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The everyday and the event:
Re-imagining the urban industrial event space of Pilditch Stadium

Danielle Mia Van Lille Labuschagne

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The everyday and the event:
Re-imagining the urban industrial event space of Pilditch Stadium

Danielle Mia Van Lille Labuschagne

Submitted in partial fulfillment of the requirements for the degree Master of Architecture (Professional). Department of Architecture, Faculty of Engineering, Built Environment and Information Technology. University of Pretoria, South Africa

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COURSE COORDINATOR: **DR. ARTHUR BARKER**

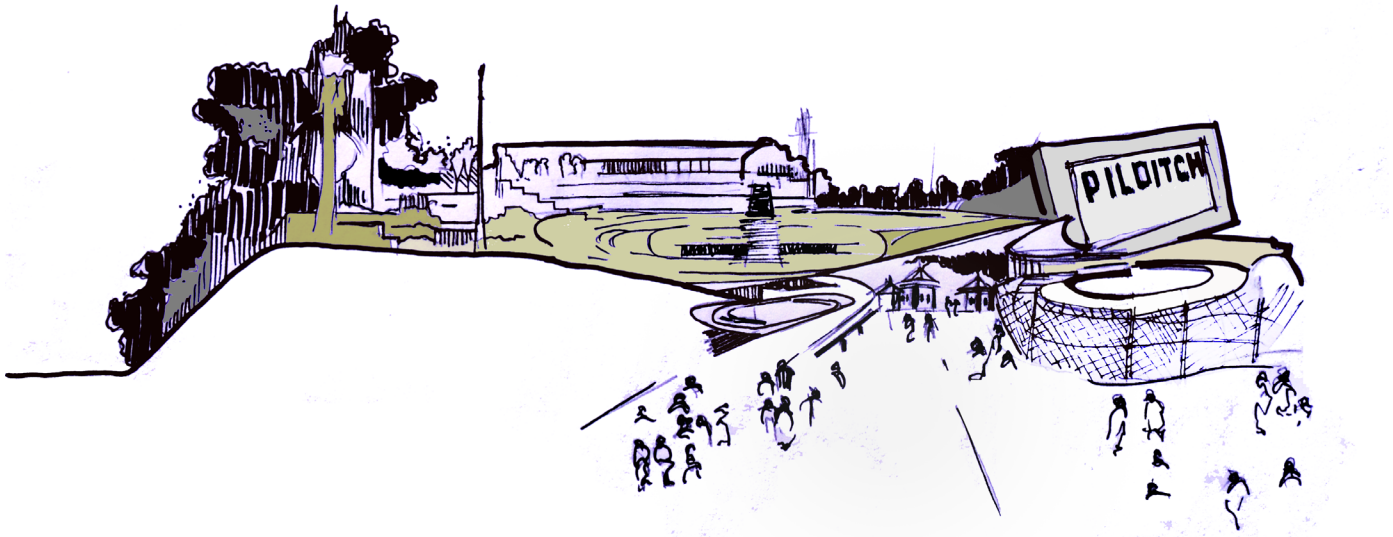
PRETORIA 2016

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ABSTRACT

This dissertation follows two complementary areas of investigation.

First, the study explores place making in the industrial area of Pretoria West. Second, investigating Pilditch Stadium and the adjacent Tshwane showgrounds, the project critiques and questions the mono-functional nature of the existing sports and event facilities.

Pilditch stadium, located in Pretoria West, currently functions, on occasion, as a “transient space for sport fans and sportsmen/-women” (Gunter 2011:76). When the stadium is not used, it becomes a non-place and returns to an introverted and isolated state. Similarly the Tshwane Showgrounds, located next to Pilditch Stadium, only function as temporary event space. In an attempt to expose the usually introverted aspects of sporting events within Pilditch Stadium into the public terrain, the intention is to create places for everyday rituals that can be used by locals, as well as place for larger sporting events that will bring visitors from further afield.

This proposal will attempt to introduce a new state; a permanent civic space accompanied by production spaces. The aim is to diversify and enhance the functions on site, in order to celebrate the ‘everyday’ and to re-imagine the site as a public place.

Although this dissertation proposes an urban design framework for the Pretoria West precinct, the focus of this dissertation will be on the North-western edge of Pilditch stadium itself. The proposed building intervention will explore place making and event space within the stadium precinct.

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EKSERP

Hierdie verhandeling volg twee komplimentêre areas van ondersoek.

Eerstens, ondersoek die studie die plekskepping in die industriële gebied van Pretoria. Tweedens word Pilditch Stadion en die aangrensende Tshwane Skougronde ondersoek.

Die projek behels ‘n kritiese bespreking en bevraagtekening van die enkelfunksionele aard van die huidige sport-en funksiefasiliteite.

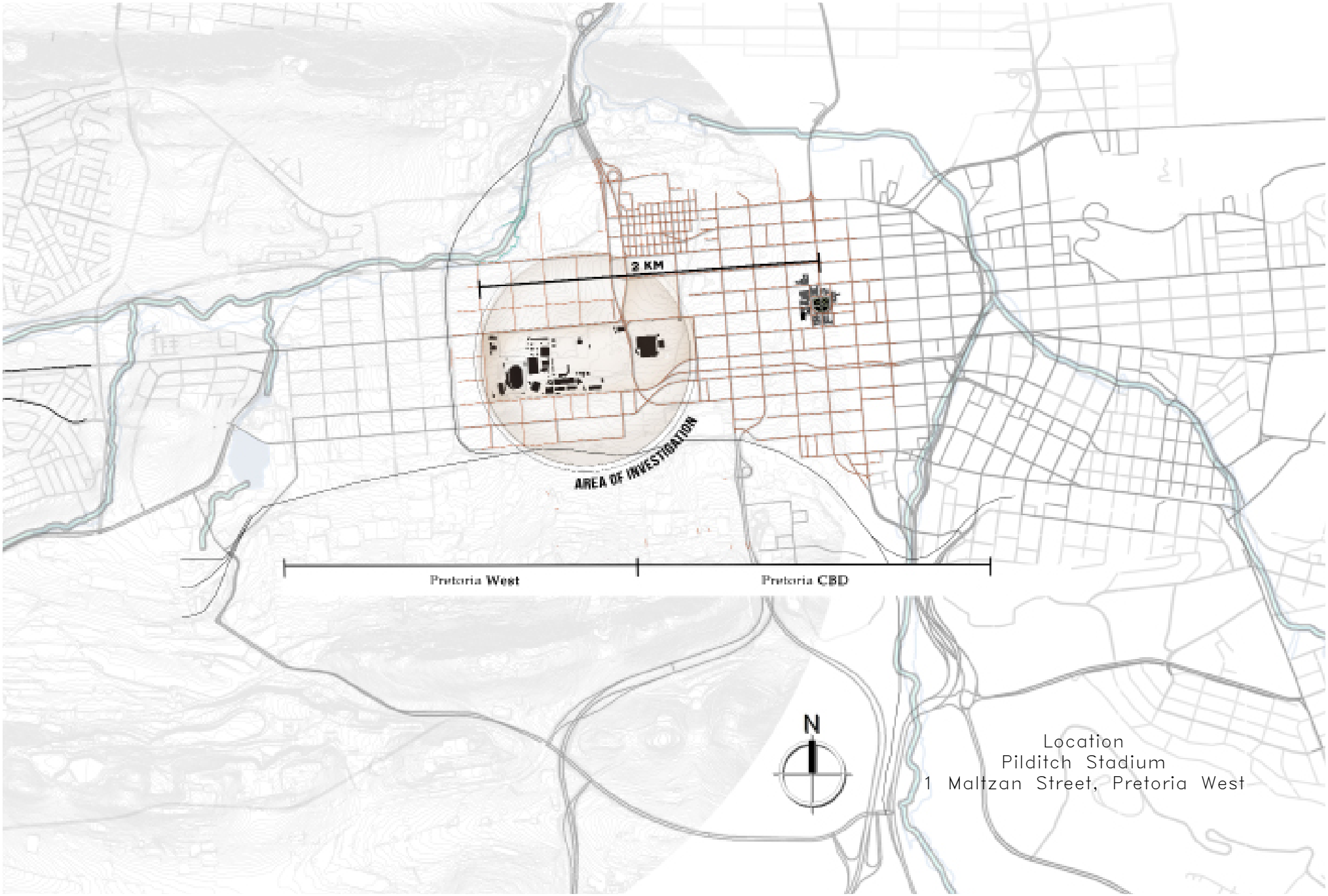
Pilditch Stadion, geleë in Pretoria-Wes, funksioneer tans op ‘n per geleentheid basis as ‘n ”transient space for sport fans and sportmen/ women” (Gunter 2011:76). Wanneer die stadium nie ingebruik is nie, word dit ‘n nie-ruimte en keer terug na ‘n staat van introversie en isolasie. Die Tshwane Skougronde, langs Pilditch Stadion, funksioneer soortgelyk ook slegs as ‘n tydelike funksie-ruimte.

Daar word gepoog om die tans introverte aspekte van die sportfunksies binne die Pilditch Stadion aan die publieke terrein bloot te stel. Met die inagneming van hierdie poging, is die bedoeling om ruimtes te skep vir die alledaagse rituele van plaaslike inwoners asook ‘n plek vir groter sportbyeenkomste wat besoekers van verder weg sal lok.

Hierdie dissertasie poog om ‘n nuwe werklikheid te skep; deur die voorstelling van ‘n nuwe toestand van permanente burgerlike ruimtes wat vergesel word deur produksieruimtes. Die doelwit is om die funksies van die perseel te diversifiseer en te verbeter om sodoende die “elke dag” te vier en om die perseel te her-verbeel as ‘n publieke terrein

Alhoewel die dissertasie ‘n stedelike ontwerp raamwerk vir die Pretoria-Wes buurt voorstel, is die fokus van die dissertasie die Noord-Westelike rand van die Pilditch Stadion self. Die voorgestelde gebou-ingryping sal die voorstel om spasie asook ‘n funksieruimte binne die Stadion buurt te skep, verken.

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PROJECT LOCATION

Pilditch Stadium and the Tshwane Showgrounds is located 2km West of Church square in Pretoria CBD (Gauteng Province) (Bohmer 2012:39). The site sits between two major roads; WF Nkomo road - a main movement artery- to the north, and Soutter street - an industrial movement artery to the south of the site. The the Western periphery of the CBD, Marabastad and the train station frame the borders of the larger context.

FIG. 01 : Location Map *(Map courtesy of GWA Studio, 2013)*

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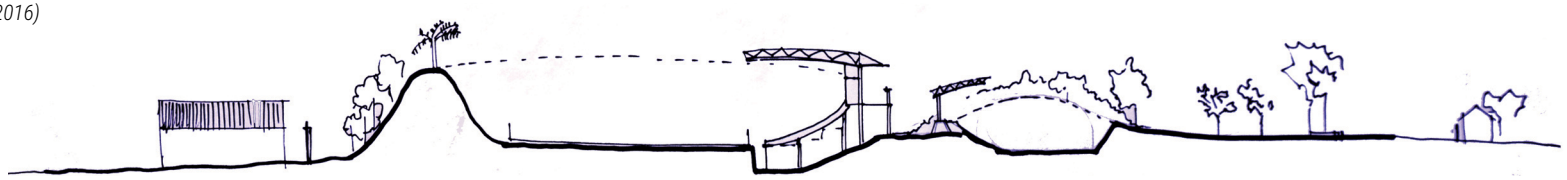
PREFACE

As a user of Pilditch stadium, the author has grown ever increasingly frustrated with the isolated and non-engaging state of the site.

Once contained by the confines of the berm, there is no reference to the context or community of Pretoria West. The stadium is disconnected from the street edge and does not play an active role as a recreation space to enhance the local community. The rapid industrialisation of the area also infringes and undermines the quality of spaces as houses, streets and recreational spaces are demolished to build low cost warehouses, driving out the local community that permanently stay in the area and give meaning to recreational spaces.

That was the departure point for this proposal: to investigate the capacity of Pilditch Stadium to restructure and adapt the public environment in order to generate new life in Pretoria West. What form this life takes, unfolded through the process of exploration.

FIG. 02: Sketch, conceptual section of Pilditch Stadium *(Author, 2016)*



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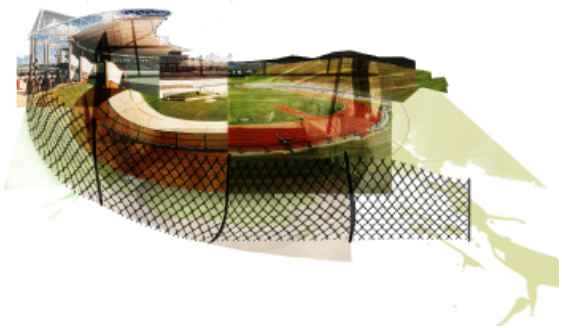
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PRETORIA
WEST
URBAN INDUSTRIAL PLACE MAKING



PILDITCH
STADIUM
THE EVERYDAY AND THE EVENT

AREAS OF INVESTIGATION

This dissertation functions on two complementary areas of investigation. First, the study explores place making in the industrial area of Pretoria West. Second, investigating Pilditch Stadium and the adjacent Tshwane showgrounds, located in Pretoria West, the project critiques and questions the mono-functional nature of the existing sports and event facilities. In an attempt to expose the usually introverted aspects of sporting events within Pilditch Stadium into the public terrain, the intention is to create places for everyday rituals that can be used by locals, as well as place for larger sporting events that will bring visitors from further afield. The focus of both of these areas of investigation will be in the North-western edge of Pilditch stadium itself.

FIG. 03: Collage, Area of investigation
(Author, 2016)
Photos of Plidicth: Architects Celliers, Greyvenstein ACG

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FIG. 04: Collage, Existing Context
(Author, 2016)

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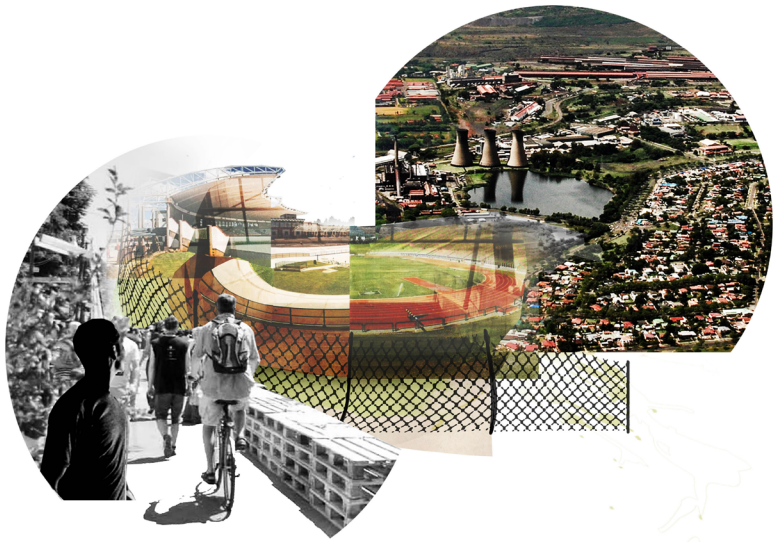


FIG. 05: Research questions illustrated
(Author, 2016)

RESEARCH QUESTIONS

The research questions, listed in a following order, guided the investigation of the dissertation in terms of site location and program development.

General Questions

What is the capacity of regenerative development, as opposed to current development trends, to celebrate the sense of place?

To question the role and responsibilities of large infrastructure or monofunctional space (like stadiums) as important recreational space to enhance local communities through its design?

How can the sense of place be represented through materiality and design?

Specific Questions

What can be incorporated to the site of Stadium in order to create a place for everyday activities.

To investigate an approach to architecture and urban design that physically connects a site with its surrounding context.

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01

CHAPTER 01

INTENTION

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FIG. 06 : Group Urban Framework Mapping- Consolidated map *(Bruinette et al, 2016)*
(Maps courtesy of GWA Studio, 2013)

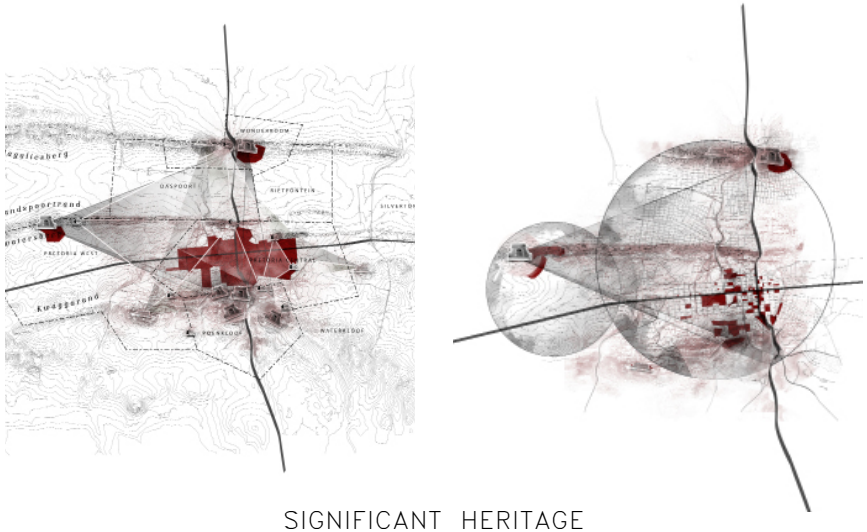
PLACEMENT IN GROUP URBAN VISION

THE DISCARDED LANDSCAPE OF PRETORIA WEST

In contrast to the development trend prevalent to the east of Pretoria, the West is perceived as the 'backyard' of the capital city. Large parts of West are misused, underutilised and degraded, which has led to the subsequent disregard of the Western quadrant of the city, especially from private investment. This has left the city decentralized; contributing to the "multi nodal character of Pretoria" (Smit 2009: 24). In an urban vision group, through a series of mapping exercises, it was established that large parts of the West is degraded and disowned. The intention was to discover the means of the disconnect and propose development to re-establish the importance of Pretoria West. The area of investigation is west of Paul Kruger Street and terminates at Atteridgeville. The northern boundary is defined by the Magaliesberg mountain and the southern boundary by the Lange Mountain range.

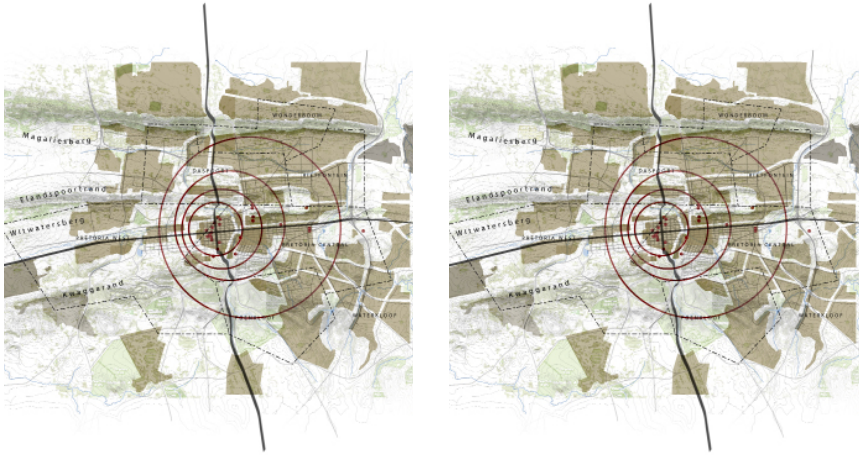


CULTURAL INDICATION



SIGNIFICANT HERITAGE

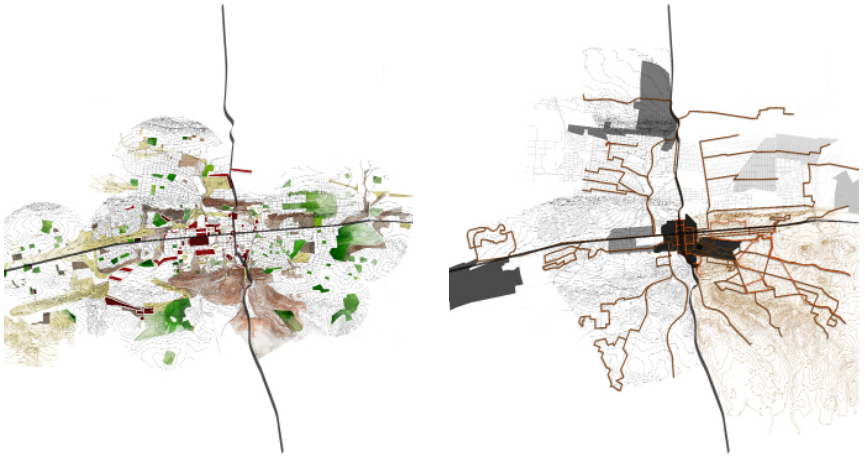
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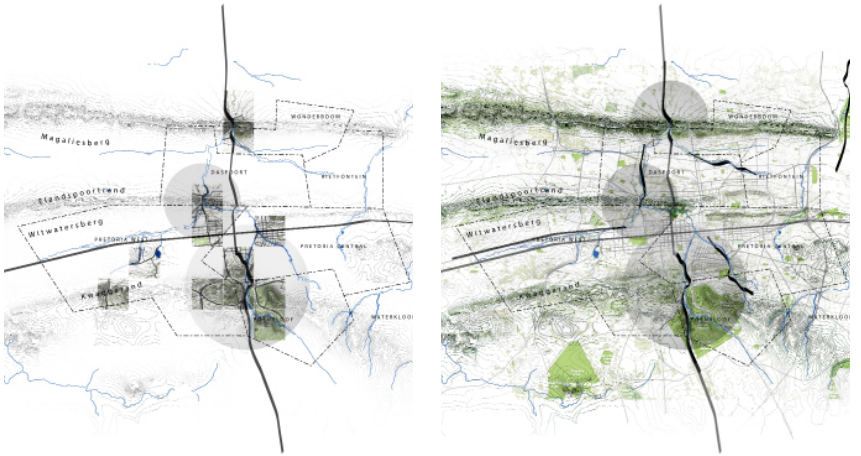
ECONOMY



ECOLOGICAL NETWORKS



PUBLIC SPHERE



ECOLOGICAL NETWORKS

FIG. 07 A-L : **Group Urban Framework - Mapping Pretoria West** *(Bruinette et al, 2016)*

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FIG. 08 : Group Urban Framework Mapping- Nodes of intervention *(Bruinette et al, 2016)*
(Maps courtesy of GWA Studio, 2013)

PLACEMENT IN GROUP URBAN VISION

FIVE NODES OF INTERVENTION

Through the various lenses, five nodes of intervention presented places with latent potential for development. Identified by an overlay of the all the mapping done, these areas present multiple layers that hint to an opportunity for development. In the group vision, as a broad outline, 9 principles for the proposed new development was established. Further urban analysis and was done sperately at each node with the intention to incorporate the different principles on a smaller scale.



REGENERATIVE USE

Over-arching theoretical premise of the design



CELEBRATING SIGNIFICANCE

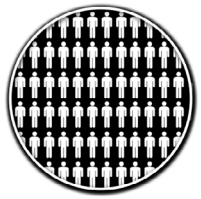
Re-establish places as destination areas



DENSITY

Improve the current density

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PUBLIC SPACE

Create public places



PERMEABLE PLACE

Diffuse strict boundaries



CONNECTIONS

Place development within an existing network



MULTI PURPOSE

Improve functionality of place



EVERYDAY ACTIVITIES

Include everyday activities of the surrounding context



ACCESSIBILITY

Create public places with access and choice

FIG. 09 A- I: Group Urban Framework - Principle Icons
(Bruinette et al, 2016)

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URBAN ISSUE

DEGRADED BUILT FABRIC

This map illustrates the open space network of the larger context of Pretoria. Sport fields and facilities were specifically mapped. The green indicates existing sport facilities, the yellow indicates unused open space and the brown indicates open space which is currently used/occupied. The red overlay indicates degraded built fabric, referring specifically to degraded buildings. This map illustrates that most of the degraded buildings lie to the centre and Western part of the city. Large parts of the precinct of Pilditch Stadium and the Tshwane showgrounds is degraded. In an executive summary done by the CSIR in 2013, 84% of cause of deterioration is attributed to a lack of maintenance. The building is rated as “inadequate” and in need of “repair” while the site overall is rated as “bad” and in need of “rehabilitation” (*ibid*).



FIG. 10: Mapping, Degraded built fabric
(Author, 2016)

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URBAN ISSUE

PERCEPTION OF THE WEST

Pretoria West as a Roadhouse

The author's perception of Pretoria West can be associated with the metaphor of a roadhouse, in that it is: reminiscent of a pastime or a place "disconnected" or "lost in time" (Steenkamp 2013:11); the experience of place is dominated by vehicles; and ultimately, it is a harsh environment for pedestrian.

This perception can be attributed to the lack of urban civic space in the West, discouraging the experience of place from a pedestrian perspective (Steenkamp 2013:32). The transformation of Pretoria West over time has placed much emphasis on movement patterns in a functional sense, and has fractured and neglected the social dimension of these spaces. The resultant urban elements of Pretoria West are purely driven by the "functional need to circulate and create access and flow for vehicles" (Jalaian 2015:abstract).This can be attributed to the increasing industrial nature of Pretoria West over its more multi-function activities, diverse building typologies, integrated social and ecological systems, and the historical palimpsest. This calls for a sense of publicness and an architecture that enables connections (Steenkamp 2013:11).



FIG. 11: Collage, Industrial context of Pretoria West *(Author, 2016)*

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PROBLEM STATEMENT

UNDERUTILISED SPACE

'Transient space for sport enthusiasts'

Pilditch stadium, located in Pretoria West, currently functions, on occasion, as a "transient space for sport fans and sportsmen/-women" (Gunter 2011:76). When the stadium is not used, it becomes a non-place and returns to an introverted and isolated state. Similarly the Tshwane Showgrounds, located next to Pilditch Stadium (FIG. 07), only function as temporary event space.

INTENTION

RE-ACTIVATE SITE

Break open the silo of site

This proposal will attempt to introduce a new second state; the permanent civic space. The aim is to diversify and enhance the functions on site, in order to celebrate the 'everyday' and to re-imagine the site as a public place. The intention is not to dilute the existing function of the athletic stadium, or to modify the stadium, but to add secondary functions that will introduce the original meaning of the site to a new context, in order to create a new shared meaning of place. The proposal will explore the potential for engagement of new architectural interventions to reconcile the values of place with the values and the needs of the community (The Regenerates, 2015).

FIG. 12: Collage and sketch, Pilditch Stadium
(Author, 2016)

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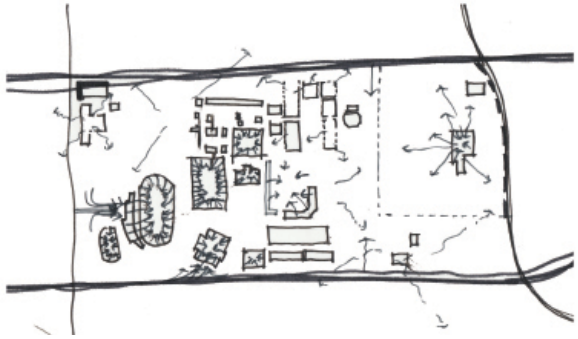


FIG. 13 A: Sketch, Current situation on site *(Author, 2016)*

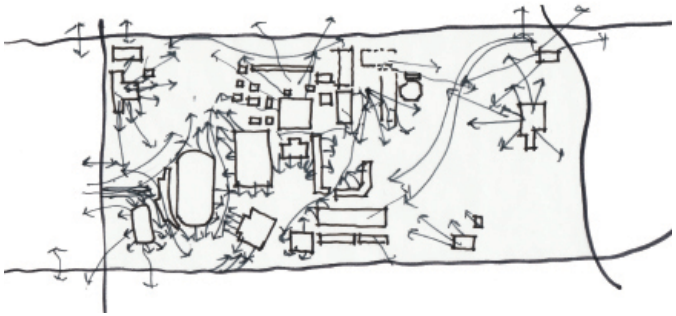


FIG. 13 B: Sketch, Proposed networks on site *(Author, 2016)*

Historically, the site has always been associated with functions of exhibition and sport, which both refer to the 'event', but because the site is located on the Western periphery of the Pretoria CBD; and the surrounding urban context has changed from a rural area to an industrial context, the site has a responsibility to relate to its' current everyday context as well.

The notion of breaking the boundaries around the focal area of the stadium and show grounds will be incorporated into the dissertation in both a theoretical and conceptual approach, but also on a functional level by physically breaking open the metaphorical 'silo' state of site, by cutting into existing infrastructure of the berm. The architecture will attempt to establish engagement with site boundaries and thresholds in order to ultimately weave the stadium back into the city fabric and present new interpretations for post event integration of mono functional facilities.

The large scale urban vision will investigate regenerative future developments that can start utilising the site. However, The intended focal area of intervention for the dissertation will be the stadium and its edges. This has been identified as the point on the site with the strongest latent potential.

On a temporary basis, the stadium site will host athletic events, and in its permanent state, the stadium site edges will function as civic space with secondary functions that contribute to the self empowerment of the people of Pretoria West. This dissertation will attempt to unlock potential at the stadium as a single point of intervention, and speculate that those principles can ripple across to the rest of the showground site and further to the macro scale, and might inform how other developments can occur in this area.

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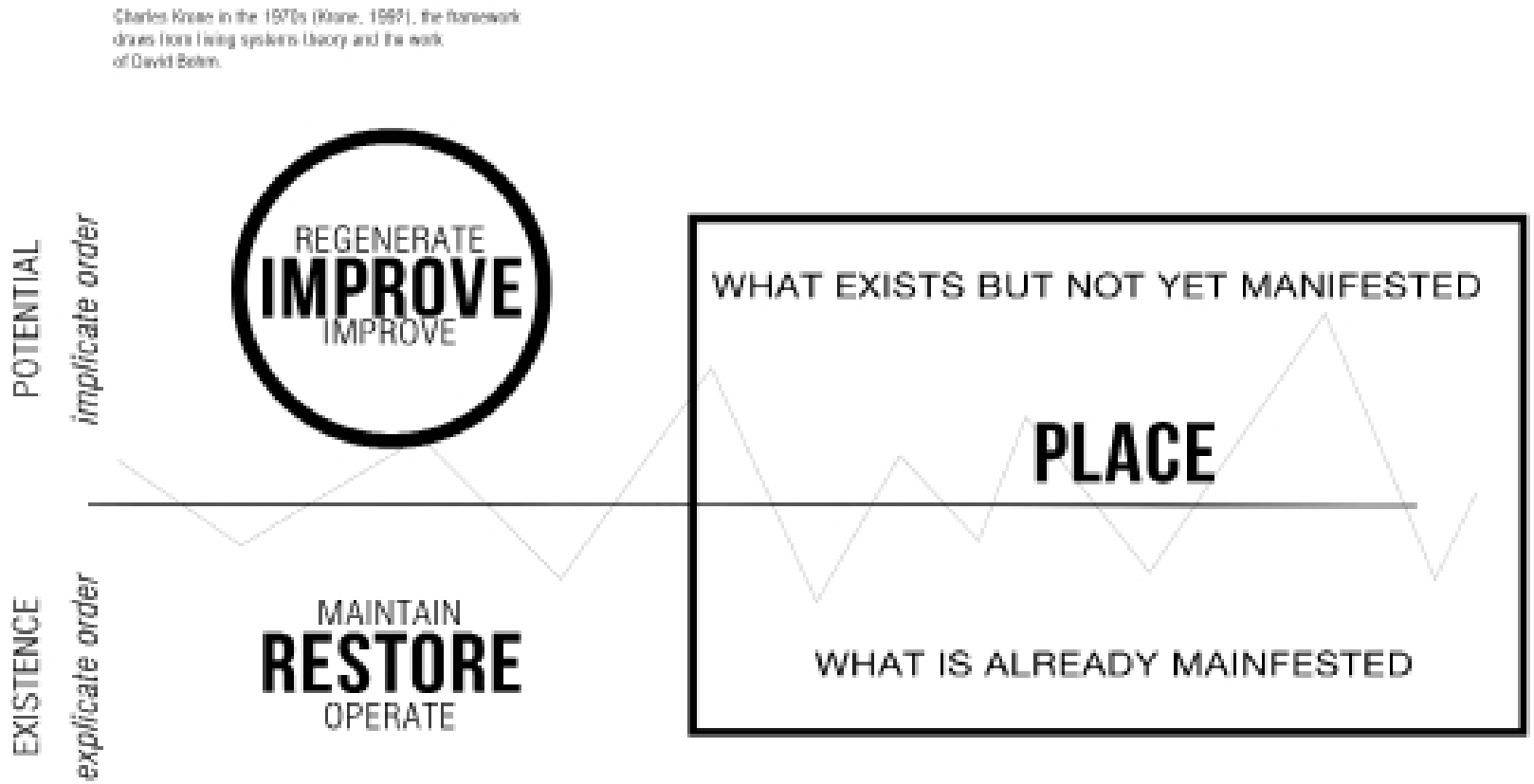


FIG. 14: Diagram adapted from *Designing from place: a regenerative framework and methodology (P, Mang and B, Reed, 2012)*

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REGENERATIVE APPROACH

Regenerative development theory informed the way in which this dissertation approached the development of the site.

"As humans, we are inherently place-makers. Subjectively, we imbue a space with meaning" (Mang 2009:18).

The theory of regeneration is not only the investment in degraded areas, but includes Regenerative development theory which uses the sense of place as point of departure for upliftment of an area in both the tangible environment as well as its community.

Key to this process is an understanding of place, which is defined by Tuan as the "center of felt value' (*ibid*: 13) or the "vital, co-creative relationship between humans and the places they inhabit" which "serves as a basis for what has shared meaning" (Mang & Reed 2012: 28).

"Sense of place is an embodied experience, not an abstract concept" (Mang 2009:17).

Discovering place thereby "illuminates how a project can be become truly meaningful" (*ibid*). Exploration of the values of place provided an understanding of the past and present characters, and the latent potential to connect these characters for future development (*ibid*: 67).

By looking at the inherent qualities on site through means of existing networks, the history of place, the existing energies on site and in the current context; the quality of place was considered in the new development. Because of the vast open and unused space on site, the intention was to pull energy into site, but to do so according to existing patterns and by means to enhance the local community. The development also looked at creating better defined space in response to make the site accessible and legible for new users. The theory of regeneration also contributed to the intention to create a place of delight in Pretoria West.

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METHOD

Presented in the following chapters, the sense and character of place is built up through research, site visits and desktop study. Taken from the approach proposed by author's normative position for contextually appropriate design, the research process will include an analysis of site and activity to identify possible points of intervention, and present appropriate design solutions. Further, the attributes of the stadium will be investigated through site visits and documentation, desktop study and research. The existing networks and inherent qualities identified on site will then inform architectural interventions that will attempt to facilitate the revitalisation of Pilditch Stadium in Pretoria West.

Because of the changing dynamic of society, it is necessary (as proposed by Maki), when planning a single building or multiple buildings, to establish a suitable organic relationship between cars, goods, people and urban facilities (Maki 1964:75). This organic relationship refers to a linkage where elements are in a dynamic relationship with one another while maintaining separate identities.

In his writings, Linkage In Collective form, Maki presents various ways of implying linkages: "by composing, by injecting transitional elements, by surrounding disparate things". He proposes five basic linkage acts: to mediate; to define; to repeat; to make a sequential path and to select (ibid: 36).

Described as the glue of the city, linkages unites all layers of activity and the resulting urban form of the city (ibid). This dissertation used a method similar to "to make sequential path" as an ordering device. Defined as the act to "place activities of sequence in an identifiable spatial relation to one another" or "arranging buildings, or parts of multi-use buildings in a sequence of useful activity", it is proposed that the designed path generates and guides movement and new development along its' course (ibid: 40).

Therefore, the aim of the exploration is to identify and unlock potential in order to create a place that contributes to the community; and where the community also has opportunity to engage and contribute to site.

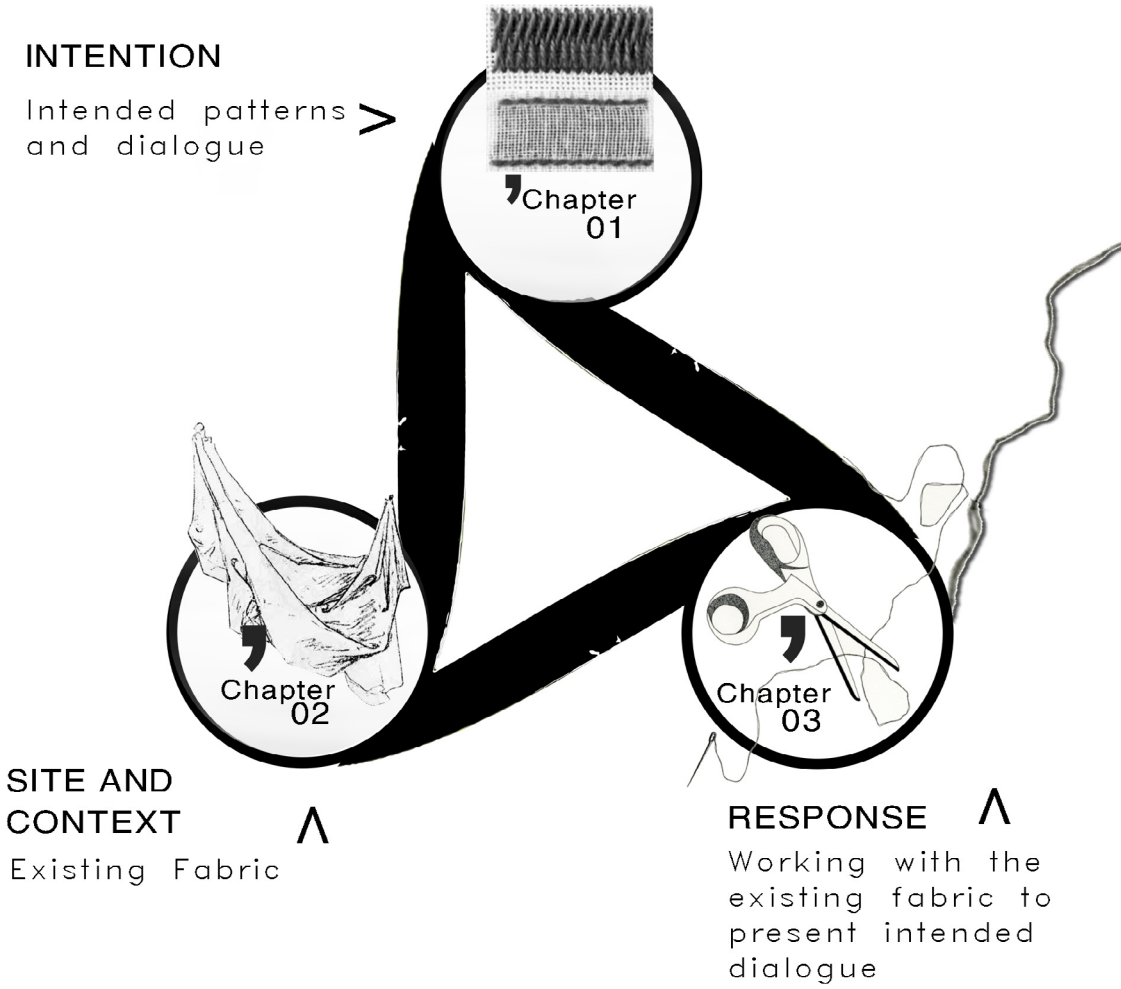
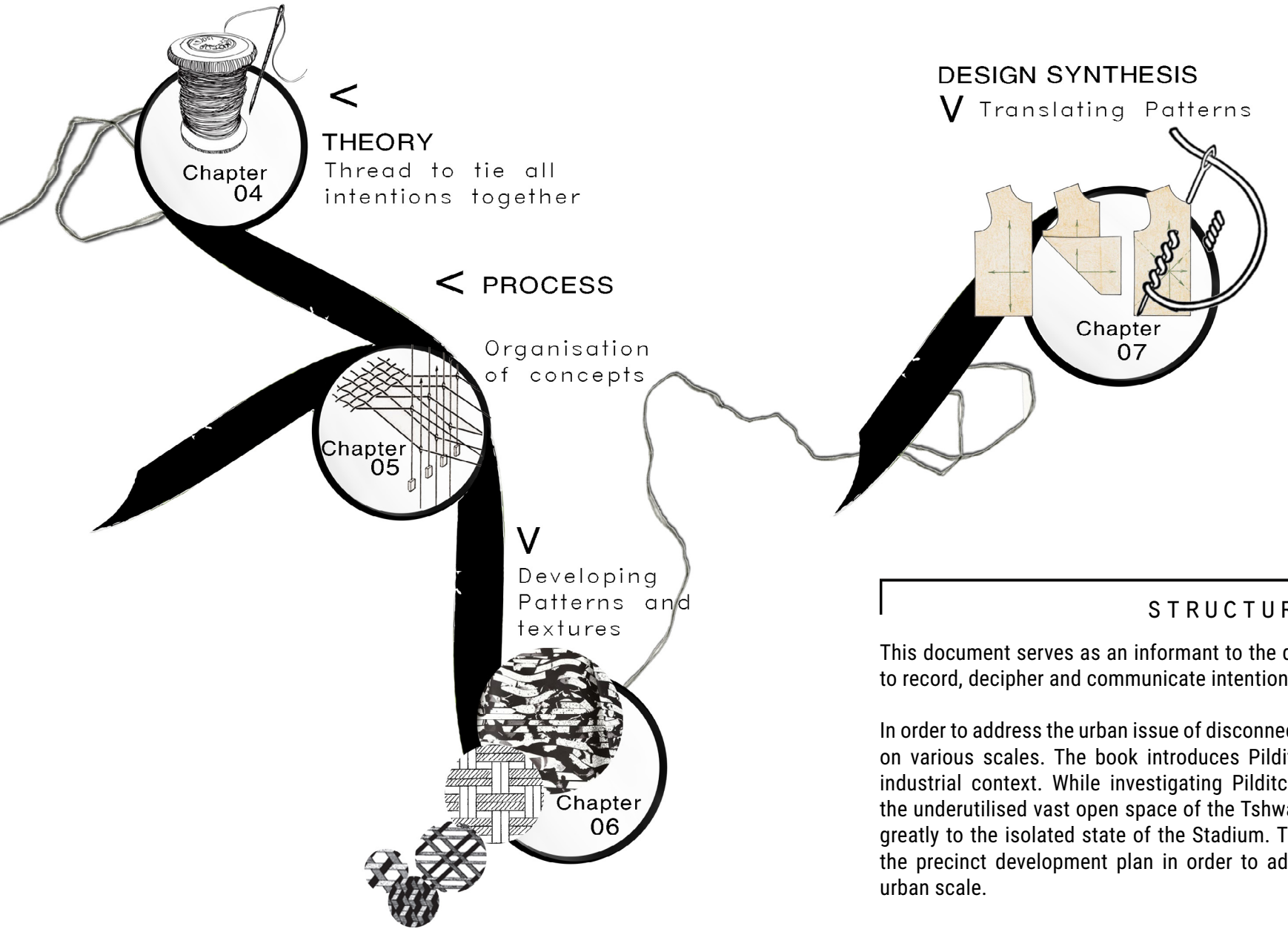


FIG. 15: Collage, Chapter breakdown
(Author, 2016)

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STRUCTURE

This document serves as an informant to the design process, but also as a tool to record, decipher and communicate intentions and results.

In order to address the urban issue of disconnection, the urban vision is imagined on various scales. The book introduces Pilditch Stadium and its surrounding industrial context. While investigating Pilditch Stadium, it became clear that the underutilised vast open space of the Tshwane Showgrounds also contribute greatly to the isolated state of the Stadium. The Showgrounds was included in the precinct development plan in order to address fundamental issues on an urban scale.

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02

CHAPTER 02

SITE AND CONTEXT

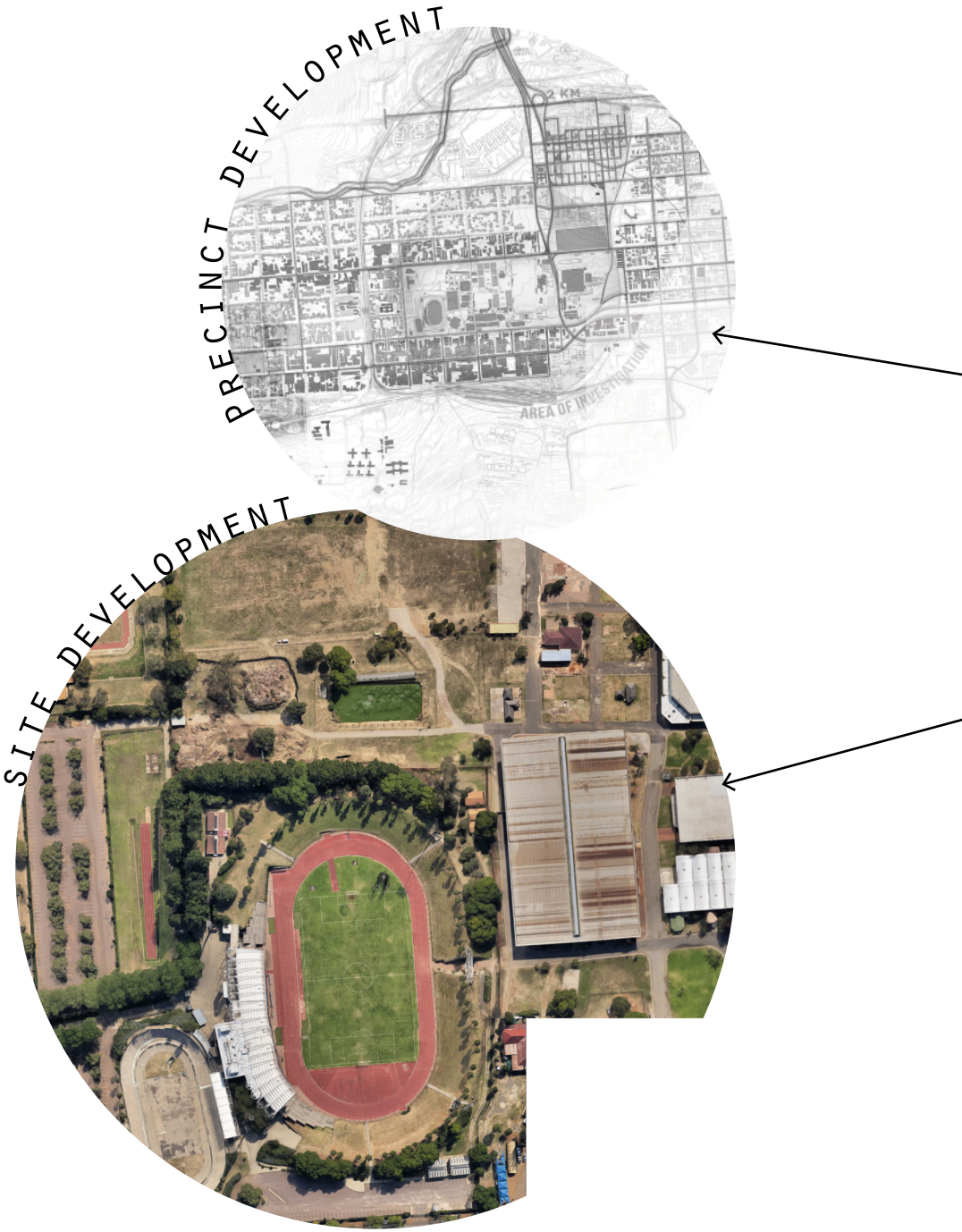
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Micro Scale Vision 48

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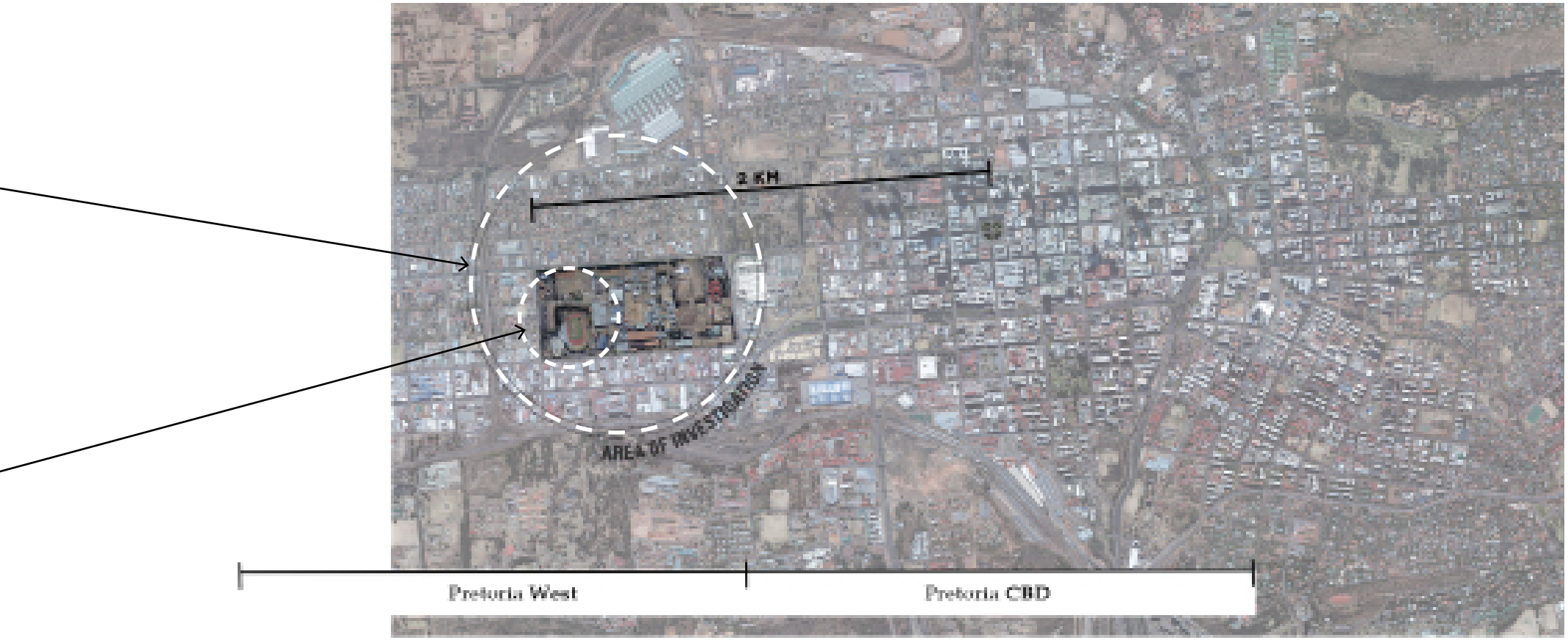
URBAN CONTEXT

SCALES OF INVESTIGATION

The urban context was investigated at multiple scales. This established means to integrate the two areas of investigation, namely Pretoria West and Pilditch Stadium, in a holistic system that both contributes to the surrounding macro context while enhancing the local micro context.

FIG. 16: Collage, Aerial Photo of Pilidtch Stadium *(GIS Mapping, Department of Geography, University of Pretoria 2016)*

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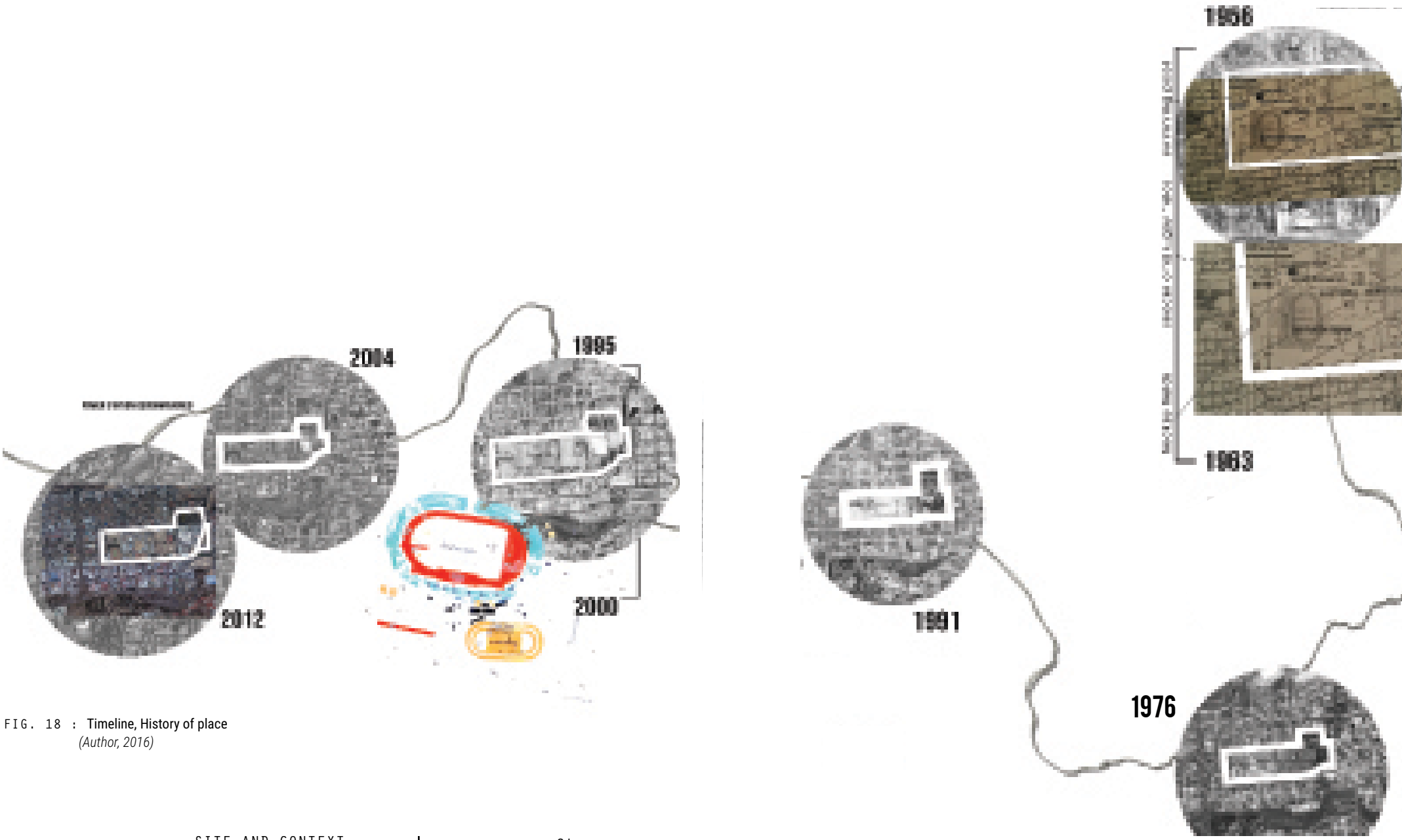


FIG. 18 : Timeline, History of place
(Author, 2016)

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PRETORIA-WES

Hercules reeds in 1897 gestig

Oudste gebied wes van Kerkplein!

(TRANSLATION: OLDEST AREA WEST OF CHURCH SQUARE)

FIG. 17: Newspaper article, Hoofstad 1982
(Faure, 2000)

MACRO SCALE

HISTORY OF PRETORIA WEST

Historically, Pretoria West was the first expansion out of the historical city centre, and initially provided a favourable area to live in (Faure 2000:4). Together with the CBD, the area was originally known as the farm Elandspoort (ibid). In 1870 the 'West' was subdivided into what were known as 'Burgererwe"- which were large plots of rural land just outside the city (ibid), favourable for both its scale and location.

Residents were actually against the idea to incorporate the West as a suburb of the city, as they wanted the area to remain rural (ibid).

In 1892 Pretoria West was laid out as a suburb of the city and many people then settled there because of proximity to the railway stations and industrial amenities that were later built, such as Iscor and the Power station (ibid:4). From as early as 1923 schools were established in the area (ibid:9). Initially only a few light industries existed, but after the 1930s (following the construction of Iscor), the west soon became characterised by industrial development (ibid:4).

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UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA



1937



1958



1968

FIG. 19 A-F : **Change over time, History of place**
(Author, 2016 Adapted from maps courtesy of GWA Studio)

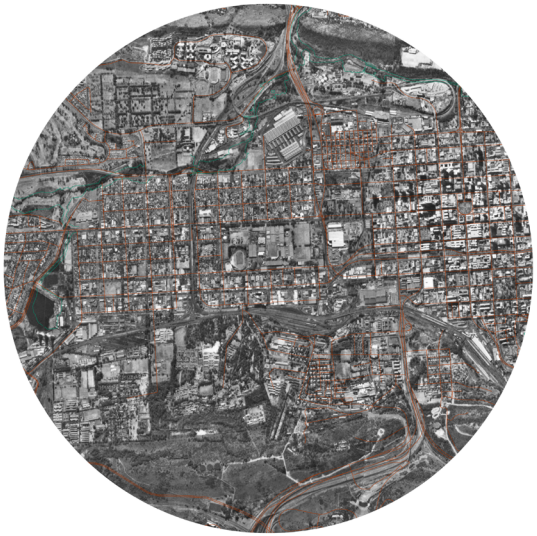
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1976

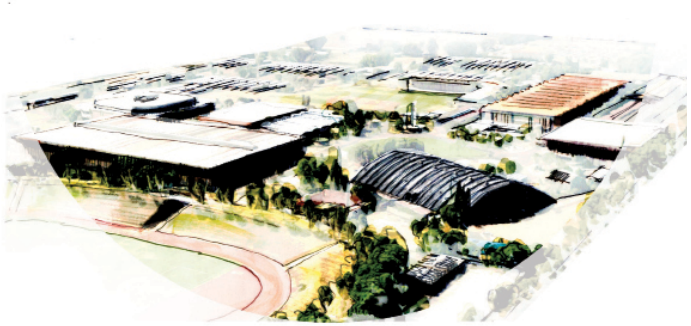


1991



2004

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MACRO SCALE

PRESENT DAY PRETORIA WEST

Today, the "small town character" of the area (Bohmer 2012: 24) remains framed by medium and low density housing, connected through light and medium industrial arteries (Orsmond 2000:7). The wide busy roads and vacant land separates Pretoria West from the CBD (ibid:3). The vast open space of the Showgrounds actually acts as a barrier that "separates and isolates the city, and the residential settlements to the West" (Faure 2000:12, Steenkamp 2013:23).

Although Pretoria West is extremely well connected, both locally and nationally, through major roads and public transport (Smith 2009: 56), the unobstructed movement through the area fails to create intermediate places of social interaction (Steenkamp 2013:22). As a support system for the broader functions of the city and its close proximity to the city centre, the regeneration of Pretoria West holds the potential to become an essential component to revitalise the city. A variety of storage, industrial & administrative buildings, schools and places of worship typify the area (Faure 2000:3).

FIG. 20: Collage, Aerial perspective of the Show grounds *(Author, 2016)*

FIG. 21 A-C: Photos of current context *(Author, 2016)*



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HISTORY OF PILDITCH STADIUM AND THE TSHWANE SHOWGROUNDS

Historical maps indicate that the current site of Pilditch Stadium and Tshwane Showgrounds was a horse racing track and adjacent public park and cemetery (Faure 2000:5).

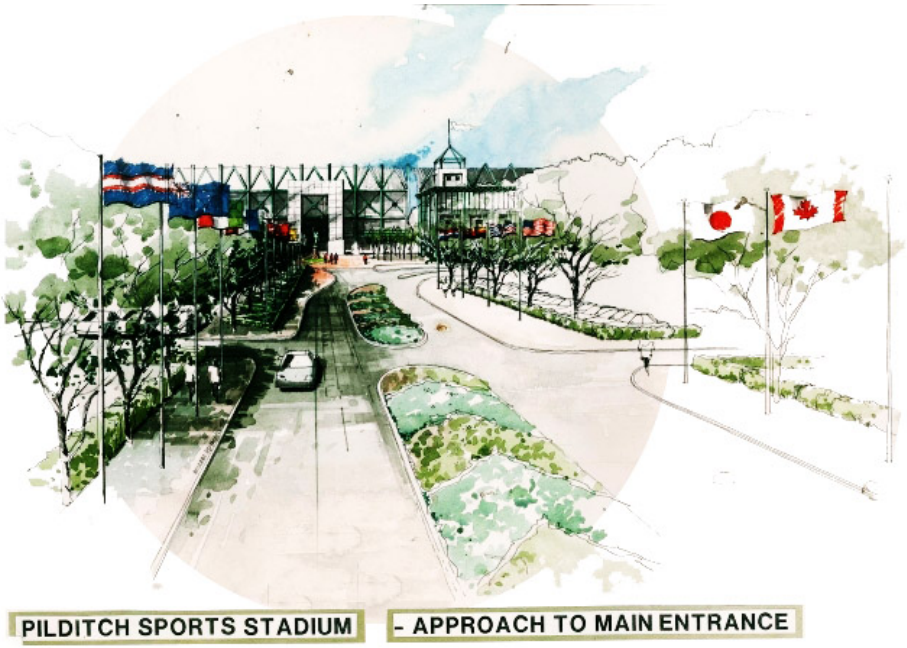
The site, traditionally associated with Pretoria's agricultural and equestrian events (Orsmond 2000:11), holds a strong historical tradition of exhibition, trade and public gathering (Faure 2000:12). From 1939 The Annual Pretoria show was held at the Showgrounds and parallel to its' expansion, sports fields were laid out (Faure 2000:12). In 1963 the Showgrounds were founded where, for three weeks in September, hundreds of exhibitors would display goods. Livestock was the main exhibition of the show (Orsmond 2000:10).

In 1995 Pilditch Stadium received a R14m renovation. The old stadium was demolished, but the Pretoria City Council opted to retain the athletics track(Building 1995:49). The site consists of a open air velodrome (concrete speed- and inline skating), large stadium and tartan track (all that once did comply with international IAAF standards).

The new three storey stadium constitutes a ¼ of the area around the track (the remainder being a grass embankment) and is equipped with changing rooms and storage facilities on basement level, kitchens and public ablution facilities on ground floor, and broadcasting, entertainment and office facilities on the upper level (Building 1995:49). The concrete open air velodrome is currently still in moderate use. Other functions on site include offices of the Athletics Gauteng North Association (in old ablution facilities).

FIG. 22: Proposal Sketch Pilditch Stadium *(Architects Celliers, Greyvenstein ACG)*

FIG. 23: Aerial Photo Pretoria 1922 *(Friedel Hansen, 2016)*



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In the background, a horse racing track is visible. This is the site of Pilditch Stadium and the Showgrounds in 1922.

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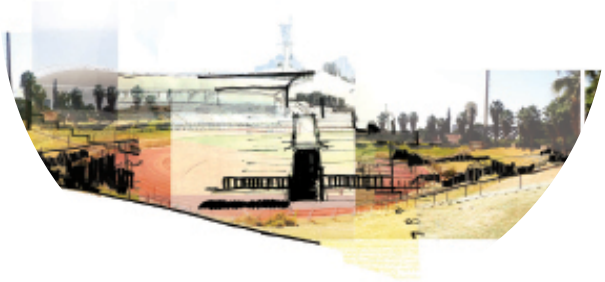


FIG. 24: Collage, Site Photos and sketch *(Author, 2016)*

MICRO SCALE

CURRENT DAY PRACTICES

Currently in a state of underutilisation, Pilditch stadium is surrounded by a lot of 'open' and 'wasted' space. The character of the site has changed to mono-functional area, isolated from the inner city and the neighbouring suburbs, a liminal space lost in time that separates and isolates, instead of connecting and supporting the surrounding neighbourhood (Steenkamp 2013:23).

The stadium and adjacent site of the Tshwane showgrounds serve very specific event functions. Each building (and its implicit function) claims a piece of the precinct with a distinct border. This creates a lot of in-"between" space, that is both underutilised and inaccessible to the general public. The precinct is currently surrounded by a degraded low density single storey residential area, with several schools within its proximity. To the north of the stadium a Municipal swimming pool, closed down in 1997 (Faure 2000:30), and a sports hall for Disabled Sportspersons is located. The Showgrounds include large warehouse and event buildings. Some are used as offices, examination locations and municipal buildings such as home affairs.



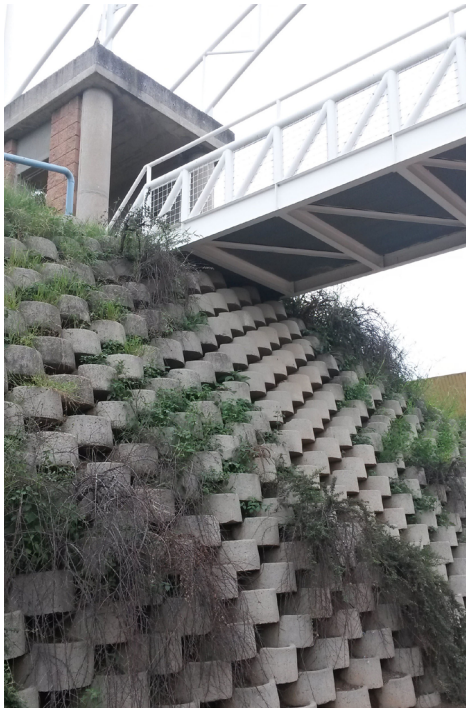




FIG. 25, 26: Site Photos *(Igmar Grewar 2011)*

FIG. 27: Site Photos *(Author 2016)*

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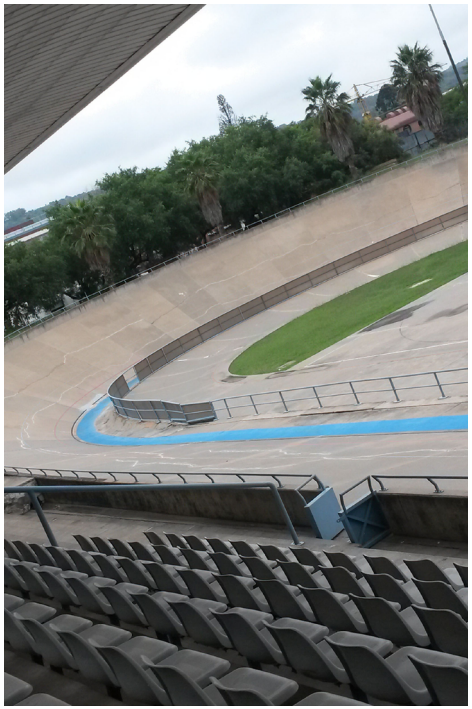
Bridge connecting the berm

Approach to Speedskating track



Corridor from the Stadium to the Speedskating track

View of *Skilpadsaal* from the top of the berm



Speedskating Track

Stadium view from entrance gate



Ramp to basement warm up area

View of stadium from the top of the berm









FIG. 28 A-H: Site Photos *(Author 2016)*

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MACRO SCALE

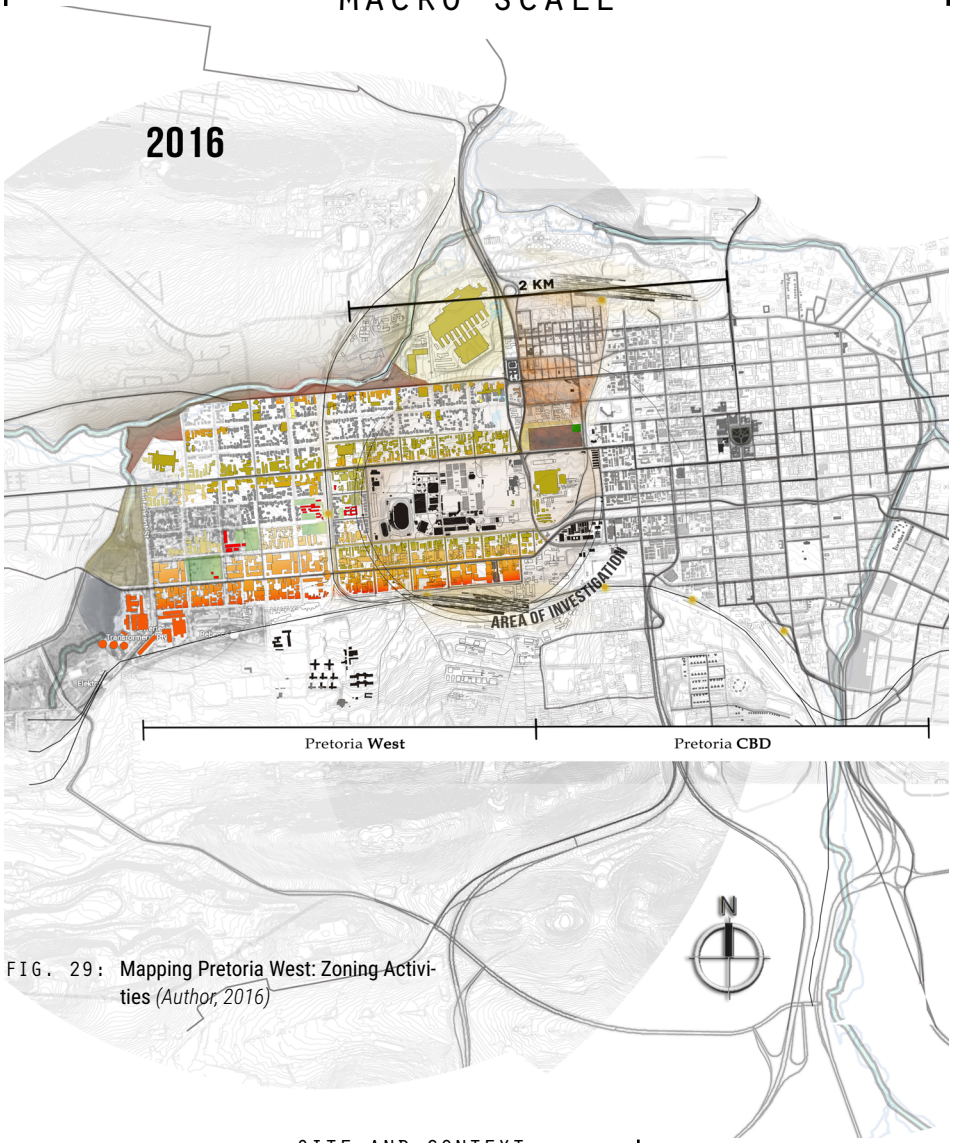


FIG. 29: Mapping Pretoria West: Zoning Activities *(Author, 2016)*

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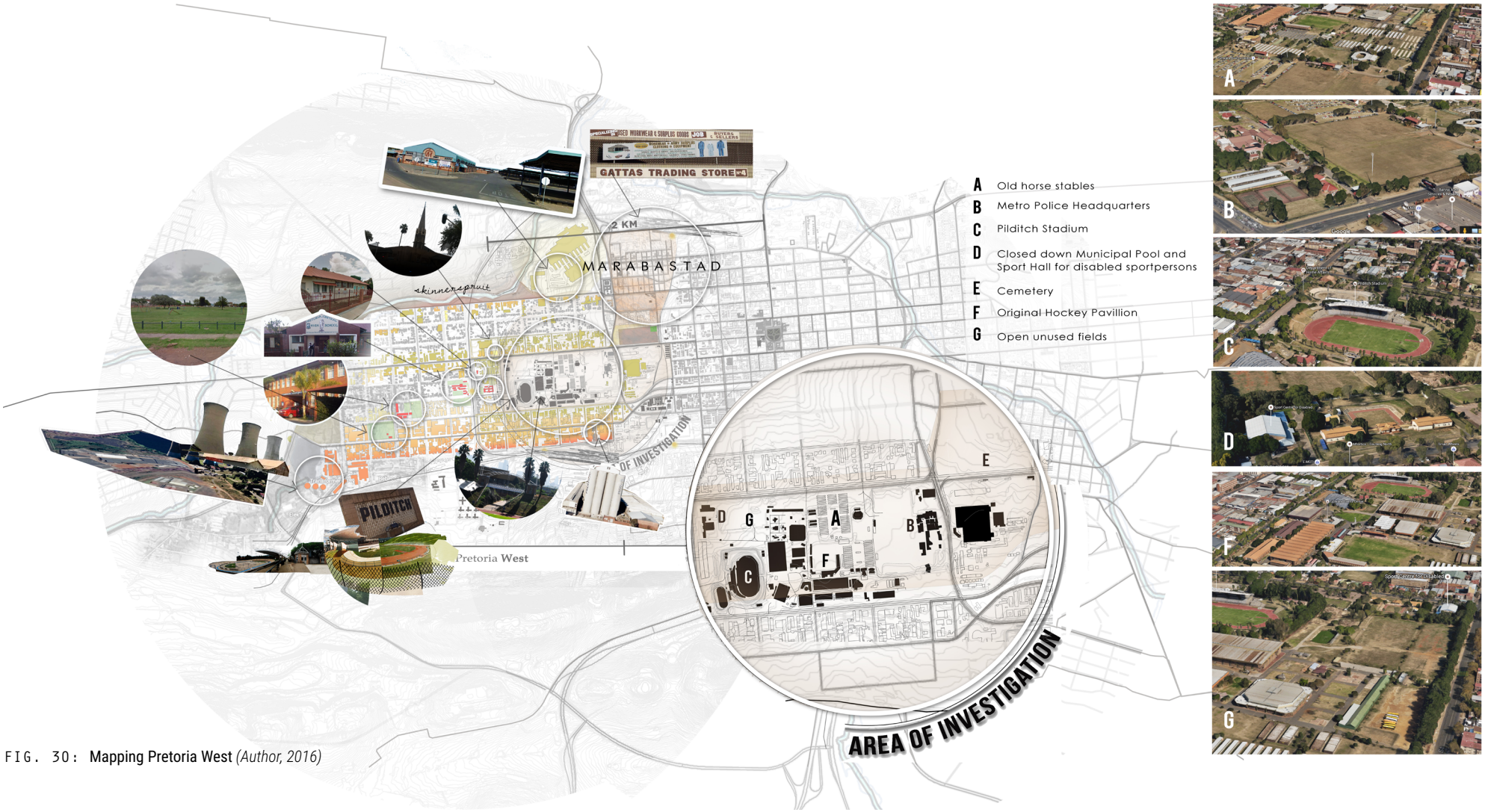


FIG. 30: Mapping Pretoria West *(Author, 2016)*

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MICRO SCALE



FIG. 31: Connections, Public Transport *(Author, 2016)*

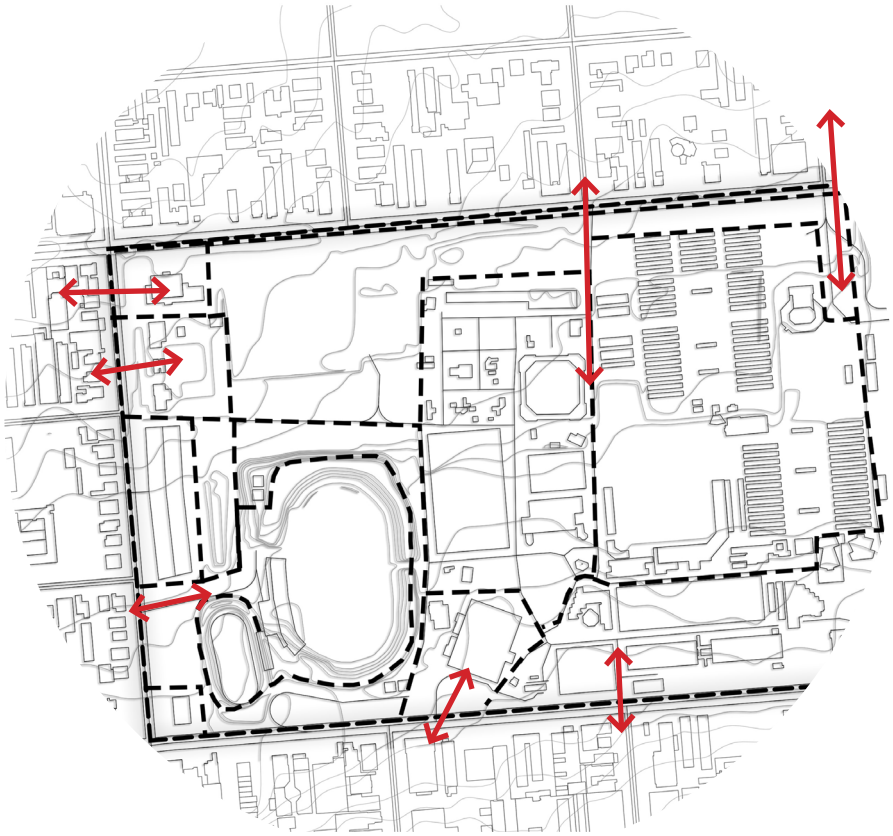


FIG. 32: Access and boundaries *(Author, 2016)*

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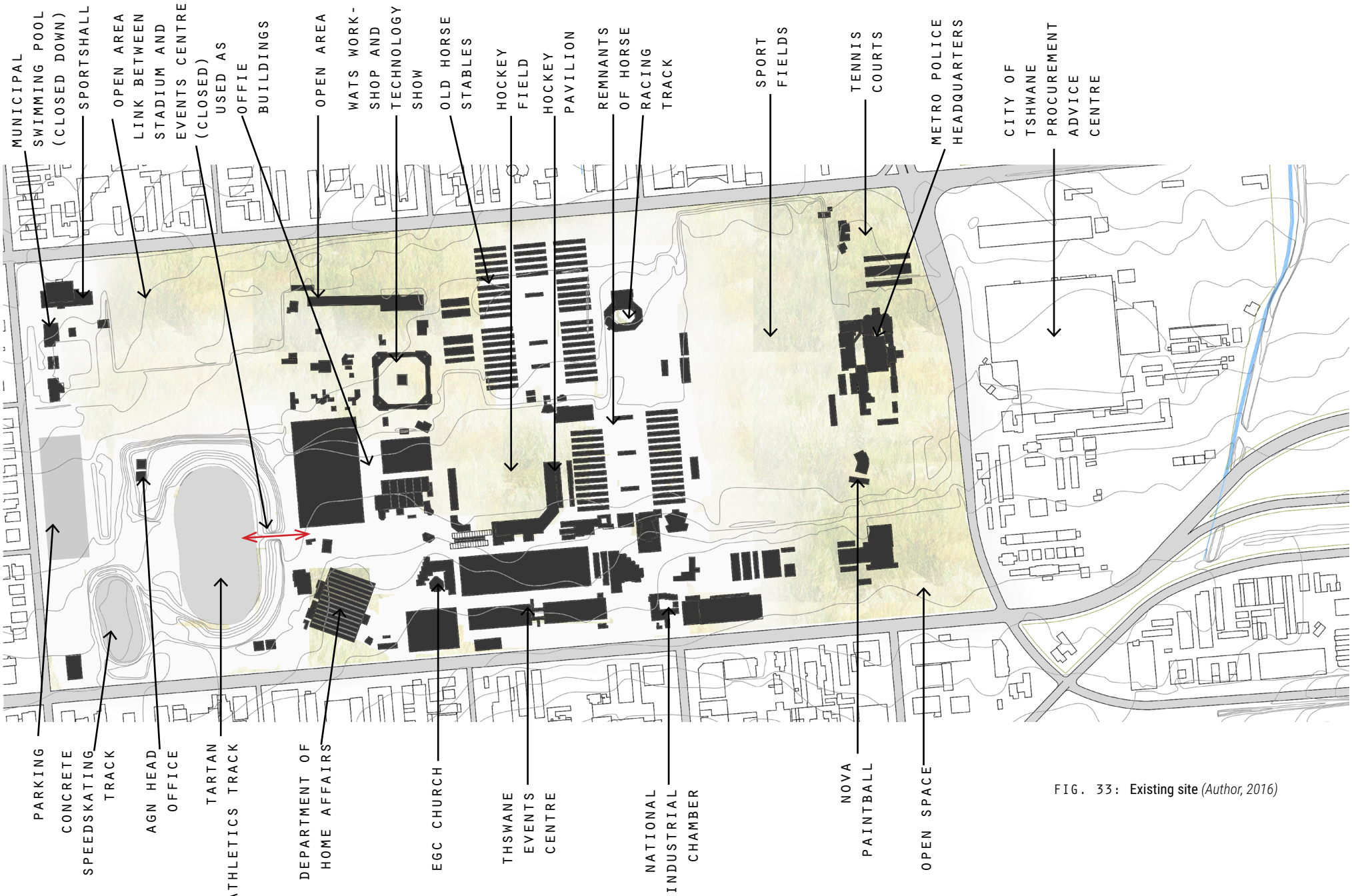


FIG. 33: Existing site *(Author, 2016)*

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SITE SCALE



FIG. 34: **Collage Pilditch Stadium** *(Author 2016)*



FIG. 35: **Aerial Photo of Pretoria West** *(GIS Mapping, Department of Geography, University of Pretoria 2016)*

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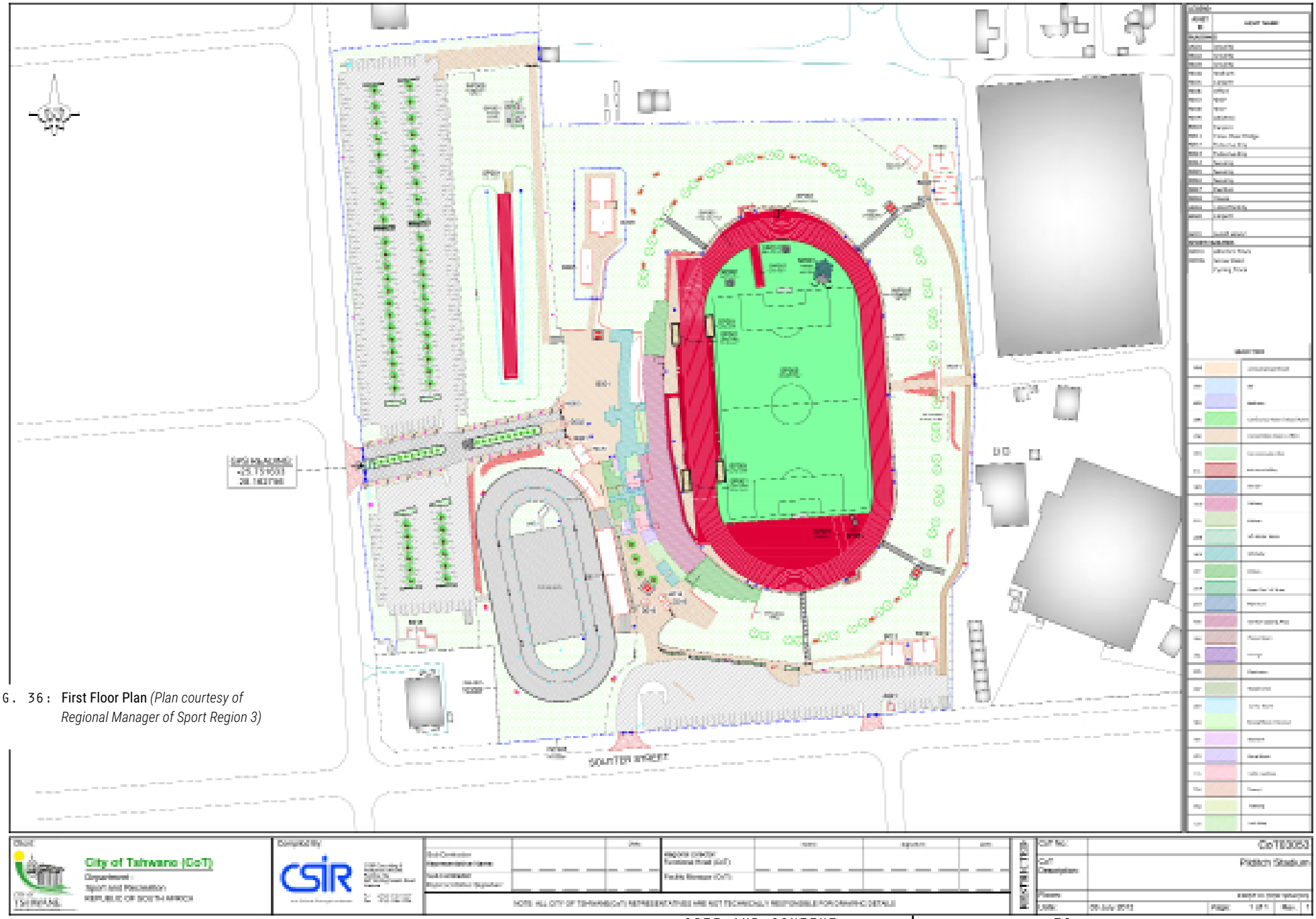


FIG. 36: **First Floor Plan** *(Plan courtesy of Regional Manager of Sport Region 3)*

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SCALES OF OBJECTIVE

The urban vision also functions on multiple scales. The vision will attempt to unlock potential at the stadium as a single point of intervention, and speculate that those principles can ripple across to the rest of the showground site and further to the macro scale, and might inform how other developments can occur in this area.

The intention of the urban vision will focus on how the site responds to pressures of the city (on macro scale) and suburban context (on micro scale). The urban vision is important in that it directly informs the responses at a site scale, in which various small-scale individual interventions are proposed. The large-scale urban regeneration is of effect of the small scale interventions combined over time.

"Urban challenges of an inclusive city- towards a spatial realm for all" presents a strategy in response to the inclusive nature of contemporary spatial patterns in urban development. These patterns do not 'allow for complexity, overlap, choice and responsiveness to fluid and dynamic qualities of the population' (Mammon, et al 2008: 11).

Referencing principles from the strategy: 'Creating a Soulful city', the urban vision of this dissertation also seeks to "re-activate the 'accessibility surface' or 'network' of the city" and "re-assert the public realm" through "reclamation of spaces for public use" (ibid 2008: 23). As termed by Le Grange, Dewar and Louw (2004), this 'surface' or 'network' encapsulates not only the connection of open space for recreational use but movement corridors, social institutions/facilities and emergency and utility services (ibid 2008: 23). Similarly the urban vision will attempt reclamation of degraded and dissonant spaces for public use in the West.

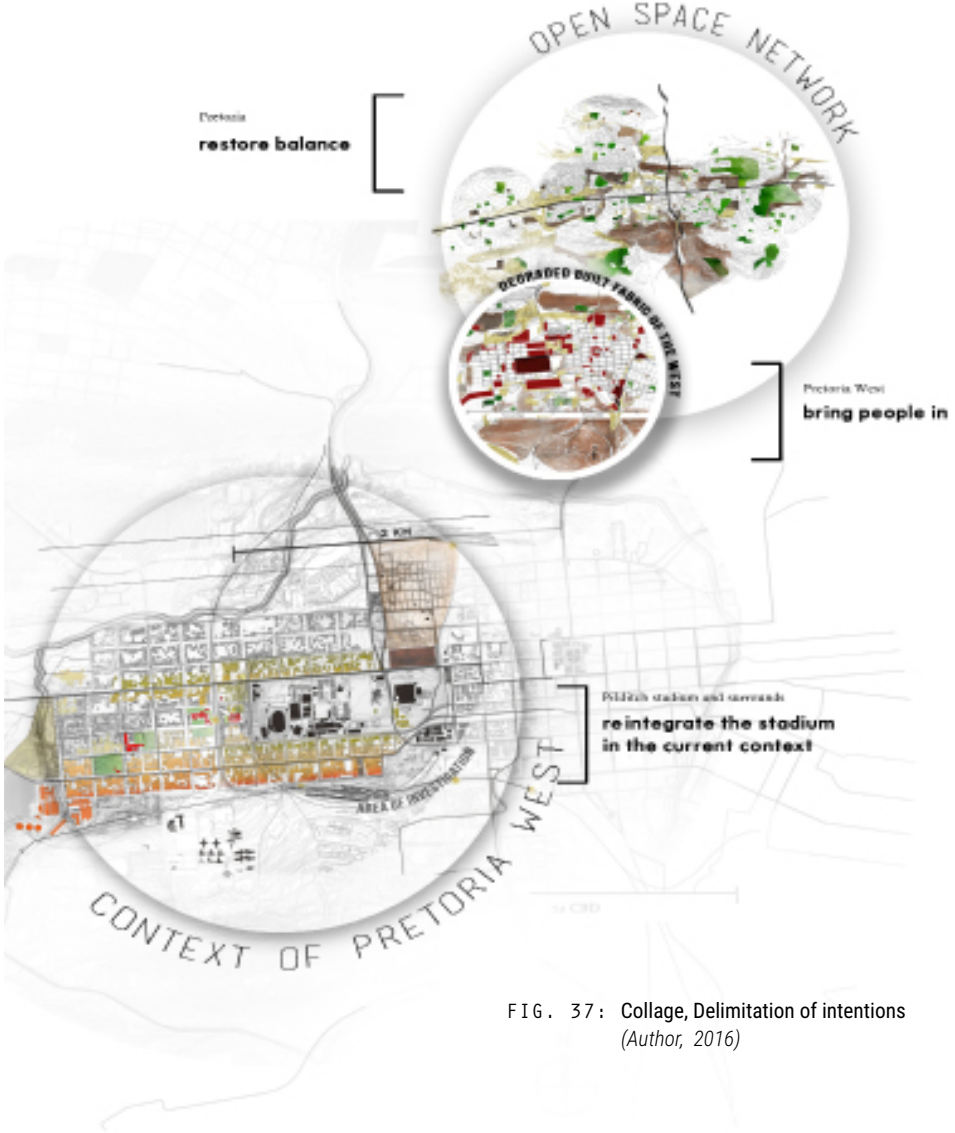


FIG. 37: Collage, Delimitation of intentions
(Author, 2016)

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THE CLIENT

The Stadium currently falls under supervision of Region 3 of the Department of Sport and Recreation of the City of Tshwane. The Stadium is in desperate need of a maintenance upgrade. Accounting for most of the cause of deterioration is the lack of maintenance and normal wear and tear, as identified in an executive summary by the CSIR in an estimation of a Total Preservation Programme for the stadium (April, 2013).

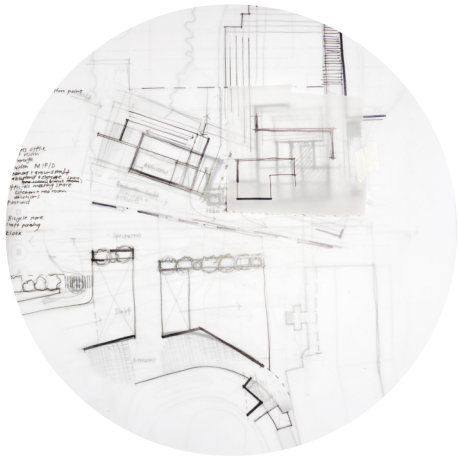
The urban vision is imagined as part of the 2055 vision for Tshwane which calls for a livable, inclusive and resilient city (TSHWANE VISION 2055:232). Indicators to measure the progress of key actions (equality, livability, health and land reform) include the number of people actively participating in recreational and sporting facilities (TSHWANE VISION 2055:230). With the site's close proximity to the city, it is imagined that the regeneration of the west, initiated by the proposed intervention at the Stadium, can be presented as part of the initiative to revitalise the city center.

In an interview with the Regional Manager, Konrad Dillman, some of the proposed upgrades to the Stadium were communicated. These planned upgrades include placing a large fence between the Stadium and adjacent site of the Showgrounds due to security concerns and difficulty to monitor the large open areas of the Showgrounds (Dillman 2016). Further, the intention is to concretise the berm to eliminate the maintenance cost of the landscape of the berm, and finally placing seating all along the inside of the berm to eventually create a larger stadium (*ibid*). This dissertation attempts to propose alternatives to current maintenance plan as it is considered to only perpetuate the current conditions of underutilisation and isolation.

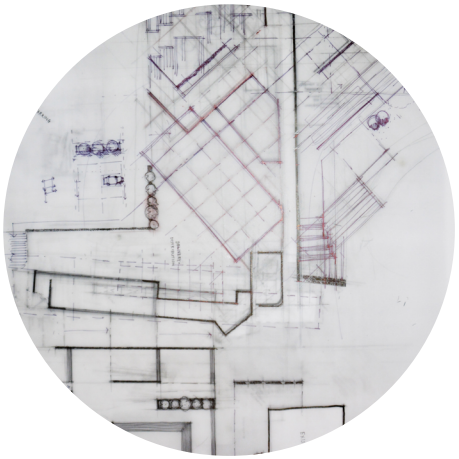
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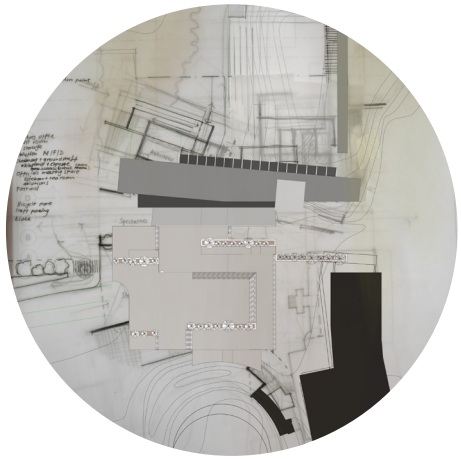
A



B



C



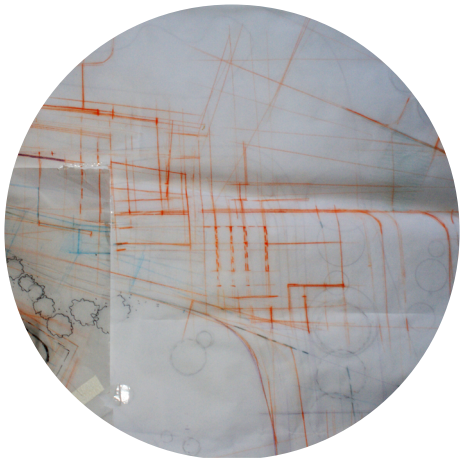
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URBAN OBJECTIVE

DESIGN DEVELOPMENT

The site and precinct layout was continuously revised throughout the year. This was because any solution to the fundamental issue of Pilditch stadium (the fact that it is underutilised) relies heavily on the urban setting. Previous iterations had kept most of the existing site as it is and the disconnect with the city was still apparent. In an attempt to activate the site through interaction, and to address the current low density which allows for the rapid industrialisation of the area, the entire precinct was reconsidered. Commercial and residential development was proposed in a manner to respect the history of the site which allows for people to access and use the site on a daily basis.

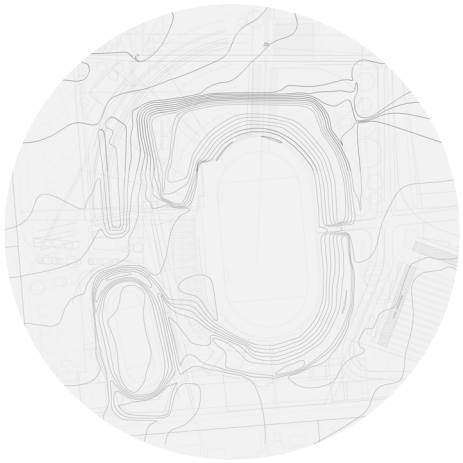
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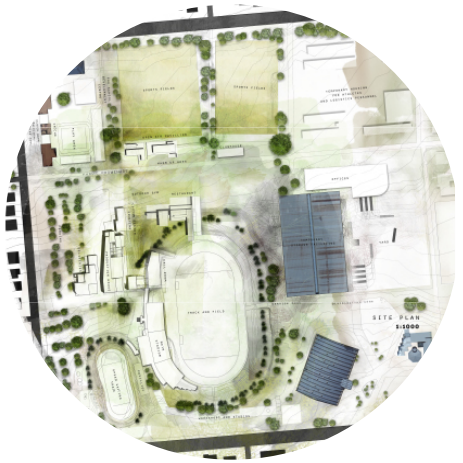
E



F



G



H

FIG. 38 A-E: Sketch Site Plan development
(Author, 2016)

FIG. 39 F-H: Sketch Precinct Plan development
(Author, 2016)

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URBAN VISION

MACRO SCALE CITY VISION 1:5000

In the larger context of Pretoria, the urban vision will attempt to counterbalance the decentralized development of Pretoria by proposing a regenerative development in the West. Thereby creating a place with enhanced access to opportunities bringing people back to Pretoria “West”, and decreasing the rapid industrialization of the area.

In 2002, Das Kleine Forum presented the “Settlement Development in the Canton of Zurich: A Review of 50 Years of Spatial Planning”. Similar to the current situation of Pretoria West, Zurich was also in a course of rapid industrialisation and unplanned building activity in 1948. The review stressed the importance of the creation of open areas, generous spaces and important recreational grounds in the immediate vicinity of the city.

The urban vision imagines Pilditch Stadium as the event space for a new important recreational and civic space in relationship and location with the city centre and residential developments further to the West.

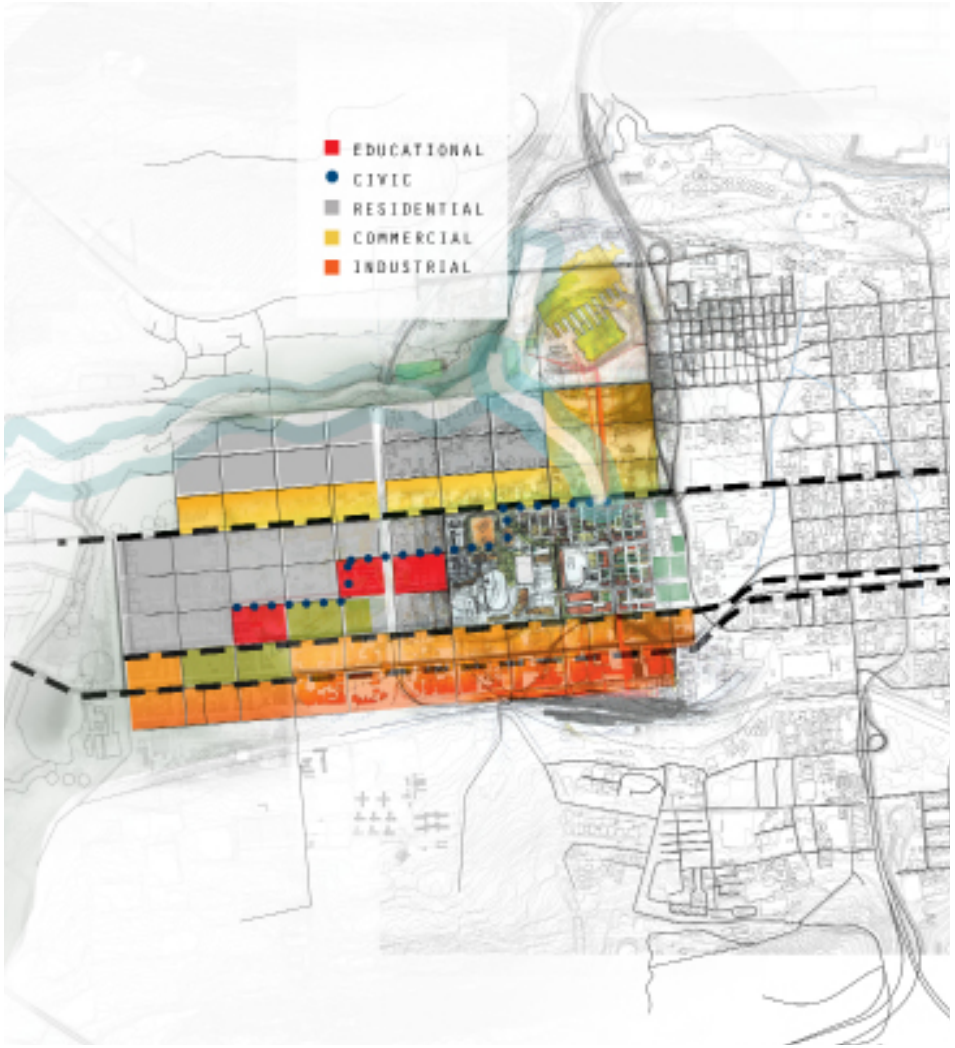


FIG. 40(A): Urban Vision Zoning *(Author, 2016)*

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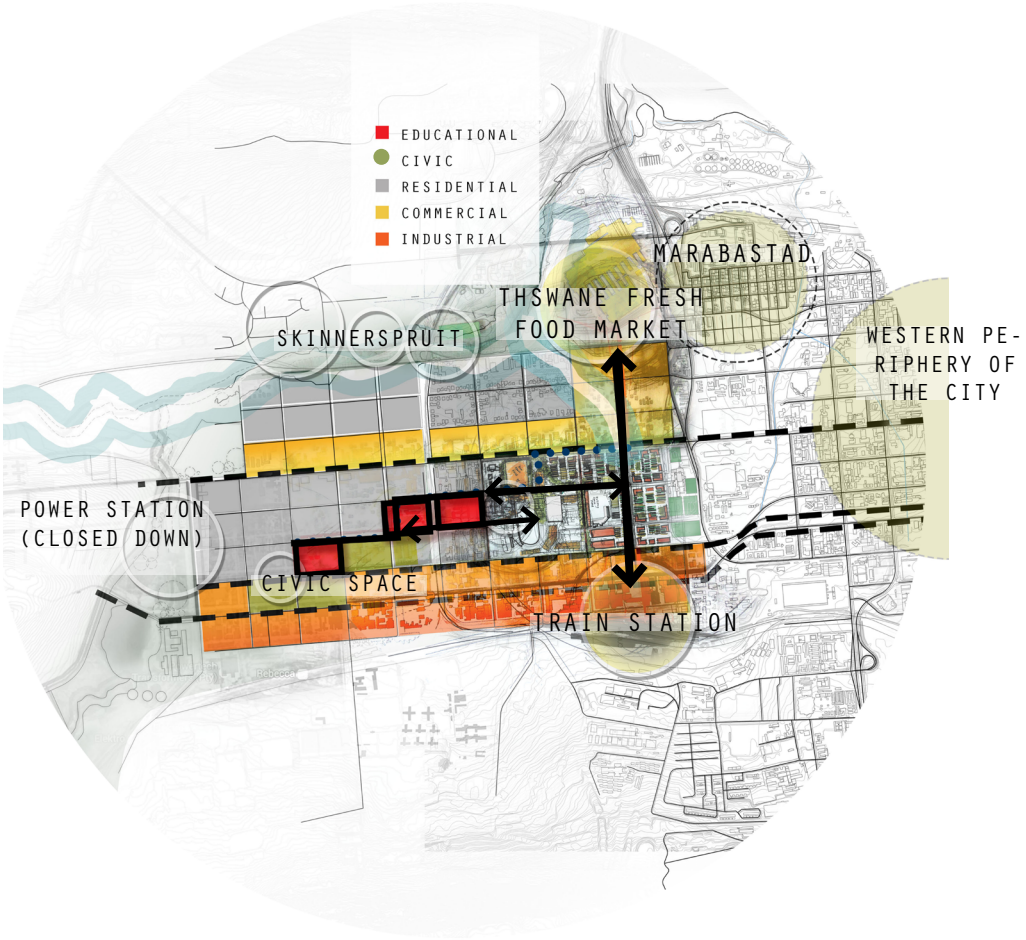


FIG. 40(B): Urban Vision Zoning *(Author, 2016)*

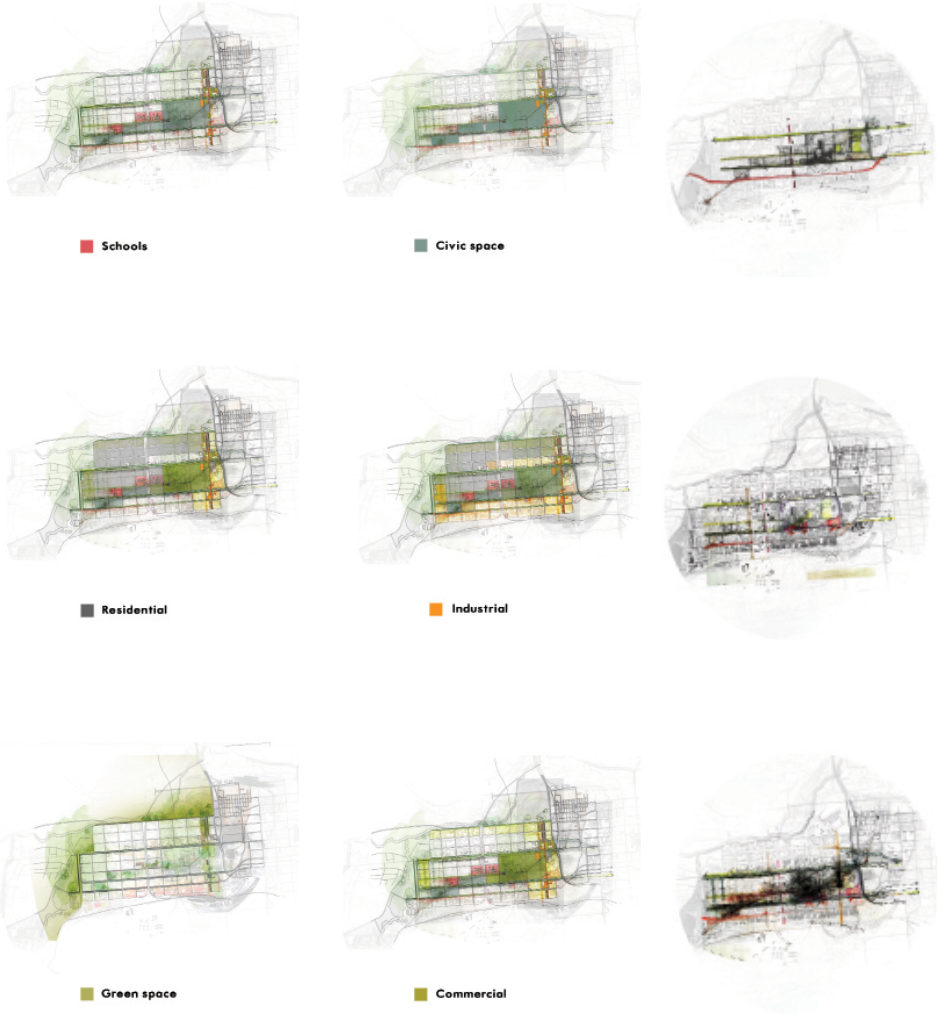


FIG. 41 A-I: Urban vision development *(Author,2016)*

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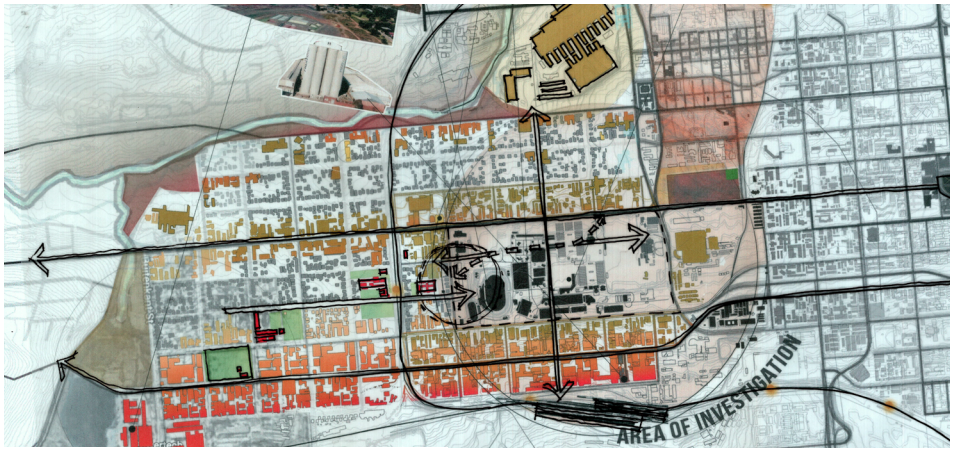


FIG. 42: Proposed networks *(Author, 2016)*

URBAN VISION

NETWORK DEVELOPMENT

As a conceptual exercise, as part of the sub urban vision, a series of networks were developed. The exercise focused on nodes of activity (latent and existing) and means to connect them. The purpose was to identify the networks in order to enhance existing connections and also create new lines of movement across site. These networks extended from existing networks and proposed new networks, and included both movement arteries through the suburb and existing activity nodes in the suburb. The proposed networks illustrate the existing yet underutilised flow of activities in the heart of Pretoria West. Development along these networks are determined by the immediate and current context but also projected future connections. Four networks with four themes, were identified to guide the proposed precinct and site development.

Green network

The green network represents the existing main roads.

It is proposed that design guidelines are set up for development along the green network to encourage and enhance a cohesive street landscape and interactive street edge as a concept of a complementary social space in the city.

Blue network

The new proposed blue network cuts diagonally across site and is representational of the notion to physically break open the ‘silo’ of site and stitch spaces into one another. Interventions along the blue network will focus on creating civic space to serve as catalyst of the larger urban vision and will be the primary focus.

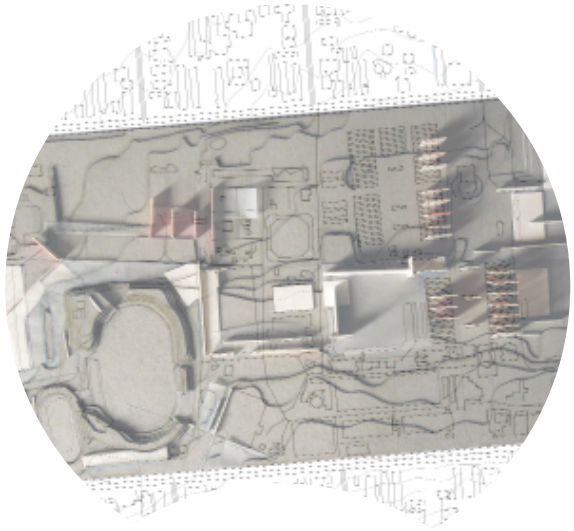
Orange network

Development along the new proposed orange network will focus on trade and exchange. Where the train station provides an influx of people, this rnetwork intends to feed off of the energy of the train station and infiltrate the precinct to ultimately connect to the Tshwane fresh food market. Commercial, residential and industrial development is proposed along this network as a “commercial corridor’ (Hardboiled Wonderland).

Red network

With several schools in close proximity to the stadium, and the historical value of some of the schools in the area, the red network extends from the educational facilities to the stadium and site entrance and connects to educational functions on site.

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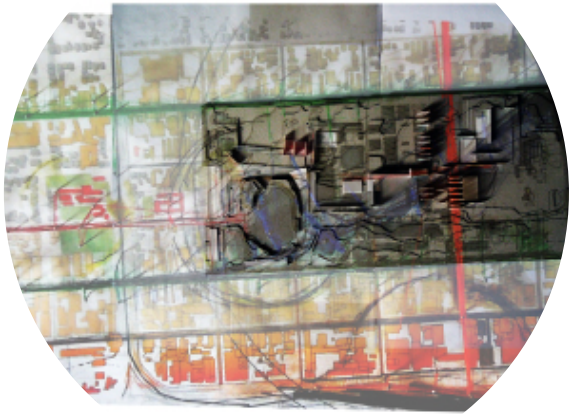


FIG. 43 A: Makettes of proposed and existing networks *(Author, 2016)*

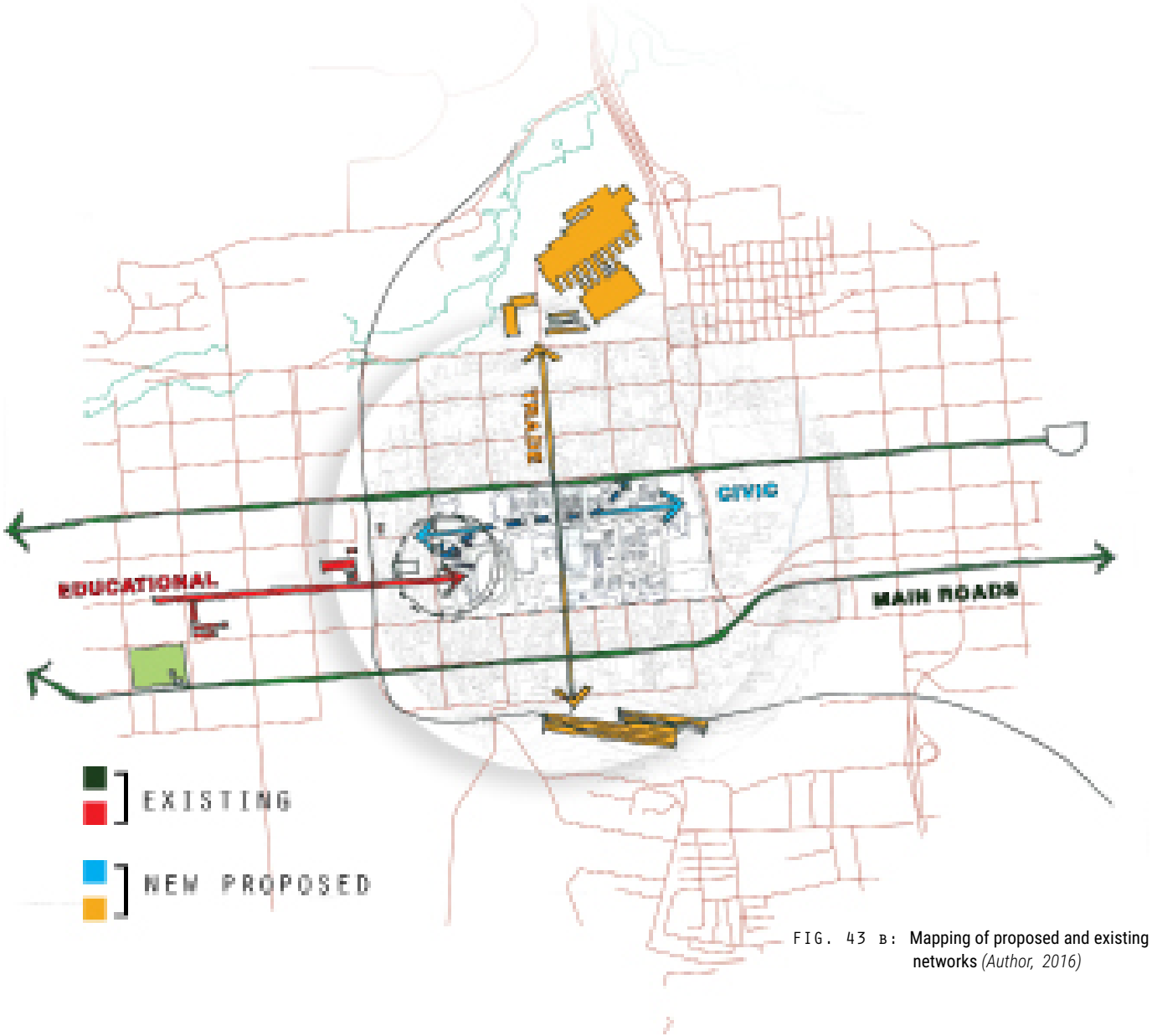


FIG. 43 B: Mapping of proposed and existing networks *(Author, 2016)*

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MICRO SCALE SUBURBAN VISION 1:2000

Large parts of the site are proposed to be used as mixed use residential and commercial space. To respect the integrity of place, the historical character of agriculture and exhibition was taken into account for the design of the mixed use complexes with urban agricultural lots in between.

Precedent was drawn from the master plan of the Milan Trade Fair by Herzog and de Meuron. This precedent presents a “platform for the radical re-invention of what a world exhibition could be in the 21st century” (Archdaily:2015). The project design was based on the layout of tables, which create the atmosphere of a refectory or market. Throughout the masterplan, visitors can interact (through sense and smell) with the products of agricultural practises and biodiversity represented in the tables and pavilions (ibid).

Taking reference from the old stables on site, the mixed use buildings are laid out between ‘tables’ of urban agriculture gardens. Smaller, private courtyard spaces are proposed between planted gardens and existing large event spaces (which are retained on site).

The vision integrates the stadium as the civic heart of the site with a public promenade extending through the site. Public amenities and places for community gathering are placed along the public promenade.

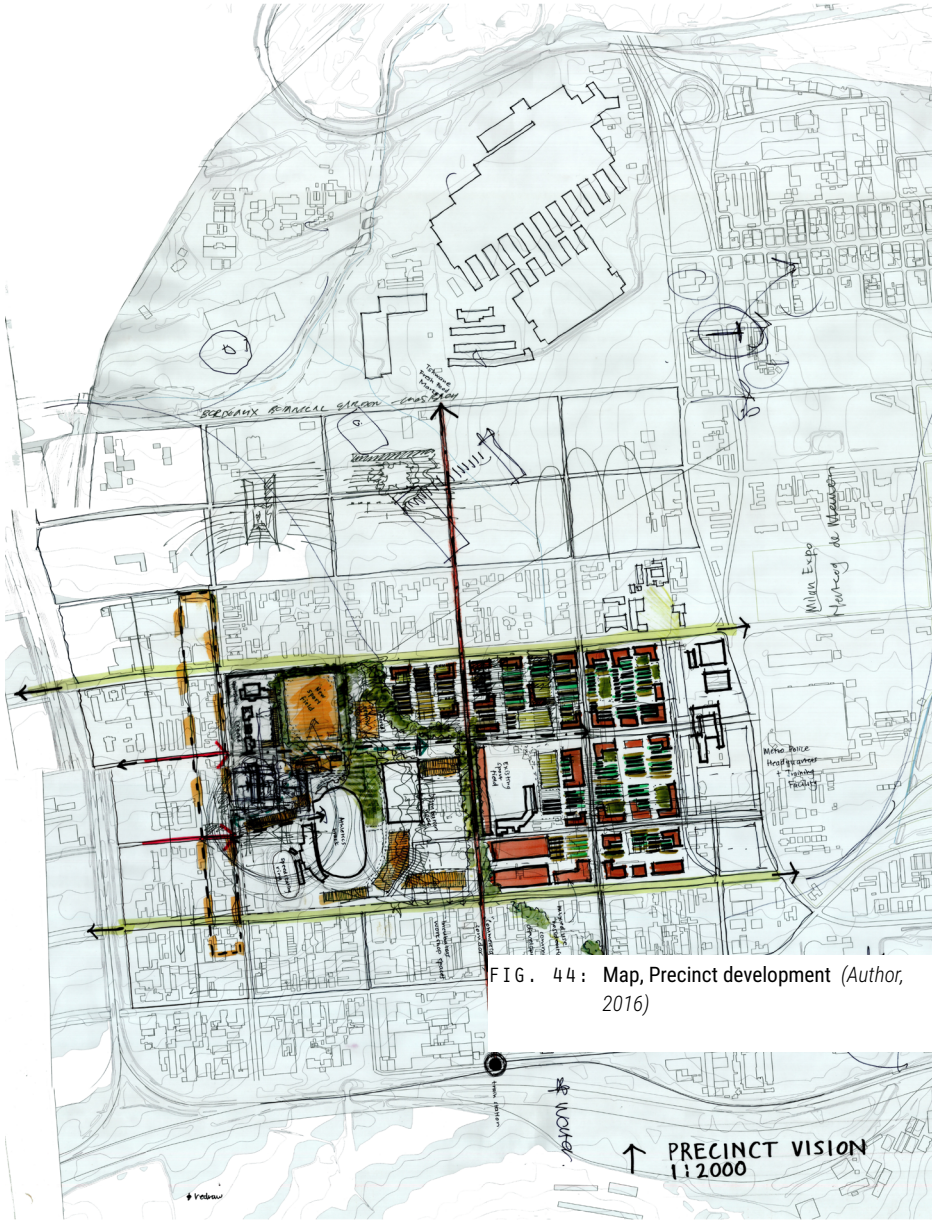


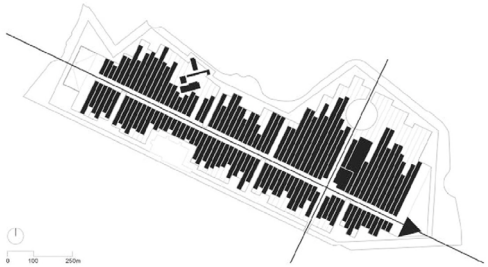
FIG. 44: Map, Precinct development *(Author, 2016)*

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EXISTING BUILDINGS

GARDENS
AND URBAN AGRICULTURE

PRECEDENT





Milan Trade Fair
HERZOG AND DE MEURON ARCHITECTS

FIG. 45: Tables of gardens, *(Herzog and de Meuron, 2016)*

SPORT FIELDS

PROPOSED MIXED USE BUILDINGS

NEW COURTYARD SPACES

EXISTING SPORTS HALL

NEW CRECHE

NEW SPORT FIELD

SITE

SLIGHTLY ALTERED ENTRANCE SPORTING BELT

EXISTING BUILDING

HOCKEY PAVILION AND NEW SPORT FLIED

EXISTING EVENT BUILDING RETAINED

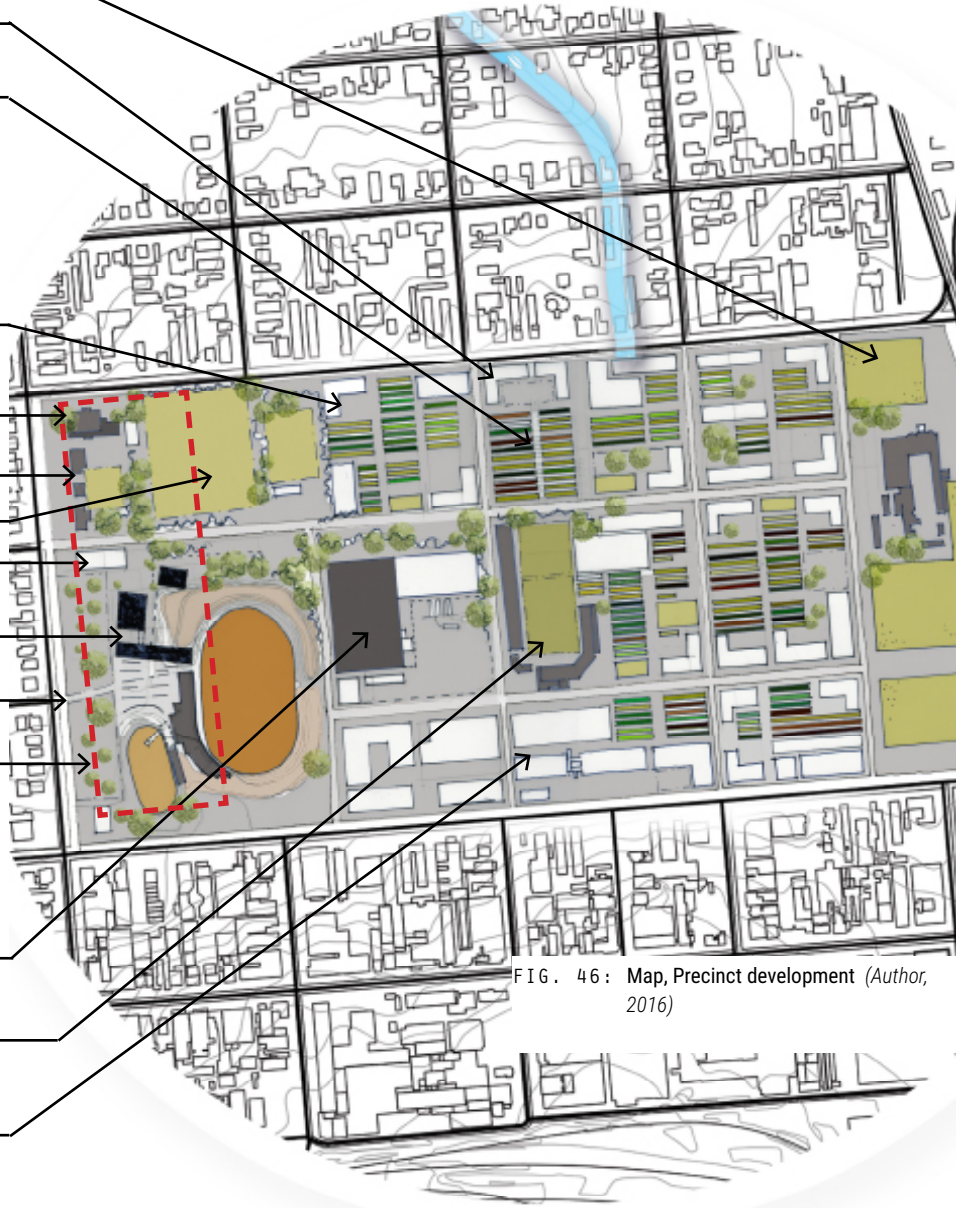


FIG. 46: Map, Precinct development *(Author, 2016)*

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03

CHAPTER 03

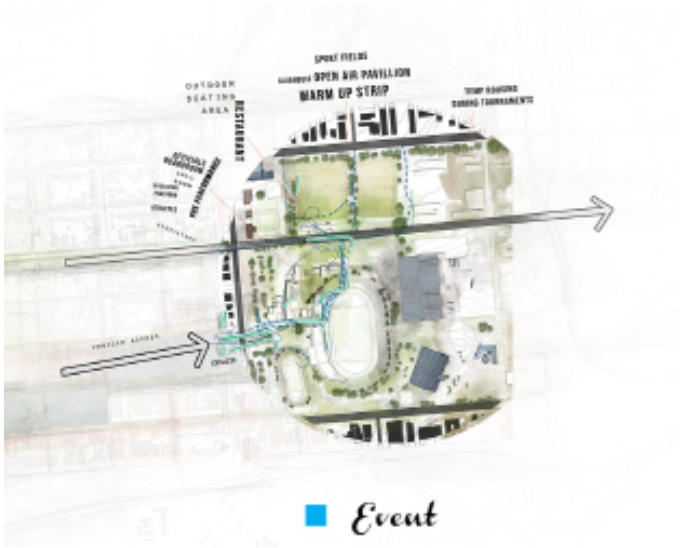
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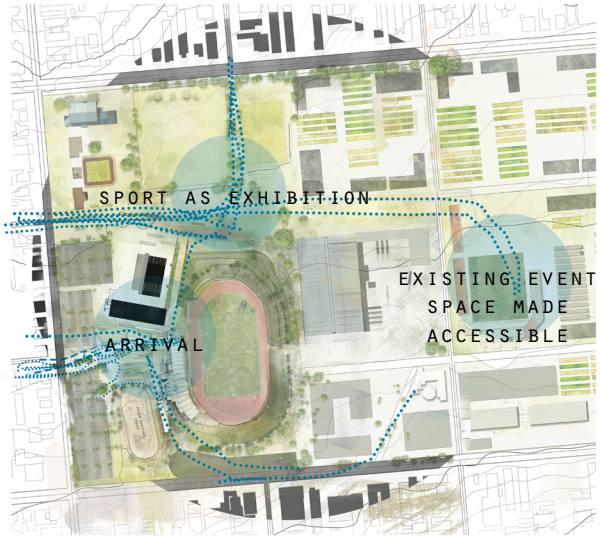
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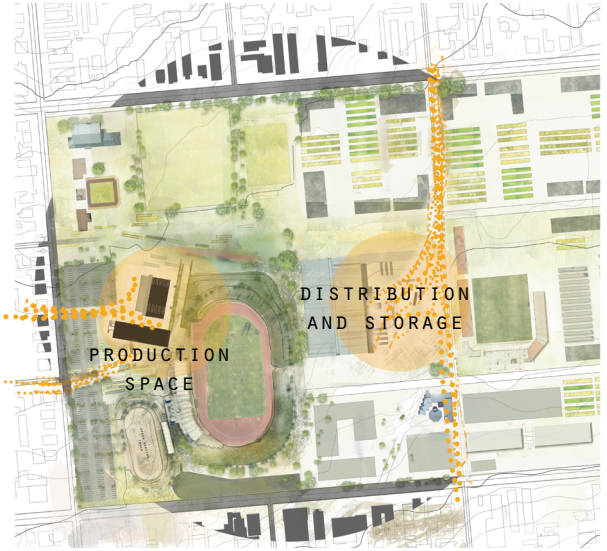
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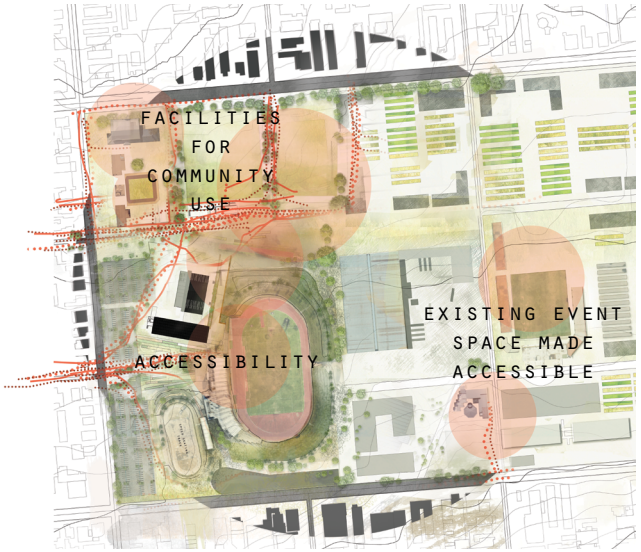
EVENT SPACES



OLYMPIC VILLAGE: SPECIALISED BUILDINGS

© University of Pretoria





OLYMPIC VILLAGE: SPECIALISED BUILDINGS

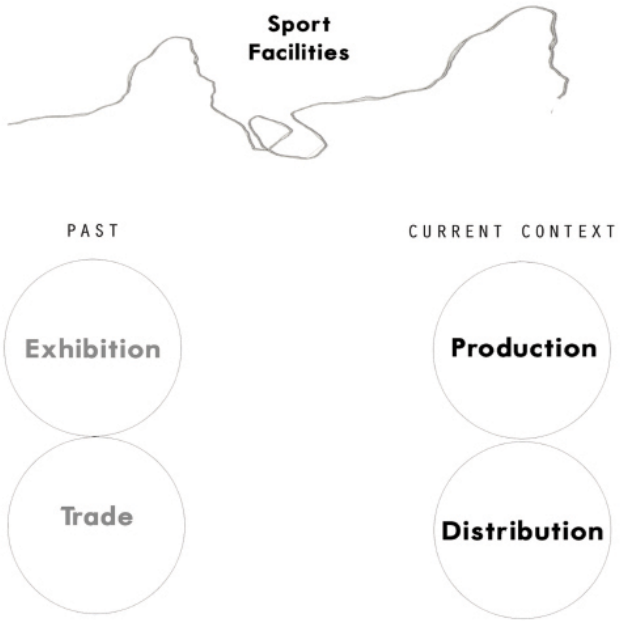


FIG.47: Diagram of past and present use *(Author, 2016)*

PROGRAM

INTRODUCTION

In order to connect the historical association of event and trade, with the contemporary association with sport and industry, the production of soft textile manufacturing in the form of sportswear and matting forms is proposed. Further, to incorporate both activities of the event and the everyday with the proposed network development, the precinct is developed by three components of exchange: event, community and production. In the following chapter these components will be explained through various route developments.

FIG. 48: Precinct development, proposed networks *(Author, 2016)*

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PRODUCTION

The competitive capacity of Chinese suppliers of textile and manufactured goods has caused a sudden upset in South African textile industry, as in many other countries (*DA+P, 2016*). During the opening ceremony of the 2016 Olympic Games in Rio, the National Athletics team was sponsored by a seemingly unknown brand from China. This project enables the West to provide international team gear as a proudly South African product. The introduction of soft textile manufacturing in the form of sportswear and matting forms is proposed on site. An existing manufacturing company in India was used as precedent for the services needed to produce sporting equipment and clothing.

Investigating the surrounding context, most of these services are already provided for by the surrounding industrial context. It is proposed to mobilise these separate entities to produce a single export from Pretoria West by providing the missing processes on site.

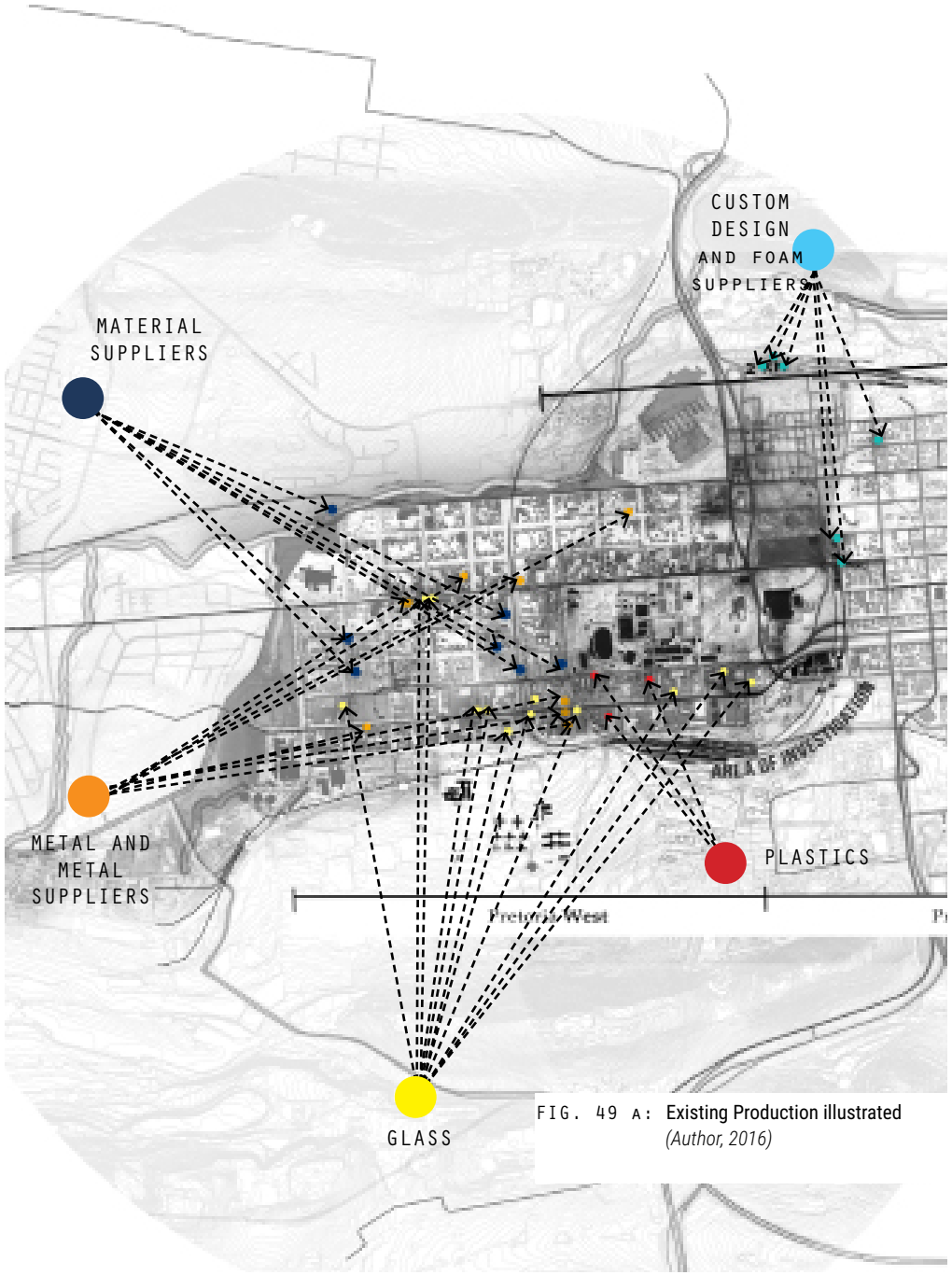


FIG. 49 A: Existing Production illustrated *(Author, 2016)*

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The following paragraphs explain the existing processes and processes that need to be provided for.

Illustrated in the graph, on a scale of existing to new, all 'hard' metal, plastic and glass equipment such as discus cages, pole vault uprights, shot put rings and relay batons can already be manufactured with existing industries around the site. It is proposed that these products are manufactured by factories in the area and delivered to temporary central storage and distribution node on site and delivered to off site locations on demand. Existing buildings and infrastructure will be used for the storage and distribution yard. Two large warehouse buildings, located in the middle of the site, with existing access for distribution will be retained and used in the new urban vision. The access roads will also be linked to the two major roads on the northern and southern boundaries of the site.

Suppliers for the 'soft' production components (landing systems, base pads and safety gear), and intricate materials and skills (indicated in blue) also already exist in Pretoria West. However, there are no facilities for the manufacture of custom designed sportswear. The custom design component is introduced as a new line of production to the existing industrial context.

By introducing a distribution point and a new custom design component on site, it is possible to mobilise these separate suppliers to manufacture and deliver sport and safety equipment, in order to activate the precinct on a weekday basis and increase the diversity of functions (and therefore economic resilience) on site. To enable the workings of the new intended production, the production house will comprise of a stitching, embroidery, printing and custom design department, with computer aided design centres, and custom design.

Incubators, studio workshops, meeting spaces and offices are proposed in connection with the production house. These facilities create a platform for other industries to engage and metaphorically 'step over the boundary of the site'.

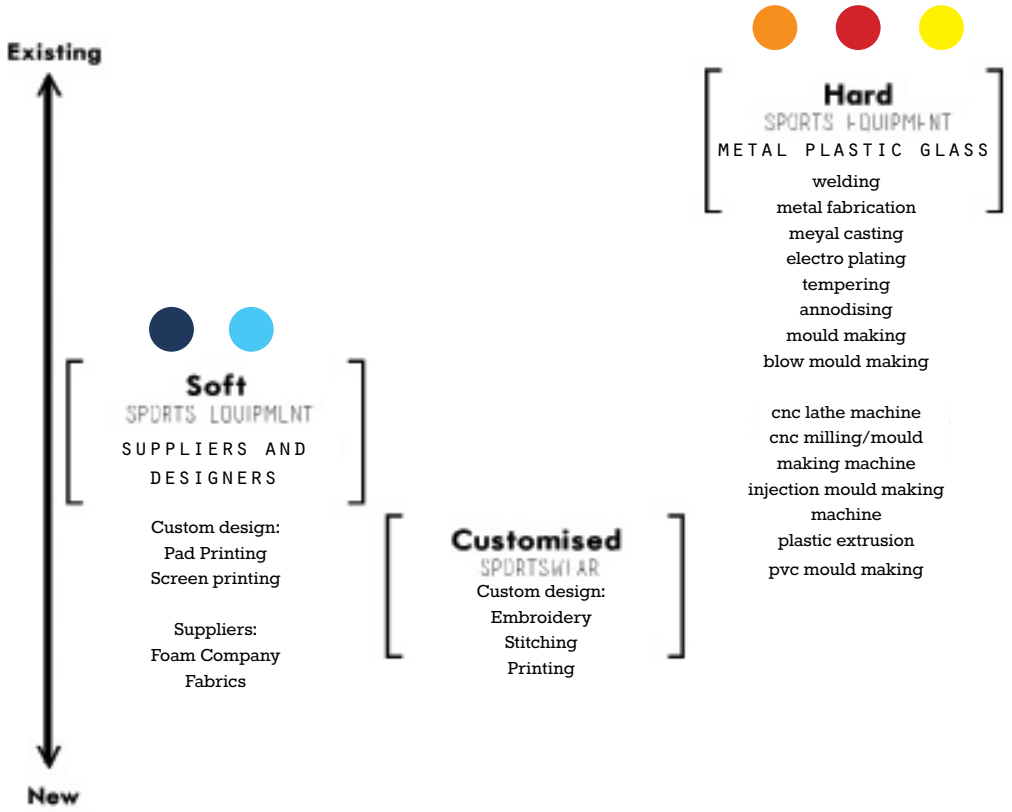


FIG. 49 B: Diagram of Activities (on a scale of new to existing) *(Author, 2016)*

© University of Pretoria

COMMUNITY

Extending from the identified education and civic networks in the urban vision, the Western edge of the precinct will be developed to create connection between the community and the sport facilities. The community route extends from where multiple schools in the area occur, and where there is opportunity for civic space. The idea is to introduce functions along the route that will allow children to learn through sport and movement, and create (non club associated) accessible places to train in the landscape of the berm. The route connects to the existing closed down municipal swimming pool which will be re-appropriated as a crèche. Plugged in between the crèche and the existing sports hall for disabled sports-persons, a pre school development Centre is proposed. This requires accommodation for a small gymnastics hall that makes use of the manufactured foam landing systems which allows for part exhibition of what is made on site. These facilities look out onto the new proposed sports fields laid out to the north western edge of the site and the relocated athletes warm up area. The terraced berm allows for an outdoor gym area and public space for daily rituals. The entrance to Pilditch Stadium is redesigned for an enhanced architectural experience of the rituals of the event and to complete the sporting belt at the Western edge of the site.

As a secondary pedestrian entrance to the event, the proposed public promenade, adjacent to the crèche and preschool development Centre is linked to the new proposed sport fields by flanking open air pavilion. At the edge of the berm a new proposed restaurant and clubhouse is provided, overlooking the relocated warm up area and new sport fields.

The public promenade terminates at the connection with new proposed commercial corridor with mixed use residential and commercial development throughout the rest of the larger precinct. Part of the residential component will provide temporary housing for athletes or visitors during tournaments, but can also address the current issue of density, and protecting the area from becoming completely industrial.

EVENT

The event of athletics will serve as exhibition of what is made on site and act as the mediating element between event, place and production. Proposed in conjunction with the idea of event, this entails the showcase of elaborate fabrics, embroidery, screen printing and design skills to create custom design specialty and sportswear such as gymnastics leotards, international team gear and safety gear. Athletes, officials, spectators and general public arriving at the stadium move past the production spaces. The proposed new courtyard provides the platform for an open air exhibition space where the new proposed buildings act as an urban balcony in which users observe the arrival of athletes.

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FIG. 50: Proposed event and community space
(Author, 2016)

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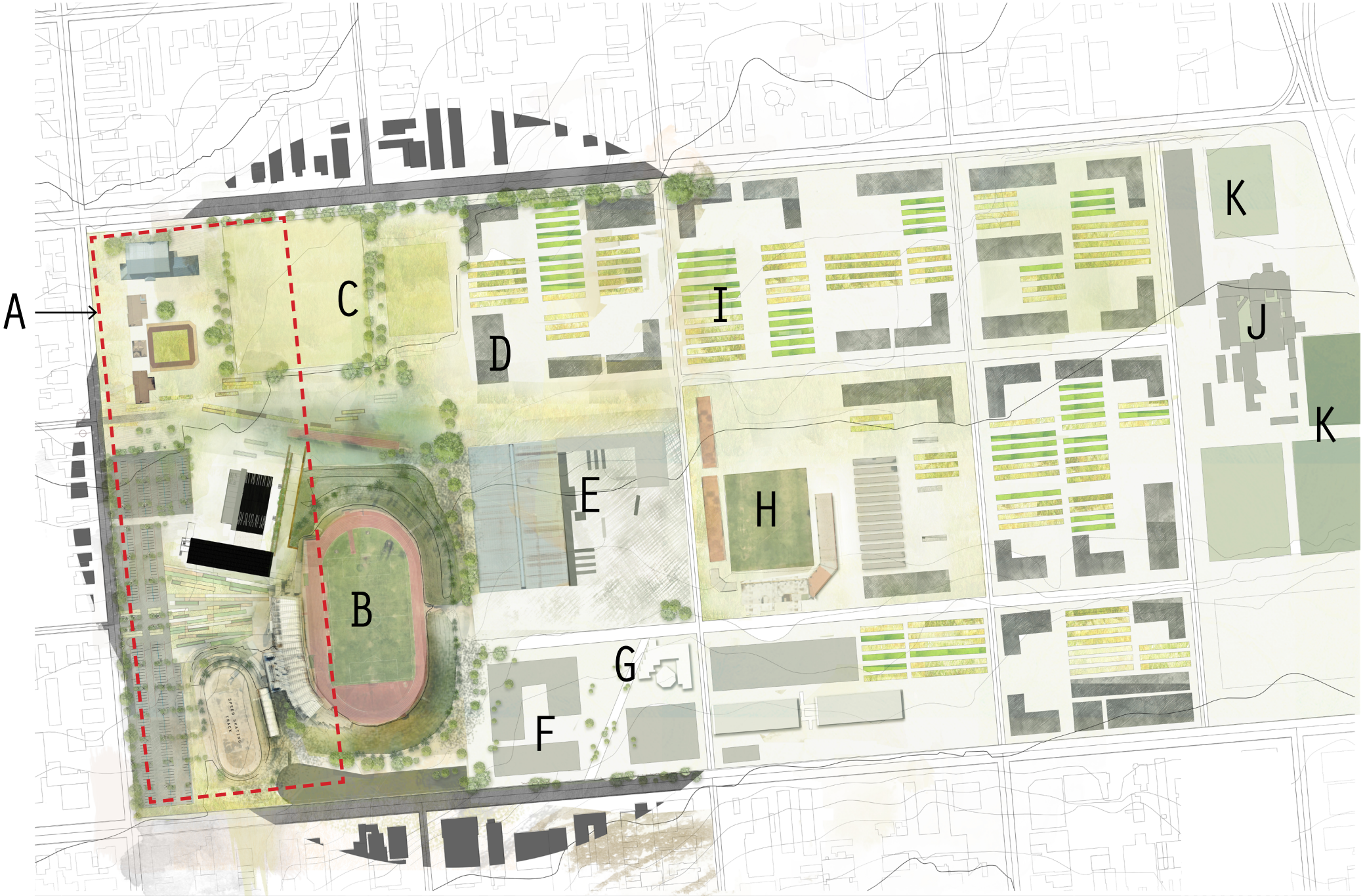
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

PRECINCT PLAN

A SPORTING BELT
B ATHLETICS TRACK
C NEW SPORT FIELD FOR COMMUNITY USE
D NEW PROPOSED MIXED USE DEVELOPMENT
E DISTRIBUTION YARD
F EXISTING EVENT BUILDINGS RETAINED
G EXISTING CHURCH BUILIDNG
H EXISTING HOCKEY PAVILION AND FIELD
I NEW PROPOSED URBAN AGRICULTURE AND GARDENS
J METRO POLICE HEADQUARTERS
K SPORT FIELDS USED FOR EVENT AS WELL

FIG. 51 (A): Final Precinct Plan *(Author, 2016)*

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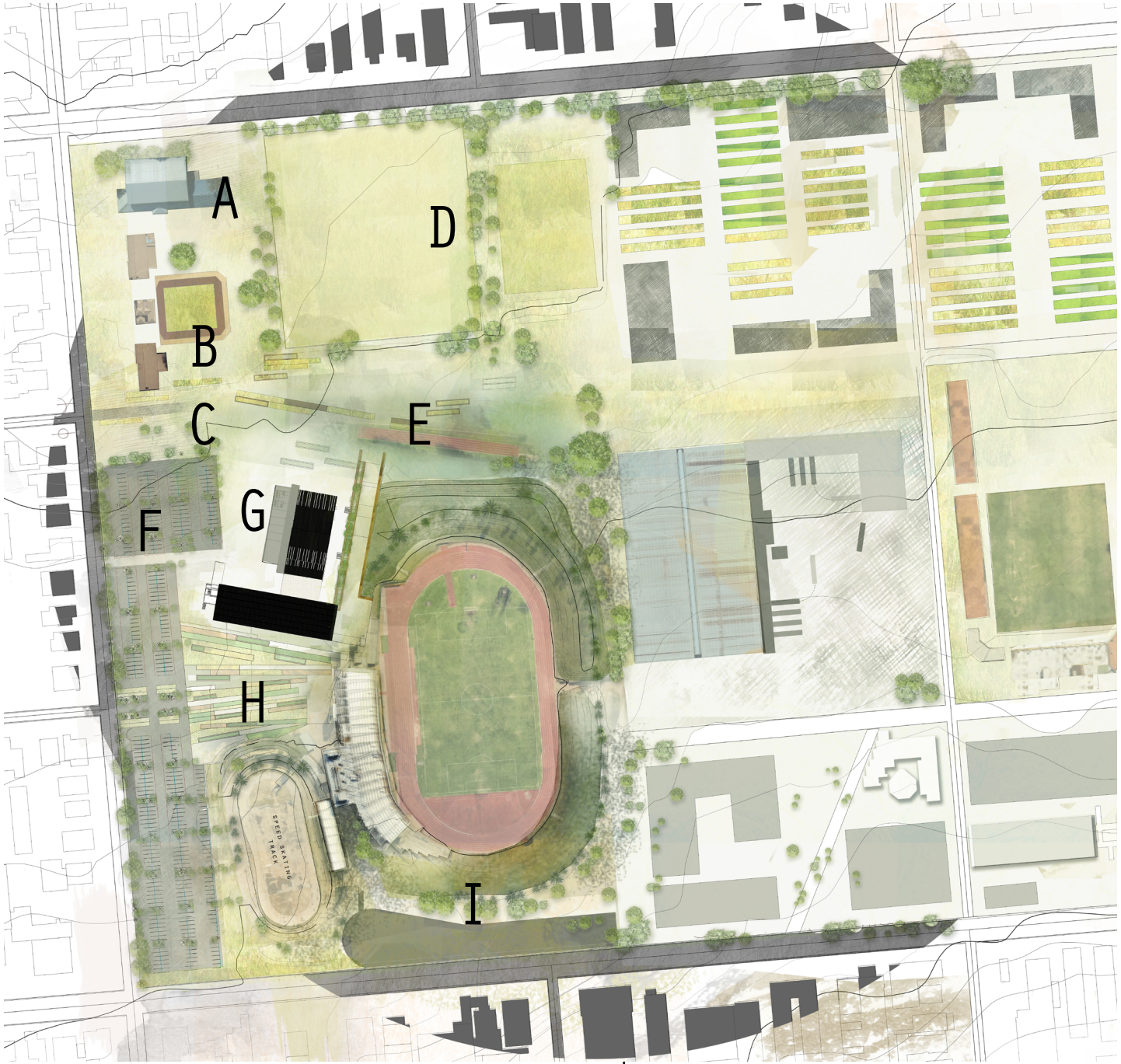
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UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

SITE PLAN

A EXISTING SPORTS HALL
B CRECHE
C PRE SCHOOL DEVELOPMENT CENTRE
D NEW SPORT FIELDS
E NEW WARM UP AREA
F PARKING AREA
G PROPOSED BUILDING
H NEW COURTYARD SPACE
I EXISTING PARKING

FIG. 51 (B): Site Plan development
(Author, 2016)

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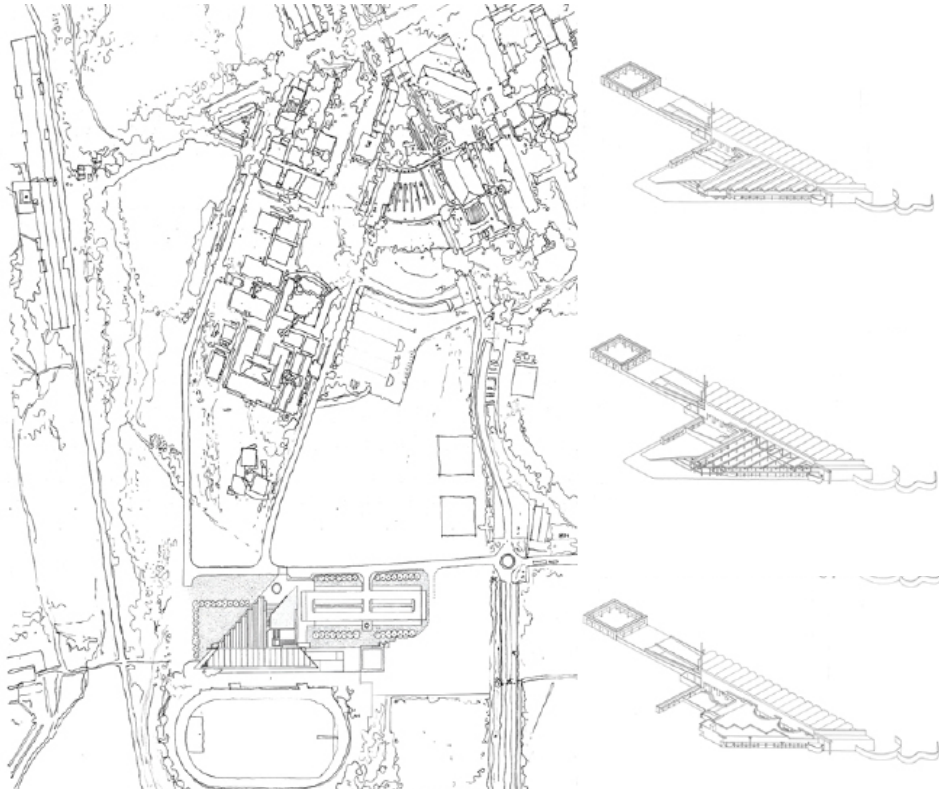


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PRECEDENT

LOCAL

When the stadium for the University of the Western Cape (UWC) was designed, it was on an isolated site with no context to respond to (Cooke, 2015:42). Architects Roelof Uytenbogaardt and Norbert Rosendal presupposed a “development diagram” for the eastern campus in order to create a new context that the stadium could form a part of (ibid). The isolated site formed part of a “grid of courtyards, linked with loggias, joining the stadium to the core of the newly developing campus” (ibid). The intention of the building was to inform the “future space syntax of this whole area” through clues in the design like “an insistent 45-degree angle in their proposal” (ibid). A large spine wall that responds to the urban objective of the project (ibid), acts as a mediating element between the landscape of the Stellenbosch mountains and the built fabric of the University (Gerwel 1987:24). To withstand the envisioned public usage of the building, a robust structure and materiality was employed. A sense of urbanity is perceived in every part of the design (Cooke, 2013:43). The “loggias, flights of stairs leading generously up to the podium and long sloping walls reaching out” successfully reflects the notion of urban placemaking (ibid).







RESPONSE

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With the urban development not realised as the architects predicted, there is a sense that the stadium is turned away from the campus: remaining isolated in its relationship with the campus at present (ibid). The building is also much less used as predicted and has not weathered particularly well (ibid). This called for the restoration of the building. The construction of a new gymnasium on top of the existing building was stipulated as to simultaneously restore and upgrade the existing facilities (ibid). While certain parts were left untouched, the proposal by Noero Architects retained most the major design components and reestablished a "dynamic connection" between the building and campus (ibid:44).

The new proposed building sensitively engages with the existing structure. Described as "listening" to the language of the existing structure while introducing new arrangements; elements of openness, transparency, better access, enhanced views and active new uses allow for a more permeable building (ibid:45). The roof of the new gymnasium introduces "an entirely new architectural element" (ibid). A series of double pitched roofs echo the repetition of the existing barrel vaults of the stadium while visibly creating the recognition of different authorship to the building. The new extention "enriches the boundary" and implies "with new energy" patterns for future development (ibid:46).

UWC Extensions
Jo Noero Architects
University of the Western Cape, Bellville, Cape Town
2016 (Ongoing)







FIG. 52 A-D: Stadium Extensions *(Jo Noero Architects, 2016)*

© University of Pretoria

LOCAL

The Proud Heritage Clothing Campus is located in an industrial area of Durban. Two warehouse buildings facilitate the production, design and distribution of clothing. The buildings are placed on either side of an access road with the appearance of the buildings in contrast with one another. The warehouse on the north is curvilinear in shape whereas the warehouse on the south is rectilinear in shape (Saunders 2009:412).

The industrial materiality of the buildings express an innovative interpretation of the manufacturing process, while the design responds simultaneously to functional requirements such as engineered processes, planning considerations such as ample storage space and creative working environments (ibid).

The appropriate interior climate for the production spaces is achieved through a hybrid of passive design principles and mechanical devices. Translucent polycarbonate sheeting forms the side cladding of a steel portal frame to allow for maximum use natural daylight. The roof- and floor plans correspond to allow for ventilation where mechanical fans also assist to keep the building cool (ibid).

The spatial planning allows for processes of the design and manufacture to be made visible and combined where possible. Through various details, textiles, textures and shadows, the building communicates the production process and ideas of rolls of fabric, veil-like and delicate lace and patterns of stitching (ibid).

The project was chosen as precedent due to the similarity of the program, but also as inspiration for its' innovative approach to the representation of the production. The project brief also highlighted important spatial requirements and specifications.

Proud Heritage Clothing Campus
Don Albert & Partners architecture design interior
KwaZulu-Natal: Briardene, Durban
2007

FIG. 53 A-E: Precedent *(DA+P, 2016)*



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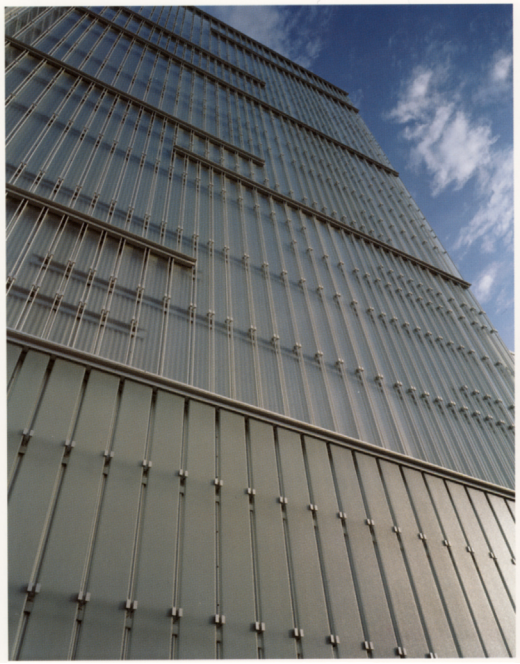




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PRECEDENT

INTERNATIONAL

The project combines two anchor institutions; the Manship Performing Arts Centre with the Louisiana State University Museum of art. The most visible feature of the building is that it sits on top of another building in a symbiotic relationship. The Shaw Center cantilevers 12m over the existing 1930's Auto hotel parking garage. Located near water in the Baton Rouge, the design draws influence from various local associations. As explained by the architects: " The facade is conceived to evoke many local associations: A paper lantern, glass beading, the meandering Mississippi River. At night the building glows like a 'lantern on the levee', a ubiquitous feature along the antebellum times. The exterior cladding is made of multi-length U shaped cast glass channels set 15cm apart from a corrugated aluminum wall system. The exterior glass skin creates a luminous and active skin but also acts as a rain screen.

Shaw Center for the Arts
Schwartz/Silver Architects Inc.
Baton Rouge, Louisiana, USA
2003- 2005

FIG. 54 A-F: **Precedent** *(Details in Contemporary Architecture, 2007)*

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04

CHAPTER 04

BACKGROUND THEORY

INTRODUCTION 70
Urban Place making 70

Architecture of the Everyday 71

The theory of regeneration 72

The history of the Olympic Games 74
Four phases of urban development 79
In a South African context 80

Event integration: Case studies 80
Integration as part of the event 81
Post integration 81

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INTRODUCTION

This chapter introduces topics of investigation that served as background theory to the dissertation.

URBAN PLACE MAKING

Various publications by Julian Cooke, express a concern with the shortage of urban place-making in South Africa and the lack of what is termed by Bachelard (1964) as 'lived space'.

He further states that urban place making can be accomplished by the creation of social realm where everyday activities and rituals can inscribe meaning to place. This is also substantiated by the work of Louw, where, as explained by Cooke, necessitates the making of 'habitable' (lived) urban space (Swart 2011: 110).

"To be inside a place is to belong to it and to identify with it, and the more profoundly inside you are the stronger is this identity with the place"

-Geographer, Edward Relph (1976:49)

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ARCHITECTURE OF THE EVERYDAY

'At its most basic, it is simply "real life", the "here and now"; it is "sustenance, clothing, furniture, homes, neighbourhoods, environment"- i.e. material life- but with a "dramatic attitude" and lyrical tone" (Henri Lefebvre (1947) (Harris and Berke 19917:09).

French philosopher, Henri Lefebvre, contributed to architectural debates from the 1920's to the time of his death in 1991 (ibid). He discussed themes essentially relevant to architecture and urbanism: everyday life and the nature of space (ibid), and argued that architecture rather "engages sensitively with people's everyday environments" (ibid:11). Although his writings were very specific and conscious of the conflicts and conditions of the time it emerged, it still offers critique to current architectural occurrences. According to Mcleod, what is viewed as most relevant to architecture today, is the cultural dimension of Lefebvre's writings (ibid). The "rich, complex and joyous vision of transformation" contrasts the mediocrity of the built environment today, described by Mary Mcleod as merely "the rationalisation of the technical and economic factors" (ibid).

Multiple factors such as the scale and accessibility of Pilditch Stadium, and the fact that sport has changed from a public event to a specialised event, means that a stadium is only a place of reference for athletes and sportspersons, isolating large groups of users and activities. Enhancing everyday activities on site, allows for a variety of use and users (Swart 2011: 111). Different patterns attract various groups that can engage and relate to personal and collective imagination and memory of place (Bohmer 2012:12). Allowing the site to become multifunctional in its use, creates the opportunity for a vibrant place.

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THEORY OF REGENERATION

Based on the living systems theory and the work of David Bohm (the 'Level work' framework' by Krone 1992), this theory states that regeneration is not only characterised by the restoration of what is existing, but to improve what has not yet manifested on site. Therefore the process of regeneration moves above and below the line of what is existing and what is possible: by building on the latent potential in the site (Mang & Reed 2012:27).

> "Every living system engages in different levels of work, all of which are essential to the system's continuing vitality, viability and capacity for evolution. The lower level (maintain and operate) focus on the current existence of the system itself, either improving the efficiency of its performance or maintaining the effectiveness of its resources. The upper levels (improve and regenerate) introduce potential life and creativity by asking what is a system's unique role in advancing the whole" (*ibid*).

According to Mang (2009: 8), place is referred to in multiple contexts, as simultaneously signifying a geographical placement, a state of order, a position or role and the authenticity or naturalness of the distinctive quality and experience of a space.

As proposed by Mang (*ibid*: 9-14), the quality of place can be identified by the following characteristics or qualities. The current state of Pilditch Stadium is briefly discussed according to these qualities.

1. The 'interconnectedness' and "the uniqueness of its relationship to other places both spatially and as nested wholes".

Spatially Pilditch Stadium functions as a singular place; unique and dominant in its relationship with the surrounding context yet underutilised, which reduces its meaning. The site does not function as part of a larger structure or network. This can be attributed to the changing nature of the context (and suggests the re-integration of the stadium).

2. The manner in which space is transformed into place once it is bounded and made distinctive through meaning and identity.

The distinctive meaning and identity of the site is not 'bounded' by the general and local community. Specific users can identify with the meaning of place, while the general user is non-engaging.

3. The location within a larger system and the understanding of its value within that system.

The value of the site is undermined by the lack of maintenance, referring to an underappreciation of either a) the importance of Pilditch Stadium as a recreational space or b) civic space in the West.

4. The ambient field or atmospheric experience that is created by culture and energetic interactions of a place.

The ambient field or atmospheric experience of the site is that of an in-between state (in-between when the stadium is used and not used/ event and everyday). When the stadium is used, the atmospheric experience contributes to the sense of place. But when the stadium is not used, the monumental infrastructure and adjacent vacant land of the Showgrounds, fail to create connections.

5. The continuous evolving nature where spaces can become 'centres of magnetic resonance' and 'coherence' through its interrelationship with its surrounds and the simultaneous 'organizing continuum' that "helps to order this change into the potential for meaningful evolution".

The monofunctional nature of site prohibits a continuous evolving state. The scale of the Stadium contributes to issues of accessibility. When a site is inaccessible, it cannot adapt or change according to the needs of the society failing to manifest "meaningful evolution".

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dyads of place



FIG. 55: Collage, Dyads of Place of Pretoria West *(Author, 2016 adapted from The Rediscovery of Place and our human role within it, Mang 2009)*

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INTRODUCTION

THE DEVELOPMENT OF THE OLYMPIC GAMES

The history of the Olympic games was studied to investigate how the public space surrounding stadiums changed due to the changed perception of sporting facilities and the development of urban strategies alongside the development of Olympic Parks. Four phases in the development of the Olympic Games were identified by Chalkley (1991). These four phases ranged from 1896 - 2000 and was divided among small scale interventions with minimal impact on urban environment to large scale urban improvements with substantial impact on landscape and environment.

1.
1896-1904
SMALL SCALE, POORLY ORGANIZED AND MINIMAL URBAN IMPACT

2.
1908-1932
LARGER IN SCALE, BETTER ORGANISED, INVOLVED CONSTRUCTION OF SUBSTANTIAL NEW PURPOSE BUILT SPORT FACILITIES

1.



PANATHENEAN STADIUM

ATHENS



VINCENNES VELODROME & CROIX-CATELAN STADIUM

PARIS



FRANCIS FIELD

ST.LOUIS



WHITE CITY STADIUM

LONDON

1906-1908
UNOFFICIAL



PANATHENEAN STADIUM

ATHENS



WHITE CITY STADIUM

LONDON

2.



STOCKHOLMS OLYMPIASTADION

STOCKHOLM

SYMBOL OF
THE HOST SOCIETY'S CULTURE



ANTWERP PARIS AMSTERDAM

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3.
1936-1952
FACILITIES EMERGED AS FLAG–SHIP SYMBOLS, GENERALLY MODEST URBAN IMPACT



MEMORIAL COLISEUM

LOS ANGELES

'AS A RESULT, THE CITY OF LOS ANGELES NOW POSSESSES SEVERAL PERMANENT SPORTS IMPROVEMENTS WHICH ARE AMONG THE DIRECT BENEITS OF THE OLYMPIC GAMES TO THE CITY'

FIRST OLYMPIC VILLAGE

3.

OLYMPIASTADION

BERLIN

NEW POLITICAL DIMENSION

CLEAR POLITICAL OVERTONES: 'IF GERMANY IS TO STAND HOST TO THE ENTIRE WORLD, HER PREPARATIONS MUST BE COMPLETE AND MAGNI⊠CENT'

BERLIN WAS CLEANED AND DRESSED FOR A SERIES OF CULTURAL FESTIVALS

FAVOURABLE POLITICAL PROPAGANDA FOR THE REICH GOVERNMENT BY PRESENTING INTERNATIONAL VISITORS WITH AN IMAGE OF A SUCCESSFUL AND EVEN RESPECTABLE REGIME

WEMBLEY STADIUM

LONDON

EXISTING FACILITIES
LITTLE IMPACT ON
THE WIDER
URBAN STRUCTURE

OLYMPIASTADION

HELSINKI

PERMANENT SELF-SUSTAINING
RESIDENTIAL QUARTER AFTER THE GAMES

CRICKET GROUND

MELBOURNE

FIG. 56: Collage, History of the Olympic Games
(Author, 2016 images adapted from Google images)

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4.

1960 TO 2012

LARGE-SCALE URBAN IMPROVEMENTS SUBST



ESTADIO OLÍMPICO

ROME

THE TWO CENTRES WERE LINKED BY A NEW ROAD CALLED THE OLYMPIC WAY. IN ADDITION, THE CITY DEVELOPED A NEW MUNICIPAL WATER SUPPLY SYSTEM, NEW AIRPORT FACILITIES IMPROVED PUBLIC TRANSPORT, STREET LIGHTING AND ILLUMINATION OF MONUMENTS AND NUMEROUS DECORATIVE IMPROVEMENTS TO THE CITY.

4.
1960-2012
LARGE—SCALE URBAN IMPROVEMENTS, SUBSTANTIAL IMPACT ON THE LANDSCAPE AND URBAN ENVIRONMENT



NATIONAL OLYMPIC STADIUM

TOKYO

POLITICAL REHABILITATION OF JAPAN

NEW DEVELOPMENT FOR TOKYO WAS WEIGHTED MUCH MORE HEAVILY TOWARDS PROJECTS OTHER THAN THOSE DESIGNED FOR THE SPORTING EVENTS AND THE ATHLETES.



ESTADIO OLÍMPICO UNIVERSITARIO

MEXICO

QUESTIONED THE INVESTMENT REQUIRED

UNNECESSARY EXTRAVAGANCE

SEVERE SOCIAL PROBLEMS

VIOLENT CLASHES BETWEEN PROTESTING STUDENTS AND UNITS FROM THE POLICE AND ARMY



OLYMPIC PARK

MUNICH

CATALYST FOR URBAN RENEWAL RE-EMERGED

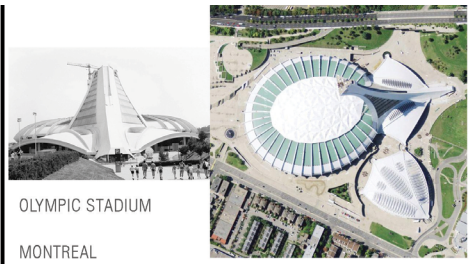
ABANDONED SECOND WORLD WAR AIRSTRIP

USED AS A DUMP AND AS A SITE FOR FAIRGROUNDS

RESTORATION AND PEDESTRIANIZATION OF THE HISTORIC QUARTER

IMPROVEMENT OF PUBLIC TRANSPORT

RUBBLE HILL, NYMPHENBURG CANAL AND TELEVISION TOWER



OLYMPIC STADIUM

MONTREAL

EARMARKED FOR RECREATIONAL USE MUCH EARLIER. A MUNICIPAL GOLF COURSE AND BOTANICAL GARDENS HAD BEEN PROVIDED ON THE SITE DURING THE 1930S, WITH THE MAURICE RICHARD ARENA, MAISONNEUVE SPORTS CENTRE AND ATHLETIC FIELDS BEING DEVELOPED FROM PLANS IN THE 1950S

COLOSSAL, SHELL-LIKE, CANTILEVERED STRUCTURE, THE MOST STRIKING FEATURE OF WHICH WAS A COLUMN-FREE ELLIPTICAL ROOF



LUZHNIKI OLYMPIC COMPLEX

MOSCOW

INCLUDED IN THE TENTH FIVE-YEAR PLAN (1971)

UNDERDEVELOPED TOURIST INDUSTRY

ATTRACT FOREIGN CURRENCY

PROMOTE THE CITY AS A COSMOPOLITAN, 'FUN-LOVING CAPITAL'

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.UZHNIKI OLYMPIC COMPLEX

.OS ANGELES

TOTALLY PRIVATE-SECTOR FUNDED

:XISTING SPORTS FACILITIES

.ITTLE CHANGE TO THE URBAN INFRASTRUCTURE

:UBSTANTIAL COMMERCIAL SUCCESS

IOST CITIES BEGAN TO SHOW A
ENEWED INTEREST IN STAGING THE OLYMPICS.



OLYMPIC STADIUM

SEOUL

VEHICLE FOR URBAN CHANGE

IMPROVED TRAFFIC MANAGEMENT, THE ENHANCEMENT OF CULTURAL FACILITIES, AN ENVIRONMENTAL BEAUTI☒CATION PROGRAMME AND ACTION TO ENSURE HEALTH AND HYGIENE STANDARDS THROUGHOUT THE CITY

ENCOURAGEMENT OF PUBLIC TRANSPORT



ESTADIO OLÍMPICO DE MONTJUÏC

BARCELONA

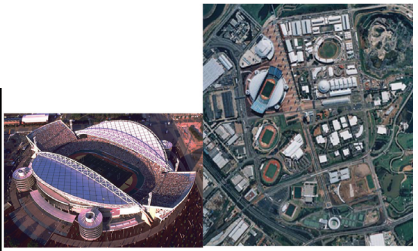
'THE GAMES HAVE BEEN THE CATALYST FOR IMPROVEMENTS IN THE GENERAL INFRASTRUCTURE OF THE METROPOLITAN AREA AND FOR LARGE SCALE PLANNING PROJECTS WHICH, BECAUSE OF THEIR LOCATION AND THEIR SIZE, WILL ALTER THE SHAPE OF THE GROWTH OF THE CITY'.



CENTENNIAL OLYMPIC STADIUM

ATLANTA

MAINLY FOCUSED ON THE DEVELOPMENT OF NEW SPORTING FACILITIES AND PRODUCED ONLY MINOR CHANGE IN THE CITY'S INFRASTRUCTURE



HOMEBUSH BAY,

SYDNEY

EMPHASIS ON SUSTAINABLE DEVELOPMENT

RAISING GLOBAL AWARENESS OF ENVIRONMENTAL AND RESOURCE ISSUES

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THE DEVELOPMENT OF THE OLYMPIC GAMES

FOUR PHASES OF URBAN DEVELOPMENT

Investigating the four phases of urban development through the history of Olympic Games (Chalkey 1999: 374) it is clear that significant shifts in the design of the stadiums changed the way the general public could engage with the meaning and value of sport as a concept in society. The way in which the Games have evolved, now leads to sporting events driving urban 'regeneration' projects, but on a superficial level, which negates the sense of place.

Arenas of antiquity (phase 01: 1896 to 1904) were greatly influenced by the landscape of place. Sporting activities took place in the landscape and by matter of what the landscape could provide, beautifully incorporating public space and public procession (ibid: 375).

Later (phase 02: 1904 to 1932), existing stadiums proved to be too small for the growing sport, and therefore substantial new purpose built stadiums were developed to cater for different events.

From 1936 to 1956 (phase 03), the stadium emerged as an expression of a host city culture with the athletic stadium as the center piece of the event (ibid: 376). The trend to develop new stadiums and the ability to display culture soon warped to the idea that it could be choreographed and staged and took on new political dimensions (ibid: 377).

Contemporary events (phase 04) have had large urban improvements with substantial impact on the landscape and urban environment which proved the realisation of the potential of the event to galvanize urban programmes and policies (ibid).



PHASE
01

1896—1904



PHASE
02

1936—1952



PHASE
03

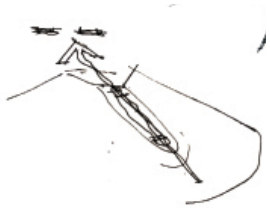
1904—1932



PHASE
04

1952—2000

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ANCIENT GREECE: PANTENAIC STADIUM



BERLIN: URBAN PUBLIC PROCESSION



STADIUM AS A SYMBOL



OLYMPIC VILLAGE: SPECIALISED BUILDINGS

FIG. 57 A-D: **Collage, Four phases of development** *(Author, 2016)*

FIG. 57 E-I: **Sketches, Visual Diary** *(Author, 2016)*

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IN A SOUTH AFRICAN CONTEXT

Although Pilditch was not built in relation to any specific international mega event, it still contributes to the debate of post event integration of stadiums, and a local phenomenon where large infrastructure is available but underutilised. An example of this is Ellis Park in Johannesburg.

During the FIFA world cup of 2010, the existing stadium of Ellis Park, which hosted six events, was targeted for further upgrades for the event (Gunter 2011:76). Although the upgrade has altered aesthetic appeal of the site, it has negated the objective to enhance the local economy (*ibid*). As a mapping exercise, local users were asked to identify places that had been improved and how these spaces were perceived outside of when sporting events took place (*ibid*). The exercise indicated that the upgrade failed to "create a vibrant place that can be used outside of major sporting events" (*ibid*).

In order to secure a bid for major sporting events, nations will compete fiercely for the economic development sport tourism promises by creating iconic mega projects, despite the long term implications of these large interventions (Gunter 2011:77). Bulk infrastructure such a stadiums and transportation networks run the risk of becoming 'white elephants' because of representing "a prestige so dominant over function, that the project never performs satisfactorily" (Gunter 2011:77).

INTEGRATION AS PART OF THE DESIGN

The London Olympic Games

During the London Olympic Games, in addition to constructing new buildings, several existing buildings were modified to host the Games of 2012. The overall approach was to recognise the entire city as the Olympic Park, and regenerate degraded areas (such as the rowing pavilion) allowing for better integration of the facilities after the event. Buildings were designed and modified so that it could be used in different patterns, depending on the event (Shirai, 2016:32).

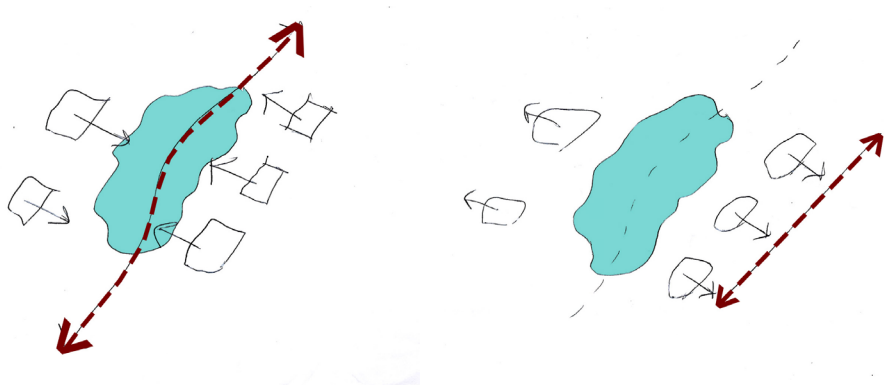


FIG. 58: Sketch, Olympic Configuration and legacy configuartion *(Author, 2016 adapted from Shirai, 2016)*

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INTEGRATION AS PART OF THE DESIGN

Olympic Park in Munich

The Olympic Park in Munich was used as a catalyst for urban renewal (Chalkey 1999: 374). Constructed on an abandoned second world war airstrip, which was then used as a dump, the project called for the restoration and pedestrianization of the historic quarter (*ibid*). The olympic park was successfully integrated in the local community as a public park after the event. The olympic village was also proposed as housing for the community post event (*ibid*).





FIG. 59 A-B: Photos, Olympic Park in Munich *(Author, 2014)*

INTEGRATION AFTER THE EVENT

Other precedents have adapted large event building for commercial use post event.

Richard Rogers, Barcelona Las Arenas, Bullfighting ring

The intention of the project was to re-establish the ring as a landmark in the area. A commercial complex was proposed with retail stores, restaurants and offices on ground level and the new roof provided terraces, cafes and restaurants with a 360° view of the city.

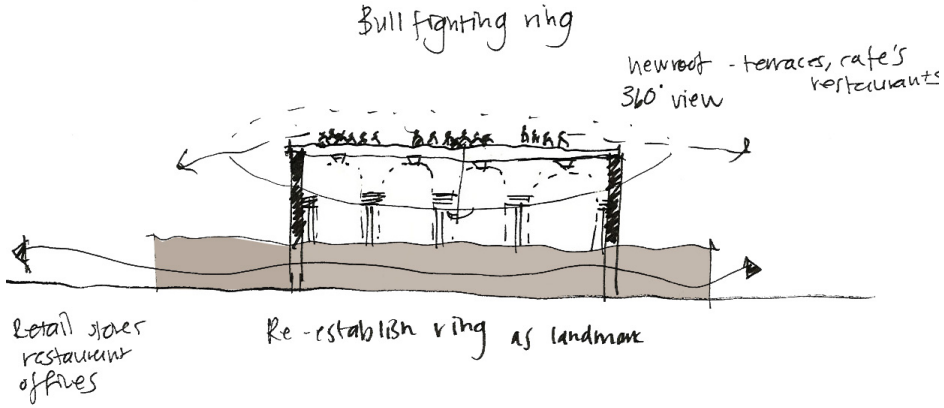


FIG. 60: Concept section *(Author, 2016 adapted from Balaguer, 2014)*

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05

CHAPTER 05

PROCESS

DESIGN CONCEPT 84

DESIGN DEVELOPMENT
Introduction 84
Design iteration 01 86
Design iteration 02 89
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Design iteration 05 98

DESIGN ITERATION SUMMARY 100
SYSTEMS 102

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DESIGN CONCEPT

ARCHITECTURE AS CONNECTION DEVICE

02
FEBRUARY

DESIGN DEVELOPMENT

URBAN OBJECTIVE



DESIGN CONCEPT

ARCHITECTURE AS CONNECTION DEVICE

This dissertation relies on the interaction and exchange of tangible and intangible elements of design and the resultant relationships formed. To enable this exchange, connections are made not only between the physical built structures but the spatial experience and functions it provides. The design development can be categorised according to design principles in relation to spatial continuity: organisation, program, edge, connection, route and ritual. These categories formed the premise of the design generators.

DESIGN DEVELOPMENT

INTRODUCTION

Explorations through model building and drawing was used for the design development. As argued by Georg Vrachliotis in Articulating Space Through Architectural Diagrams, drawing is a “dynamic and active part of design thinking” (2005:02). The design process through sketch is described as a continuous process of interpretation and redrawing (ibid). This graph illustrates the process of design development of this dissertation as explained in the following chapter.

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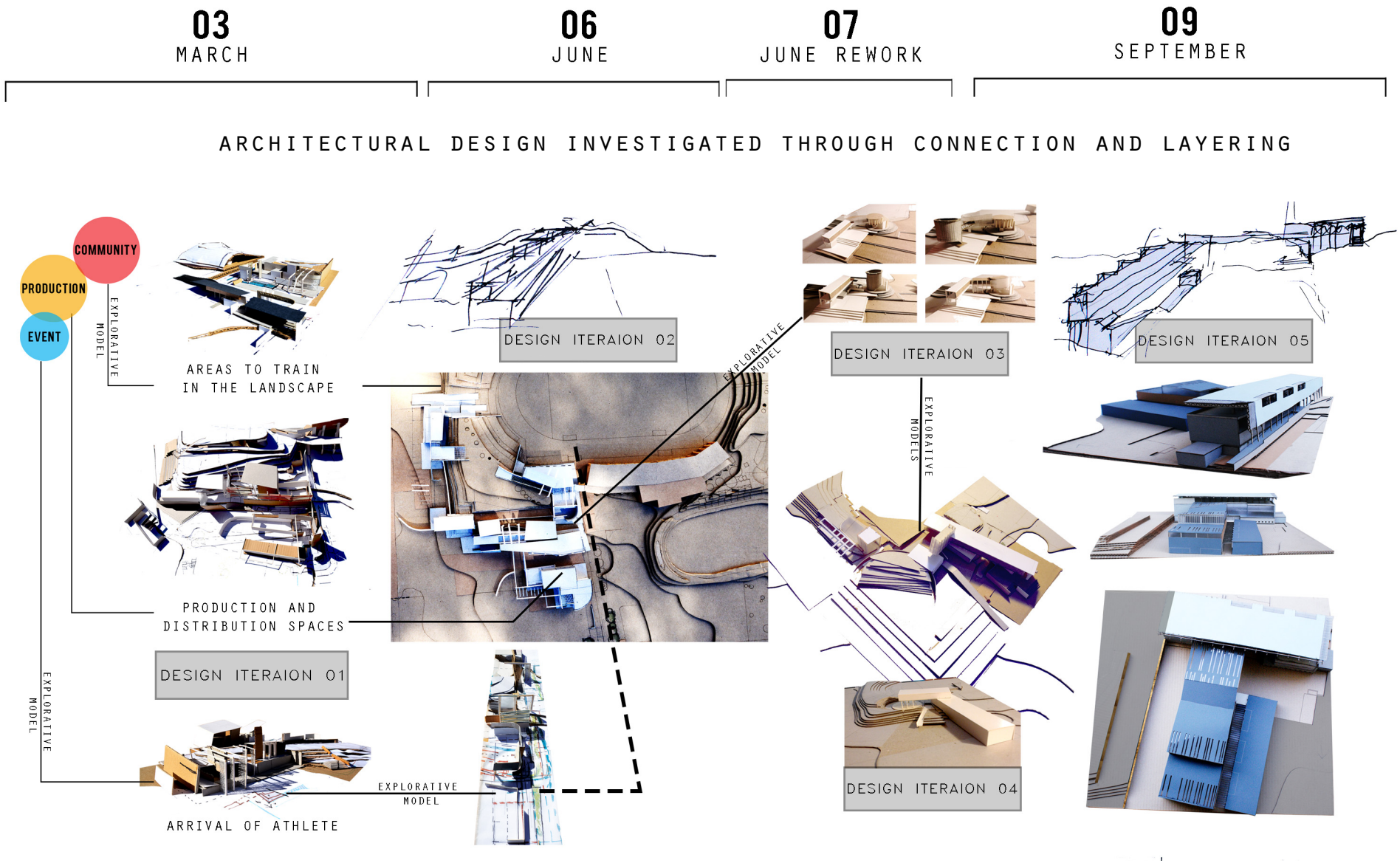


FIG. 61: Design development Layout
(Author, 2016)

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DESIGN DEVELOPMENT

DESIGN ITERATION 01

The intention was connect the berm with the edge of the site, creating an architectural experience into the site. Two main buildings were places along the route of arrival of the athlete. These two buildings which would facilitate the production and distribution of the textiles. The building closest to the street edge would serve as storage and distribution space, therefore the building was placed with a direct link to the existing parking area.

Placing the building along the identified routes (production, community and avent), the production and design house becomes a connection between the stadium and the rest of the site, and the route becomes a public connection between the site and the surrounding context.

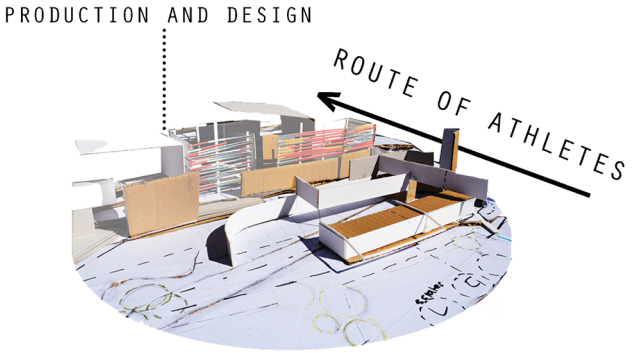


DESIGN ITERATION 01

FIG. 62: Makette, Stitching House
(Author, 2016)

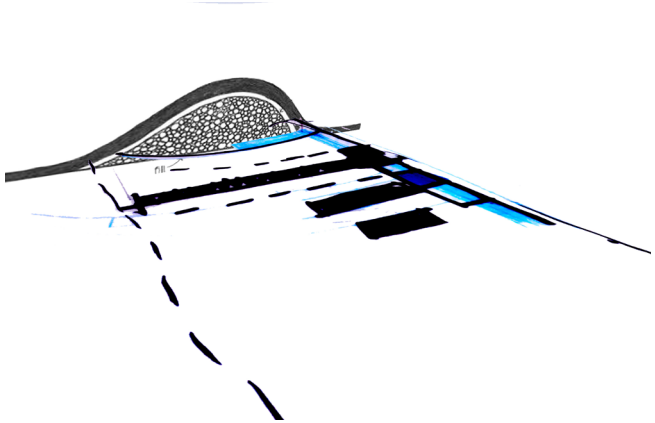
FIG. 62 A-C: Makette diagrams, Stitching House *(Author, 2016)*

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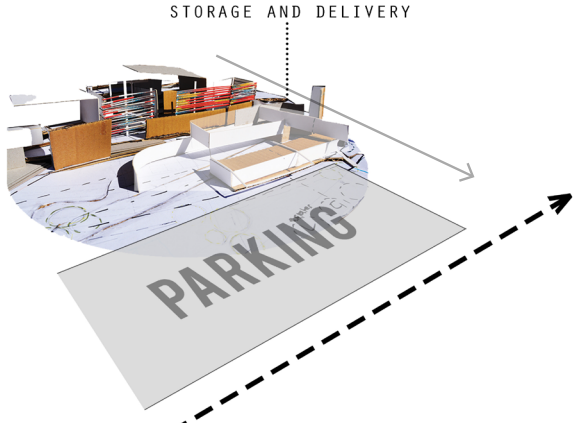
A

ROUTES



B

POCKETS BETWEEN BUILDINGS (ALONG ROUTE)

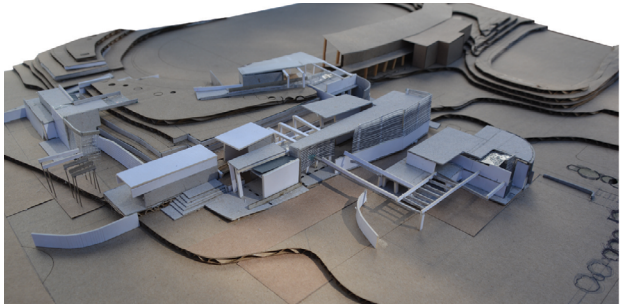


C

SITE EDGE

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DESIGN ITERATION 02



"The idea is to create places where people can meet, randomly or with intent, and where activities of communal interest find place" (Shared space, Hertzberger 2013:19). As described by Lind Pollak, "Because boundaries are where things meet" (Pollak, 1999) they can therefore act as thresholds and barriers of social space (Steenkamp 2011:32).

The proposed routes (that guide the development of site) were laid out to connect the site, with the idea that where these routes crossed, a node could form. Acting as both boundaries and thresholds; this node could, for instance, be a place where production, event and community could form, randomly or with intent.

FIG. 63: June model, Stitching House *(Author, 2016)*

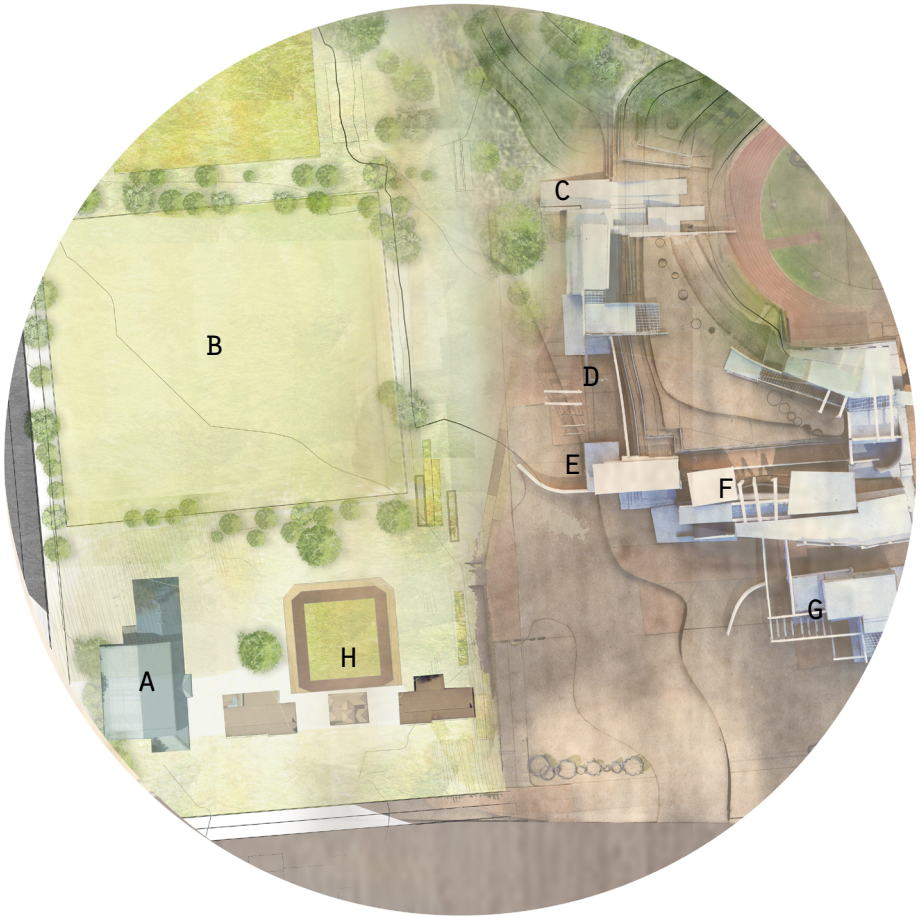
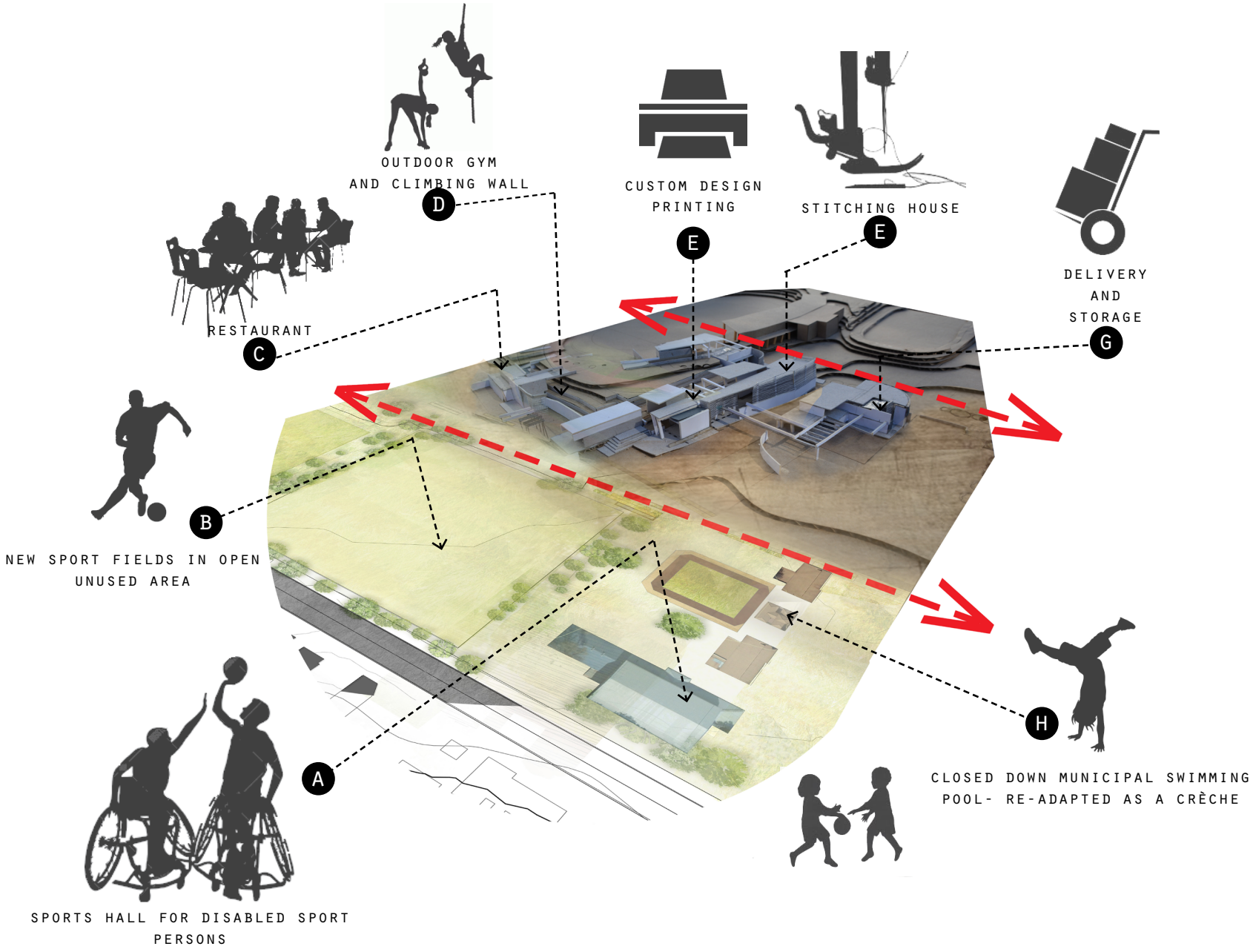


FIG. 64: Collage of node development *(Author, 2016)*

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Moving along the new proposed public promenade, the first encounter with the site is that of the creche (an adaption of the existing Municipal Swimming Pool) and Preschool development centre (a new proposed building). The Sports Hall for Disabled sportspersons is to the left of the creche and the book-ends the site. Moving past the creche, the facilities listed above all live out onto the new proposed sport field. Smaller open air pavilions frame the sport field.
From WF Nkomo road, the sport belt is visible and accessible through secondary entrances.

The next encounter is that of the refectory and athletes warm up area. Here, as part of an alternative interpretation of the functions of a clubhouse and a restaurant, a new meeting space, kitchen, relaxation area and canteen is proposed for staff, officials and general public. This space can be rented out when the facilities are not used during large events. Raised to the top level of the berm, the refectory sits 6m above ground where berm is at its most drastic incline. Here meetings are held before every event to discuss the previous competitions and possible objections by athletes. Currently these meetings take place in the inadequate basement level warm up area for the athletes. In order to instill pride in the position of an official, the idea is to raise this area as a beacon, simultaneously creating direct view to the track which is essential to meetings as direct reference. Incorporated in the clubhouse and restaurant, this is also where officials rest between lunch breaks and receive morning coffee/tea.
The warm up area is visible from the refectory but not directly accessible creating a viewing platform of the warm up while still maintaining a level of privacy. Included in the planting library of that area, is a medicinal thyme ground creeper. Athletes can walk barefoot over the plants to relieve aches and pains.

From here, the public promenade extends to the rest of the precinct to finally connects with the trade route on urban level. Along the route residential and commercial development generates new energy on site. As the route continues, the event fades and everyday activities build up the energy on site. Activities range from trade, production and athletics; the everyday and the event.

The original entrance to the Stadium is slightly altered to create direct entrance to the track. This allows for an enhanced architectural experience through means of a sudden reveal.

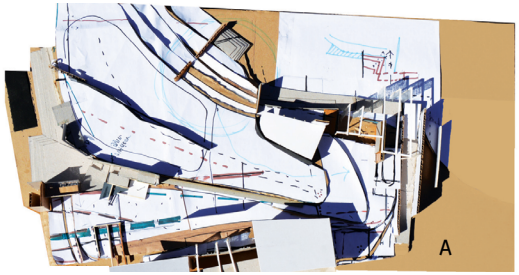
FIG. 65 (A-E): Makettes *(Author, 2016)*

FIG. 66 (F-J): June Model development *(Author, 2016)*

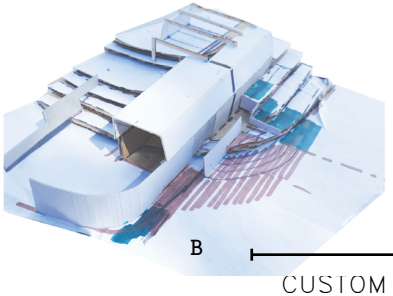
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DESIGN ITERATION 01

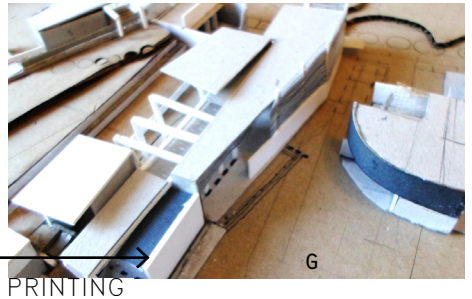
DESIGN ITERATION 02



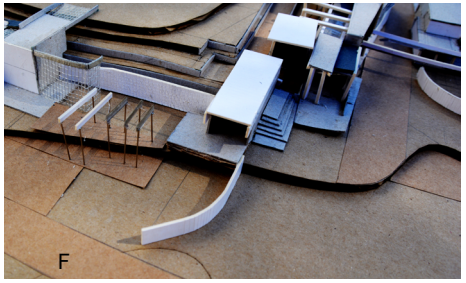
A



B

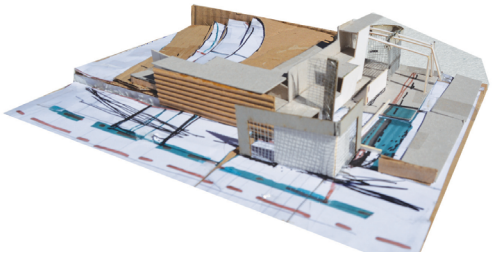


G



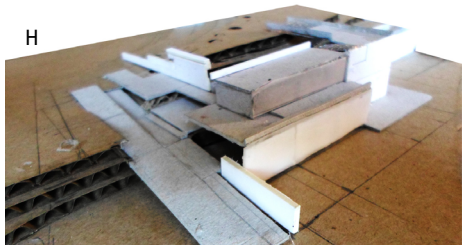
F

CUSTOM DESIGN PRINTING AND OFFICIALS MEETING PLACE

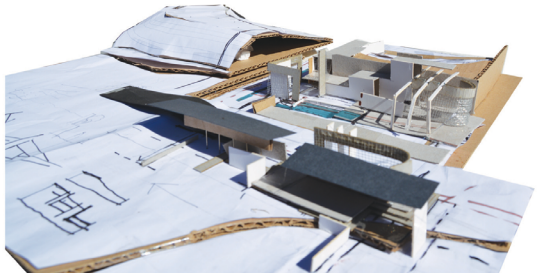


C

RESTAURANT AND CLUBHOUSE

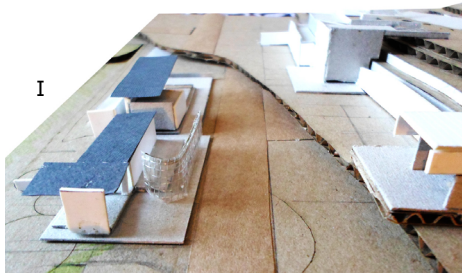


H

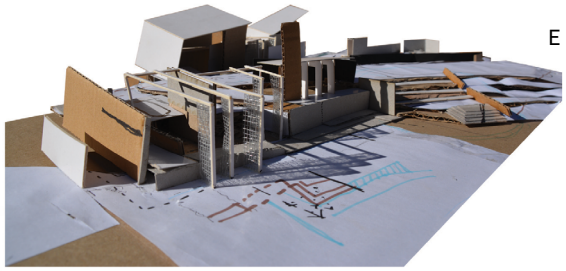


D

OPEN AIR PAVILION

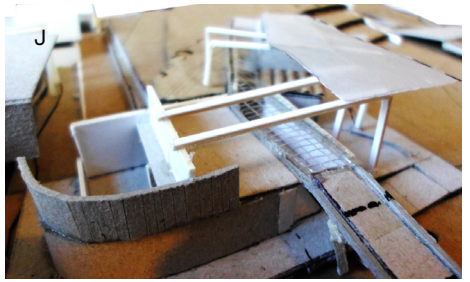


I



E

WARM UP AREA AND OFFICIALS MEETING SPACE



J

PROCESS

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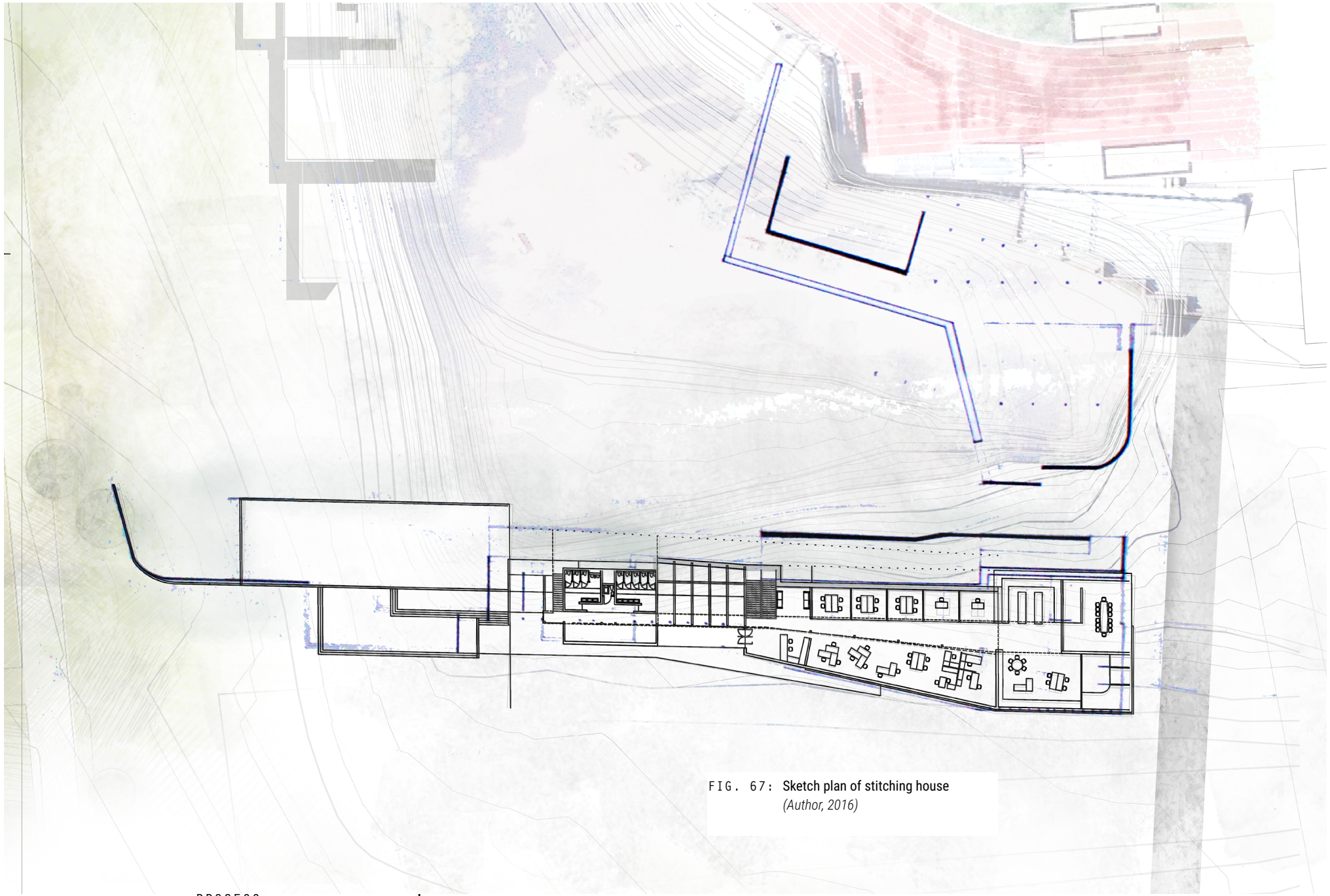


FIG. 67: Sketch plan of stitching house
(Author, 2016)

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With the first few iterations it was clear that although the routes connected at various stages, the resultant spaces actually ran parallel to one another and never created a shared space, simply adding more incoherent buildings in open space and contributing to the current issue. Therefore the routes were iterated to combine various routes in one shared space at the entrance of the event with the intent that the three components of the design (production, event and community) should have equal right to this space. The second design iteration was also questioned in terms of the orientation and the scale of the buildings. The programs for the production spaces, restaurant and call room were reconfigured in the third iteration. The call room and restaurant was combined at the edge of the berm with a warm up area and additional sport fields. The delivery, production and design spaces were relocated to one building facing North East.

FIG. 68 (A-C): June model *(Author, 2016)*

FIG. 69: Diagram *(Author, 2016)*

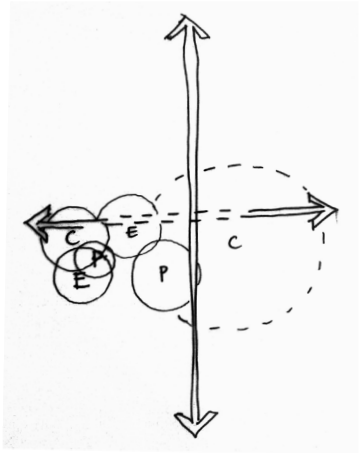
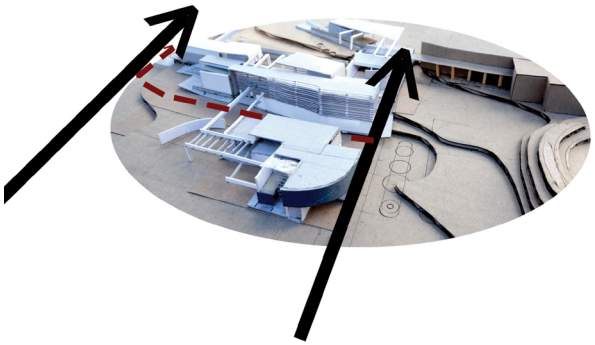


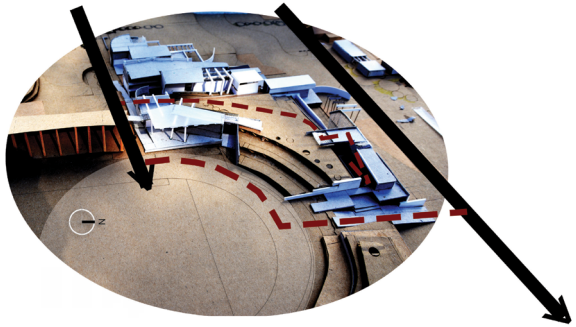
FIG. 69
RECONFIGURED ROUTES

DESIGN ITERATION 02



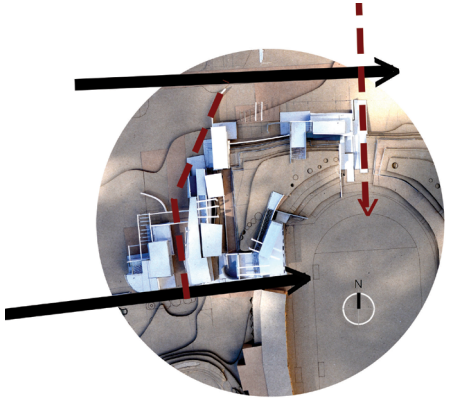
SITE EDGE

FIG. 68 A



SITE EDGE

FIG. 68 B



SITE EDGE

FIG. 68 C

© University of Pretoria

To maintain an integrity between connected and separate space, the Velodrome by Kengo Kuma and Dalseong Citizen's Gymnasium by Nomad Offices was studied as precedents. In both these precedents the sport facility is not seen as a closed system, but as an open system with the capacity to revitalise the area in which it stands. Both the precedents create an intermediate space before the entrance of the arena.

This intermediate space allows for many shared activities and serves as a public gathering place. Functions that support both the sporting events, such as changing rooms, ablutions and rehabilitation areas, and the general public, such as retail and exhibition space, was placed along this new arena, which also serves as a smaller event space itself when the athletes arrive. The public functions diffuse the wall borders, creating an open and inviting entrance.

FIG. 70 (A,B): Design development Precedent: Dalseong Citizen's Gymnasium *(Nomad Office Architects, 2014)*

FIG. 71: Design development Precedent: Velodrom Vigorelli *(Kengo Kuma and associates, 2013)*







DESIGN DEVELOPMENT

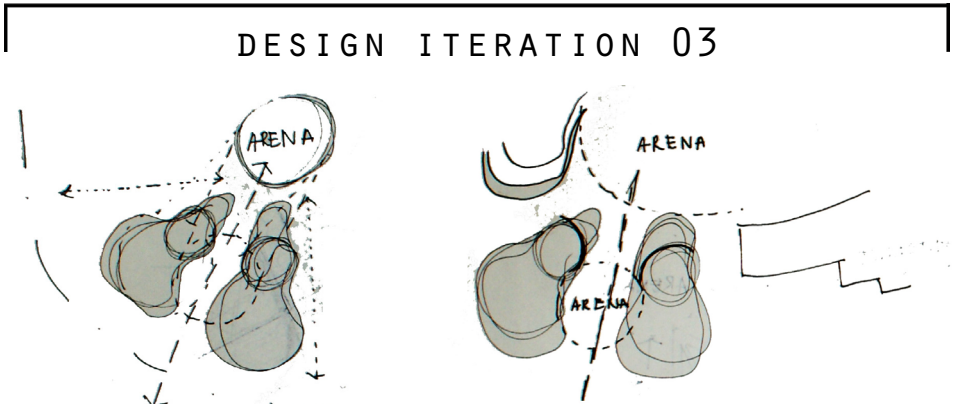


FIG. 72(A.B): Visual diary route development *(Author, 2016)*

MAKETTES; LARGE PUBLIC ENTRANCE DEVELOPMENT

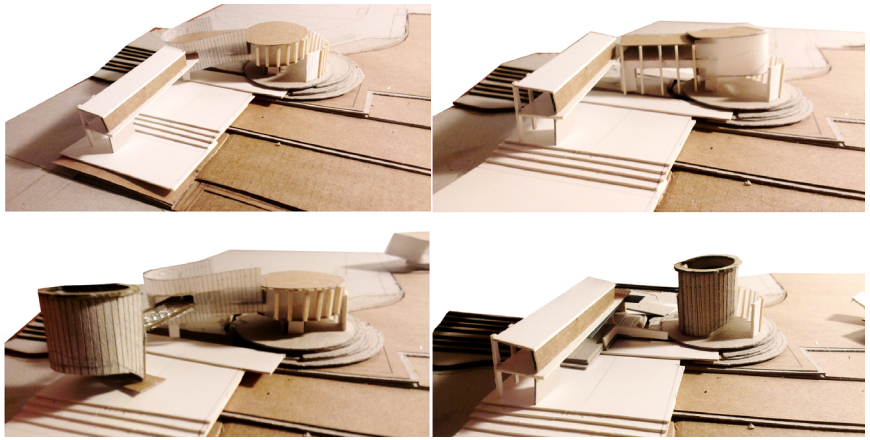
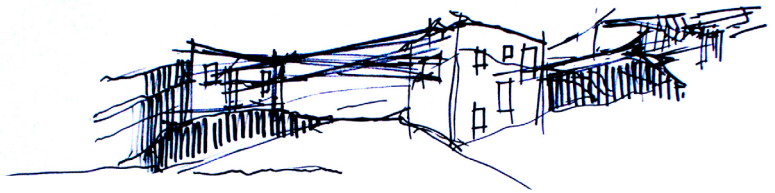
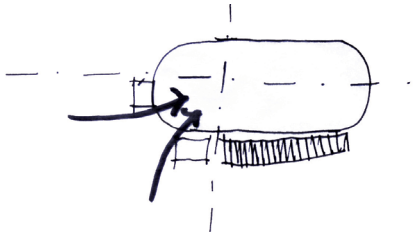


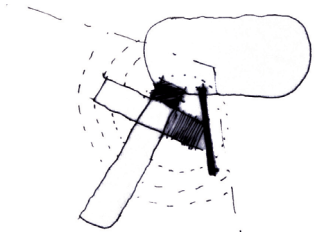
FIG. 73 (A-D): Makette development, June Submission Reworked *(Author, 2016)*

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LARGE PUBLIC ENTRANCE FLANKED BY TWO ANCHOR BUILDINGS







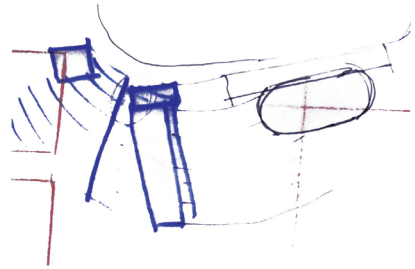


FIG. 74: Sketch, two anchor buildings with connecting bridge *(Author, 2016)*

FIG. 75 (A-D): Visual diary: building place ment *(Author, 2016)*

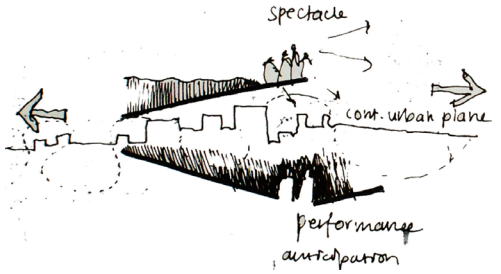


FIG. 76: Sketch, route development through experience of users *(Author, 2016)*

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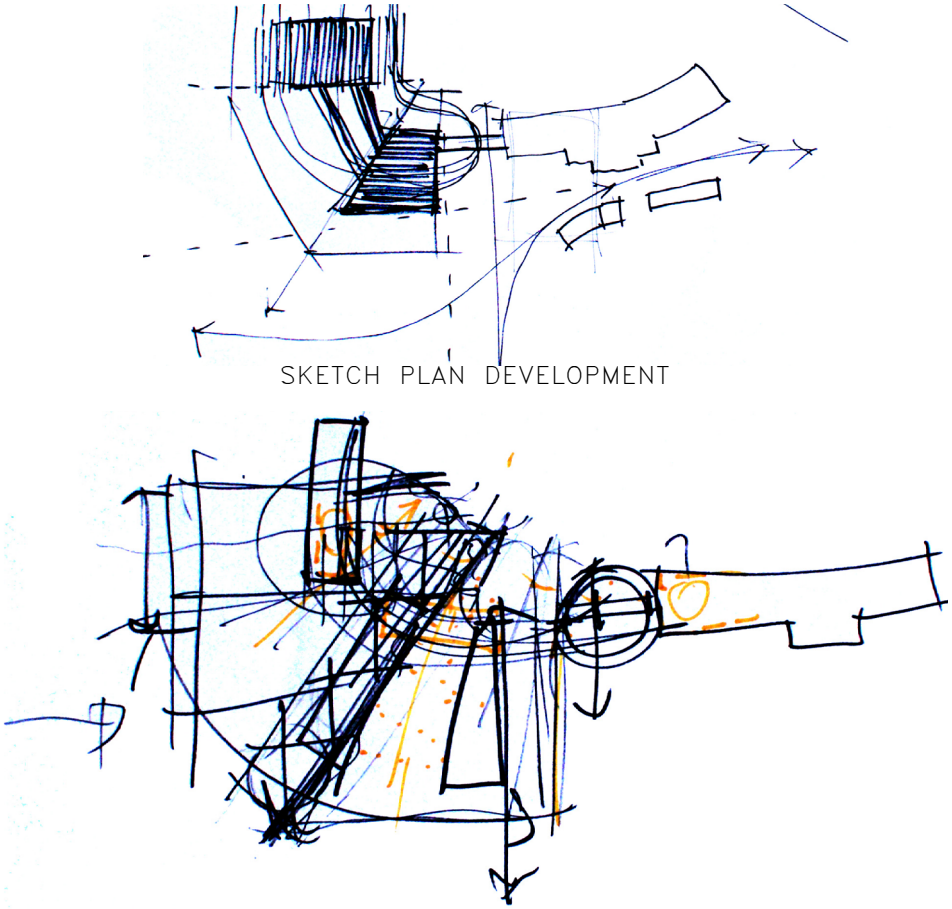


FIG. 78: Makette, June Model Reworked *(Author, 2016)*

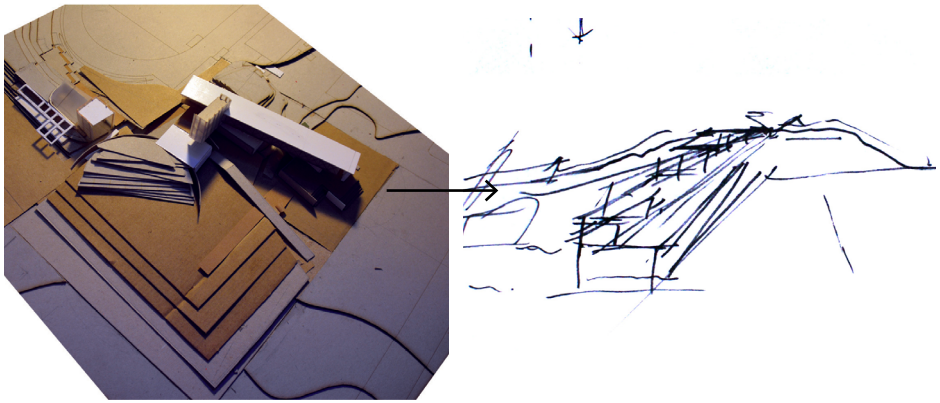
FIG. 79: Design development, June Submis sion Reworked*(Author, 2016)*

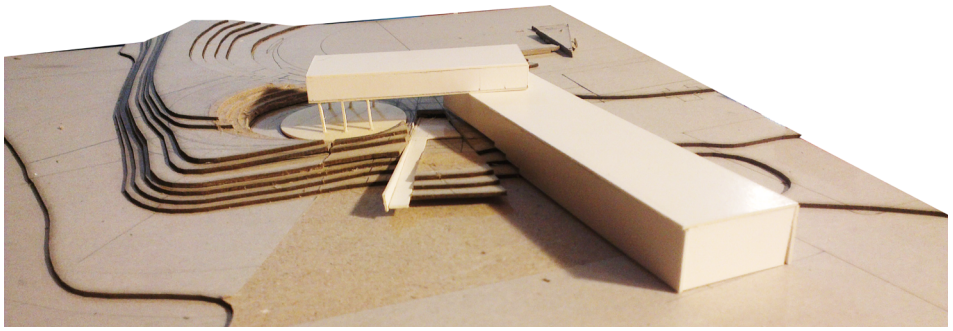
FIG. 80: Makettes, June Model Re-worked *(Author, 2016)*

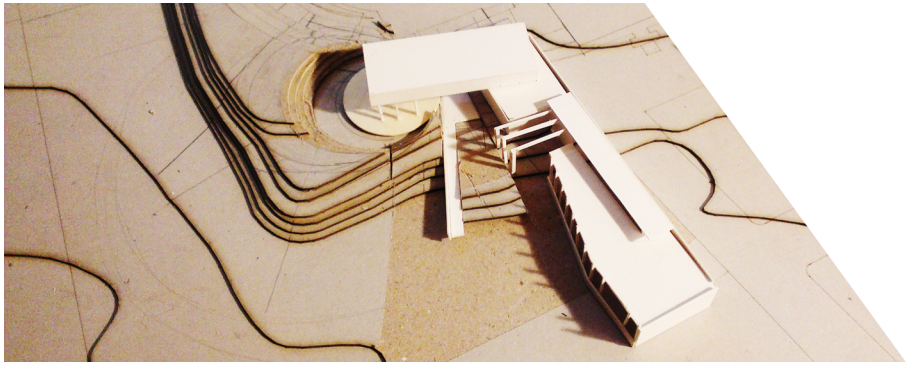
FIG. 81: Visual diary sketches *(Author, 2016)*

FIG. 82: Diagram development of plan, June Submission Reworked *(Author, 2016)*

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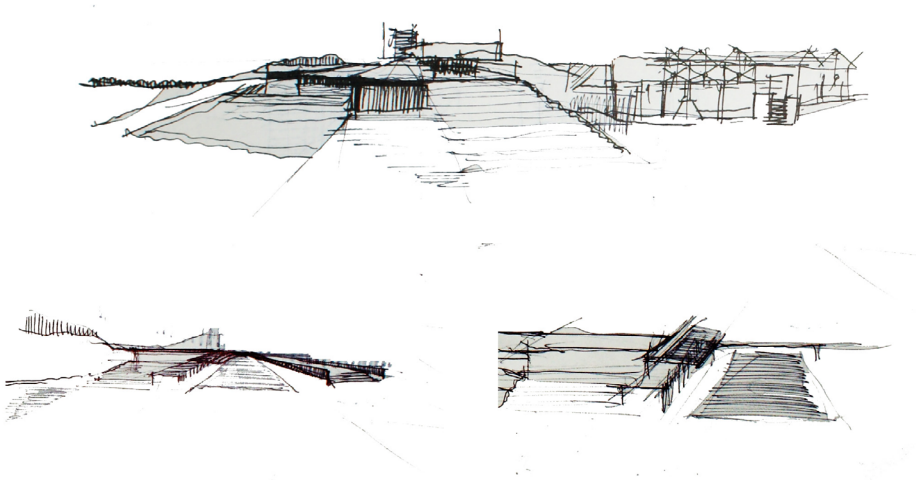


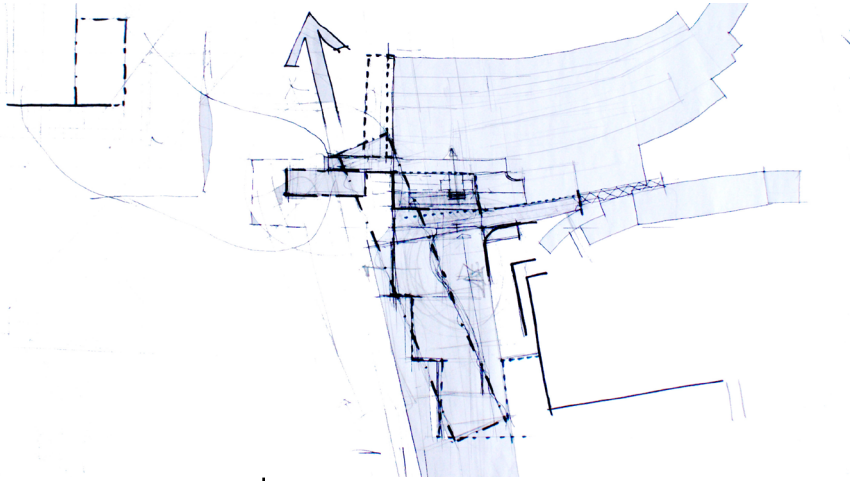




DESIGN ITERATION 04

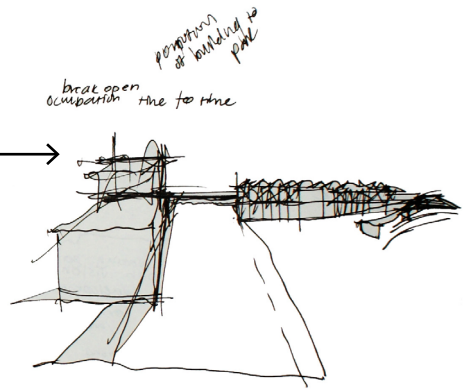
The development of a large public entrance led to the proposal for a public staircase that allows for public engagement with the athletics track. Spectators can view competitions from the raised staircase, but also use the public square created on the outside of the berm.

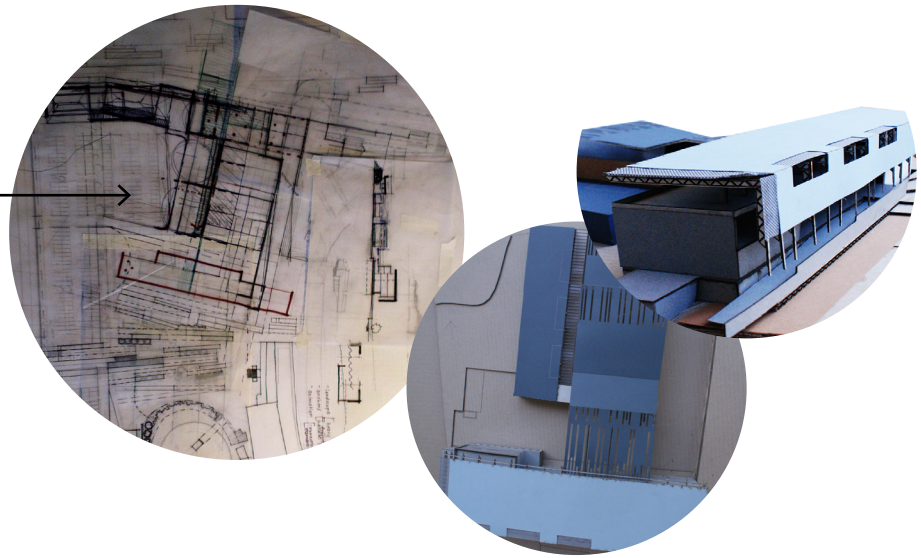




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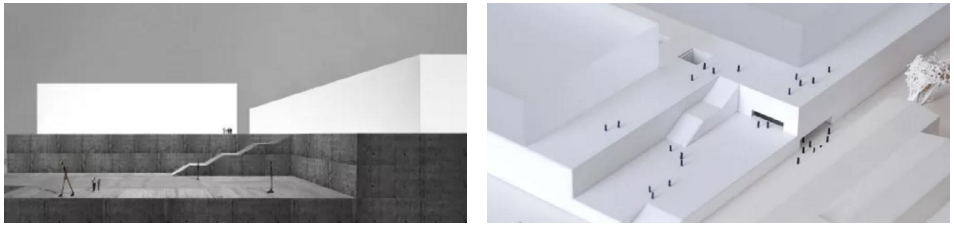


DESIGN DEVELOPMENT

DESIGN ITERATION 05



The fifth design iteration presents two distinguishable buildings: a design house and stitching house, extending from one another in a T shape. The architecture attempts to open up the experience of the site to the street and responds to the street edge. The T shape also provides large open outside rooms which responds to various connection points on precinct plan. The building is placed in relation to the stadium, as an extension of the stadium, but distinctly new. Both as a boundary to contain the space and threshold to announce the space, it is placed along the axis into the stadium. Investigating the idea of the route and ritual in various works of Alvaro Siza, the route is read as one continuous space but functions along the route create smaller parts of the journey.



In order to visibly communicate the hierarchy of space, the Zurich Stadium designed by Alberto Campo Baeza was taken into account, in which a raised urban plane creates a monolithic approach to the stadium, engaging with the street edge in an alternative way. This raised urban plane becomes and extension of both the street and the stadium and where both contexts meet. In this dissertation, the ground floor level of design house was raised to respond to the functions of athletes and spectators arriving at the stadium. The basement of the design house is used as storage for the production facility, which allows the ground floor level to create a seamless entrance on the same level as the stadium and athletics track. Retail spaces are provided on ground floor level. This creates a public space where previously it was an isolated entrance.

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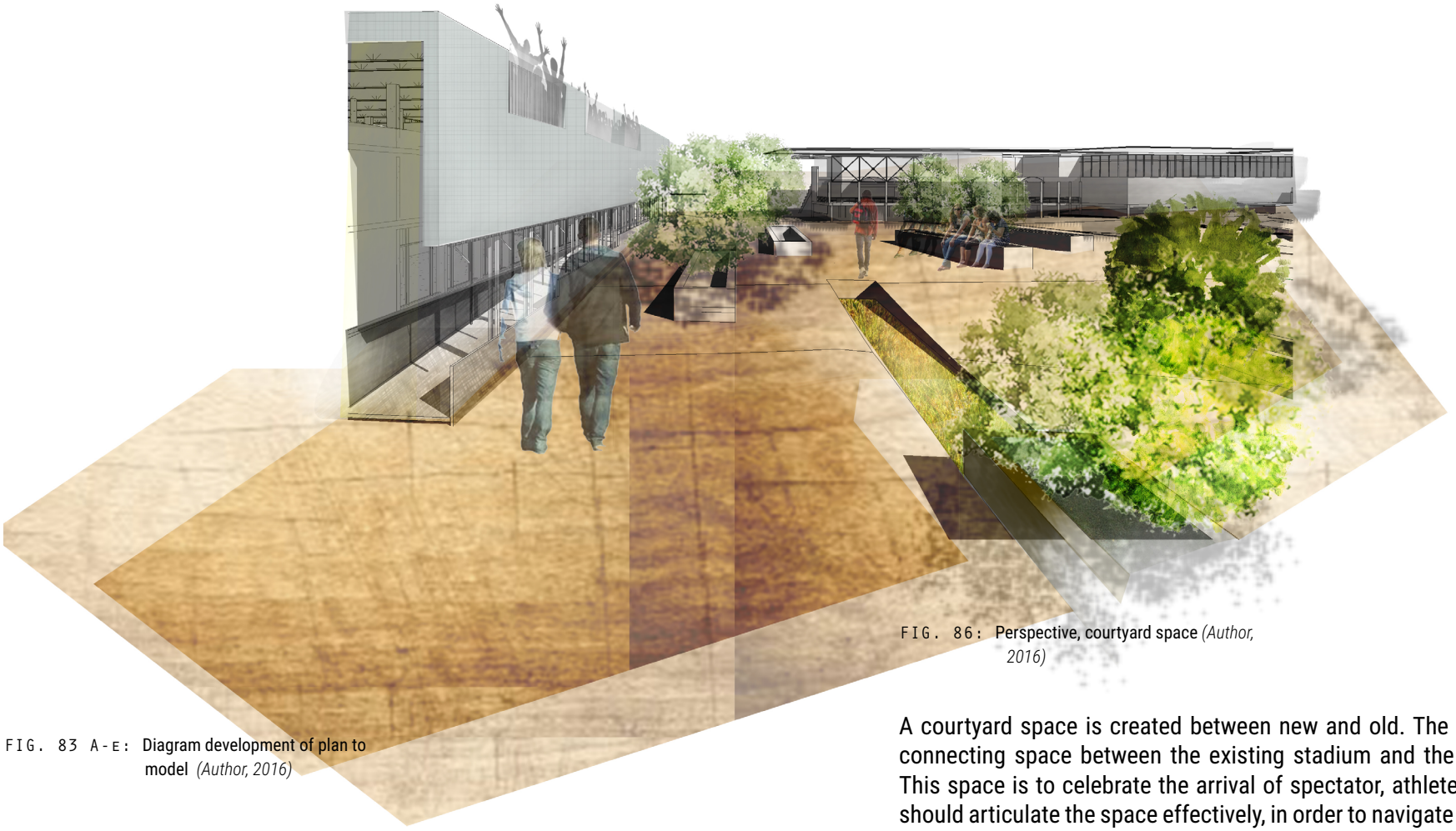


FIG. 83 A-E: Diagram development of plan to model *(Author, 2016)*

FIG. 84 A-D: Leça Swimming Pools, Portugal, Alvaro Siza, 1966 *(Sofia Balters, 2011)*

FIG. 85 A,B: Zurich Stadium, Switserland, Alberto Campo Baeza, 2012 *(Baeza, 2012)*

FIG. 86: Perspective, courtyard space *(Author, 2016)*

A courtyard space is created between new and old. The courtyard serves as the connecting space between the existing stadium and the new production house. This space is to celebrate the arrival of spectator, athlete and general public and should articulate the space effectively, in order to navigate the site easily. The inner courtyard is a paved hard surface courtyard, with planters of trees for seating and shade. The courtyard is designed to emanate an overspill of the event of the stadium. This also serves as a resting place or place of delight. Cyclists and pedestrian can easily weave through the open courtyard and a direct link into the stadium is created by breaking into, and retaining the berm.

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DESIGN ITERATION SUMMARY

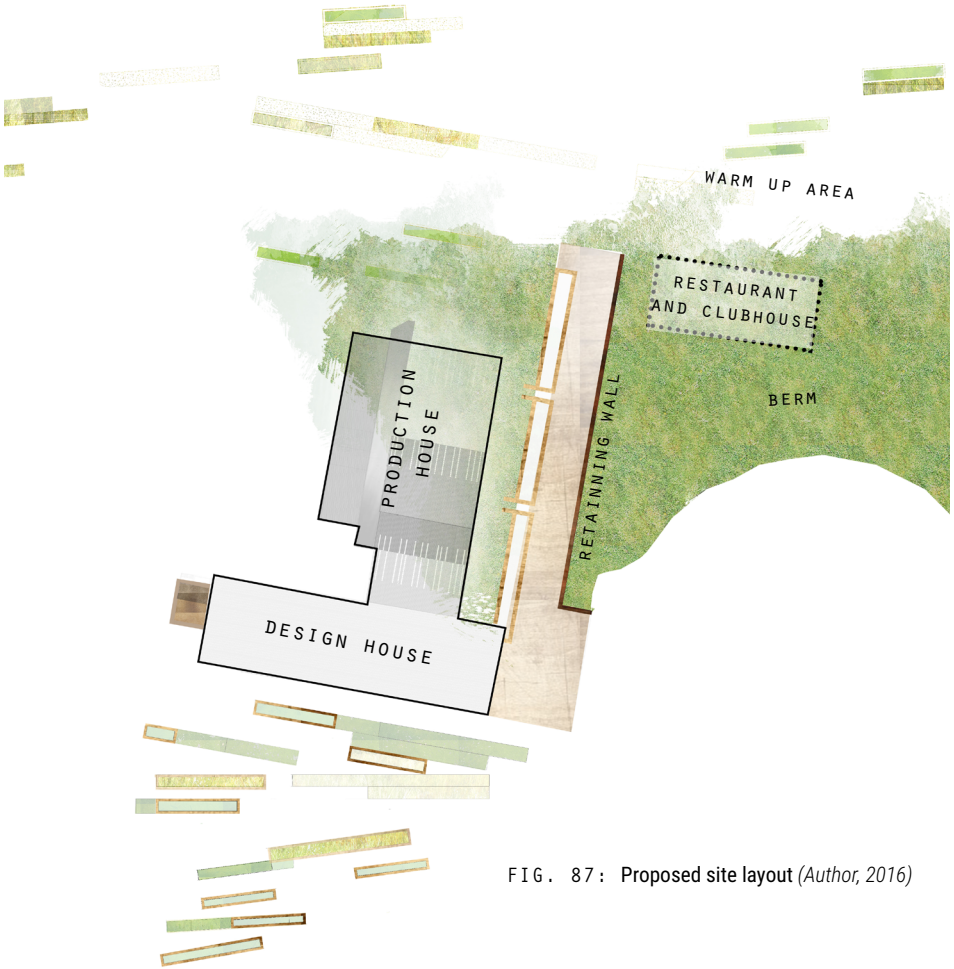
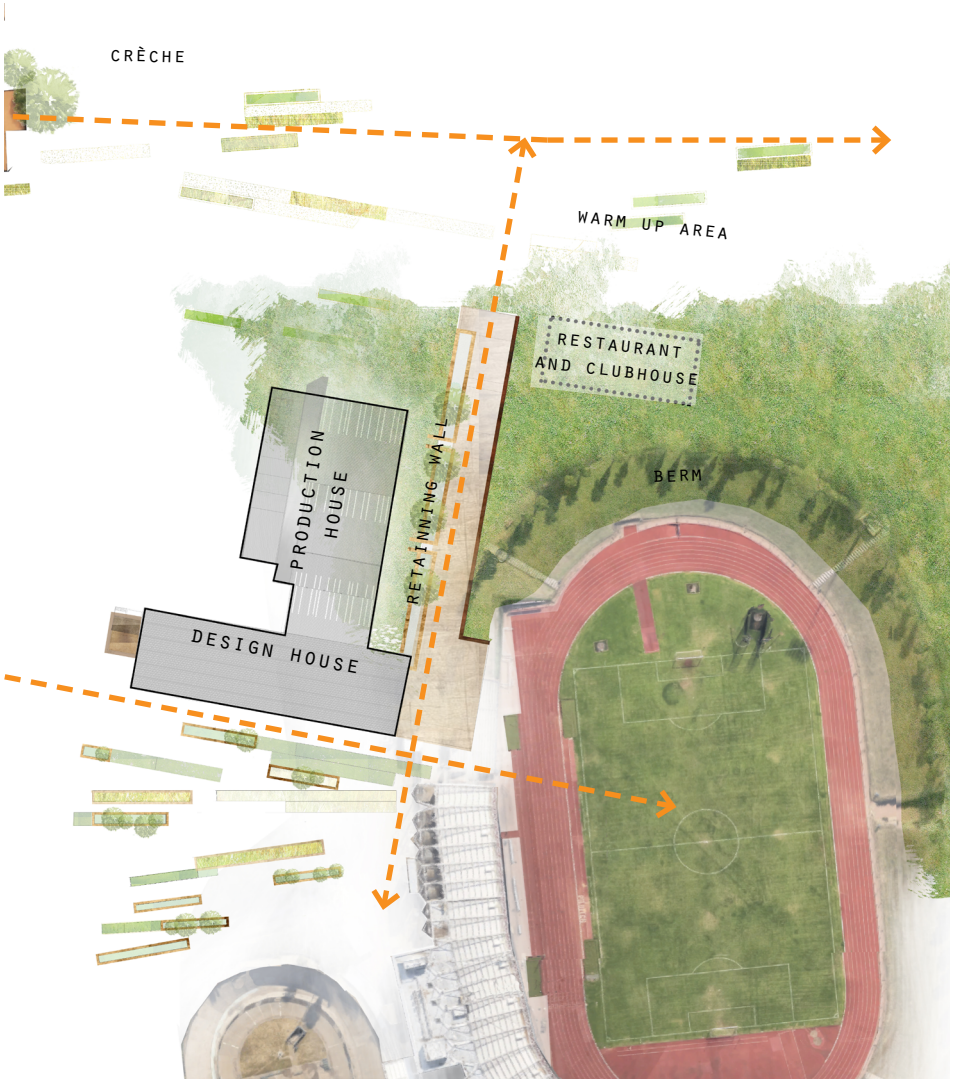


FIG. 87: Proposed site layout *(Author, 2016)*

FIG. 88: Connections *(Author, 2016)*



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FIG. 89: **Views** *(Author, 2016)*

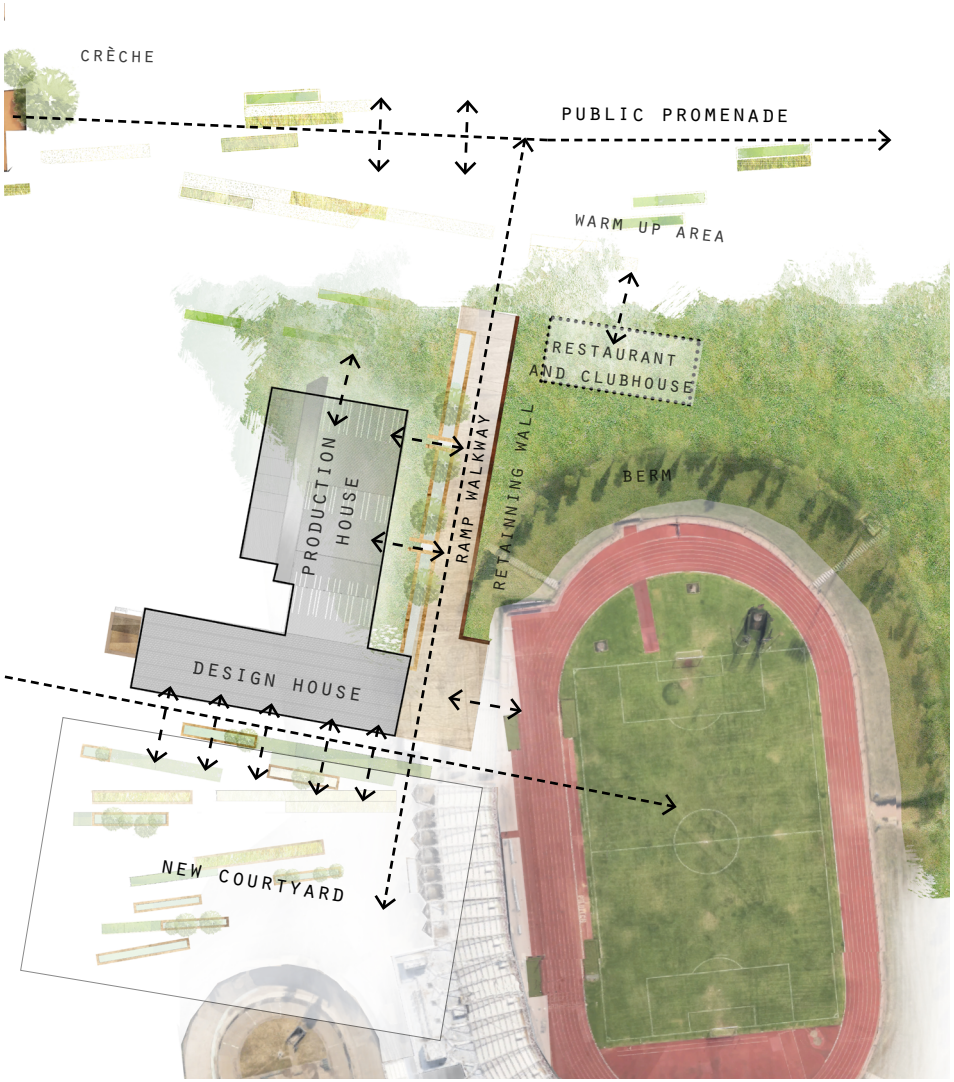
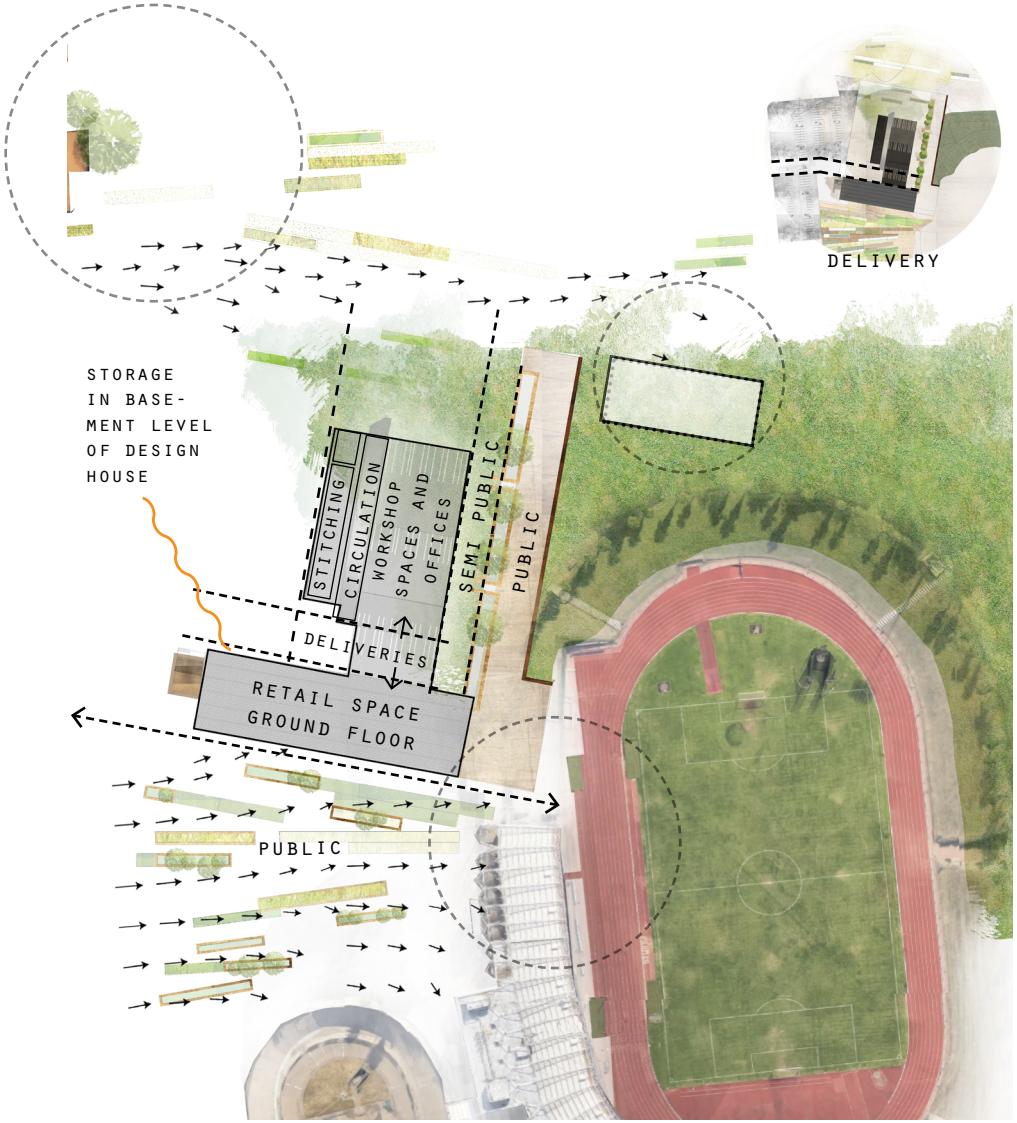


FIG. 89: **Arrival spaces** *(Author, 2016)*



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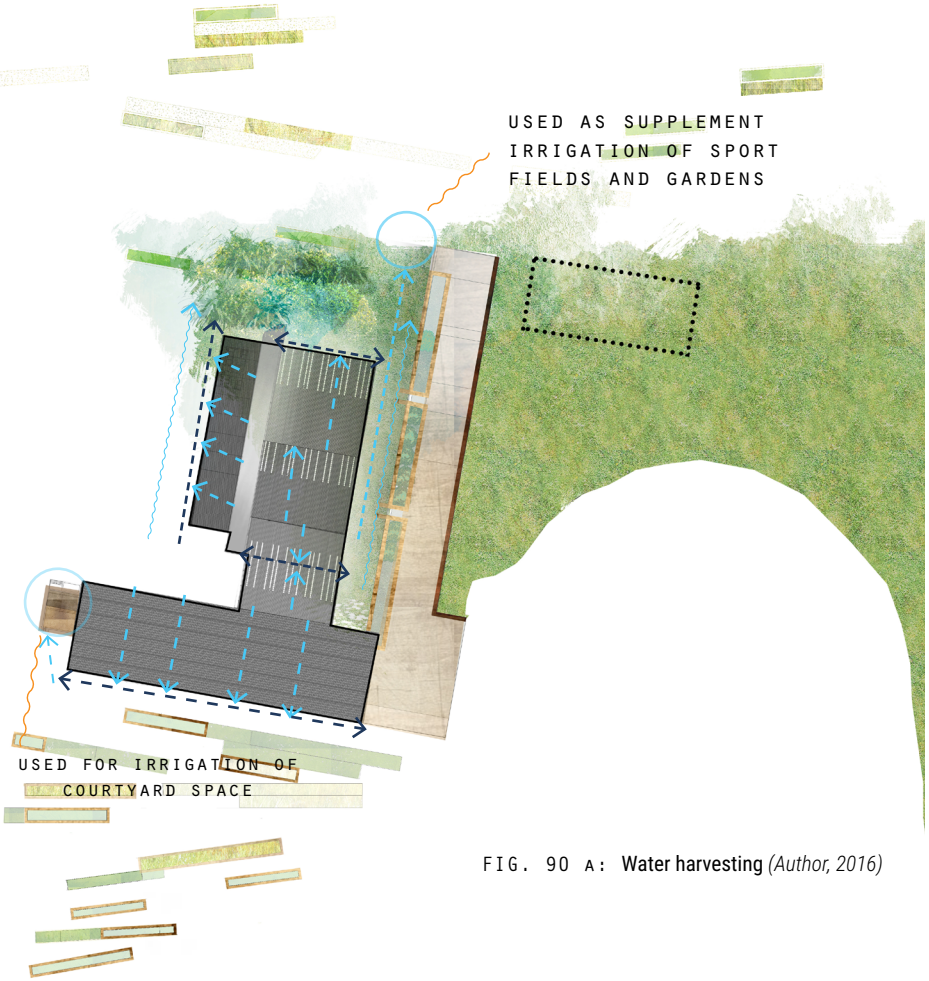


FIG. 90 A: Water harvesting *(Author, 2016)*

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FIG. 91: **Thermal mass** *(Author, 2016)*

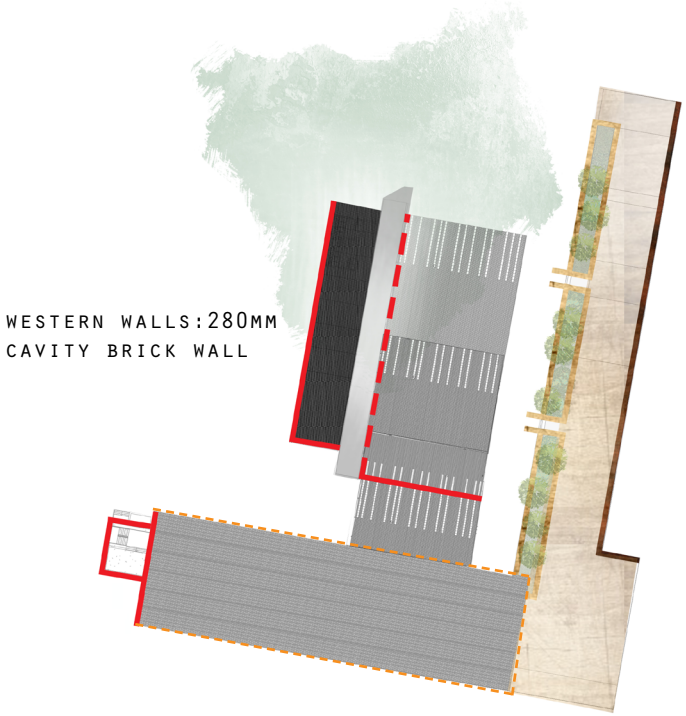
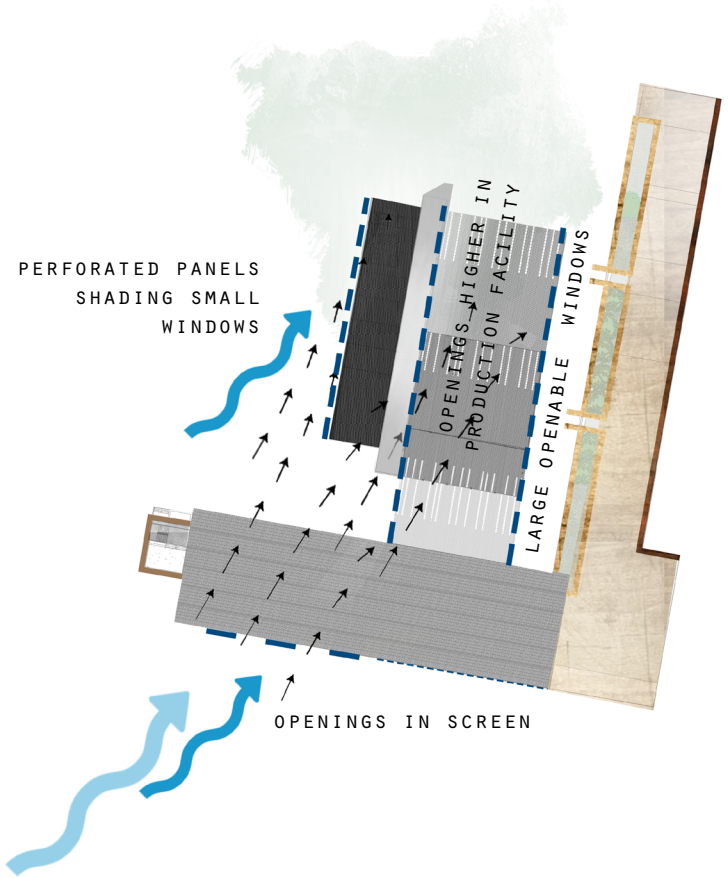


FIG. 92: **Ventilation** *(Author, 2016)*



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06

CHAPTER 06

TECHNICAL DEVELOPMENT

TECTONIC CONCEPT 106
MATERIALITY
Material library 108
Material approach 111
SKETCH ELVATIONS 112
DETAIL DEVELOPMENT 117
STRUCTURE 120
PLANNING 121

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TECTONIC CONCEPT

The tectonic concept is derived from an interpretation of the physical features of the surrounding elements and context. Built up by three layers, these layers are an interpretation of navigating and connecting (both) the site with the building, and the two buildings with one another.

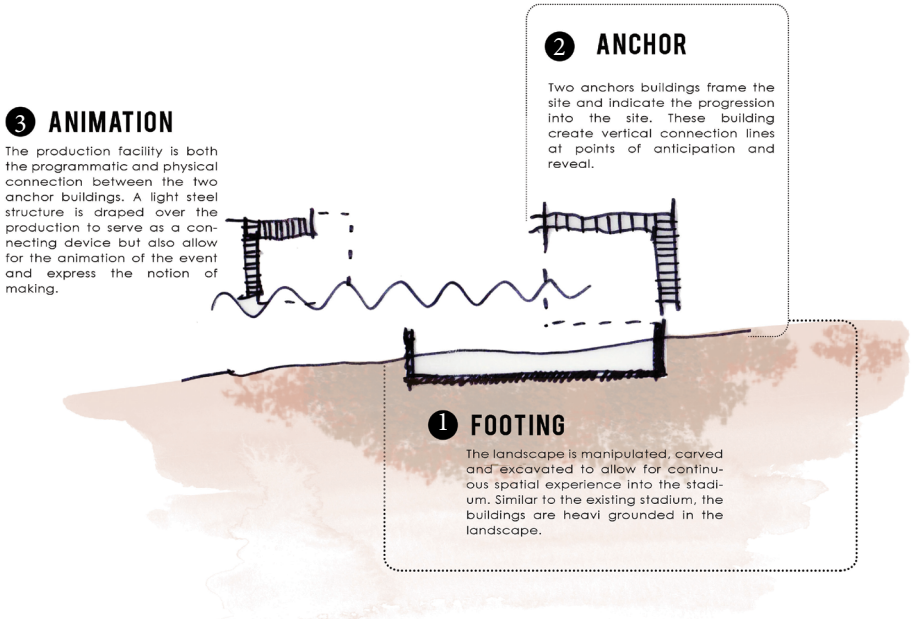


FIG. 93: Tectonic Concept *(Author, 2016)*

01

First, the landscape is manipulated, carved and excavated to allow for continuous spatial experience into the stadium. Similar to the existing stadium, the buildings are heavily grounded in the landscape with a concrete base. The concrete base allows for activities of the production, while creating a podium for the design house. This is also a programmatic decision, so that deliveries and storage can happen unobstructed at ground level. Where the ground level of the production facility retains the berm is at a slightly lower level than the entrance to the site. This allows the production facility to also have a distinct border from the general public entrance and movement into the stadium.

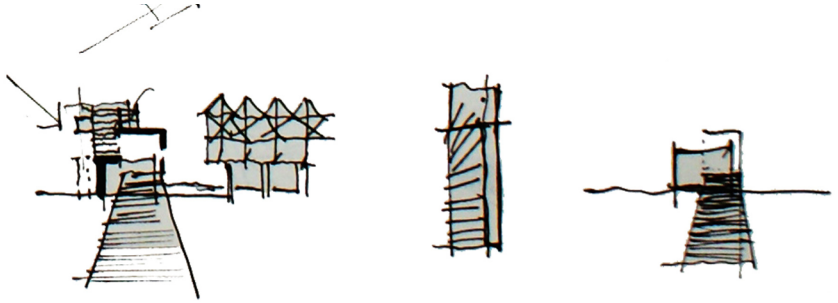


FIG. 94: Tectonic Development *(Author, 2016)*

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02

Second, two anchors buildings frame the site and indicate the progression into the site. These building create vertical connection lines at points of anticipation and reveal of the event. The concept of an urban balcony is incorporated in the design of the anchors buildings. Staff working in the design house will be able to view athletes arriving at the stadium through balconies and openings in the screen of the anchor building roof.

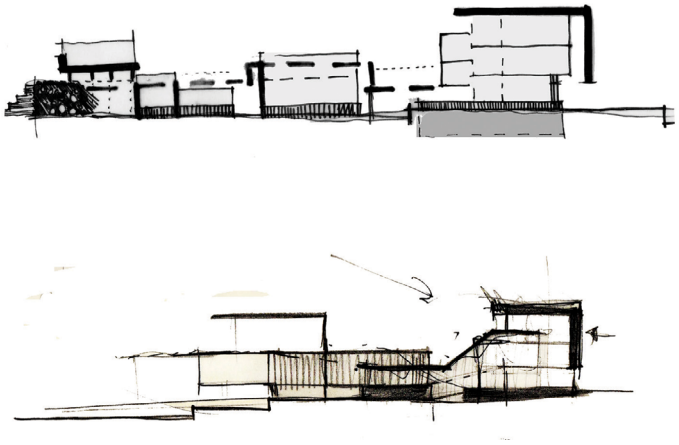


FIG. 95: Visual diary sketches *(Author, 2016)*

03

Thirdly, the production facility is both a programmatic and physical connection between the two anchor buildings. A light steel structure is draped over the production to serve as a connecting device but also allow for the animation of the event and express the notion of making. The animation roof covers the delivery area, to protect good during rain or harsh sun. The idea was to explore how the building can visually express the event and production through edge, texture and animation. The idea was to incorporate panels that can respond to different experience and use of space, and in terms of a climatic response. Precedent was drawn from the Mataboo Architects Offices to create various ambiences for work spaces.

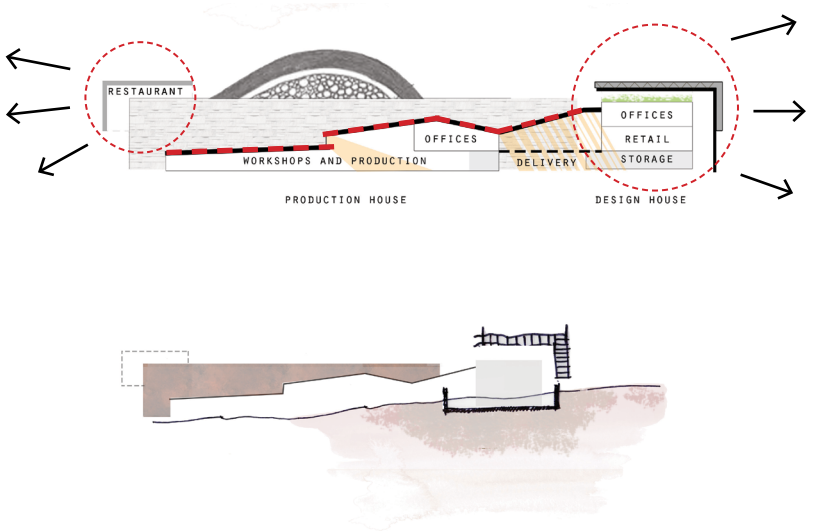


FIG. 96: Diagram development *(Author, 2016)*

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MATERIAL LIBRARY

In order to create contextually appropriate design, the design needs to respond to existing building materials on site. The architectural language is derived from the existing stadium and surrounding industrial context. The natural landscape of the berm, the stadium and the industrial context surrounding the stadium build up the elements of the proposed architectural language. The existing stadium consists of a heavy concrete base with intricate heavy steel roof. Found in the industrial contexting surrounding Pilditch stadium, warehouse construction define the materiality of the area: steel, corrugated sheeting, brick and plaster is widely used. The design should create a new identity to the site for the new community users, that is still respectful of the current identity of the stadium. The new proposed buildings should also express concepts in the production process and layer various patterns, sheets and panels to express the existing industrial grain.



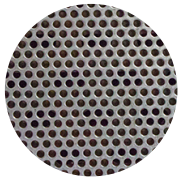
GLAZING



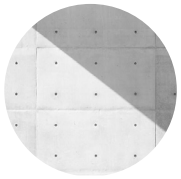
NEWLOK SHEETING



MASONRY



STEEL



CONCRETE



STEEL

NEW PROPOSED



CONTEXT



RESIDENTIAL CONTEXT



RUTO MILLS



VIEW FROM WARM UP



CONTEXT



BRIDGE

CONTEXT

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FIG. 97: Material library *(Author, 2016)*

FIG. 98: Existing materials *(Author, 2016)*



CONTEXT



SHOWGROUNDS



RETAINNING WALLS



STADIUM ROOF



STADIUM VIEW



SOUTTER STREET



CONTEXT BUILDINGS



SHOWGROUNDS

SHOWGROUNDS



ENTRANCE TO SHOWGROUNDS



TICKET OFFICES

EVENT



STADIUM FROM BERM

STADIUM

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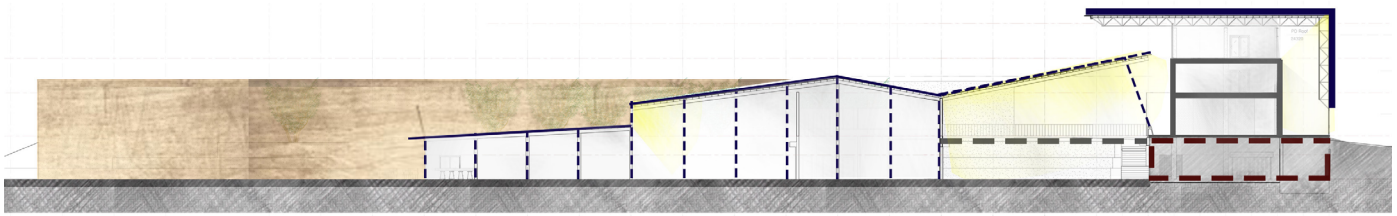


FIG. 99: Diagram of materiality *(Author, 2016)*

Concrete floor slabs and rectangular columns create the primary structure with brick infill and the steel frame roof (as a clip on) secondary structure.

The roof is developed from a steel structure of steel angle trusses placed on a grid of 4800 mm intervals. These steel trusses reference the existing intricate and visual steel roof of the stadium. The triangulation of the steel trusses (exposed in the walkway) display elements of the making process and ties the design building with the industrial nature of the production house.

The Safintra NEWLOK roofing system with secret fix profiles was chosen as the roof and side cladding material of the design. The secret fix allows for unrestrained thermal expansion or contraction (Safintra, 2016). The clips are installed under the sheet and holds the sheet down. This application prohibits the sheet from being punctured with fasteners. This roofing system is ideal for long spans, industrial use and very low pitch roofs (*ibid*). The cover width of the sheet is 445mm with two stiffening ribs of 50.8mm in the pan. Custom lengths can be rolled on site with the aid of a mobile rolling mill. Clamps can be attached to the ribs without puncturing the roof sheet. These clamps can attach solar panels, mechanical equipment and other lightweight attachments to the roof. The direct attachment with clamps remove the need for railings (*ibid*).

To allow for natural daylight and building envelope transparency, a combination of laminated clear safety glass and polycarbonate sheeting is used. The polycarbonate sheeting is mostly used in larger open spaces such as the production house and roof applications. The laminated safety glass is used for the office, retail and workshop spaces in the design house.

01 DESIGN HOUSE

The design house responds to the design of the stadium. Concrete is used as the primary material and steel as the mediating and expressive material. The mediating material serves as connection device between different materials at ground, floor or roof connections.

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MATERIAL APPROACH

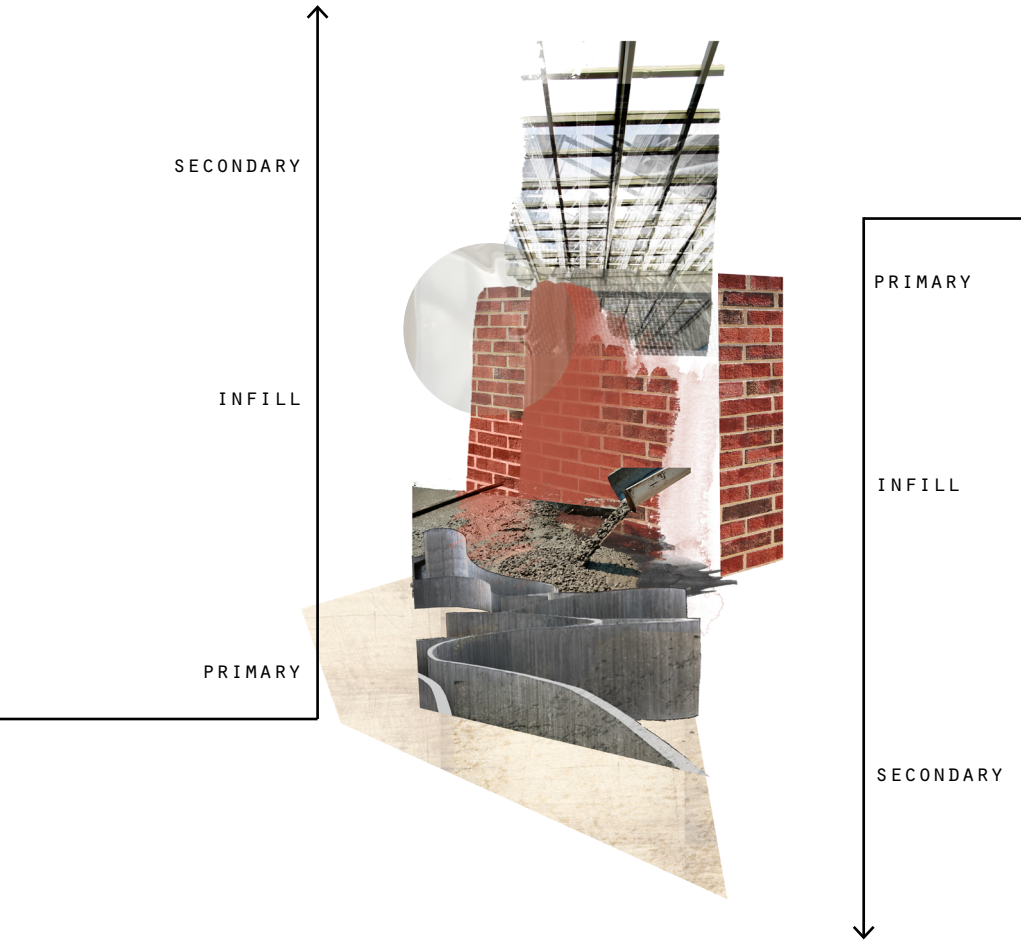


FIG. 100: Material approach *(Author, 2016)*

02

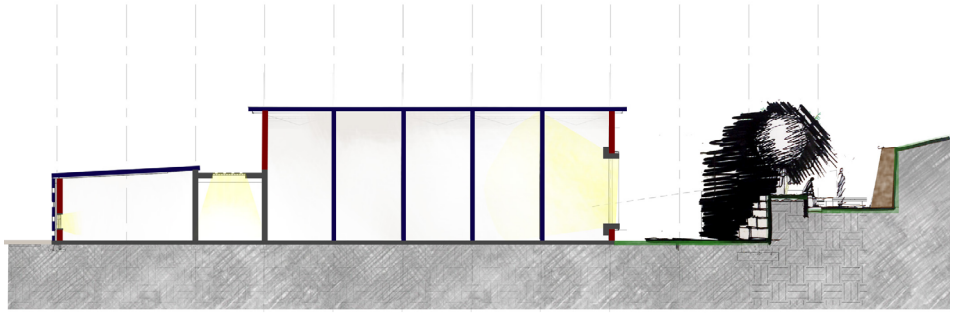
PRODUCTION HOUSE

With the production facility, steel is used as the primary structure and concrete as the mediating material. Here, a steel portal frame is the primary structure with brick infill and concrete secondary structure.

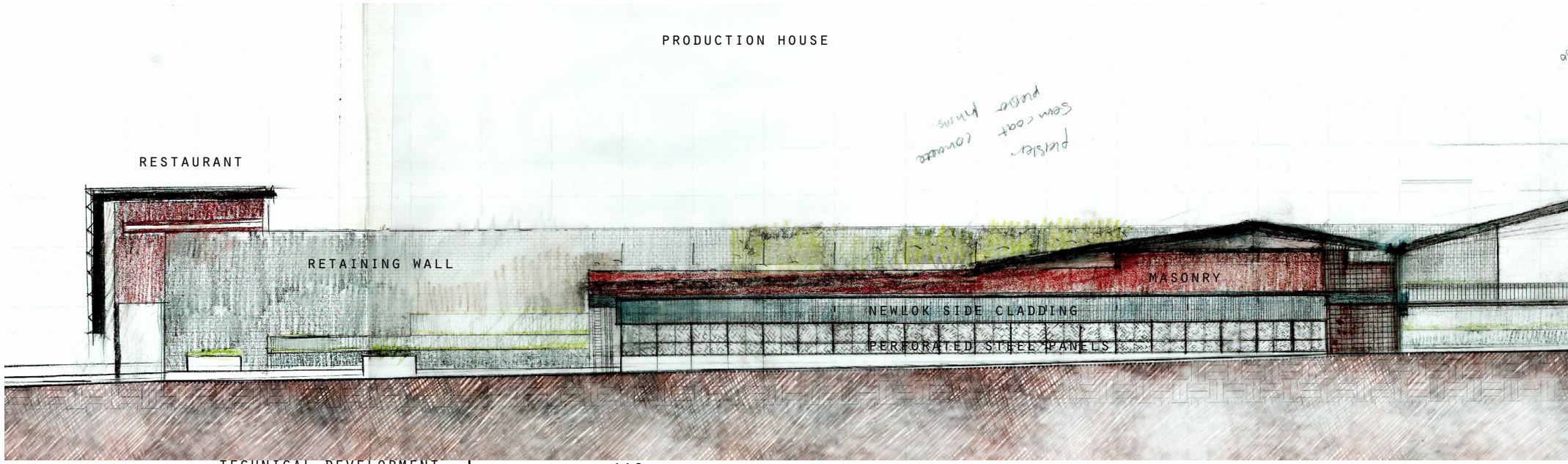
The contemporary (and alternative) roof silhouette of the production facility serves to mediate between the stadium roof design and typical warehouse construction found in the area. The animation of the roof attempts to place the building in both the current context of industrial buildings, while maintaining its identity as a place of event within the stadium precinct.

230mm Masonry brick walls are used as infill between steel and concrete columns. A 280mm cavity wall provides thermal mass on the western elevation of the building. The interior leaf of the masonry walls are made of stock brick, plastered and painted. The exterior leaf is made of exposed facebrick.

FIG. 101: Daigram of materiality *(Author, 2016)*



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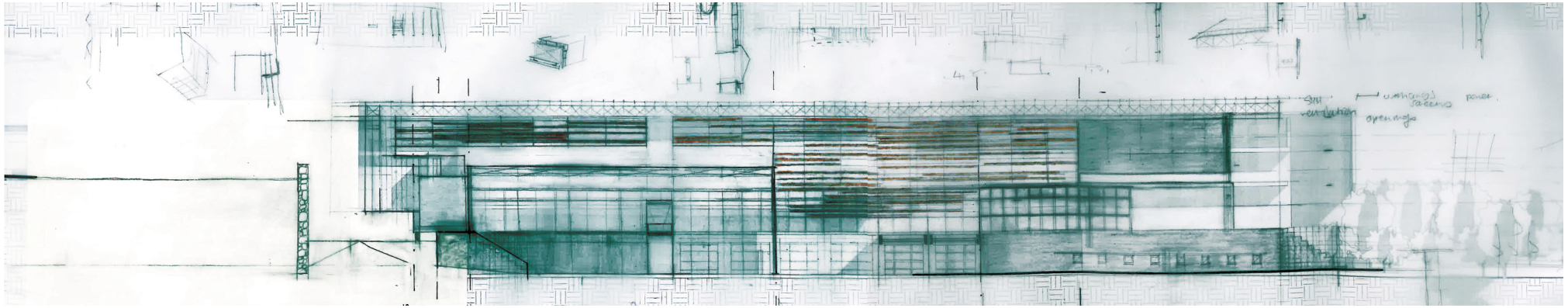


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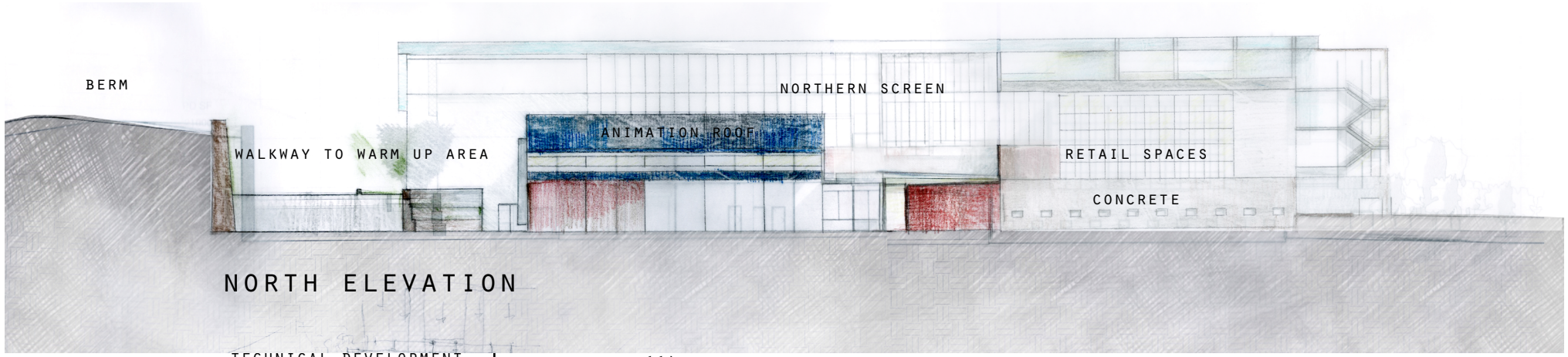
FIG. 102: Sketch elevation *(Author, 2016)*



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PROCESS



NORTH ELEVATION

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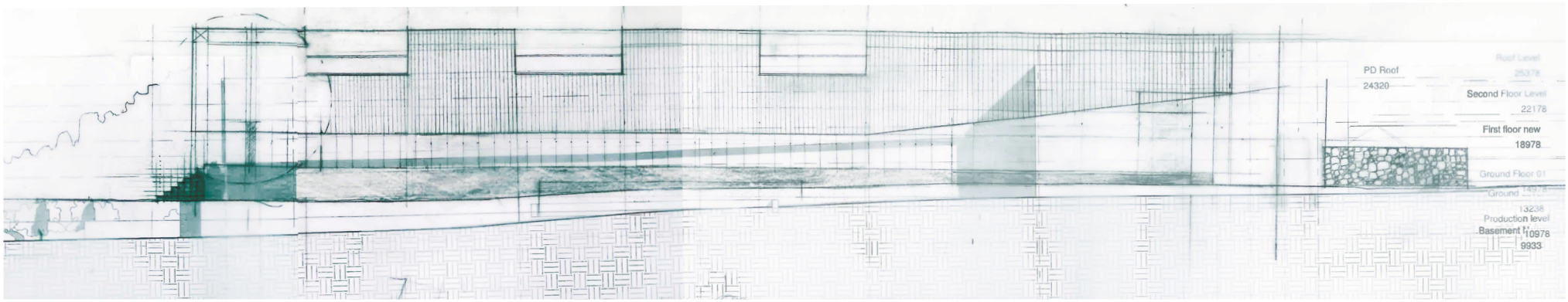
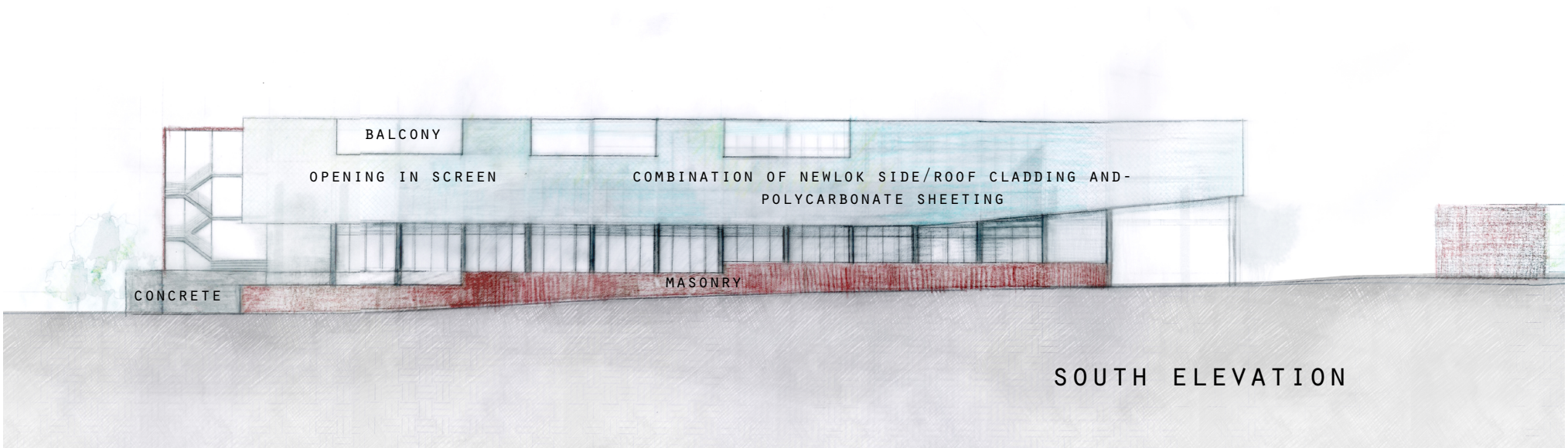


FIG. 103 A-D: Sketch elevations *(Author, 2016)*



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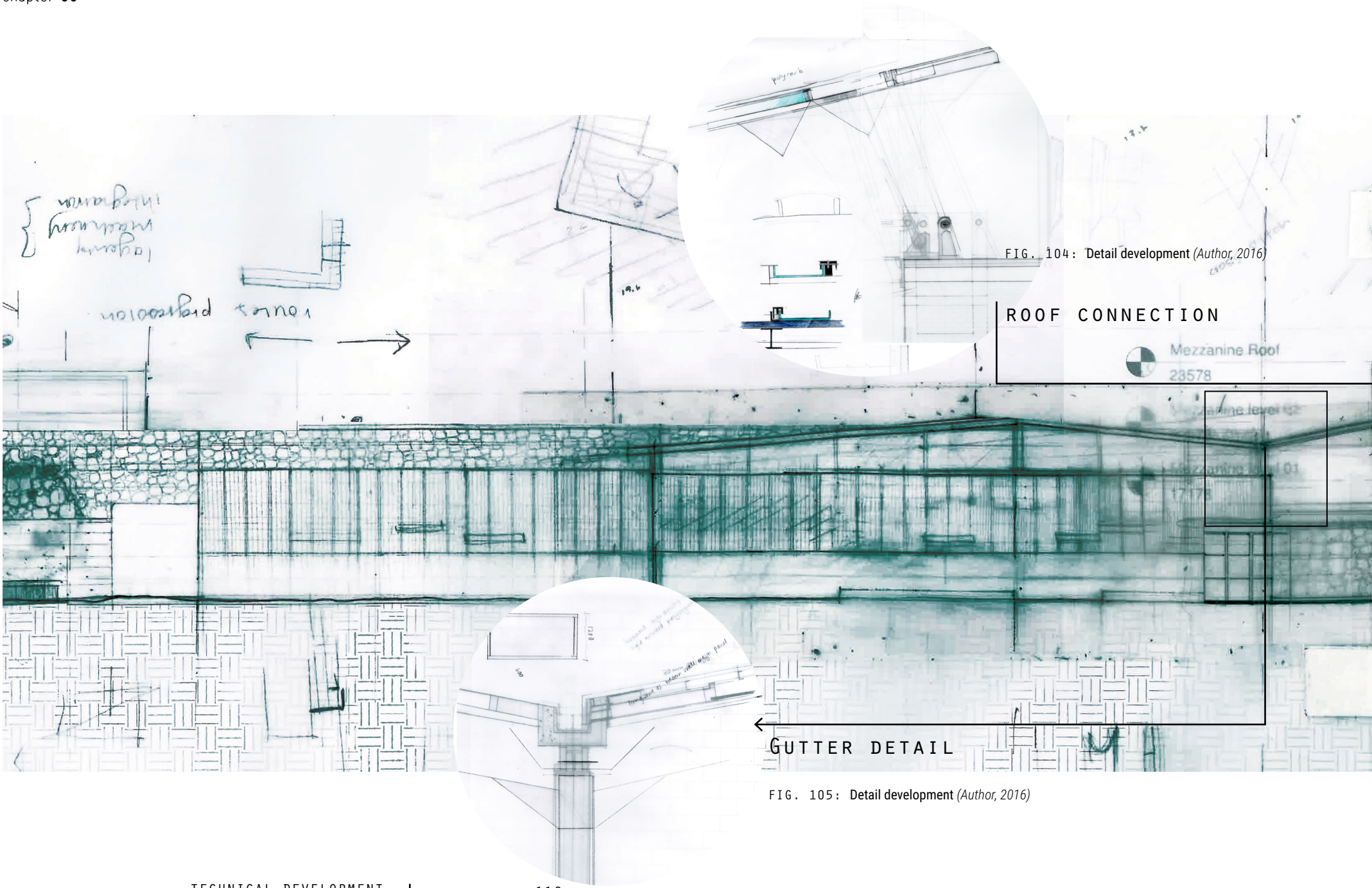


FIG. 104: **Detail development** *(Author, 2016)*

FIG. 105: **Detail development** *(Author, 2016)*

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DETAIL DEVELOPMENT

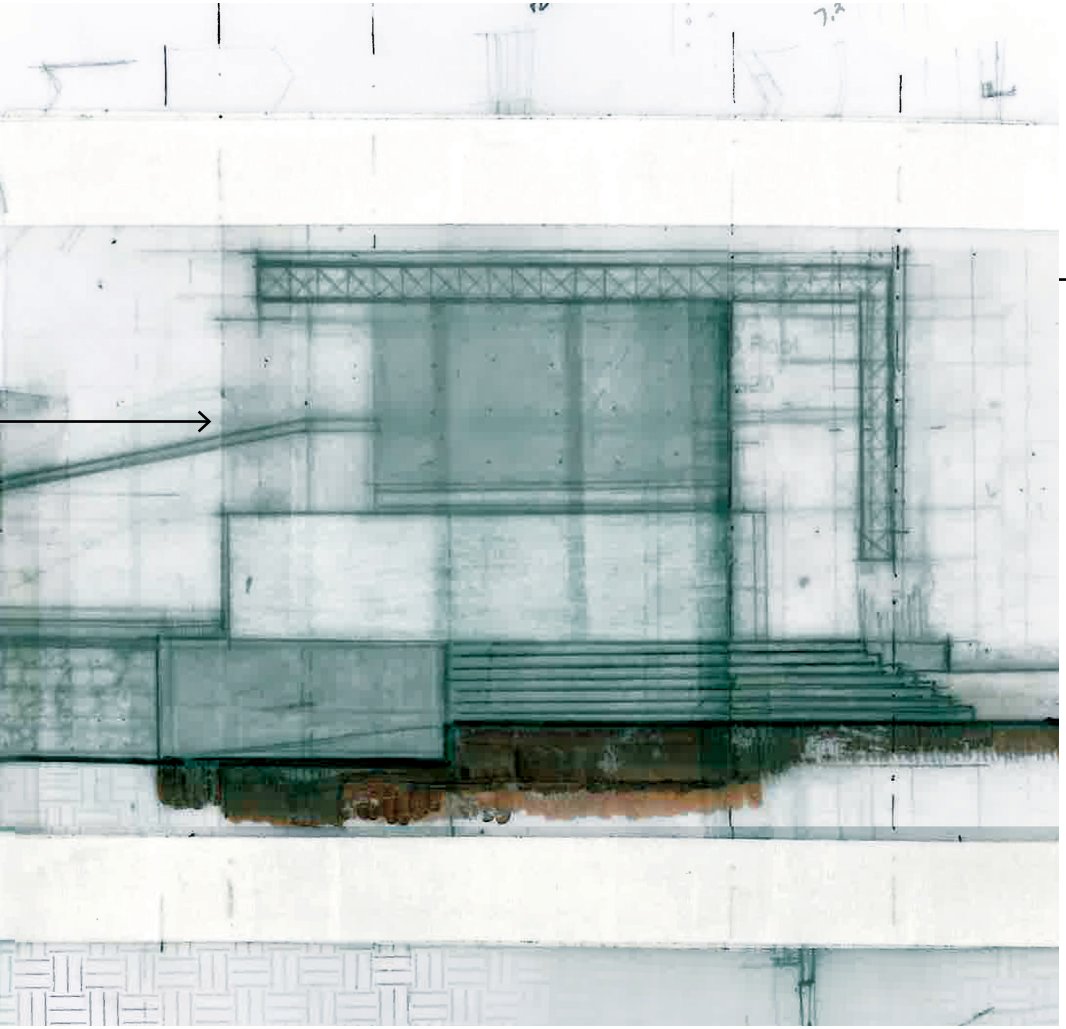
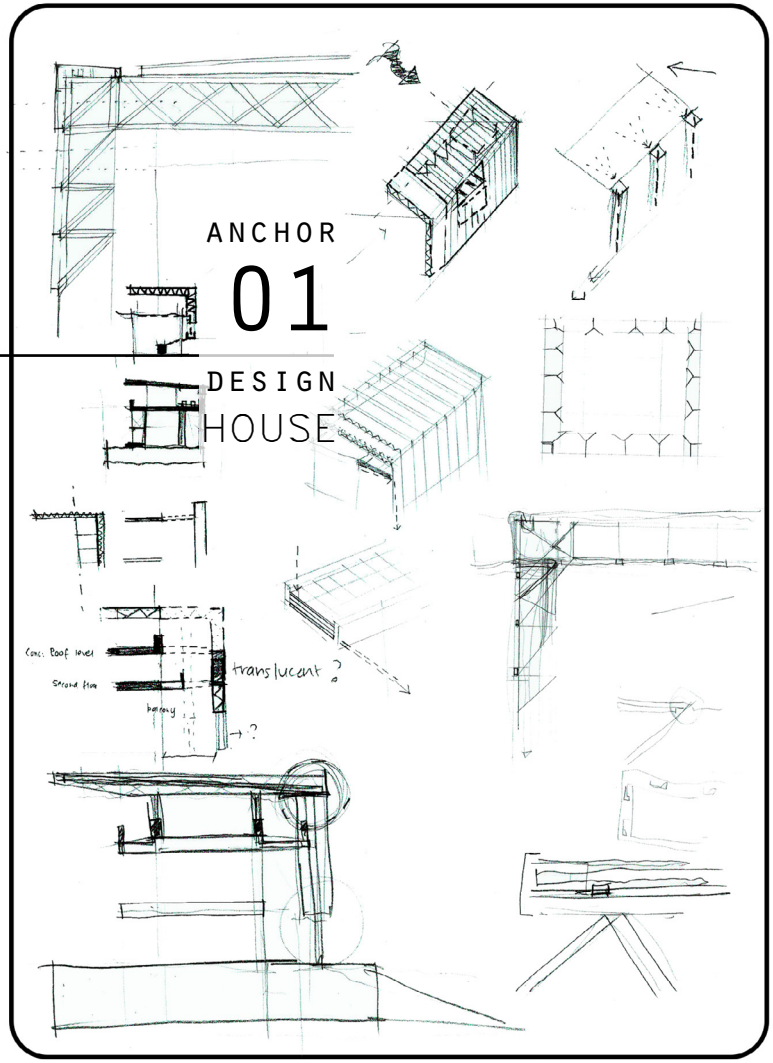


FIG. 106: Process elevation *(Author, 2016)*

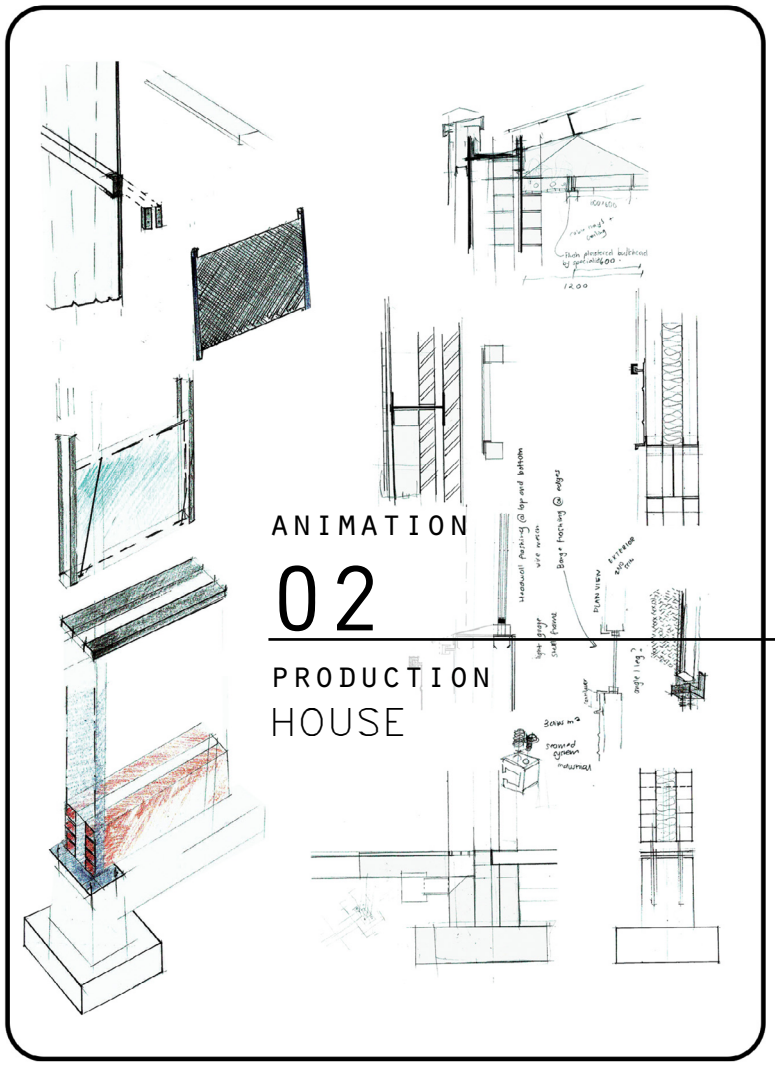


ROOF DETAIL

FIG. 107: Technification process *(Author, 2016)*

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WESTERN WALL DETAIL

FIG. 108 A: Technification process *(Author, 2016)*

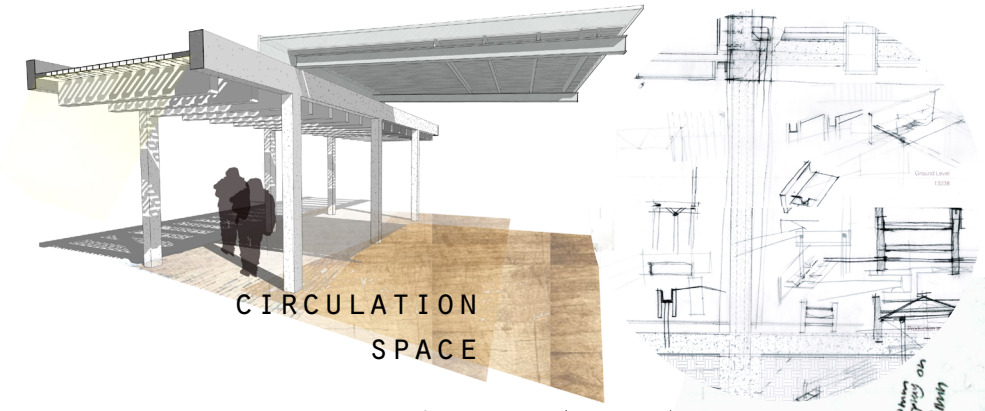
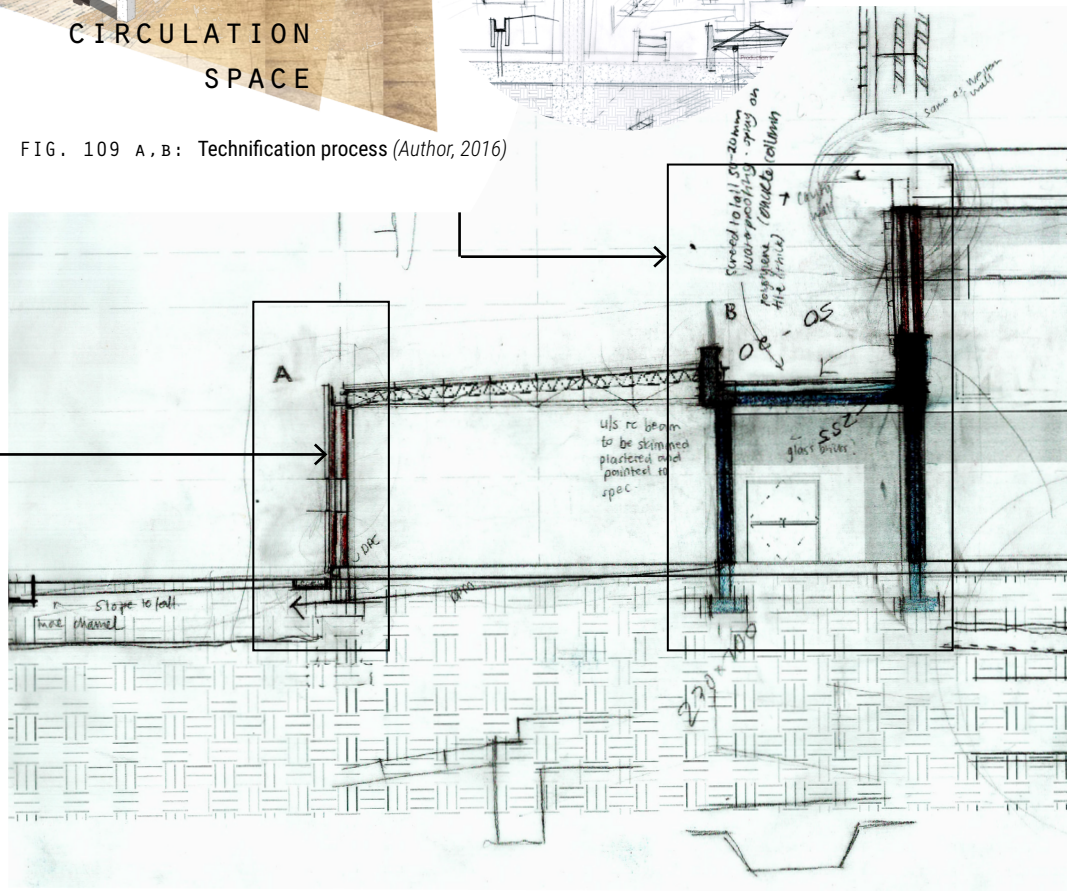
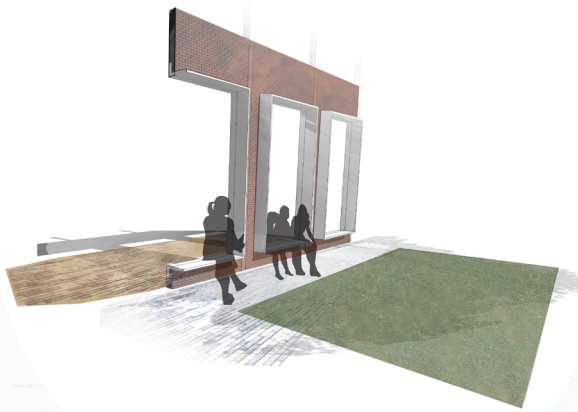
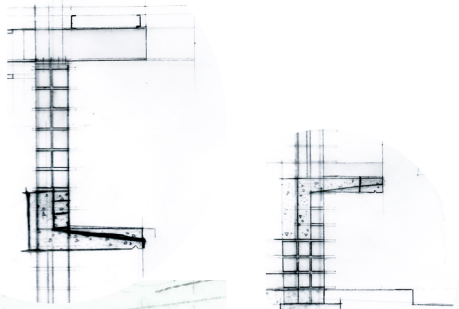


FIG. 109 A,B: Technification process *(Author, 2016)*



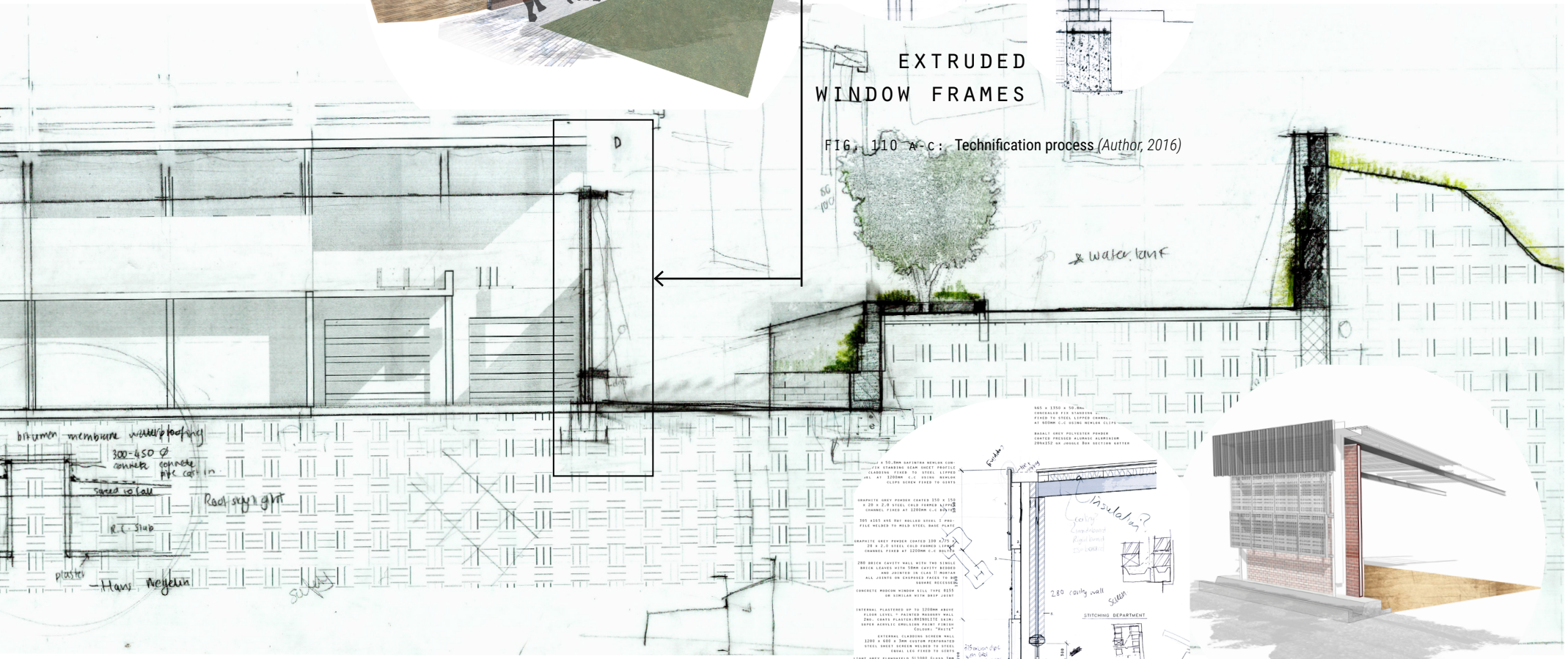
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EXTRUDED
WINDOW FRAMES

FIG. 110 A-C: Technification process *(Author, 2016)*



WESTERN WALL

FIG. 111 A,B: Technification process *(Author, 2016)*

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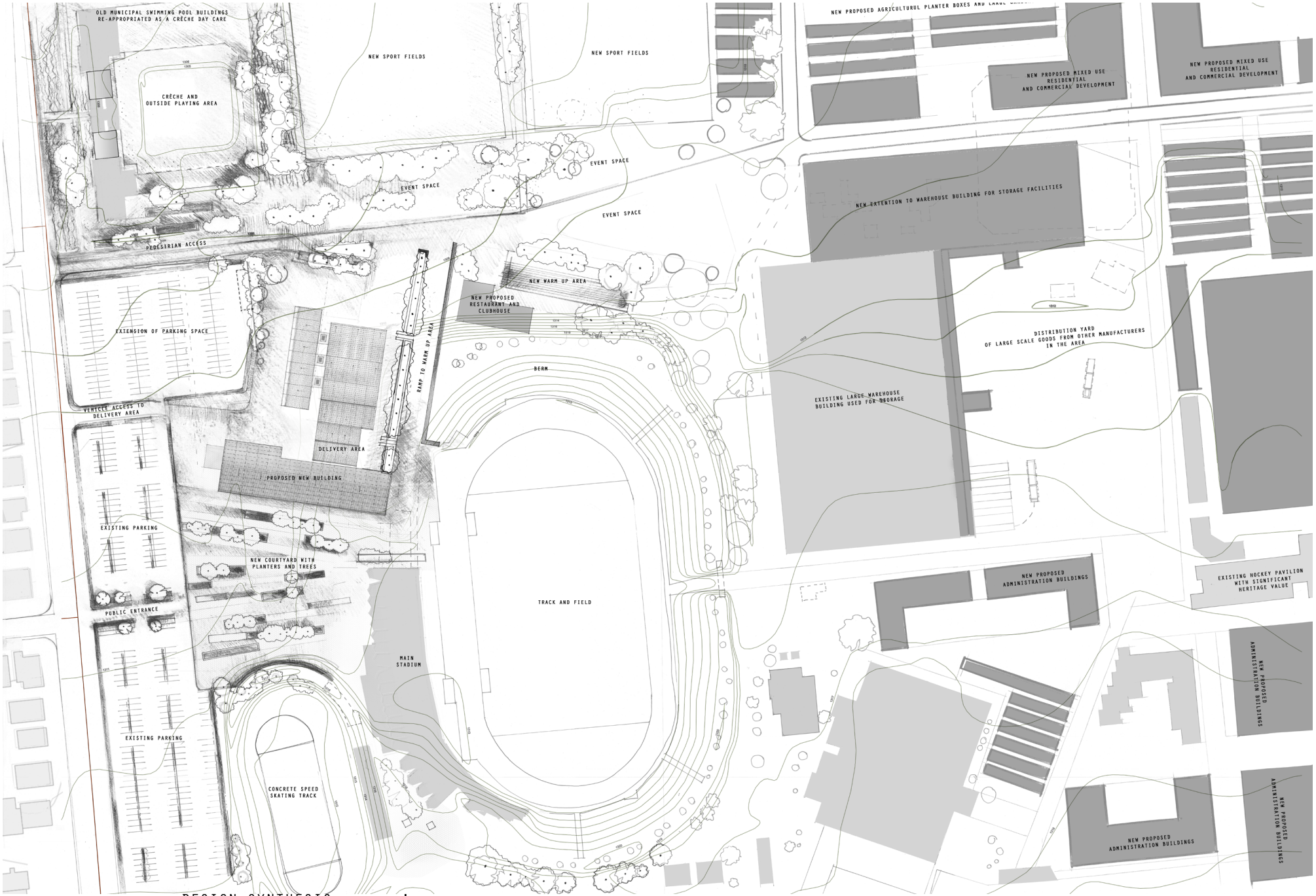
07

CHAPTER 07

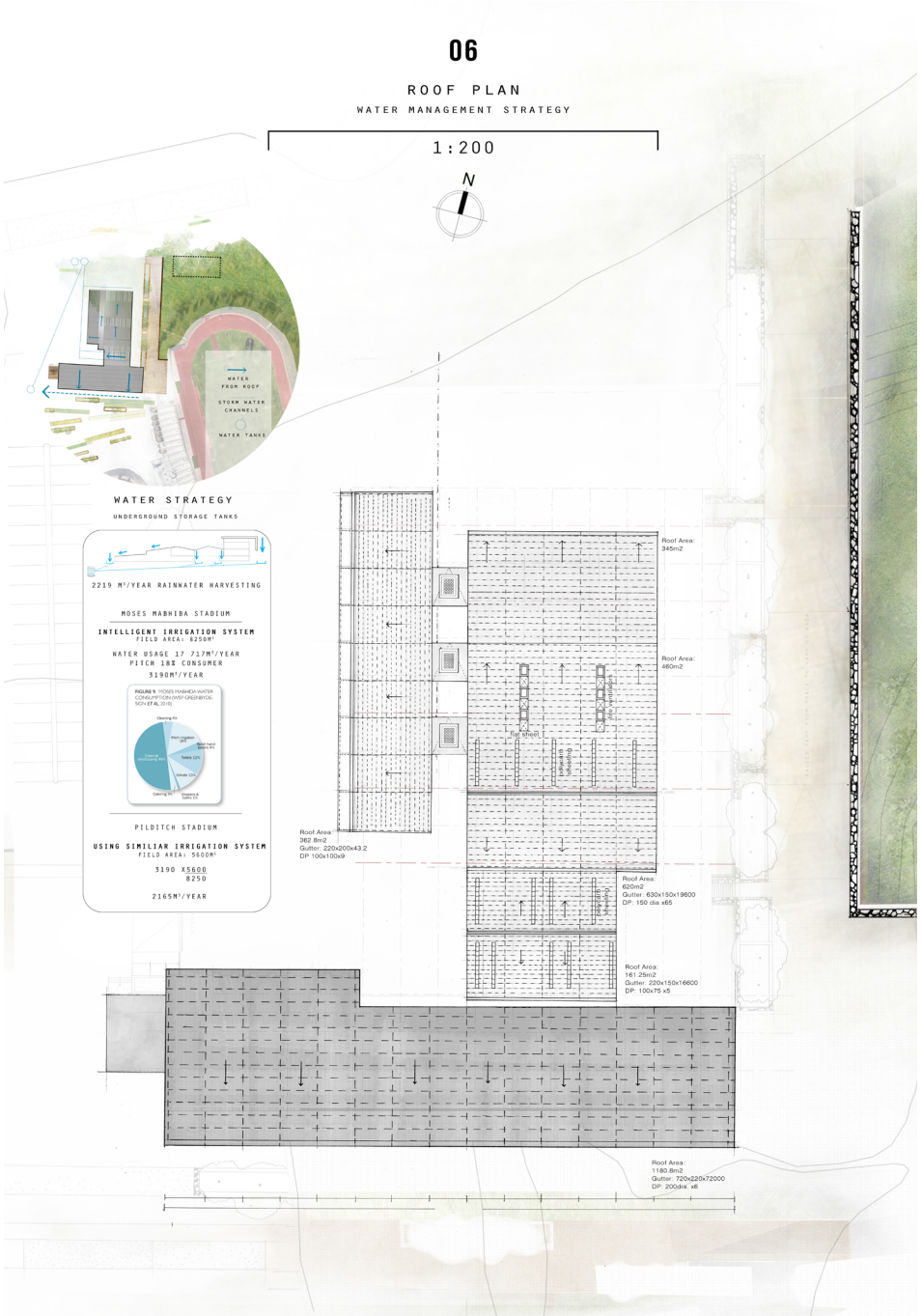
DESIGN SYNTHESIS

FINAL DESIGN AND TECHNICAL RESOLUTION
FINAL PRESENTATION
REFLECTION

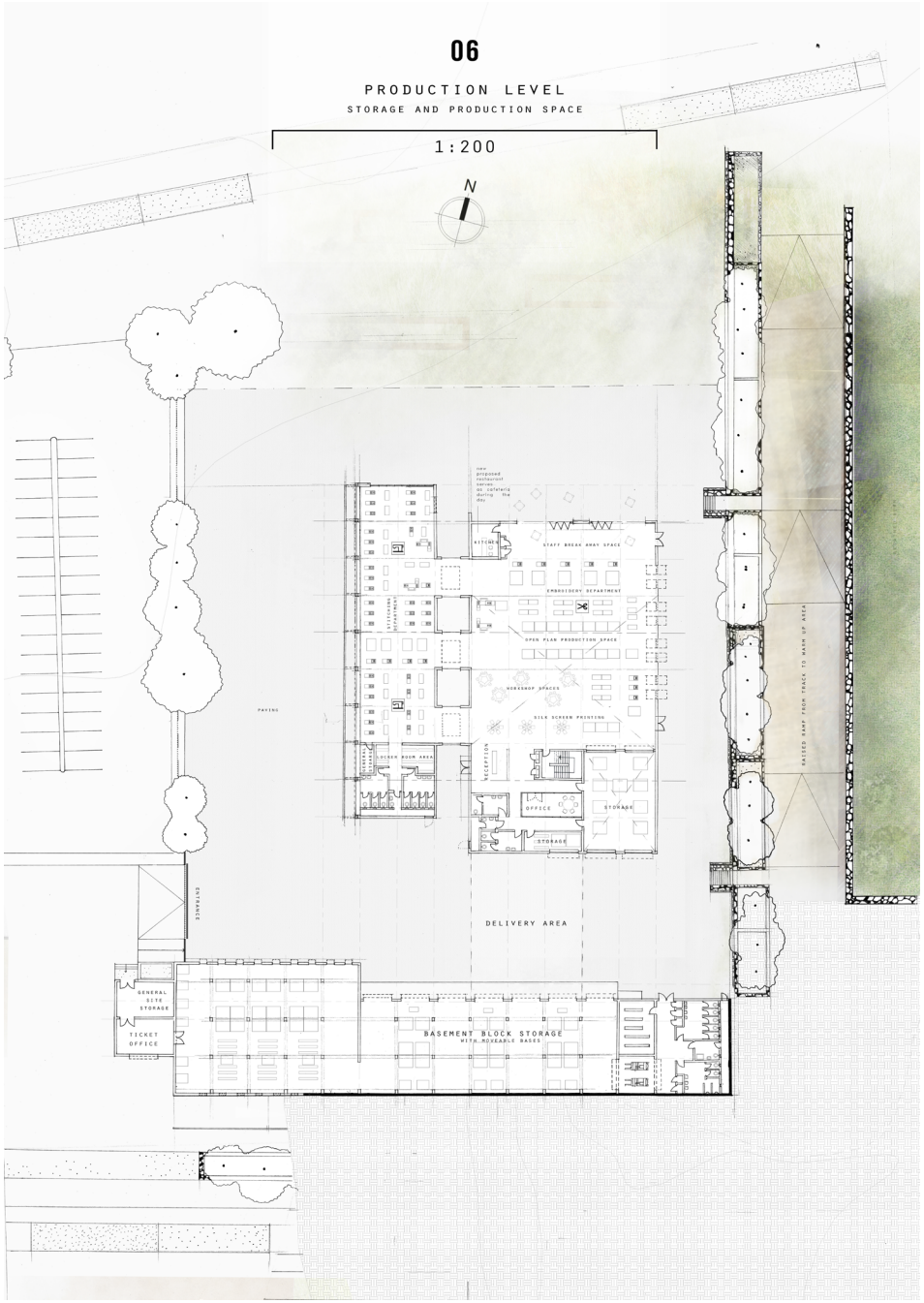
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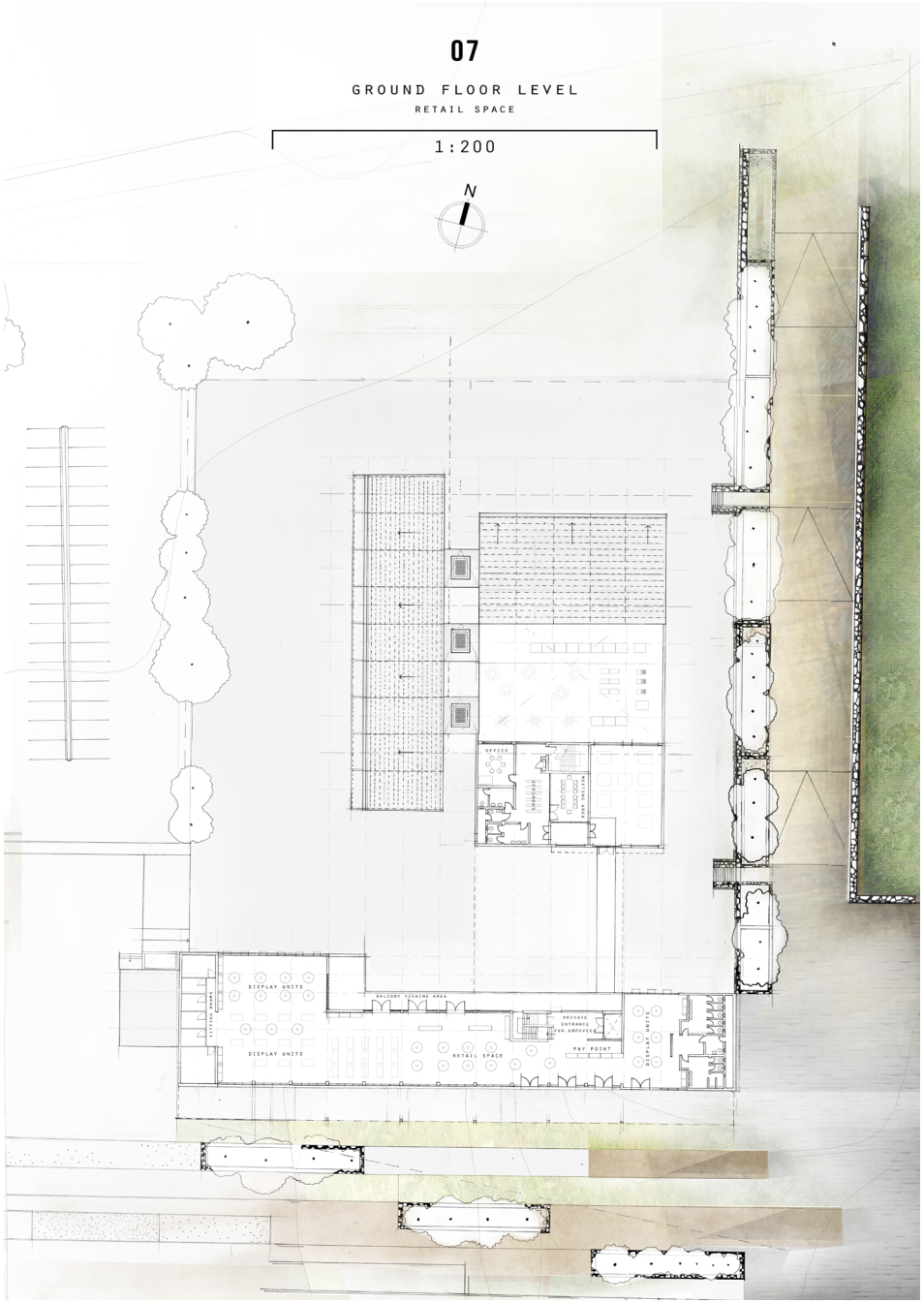


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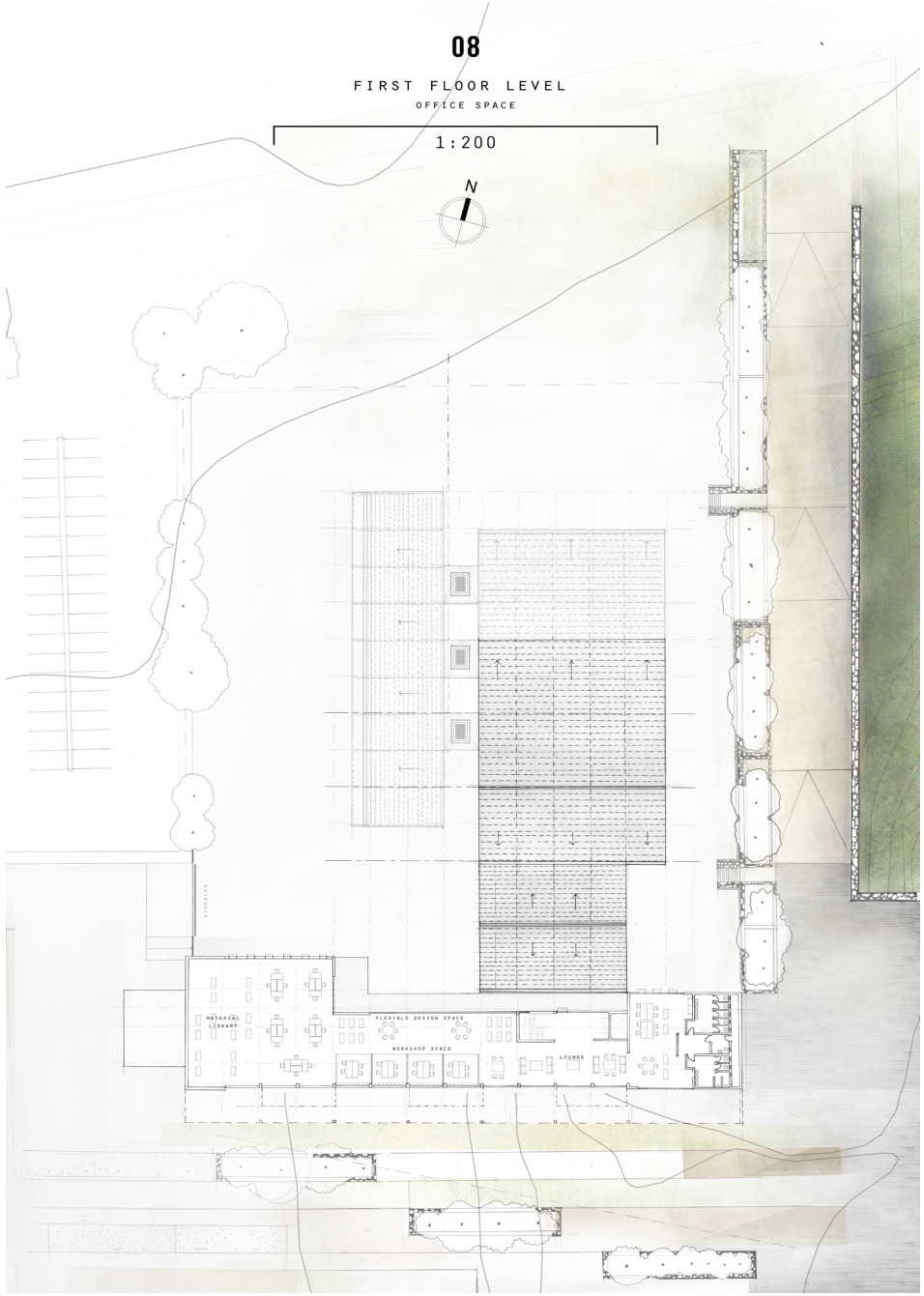
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08

FIRST FLOOR LEVEL

OFFICE SPACE

1:200

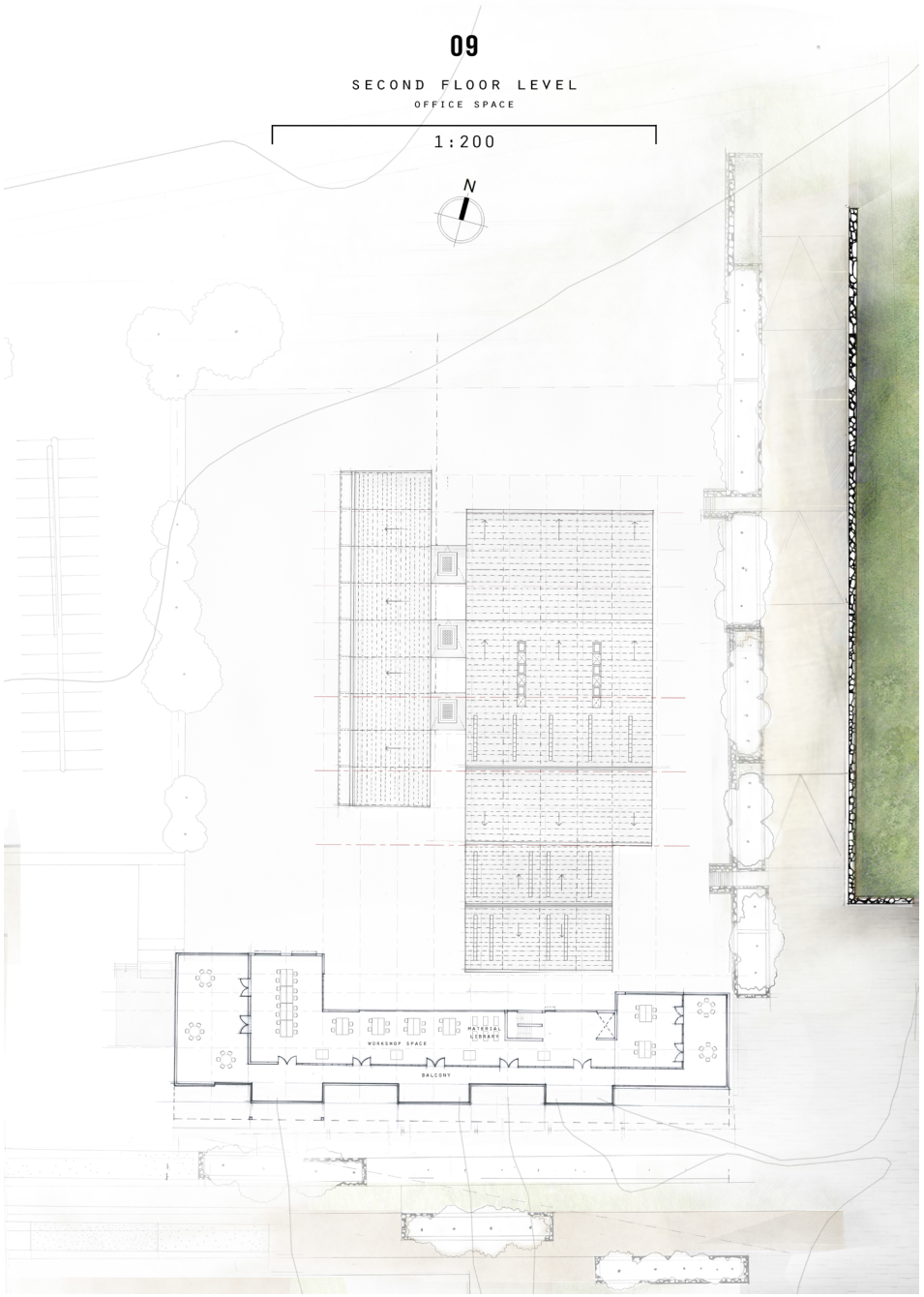


09

SECOND FLOOR LEVEL

OFFICE SPACE

1:200

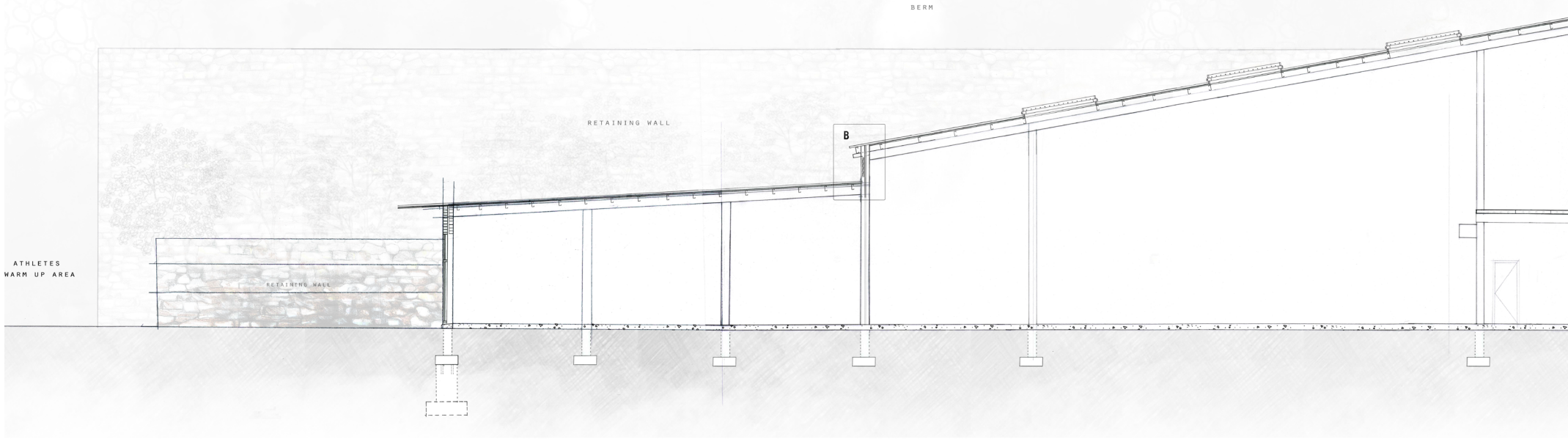


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PRODUCTIO

Orion Multifunctional Roof Ventilator
Dark Dolphin galvanised steel with Chro-madek Plus top coat slope mounted manual ground cable controlled operat-ed size 1216 x 1290mm with fusible links to activate at 72°C, fixed through roof sheeting to steel purlins at 1200mm cen-tres including watertight joints, necessary sealing strips and fixing accesories.

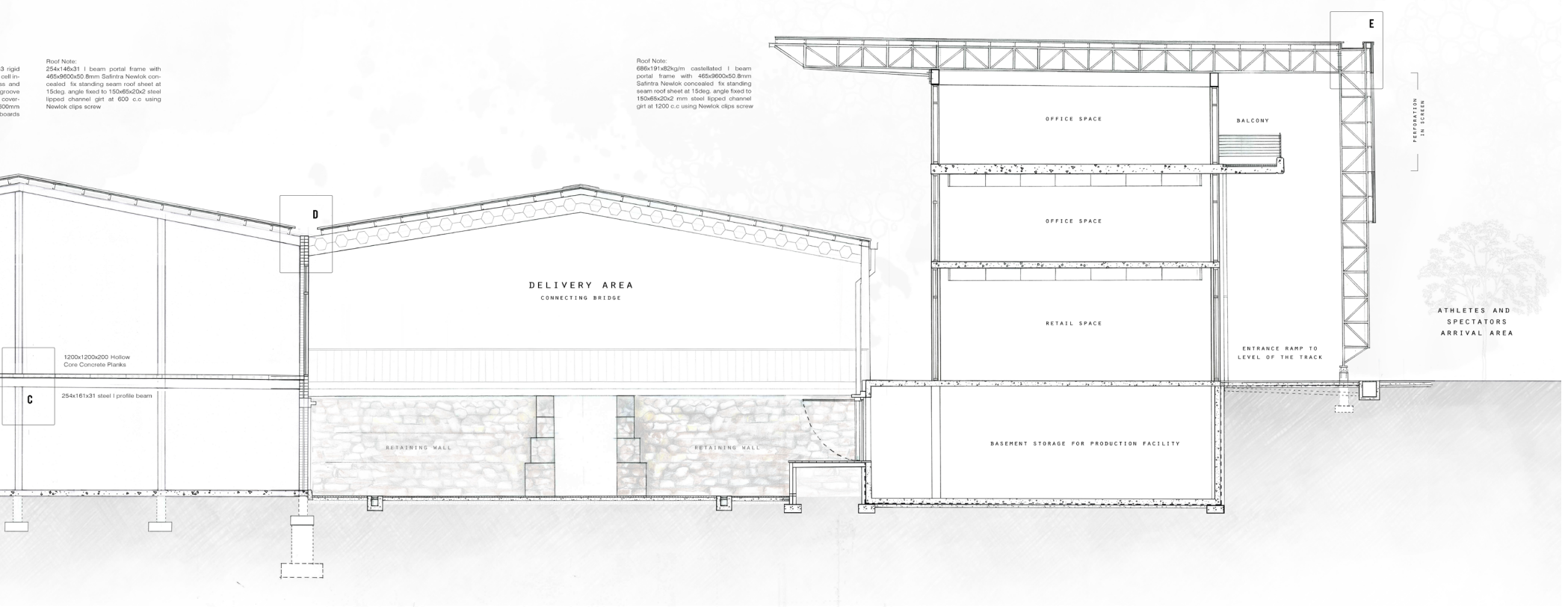
Insulation note:
Isoboard high density 32-36kg/m
extruded polystyrene 100% closed
sulation board of 40mm thickne
600mm wide with tongue and
joints, fixed concurrently with roof
ing, over steel purlins at approx
centres with 5mm gap between
butt joined on top of purlins.



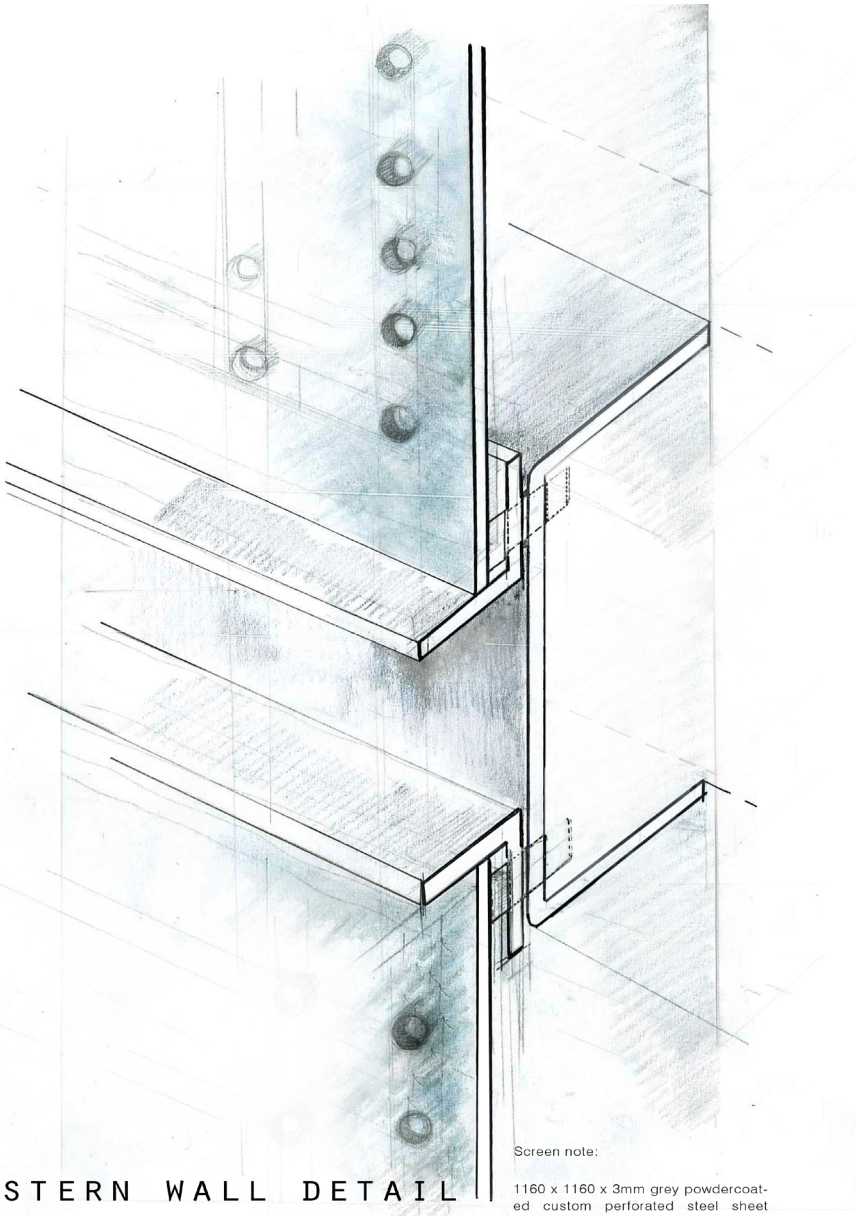
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N HOUSE

DESIGN HOUSE



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WESTERN WALL DETAIL

PRODUCTION HOUSE

Screen note:

1160 x 1160 x 3mm grey powdercoated custom perforated steel sheet screen fixed to charcoal grey painted 30x30x5 steel equal leg frame bolted with M8 bolts to 100x50x3 steel C section purlins welded on site to 80x80x3 steel hollow tube lattice girder welded to 305x165x46 steel I profile at 4800 centres.

Section not to scale *(Author, 2016)*

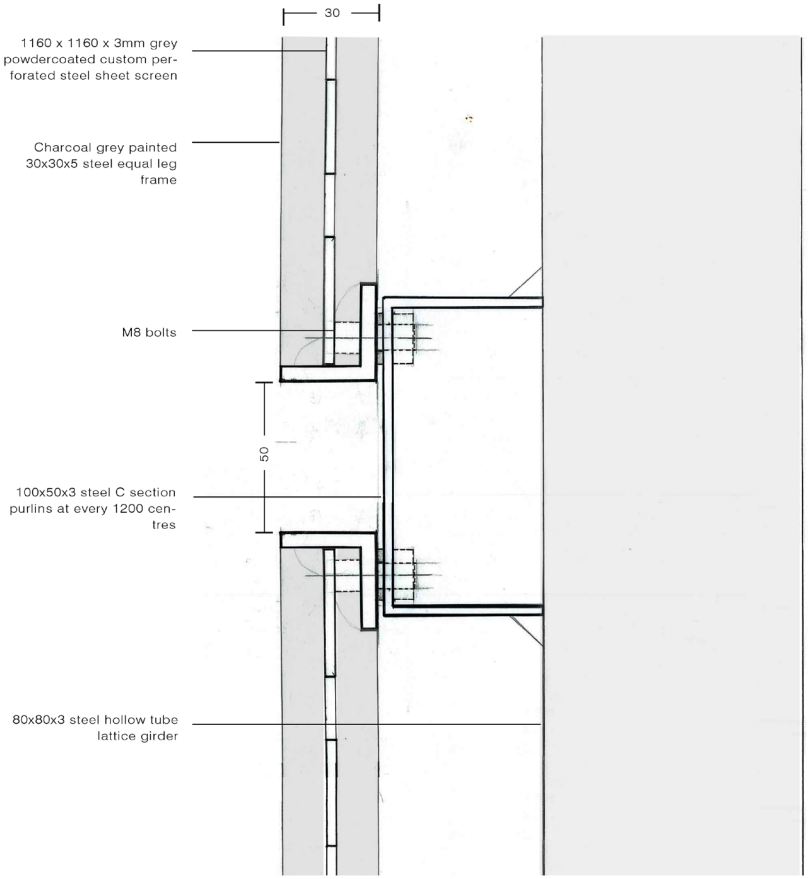
WESTERN WALL DETAIL

PRODUCTION HOUSE

1 : 1

Screen note:

1160 x 1160 x 3mm grey powdercoated custom perforated steel sheet screen fixed to charcoal grey painted 30x30x5 steel equal leg frame bolted with M8 bolts to 100x50x3 steel C section purlins welded on site to 80x80x3 steel hollow tube lattice girder welded to 305x165x46 steel I profile at 4800 centres.



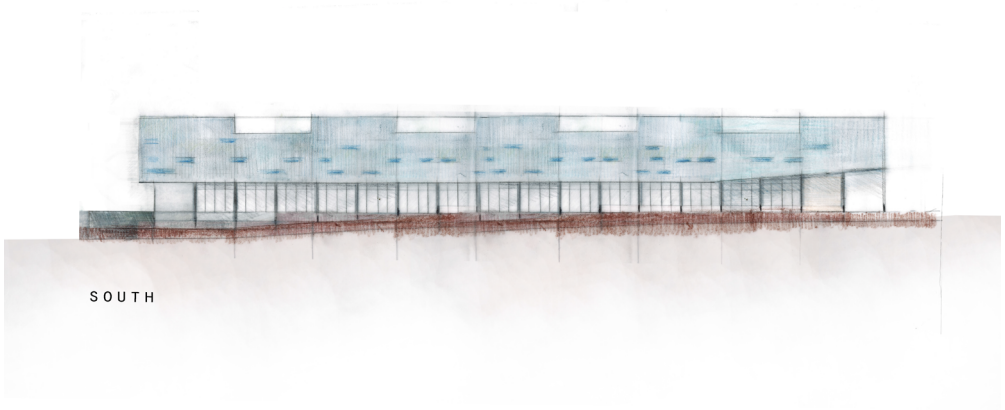
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19

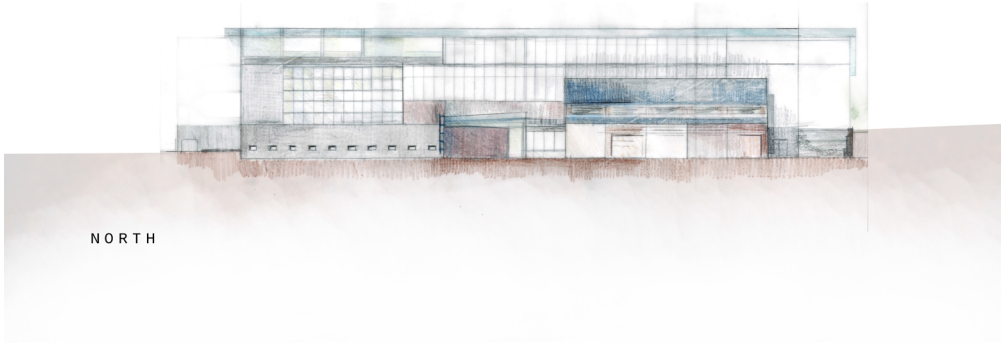
ELEVATIONS

DESIGN AND PRODUCTION SPACE

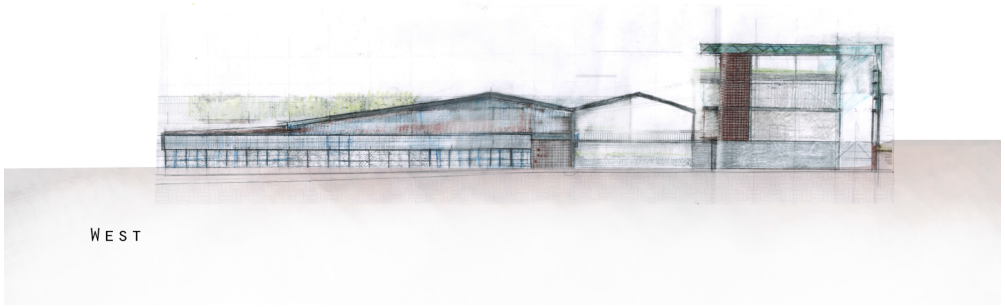
1:200



SOUTH



NORTH



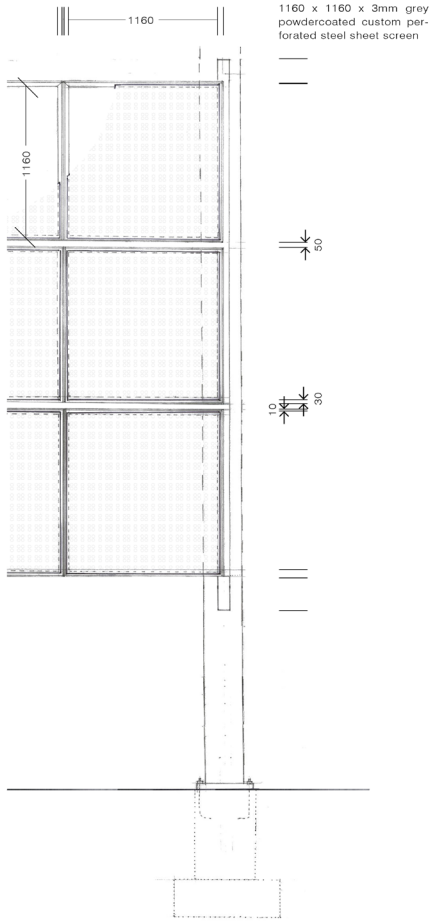
WEST

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WESTERN WALL SCREEN

PRODUCTION HOUSE

1:20



WESTERN WALL SECTION

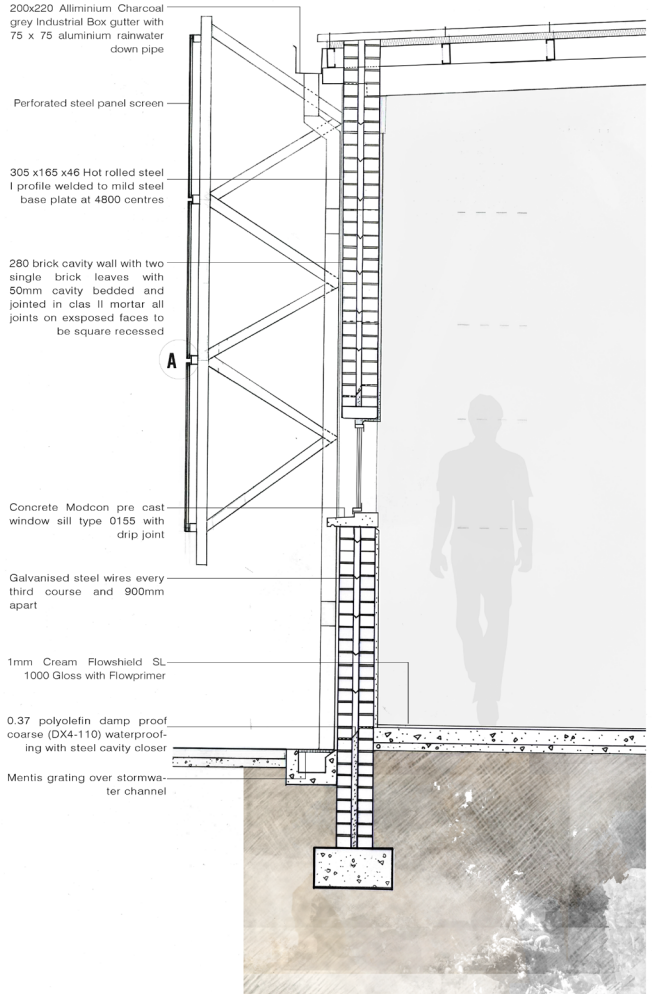
PRODUCTION HOUSE

1:20

Screen note:
1160 x 1160 x 3mm grey powder-coated custom perforated steel sheet screen fixed to charcoal grey painted 30x30 steel equal leg frame bolted with M8 bolts to 100x50 steel C section purlins welded on site to 80x80 steel hollow tube lattice girder welded to 305x165x46 steel I profile at 4800 centres.

Insulation note:
Isoboard high density 32-36kg/m3 rigid extruded polystrene 100% closed cell insulation board of 40mm thickness and 600mm wide with tongue and grovve joints, fixed concurently with roof covering, over steel purlins at approx 600mm centres with 5mm gap between boards butt joined on top of purlins.

Roof Note:
465x9600x50.8mm
Safintra Newlok concealed fix standing seam roof sheet at 3deg. angle fixed to 150x65x20x2 mm steel lipped channel girt at 600 c.c using Newlok clips screw

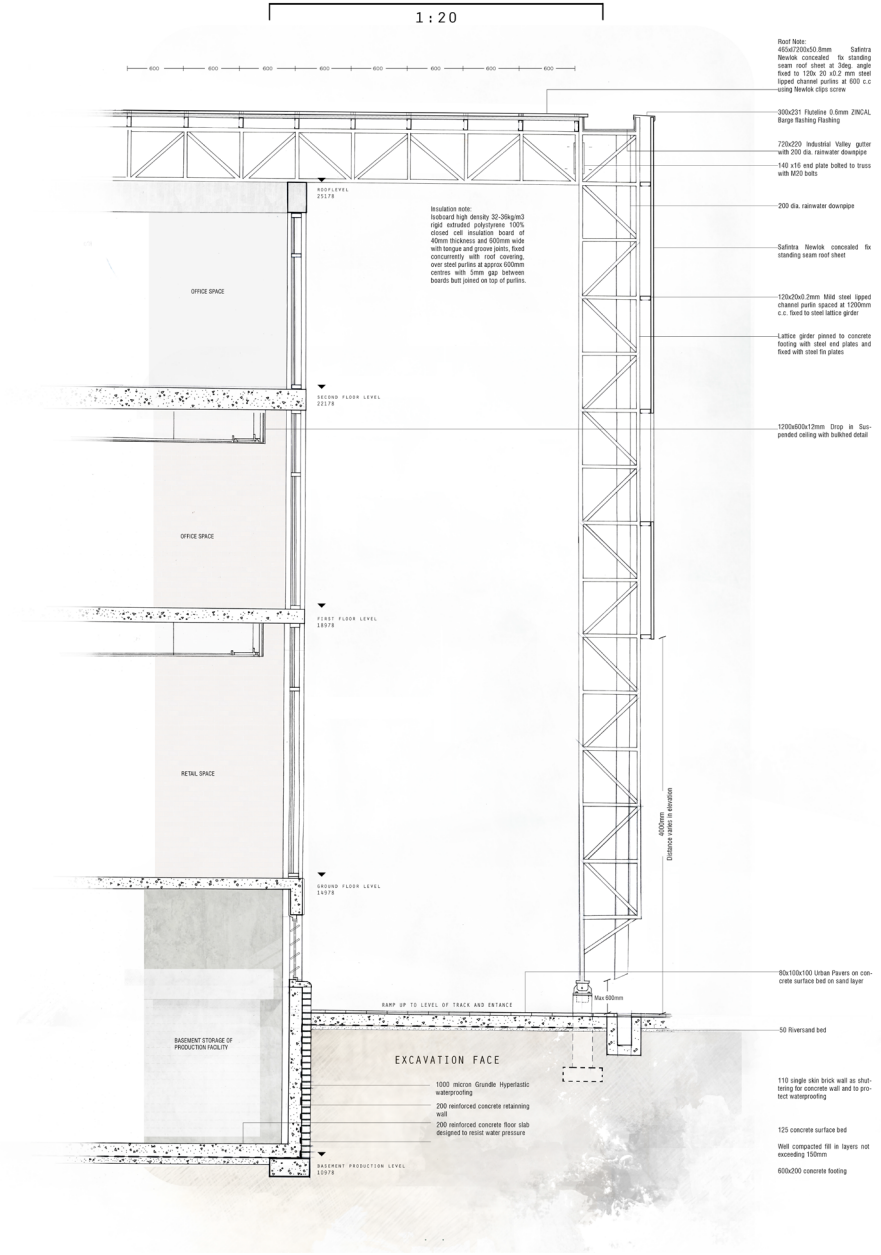


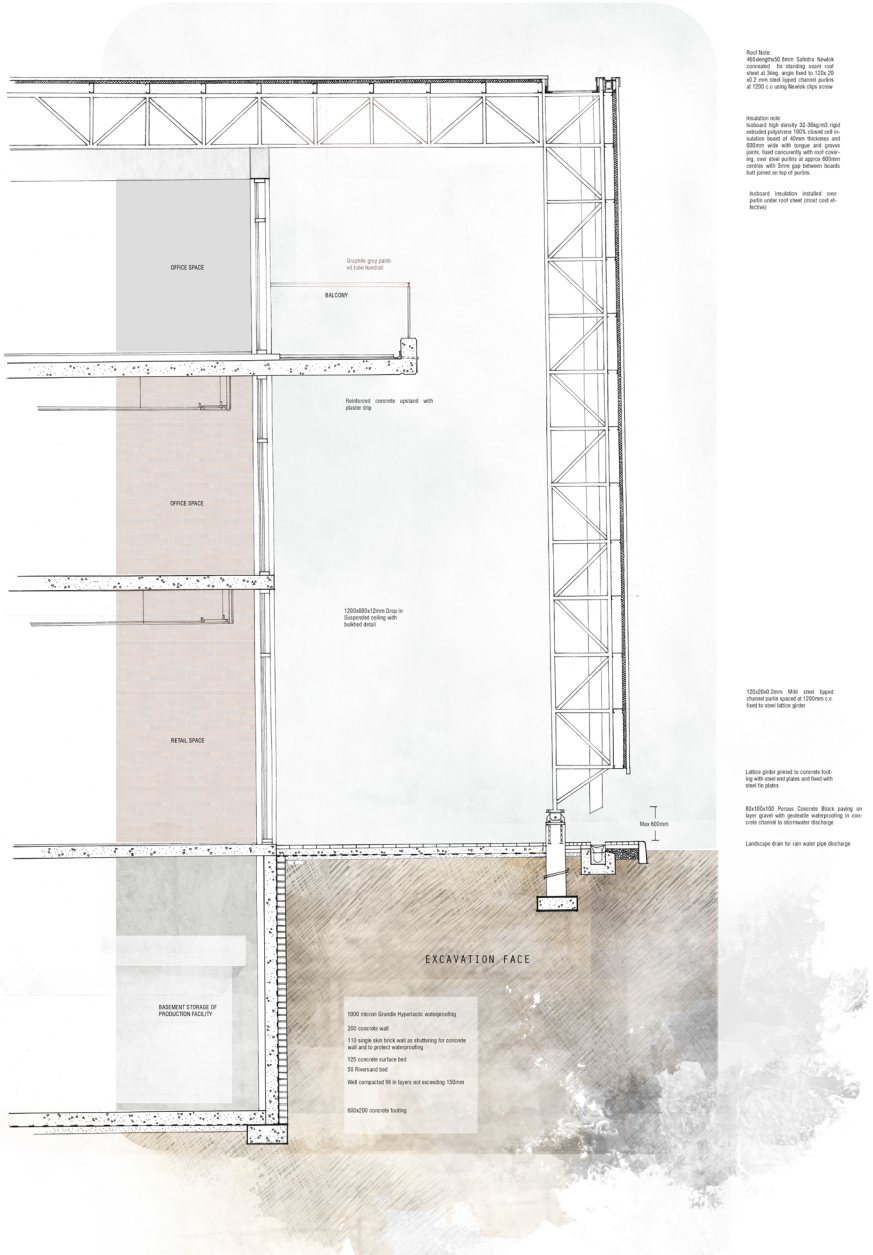
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TECHNIFICATION

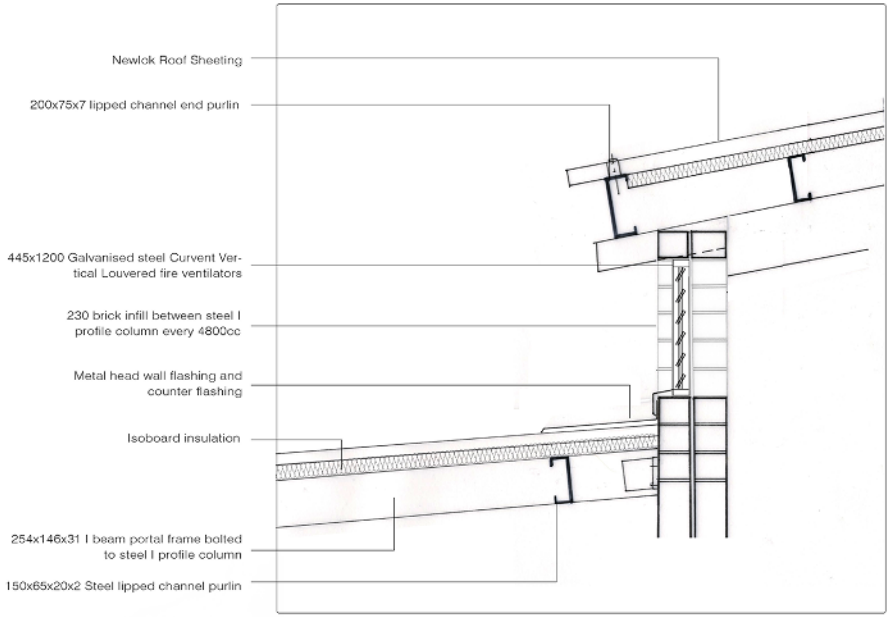
WALKWAY FACADE SECTION

1:20

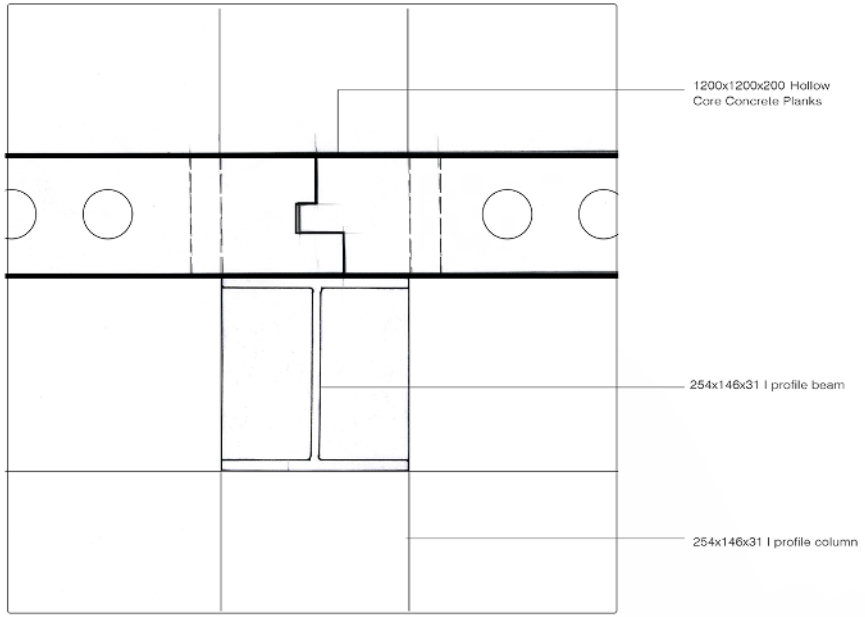




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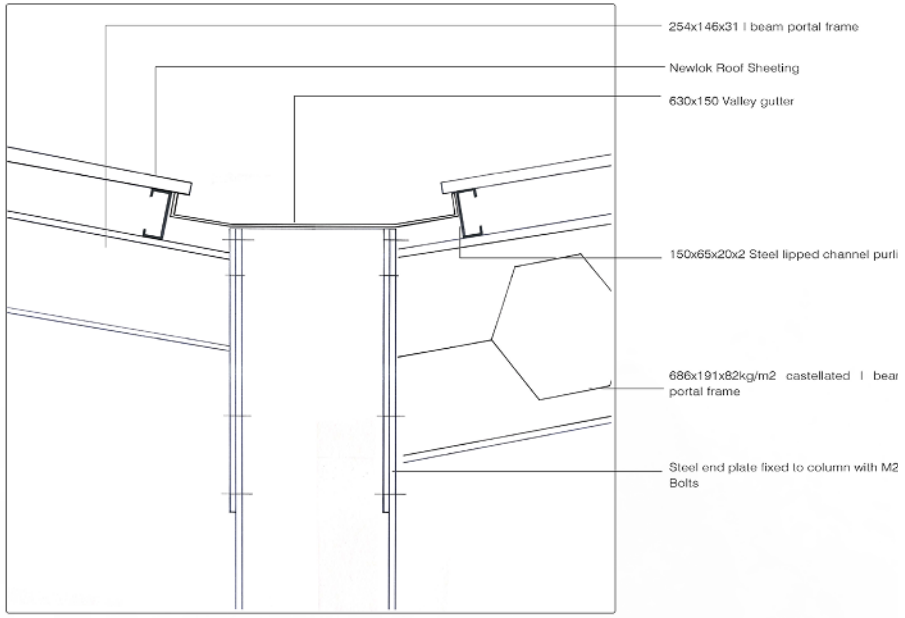


DETAIL B 1:10



DETAIL C 1:5

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DETAIL D 1:10

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00

THE EVERYDAY AND EVENT

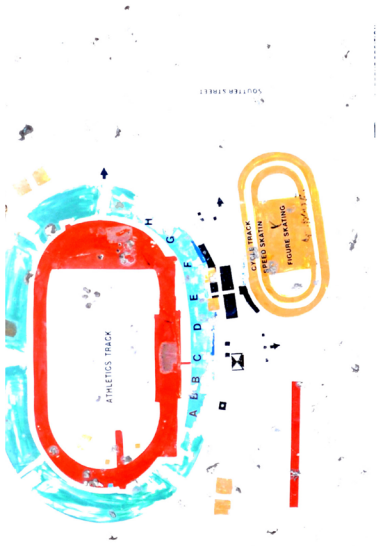
RE-IMAGINING THE URBAN INDUSTRIAL EVENT SPACE OF

PILDITCH STADIUM

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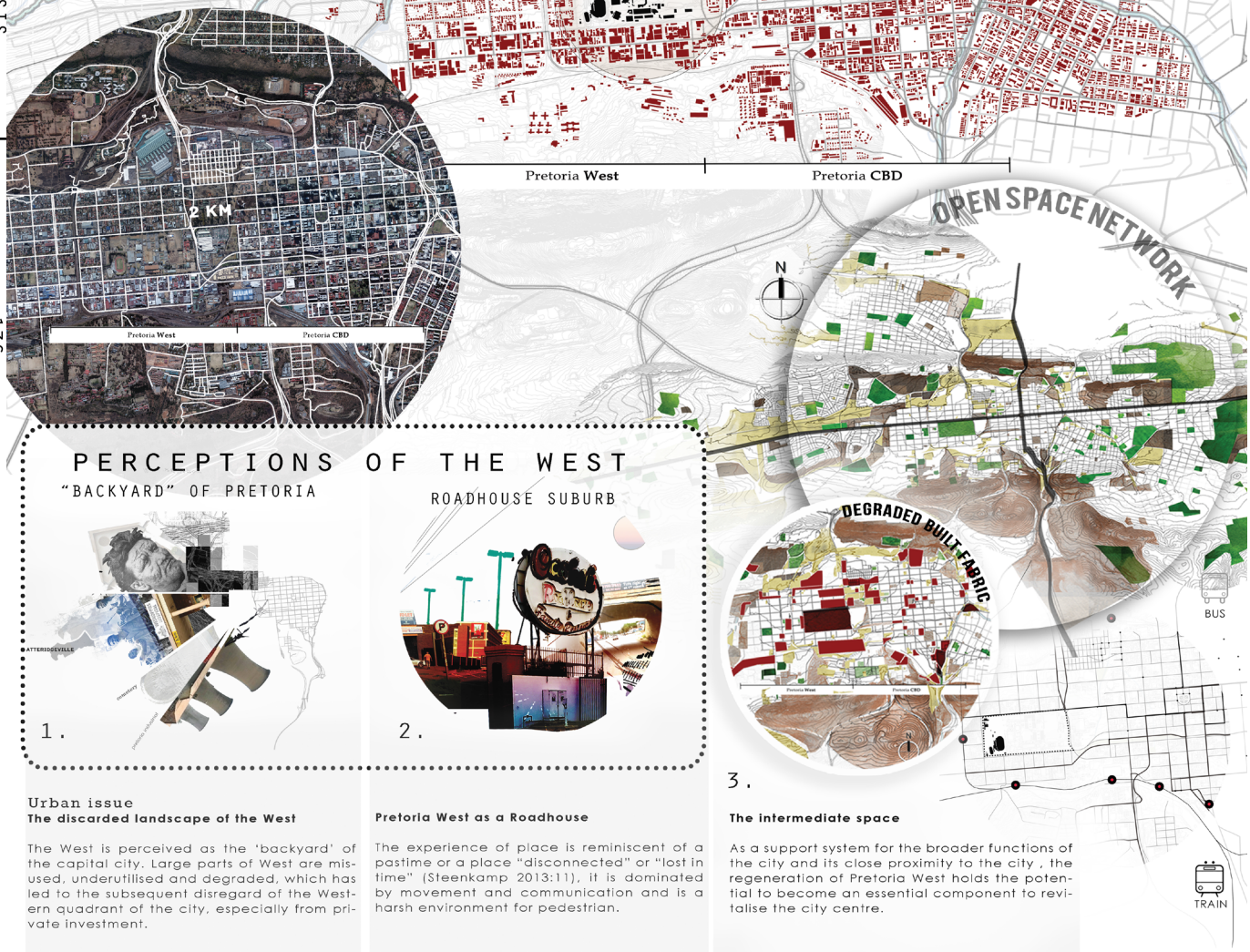
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01

URBAN CONTEXT

INVESTIGATING INDUSTRIAL PLACE MAKING

REGENERATION OF THE WEST



PERCEPTIONS OF THE WEST

"BACKYARD" OF PRETORIA

1.

ROADHOUSE SUBURB

2.

3.

Urban issue

The discarded landscape of the West

The West is perceived as the 'backyard' of the capital city. Large parts of West are misused, underutilised and degraded, which has led to the subsequent disregard of the Western quadrant of the city, especially from private investment.

Pretoria West as a Roadhouse

The experience of place is reminiscent of a pastime or a place "disconnected" or "lost in time" (Steenkamp 2013:11), it is dominated by movement and communication and is a harsh environment for pedestrian.

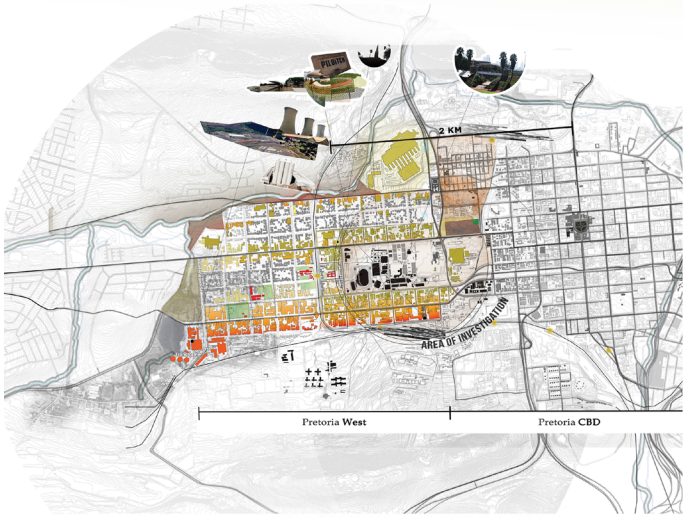
The intermediate space

As a support system for the broader functions of the city and its close proximity to the city , the regeneration of Pretoria West holds the potential to become an essential component to revitalise the city centre.

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4. CITY SCALE

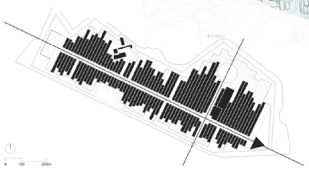


5. SUBURBAN SCALE



6. PRECINCT SCALE







PRECEDENT

Milan Trade Fair

HERZOG AND DE MEURON ARCHITECTS

Milan, Italy



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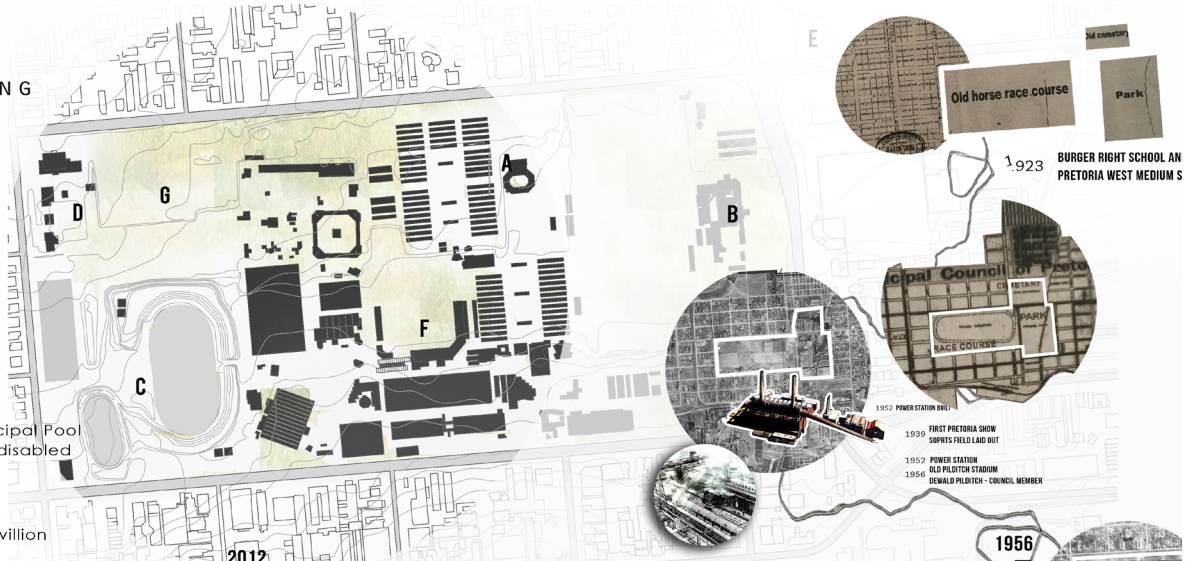
02

PILDITCH STADIUM

THE EVENT AND THE EVERYDAY

EXPOSE INTROVERTED ASPECTS

1. EXISTING



Old horse stables

Metro Police Headquarters

Pilditch Stadium

Closed down Municipal Pool and Sports Hall for disabled sport-persons

Cemetery

Original Hockey Pavillion

Open unused fields

2. HISTORY OF THE SITE

3. The history of the Olympic Games

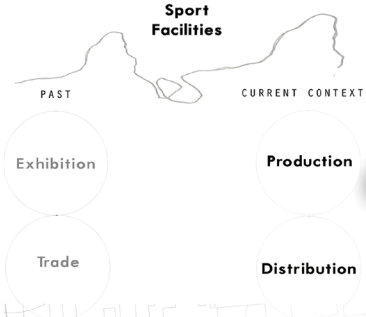


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MANUFACTURE AND DISTRIBUTION

SPORT EQUIPMENT AND CLOTHING





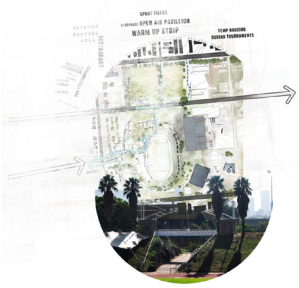




COMMUNITY



PRODUCTION



EVENT

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03

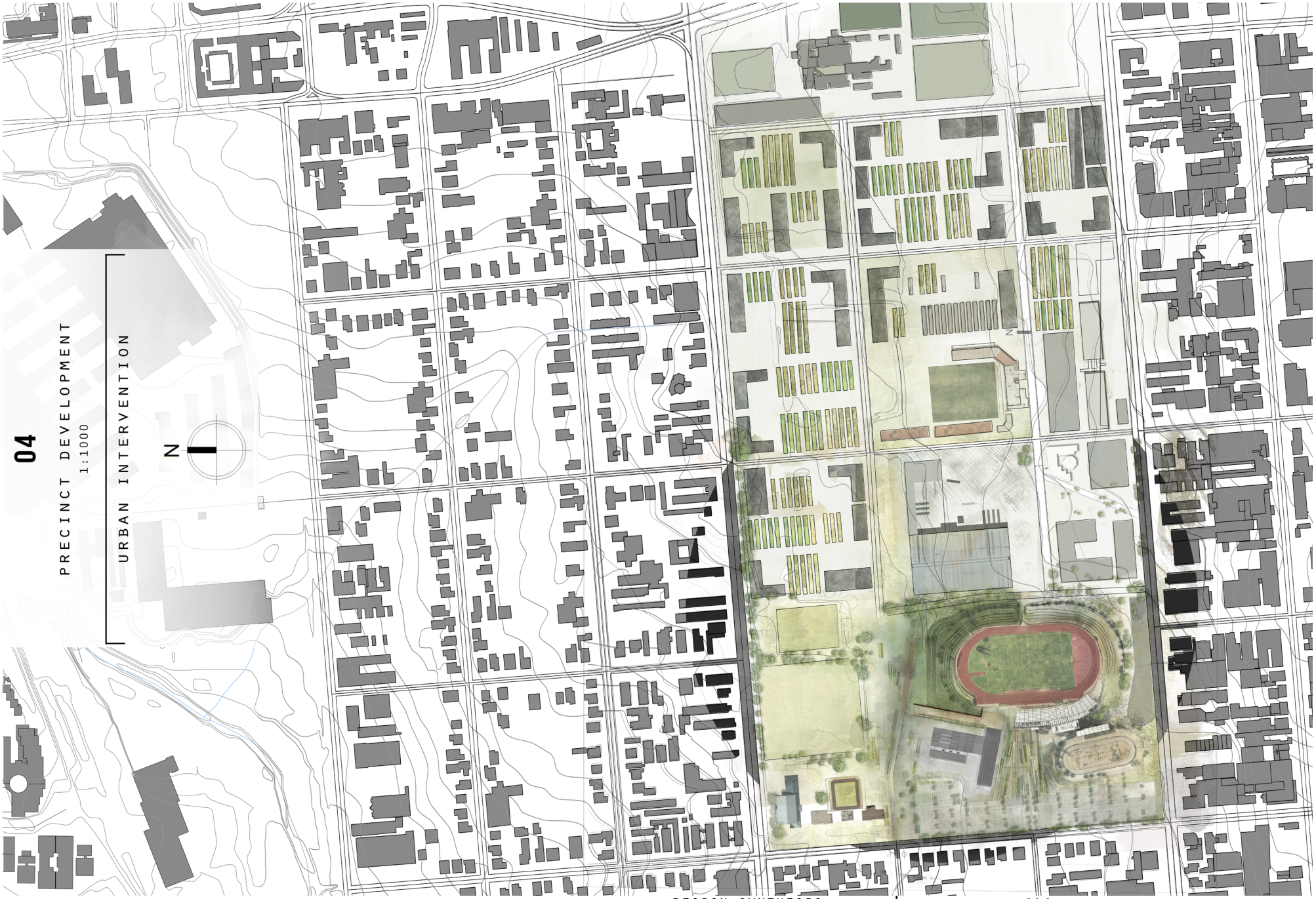
PRECINCT DEVELOPMENT

1:10 000



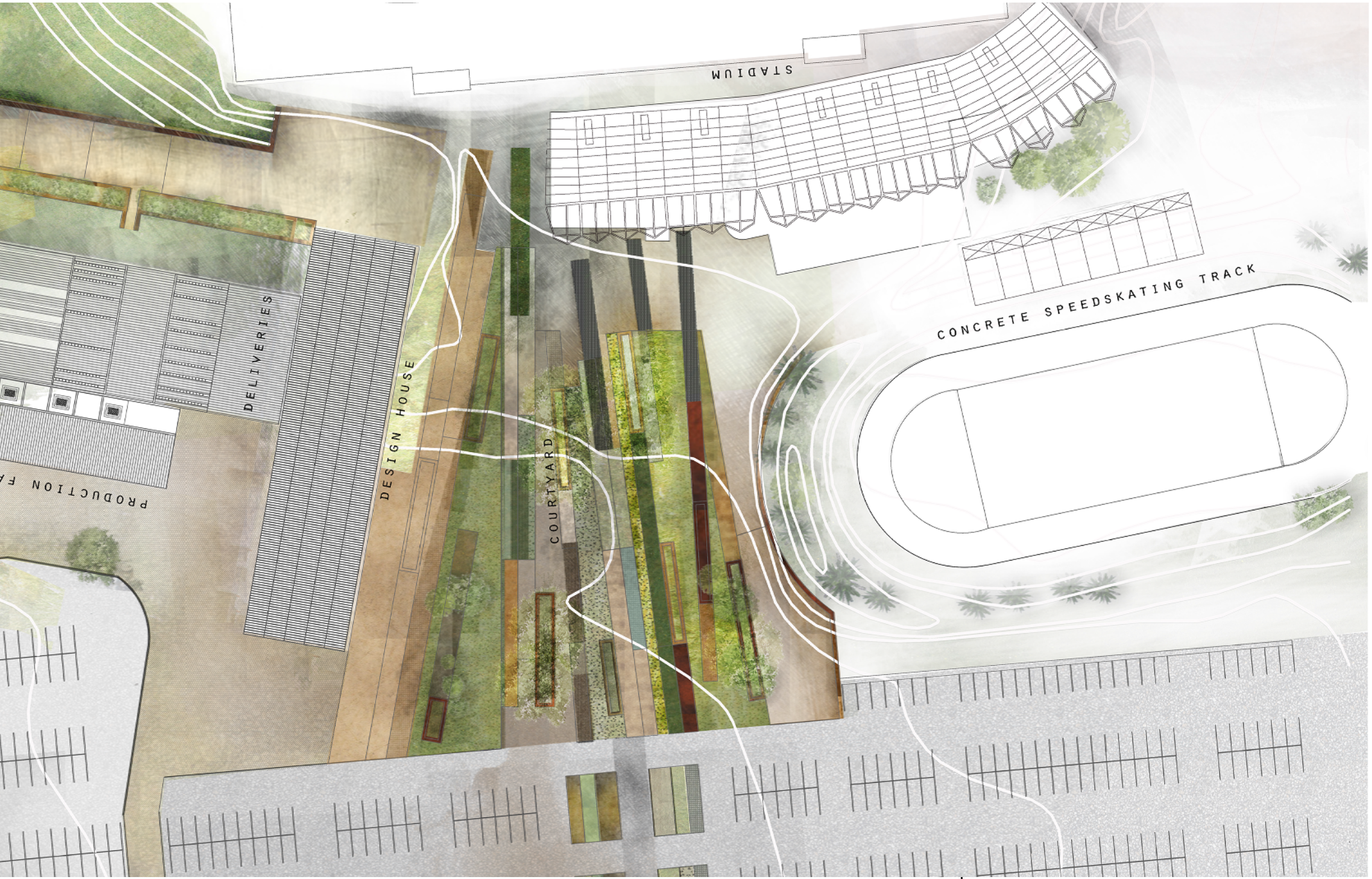
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04

PRECINCT DEVELOPMENT

1:1000

URBAN INTERVENTION

N



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[EXISTING]



[NEW PROPOSED]

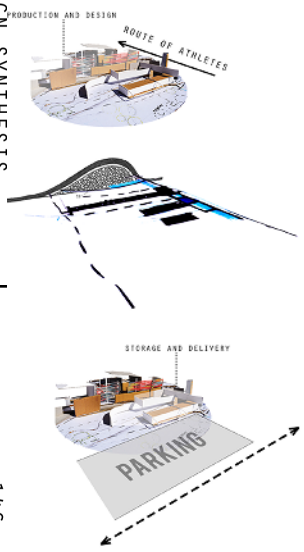
© University of Pretoria

10

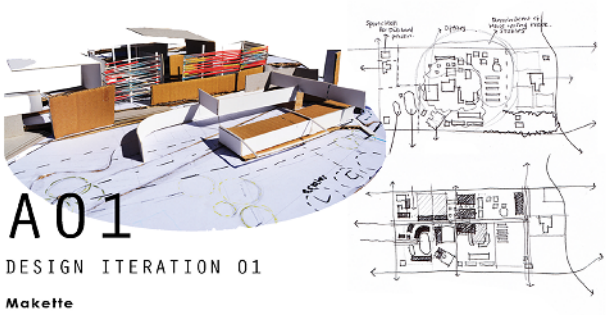
PROCESS WORK

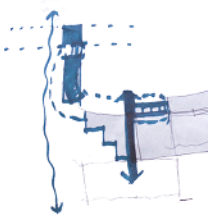
ITERATIONS

MODEL AND SKETCH DEVELOPMENT

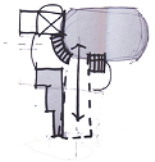










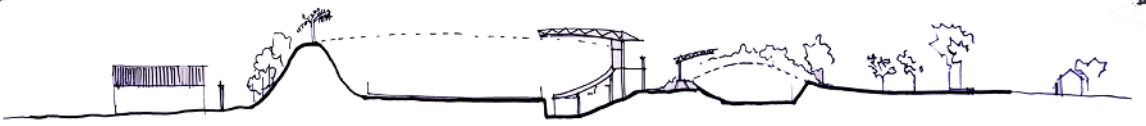


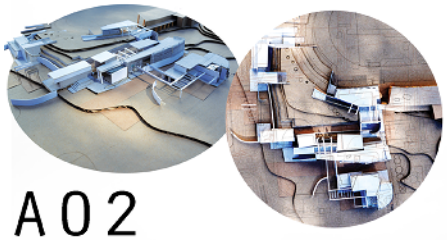
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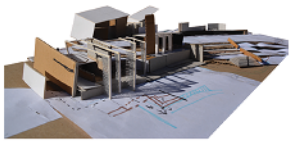
DESIGN ITERATION 01

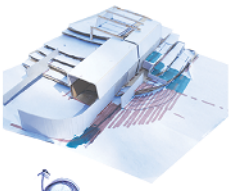
Makette

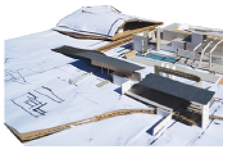
The intention was connect the berm with the edge of the site, creating an architectural experience into the site. Two main buildings were places along the route of arrival of the athlete. These two buildings which would facilitate the production and distribution of the textiles. The building closest to the street edge would serve as storage and distribution space, therefore the building was placed with a direct link to the existing parking area. Placing the building along the identified routes (production, community and event), the production and design house becomes a connection between the stadium and the rest of the site, and the route becomes a public connection between the site and the surrounding context.











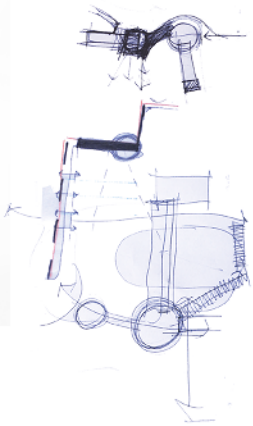
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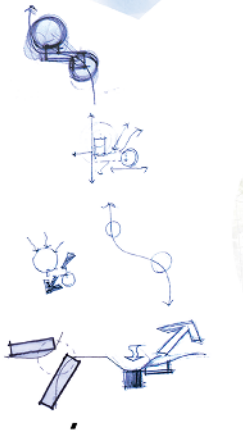
DESIGN ITERATION 02

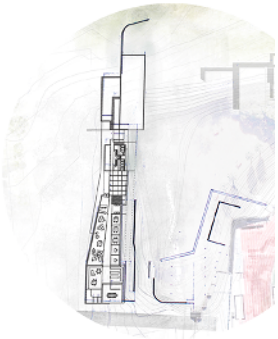
Makette

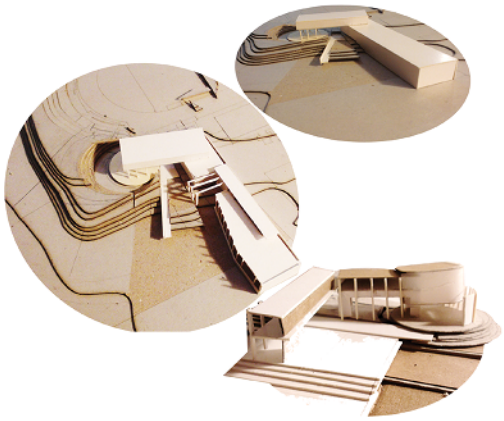
"The idea is to create places where people can meet, randomly or with intent, and where activities of communal interest find place" (Shared space, Hertzberger 2013:19). As described by Lind Pollak, "Because boundaries are where things meet" (Pollak, 1999) they can therefore act as thresholds and barriers of social space (Steenkamp 2011:32). The proposed routes (that guide the development of site) were laid out to connect the site, with the idea that where these routes crossed, a node could form. Acting as both boundaries and thresholds; his node could, for instance, be a place where production, event and community could form, randomly or with intent.









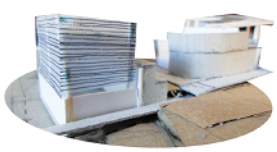


B01

DESIGN ITERATION 03

Makette

With the first few iterations it was clear that although the routes connected at various stages, the resultant spaces actually ran parallel to one another and never created a shared space, simply adding more incoherent buildings in open space and contributing to the current issue. Therefore the routes were iterated to combine various routes in one shared space at the entrance of the event with the intent that the three components of the design (production, event and community) should have equal right to this space. The second design iteration was also questioned in terms of the orientation and the scale of the buildings. The programs for the production spaces, restaurant and call room were reconfigured in the third iteration. The call room and restaurant was combined at the edge of the berm with a warm up area and additional sport fields. The delivery, production and design spaces were relocated to one building facing North East.





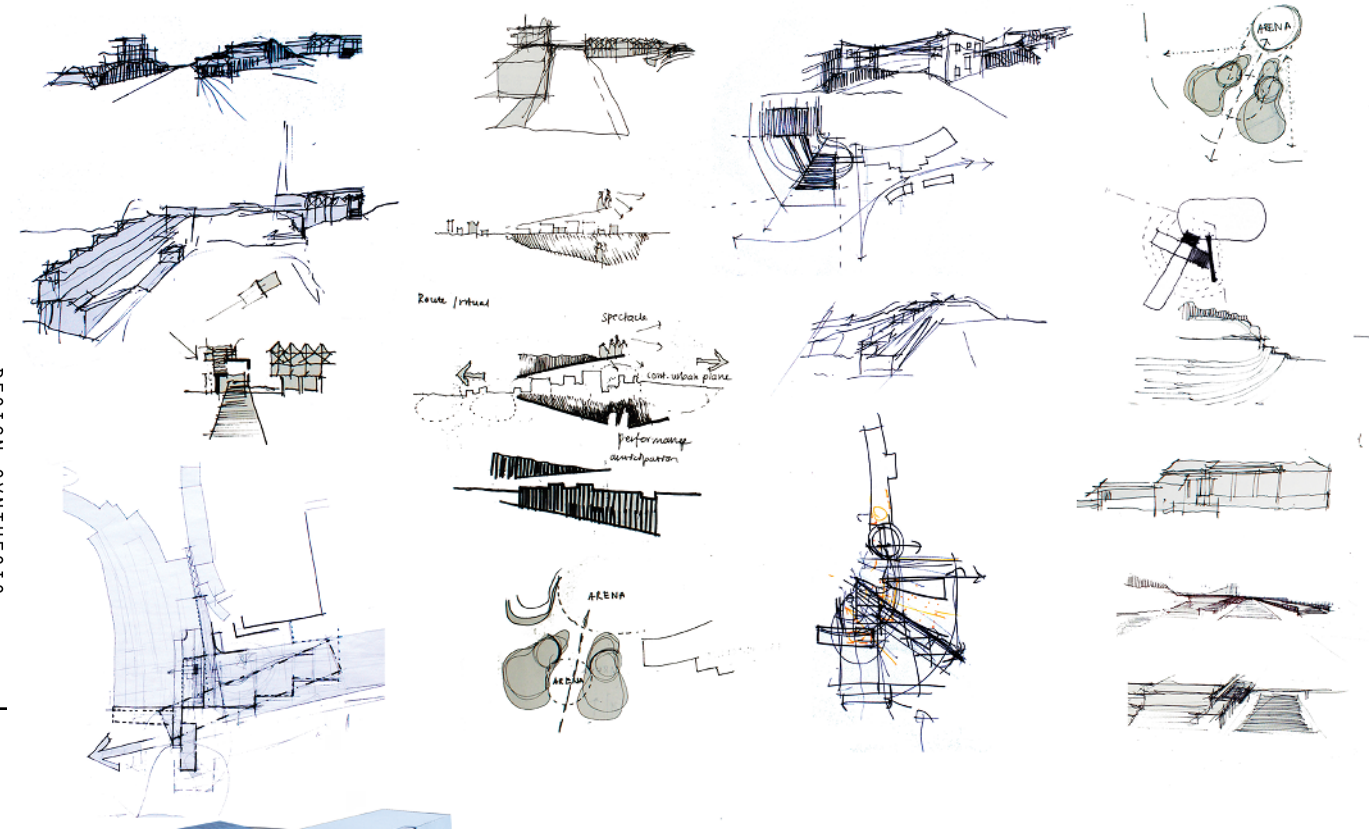




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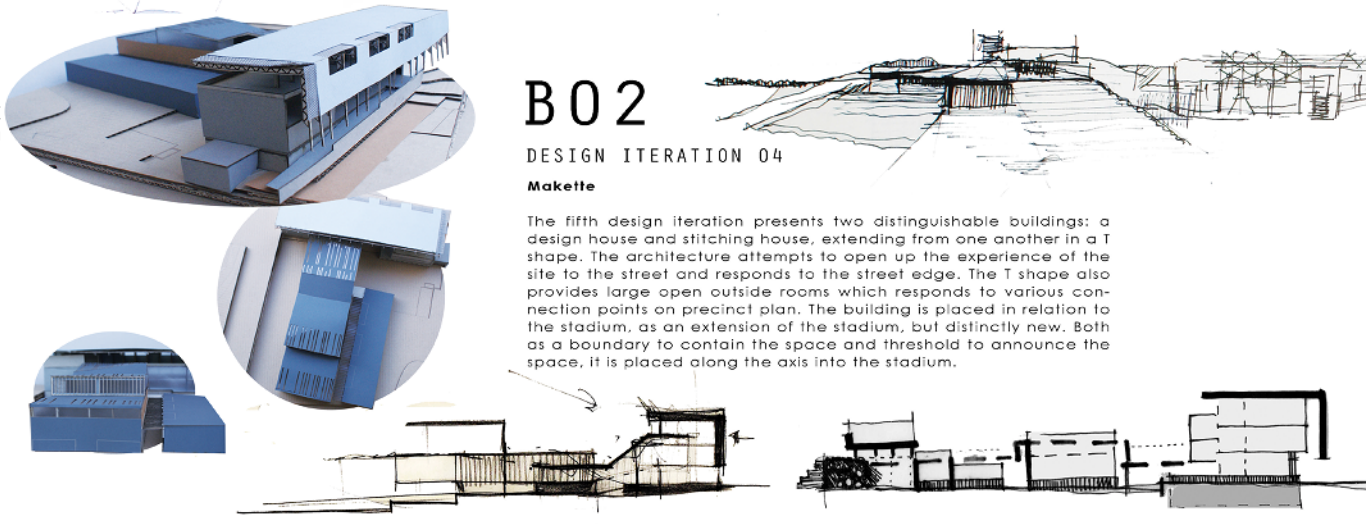


B02

DESIGN ITERATION 04

Makette

The fifth design iteration presents two distinguishable buildings: a design house and stitching house, extending from one another in a T shape. The architecture attempts to open up the experience of the site to the street and responds to the street edge. The T shape also provides large open outside rooms which responds to various connection points on precinct plan. The building is placed in relation to the stadium, as an extension of the stadium, but distinctly new. Both as a boundary to contain the space and threshold to announce the space, it is placed along the axis into the stadium.



11

THE EVERYDAY AND EVENT

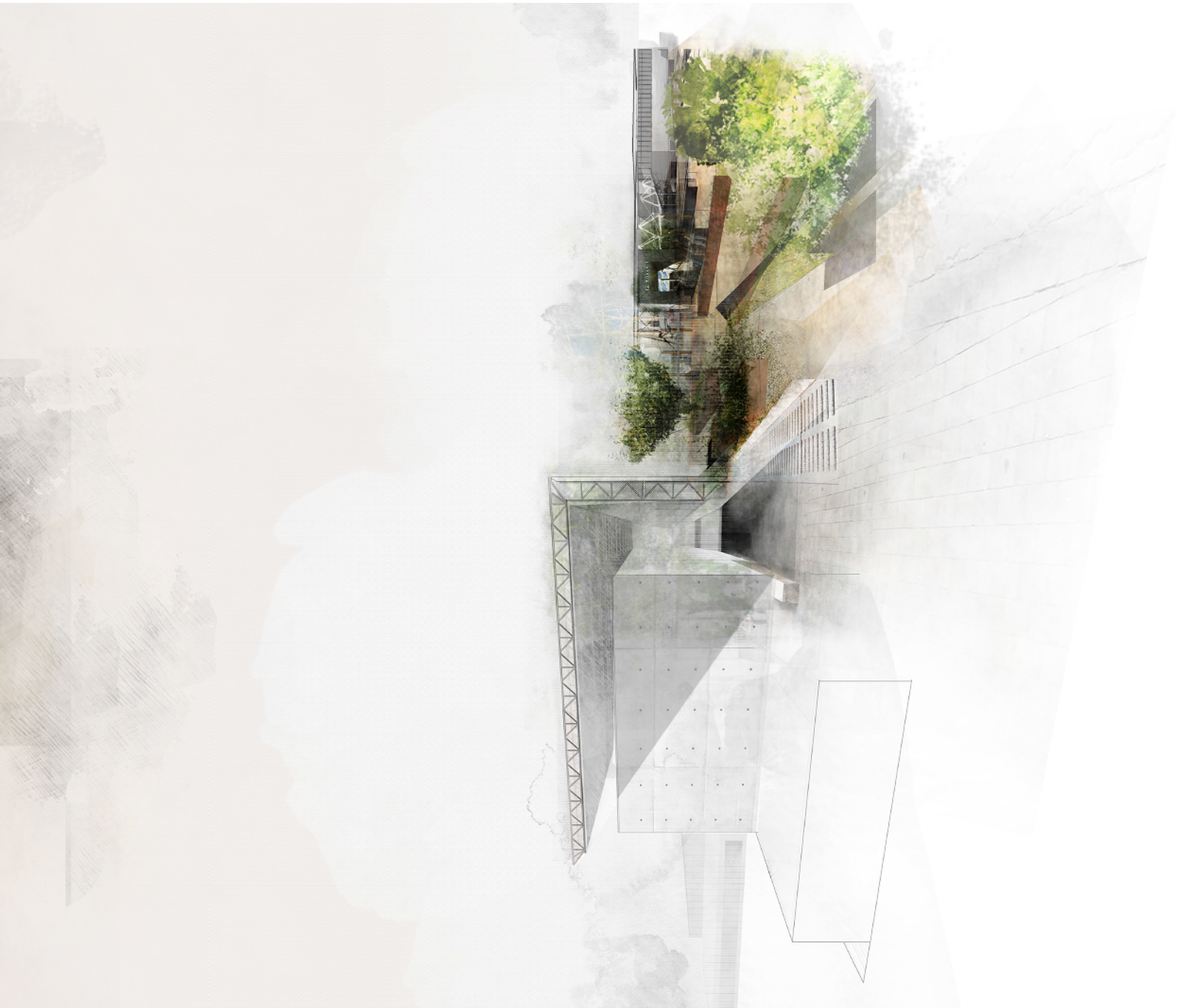
RE-IMAGINING THE URBAN INDUSTRIAL EVENT SPACE OF

PILDITCH STADIUM



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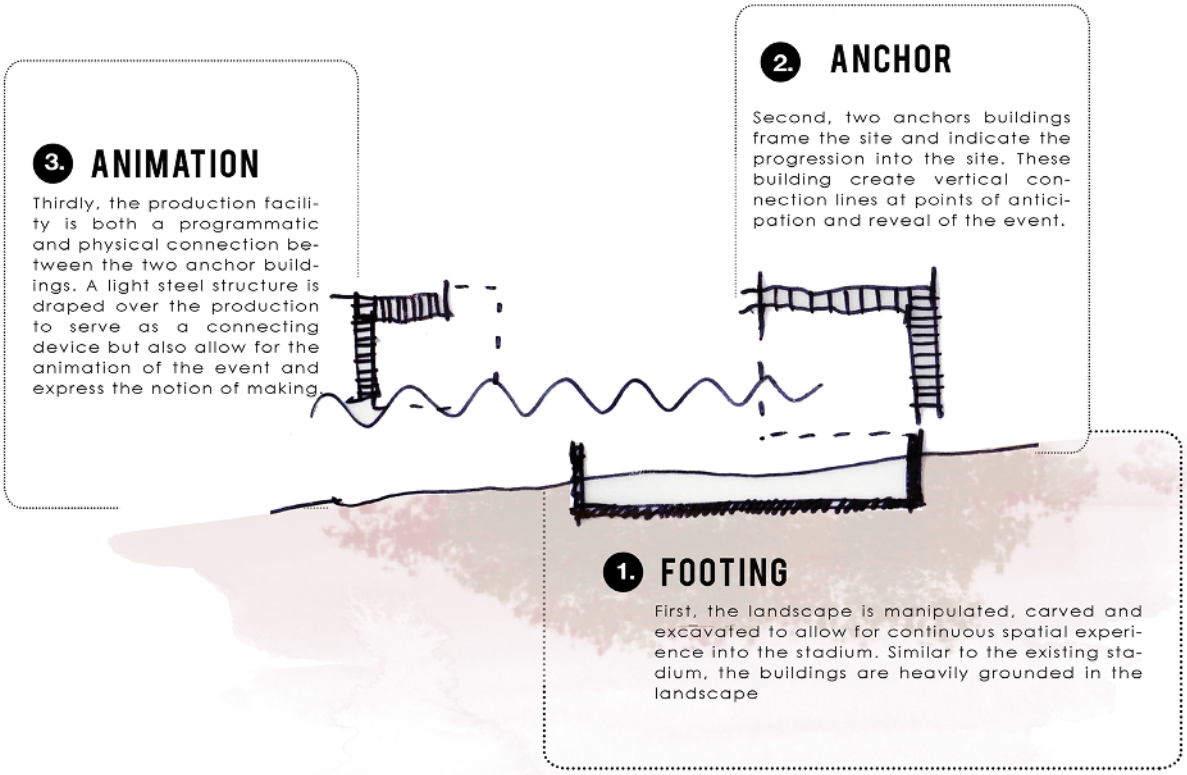
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12

TECHNIFICATION

FRAMEWORK FOR TECTONIC DEVELOPMENT

TECTONIC CONCEPT



Tectonic Development

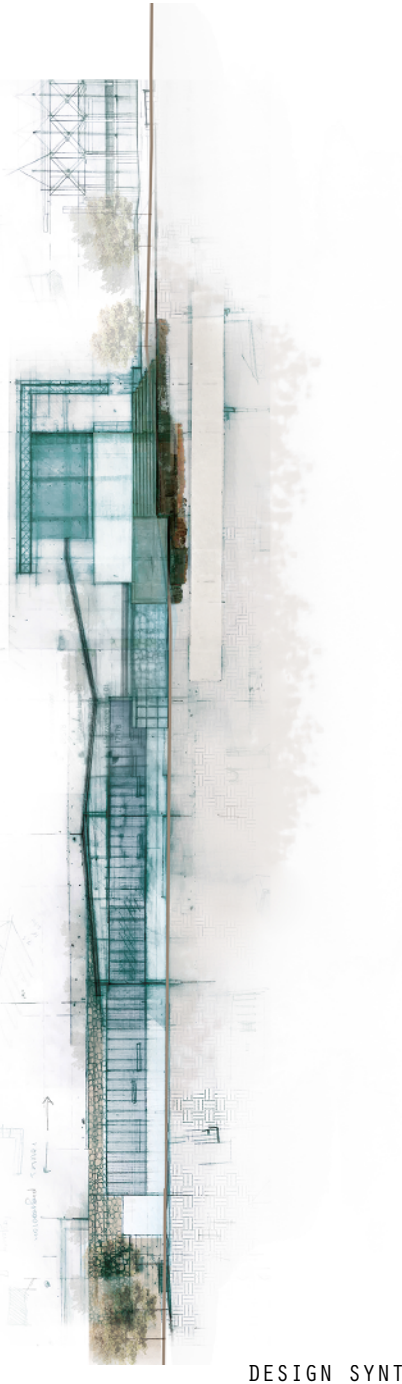
The tectonic concept is derived from an interpretation of the physical features of the surrounding elements and context. Built up by three layers, these layers are an interpretation of navigating and connecting (both) the site with the building, and the two buildings with one another.

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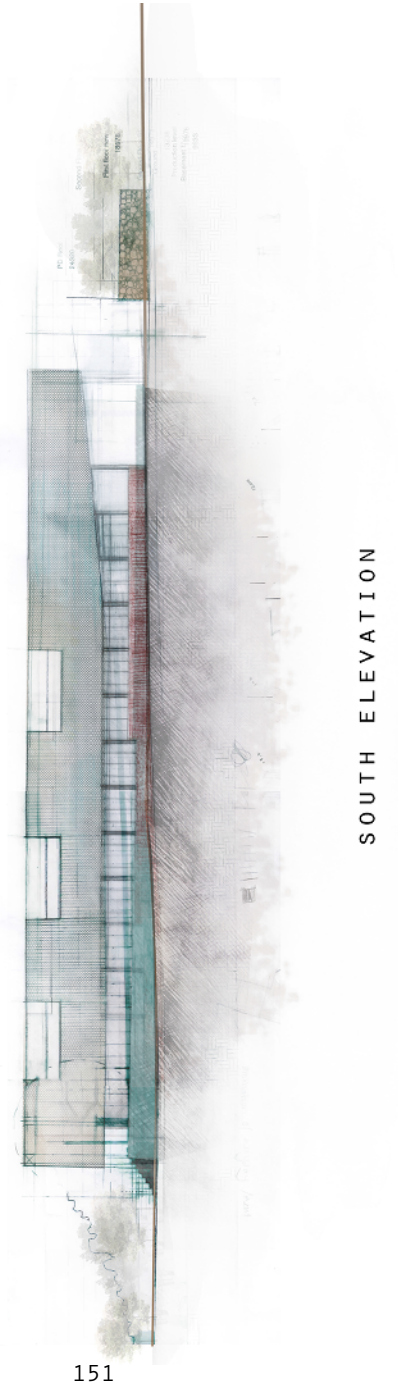
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NORTH ELEVATION



WEST ELEVATION



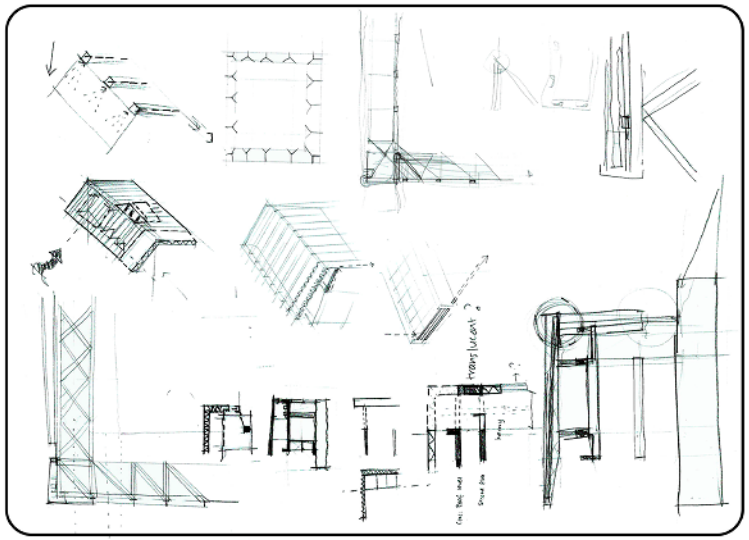
SOUTH ELEVATION

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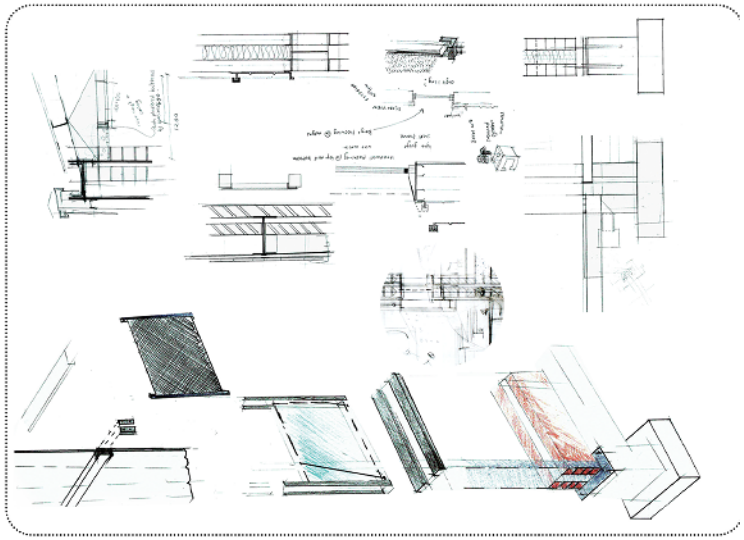
15 TECHNIFICATION

PROCESS WORK

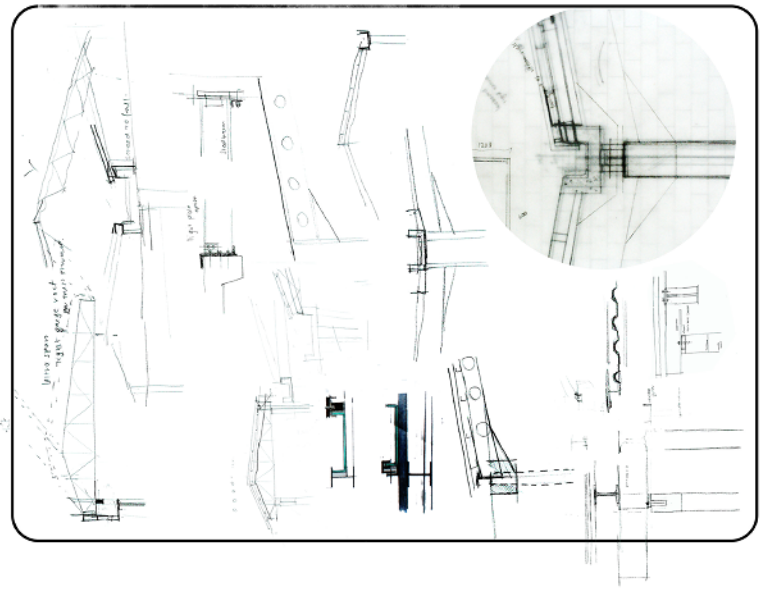
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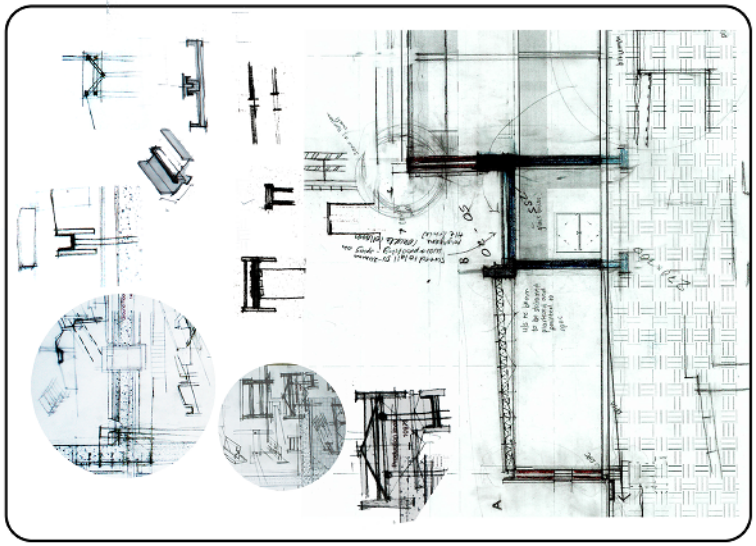
ROOF DETAIL



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GUTTER DETAIL



PARAPET WALL DETAIL

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REFLECTION

This dissertation set out to question (and challenge) the mono functional nature of Pilditch Stadium and present opportunity to re-script the open unused space around the stadium.

The rapid industrialisation of Pretoria West renders open public space as vulnerable elements in the urban grain, but simultaneously highlights the importance of these spaces which presents opportunities for integration. Principles of regenerative development theory informed the approach of this dissertation to create public place which is ingrained in existing networks and energies, and belongs to a community of users.

The departure point for the investigation was to challenge the current development trend of Pretoria. The outcome presents an alternative proposal to the multi -nodal mentality towards development.

The proposed macro scale vision presents network developments that integrate the stadium in a collection of existing public and community places. The site development further presents concepts of production, event and community that generate the stadium an accessible component of the collection, bringing new life to the site. The manufacture of sport equipment and clothing is presented as the connecting platform for exchange for '*the everyday and the event*'.

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My close friends, thank you for never giving up. I loved every second in our house.

To my best friend and model builder. Thank you for your relentless love, support and strength.

And to the Maker of all things.

Thank you for this opportunity.

Thank you for renewing my strength and leading my path.

■

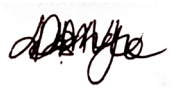
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DECLARATION

In accordance with Regulation 4[e] of the General Regulations [G.57] for dissertations and theses, I declare that this dissertation which I hereby submit for the degree Master of Architecture [Proffessional] at the University of Pretoria, is my own work and has not previoulsy been submitted by me for a degree at this or any othet tertiary institution.

I further state that no part of this dissertation has already been, or is currently being, submitted for any such degree, diploma or other qualification.

I further declare that this dissertation is substantially my own work. Where reference is made to the works of others, the extent to which that work has been used is indicated and fully acknowledges in the text and list of references.



Danielle Labuschagne
October 2016

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