

# Chapter

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This chapter investigates the development and integration framework of the city block into the urban fabric and inner city.

# 4



FIG 4.1-2\_Dynanysism of new cultural event place celebrated with digital technology, Federation Square, Melbourne, Australia, LAB Architects 2004  
FIG 4.3\_Symbolism of memorial bridge and social interaction place enhanced with technology, Memorial Bridge, Rijeka, Croatia, 3LHD Architects 2004



FIG 4.4\_Quality of event space emphasized by aesthetic quality of materials, Brogard Square, Copenhagen, SLA Architects 2001  
FIG 4.5\_Blue Carpet, Newcastle, UK, Thomas Heatherwich Studio 2001  
FIG 4.6\_Digital technology augment sense of place, Counter Void, Roppongi Hills, Miyajima Maki 2003



# Urban decay

# Phasing strategy

The context analysis concluded that the existing city block functions as two separate campuses with opposite ideologies. The North College utilizes their facilities to its full potential. Du Toit Street accumulates vibrant energies through existing retail and commercial activities along the street edges being integrated into the College's functional efficiency. Tshwane University of Technology on the eastern division of the site however, is of concern as fragmented open spaces and built fabric are being underutilized. The Sasol Library is currently a popular social gathering place for students. The new intervention will primarily focus on the integration of the south-eastern part of the city block.

Reference appendix A

FIG 4.7\_Campus Phasing Strategy Map



**Phase 1**  
The development of an arcade spine from Du Toit Street through the North College campus creates a visual axis towards the National Reserve Bank and NG Church. Current clusters and additions to the block should be removed to accommodate this pedestrian arcade system. This concludes the first phase of the development as it is the greatest need on the campus block.

**Phase 2**  
Further development on North College's south eastern corner can be investigated in future. Programmatic changes can be made along the arcade. The current cafeteria spaces of the North College can be accommodated in the new intervention. Commercial and retail activities along the arcade will ensure more diverse activities and draw more energy towards the city block.

**Phase 3**  
The edge of the Gordon Leith Building along Church Street can be activated with pedestrian activity. The buildings North-East corner, Lecture's Library and offices, can in addition be improved to create an efficient backdrop for the proposed architectural program.

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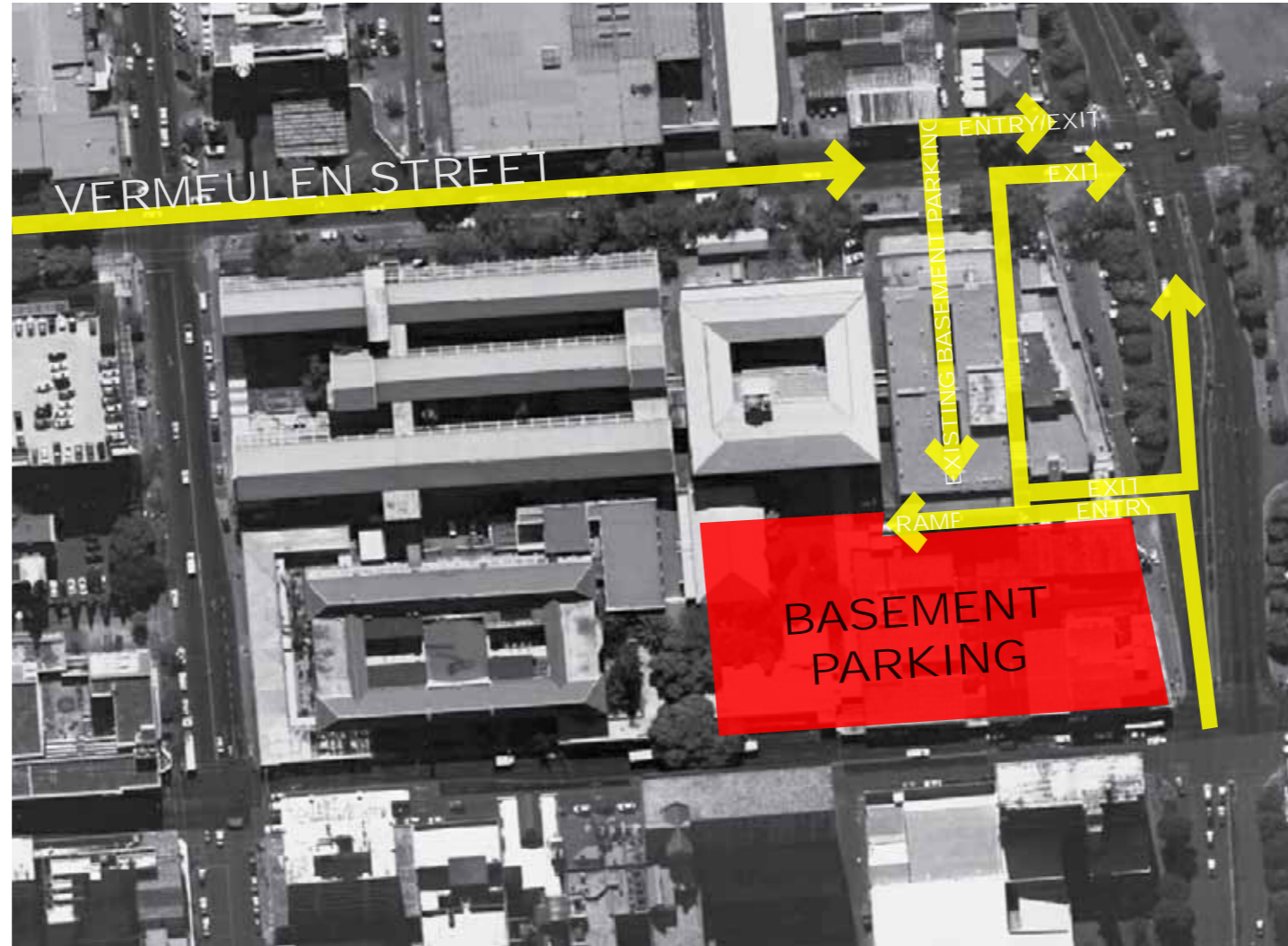
## oads and access

The celebration of historic landmarks and buildings is of importance as it adds awareness and value to campus and new development. Open space between North College and TUT is separated by built fabric. An arcade system is proposed to guide and feed pedestrian energy through the site. The proposed arcade spine will frame views towards the Dutch Hervormde Kerk and National Reserve Bank.

The new intervention proposes an internal public square located in the heart of the campus block. New movement patterns into the public square will emphasize its importance and encourage maximum social interaction among a diverse amount of visitors and users.

Church Street accumulates the most pedestrian liveliness. The existing edge is activated with the student bus stops. Pedestrians and students need to filter through this edge into the public space. This space should be emphasized with events and functions accordingly such as restaurants and retail activities.

Refuse services and deliveries need to be taken into consideration and proper placement needs to be determined. The creation of temporary refuse in the building and the usage of existing refuse areas at the NE corner will solve the problem.



Entry towards mezzanine and basement parking into the TUT science building is located on this edge. Basement parking incorporated in the new intervention will solve the limitations of parking for both campuses. Existing roads provides acceptable access into the city block, however, point of exit is in the southern direction of Nelson Mandela only. By means of opening up the original entrance at Vermeulen Street, enables the turn-off at Nelson Mandela to be multi-directional. This will relieve vehicular congestion. Nelson Mandela drive is also a popular drop-off point for public transport which introduces provision for this along the edge to create vibrancy at the corner, feeding energy into the site.

The crossing over Nelson Mandela drive along Church Street is the threshold from car to pedestrian. Movement patterns along Church Street were investigated to improve permeability into the site. The current bus stop is located along Church Street's narrow sidewalk which causes congestion. Students awaiting bus services gather in the allocated bus lanes and as result. Building setbacks, landscape interventions and flattening the road surface will improve congestion along this street.

Access points into the new intervention will be strategically located at energy points to feed from new proposed open spaces.

FIG 4.8\_Campus Roads and Access Map

# Urban fabric



The existing urban fabric of the campus in particular is of strong geometric order. For a new intervention to take place the geometric grid is of vital importance. New structures should consist of strong geometric forms to continue the urban edge.

The South-East corner of the site is at the eastern gateway of the city. It should be emphasized to create a sense of arrival and gateway into the inner city.

The corner is approached from three directions which challenges a geometric form to occur. This corner is full of vibrant energy from car and pedestrian entering the city. Thus, the corner should be treated in such a way that it attracts and draws energy into the site.

Embedded media technologies will enhance a sense of awareness, participation and consciousness towards campus activities, internal functions and eventually the production of media.

The introduction of trading activities at the corner will attract tourists and commuters along Nelson Mandela Drive.



FIG 4.9\_Campus Geometric Grid Map

## URBAN GEOMETRIC GRID

“The earth is the stage where man’s daily life takes place”

Noberg-Schultz, 1980:5



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“Architecture sets the stage for what is experienced”

McCullough, 2005: 162

“Architecture is not all about the design of a building and nothing else, it is about the cultural setting and the ambience, the whole affair.” Michael Graves

“We must ask ourselves what kinds of time and what forms of freedom we can introduce into the world to encourage the transformation of our docile bodies into subjects with a full range of intelligence and expression.” Ed Keller in Tshumi & Cheng, 2003:

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“Within broadcasting, airing an event ‘live’ – that is, at the precise moment of its occurrence – may be the last stronghold of auratic experience. Liveness...holds the titillation of the uncut, uncensored, and not fully controlled...” Elizabeth Diller in

Tshumi & Cheng, 2003: 110

FIG 4.10 -4.12\_Photo's of and by Author\_Rugby World Cup France 2007



# What is a media lab?



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## CCTV HEADQUARTERS\_BEIJING\_CHINA\_REM KOOLHAAS OMA

Both the Chinese Central Television Headquarters (CCTV) and the New York Times, designed by former Pritzker Prize winners, inspired thinking around theoretical argument. Costing around one billion US dollars each, these architectural monuments, decorated sheds in shiny armor, were designed for the pleasure of the eye.

"An explicit ambition of the building (CCTV) was to try to hasten the end of the skyscraper as a typology, to explode its increasingly vacuous nature, loss of program, and refuse the futile competition for height. Instead of the two separate towers of the WTC, there was now a single, integrated loop, where two towers merge." (Rem Koolhaas, Content, 2004: 44)

The 51-storey CCTV building is part of a media park to form a landscape of public entertainment, outdoor filming, and production studios. Two glass and steel towers rise from ground level and eventually merge in a dramatic, seemingly impossible cantilever (www.oma.eu). The form of the building has been criticized for its so-called lack of cultural reference.

Xiao Mo, a retired professor of architecture from Tsinghua University maintains that: "There is a bird's egg in the South, a bird's nest in the North, a bird's tree in the East, and a bird's cage in the West. They turned our beautiful Beijing into the world's bird capital... cost would be 5 billion, which included 1.5 bil -

lion to play around with an overhang more than 100 meters high... Then I learned that the correct figure was 10 billion... The overhang, which I had seriously underestimated as merely a game, actually had a far more profound "implication": the main building is a naked woman kneeling with her rear end facing the audience..." (Xiao Mo, ABBS (Chinese); translated on www.danwei.org) Less faint-hearted critics can visit the Chinese cultural website: [http://www.danwei.org/architecture/rem\\_koolhaas\\_and\\_cctv\\_porn.php](http://www.danwei.org/architecture/rem_koolhaas_and_cctv_porn.php).

The New York Times building was designed to be symbolic of the city skyline and third tallest building in New York. This introduced a 52-storey glass box which represents the transparency and openness of media. The latest technology, energy saving and daylight research were supposedly used to make the building sustainable. Daver Steels, one of Europe's leading structural steel manufacturers, shipped 280 tons of fully assembled tie bars direct from the UK for the tensioning of the structure. The facades consist of low-emissivity glass curtain walls and ceramic tube screens to reduce cooling loads. There is many recent speculation of New York Times facing bankruptcy and the building has also become popular amongst tower-climbers, protesting the events of 9/11 and the global energy crisis. (www.nyc-architecture.com)

## NEW YORK TIMES MEDIA HEADQUARTERS\_NEW YORK\_USA\_RENZO PIANO BUILDING WORKSHOP



FIG 4.13\_CCTV under construction



FIG 4.14\_CCTV media park concept image



FIG 4.15\_Facade of NY Times Building  
FIG 4.17\_Concept model of NY Times Building



FIG 4.16\_NY Times Building's transparent facade at night



# What

is a media lab in the south african context?



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"We believe architecture is practical and not a fine art and it is the question of use which distinguishes architecture from the other arts..." Jo Neoro (Architecture South Africa, September/October issue 1996)

This building is specifically chosen as it is manifested in the theoretical argument of the discourse. The building represents a design idiom for media production within the South African context.

Velocity Films in Rivonia serves as an innovative interpretation of practical and social consciousness whilst drawing upon a contemporary agricultural and mining vernacular tectonic of the African Highveld. The architectural form is typologically driven which consists of an integrated relationship between its functional requirements, contextual- and climatic responses. This is also celebrated with a socially interactive working environment. The flux nature of film production and creative nature of the client resulted in functional requirements being able to adapt towards future needs comprising film production- and recording studios

The east-west axis of the building is not only determined by boundary streets, but by jacaranda trees incorporated in the design to assist with northern solar-control.

VELOCITY FILMS FILM PRODUCTION OFFICES JOHANNESBURG NEORO WOLFF ARCHITECTS

Double storey offices spaces towards the north and southern service spaces are merged with a socially interactive spine which flows into the canteen area. Office- and canteen spaces transcends onto terraces as interface between building and garden.

Materials emphasize the industrial nature of the building. Steel and concrete is used as main structural elements, while infill elements consist of brick, timber and corrugated sheeting. Robust production studios contradict the more passive timber floor and drywall office spaces. Uncomplicated industrial detailing acknowledges the limitations of available building skill and compliments the nature of a film production in progress.

Natural light, cross-ventilation and solar-control served as an important design determinant. The roof became the structuring element which introduces natural elements towards interior spaces. The central circulation spine further encourages ventilation and pergolas assist solar-control. (Joubert, 2009:40)

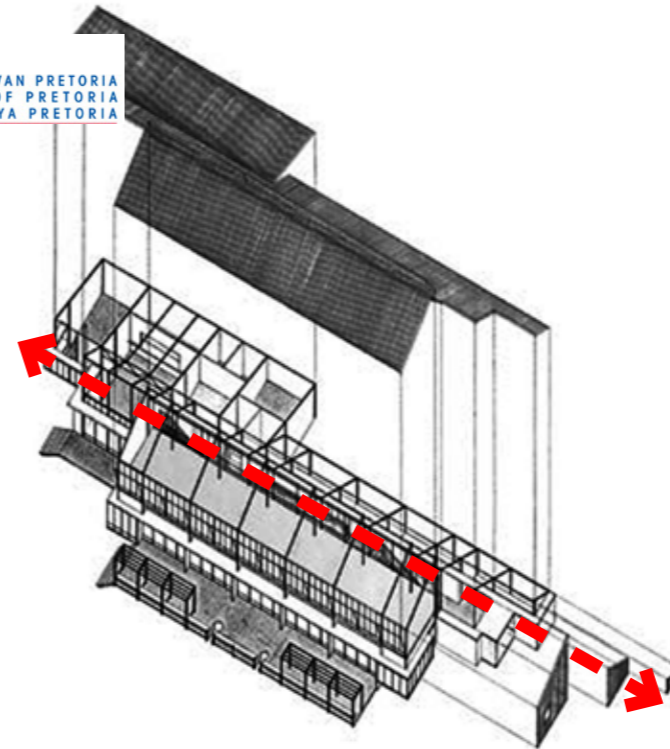


FIG 4.18\_Social interactive street feeds into spaces.

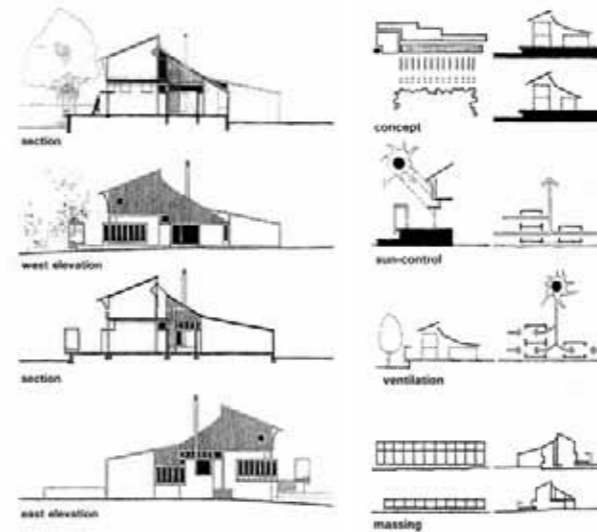


FIG 4.19\_Concept Diagrams



FIG 4.20\_Social interactive central circulation street spatially connected with outside



FIG 4.21\_Raised studio and canteen terraces,interface between building and garden



FIG 4.22\_Jacaranda trees and steel portal frame solar control on the North facade.



# Design concept

The architectural design concept is based upon the spirit of an urban classroom being generated out of the context while considering the sensory experience. The concept of an urban stage which finds its origin out of the contextual influences of city and urban campus can be summarized through the following principles:

1. On urban scale the campus block is integrated into the urban fabric by means of arcade systems that feed into a central public space. These intend to draw attention and energy into the campus block, making it a vibrant destination place and gateway into the heart of the inner city and cultural district.

2. On programmatic scale the role of the urban stage is to create an internal and external experience. The building encourages social interaction, awareness and participation towards the production of media within the space of the city. Internal experiences are arranged along a central circulation spine which expresses sensory phenomena and acts as the social voice of the building. The external skin is tectonically and programmatically expressed as a series of stages and events to create an experience for the audience: public and by-passer. The media production progresses along this skin with the final product celebrating the urban gateway.

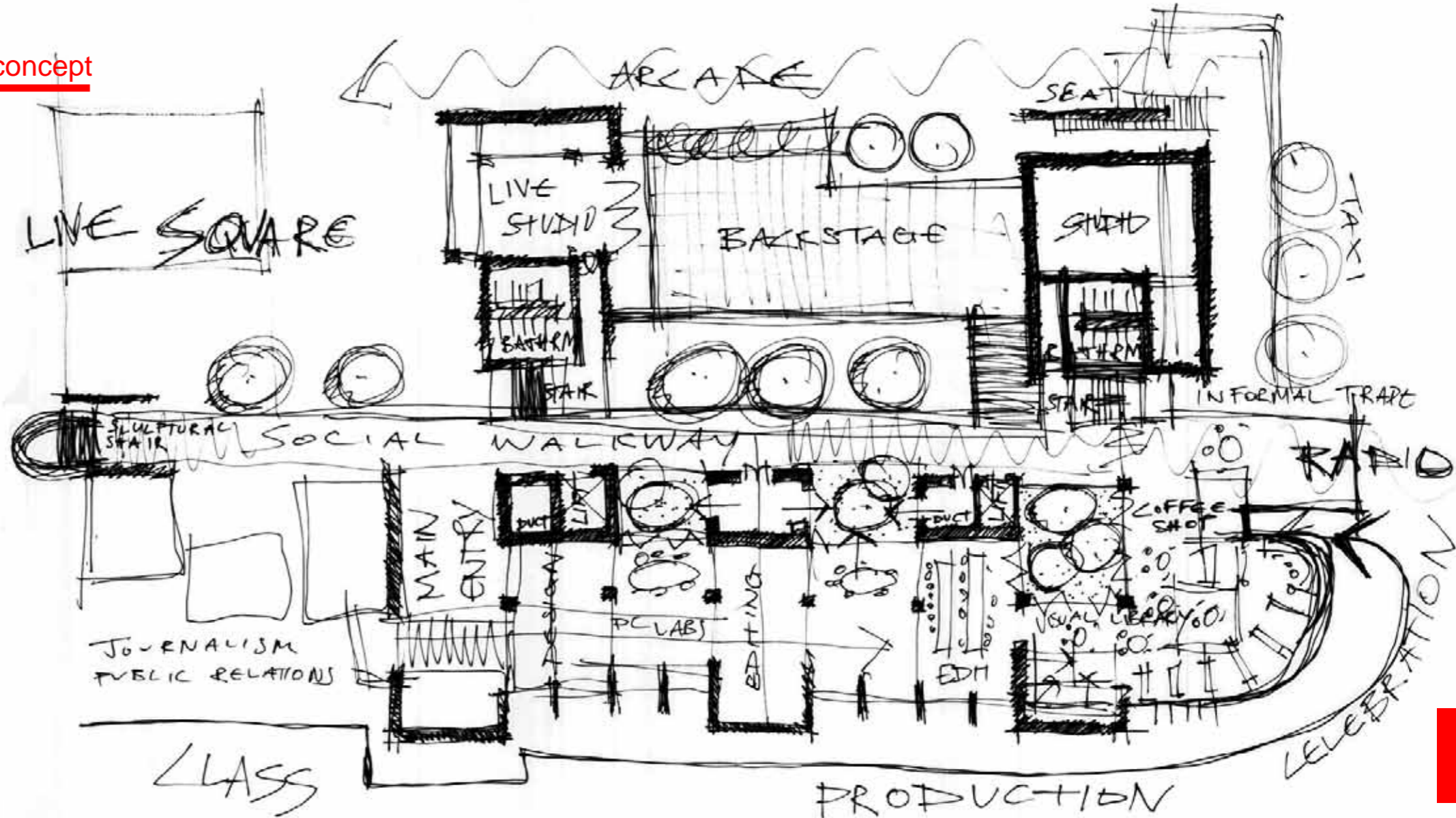


FIG 4.23\_Conceptual Diagram indicated on Plan

# Design process

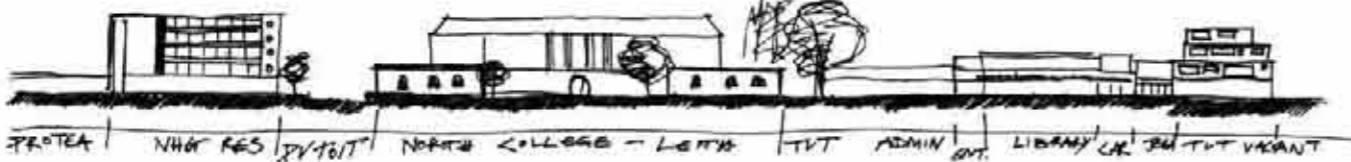


FIG 4.24\_South elevation along Church Street

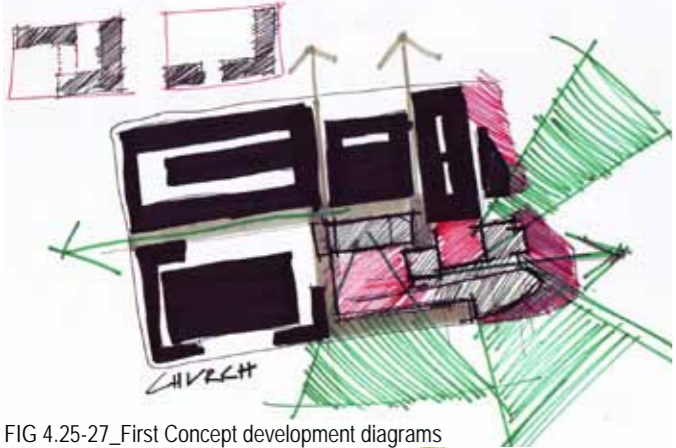


FIG 4.25-27\_First Concept development diagrams



FIG 4.28\_East-West Sectional diagram



FIG 4.29\_North-South Sectional diagram

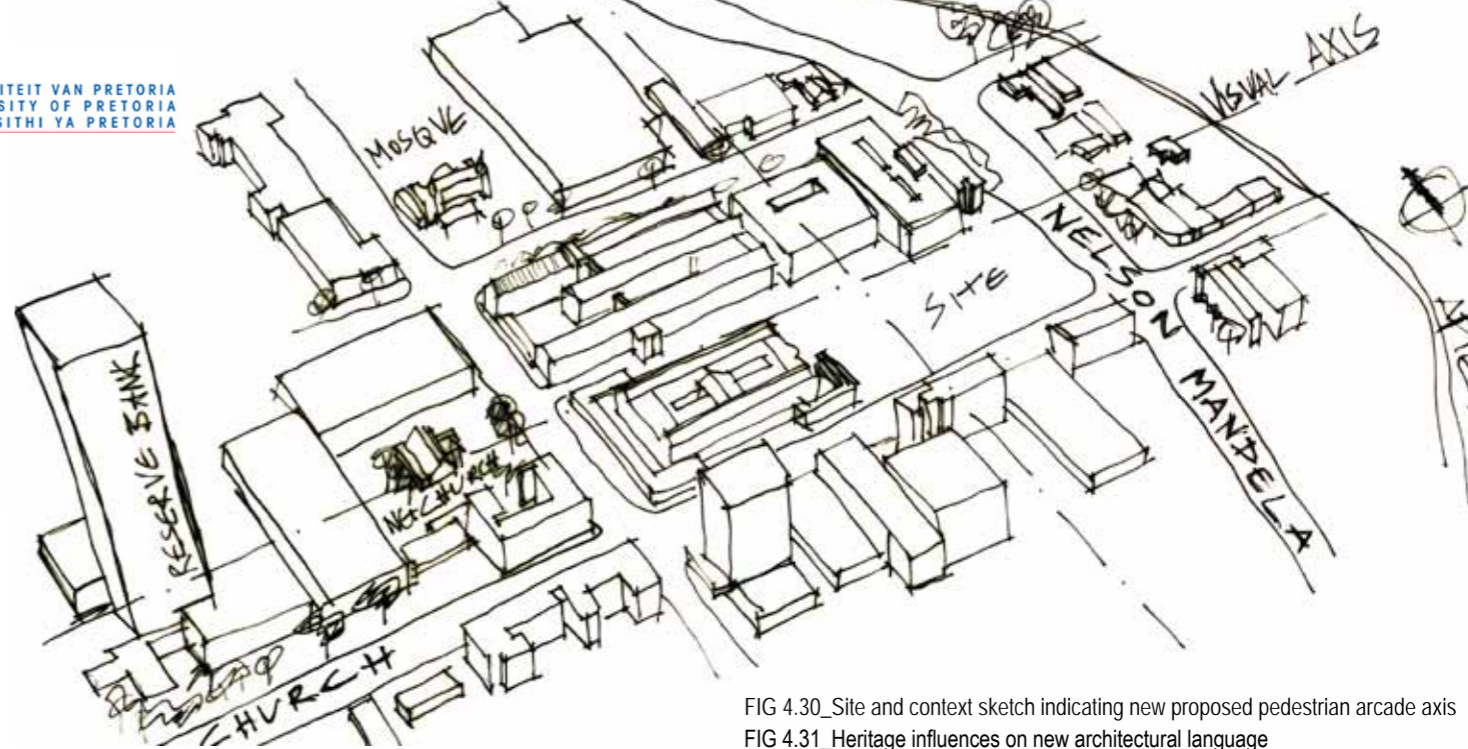
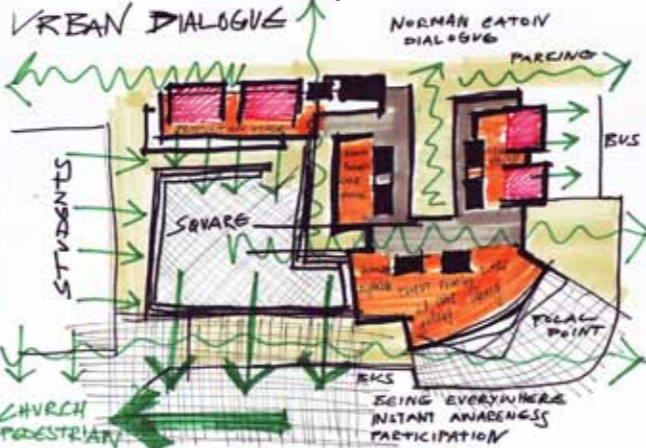
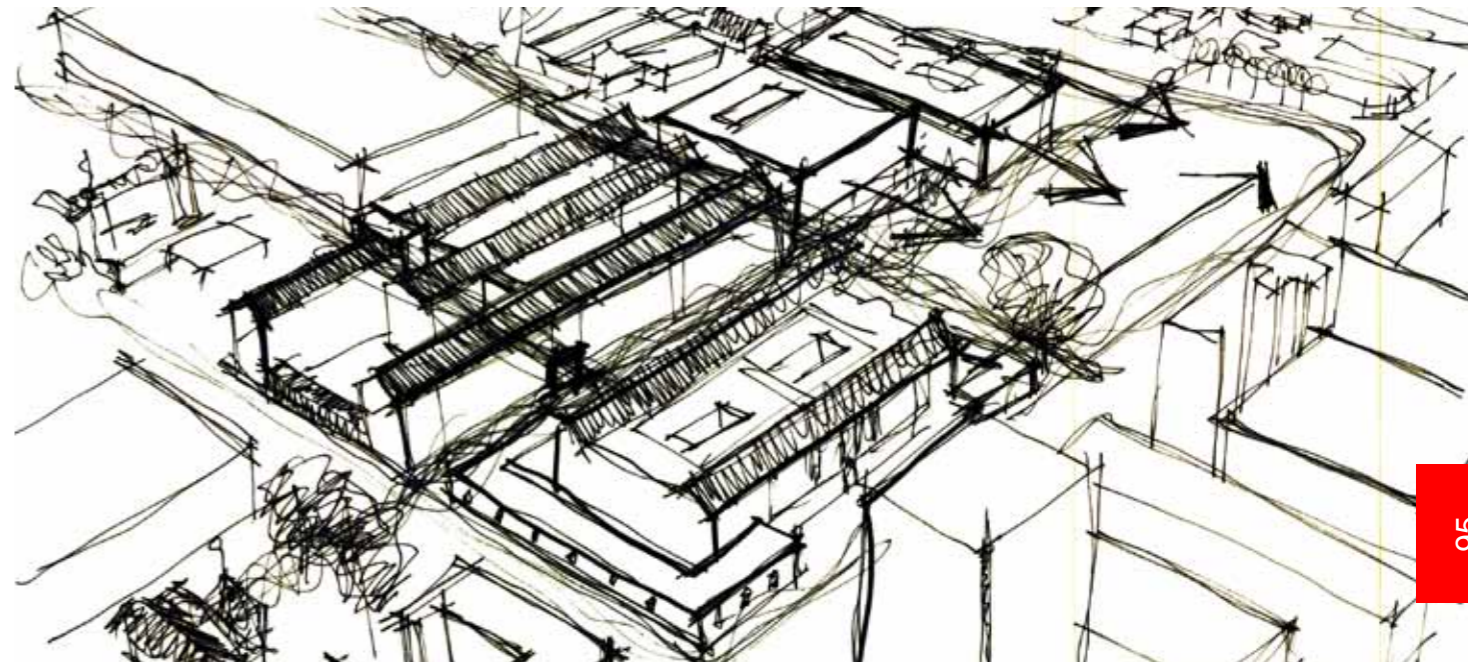


FIG 4.30\_Site and context sketch indicating new proposed pedestrian arcade axis  
FIG 4.31\_Heritage influences on new architectural language



# Stage 1

- Became the stepping stone from which further design decisions were made.
- Used existing fabric as generator for an architectural language.
- The existing (tectonic hollow brick) skin boxes with elevated ground floors of the Eaton & Louw building served as primary inspirational source.
- This building consists of a hollow brick skin framed by overhanging roofs. The three boxes are tied to a central circulation spine.
- Courtyards within the buildings emphasise internal- external experiences along this route.
- **These aspects gave birth to the idea of a “stage.”**
- The concept of five loose floating boxes connected to a circulation spine, and bound to a sculptural roof element was the result of the first design.

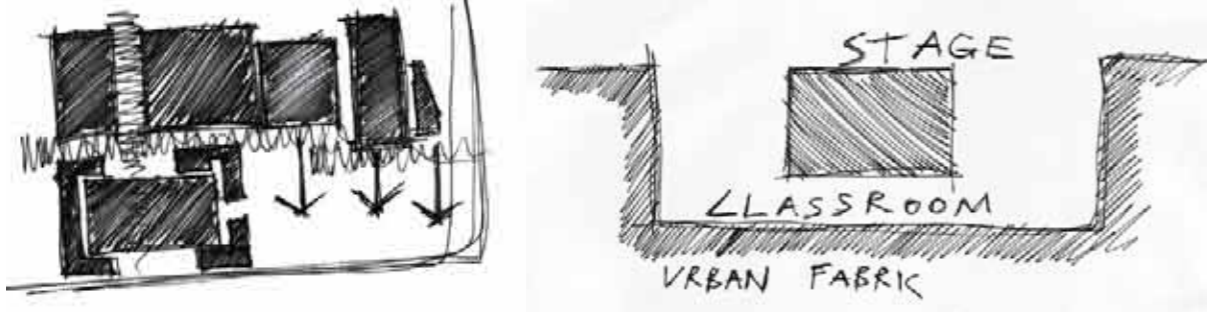
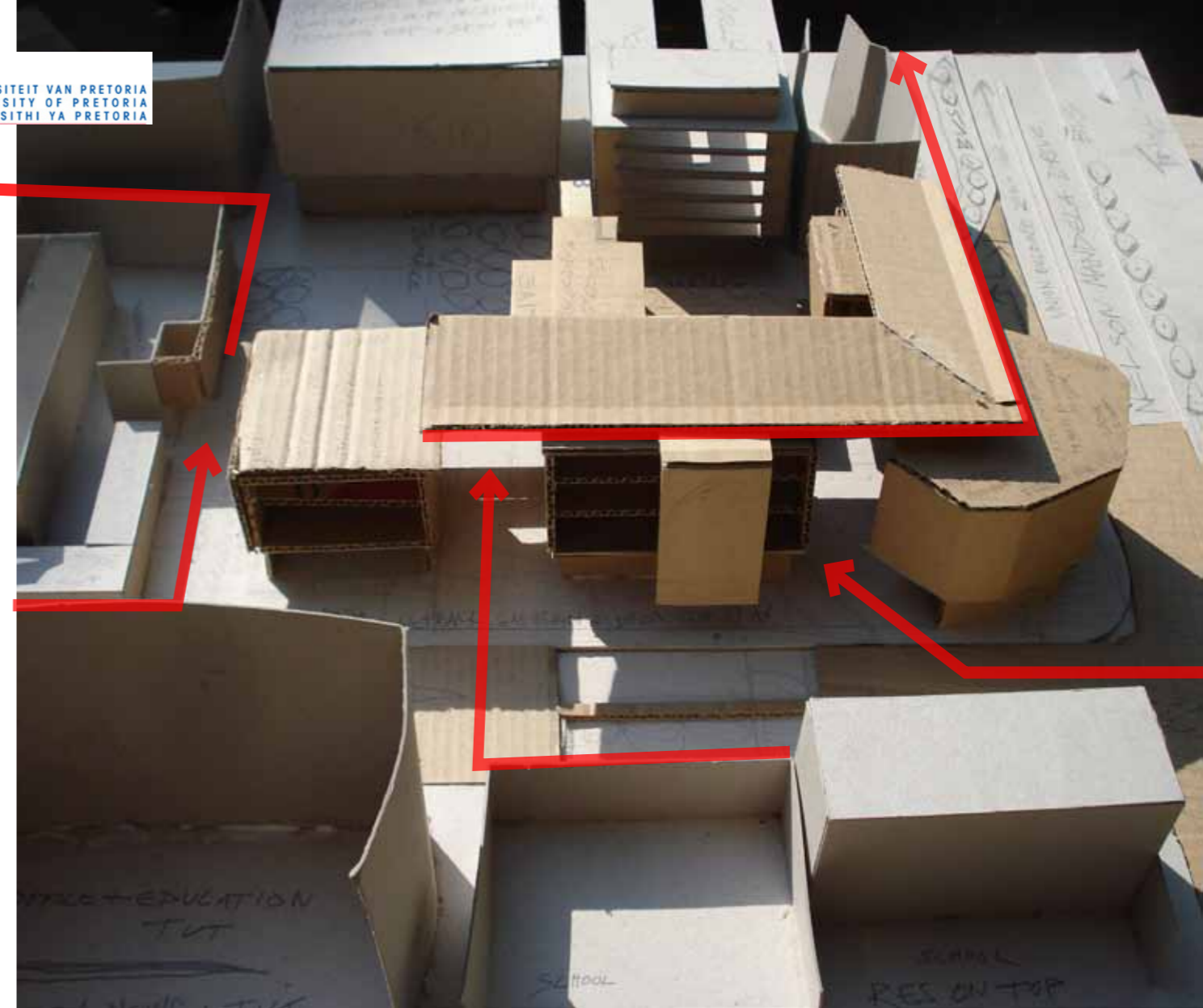
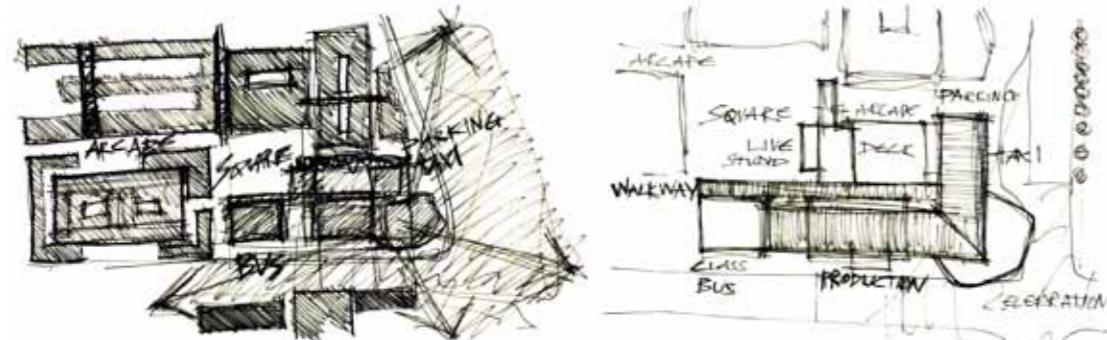


FIG 4.32-35\_Stage 1 development diagrams in response to contextual analysis



- The external skin acts as a stage which expresses the production of media.
- The floating boxes are expressed through a series of stages directed towards the public interface.
- This introduces public participation on ground level which creates exterior experiences, making the public aware of the media production in process.

FIG 4.36\_Stage 1 concept model



- Three stages along Church Street display the growing dynamisms of media production: from cultural district to classroom, to production and celebration of the final product.
- An organic bound box with flat surfaces in all directions, bound to the sculptural roof celebrates the sense of arrival on the corner of Nelson Mandela and Church Street.
- This serves as a permeable edge, emphasised with a digital media screen, to attract and draw energy towards the building and into the public square.

FIG 4.37\_Production progression along Church Street



- Existing mezzanine parking levels of the Eaton & Louw building resulted in a raised internal courtyard, forming the “backstage area.”
- This space is opened up, creating a dialogue with the historical facade which serves as the fourth wall of the internal space.
- The final box, enclosed recording studio, creates a sound barrier and is also activated with a public transport drop-off point which feeds energy into the public square.

FIG 4.38\_Activation of stages along the edges



FIG 3.39\_Eastern Aerial view (above)



FIG 3.40\_Activation of Public Square (below)

FIG 3.41\_Nelson Mandela Drive celebration

FIG 3.42\_Nelson Mandela Drive Aerial View

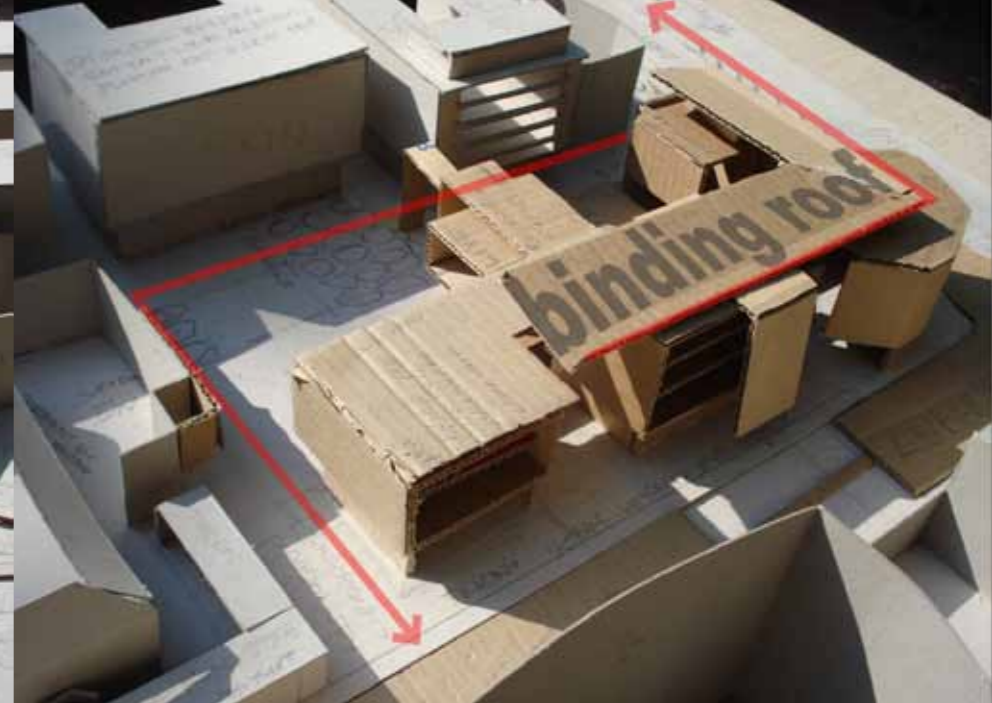


FIG 3.43\_Sculptural Roof Canopy binds loose boxes (above)

FIG 3.44\_Nelson Mandela Drive Aerial View (below)



# Stage 2

The next investigation done was in terms of the architectural language on the facade along Church Street. The adjacent North College building is of a neoclassical architectural language designed by Gordon Leith, the pioneer of his time. This building can be summarized as a three storey core building, symmetrical facade with concrete columns at the entrance and framed under a steep clay-tile roof. Two single storey flanks (bastions) with flat roofs guide pedestrians towards the entrance. (Le Roux, 1991: 12)

These elements were re-interpreted in the construction of a second hand-built model. The idea of central expressive columns framed by a roof with wings conducting pedestrians into the internal spaces, grounded on a plinth became the decisive architectural language along Church Street.

Existing heights of the campus, surrounding context, grids, technical precedents etc. were measured and studied. This resulted in the implementation of basement parking which established a structural grid from which spacial arrangement was ordered. The stereotomic brick skin of the Eaton & Louw building influenced the implementation of a functional mesh skin along the northern walkway. This skin attached to the walkway reads as a separate mass element. The principles of Kahn also introduced the play of geometry. Internally this will add towards sensory experiences along the walkway through filtered light and reduced heat loads in summer. The floating roof elements which bind recording boxes were tied to the ground. These arms became ordering elements, framing the arcade spine and creating spatial connections with the existing context.



FIG 4.45\_Concept model 2 Church Street elevation



FIG 4.46\_Sculptural arms framing circulation

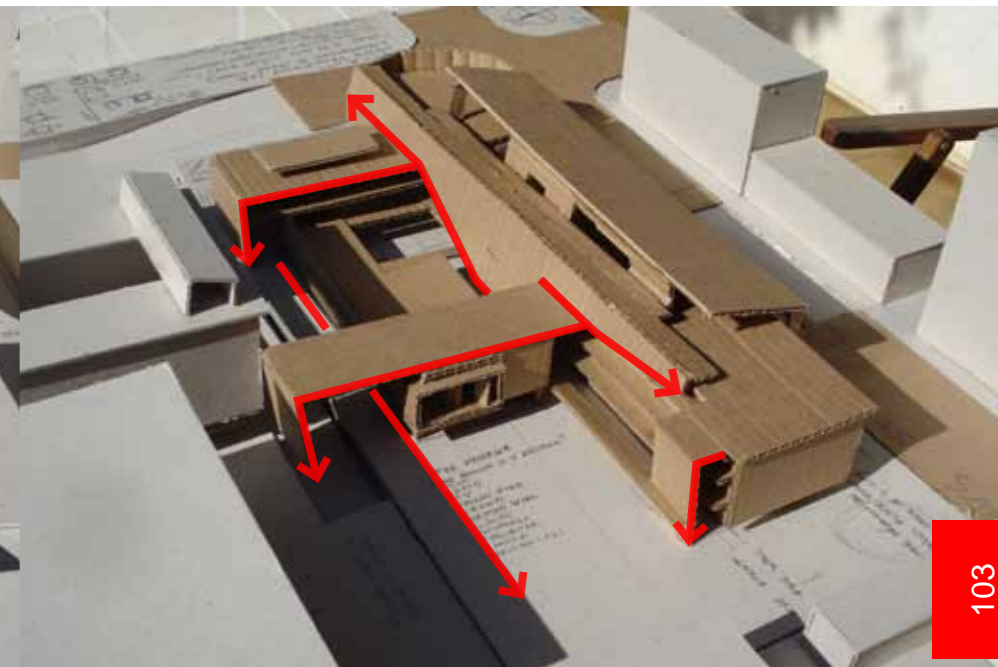


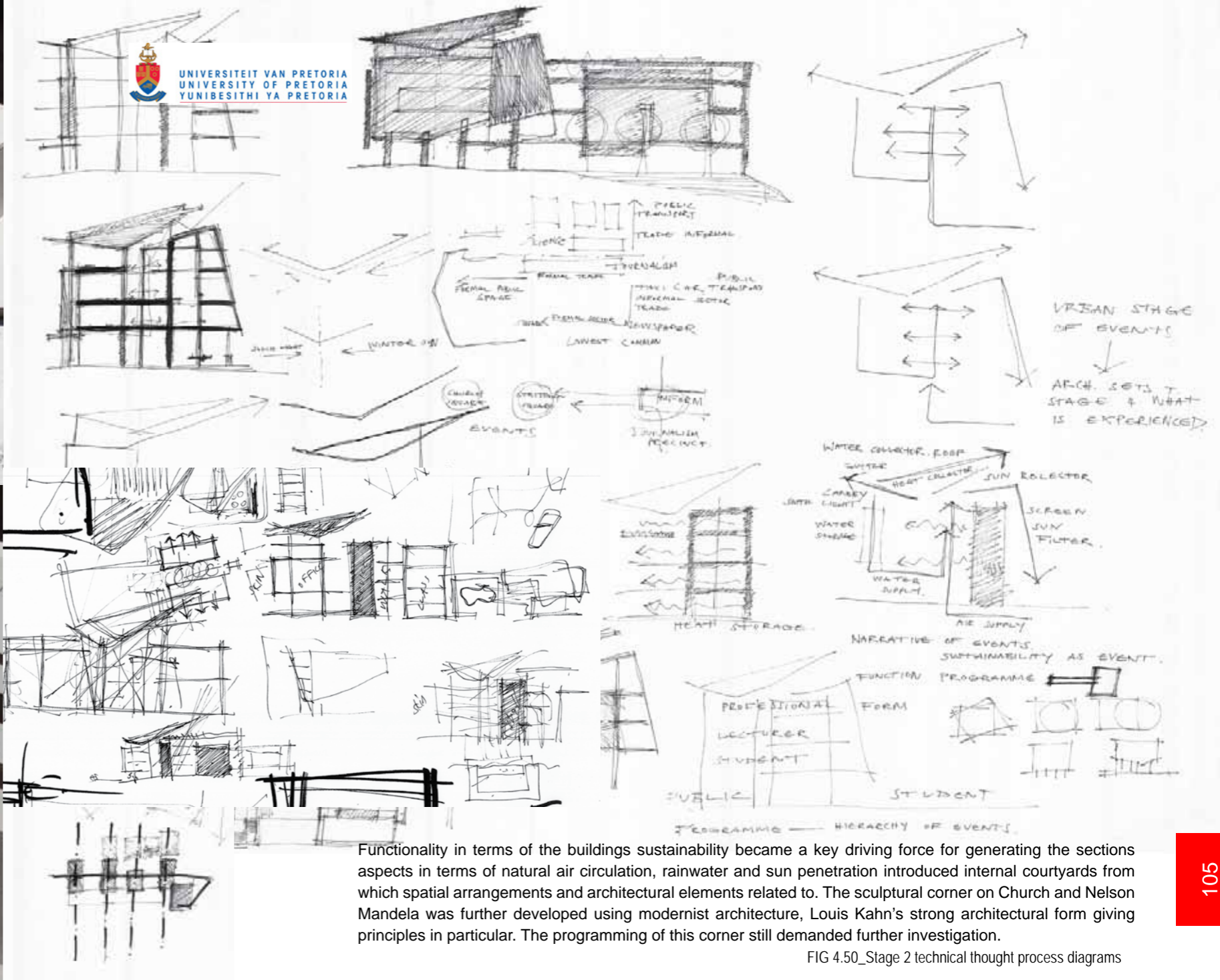
FIG 4.47\_Sculptural arms and mesh skin



FIG 4.48\_Concept model 2 aerial view of south eastern corner



FIG 4.49\_Concept model 2 aerial view of north eastern corner



Functionality in terms of the buildings sustainability became a key driving force for generating the sections aspects in terms of natural air circulation, rainwater and sun penetration introduced internal courtyards from which spatial arrangements and architectural elements related to. The sculptural corner on Church and Nelson Mandela was further developed using modernist architecture, Louis Kahn's strong architectural form giving principles in particular. The programming of this corner still demanded further investigation.

FIG 4.50\_Stage 2 technical thought process diagrams





# Stage 3



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- Comparisons between model the two hand models concluded that the **design had lost some of its elegance and sculptural quality.**
- The next design phase analysis the human experiential perspective in **combination with the earlier** concepts.
- It was concluded that the building should only have **one entrance.** This is celebrated as the entrance to the building and public square, located adjacent to the Church Street Bus stop. The entrance creates a **central pivotal axis** and prominent pedestrian entry point where most of the existing pedestrian energies are located.
- **Vertical elements** introduce prominent hierarchies of space from pedestrian street level perspectives. This created a legible entrance and relationship with the verticality of the National Reserve Bank.
- Timber balconies express the voids between the internal functional programming and exterior mass.

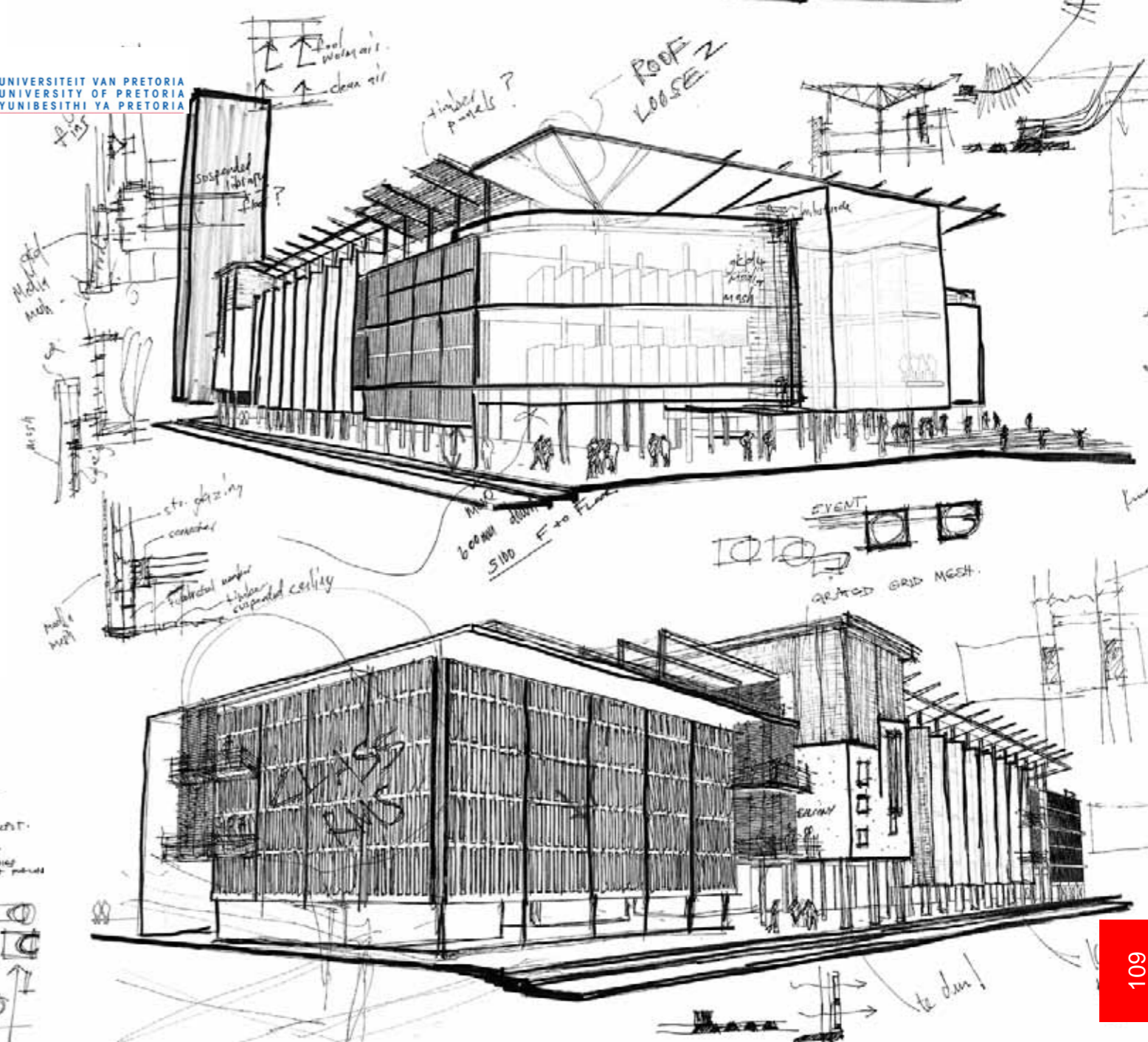
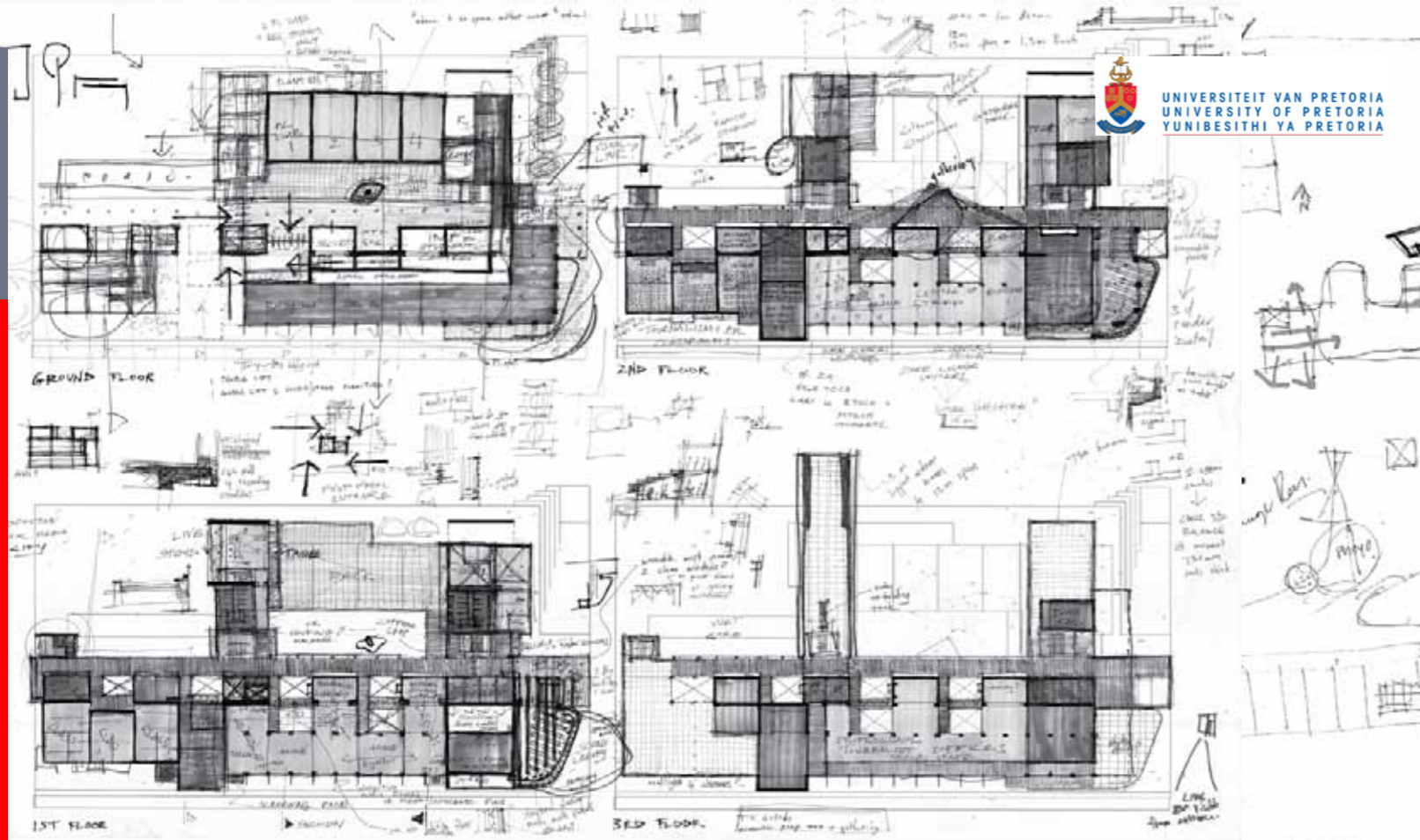


FIG 4.56\_Stage 3 Design Development diagrams

FIG 4.57\_Stage 3 Three dimensional Design Development



- The **roof** was redesigned to read as a **separate binding canopy**. This addresses **functionality** and exterior **spatiality**. Internal spaces along Church Street open up to receive maximum glare free **southern light** with the roof pitch **guiding rainwater** down to service cores.
- The roof becomes a prominent binding element, extending as an overhanging canopy, and **framing external space**.
- The linear walkway which reads as a **mass skin** was **punctured with a balcony**, introducing a social connection with the backstage area.

FIG 4.58\_Stage 3 Planning development

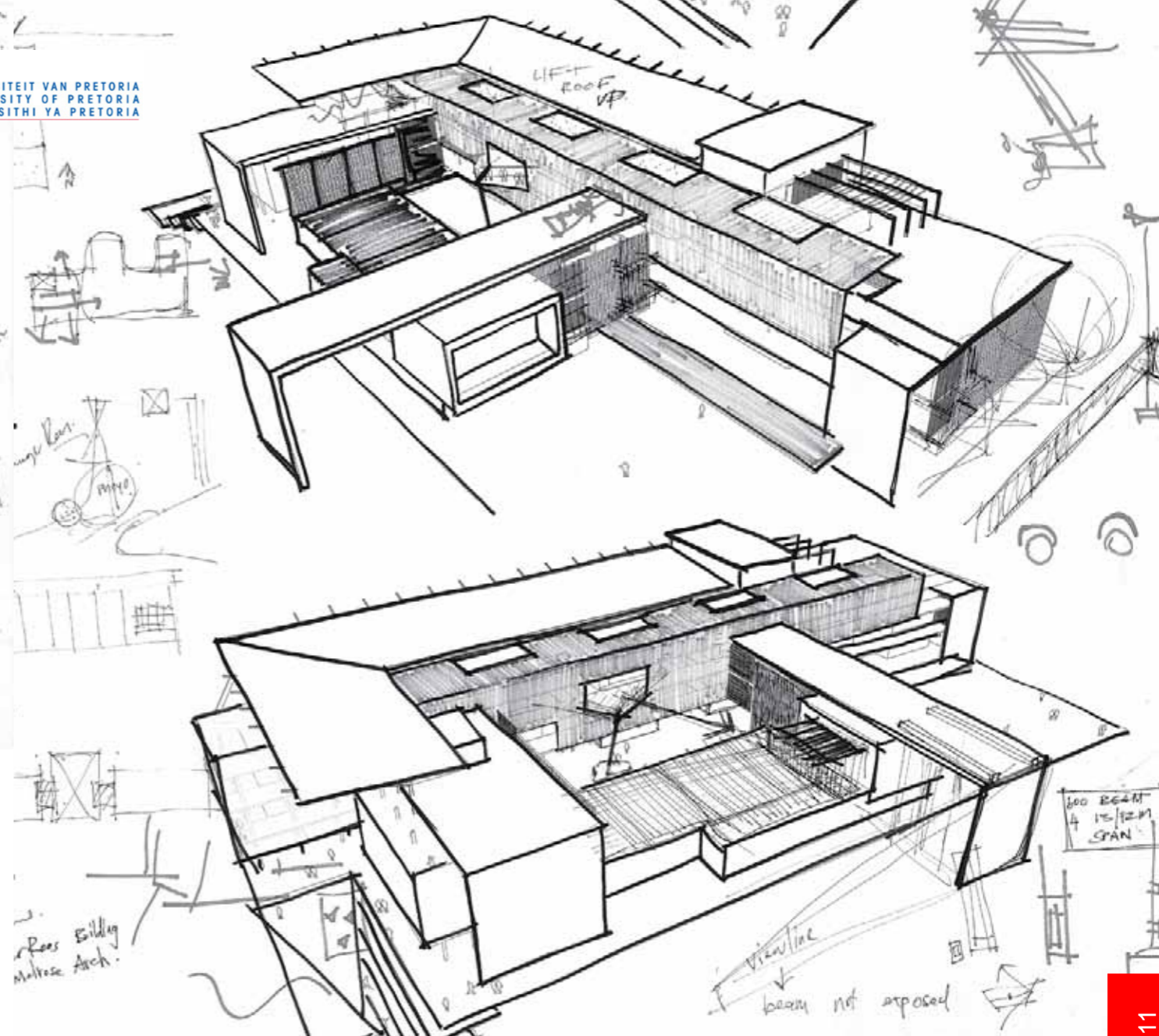


FIG 4.59\_Stage 3 Three dimensional development

# Stage 4

- Playoff between **stereotomic and tectonic elements** were investigated.
- **Mass elements pulled out** of the Church Street façade for pedestrian experience - being part of the building, walking in/under it.
- The classroom **facade** was pulled back to express the tectonic language of the **existing tree**.
- The arms which binds the floating recording studio boxes and arcade, were used as **sculptural elements**.
- The **horizontal concrete was raised** to express its stereotomic qualities.
- **Agging process** of the building expressed by guiding water down to ground level, and emphasized as event and gathering place
- Stereotomic 9m mass grid of the building wrapped with a tectonic 4.5 grid, **being true towards material properties**.

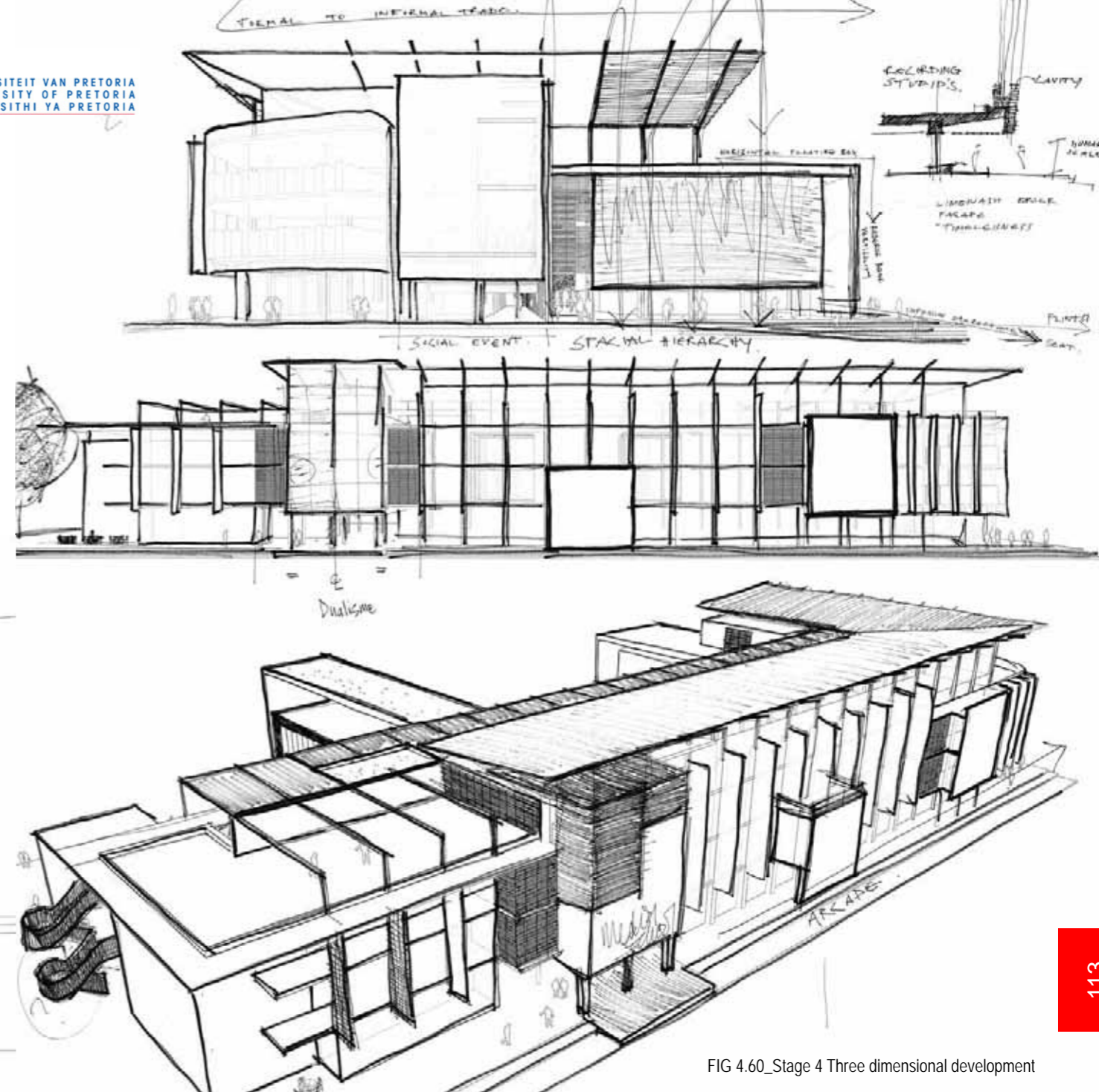
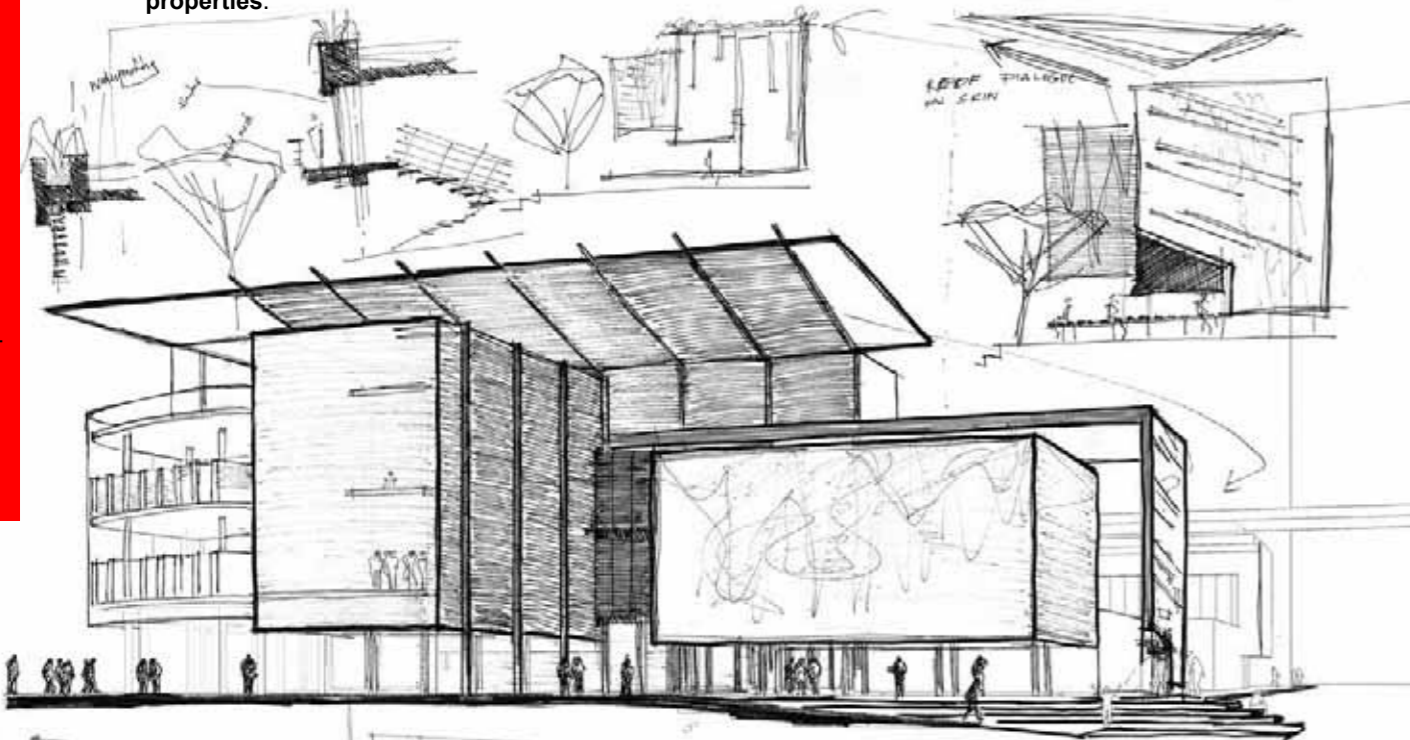


FIG 4.60\_Stage 4 Three dimensional development

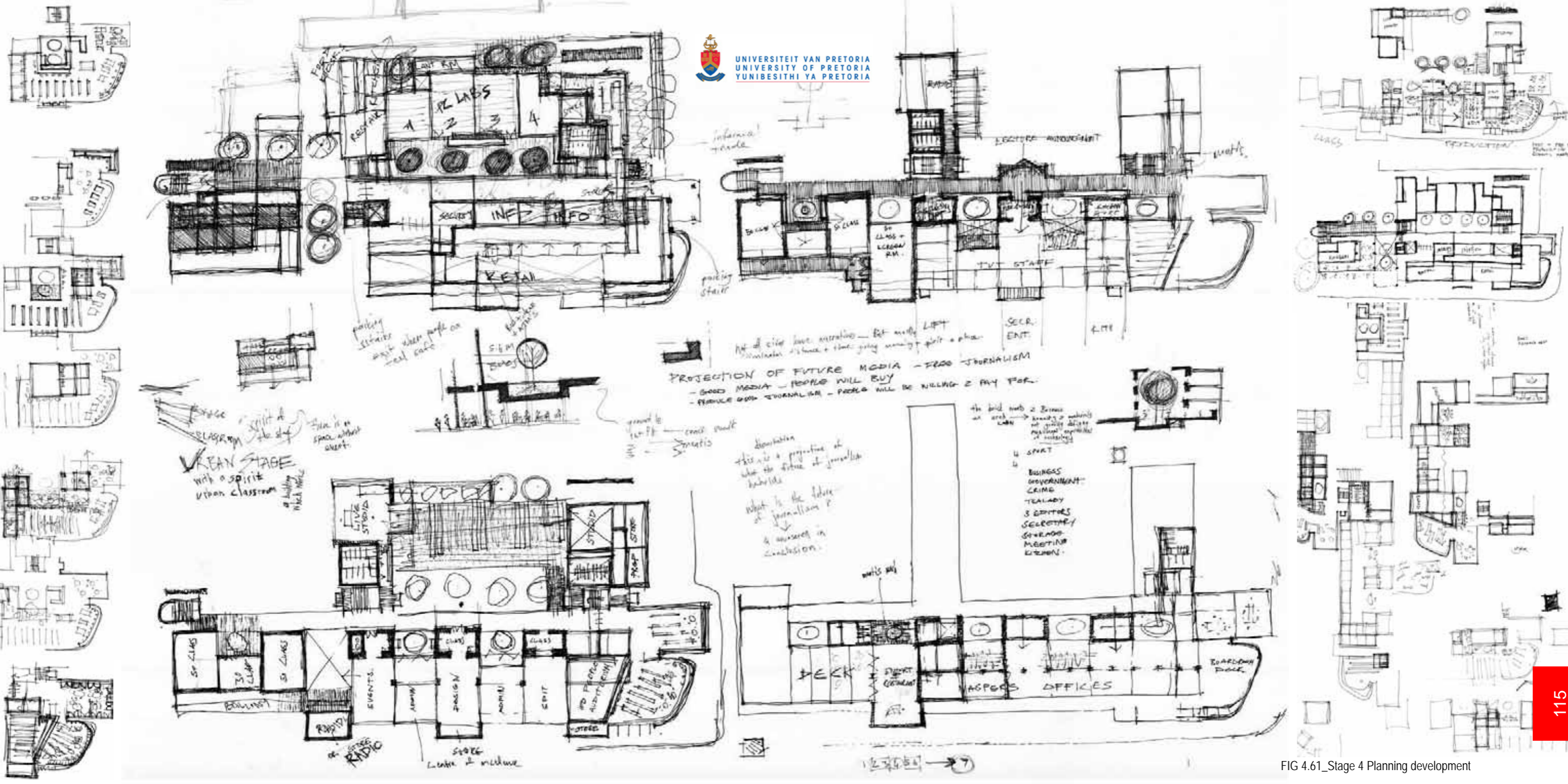


FIG 4.61\_Stage 4 Planning development

# Stage 5



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- Programmatically this stage **concluded the design process**; as discussed with Prof. Diederichs.
- The auditorium was replaced with a **roof terrace multipurpose hall** above the classrooms: transgression from classroom to social classroom.
- **Libraries celebrated** on the prominent corner on Nelson Mandela Drive as the final product.
- **Circular rings** in the flat roofs **above garden spaces** were discovered by overlapping sketch plans.
- This however, shares a **similar interest as the Brazilian Modernism of Norman Eaton's earlier work**, one of the pioneer architects in Pretoria during the 1940's and 1950's: puncturing floating roofs with organic shapes above roof gardens.

FIG 4.62\_Stage 5 Three dimensional development

