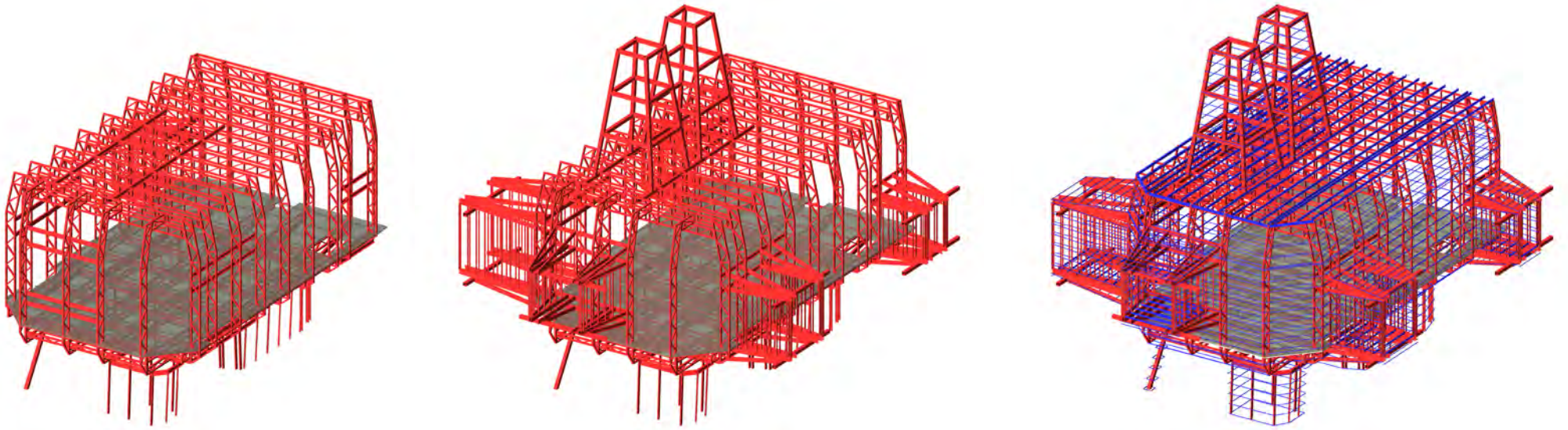
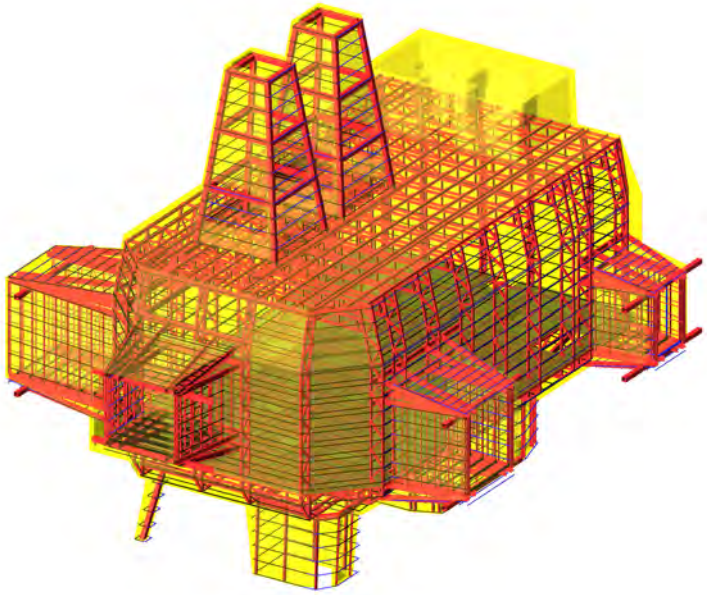


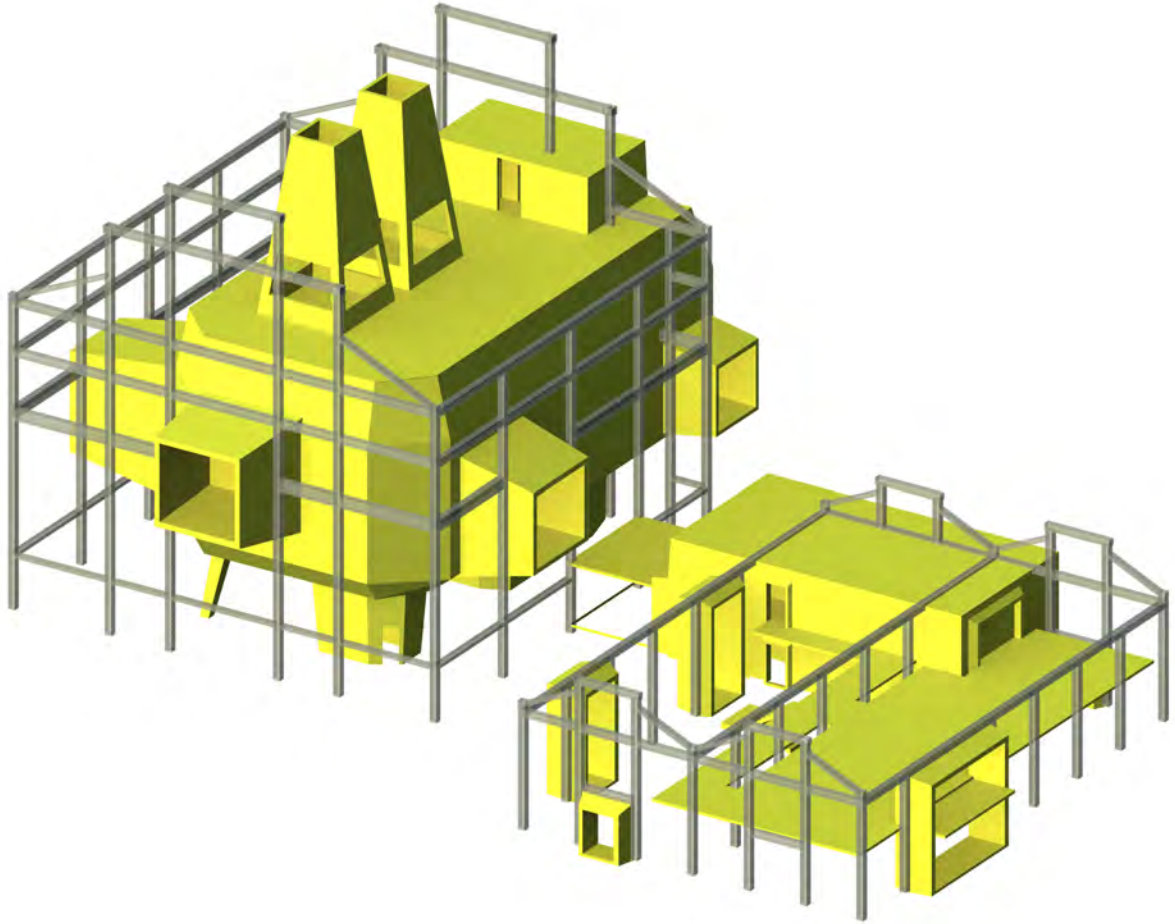
Fig 6.6 Diagram sequence showing structure of Event Space and its placement within the existing building.

STRUCTURE

STRUCTURE WITH CLADDING



NEW BUILDING WITHIN EXISTING STRUCTURE



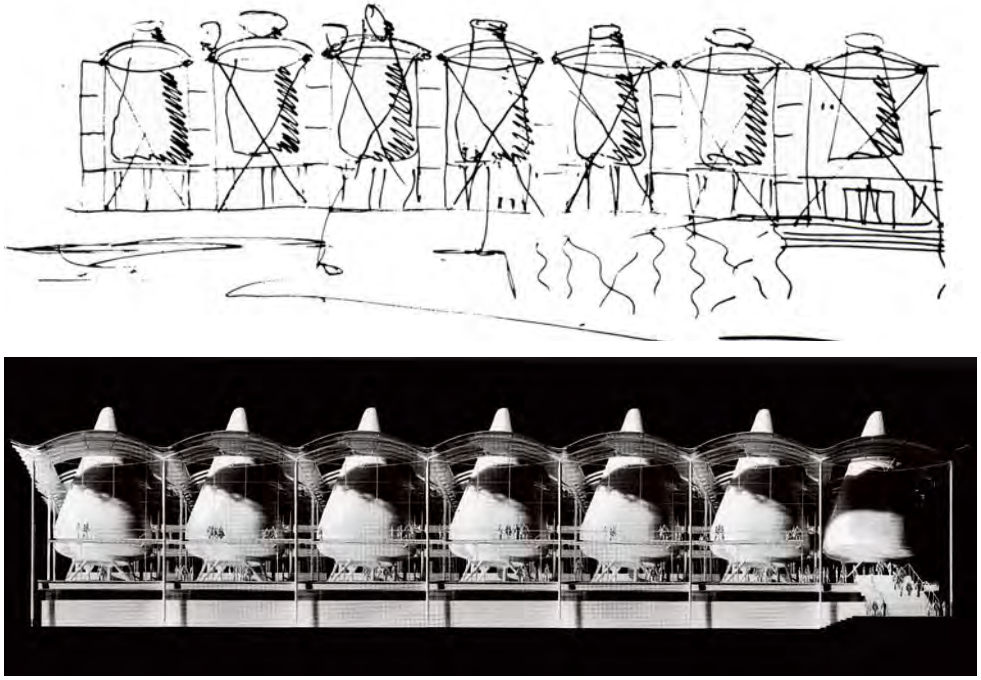


Fig 6.7 (a)-(d) Law Court, Bordeaux, France by Richard Rogers Partnerships. The solid nature of the seven courtrooms and lightness of the walkways, was maintained from conceptual sketches right up to the realisation of the project.

law courts, bordeaux, france (1998)
richard rogers partnership

description

In a nationwide attempt of France to construct new court house facilities, the Richard Rogers Partnership (RRP) has satisfied the municipal authority of Bordeaux with their design (Ryan, 1999: 48). In an attempt to contrast the existing weight and opacity of the old buildings in the city, the new design aims to add lightness and transparency to this court house, which is traditionally experienced as a closed and intimidating building (Ryan, 1999: 49).

materiality

On the eastern side of the building, seven vat-like forms which house the courtrooms are arranged in a line. These 'pods' are cladded in cedar wood and are supported by circular concrete feet. They are individually linked with delicate 'light' walkways and bridges to the glass-floored catwalk, which connects all the courtroom chambers to the entrance (Ryan, 1999: 49).

design influence

The solid 'pod'-like structures are treated differently with materials to create a solid element. The 'lightness' of the stairs, bridges and walkways around it, put more emphasis on these courtroom chambers.

6.3_materiality + finish

The choice of materials for the new building was influenced by the contrasting approach for this project. As previously mentioned, the new building's structure consists of steel columns and beams, which will be cladded with a material that will contrast the existing building.

The materials that were used in the existing building are reinforced concrete and brick, with a steel structure for the roof, covered with a corrugated steel sheet roof. These materials and other textures found on the site gives the building and area a very robust quality.

In keeping with the concept and the programme - a facility for fashion - the decision was made to clad the new building with a polymer, as well as aluminium panels where the existing building punches through the existing structure. The materials and textures for the new building should have a finer quality.

The new intervention inside the existing Boiler House consists of two main elements: the events space 'box' with its protruding elements, and the circulation (stairs and walkways). To put more emphasis on the solid nature of the event 'box', the stairs and circulation will have a more light appearance. The Law Courts in Bordeaux, France is an example where the emphasis is on the solid 'pod' structures, surrounded with 'light' stairs and walkways.

Fig 6.8 (a)-(f) Materials and Textures on site with rough, robust quality.

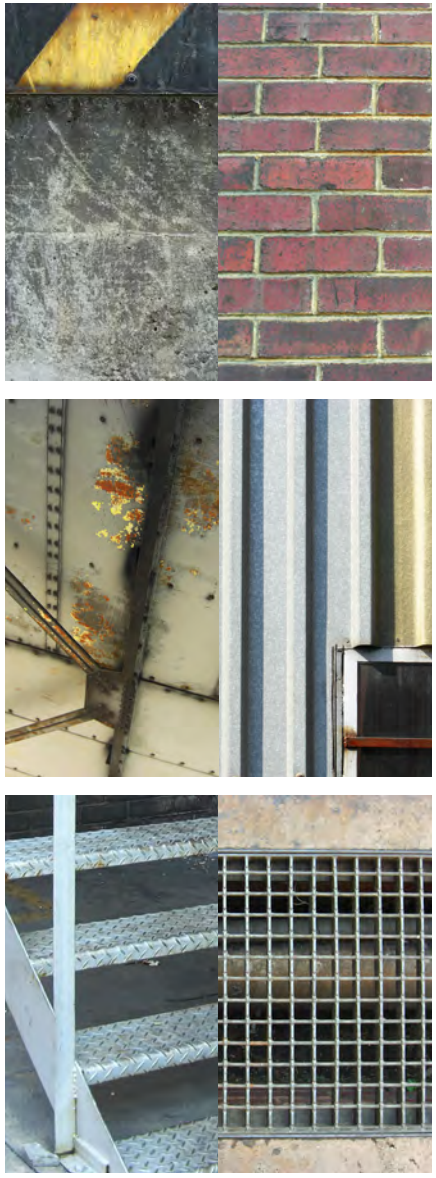
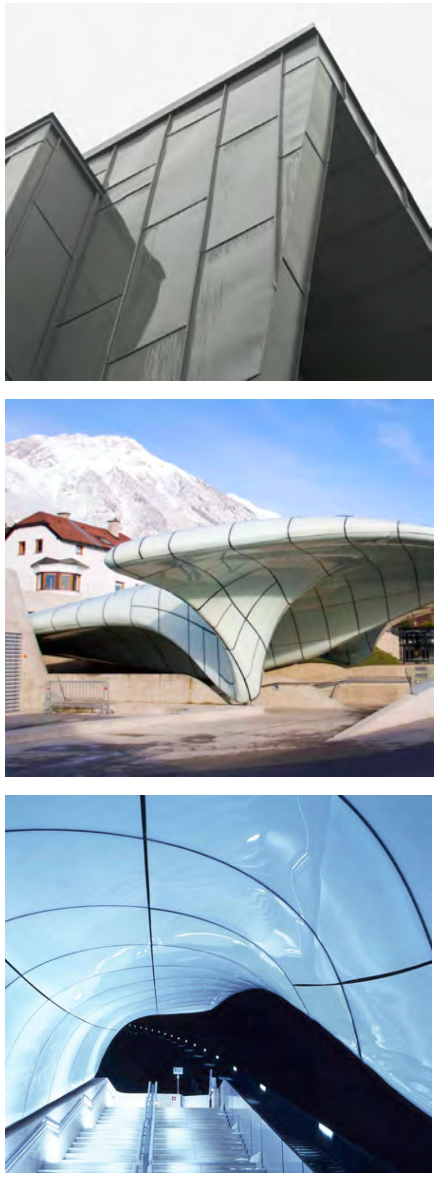


Fig 6.9 (a)-(c) New proposed materials, with a smoother and finer quality



6.4_services

6.4.1_wet services

Wet services were placed as close as possible to the 'back' of the building from where it can easily be accessed for maintenance, away from public view.

6.4.2_natural ventilation

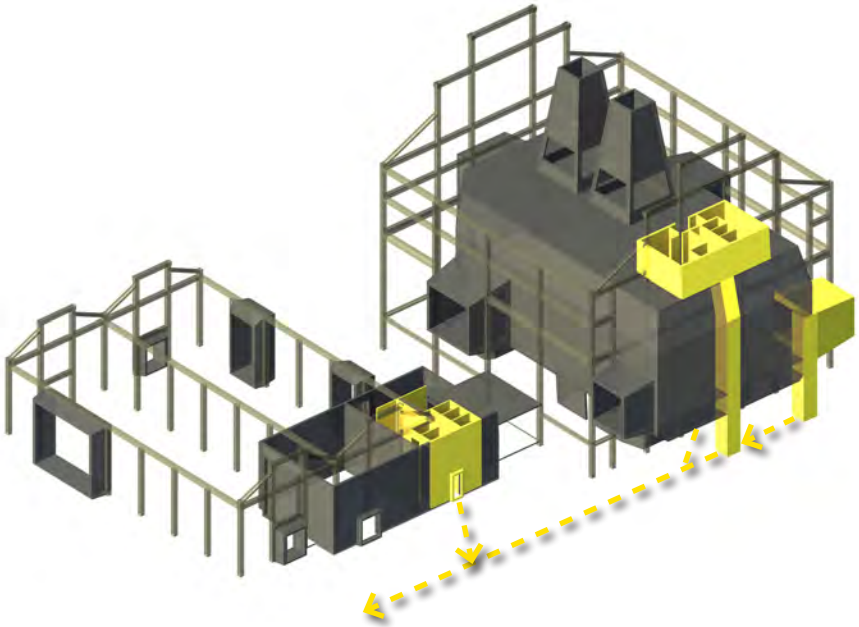
The spaces around the event space box in the existing Boiler House will be naturally cross ventilated. Some of the brick infill will be removed from the concrete frame, so the space between the existing building and the new event space box will be exposed to the elements.

The workshop space will also be naturally cross ventilated with openings on the northern and southern side of the building.

6.4.3_mechanical ventilation

The new event space box is isolated from the outside and, the concentration of people with events, demanded that mechanical ventilation be provided for this space. A chiller plant room and air handling unit will be accessed from the backstage area that will supply fresh air to the pressurised system. The steel structure that is cladded both inside and outside, above and below, will provide the supply and return air plenum in which air conditioning vent pipes can be hidden.

SERVICES CONNECT AT
'BACK' OF BUILDING



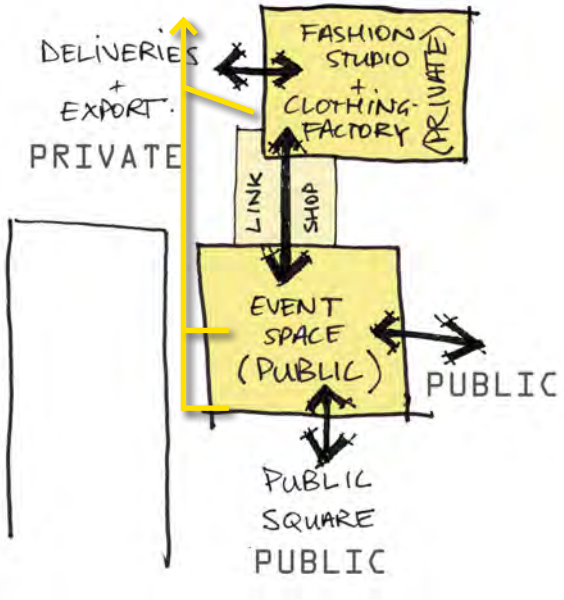


Fig 6.10 Diagram and sketch showing the wet services placed at the 'back' of the building.

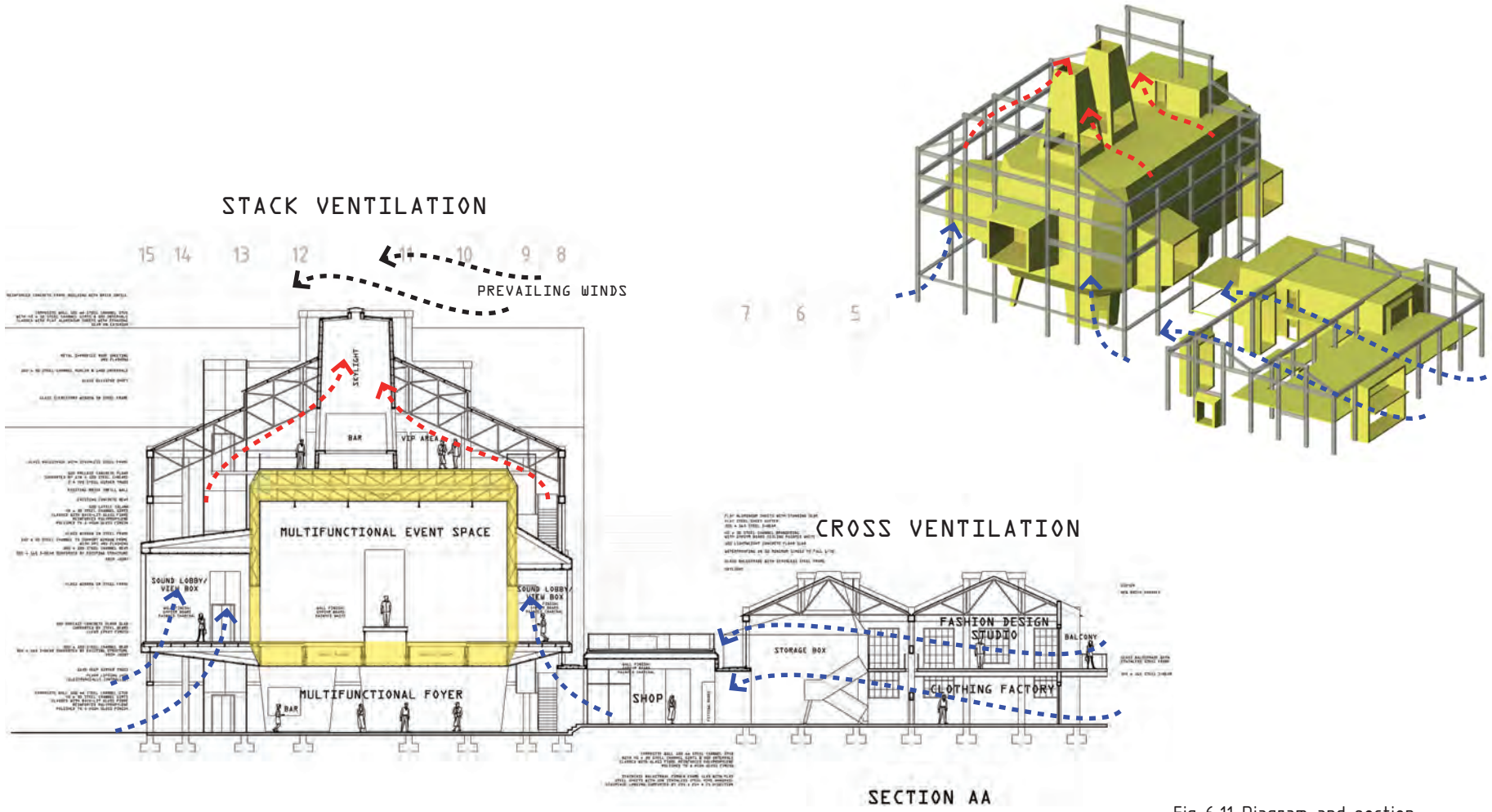
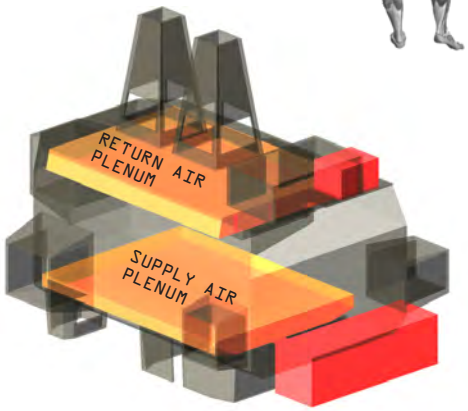
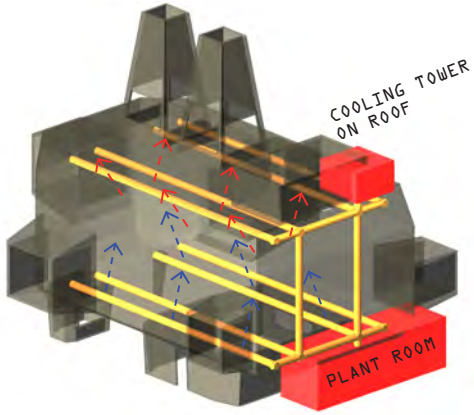


Fig 6.11 Diagram and section showing natural ventilation.





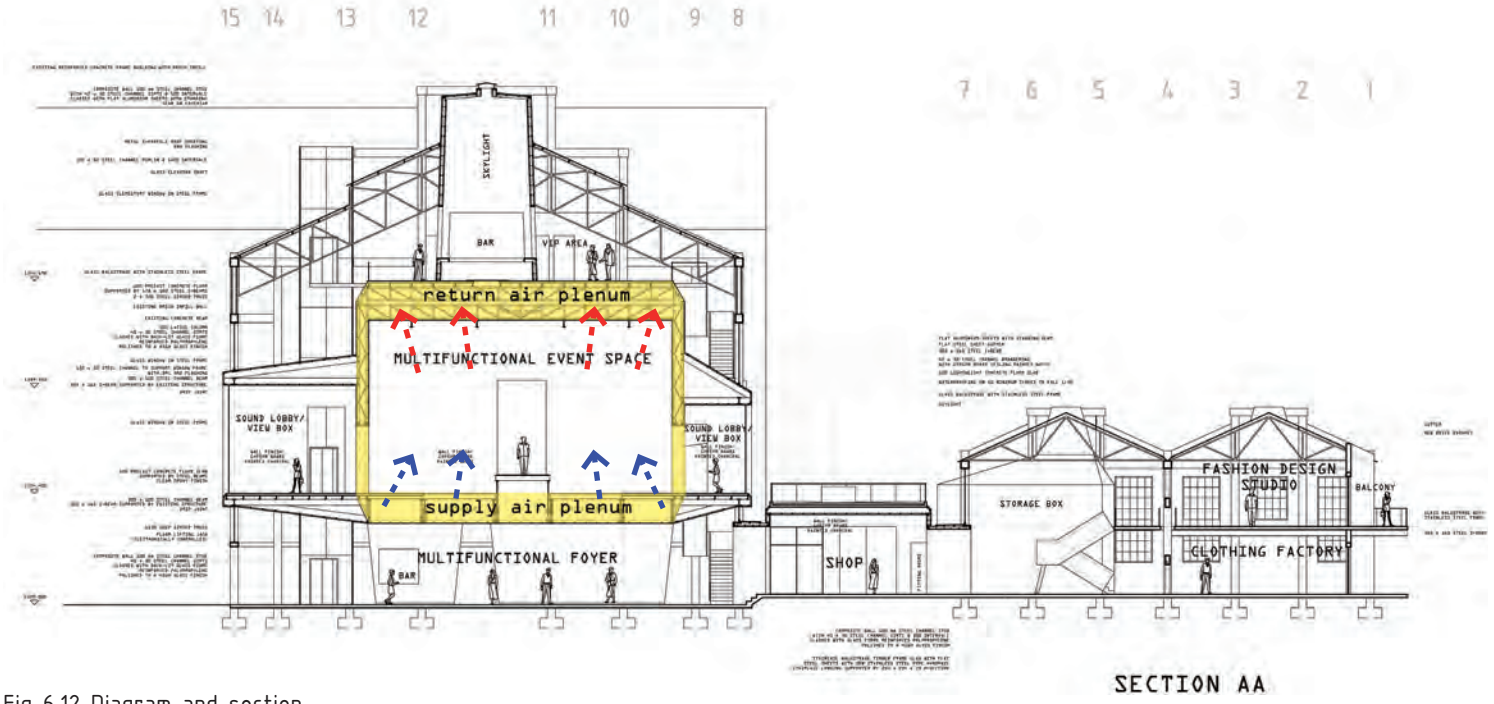


Fig 6.12 Diagram and section showing mechanical ventilation.

6.5_sustainability

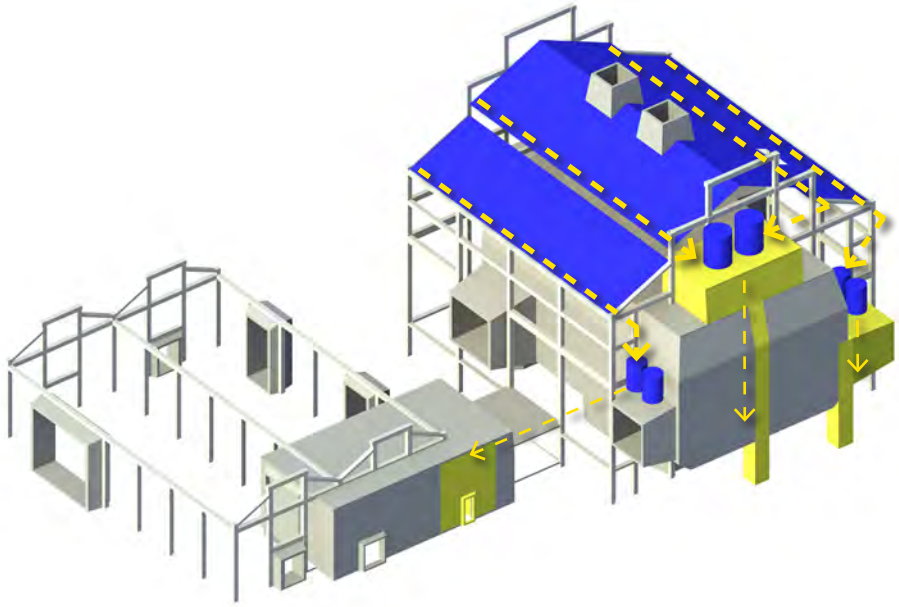


Fig 6.13 Diagram showing the position of rainwater tanks

The adaptive re-use of an existing building is effectively a sustainable approach to the development of a city. This project aims to serve as a possible example of how buildings can be re-used and redressed to serve current and future needs.

The materials for the new building were chosen primarily based on the concept for the design and the approach to contrast the existing building and materials in the new design. These materials (aluminium and plastics) have a high embodied energy in their manufacturing process, however both materials can be sourced in the Pretoria West area.

Strategies to minimise the impact on the environment during the life time and maintenance of the new building include the use of solar panels that can be attached to the roofs of the existing buildings that face in a northern direction.

Rainwater can be harvested by capturing the rainwater from the roof in water tanks and used in the building where potable water is not required. Especially in the new Boiler Hall building, harvested rainwater can be used by the air conditioning plant room to cool the air for the event space, as well as for the use of toilet flushing, urinals and hand basins.

6.5.1_rainwater harvesting

boiler hall water usage

	liters used	Usage / day	Water Usage	Quantity	Total	TOTAL
Flush Toilet	9	8	72	17	1224	
Hand basin	3	8	24	20	480	
Urinal	2	8	16	7	112	
Days per month (15)					1816	27240

workshop water usage

	liters used	Usage / day	Water Usage	Quantity	Total	
Flush Toilet	9	8	72	10	720	
Hand basin	3	8	24	10	240	
Urinal	2	8	16	4	64	
Days per month (22)					1024	22528

Water Usage for Air Conditioner 27360

TOTAL usage per month (l) 77128

average monthly rainfall	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
(mm)	136	75	82	51	13	7	3	6	22	71	98	110
Roof Area (24m x 25m) 608 m^2												
Rainwater Harvested (m^3)	82.7	45.6	49.9	31.0	7.9	4.3	1.8	3.7	13.4	43.2	59.6	66.9
m^3 = 1000liter (l)	82688	45600	49856	31008	7904	4256	1824	3648	13376	43168	59584	66880

provide rainwater harvesting tank for 80000 litres of water

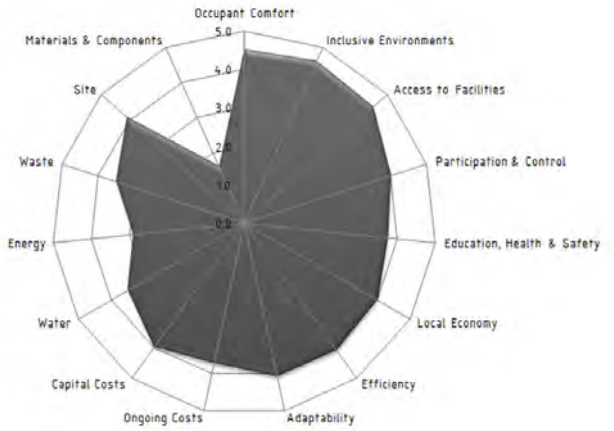
rainwater usage	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Rainwater Harvested (l)	80000	48472	49856	31008	7904	4256	1824	3648	13376	43168	59584	66880	409976
Water from municipality (l)	0	28656	27272	46120	69224	72872	75304	73480	63752	33960	17544	10248	518432
Water Usage (l)	77128	77128	77128	77128	77128	77128	77128	77128	77128	77128	77128	77128	925536

409976 / 925536 = 44% saving on potable municipal water

6.5.2_Sustainable Building Assessment Tool (SBAT)

The SBAT system was developed by Jeremy Gibberd from the CSIR and acts as a tool to rate a buildings sustainability.

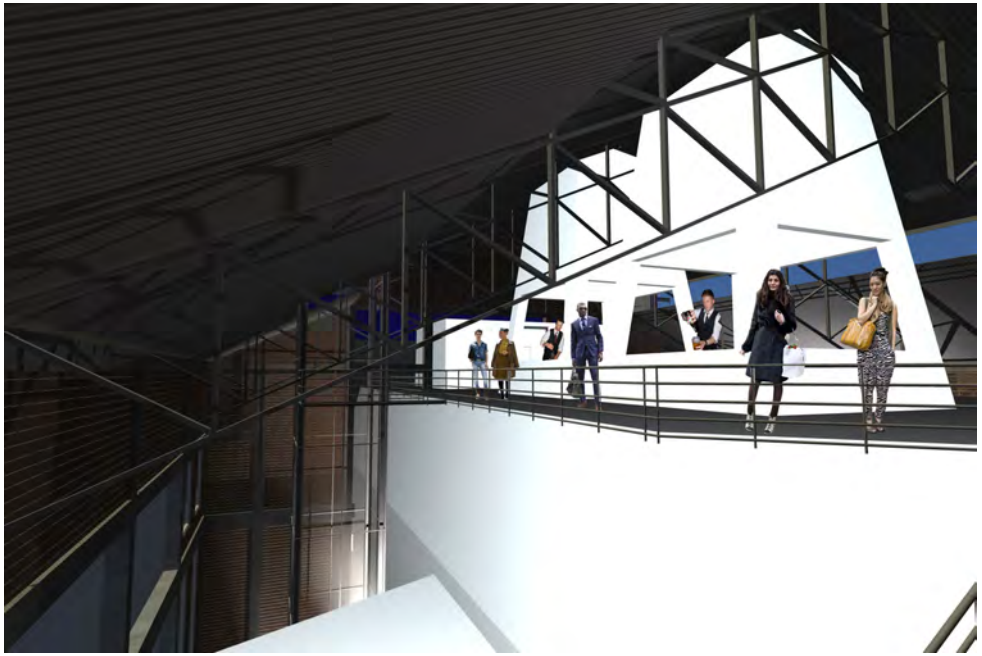
The specific project received an average rating of 3.8/5 and is classified as good. The materials that were used to construct the new part of the building has a high embodied energy, but according to the concept of the building and the aim to use contrasting materials in the new design, the use of these materials is necessary.



SOCIAL	4.3	OVERALL	3.8
ECONOMIC	4.0	CLASSIFICATION:	GOOD
ENVIRONMENTAL	3.1		

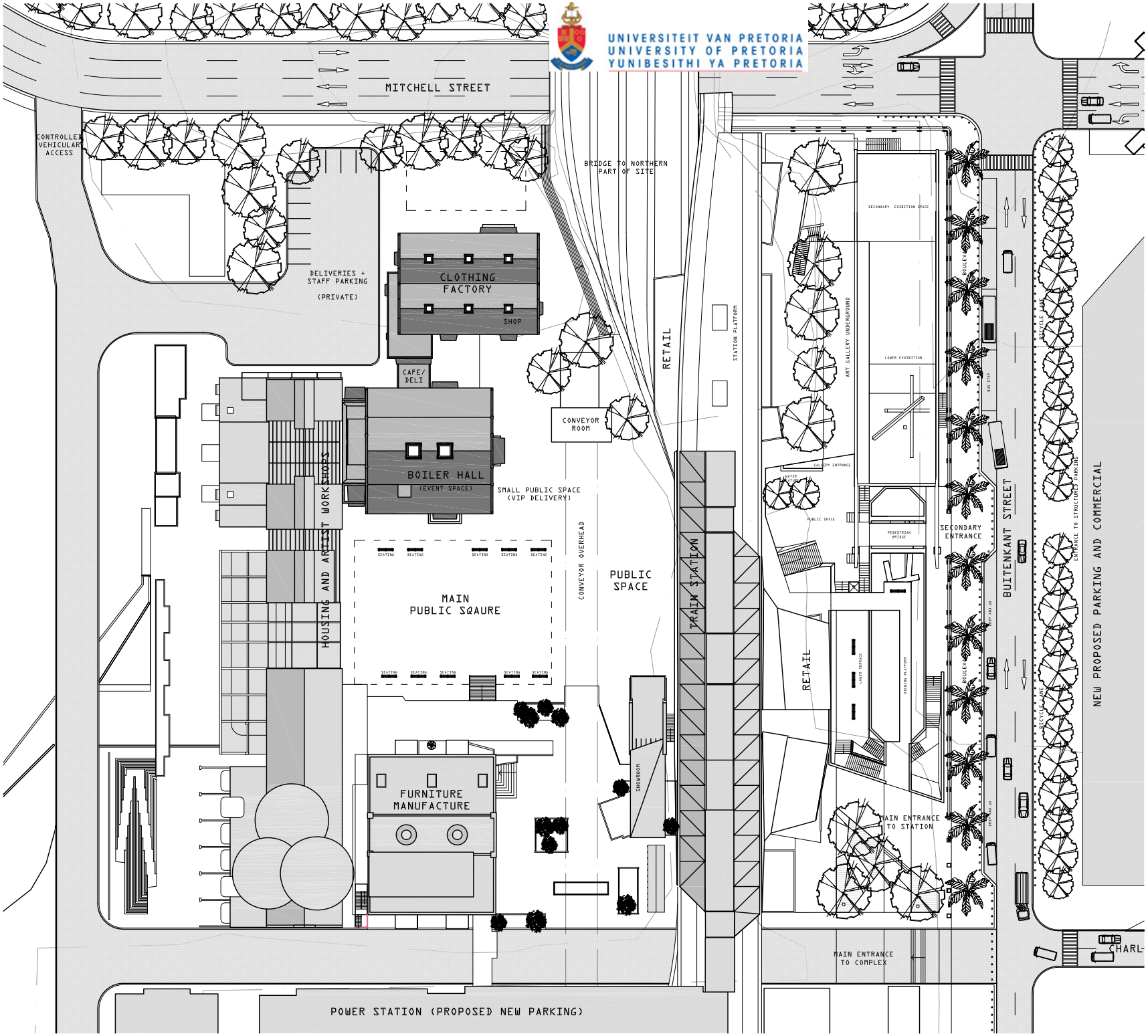
Fig 6.14 Results from SBAT rating

7. final drawings



PERSPECTIVES

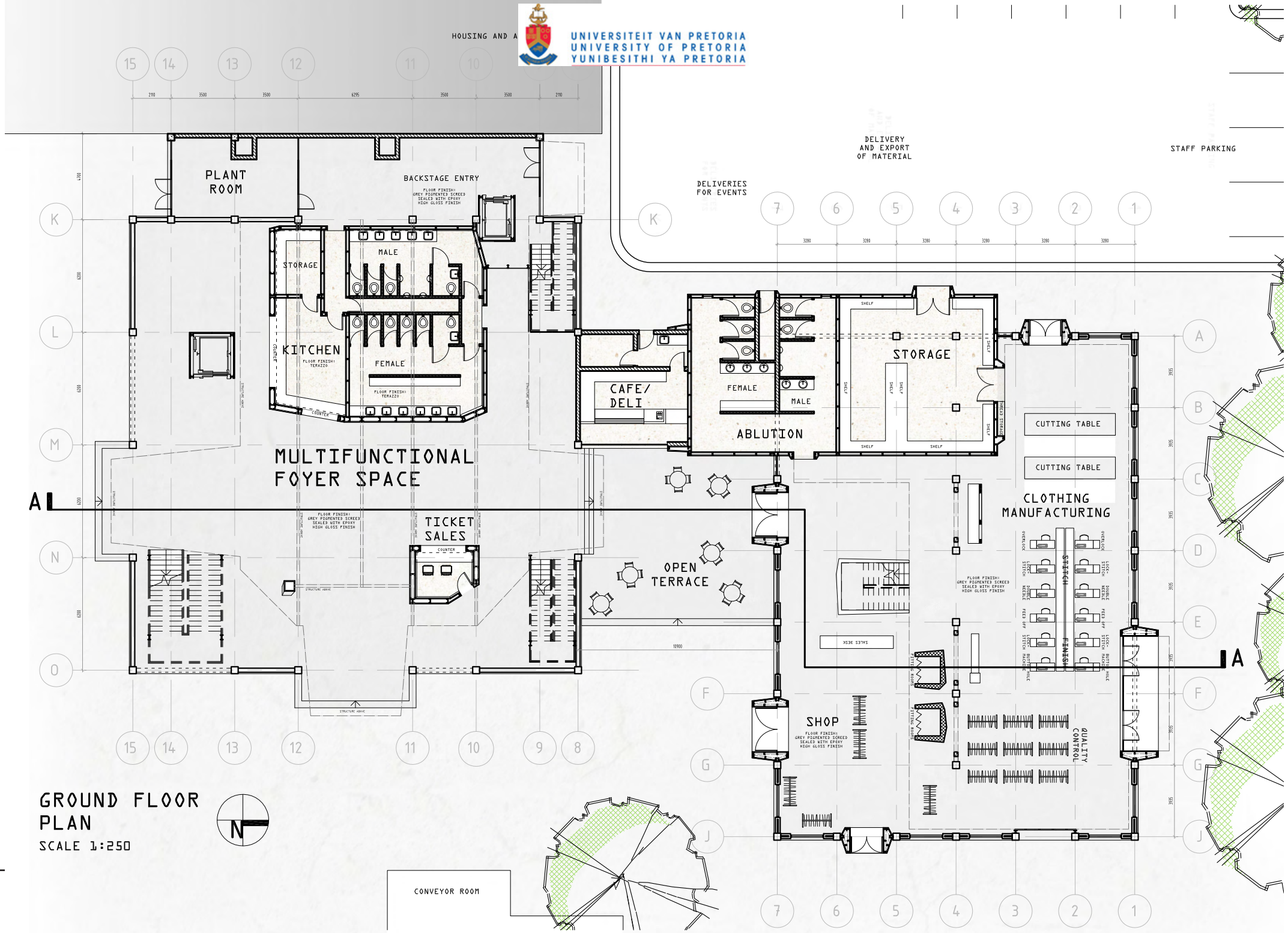

D&G
DOLCE & GABBANA
boiler hall
boiler hall
marie claire
VERSACE
the workshop



SITE PLAN

SCALE 1:1000

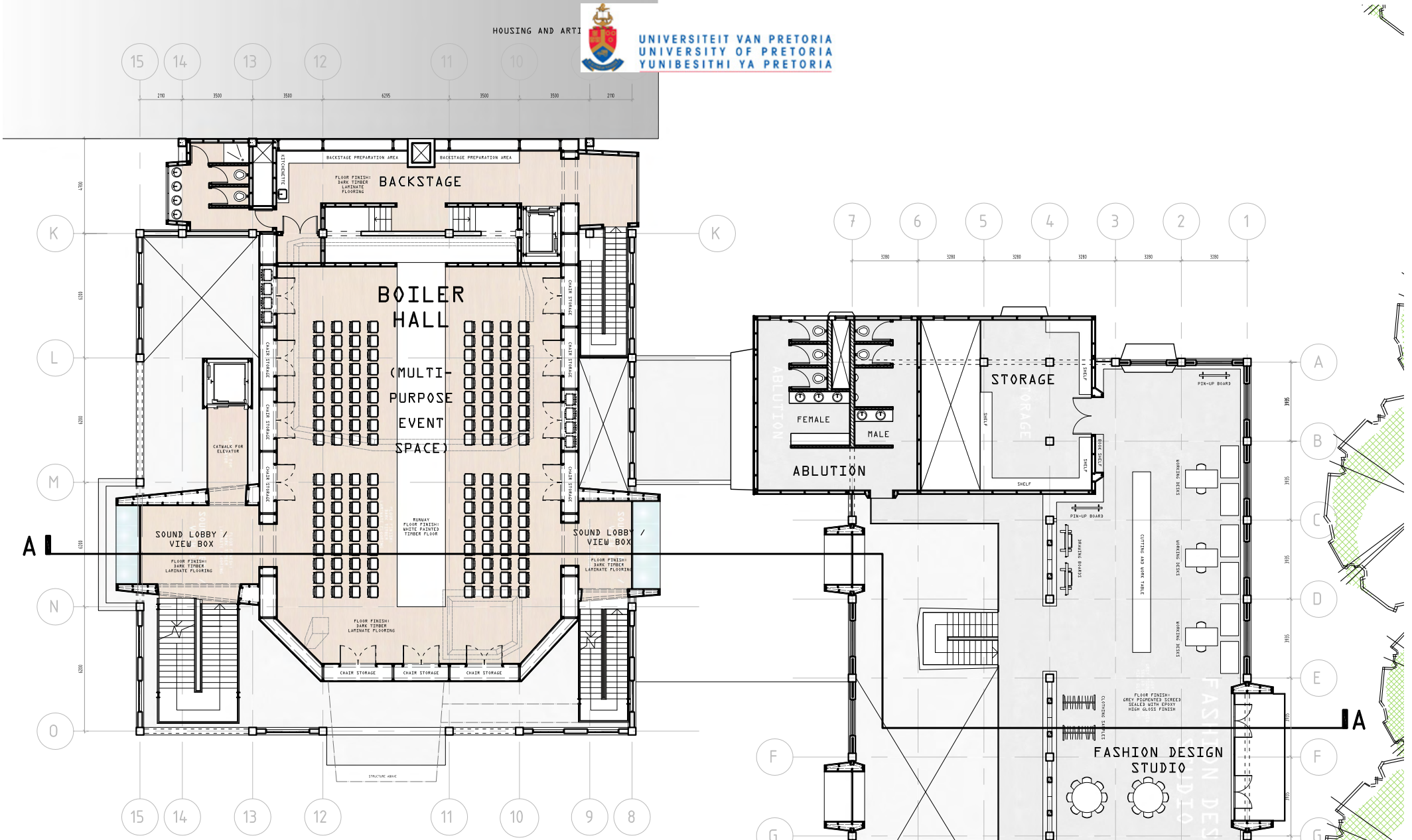
final drawings



GROUND FLOOR PLAN

SCALE 1:250

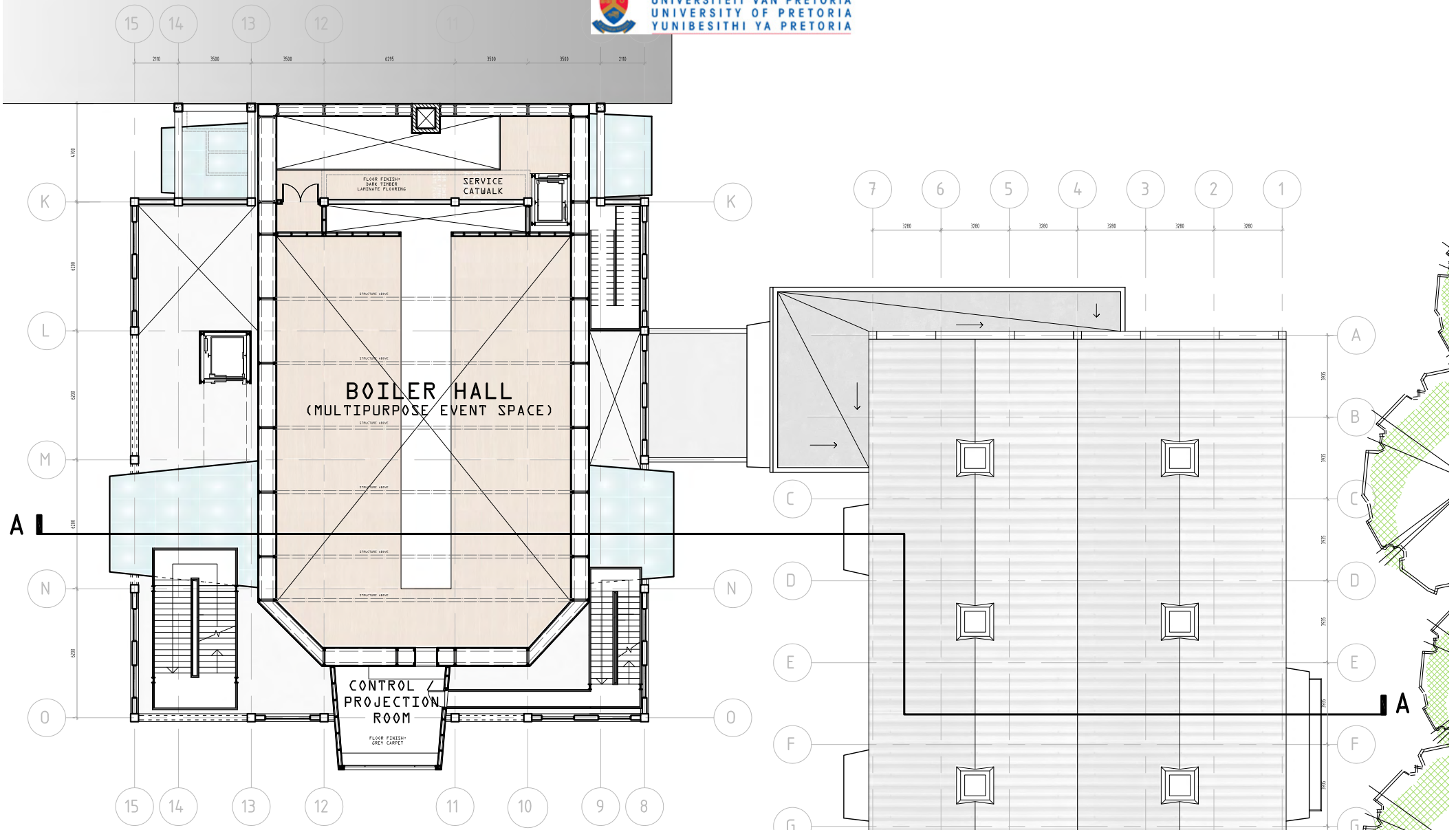
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



FIRST FLOOR PLAN

SCALE 1:250

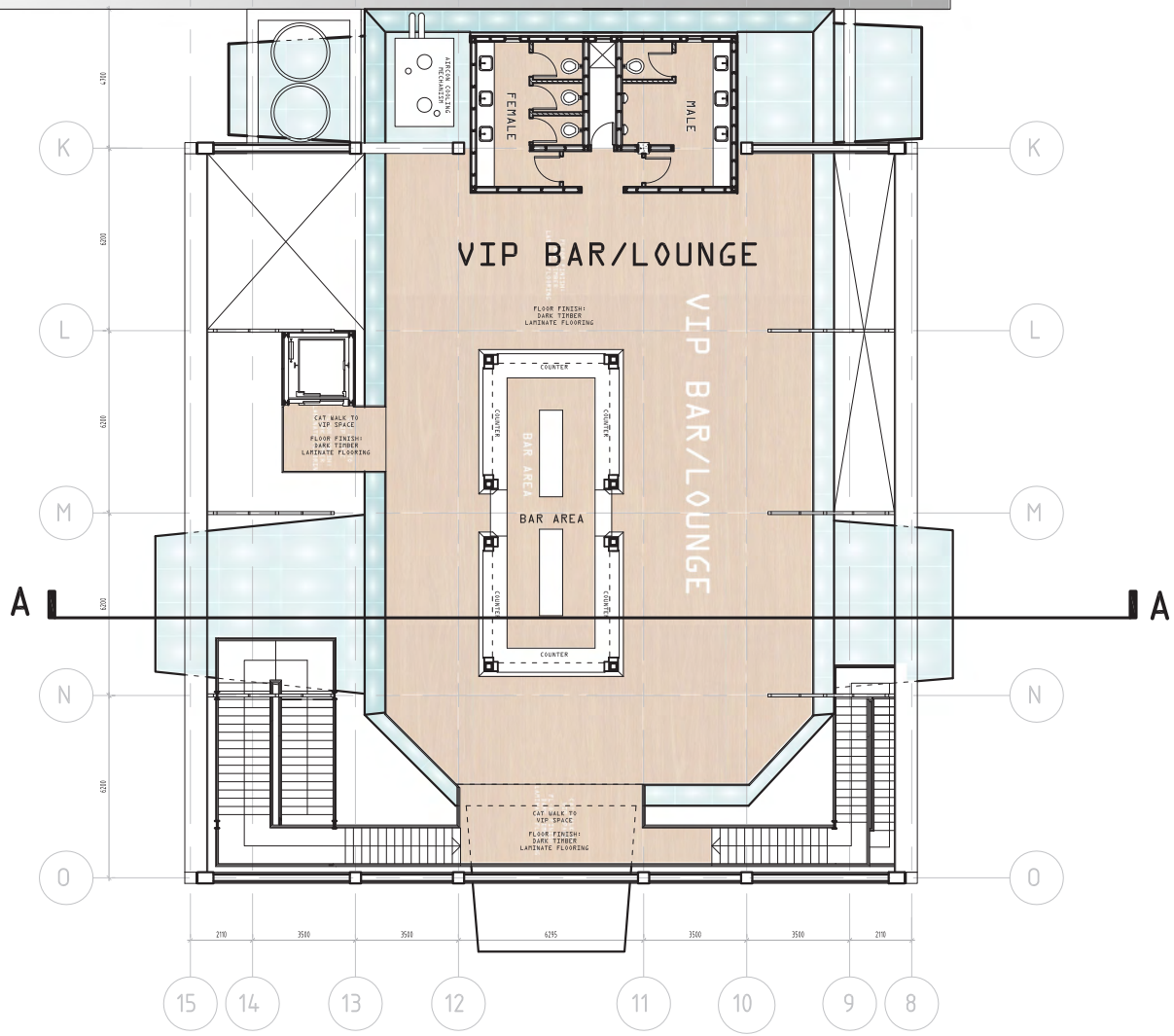
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



SECOND FLOOR PLAN

SCALE 1:250

PUBLIC SQUARE



SECOND FLOOR PLAN

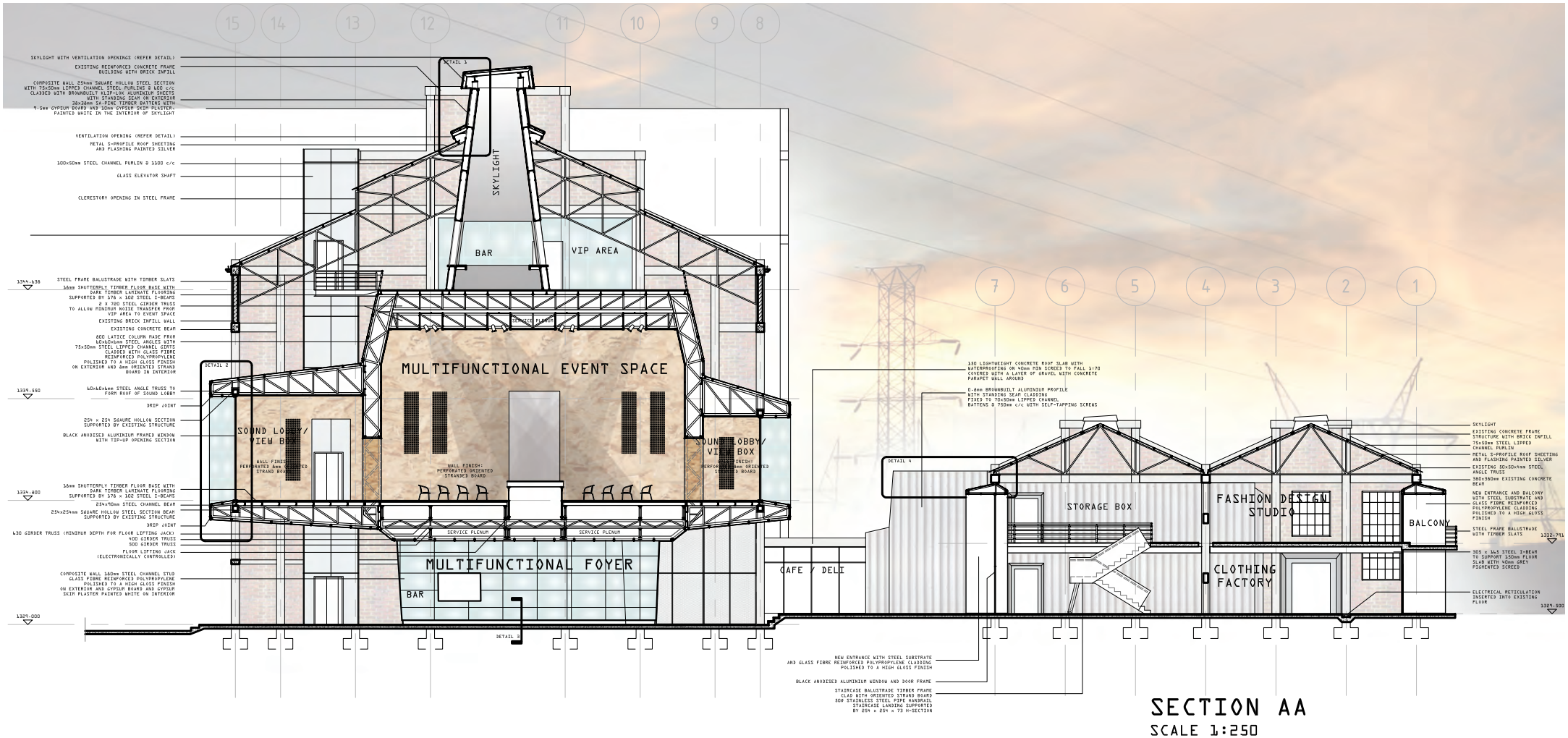
SCALE 1:250

N

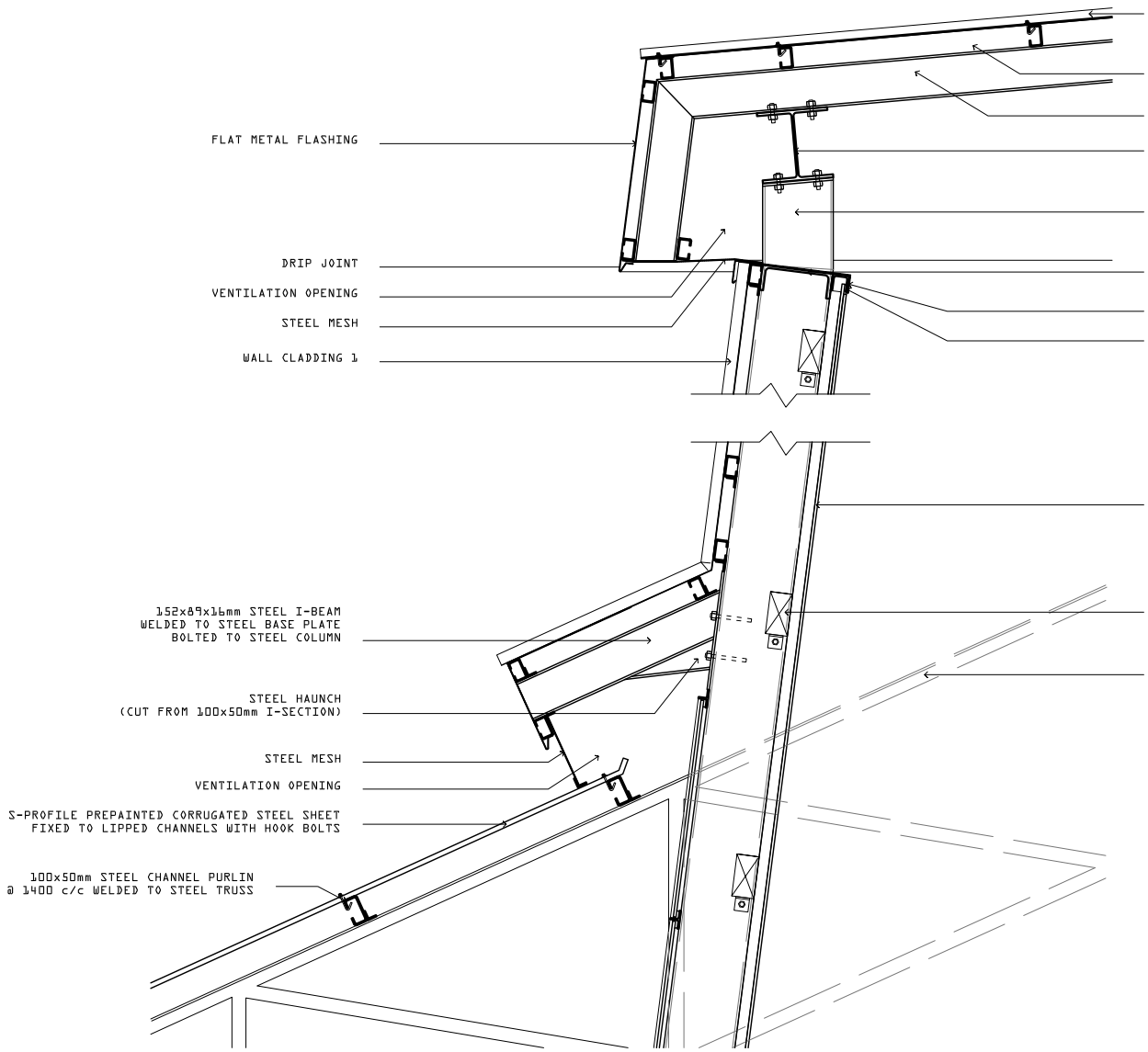
SOUTH ELEVATION
SCALE 1:250

EAST ELEVATION

SCALE 1:250



SECTION AA
SCALE 1:250



NOTES

WALL CLADDING 1:

75x50mm STEEL LIPPED CHANNEL GIRTS @ 600mm c/c

0.8mm BROWNBUILT ALUMINIUM PROFILE WITH STANDING SEAM FIXED TO LIPPED CHANNEL GIRTS WITH SELF-TAPPING SCREW

WALL CLADDING 2:

38x38mm TIMBER BATTENS FIXED TO STRUCTURE WITH SELF TAPPING SCREWS @ 600 c/c

9.5mm GYPSUM BOARD NAILED TO TIMBER BATTENS

10mm PLASTER TO GYPSUM BOARD WALL

WALL CLADDING 3:

35x65x5mm STEEL T-SECTION FRAME FOR CLADDING PAINTED BLACK WELDED TO STEEL STRUCTURE

600x900x10mm GLASS FIBRE REINFORCED POLYPROPYLENE WALL CLADDING POLISHED TO A HIGH GLOSS FINISH FIXED WITH BLACK SILICONE SEALANT TO STEEL FRAME

TREATMENT FOR ALL EXPOSED STEEL MEMBERS:

APPLY ONE COAT OF ZINC PHOSPHATE PRIMER COMPLYING WITH SANS 1319

APPLY ONE UNIVERSAL UNDERCOAT COMPLYING WITH SANS 681 GRADE 1

FINISH WITH TWO COATS ALKYD ENAMEL PAINT COMPLYING WITH SANS 630, TYPE 2, WITH A BLACK GLOSSY FINISH

DETAIL 1:

BOILER HALL ROOF WITH PROTRUDING SKYLIGHT

SCALE 1:25

DETAIL 2:

SOUND LOBBY 'BOX' PROTRUDING THROUGH EXISTING STRUCTURE

SCALE 1:25

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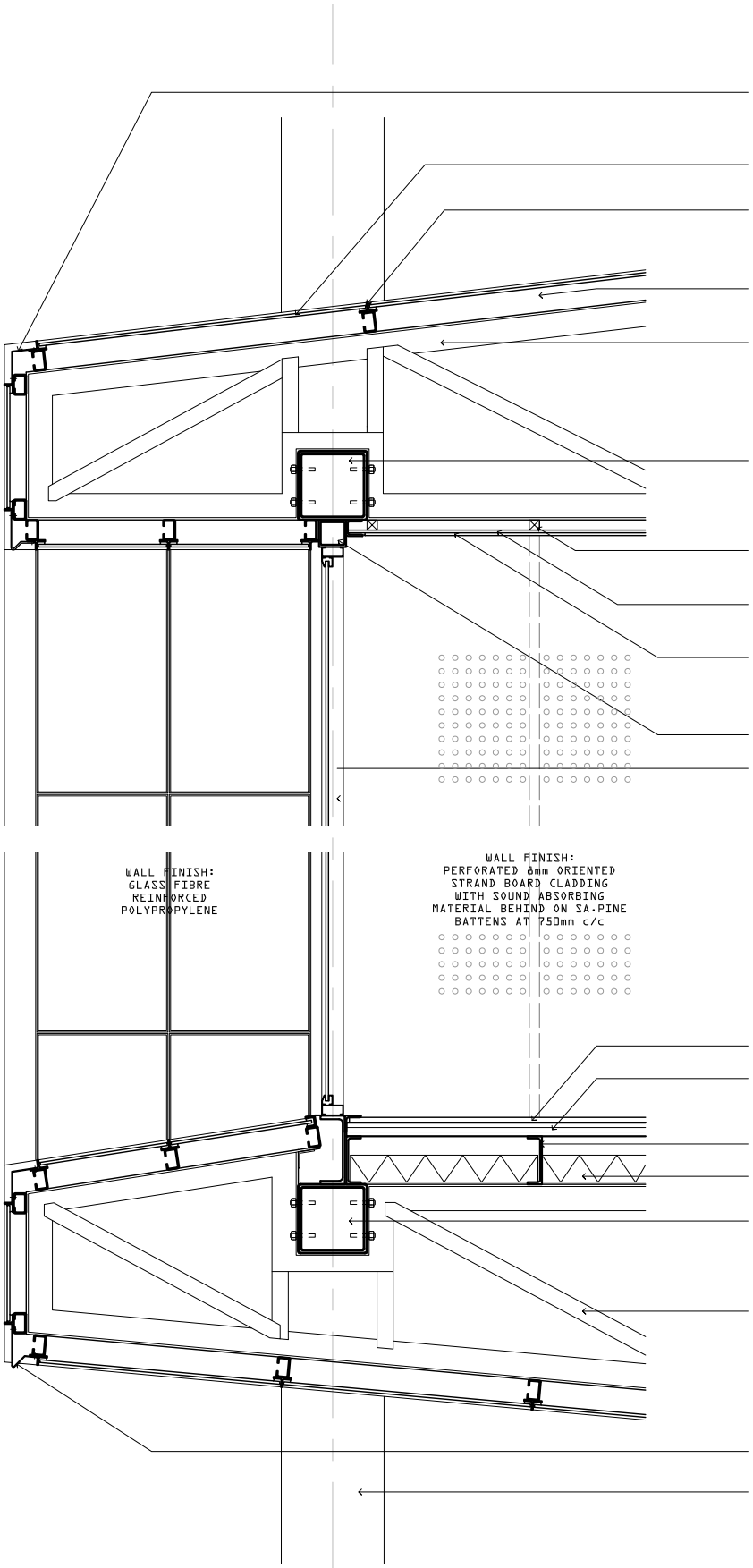


3mm FLAT METAL FLASHING

600x900x10mm GLASS FIBRE REINFORCED POLYPROPYLENE WALL CLADDING POLISHED TO A HIGH GLOSS FINISH FIXED WITH BLACK STRUCTURAL SILICONE SEALANT TO STEEL FRAME

35x65x5mm STEEL T-SECTION FRAME FOR CLADDING PAINTED BLACK WELDED TO STEEL STRUCTURE

75x50mm LIPPED STEEL CHANNEL PURLIN @ 600 c/c WELDED TO STEEL TRUSS

60x60x6mm STEEL ANGLE TRUSS BOLTED TO STEEL BEAM TO FORM ROOF OF SOUND LOBBY

254 x 254 SQUARE HOLLOW STEEL SECTION BEAM WELDED TO END PLATE AND BOLTED TO EXISTING STRUCTURE PAINTED BLACK

38x38mm SA.PINE TIMBER BATTENS FIXED TO TRUSS WITH SELF TAPPING SCREWS

9.5mm GYPSUM BOARD NAILED TO TIMBER BATTENS

10mm GYPSUM SKIM PLASTER TO GYPSUM BOARD CEILING

100x100mm SQUARE HOLLOW SECTION STEEL SPACER WELDED TO STEEL BEAM

3900x4700mm BLACK ANODISED ALUMINIUM FRAMED WINDOW WITH TIP UP OPENING SECTION

9mm LAMINATED TIMBER FLOORING

50mm SHUTTERPLY SOLID FLOOR BASE SCREWD TO STEEL CHANNEL FLOOR BEAM

180x70mm STEEL CHANNEL FLOOR BEAM

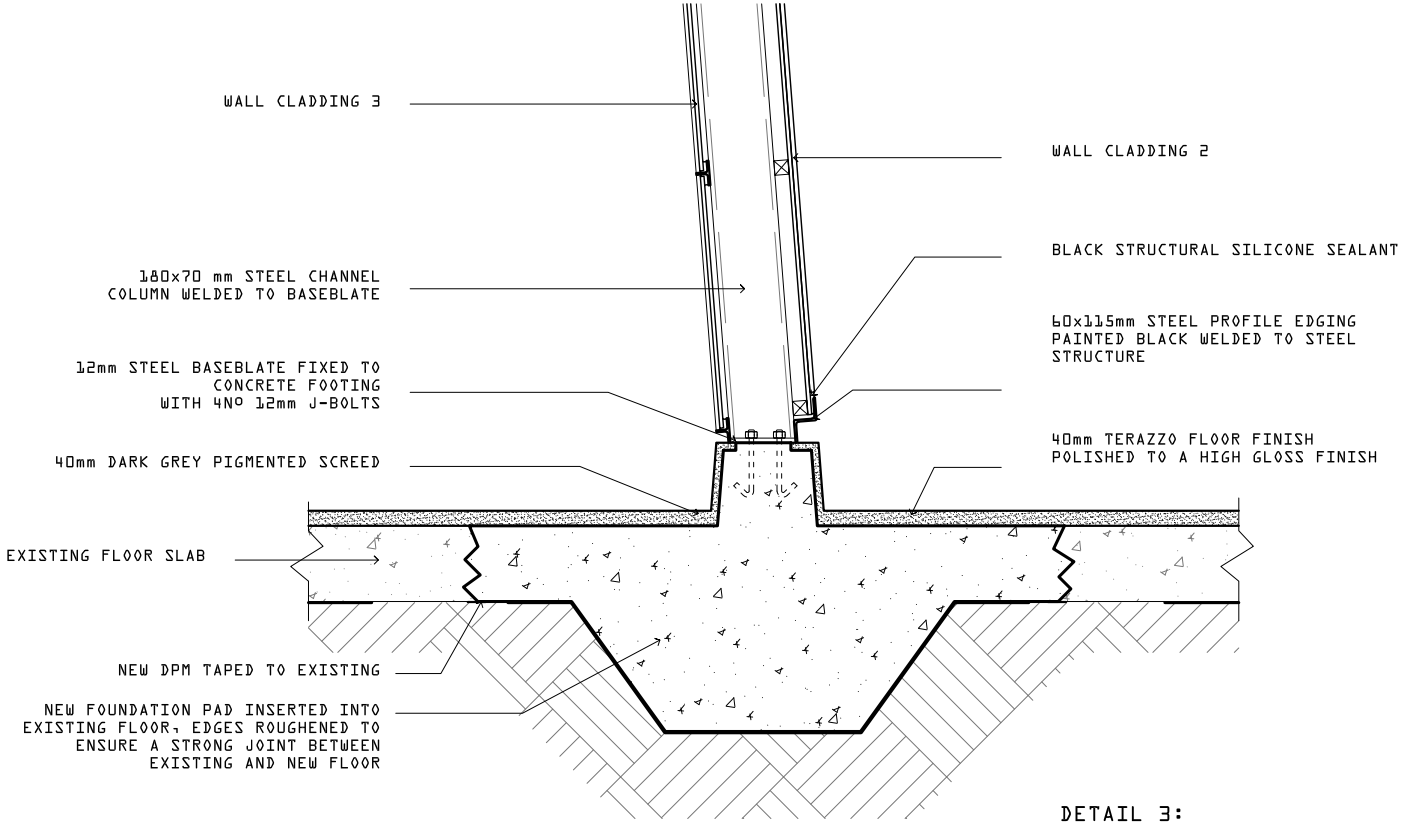
100mm ISOVER CAVITYBATT SOUNDBLOCK SOUND INSULATION WITH 58dB SOUND RATING

254 x 254 SQUARE HOLLOW SECTION STEEL BEAM WELDED TO END PLATE AND BOLTED TO EXISTING STRUCTURE

60x60x6mm STEEL ANGLE TRUSS TO FORM FLOOR OF SOUND LOBBY BOLTED TO STEEL BEAM

FLAT METAL FLASHING
DRIP EDGE

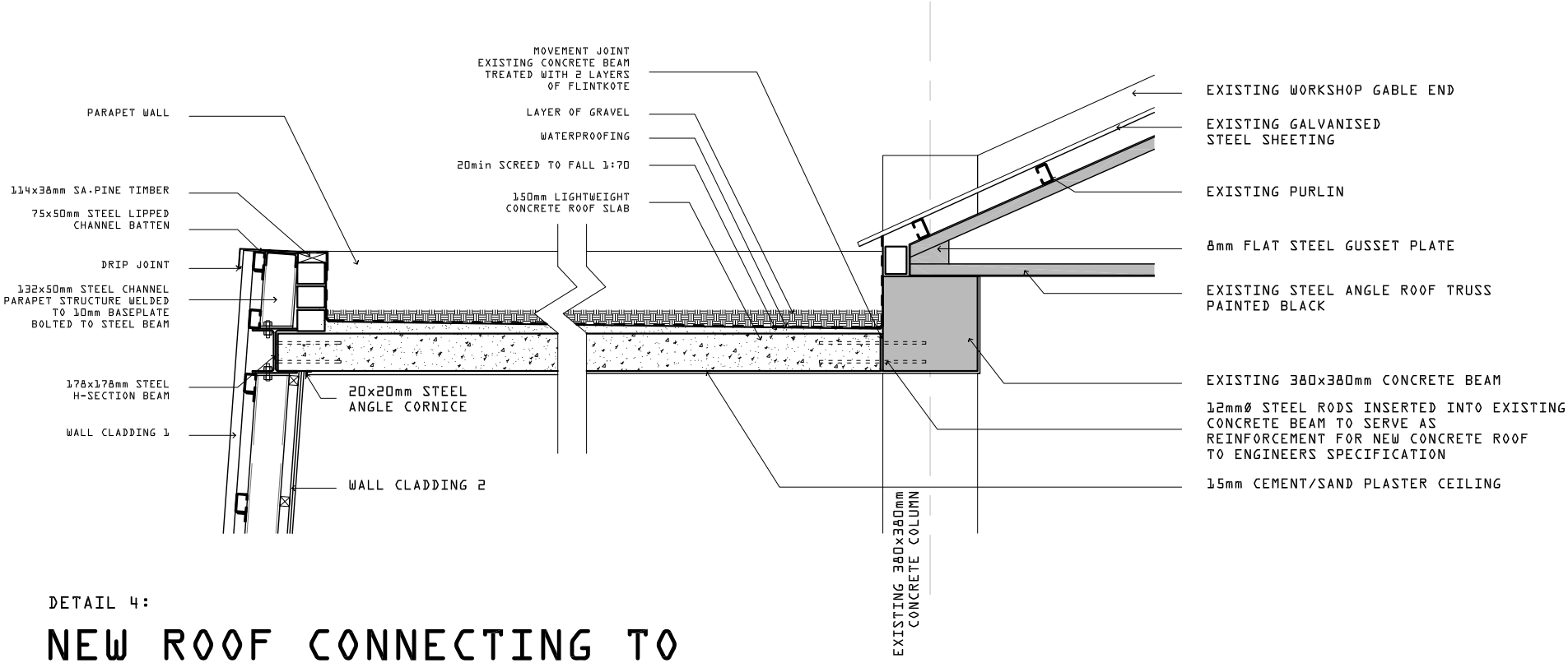
380x380mm EXISTING CONCRETE COLUMN



DETAIL 3:

WALL FOOTING

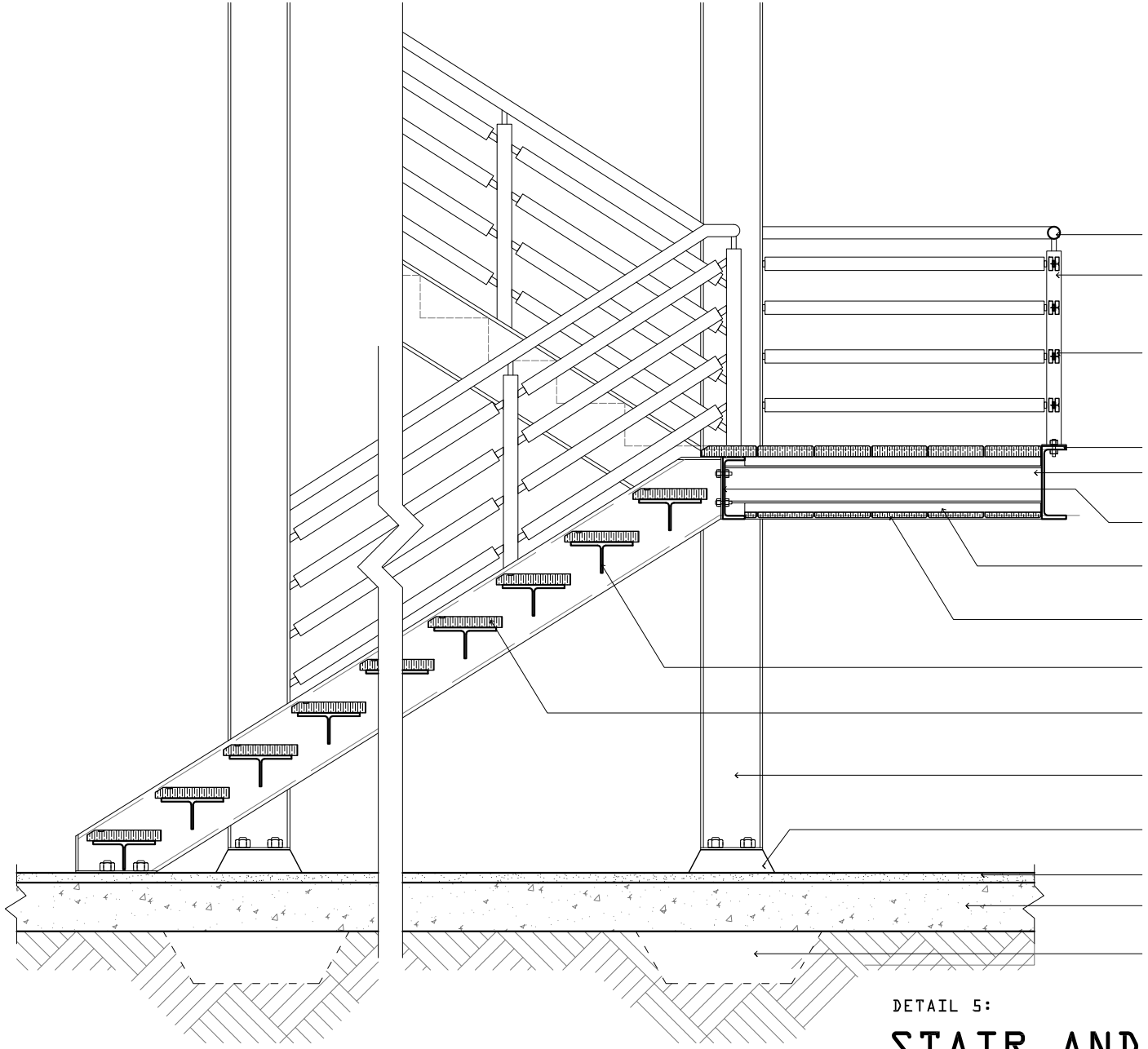
SCALE 1:20



DETAIL 4:

NEW ROOF CONNECTING TO EXISTING BUIDLING

SCALE 1:25



50mmØ CIRCULAR STAINLESS STEEL HOLLOW SECTION HANDRAIL

900mm BALUSTRADE WITH 60x60x800mm SQUARE HOLLOW STEEL SECTION BALUSTER WELDED TO 6mm BASE PLATE AND BOLTED TO STEEL CHANNEL

10x25mm FLAT METAL STRIP WELDED TO BALUSTERS ON EACH END, COVERED ON BOTH SIDES WITH A 55x16mm TEAK TIMBER STRIP COACHED SCREWD TO STEEL

300x100 STEEL CHANNEL FLOOR EDGE WELDED TO 10mm END PLATE BOLTED TO STEEL COLUMNS

152x89x16 mm I-SECTION FLOOR BEAM WELDED TO STEEL CHANNELS ON BOTH ENDS

254x90mm STEEL CHANNEL BOLTED TO STEEL COLUMNS

38x38mm SA-PINE TIMBER BATTENS FIXED TO FLOOR BEAM WITH SELF-TAPPING SCREWS @ 750 c/c

22mm TEAK CEILING NAILED TO TIMBER BATTENS SEALED WITH RUBIO MONOCOAT OIL

93 x 254 STRUCTURAL T-SECTION
(CUT FROM 254 x 254 x 73 I-SECTION)

304x44 TEAK STAIR TREAD WITH CHAMFERED EDGE SEALED WITH RUBIO MONOCOAT OIL, 15mm RUBBER NON-SLIP STRIP ON TOP

254x254 H-SECTION COLUMN WELDED TO END PLATE AND BOLTED TO CONCRETE FOOTING WITH J-BOLT

100mm EXTRUDED CONCRETE FOOTING

40mm DARK GREY PIGMENTED SCREED

EXISTING FLOOR SLAB

NEW FOUNDATION

DETAIL 5:

STAIR AND BALUSTRADE DETAIL

SCALE 1:25

8. conclusion

This dissertation investigated the way cities grow due to the migration of people from rural towns to more urban areas. This growing population in cities is one of the reasons why new suburbs develop and older areas fall in a state of disuse. In order to provide space for the growing population to live and work, it is proposed that older areas of the city be regenerated by filling in empty lots and recycling unused buildings, instead of replacing valuable agricultural land on the periphery of the city for new developments.

Industrial areas cannot supply for the growing population, therefore also moving to newer, bigger facilities outside the city. The dissertation focuses specifically on Industrial areas, their historic significance in the city, and how they can be redressed and adaptively re-used to serve current needs and offer opportunities for future development. The dissertation aims to redress negative perceptions associated with industrial areas by creating a vibrant node in Pretoria West that will have a positive effect on the surrounding urban fabric.

In recent years architecture, like fashion, has started to rely primarily on images to sell the product. Fashion photographers, have noticed the charm and sublime quality of unused industrial buildings and used them as the contrasting setting to capture their models in. Contemporary architecture, like fashion, has become the commodity of a city; an object in the landscape that attracts pedestrians and tourists. This informed the programme of the new building, a facility for the fashion industry within in industrial environment. Just as models are placed as an object in contrasting these surroundings, so is the new design placed as an object within the existing building fabric, and consequently manipulates facade of the existing building.

A contrasting approach was taken, in the design of the new building within the existing building, as well as the structure and choice of materials. The new building is one of many new public functions added to the Pretoria West Power Station site. In order to retain the existing character of the existing buildings, their significance was identified: The 1924 Boiler House significance lies in its volume and the Workshop's significance lies in its skin, which resembles that of the Boiler House.

The existing Boiler House is situated next to a new proposed public square and its volume lends itself to the accommodation of a public event space that will primarily be used for fashion shows. The new event space is inserted into the existing building like an object with protruding functional boxes that act as ancillary spaces for the event space. These boxes punch through the existing building envelope and emphasises the new proposed entrances.

The existing Workshop is situated further back from the public square and lends itself to the accommodation of a clothing factory and fashion design studio. These new functions required new ablutions as well as storage space for materials and products. These new additions are added as an object and cuts through the skin of the existing building.

The design provides a possible solution for the adaptive reuse of an industrial building and typology. The new design, together with other proposed new functions at the Pretoria West Power Station, will potentially have a positive effect on the surrounding urban fabric in Pretoria West, which will in turn have a catalytic effect on the regeneration of Pretoria CBD.

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photos of model

photos of model