

*Figure 7.1: Maquette
iteration 5 - pedestrian
link (Author 2019)*

Design development

07

Applying design informants

The Apies river played a significant role in the establishment of the city of Pretoria as it contributed towards the well-being of its people, on a productive and spiritual level. Therefore it is important for the new programme to re-establish those lost connections between man and the Apies river.

For the architecture to successfully reconnect man and nature, it needs to address the current conditions on site that have caused the disconnect and the loss of place. The new structure must become an interface between the isolated channelised Apies river, the private DTI and the “lost” in-between public spaces that are underused.

By positioning the new structure between the river, DTI and the southern street edge, a dialogue

is formed between public/private and man/nature. An entrepreneurial programme is a suitable response to the site's current economic condition as it has the opportunity to support both informal and formal economies by providing infrastructural and entrepreneurial/business support through a connection with DTI.

On the southern edge, the market space is activated by the busy pedestrian flow, which in turn encourages more vendors to be established as it provides the necessary infrastructure on site for vendors and shop owners to function. The market space acts as a deep threshold, drawing people away from the street edge and into the site, encouraging not only frequent social interactions, but also more visual and physical connections with the Apies river.

The next transition from the public market space to the private space, function and resources of DTI is through

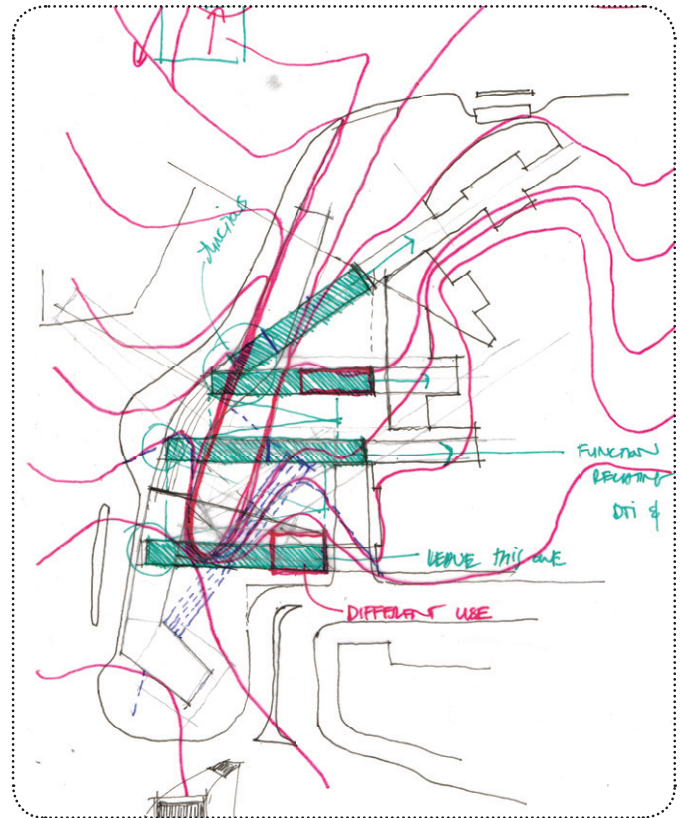
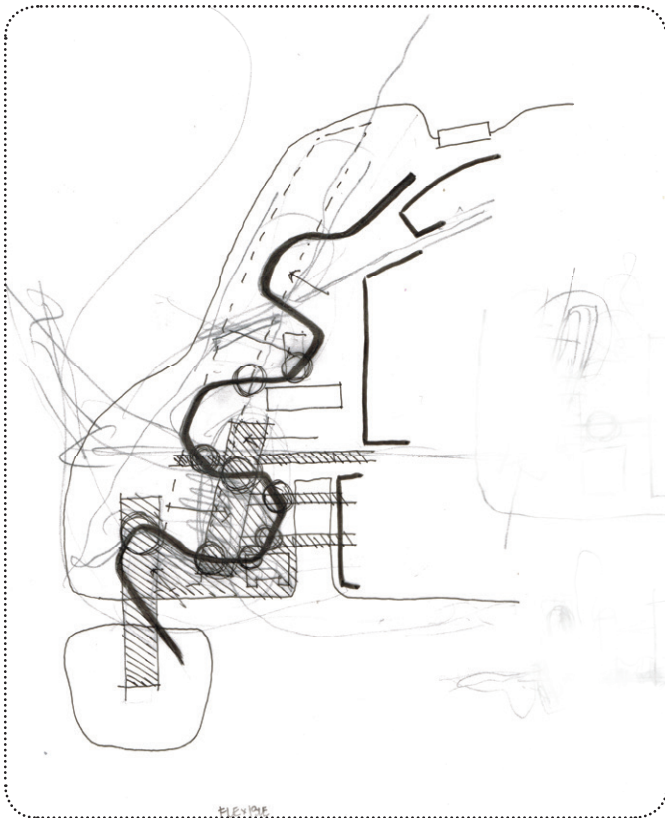
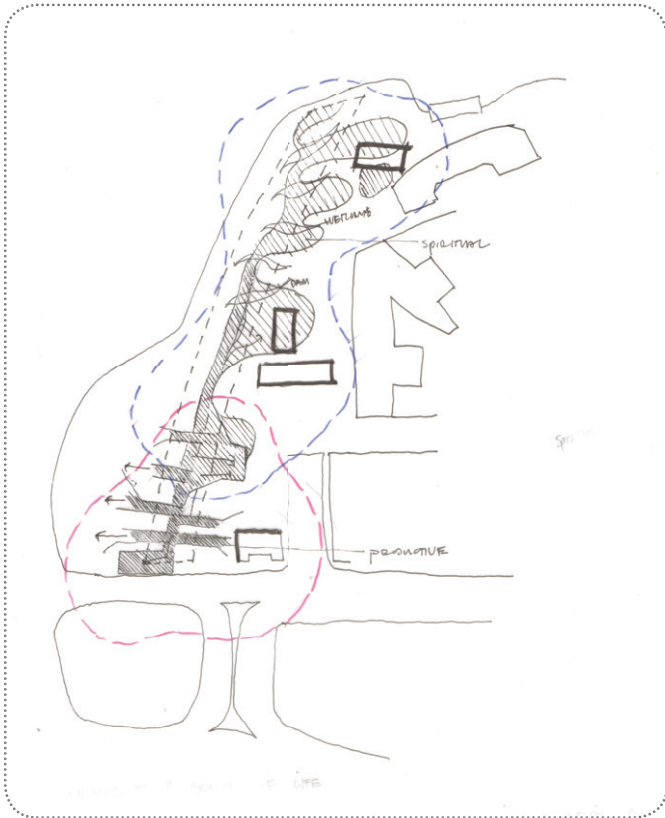


Figure 7.2: Top left: Response to Apies river (Author 2019)

Figure 7.3: Bottom left: Conceptual response to landscape (Author 2019)

Figure 7.4: Top right: Conceptual programmatic response (Author 2019)

Figure 7.5: Bottom right: Conceptual formal response (Author 2019)

the business incubator. The incubator sits perpendicular to the street edge and extends deep into the site. In order to still have a visual connection with the Apies river from the public market space, the incubator's spaces are halfway submerged underground, thus keeping the sight lines open.

Formally, the structure responds well to the street edge and river, but functionally and climatically the east-west orientation isn't favorable. By cutting the incubator's space up and rotating them to a north-south orientation, better thermal performance is achieved and easier physical connections with DTI is made possible.

By fragmenting the structure, a gentler design is achieved that is not so opposing as compared to DTI, and is also easier to embed within the landscape, strengthening the connection with the natural landscape. From the southern street edge

to the northern part of the site, the design is developed to trans-configure our lived experiences, from man-made to natural.

A progression of architecture and experiences takes place as one moves deeper into the site, having stronger spiritual connections with the Apies river as the architecture is deeper embedded in the landscape.

Figure 7.6: Conceptual layering on site (Author 2019)



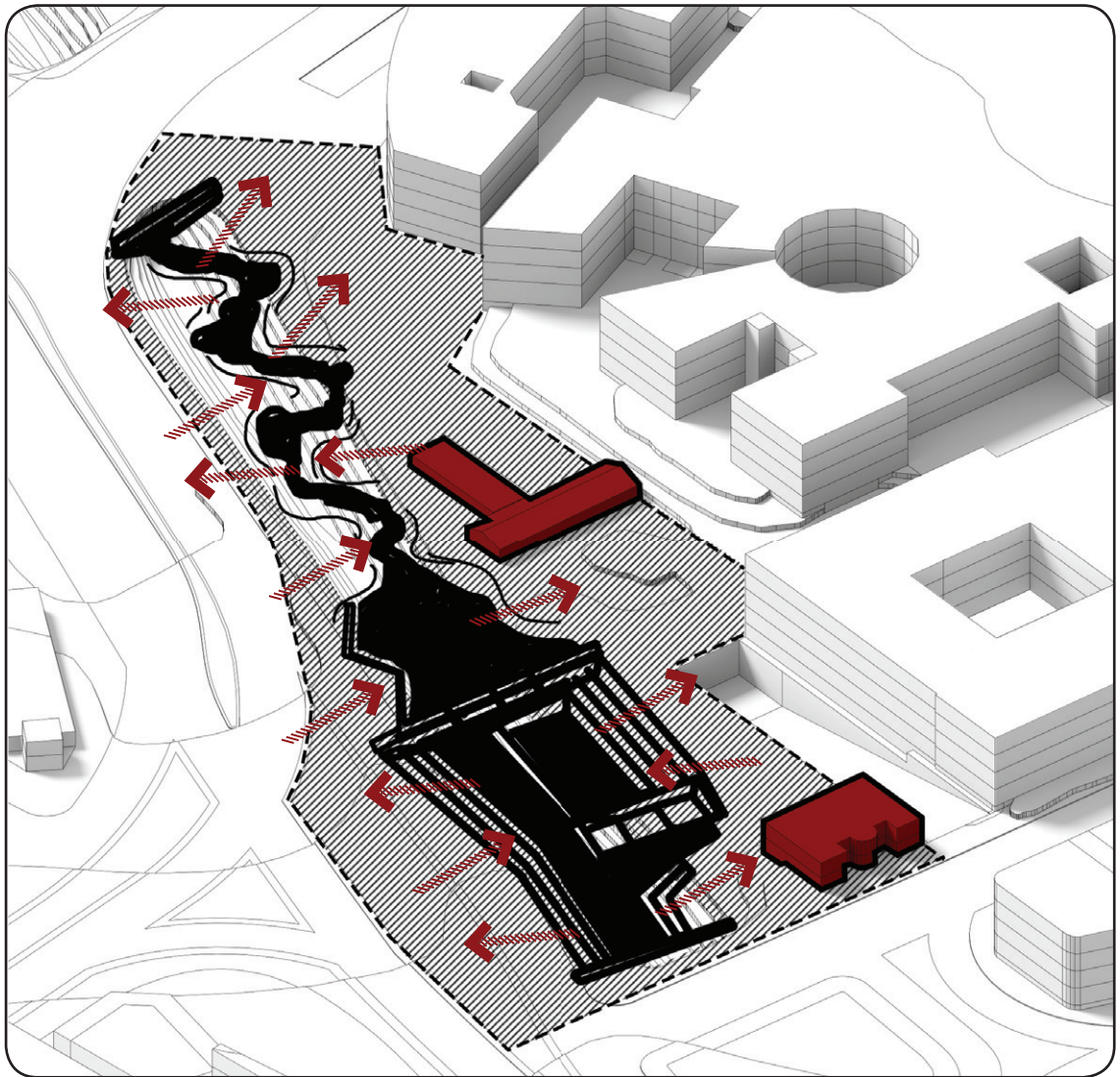


Figure 7.7: Reconnect the Apies (Author 2019)

Reconnect the Apies river

Removing modifications where necessary to allow for new possible spiritual and productive interaction/connections with the river.

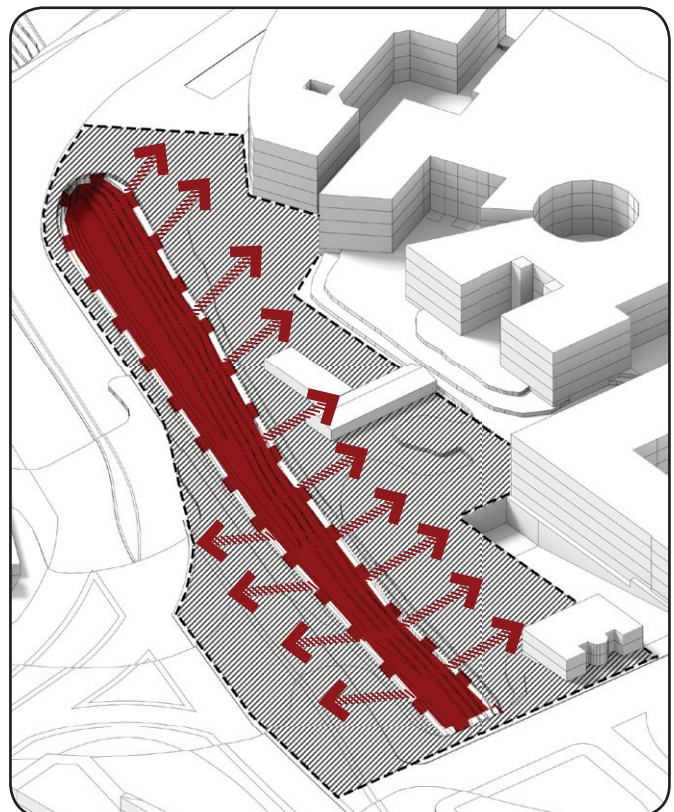


Figure 7.8: Apies river current condition (Author 2019)

Design Informant

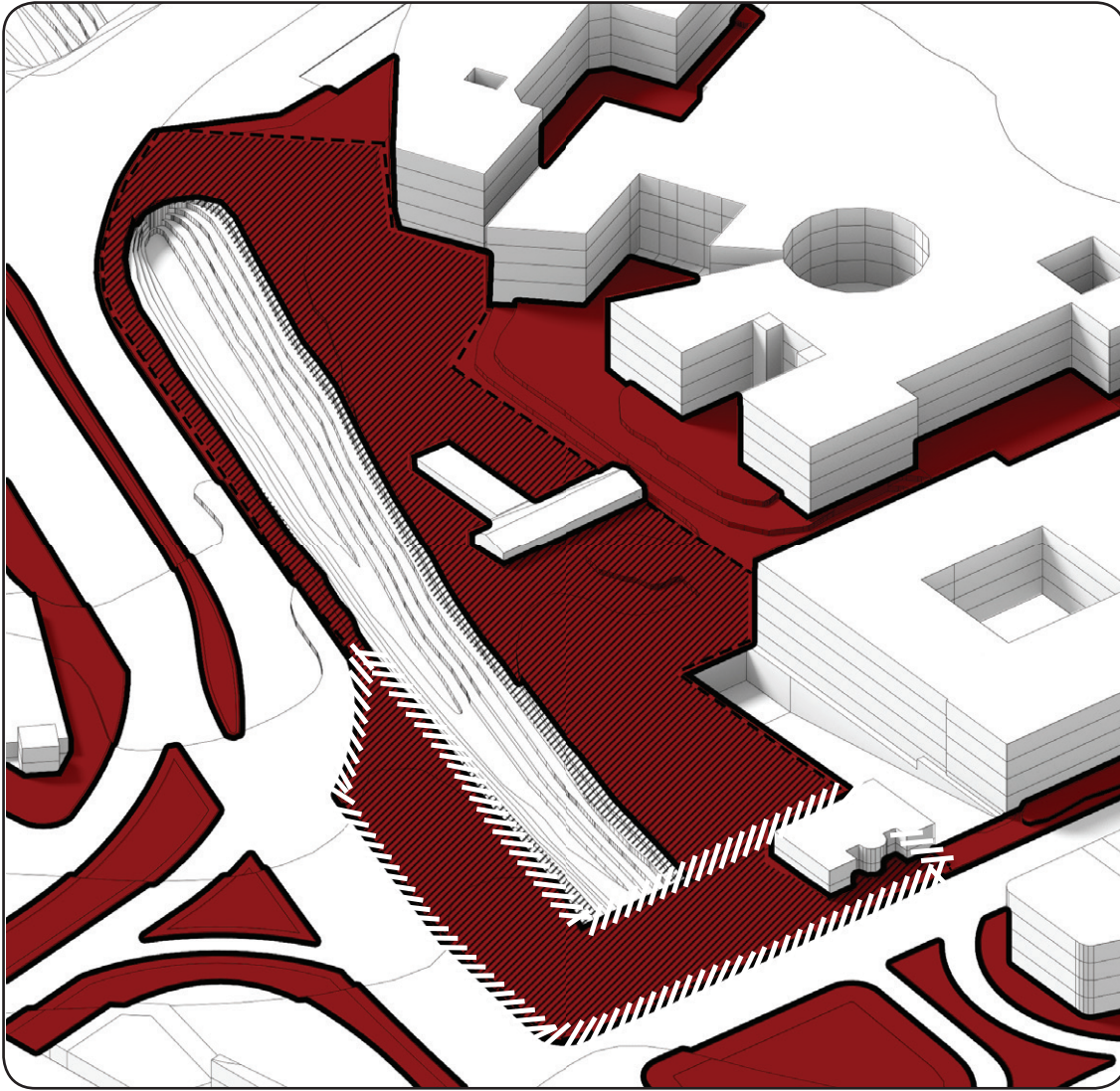
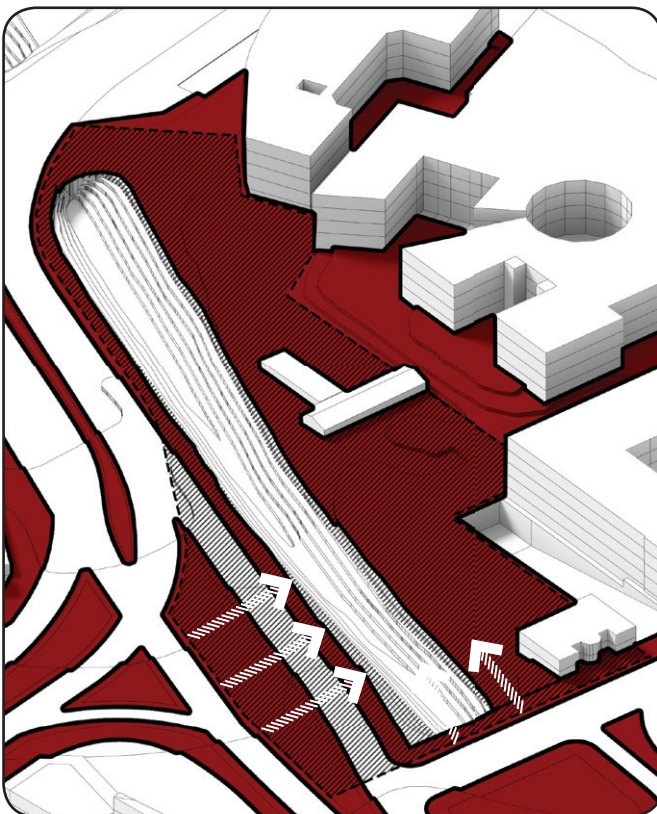


Figure 7.9: Reconstruct the public realm (Author 2019)



Reconstruct public space

Widening the public realm by moving the pedestrian island against the site to activate the lost space.

Figure 7.10: Fragmented public realm current condition (Author 2019)

Design Informant

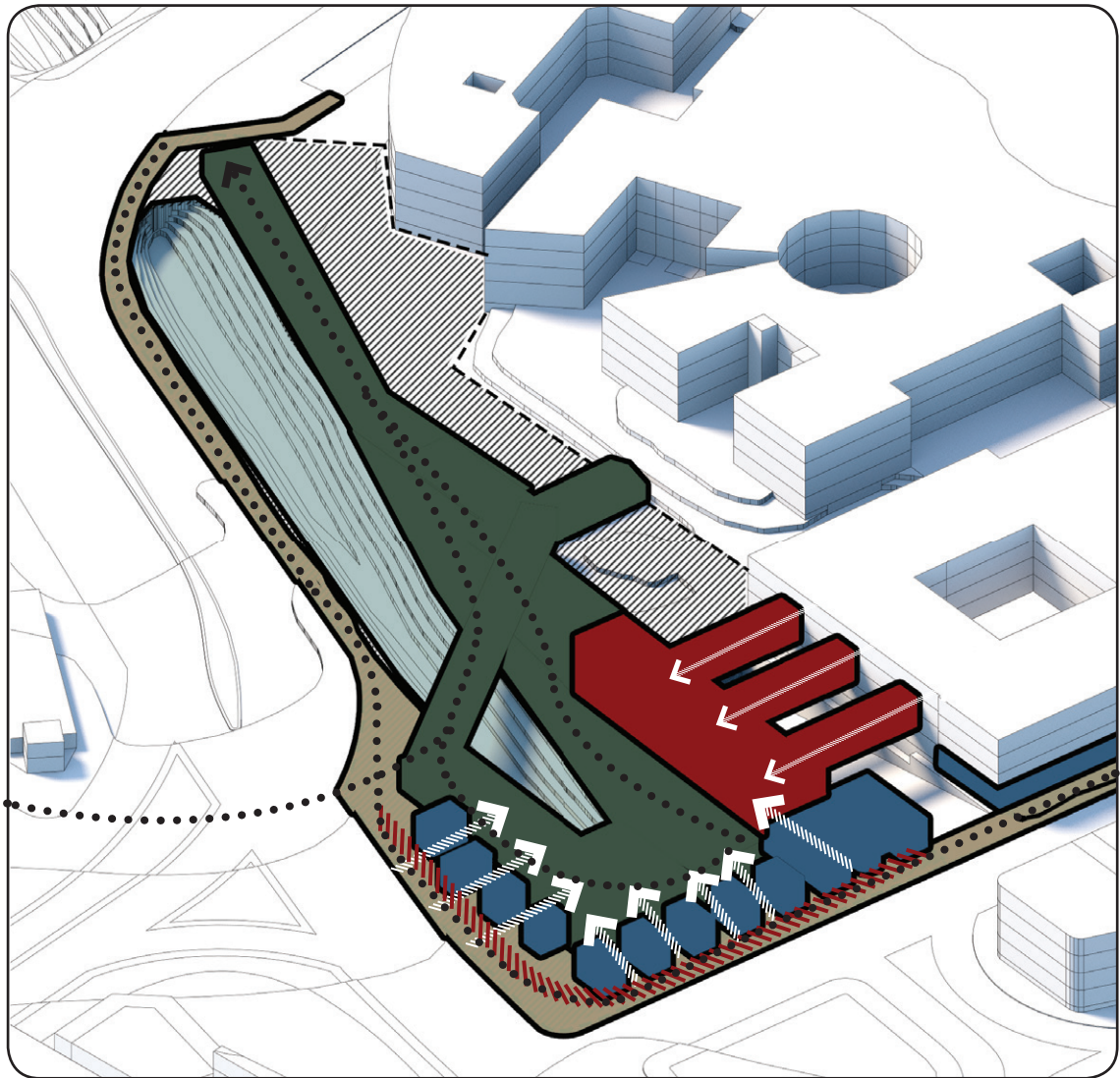


Figure 7.11: Reactivate the site through programming (Author 2019)

Reactivate the site through programming

Programming the site is crucial in achieving its full potential of mediating between public/private and man/nature. Situated on the southern edge of the site, where the highest pedestrian flow is, is the most public programme. As one progress into the site the programme becomes more private and intimate with the natural landscape.

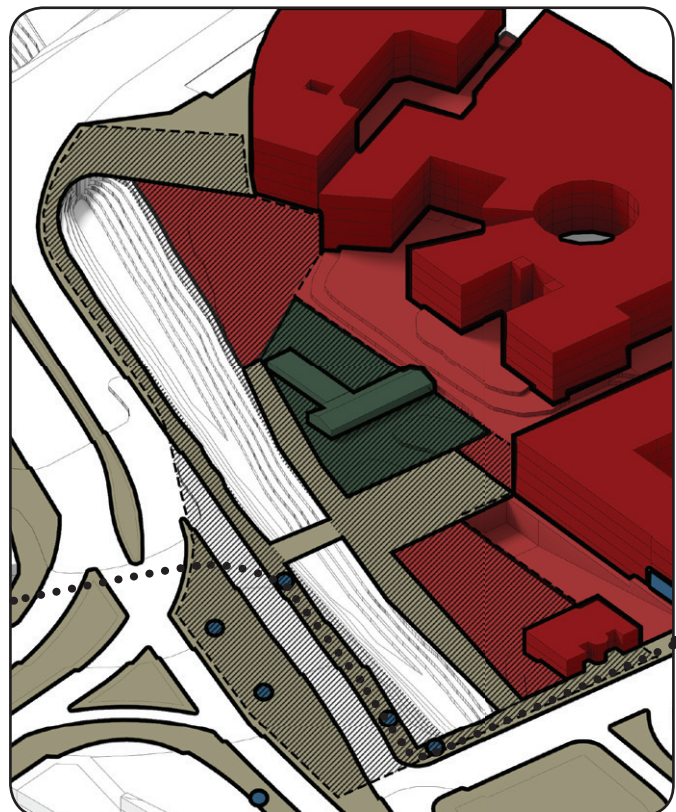
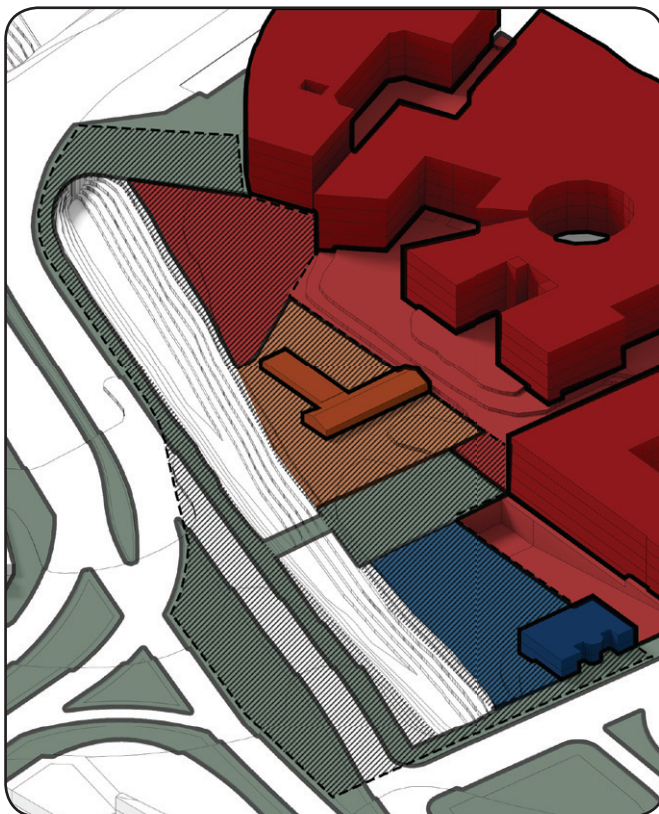


Figure 7.12: Programme current condition (Author 2019)



Figure 7.13: Hierarchise access and circulation (Author 2019)



Reorganise access and circulation

Hierarchise access and circulation for different users within the site to allow for better intergration/interaction without compromising security.

Figure 7.14: Restricted access current condition (Author 2019)

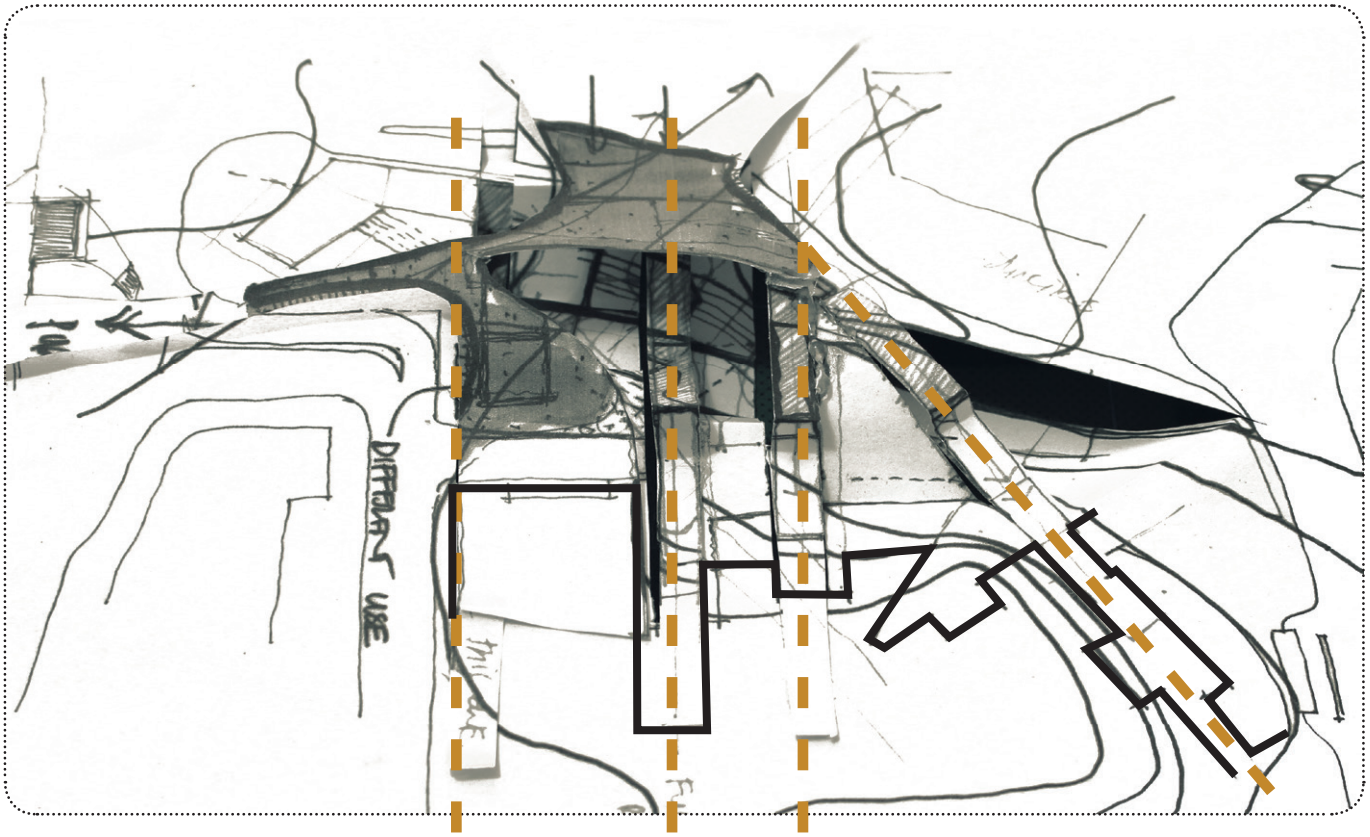


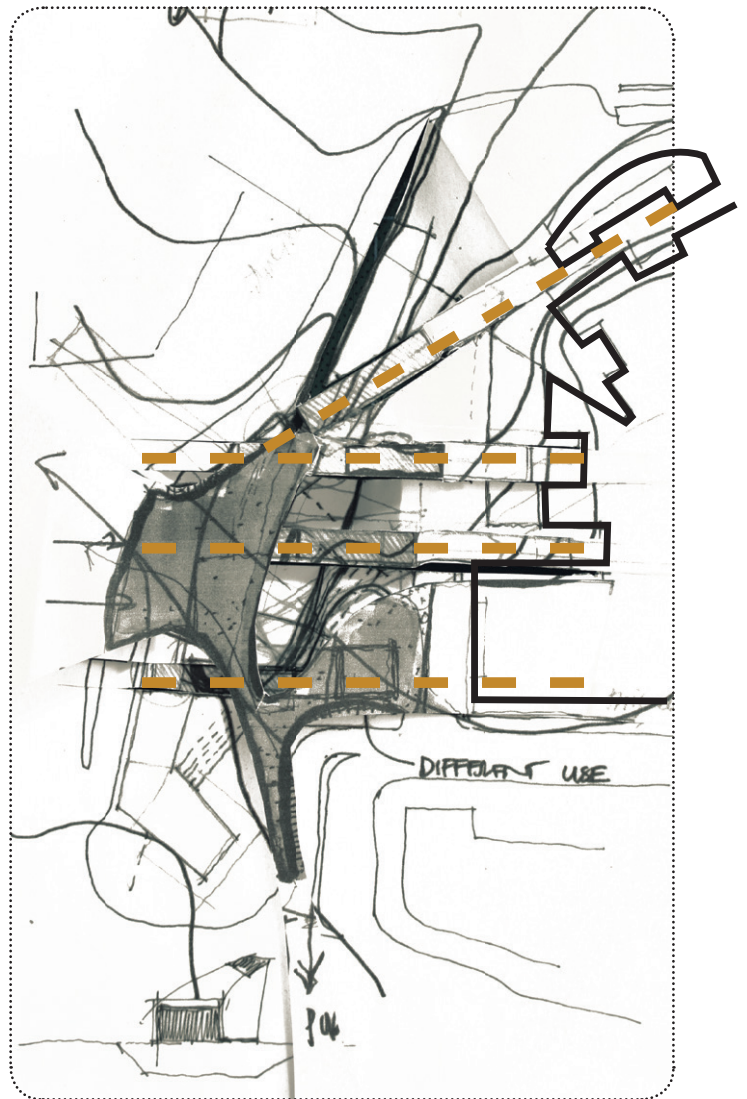
Figure 7.15: Top: Final concept maquette - view towards the Apies (Author 2019)

Figure 7.16: Bottom: Final concept maquette aerial view (Author 2019)

Iteration 1

The design focused on creating a better pedestrian realm by linking the different fragmented public spaces caused by road-building.

Critique: The design just became a bridge over Nelson Mandela Drive with little to no response to the Apies river as well as DTI.



Iteration 2

The second iteration explored how a stronger dialogue between existing DTI can be achieved by positioning the new building on the eastern bank of the Apies river.

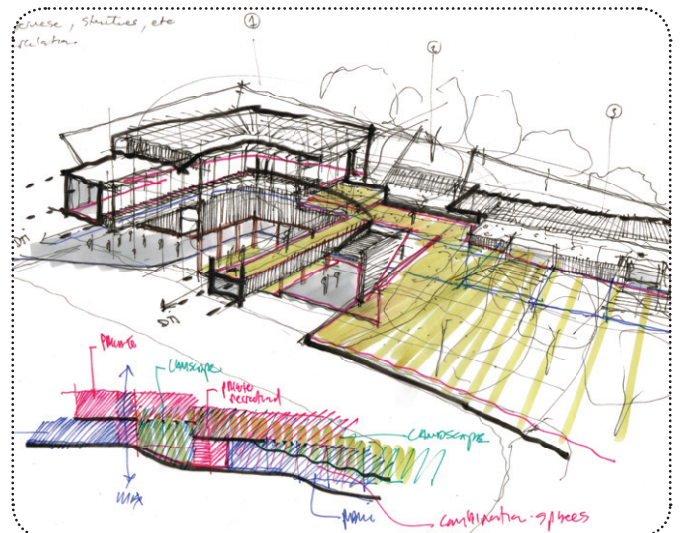
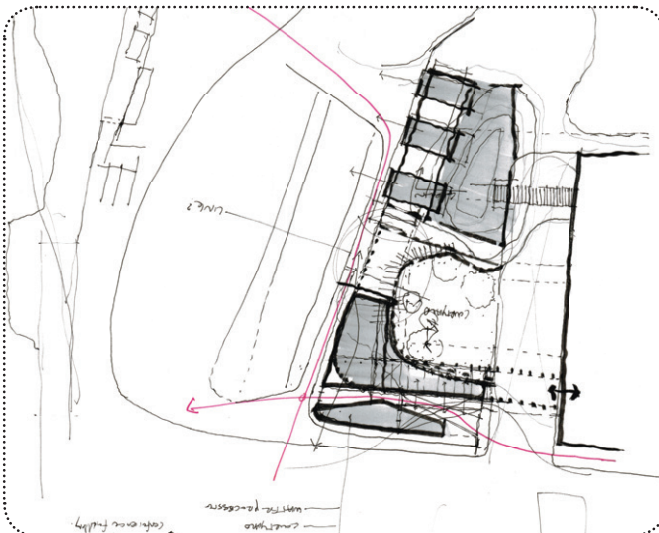
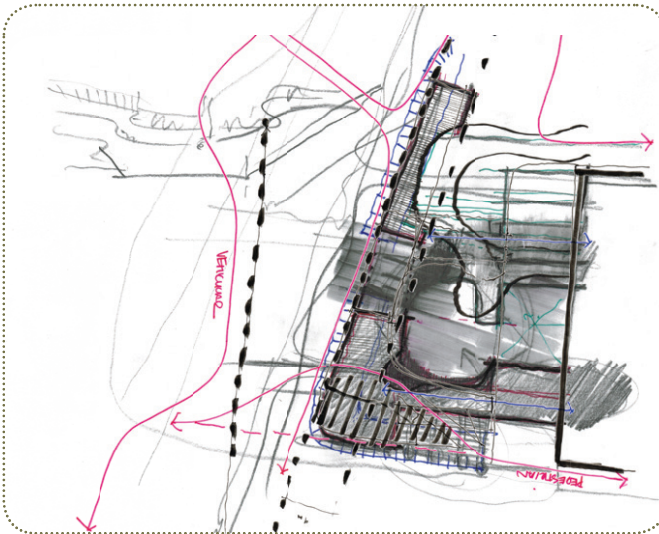
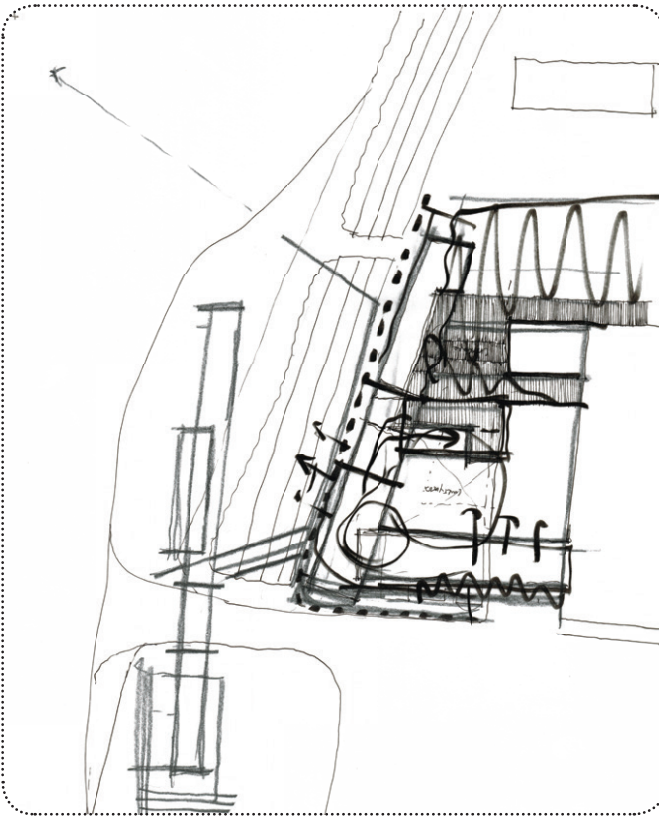
Critique: Although the design had a stronger response to DTI, engaging with both the public and the Apies river was limited.

Figure 7.17: Top left: Linkages with DTI (Author 2019)

Figure 7.18: Mid left: Creating courtyards (Author 2019)

Figure 7.19: Bottom left: Responding to street edge (Author 2019)

Figure 7.20: Bottom right: Hierarchy of spaces (Author 2019)



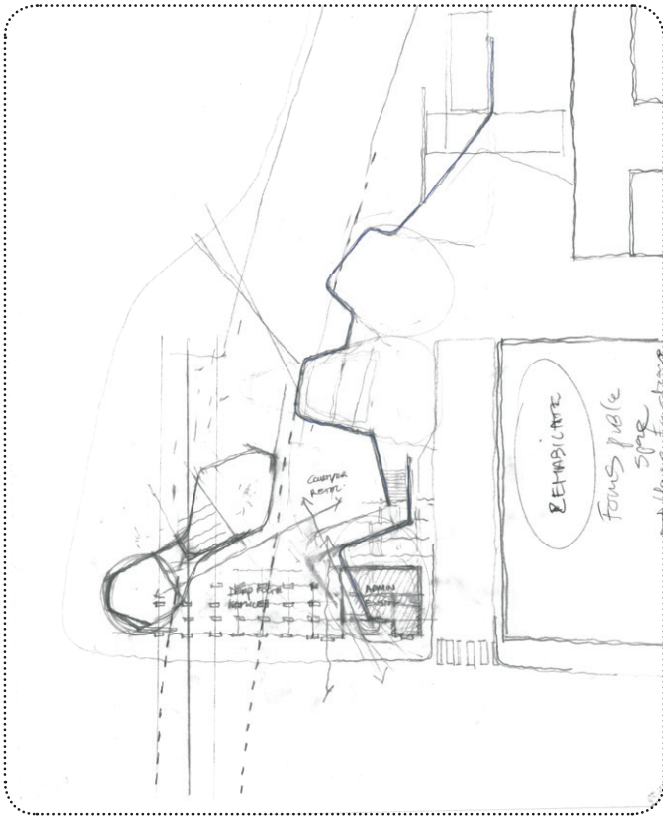


Figure 7.21: Top left: Thresholds (Author 2019)

Figure 7.22: Top right: Relation to river (Author 2019)

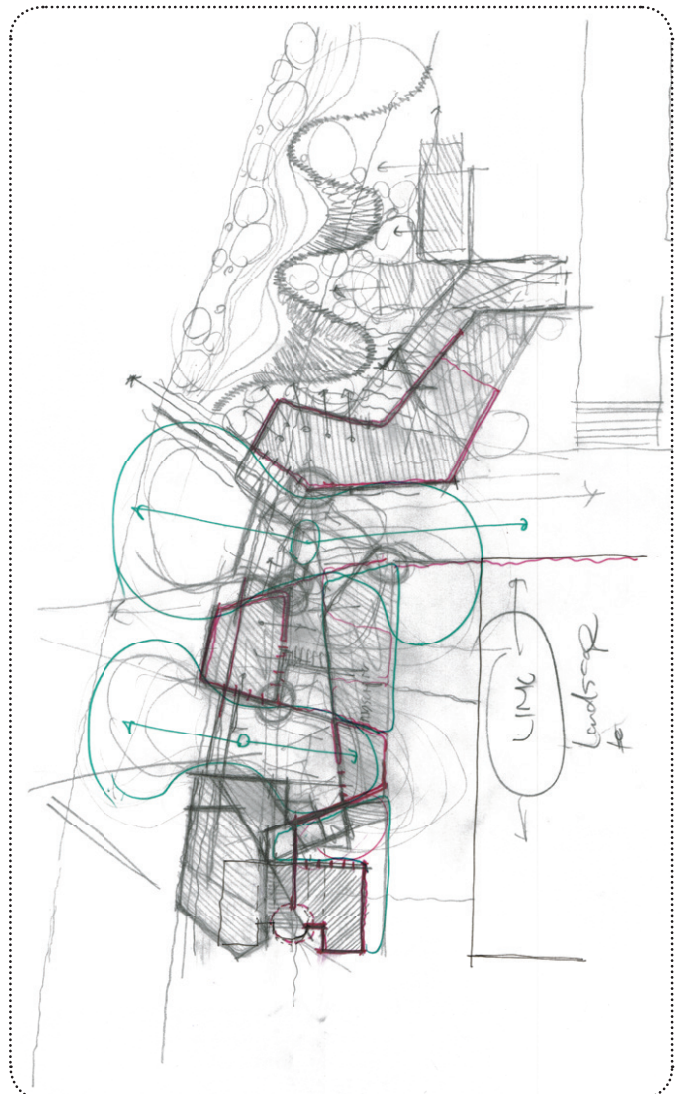
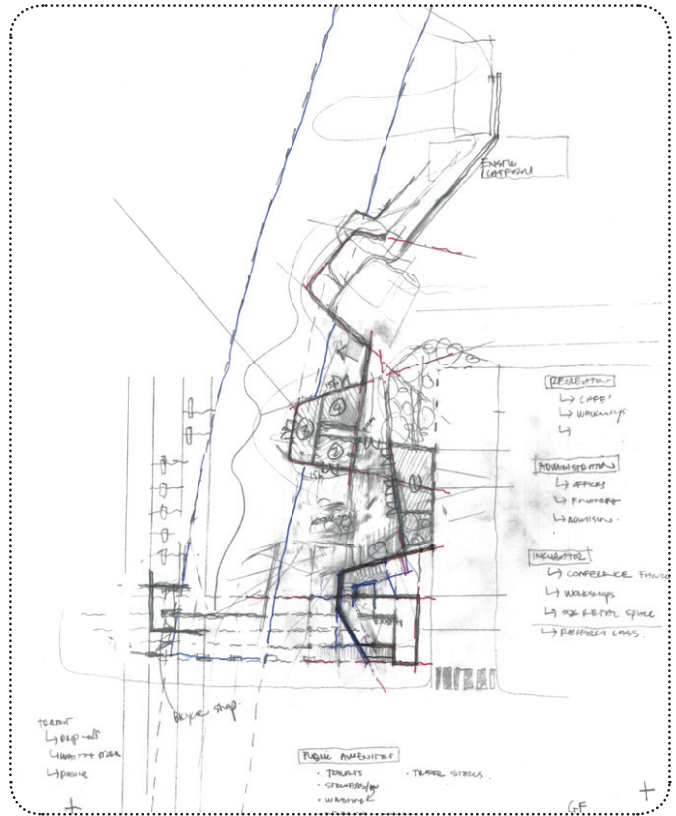
Figure 7.23: Bottom right: Relating to landscape (Author 2019)

Iteration 3

The position of the new building remained the same, but its public interface towards Robert Sobukwe street was enhanced by creating a better threshold onto the site.

The linearity of the new building was also changed into a organic shape in an attempt pull the landscape into the building as well as to extrude the building into the landscape.

Critique: The design's response deeper in the landscape was starting to integrate well, but still doesn't create a strong public edge.



Iteration 4

Iteration 4 attempts to respond to the heritage building on the street edge by cutting through the building and connecting the new building physically with the old.

Critique: The formal response of the design was unsuccessful as it tried to force an organic form whilst responding to the river, heritage building and DTI's strong rigid lines.

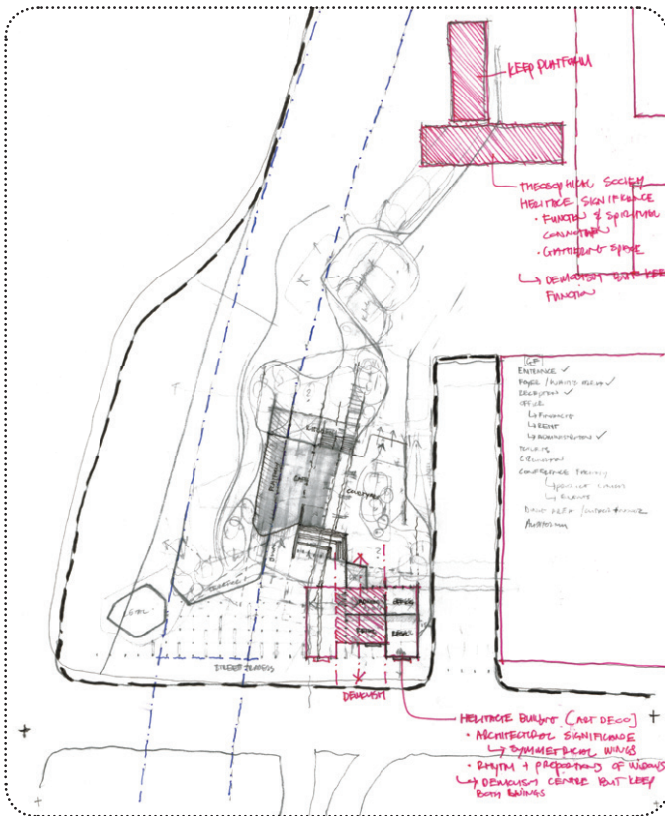
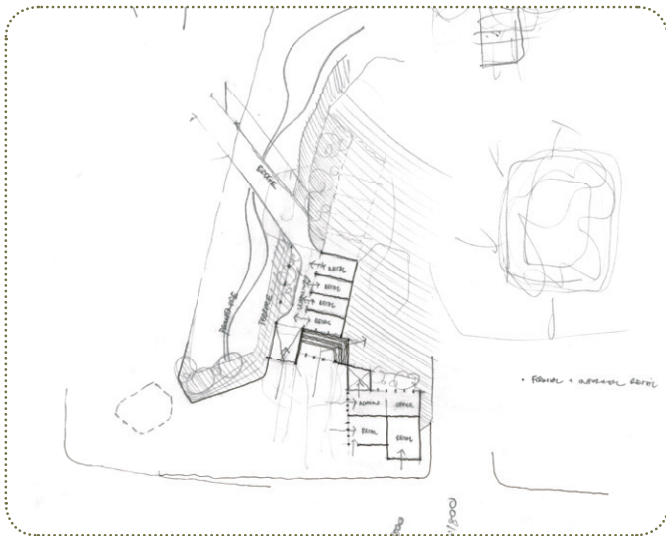


Figure 7.24: Top left: Programming existing (Author 2019)

Figure 7.25: Mid left: Lower level circulation (Author 2019)

Figure 7.26: Bottom left: Ground floor retail (Author 2019)

Figure 7.27: Bottom right: First floor incubator (Author 2019)



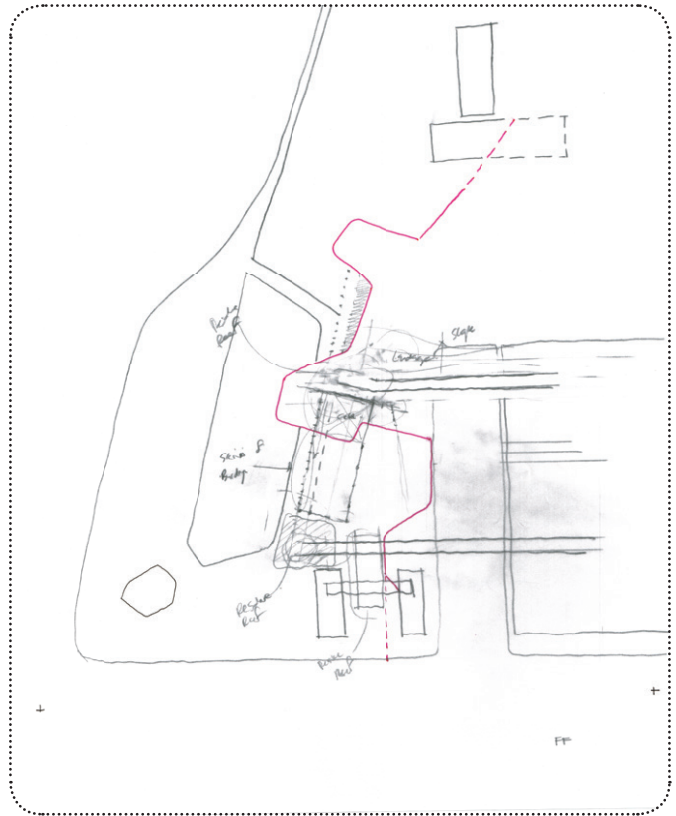
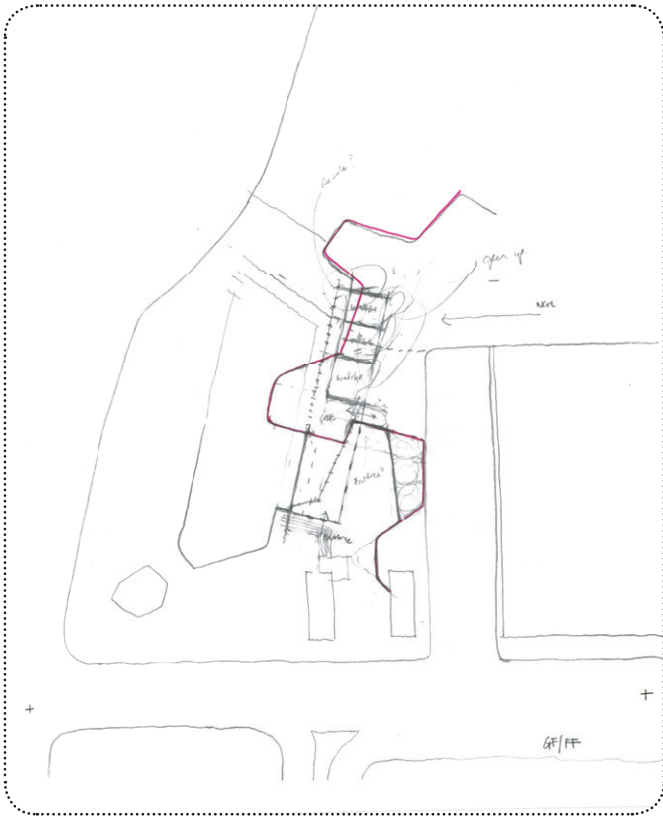


Figure 7.28: Top left: Layering natural threshold over lower level (Author 2019)

Figure 7.29: Top right: Layering natural threshold over ground level (Author 2019)

Figure 7.30: Bottom right: Layering natural thresholds on site (Author 2019)

Iteration 5

Iteration 5 refocused on the relationship between the building and the natural landscape by extending the building into the landscape as well as creating a courtyard within the new building.

Critique: What determined the “organic” line between landscape and building and what does it represent? What is inside and what is outside?



Iteration 6

In order to determine what is inside and what is outside, the landscape/river and the type of engagement the public has with it was designed. Terracing the river banks and creating seating for people to sit and enjoy the river physically and visually.

Critique: Each floor plate of the design is so different that it is impossible to rationalise a structure that will make the building work.

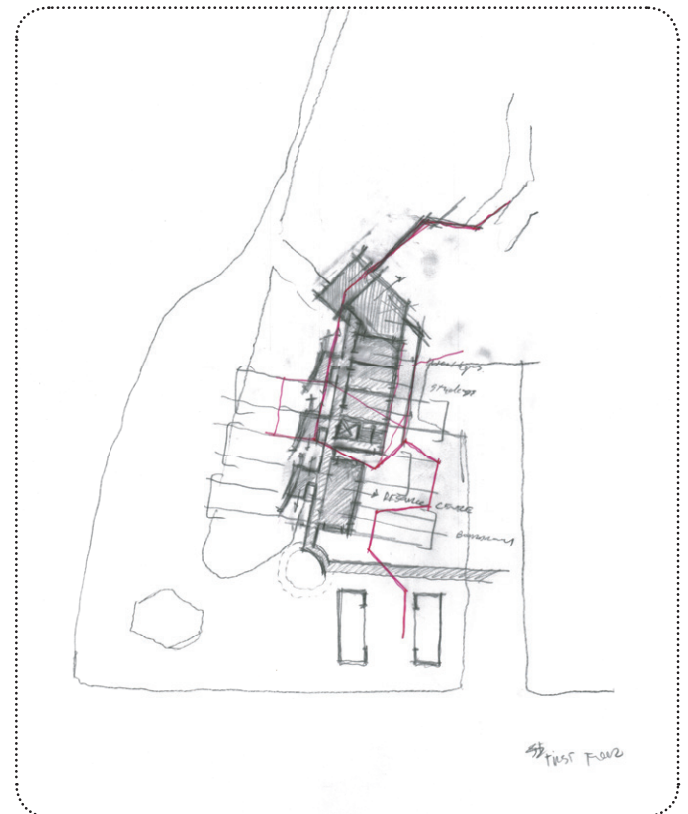
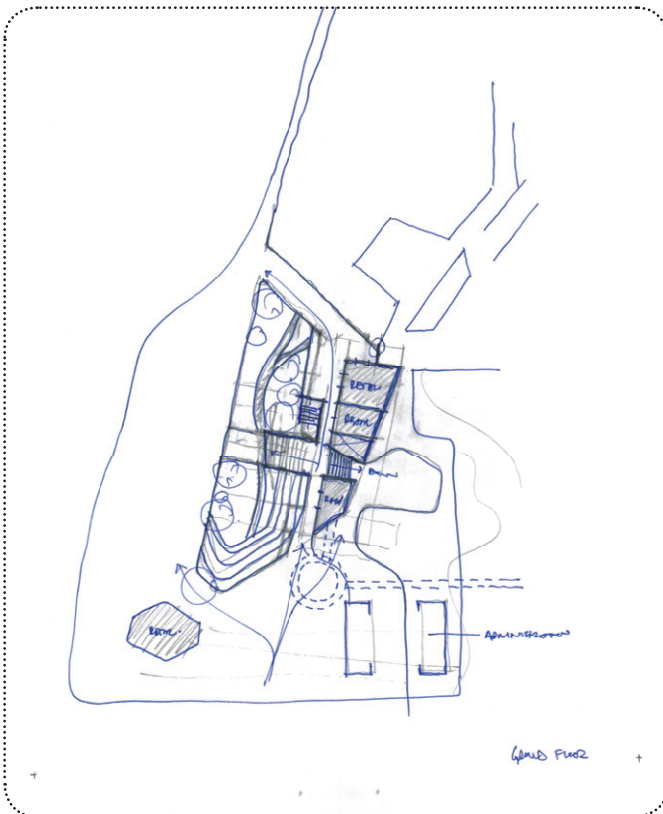
What attracted people to the new river space? Why would people stay?

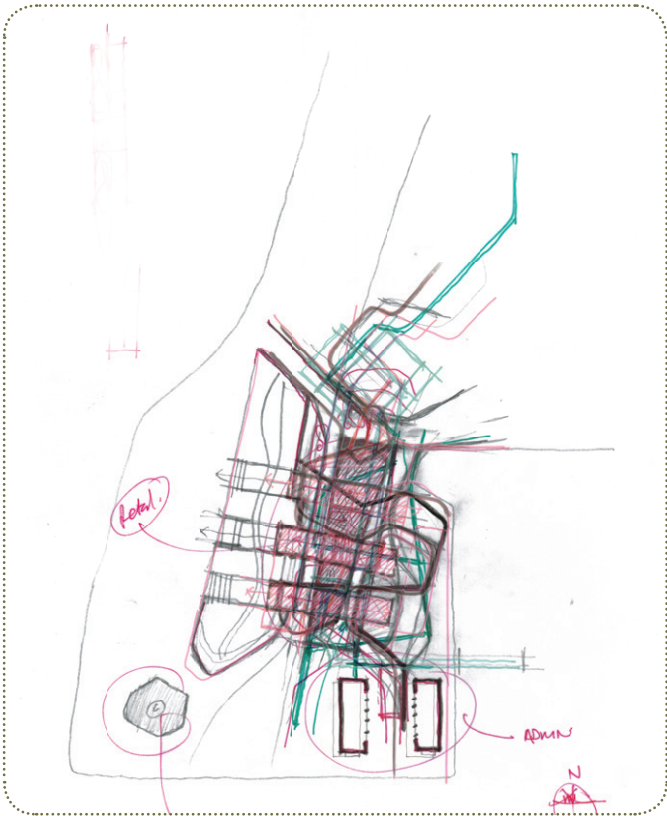
Critique 2: The design focused so much on the river that it lost all its strong connection with DTI.

Figure 7.31: Top left: Ground floor level's natural transition (Author 2019)

Figure 7.32: Bottom left: Lower level's natural transition (Author 2019)

Figure 7.33: Bottom right: First level responding to climate (Author 2019)





Iteration 7

This iteration explored how the design can keep relating to the river but also re-establish physical/visual links with the existing heritage building as well as DTI.

Critique: The design is still confused as to what its formal response should be, river or DTI? both?

Critique 2: Public edge is non-existent.

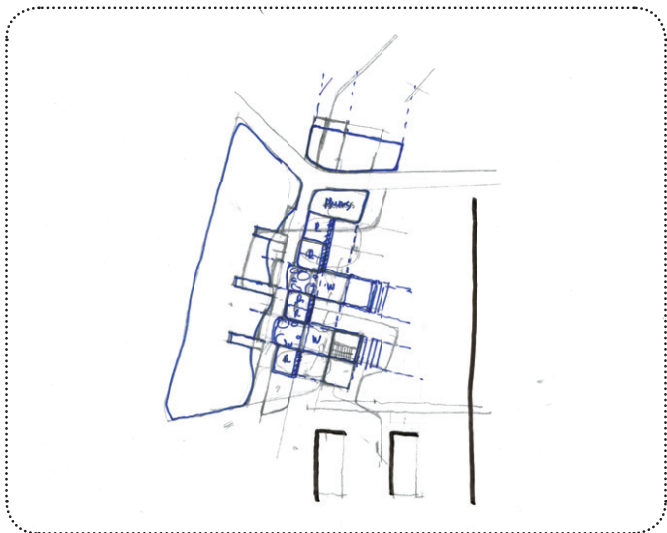
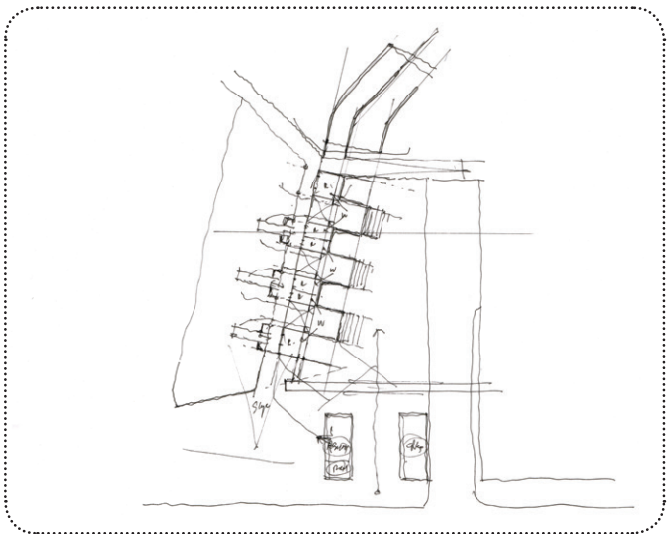
Spatial exploration was lacking as it made it difficult to get a handle of the spatial hierarchy on the site.

Figure 7.34: Top left: Ground level threshold revised (Author 2019)

Figure 7.35: Top right: Linearity of context (Author 2019)

Figure 7.36: Mid left: Lower level responds to river and courtyard (Author 2019)

Figure 7.37: Bottom left: Viewpoints over river (Author 2019)





Iteration 8

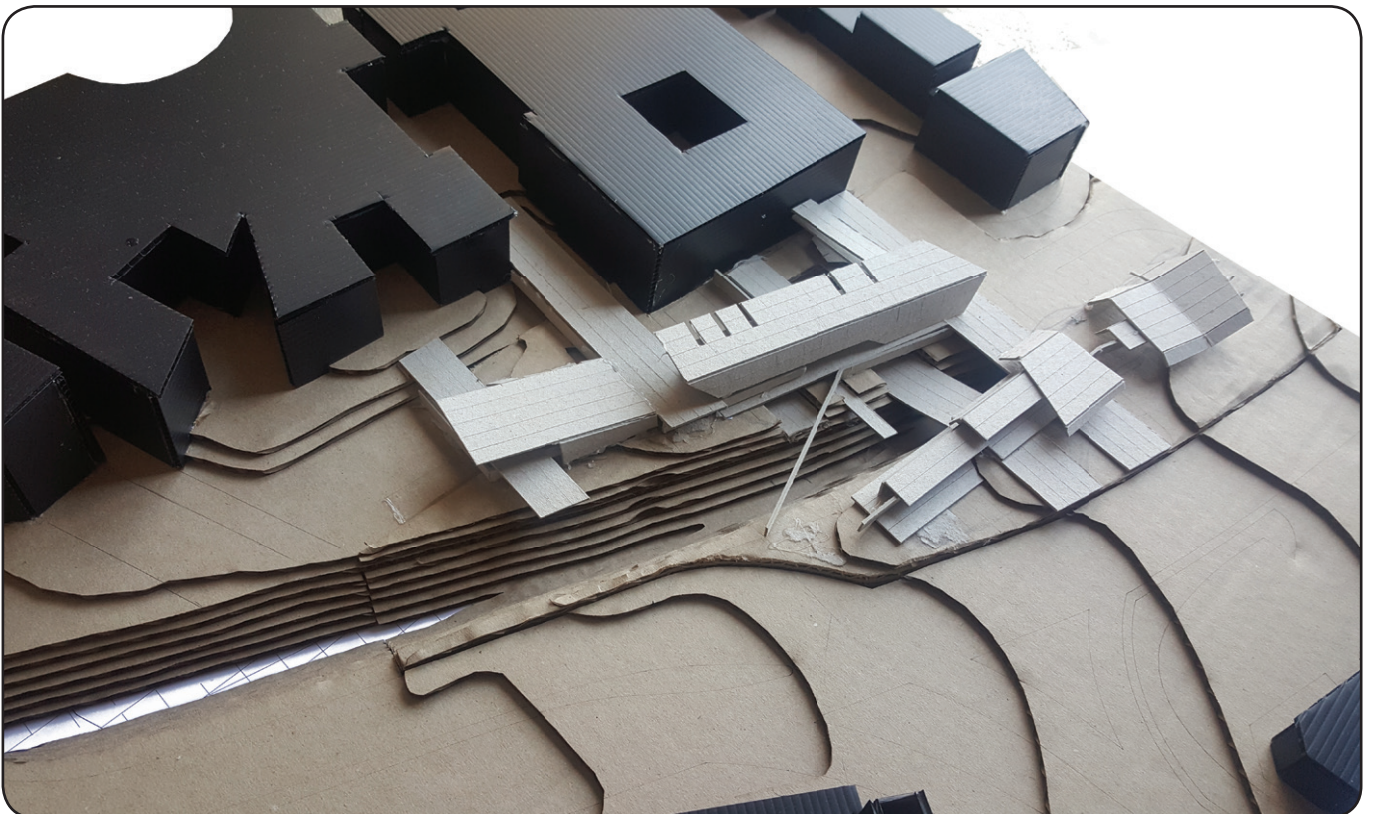
The design focused on scale and spatial hierarchy on site. The new building next to DTI attempts to mediate the scale between DTI's and the public. There is also a progression in scale from south to north. As the building extends into the site the scale becomes more intimate.

The physical links with DTI also creates opportunities for courtyards spaces between the existing and new, allowing the natural landscape to interact with both whilst creating a buffer.

Critique: The building is very long and not broken up enough (too linear) with its main orientation being west.

Figure 7.38: Top: June synthesis of spatial explorations (Author 2019)

Figure 7.39: Bottom: View from Nelson Mandela Dr (Author 2019)



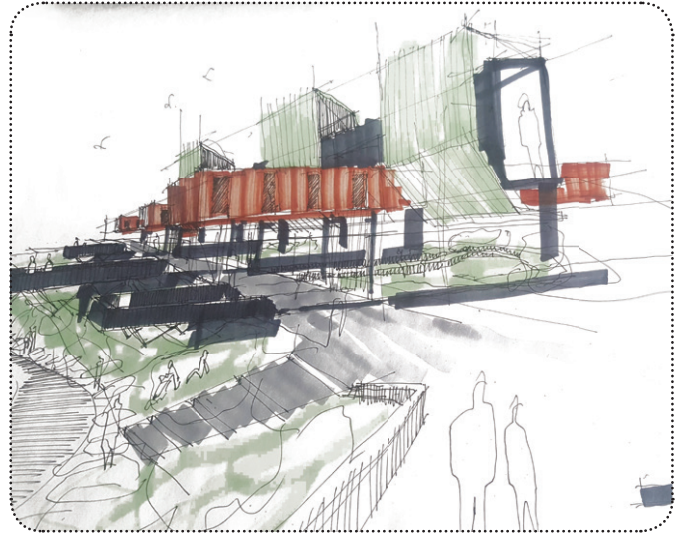


Figure 7.40: Top left:
Concept plan June
(Author 2019)

Figure 7.41: Top right:
View from Robert
Sobukwe street (Author
2019)

Figure 7.42: Mid left:
Concept Ground level
(Author 2019)

Figure 7.43: Mid right:
Concept lower level
(Author 2019)

Figure 7.44: Bottom left:
Concept water system
(Author 2019)

Figure 7.45: Bottom
right: Final concept plan
June (Author 2019)

Iteration 9

Iteration 9 still kept the physical connections with DTI, but attempts were made to address the climatic response as well as the physical connection with the river/landscape. By cutting the design up and rotating sections, more facade is exposed to north/southern light.

Critique: an uneconomic facade with all its pullout and push backs. Public realm still non-existent.





Iteration 10

The building was programmed with retail on ground floor in an attempt to activate the site as a thoroughfare for pedestrians walking to and from work.

A better lateral interaction between building and landscape was designed due to the scale of the building going down the close it gets to the river as well as contouring the river bank to form part of the building.

Critique: Building looks too much like a building and not enough like a landscape. Still no street edge designed. The relationship and physical connection between DTI and the new building is lost.

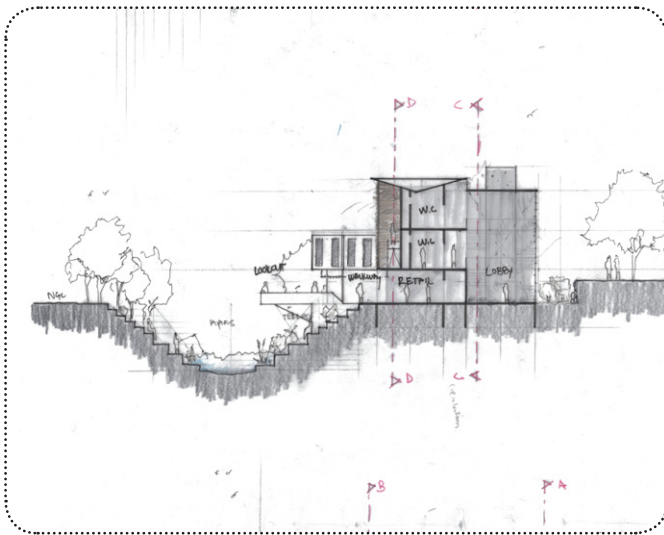


Figure 7.46: Top left: June Lower level plan (Author 2019)

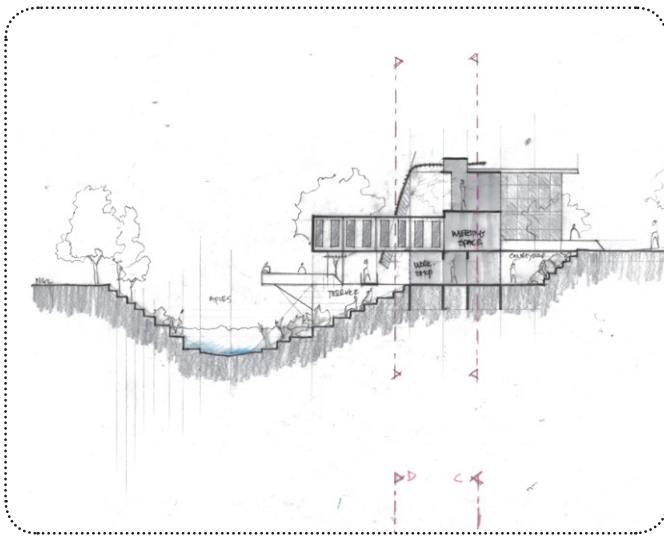


Figure 7.47: Top right: June Section A (Author 2019)

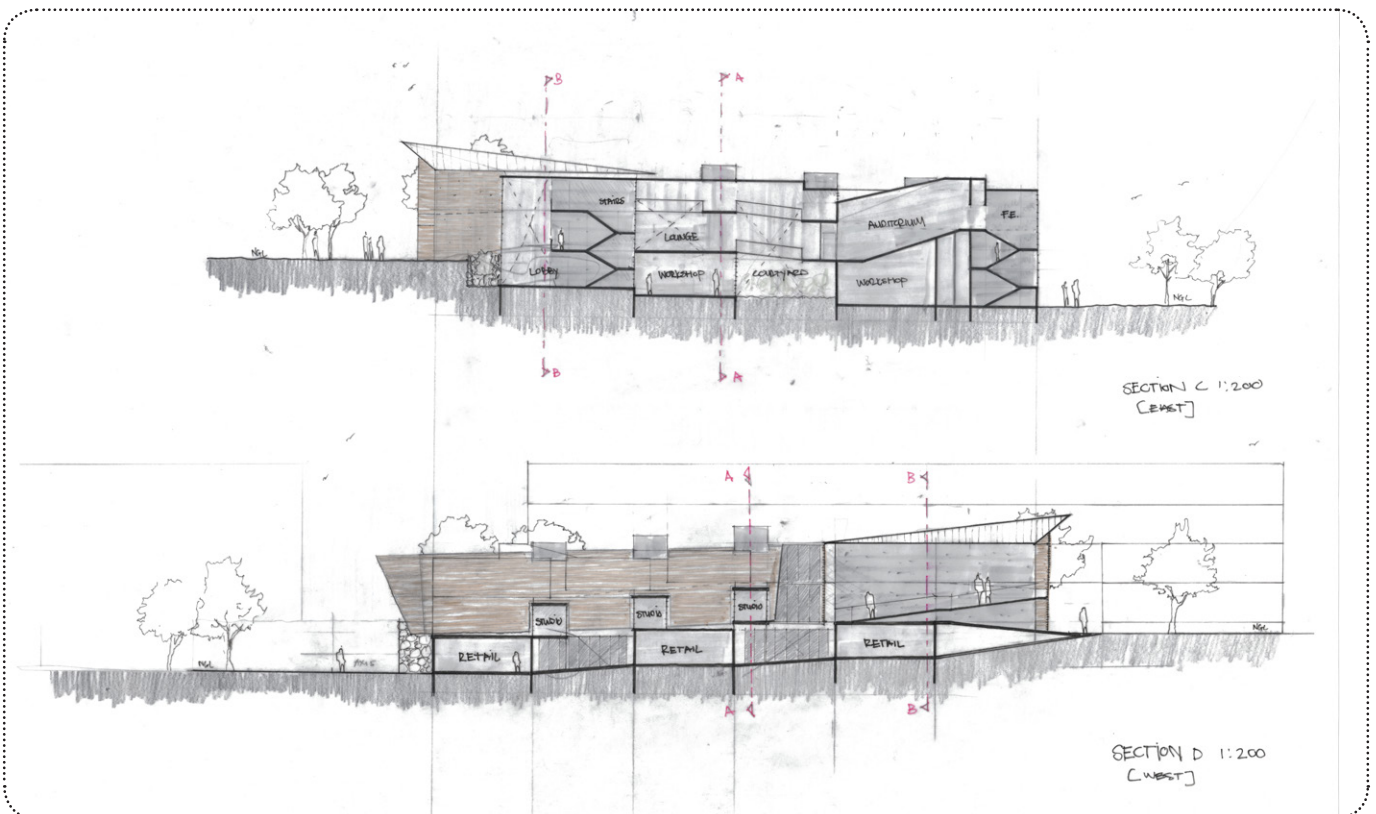


Figure 7.48: Mid Left: June Ground level (Author 2019)

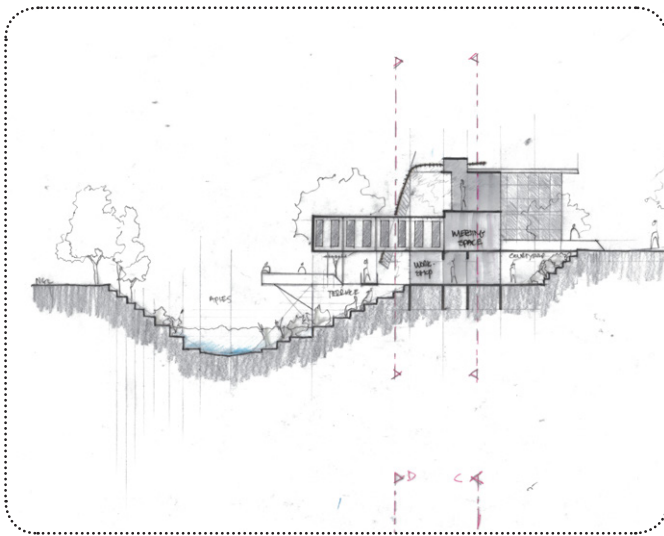


Figure 7.49: Mid right: June Section B (Author 2019)

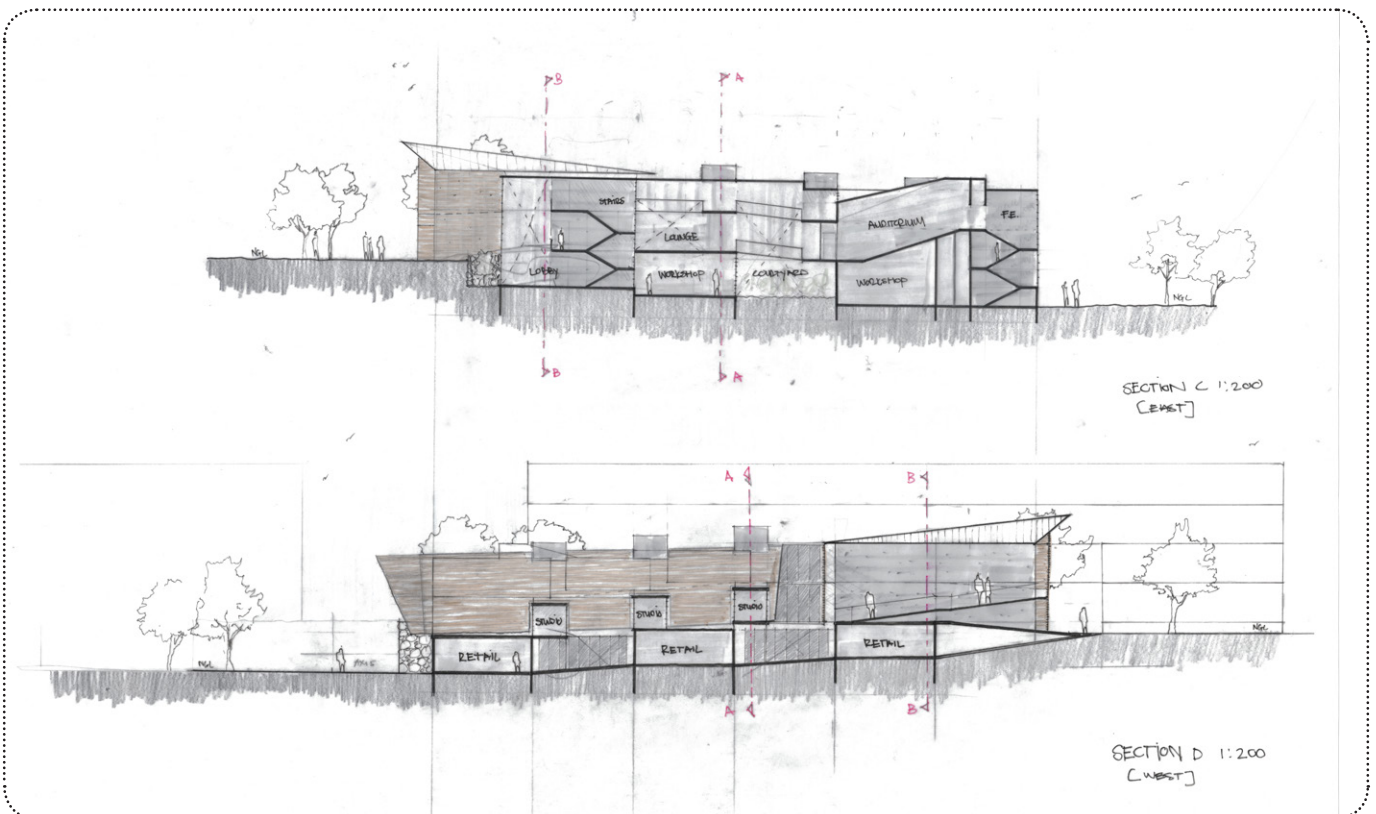


Figure 7.50: Bottom right: June section C & D (Author 2019)

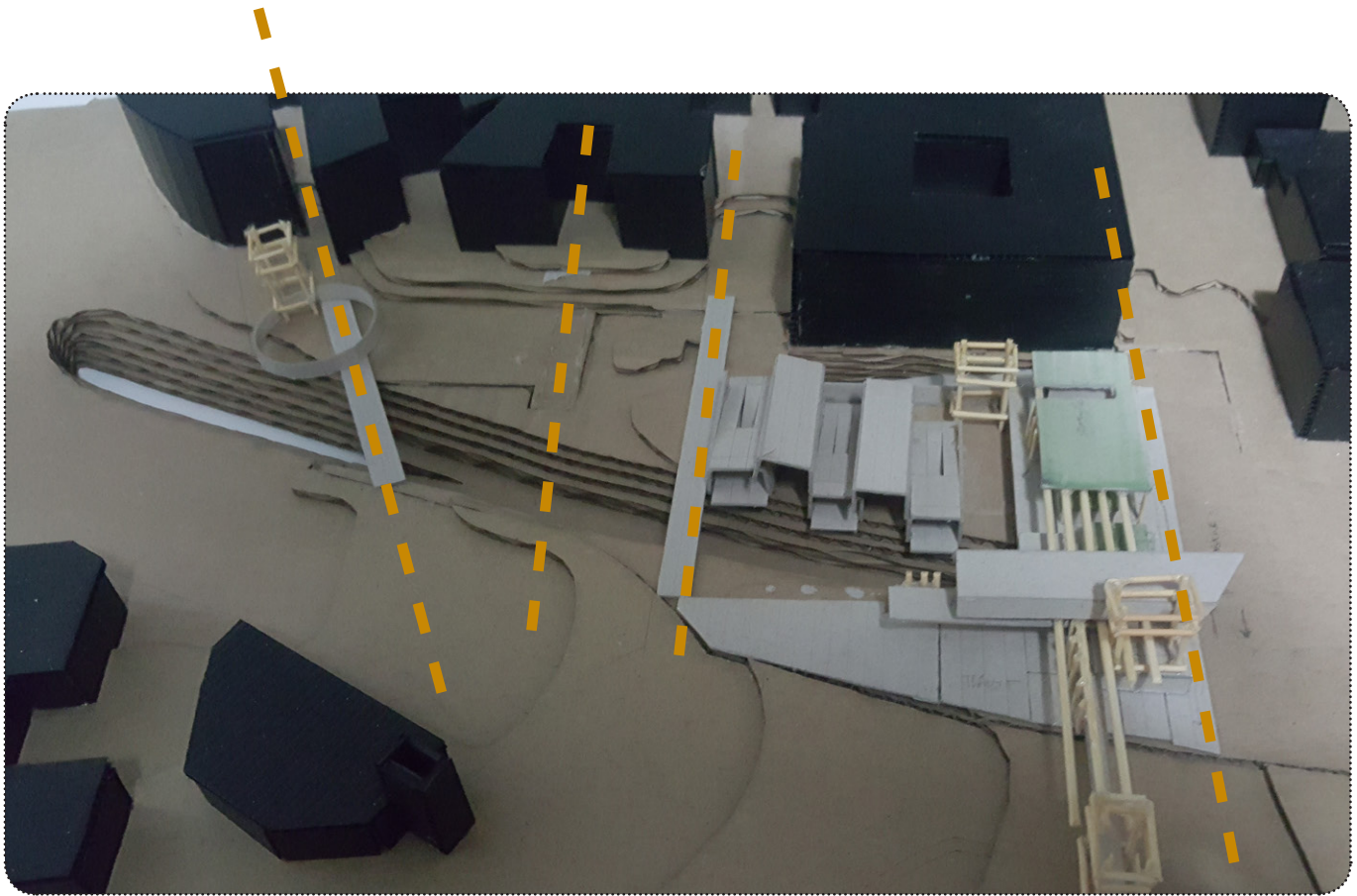


Figure 7.51: Top: Maquette of edges and linkages (Author 2019)

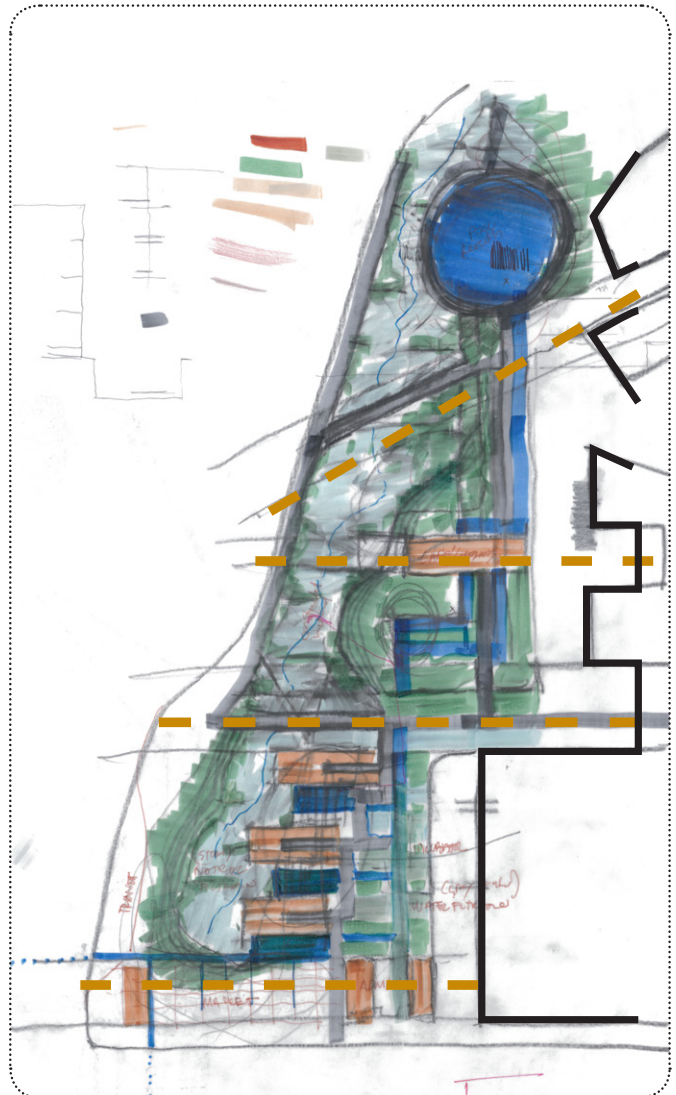
Figure 7.52: Bottom: Concept site plan (Author 2019)

Figure 7.53: Right: Concept site showing transitions into the site (Author 2019)

Iteration 11

Iteration 11 addressed the lack of the relationship with the street as well as with the landscape by creating a strong public edge that engages the pedestrian flow.

Instead of having one building that is 'forced' onto the site, much like DTI, the new building is divided up into pieces according to its functions and their relationship with the natural landscape.



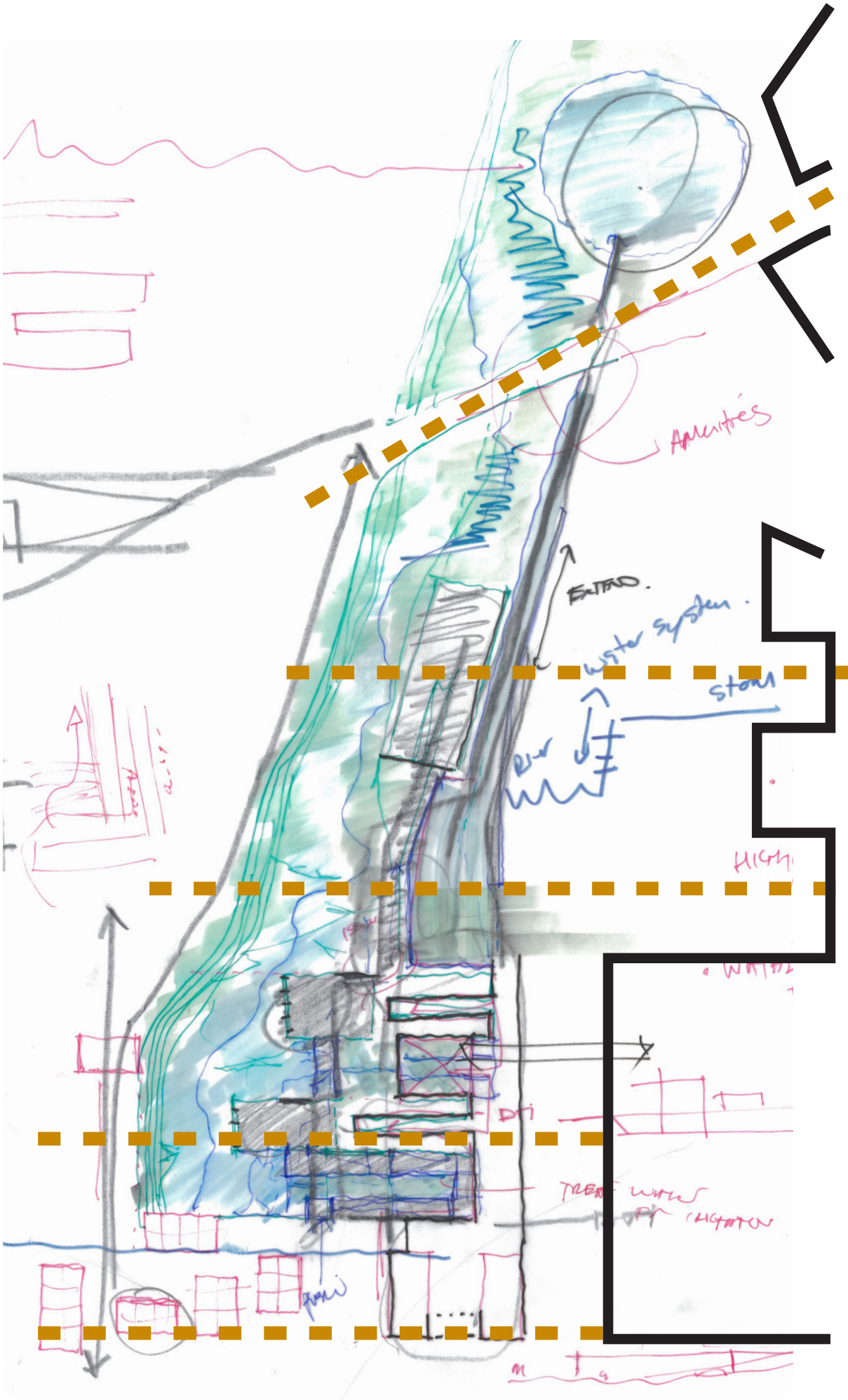
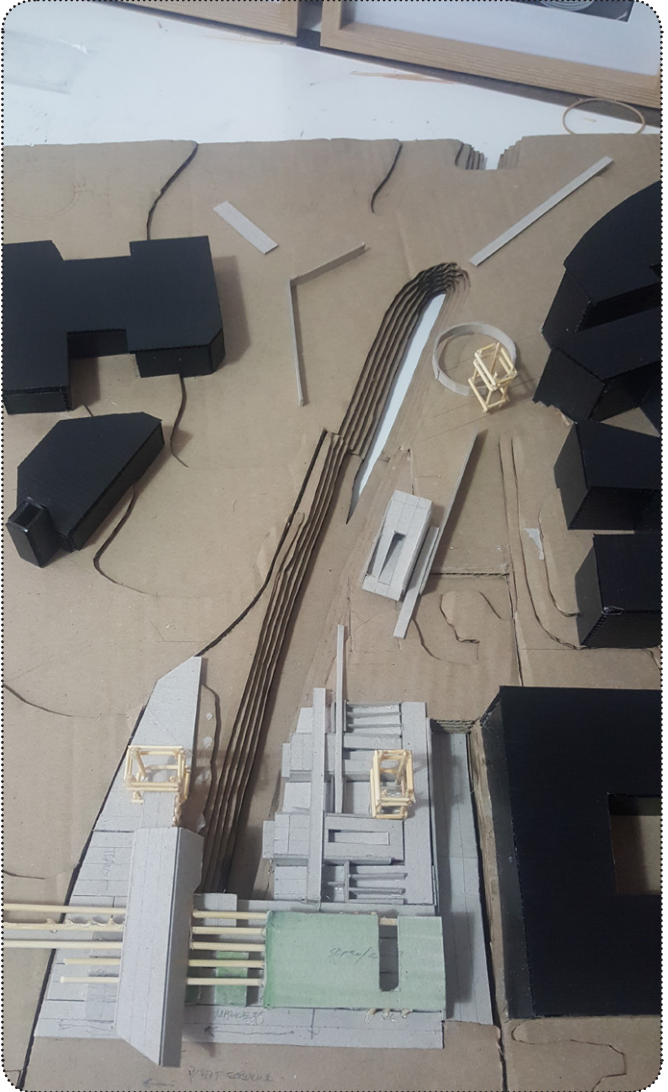




Figure 7.54: Top:
Existing and new
(Author 2019)

Figure 7.55: Bottom:
Inserting infrastructure
onto site (Author 2019)



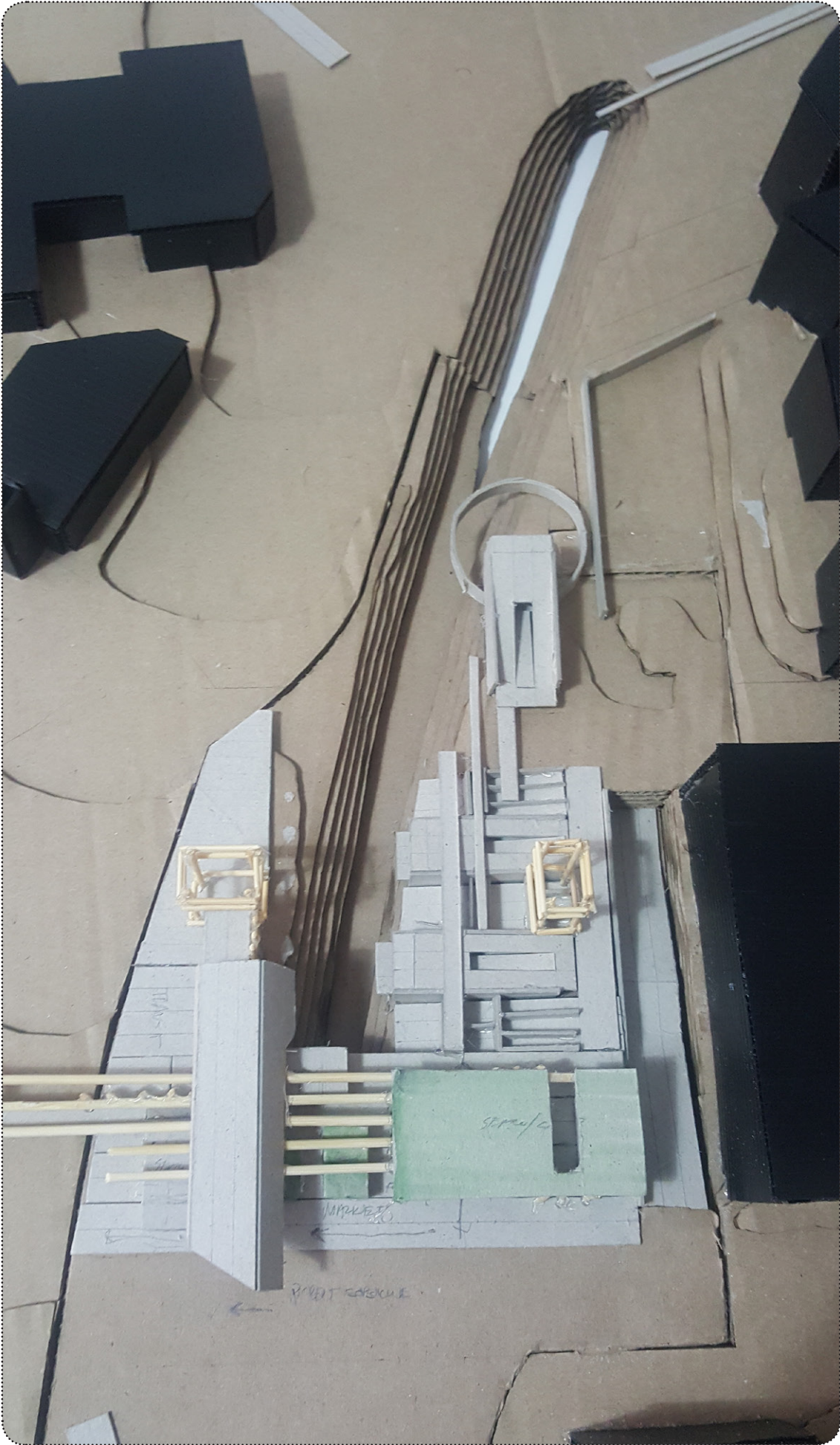
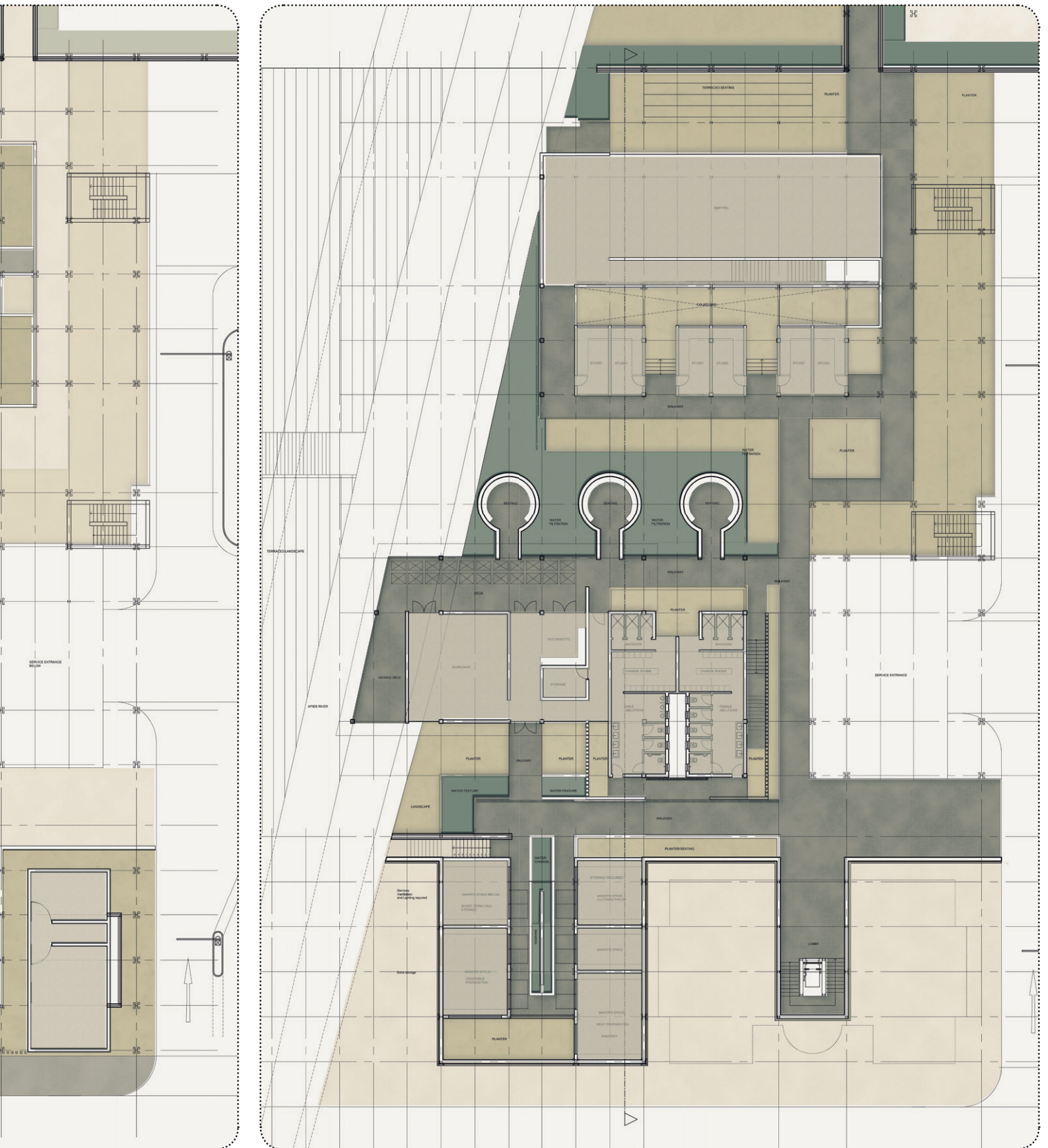


Figure 7.56: Exploring the recreational and event space (Author 2019)

The lower floor is semi-public and provides facilities for entrepreneurs to produce/make and test their products within a safe environment. The design in layout in such a way as to allow for optimum interactions with the landscape as well as the existing structure such as DTI and Les Mansions.

Figure 7.58: Lower floor plan - Incubator (Author 2019)



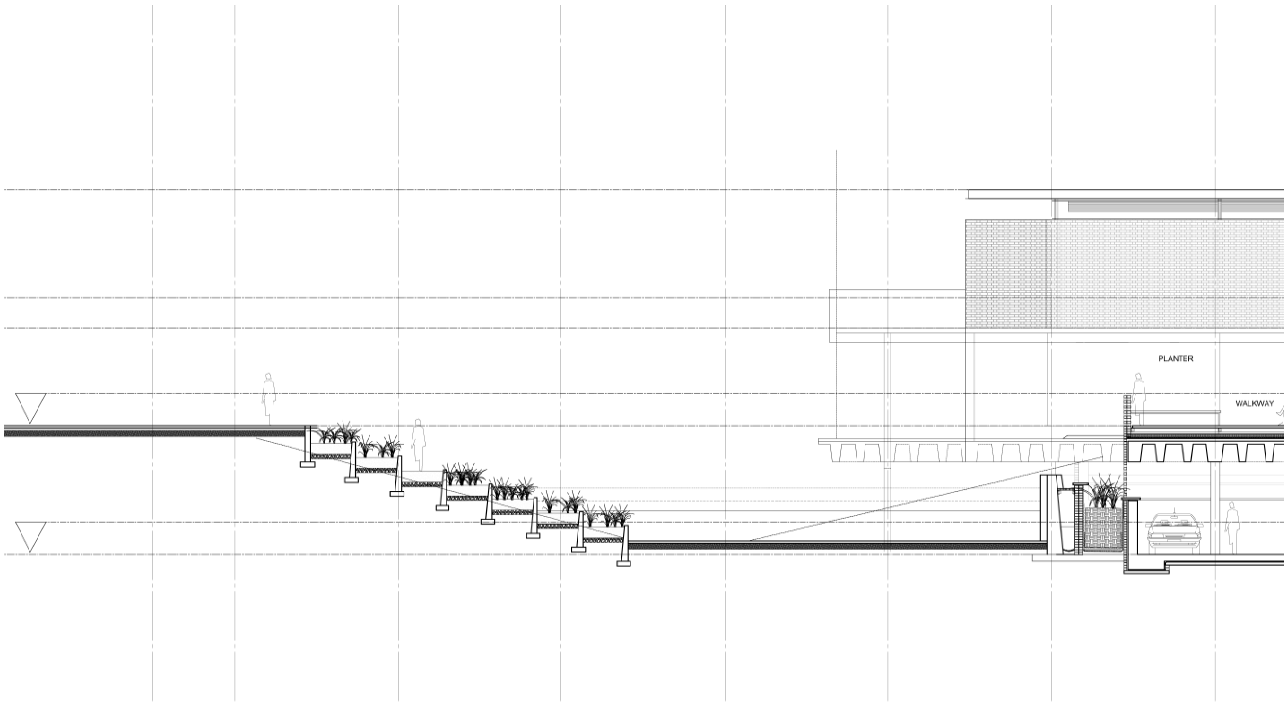
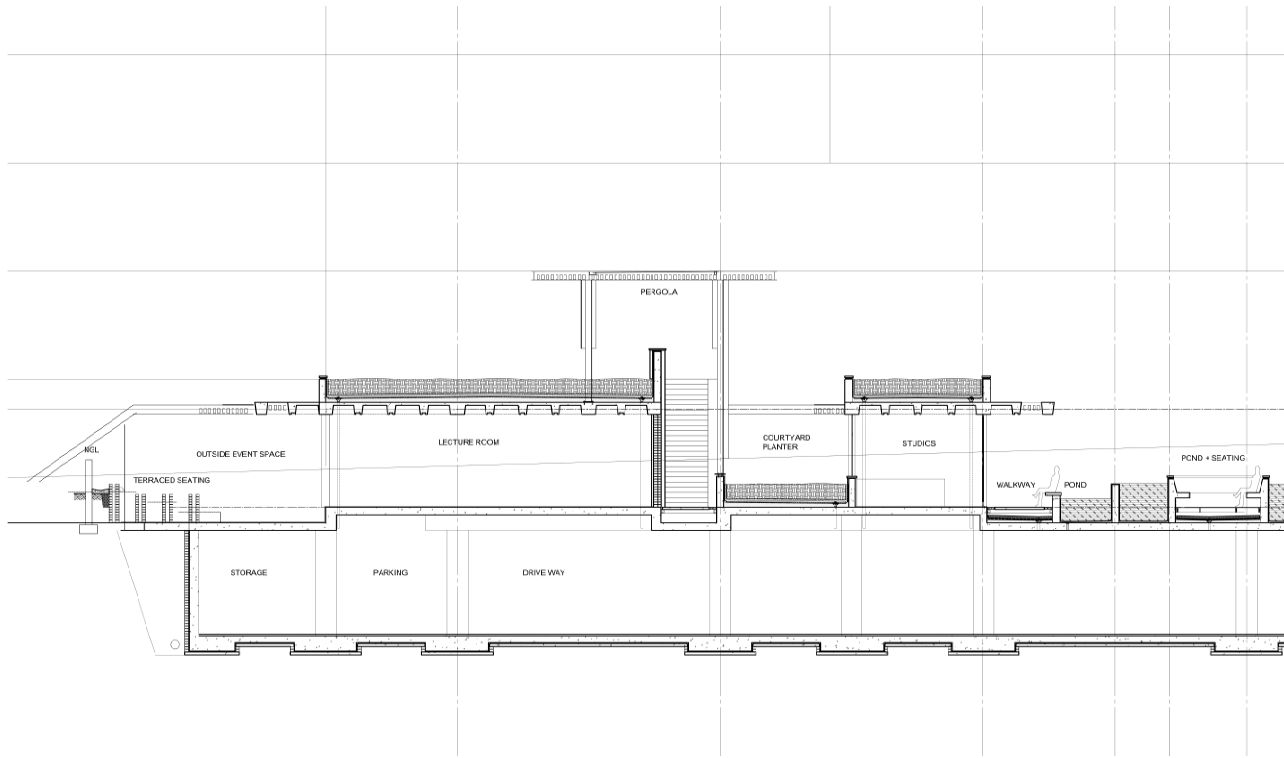
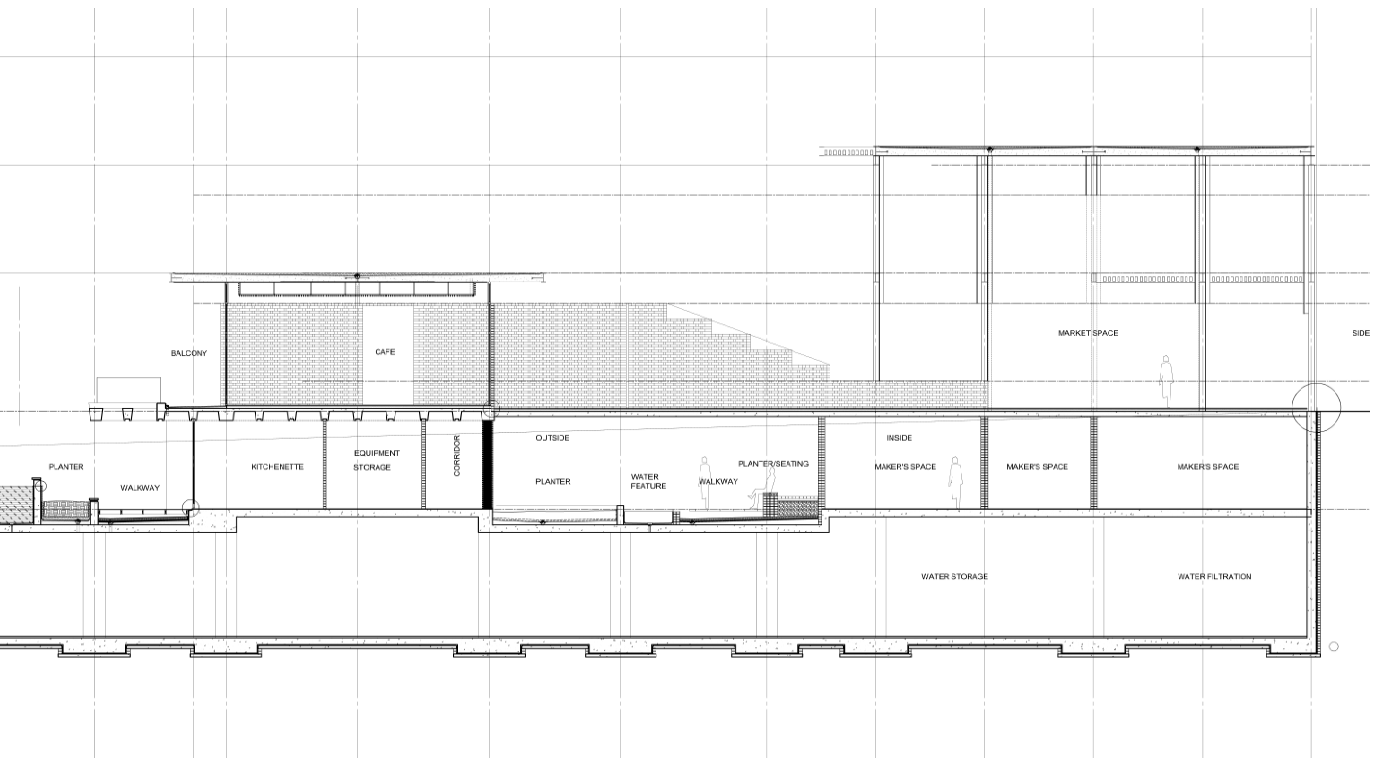
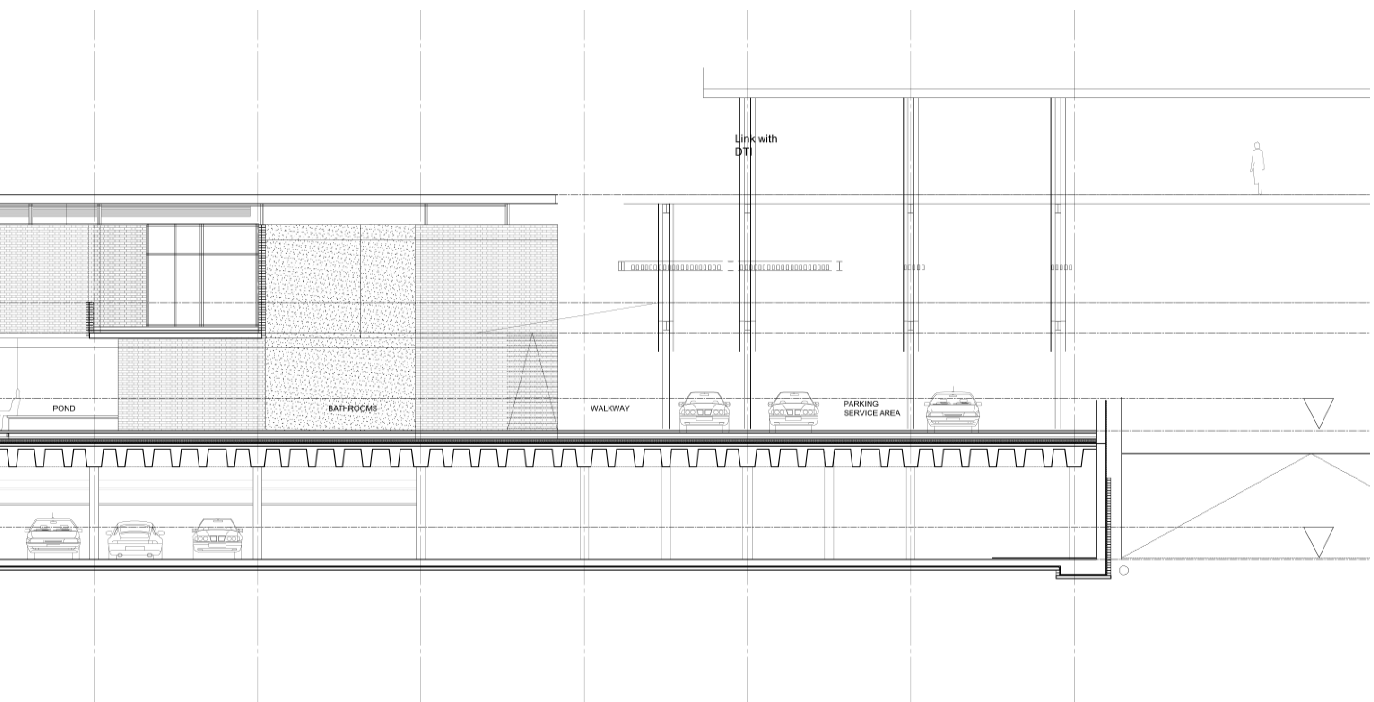


Figure 7.59: Top:
Longitudinal Section A
(Author 2019)

Figure 7.60: Bottom:
Lateral Section B
(Author 2019)

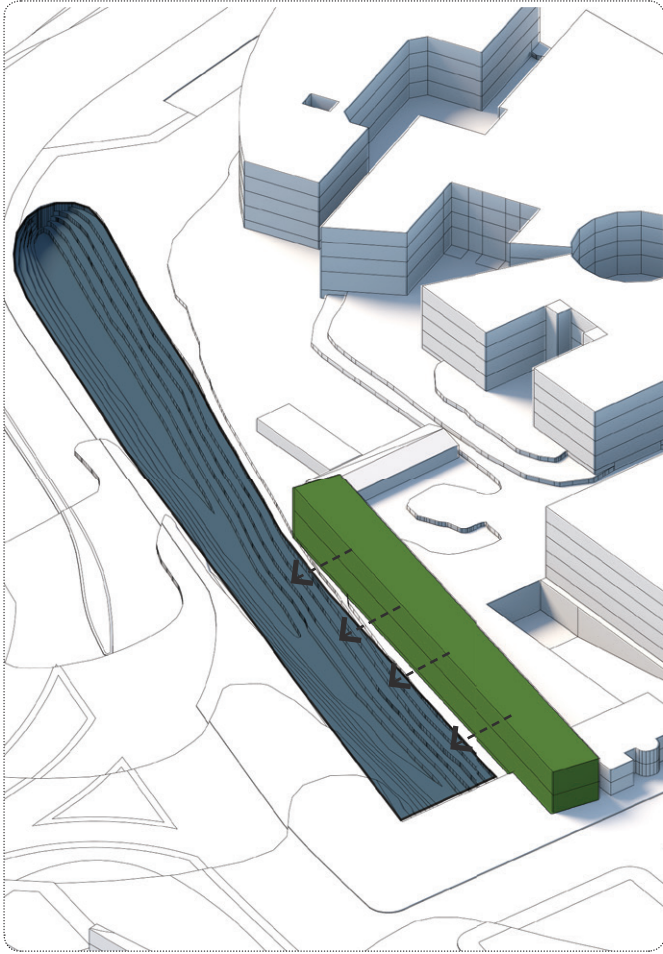


*Longitudinal Section
AA_not to scale*

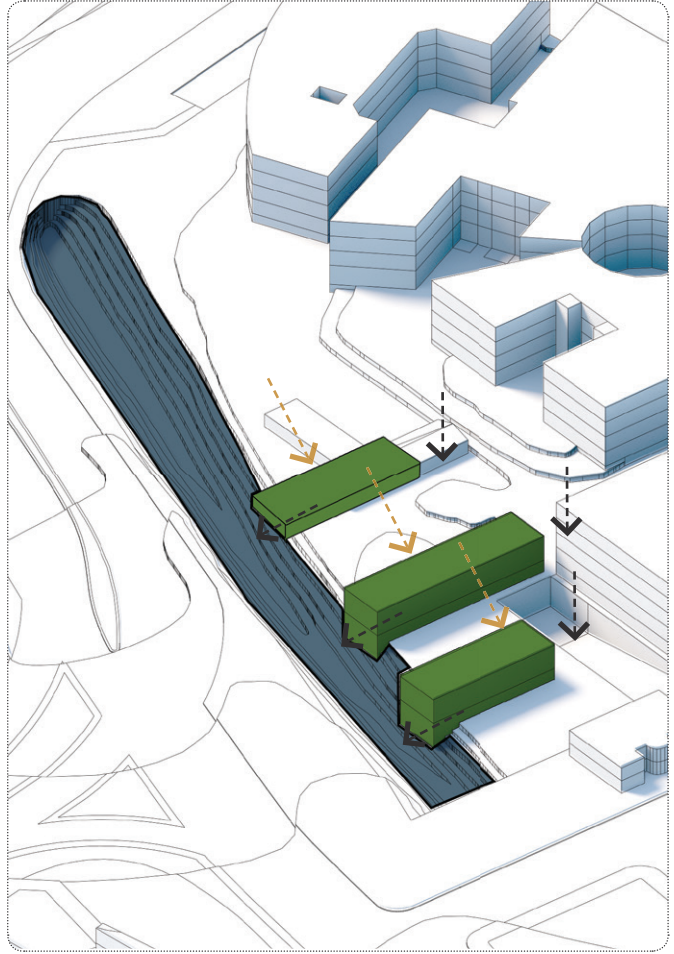


*Lateral Section BB_not
to scale*

Reconnect with Apies River



Climatic response



Linkages/relationships

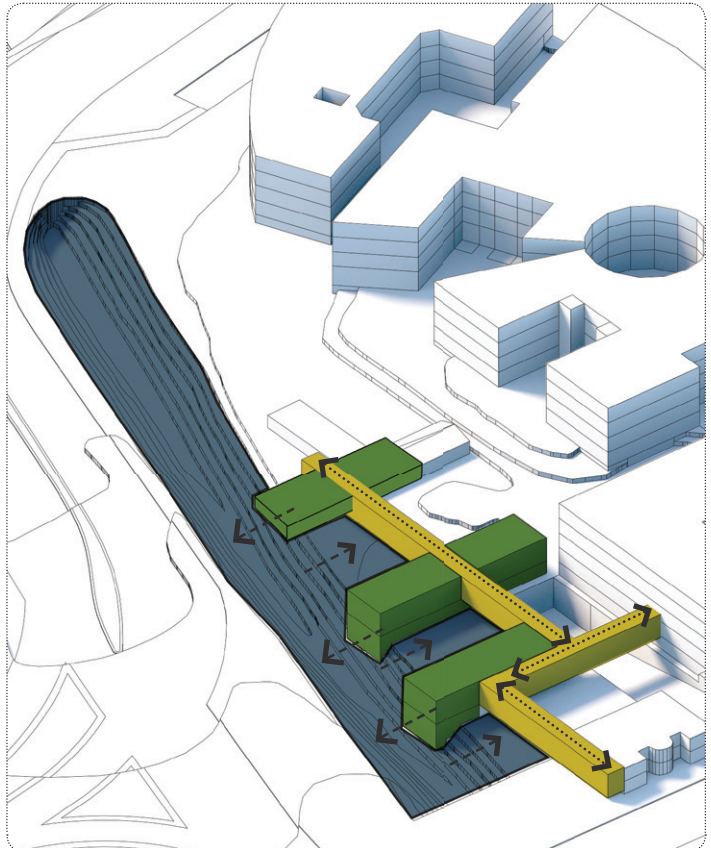


Figure 7.61: Top left:
Reconnect with river
(Author 2019)

Figure 7.62: Top right:
Respond to climate
(Author 2019)

Figure 7.63: Bottom:
Restore relationships
(Author 2019)

Les Mansion's existing fabric



Les Mansion's demolition



Les Mansion's new insertion



Les Mansion's transformation



Explaining the final design: Heritage adaptations

Les Mansions

This approach of transformation was adopted in order to allow a new sense of place to be created. Retaining some of the Art Deco characteristics in the form of the symmetrical street façade became important.

The first transformation came in the form of removing the entrance portal and opening the building up to the public (and their everyday rituals) and in so doing, enhancing the building's relationship with the natural landscape.

The second strategy was to create a connection between the old and the new, this was achieved by removing the roof off the existing building and extending the new market space roof over the existing heritage building. These changes allowed for the vision of a new type of ville, one that is conscious and sensitive towards the lived experiences and the importance of man's connection to nature, to take shape.

Figure 7.64: Les Mansions' existing fabric (Author 2019)

Figure 7.65: Les Mansion's demolition (Author 2019)

Figure 7.66: Les Mansion's new insertion (Author 2019)

Figure 7.67: Les Mansion's transformation (Author 2019)

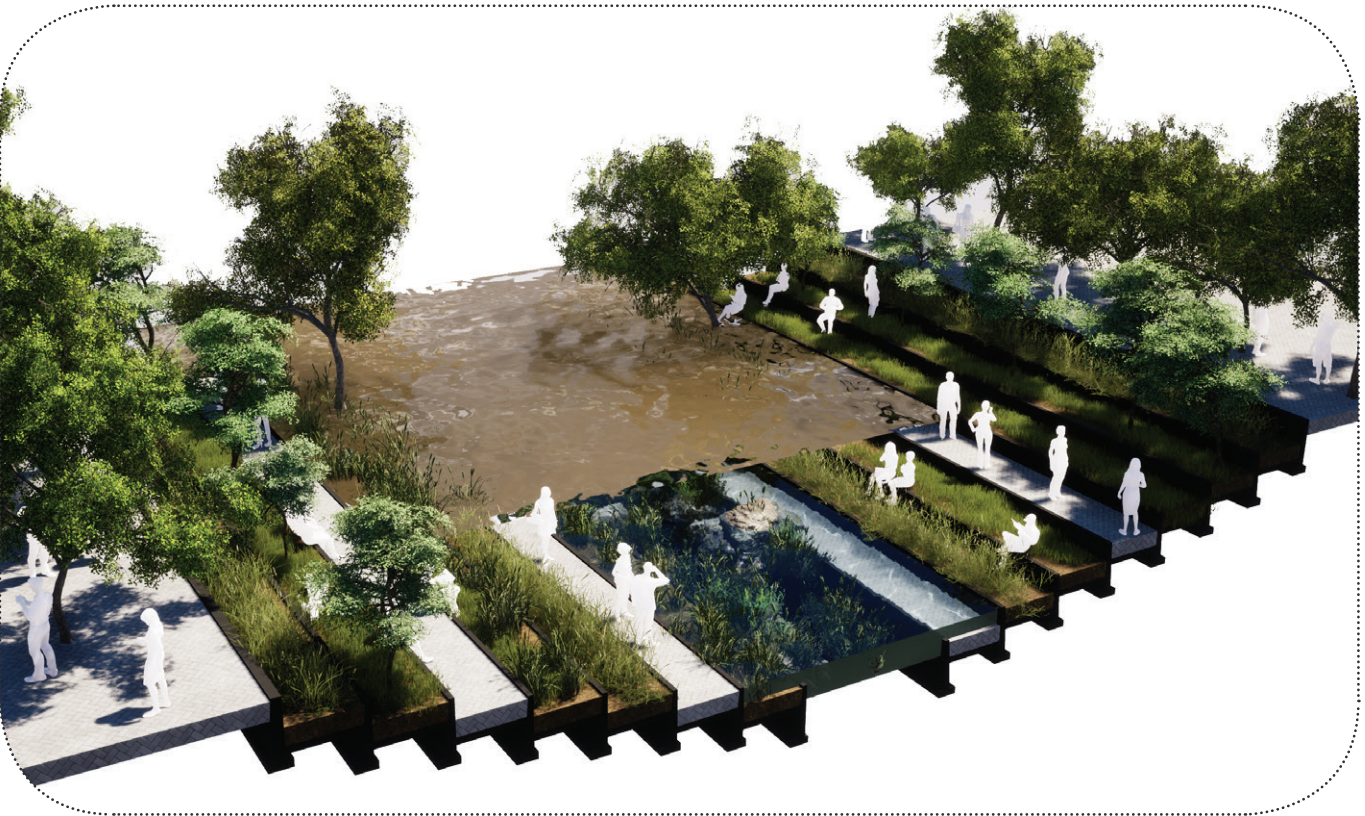
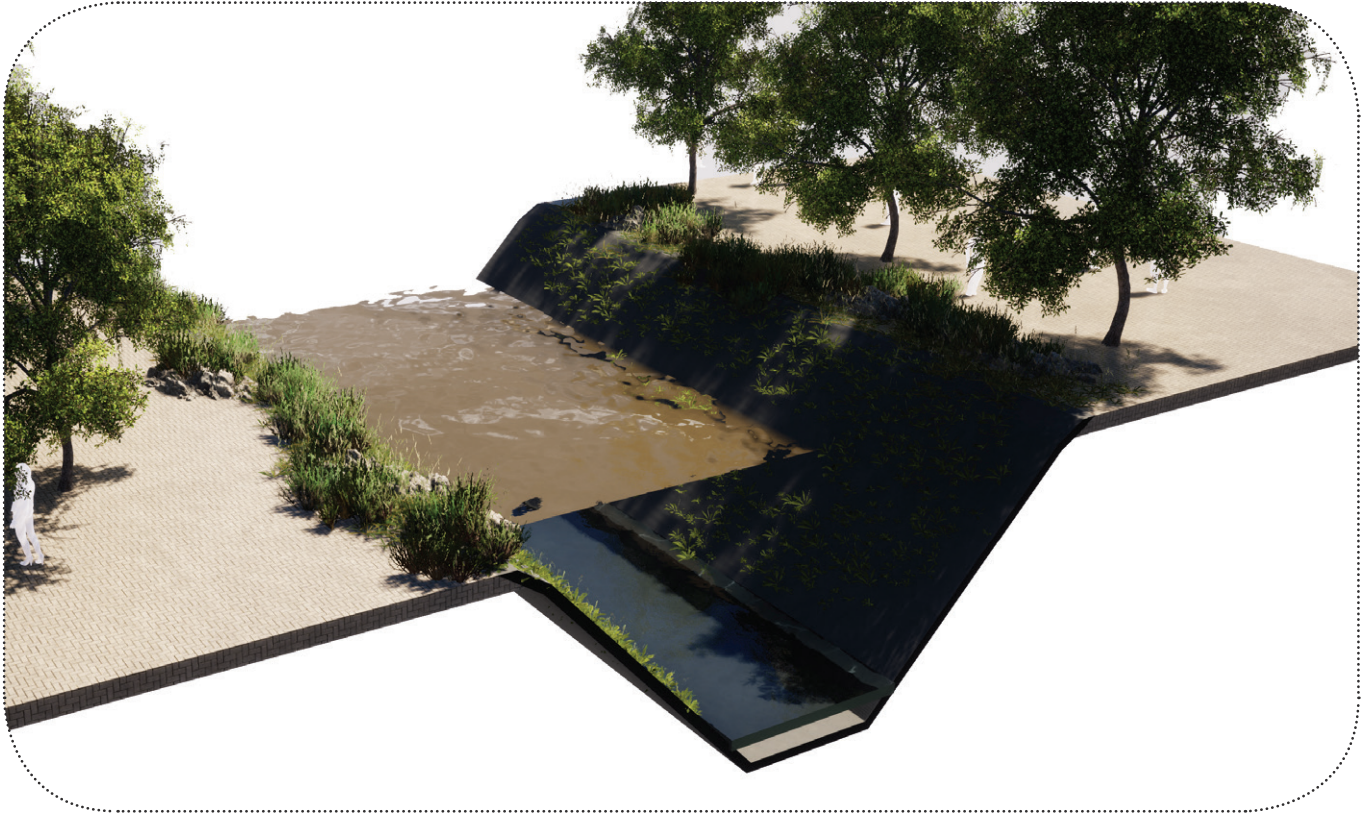
Figure 7.68: Top: Apies river existing condition (Author 2019)

Figure 7.69: Bottom: Apies river's promenade transformation (Author 2019)

Explaining the final design: Heritage adaptations

The Apies river's modifications were removed to allow for better interactions between

city goer and river as a productive but also recreational source. By widening the river, it is possible to decrease the depth thus enabling easier connections. The landscape is terraced with pedestrian and bicycle walkways on more than one level.



Public realm

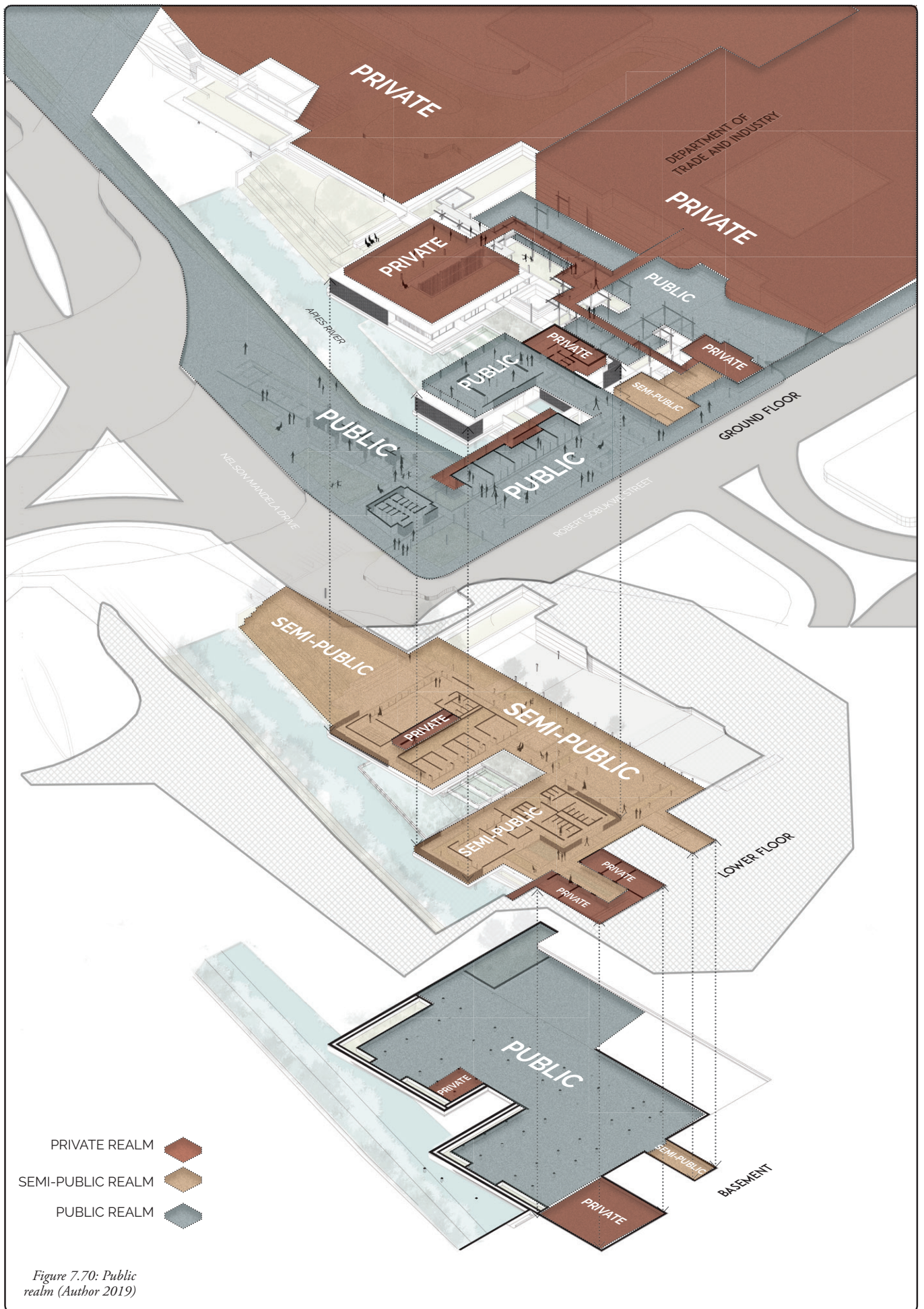


Figure 7.70: Public realm (Author 2019)

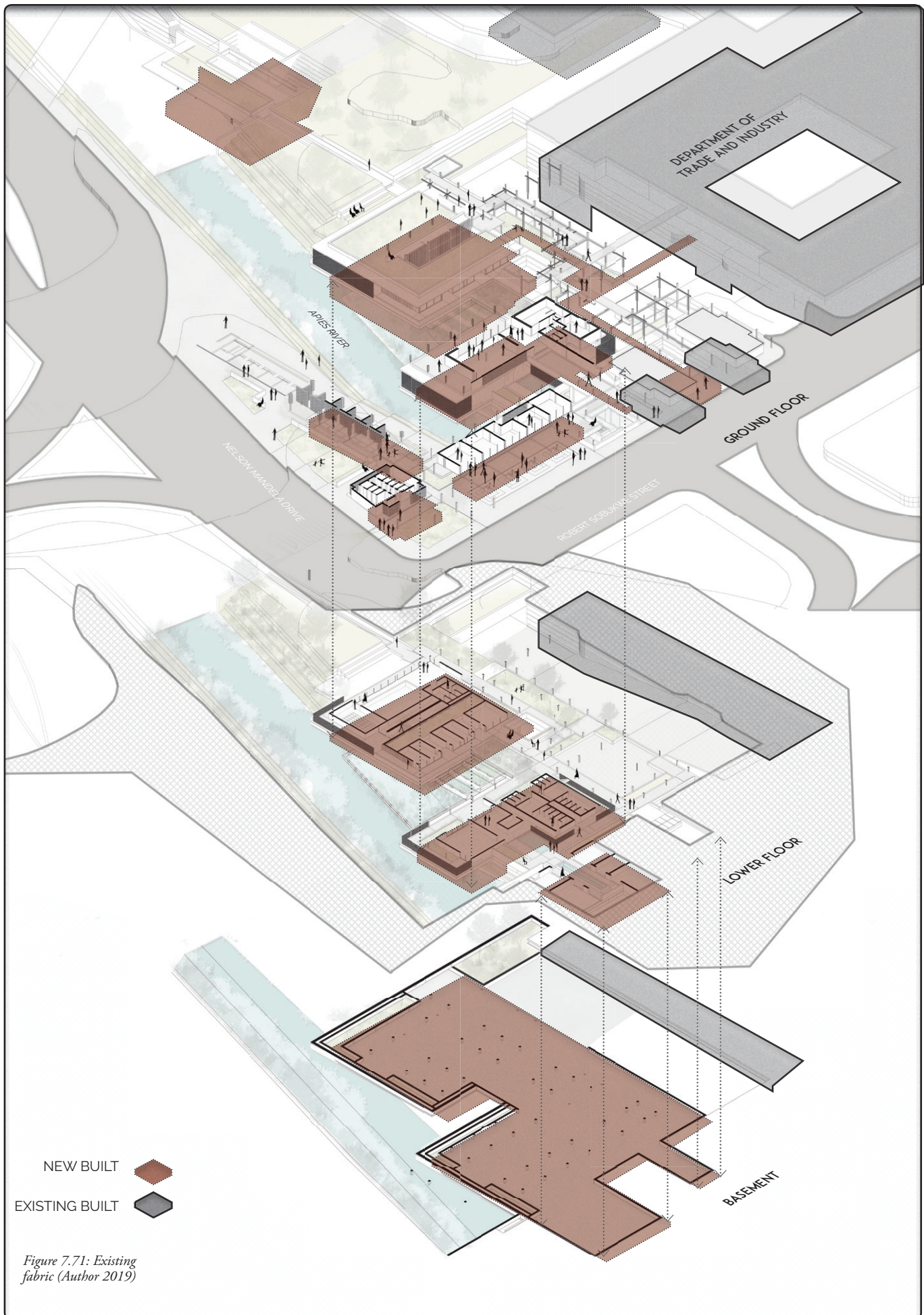


Figure 7.71: Existing fabric (Author 2019)

Landscaping

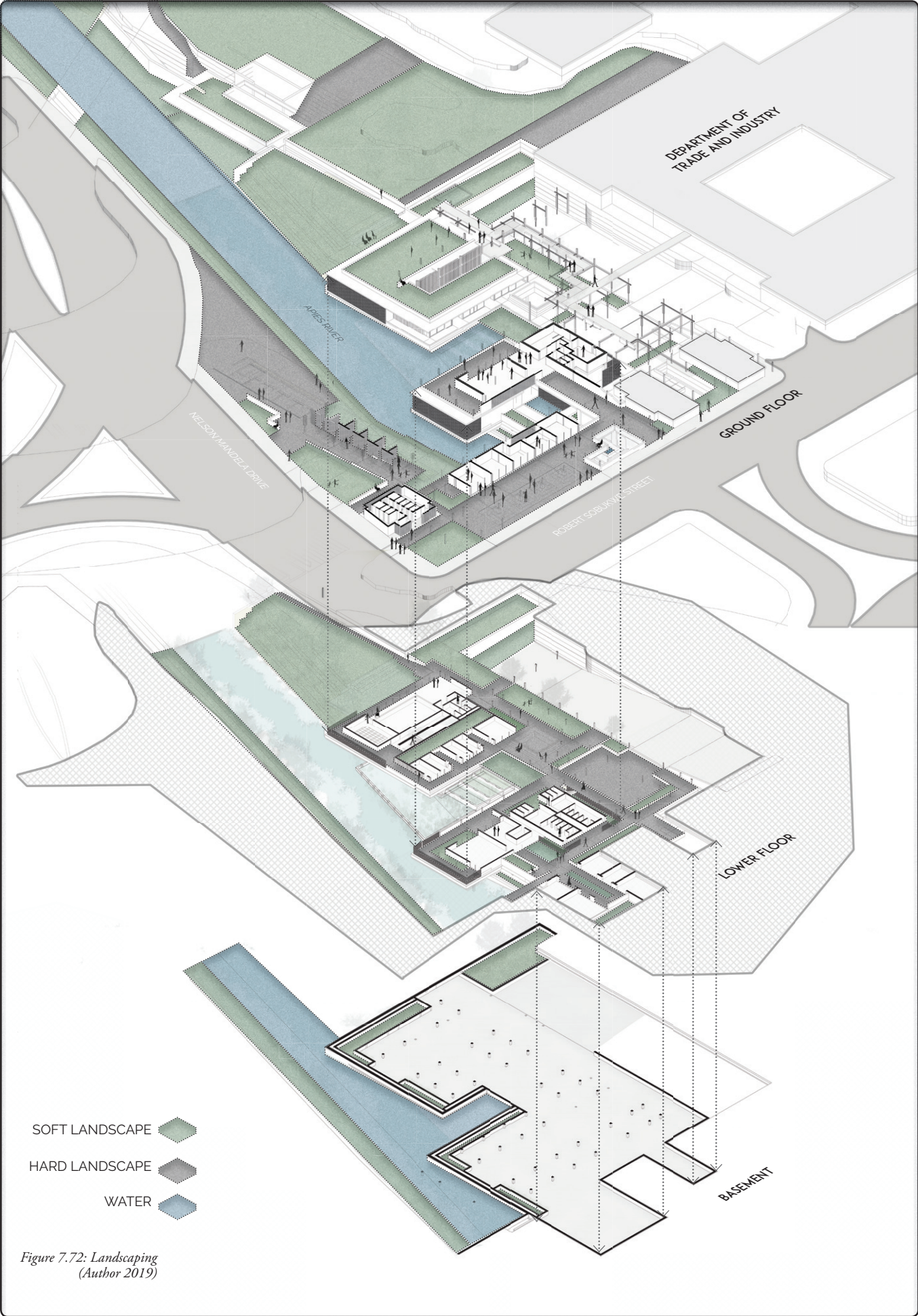


Figure 7.72: Landscaping
(Author 2019)

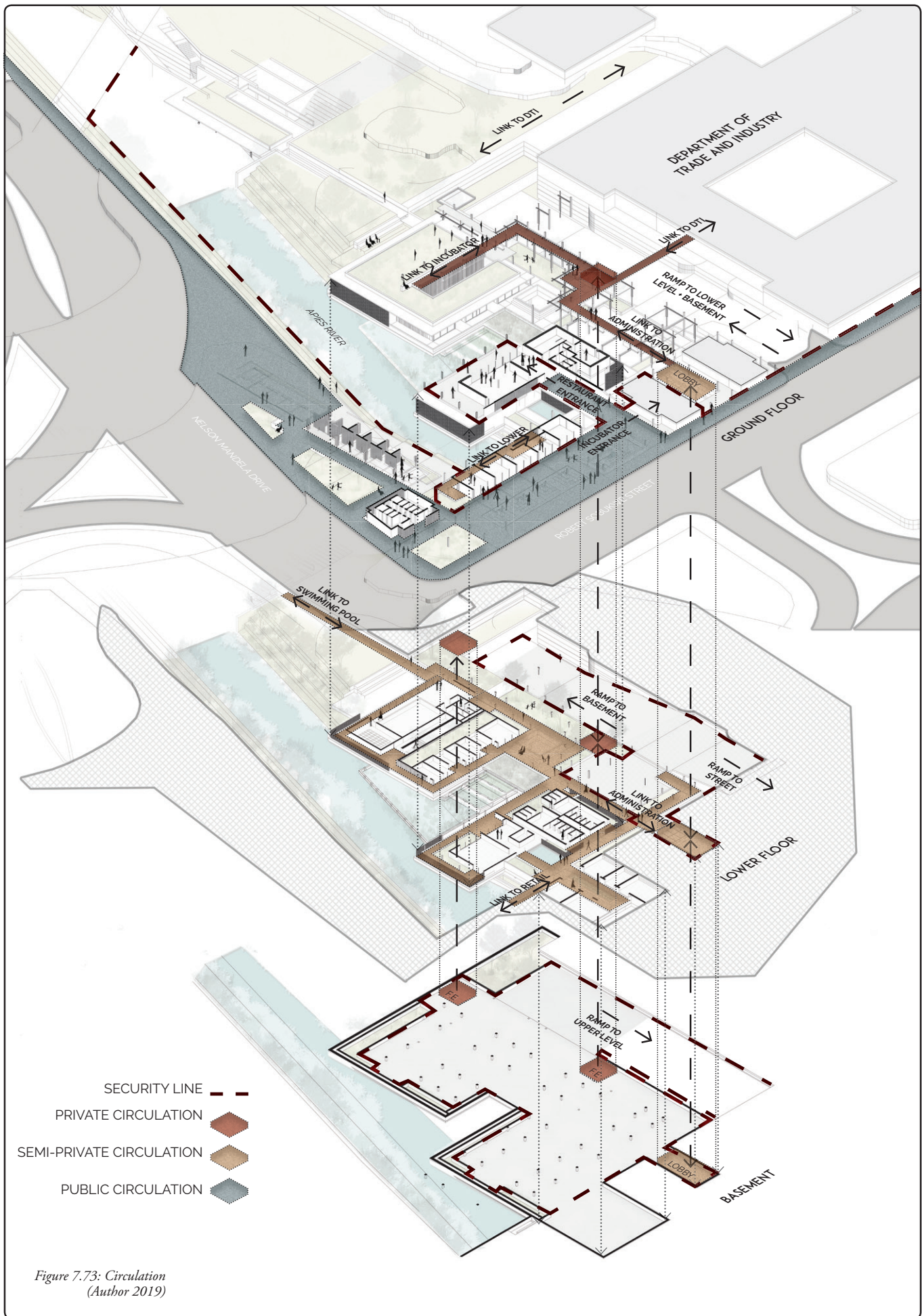


Figure 7.73: Circulation
(Author 2019)

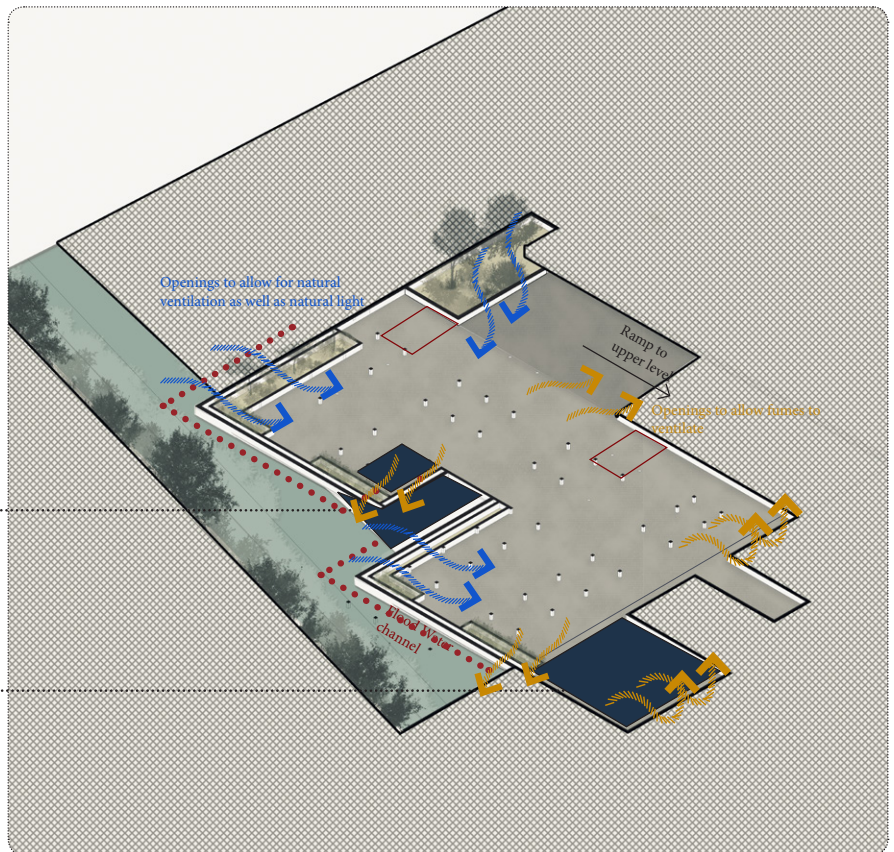
Explaining the final design

The basement plan consists of parking and space for water treatment services.

Wetland water treatment

Water harvesting + Treatment plant

Figure 7.74: Basement ventilation (Author 2019)



- Basement -

Explaining the final design

Lower floor plan consists of the maker's space and the business incubator

Seminar rooms

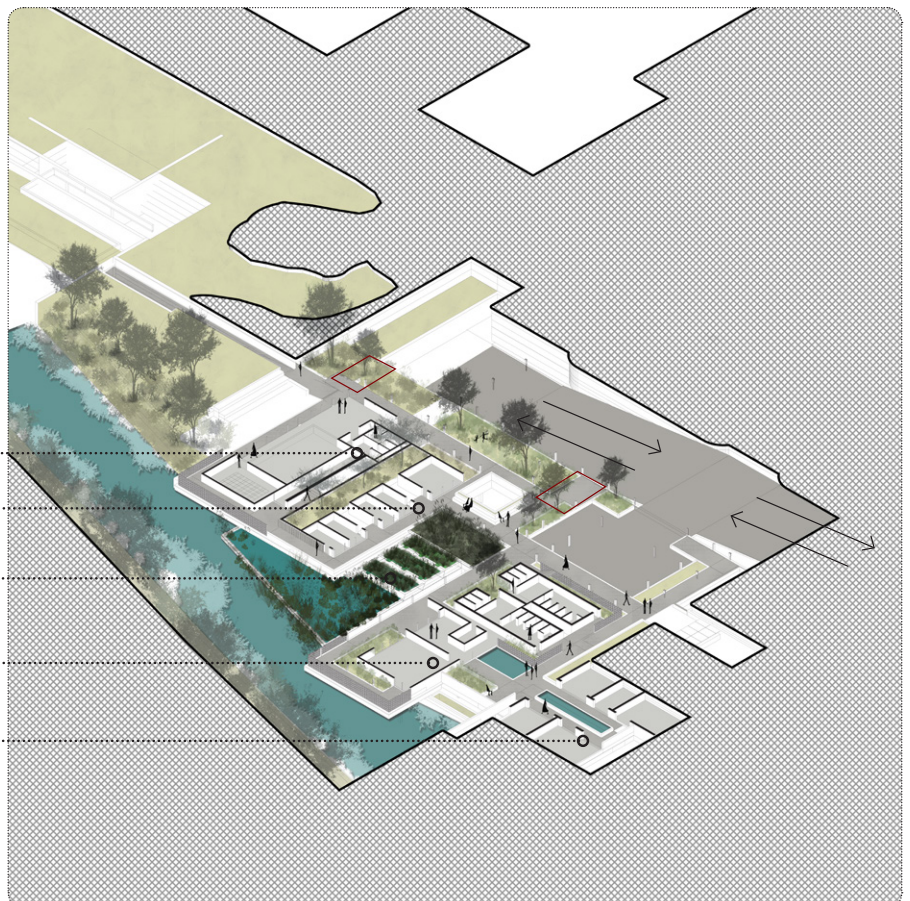
Rentable studio space

Constructed wetland

Workshop

Maker's space

Figure 7.75: Lower floor spatial layout (Author 2019)



- Lower floor -

Explaining the final design

Groundfloor plan houses public programmes such as the formal and informal retail space, market square and a cafe' overlooking the Apies river.

A private garden is created for DTI's office workers to also enjoy the Apies river.

Figure 7.76: Ground Level spatial layout
(Author 2019)

Garden

Apies River

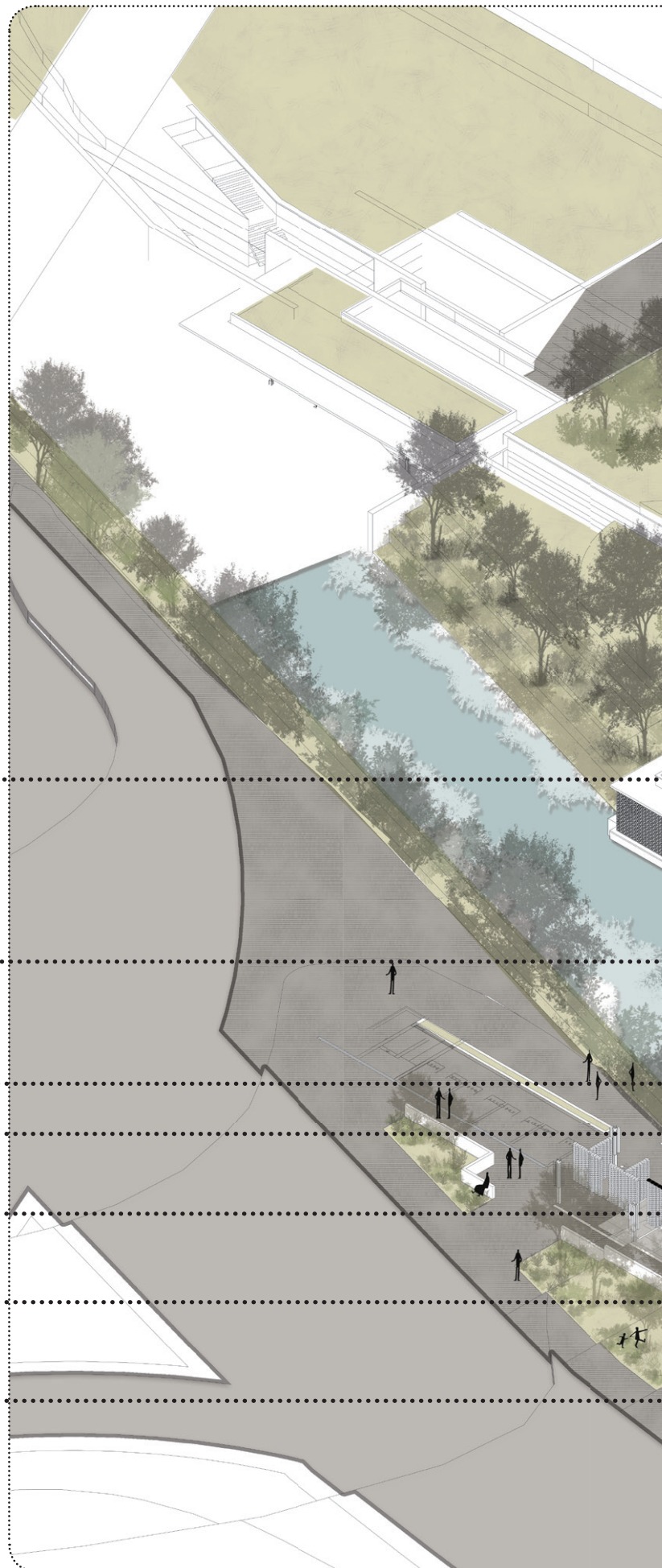
Cafe'

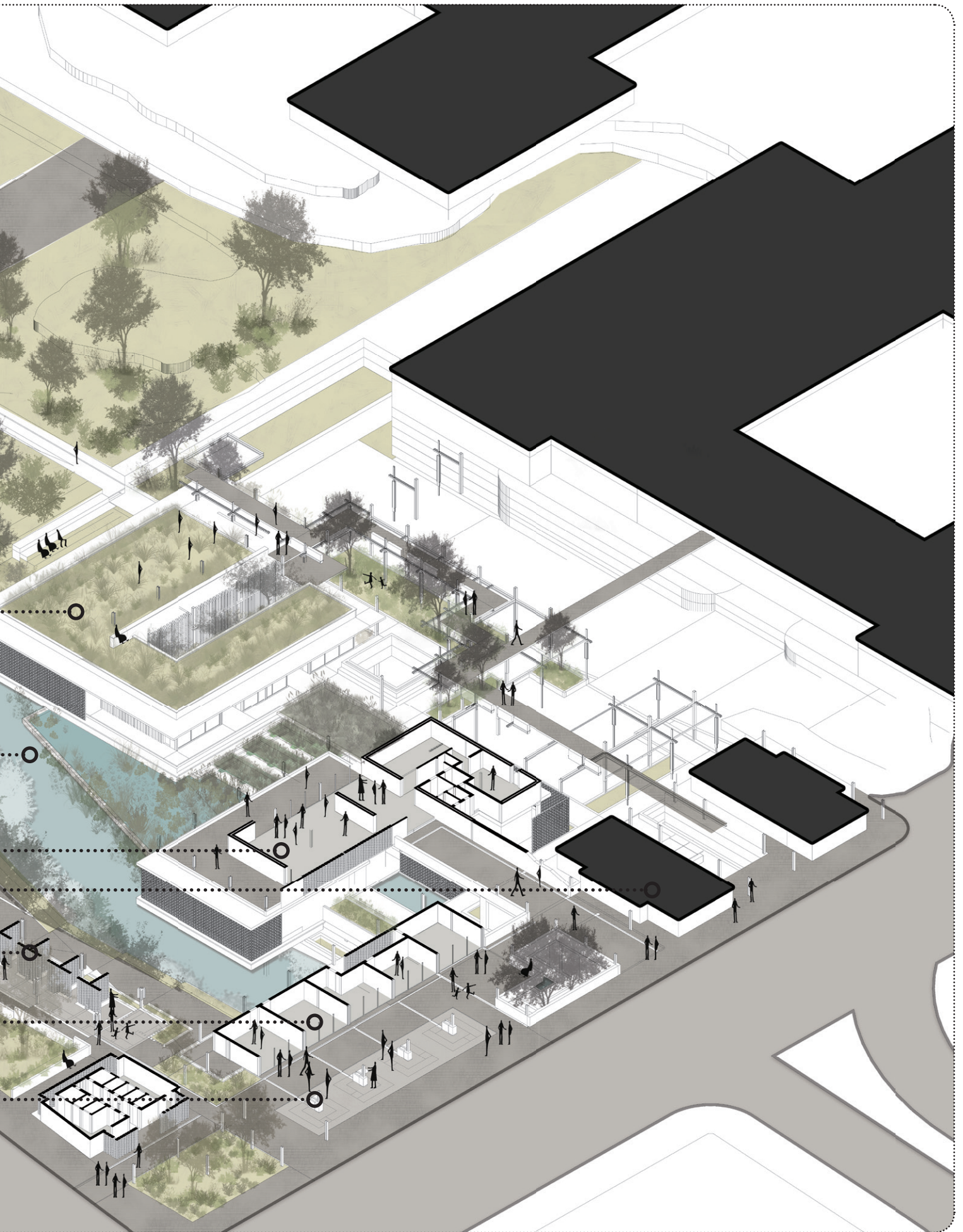
Administration

Vending stalls

Retail

Market





Site plan

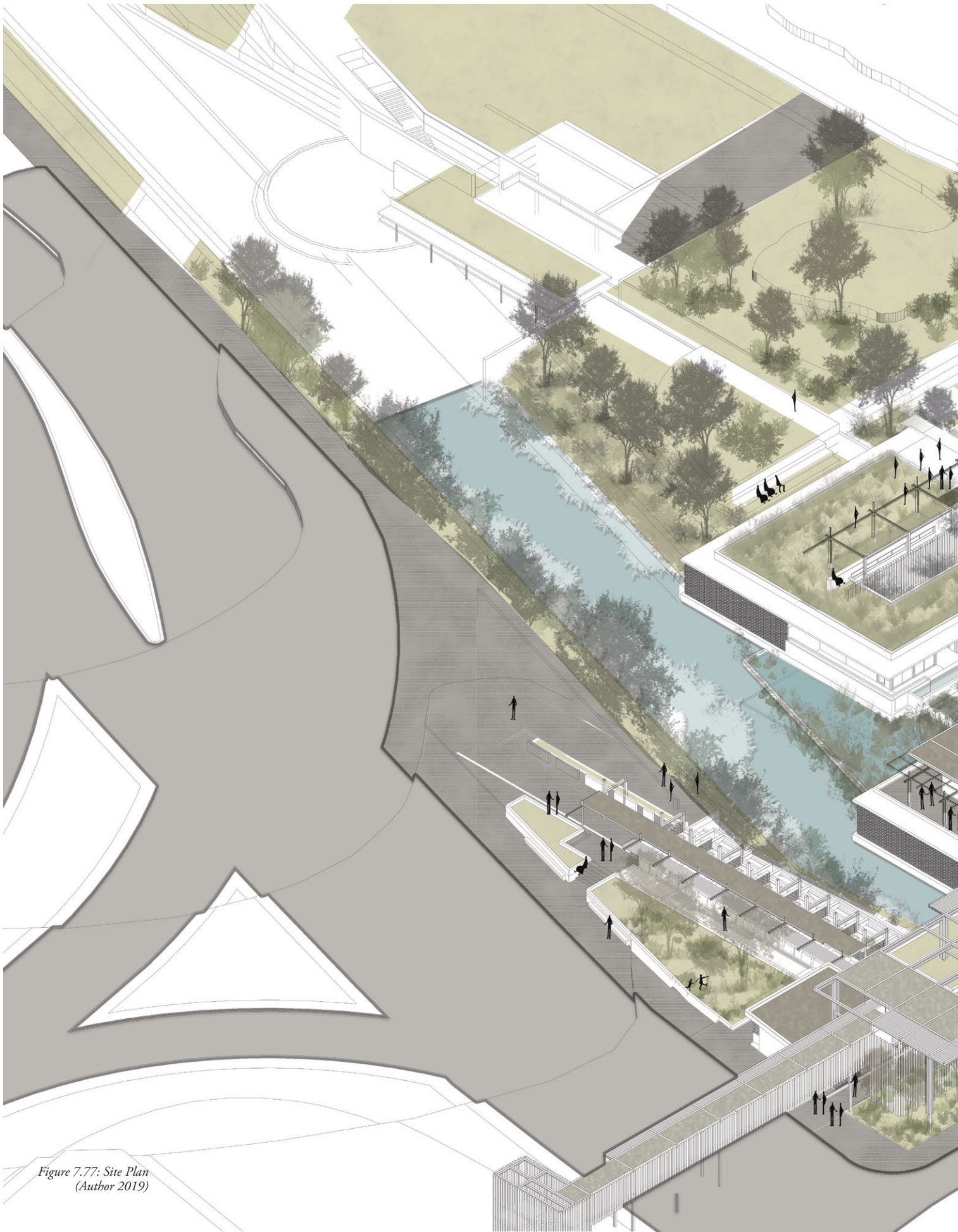
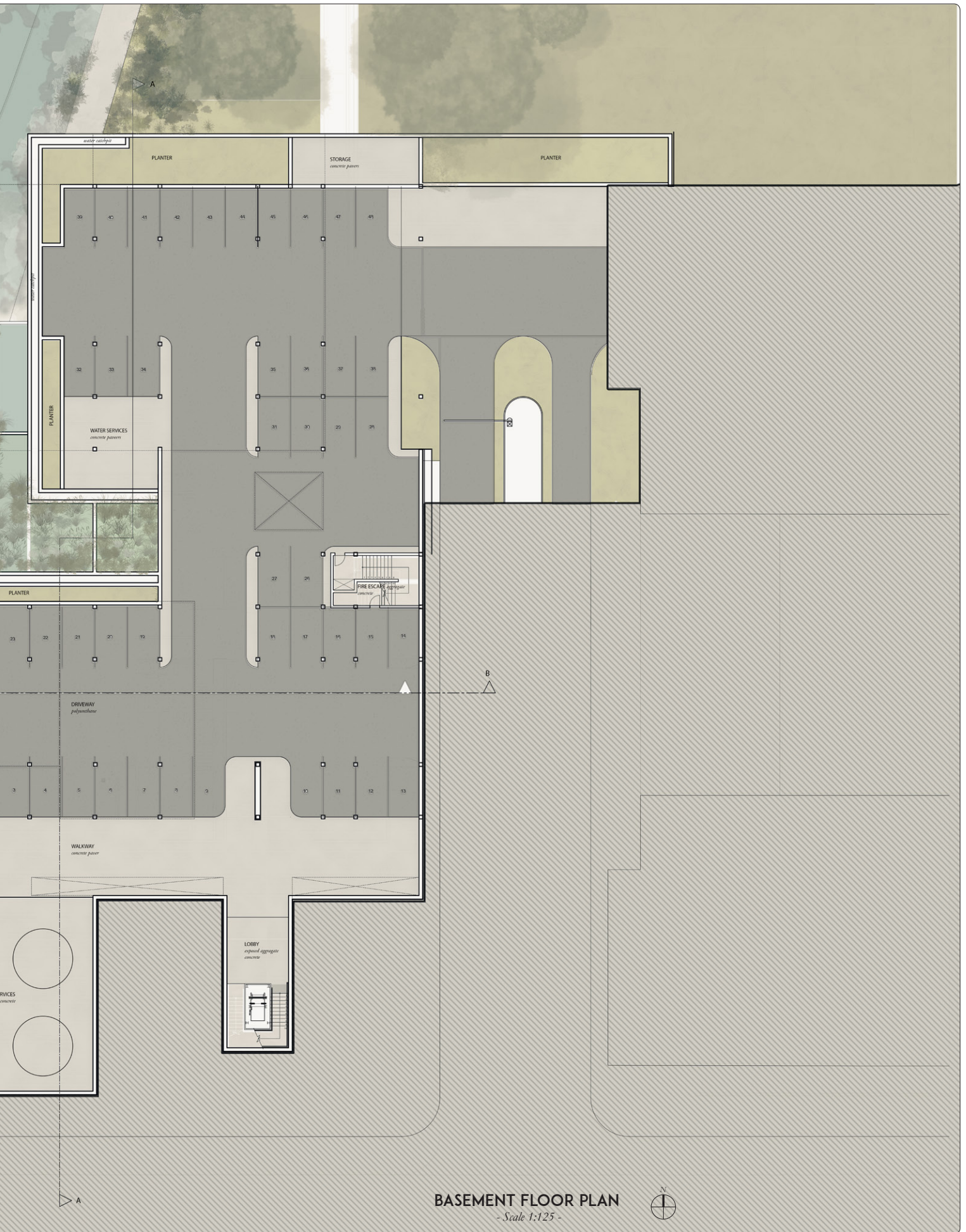


Figure 7.77: Site Plan
(Author 2019)





Figure 7.78: Final Basement plan (Author 2019)

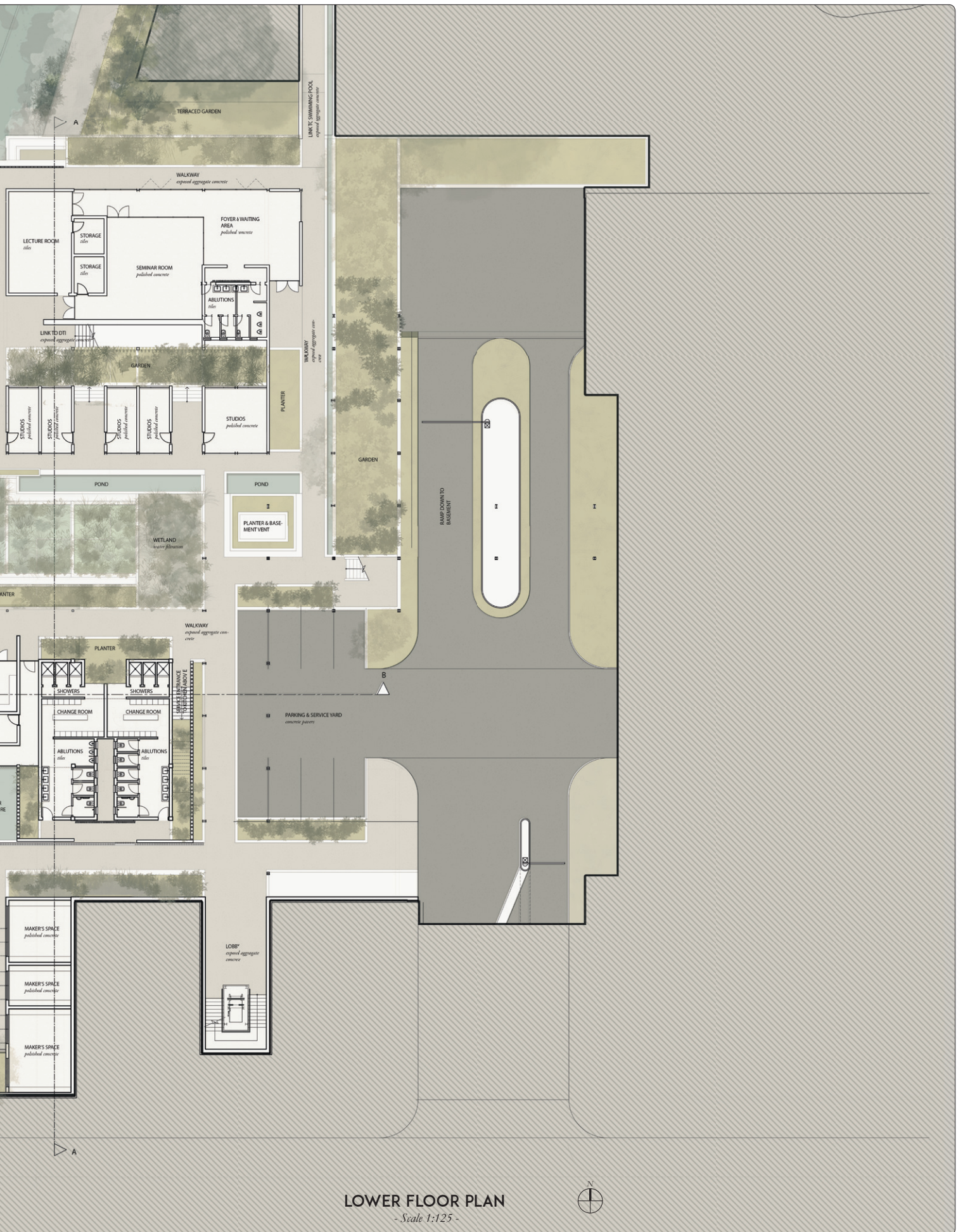


BASEMENT FLOOR PLAN
 - Scale 1:125 -





Figure 7.79: Final Lower floor plan (Author 2019)



LOWER FLOOR PLAN
 - Scale 1:125 -

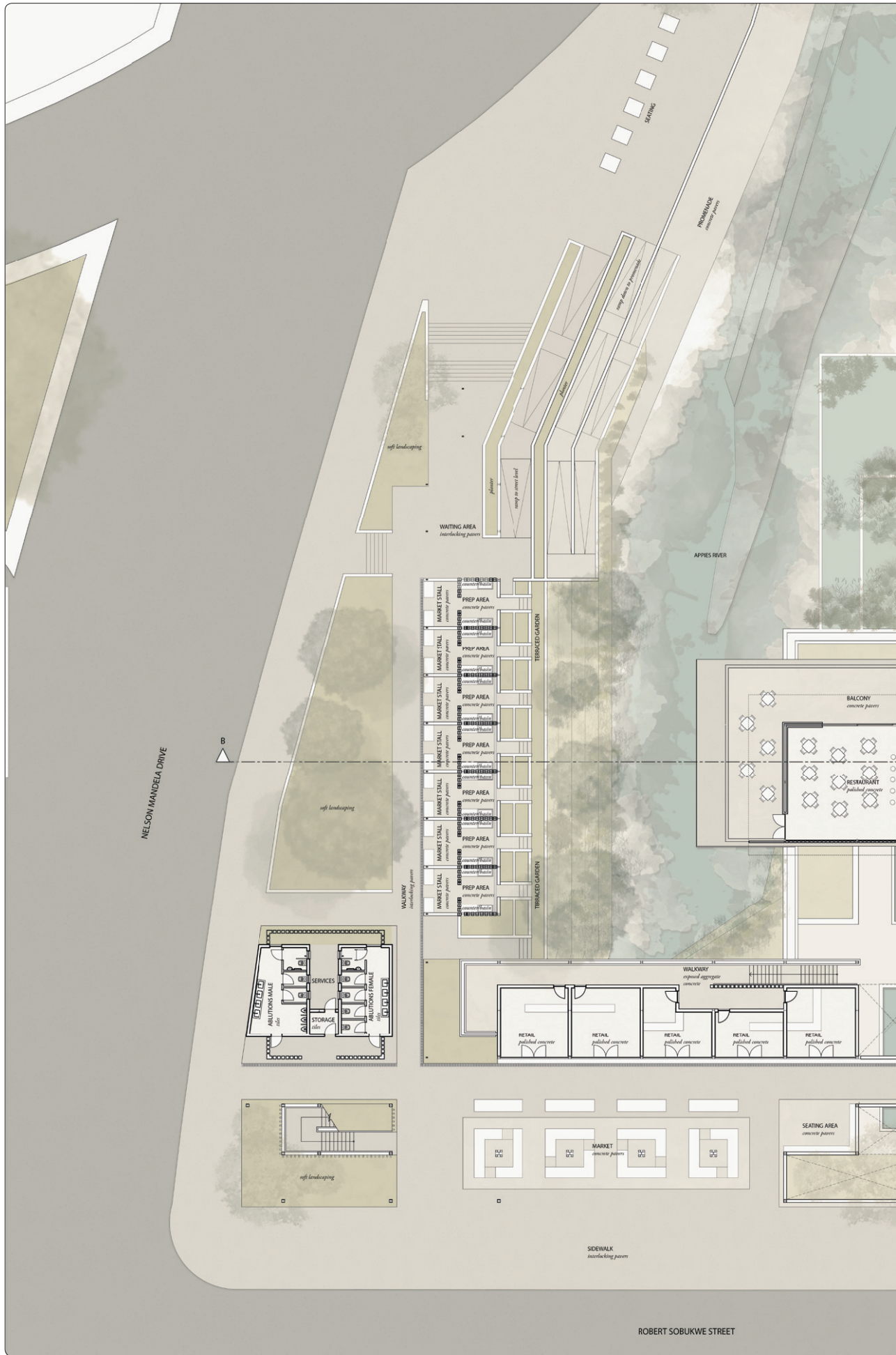
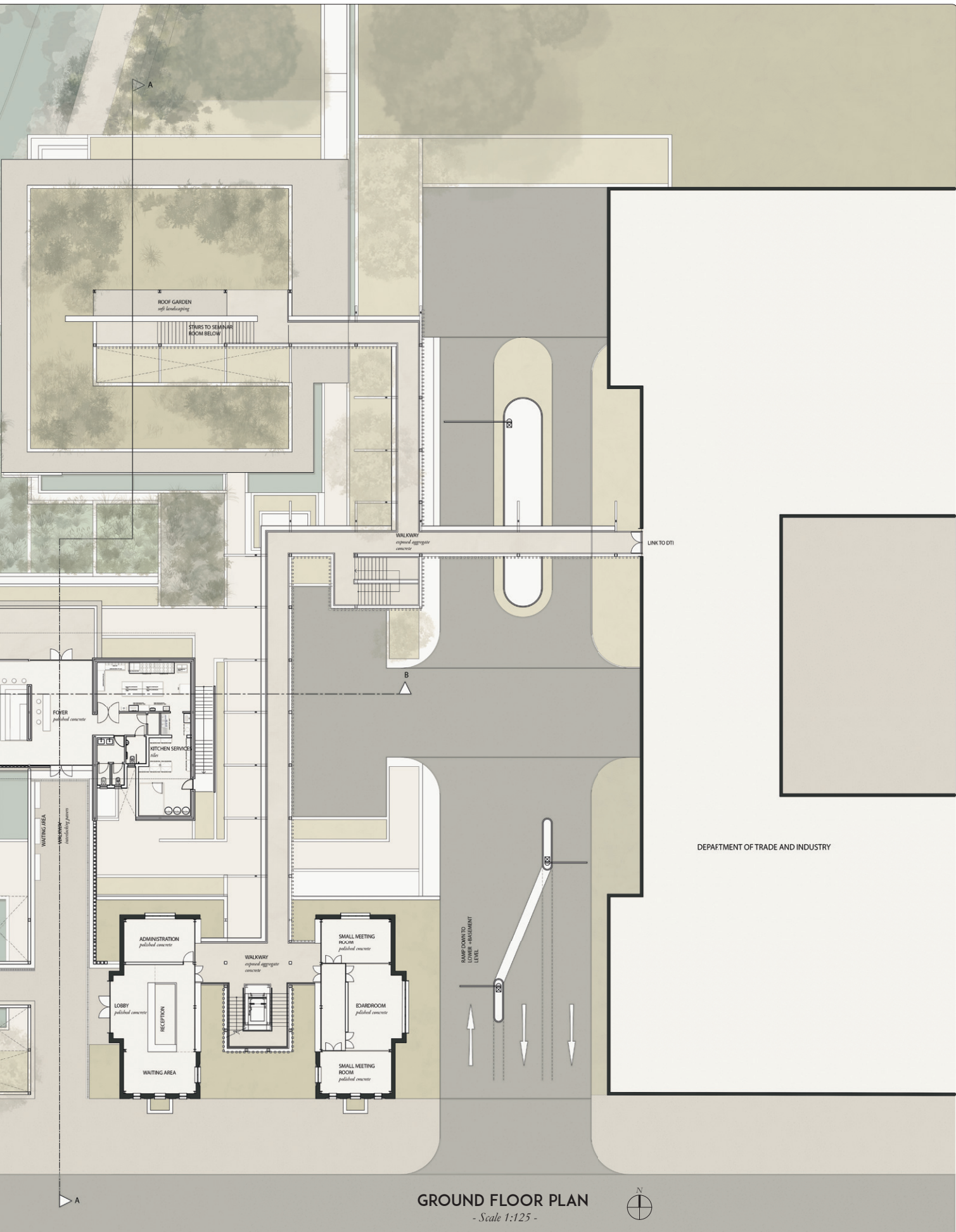


Figure 7.80: Final Ground floor plan (Author 2019)



DEPARTMENT OF TRADE AND INDUSTRY

GROUND FLOOR PLAN

- Scale 1:125 -



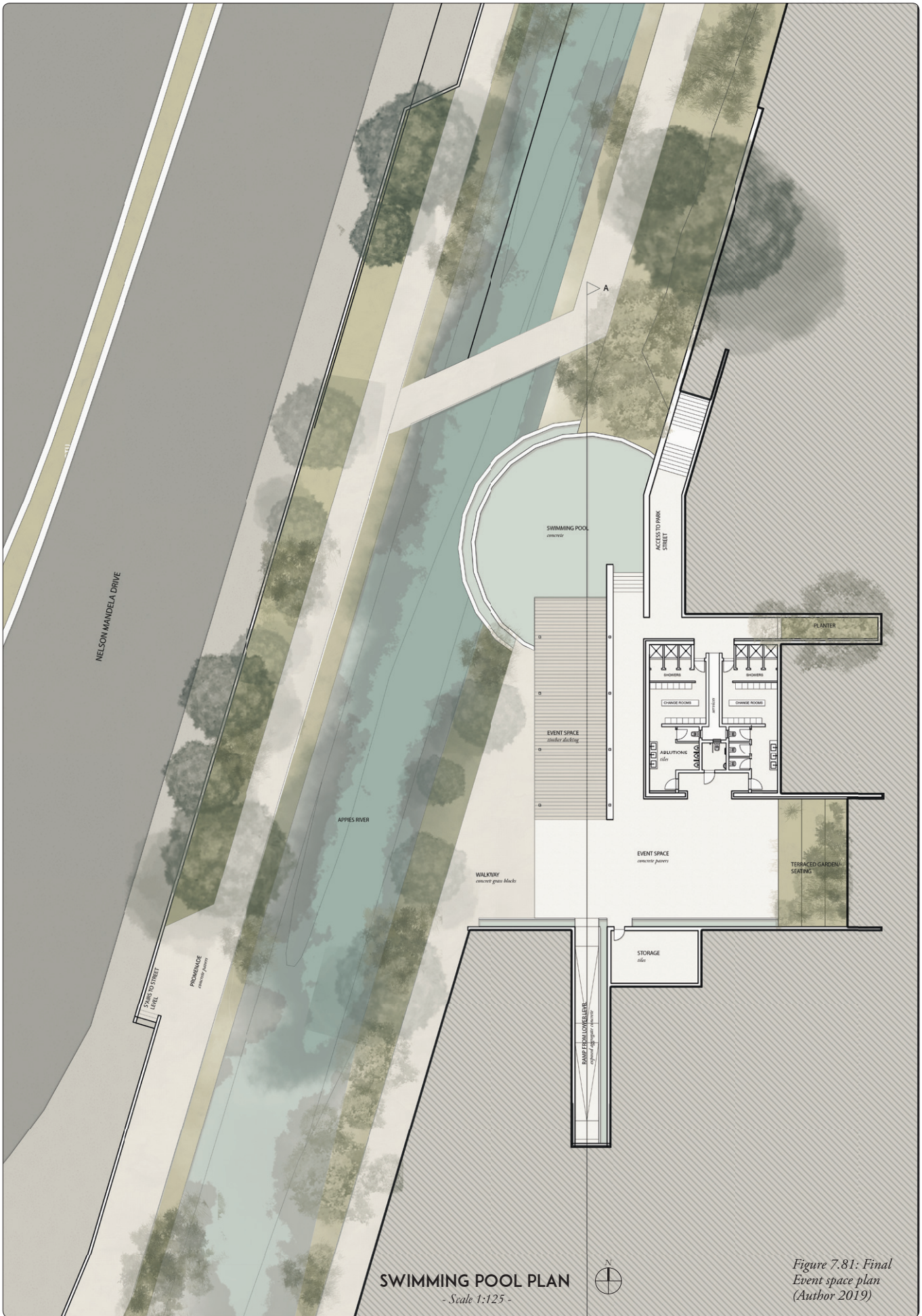




Figure 7.82: Aerial view of site (Author 2019)

AERIAL VIEW FROM ROBERT SOBUKWE STREET

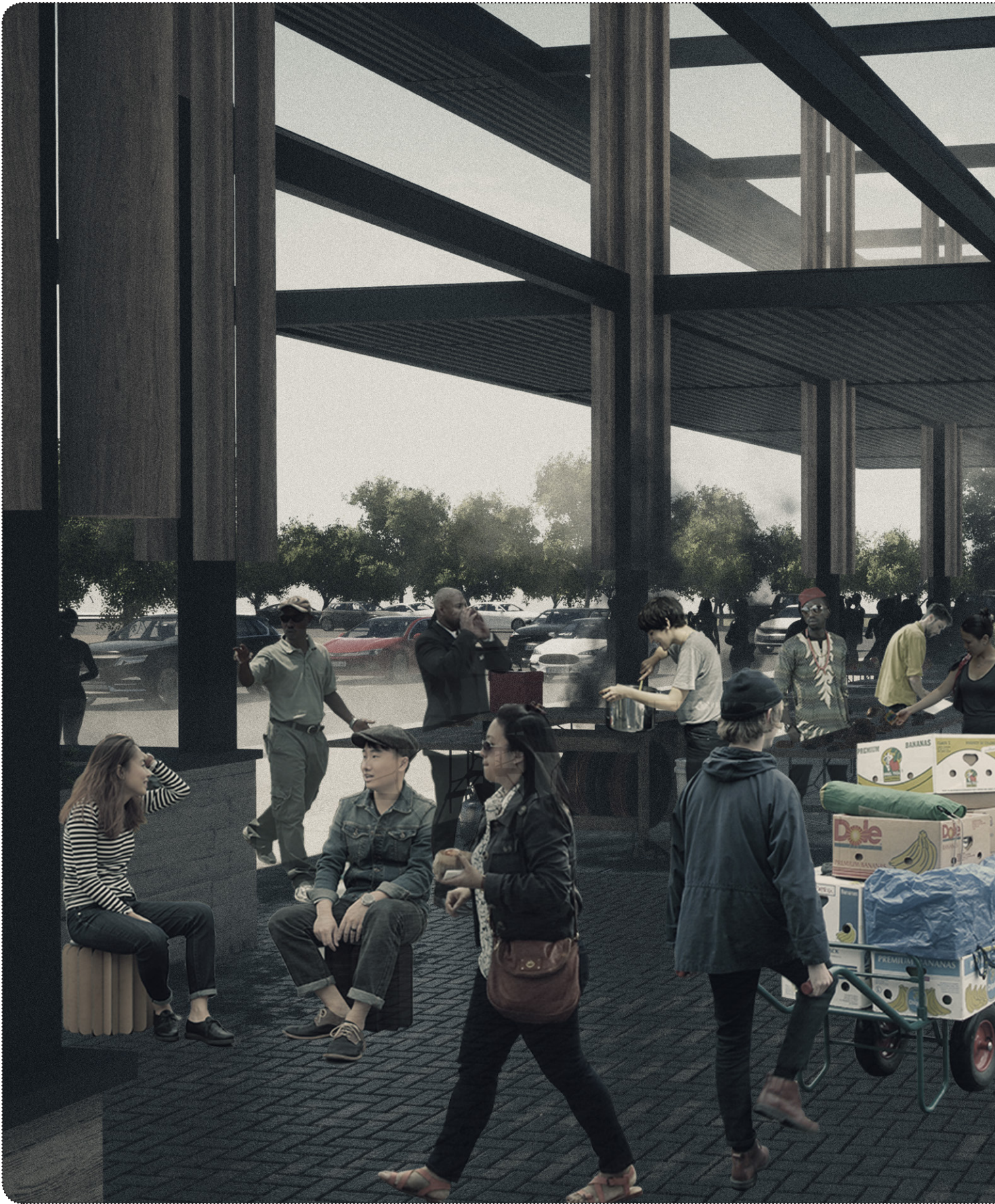


Figure 7.83: View A
(Author 2019)



VIEW OF MARKET SPACE
- View A -



Figure 7.84: View B
(Author 2019)



VIEW OF TRADING STALLS
- View B -

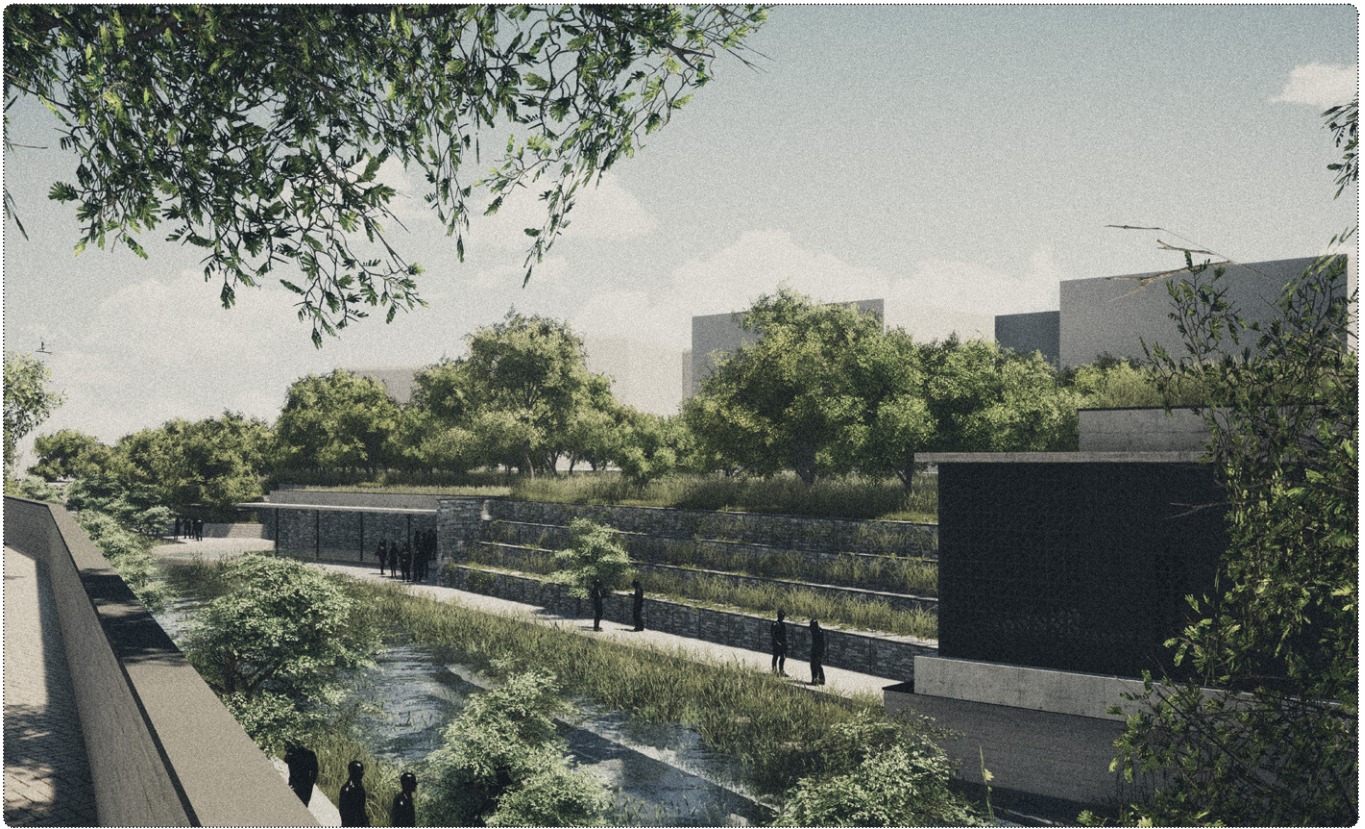
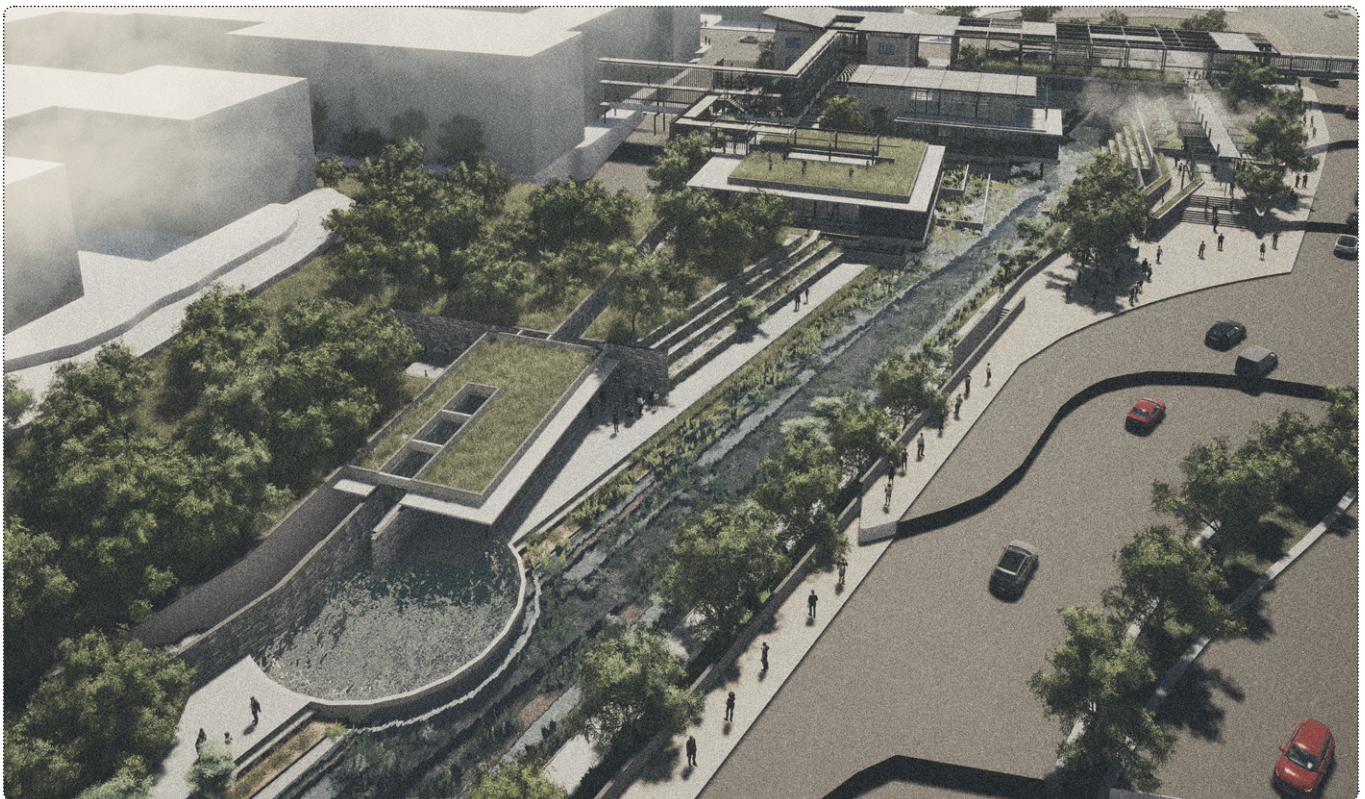


Figure 7.85: Top: View C
(Author 2019)

APIES PROMENADE
- View C: view of the Apies river -

Figure 7.86: Bottom: View D
(Author 2019)



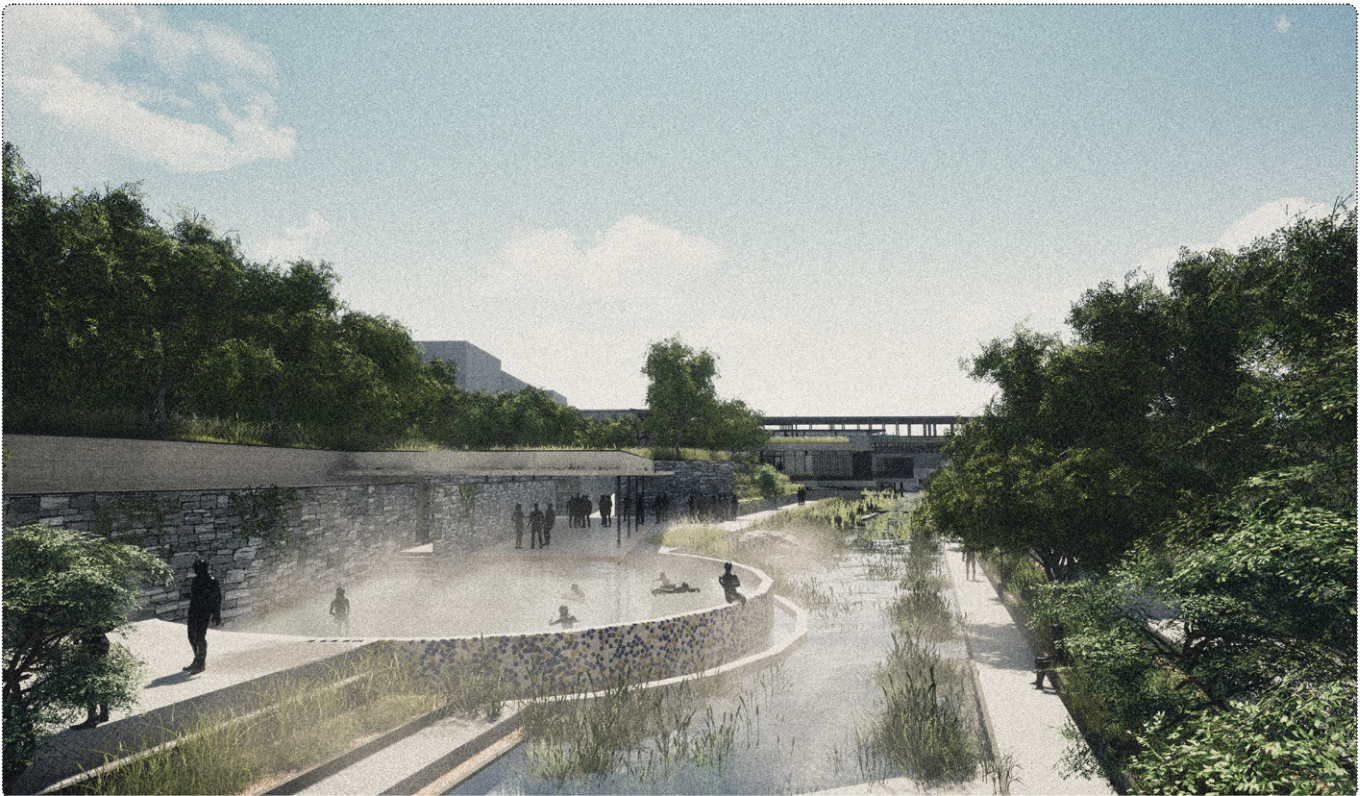
EMBEDDED WITHIN THE LANDSCAPE
- View D: Aerial view from Nelson Mandela drive -



Figure 7.87: Top: View E
(Author 2019)

Figure 7.88: Bottom: View F
(Author 2019)

EVENT SPACE AND SWIMMING POOL
- View E: view towards swimming pool -



EMBEDDED WITHIN THE LANDSCAPE
- View F: view towards event space -

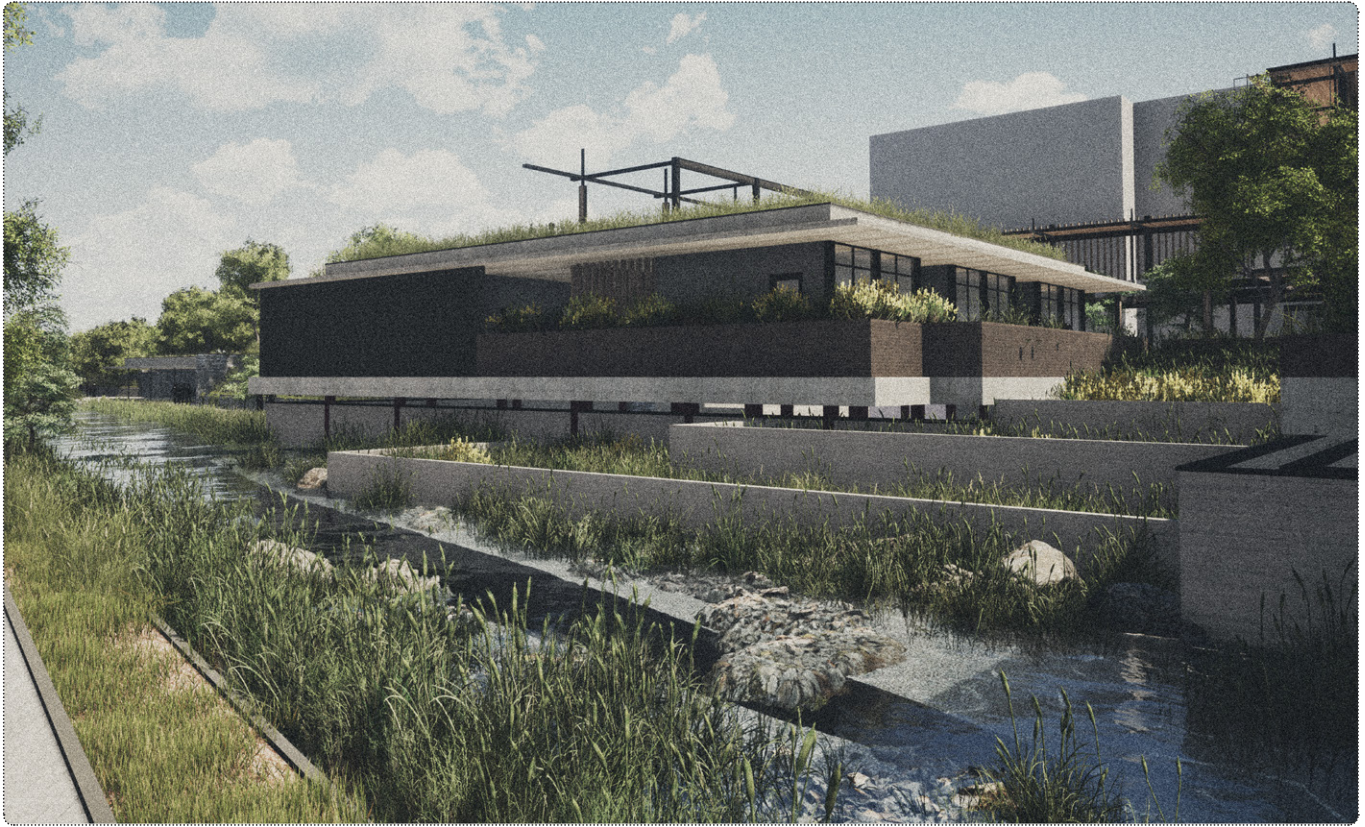


Figure 7.89: Top: View G
(Author 2019)

WETLAND
- View G: wetland and Apies river -

Figure 7.90: Bottom: View H
(Author 2019)



VIEW FROM EVENT SPACE
- View H: Promenade from event space -

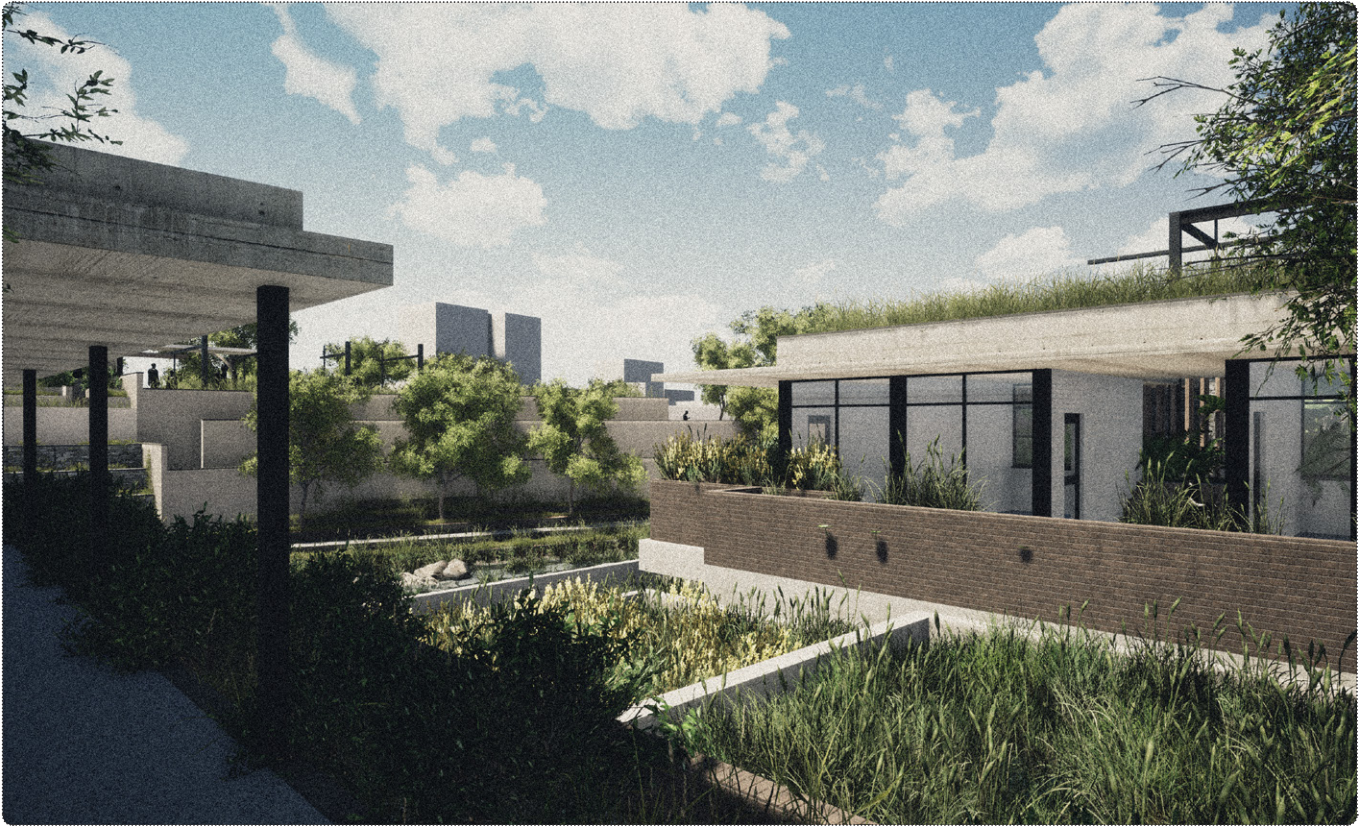
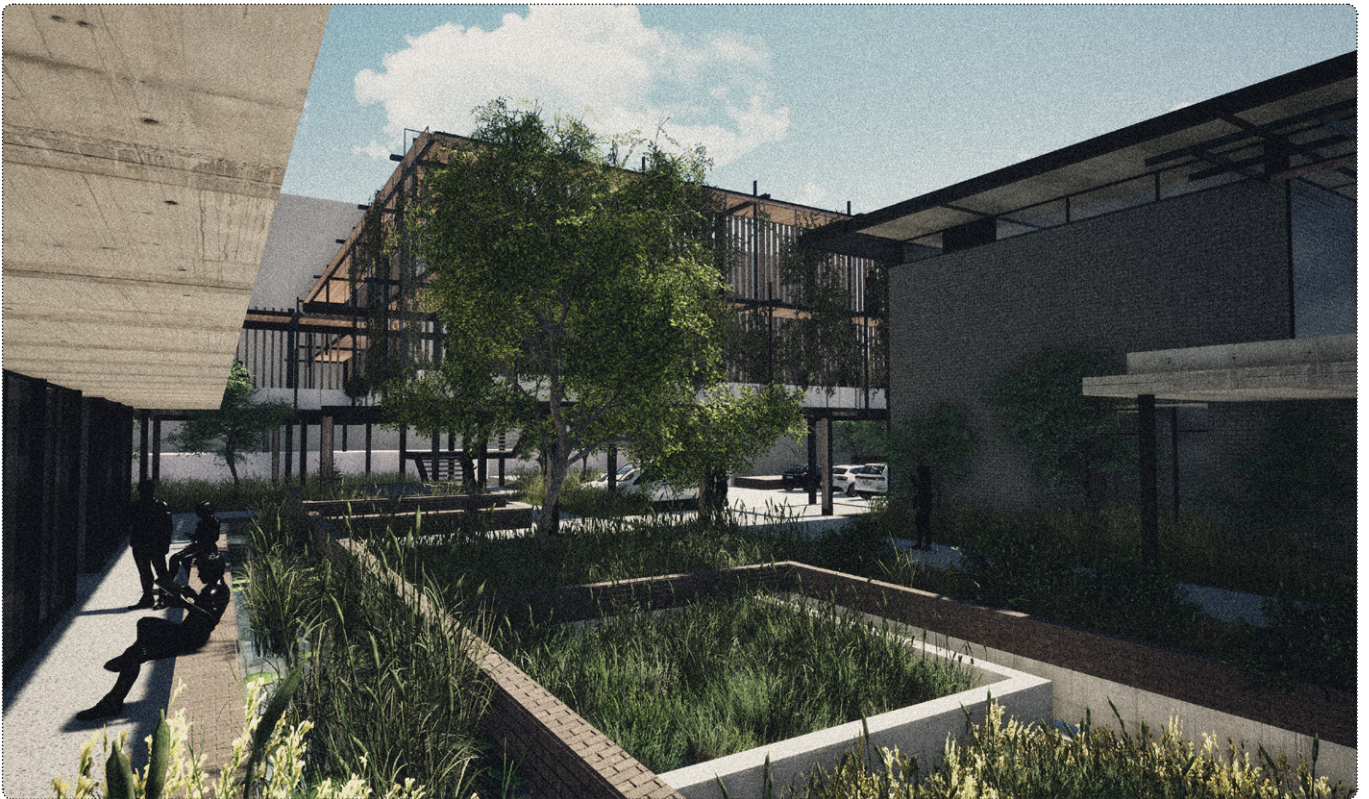


Figure 7.91: Top: View J
(Author 2019)

Figure 7.92: Bottom: View K
(Author 2019)

STUDIOS

- View J: View of studios from workshop -



COURTYARD

- View K: View of courtyard from studios -

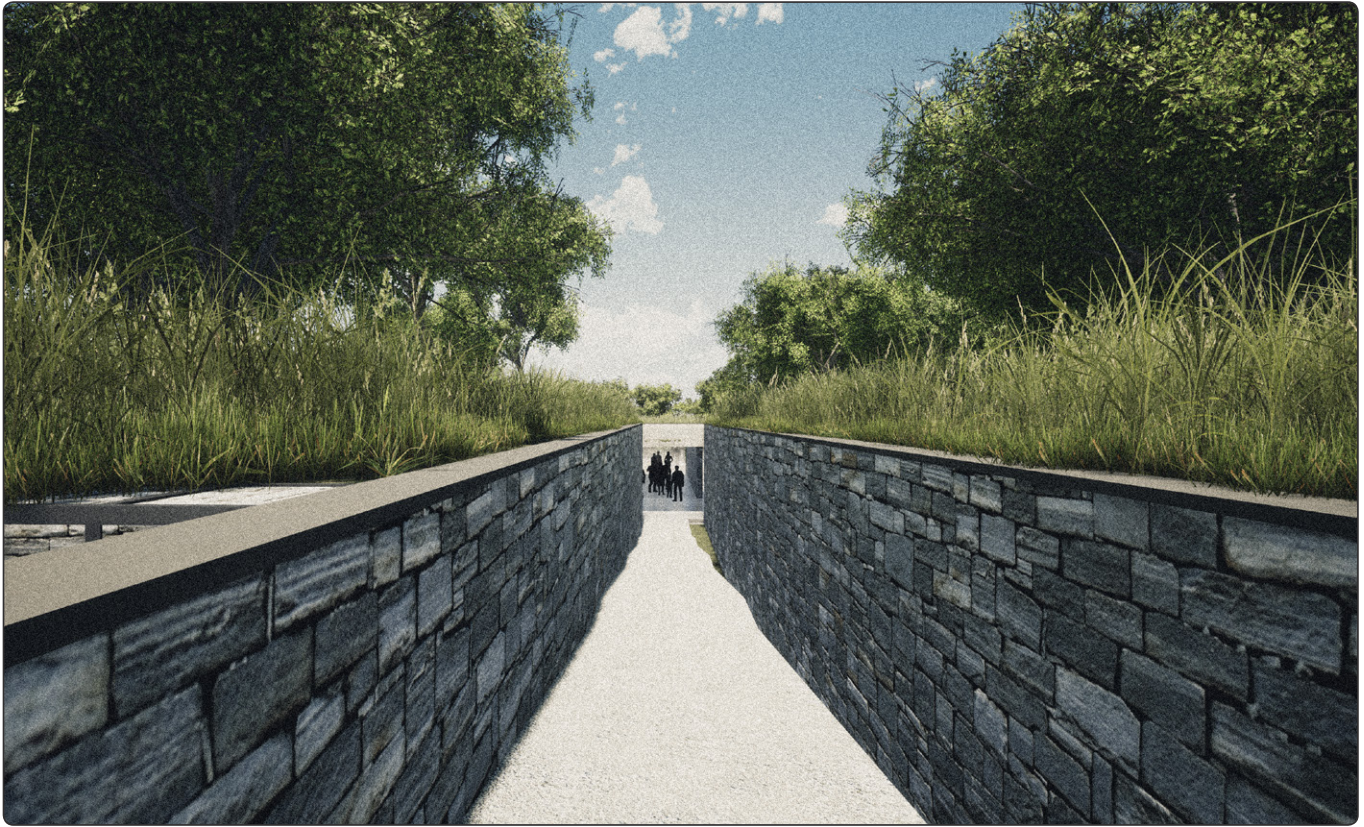
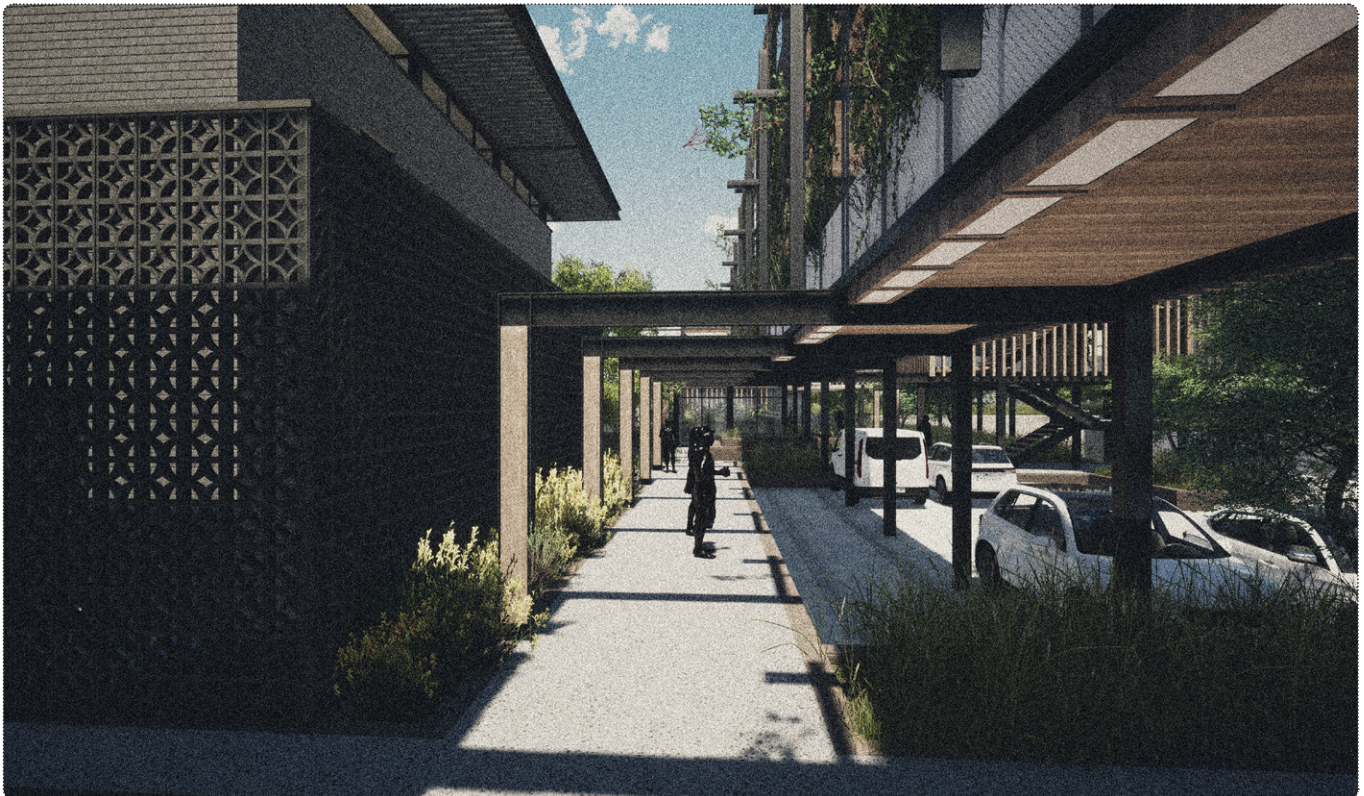


Figure 7.93: Top: View L
(Author 2019)

SUBMERSION

- View L: View towards event space -

Figure 7.94: Bottom: View M
(Author 2019)



CIRCULATION

- View M: View of walkway from entrance -

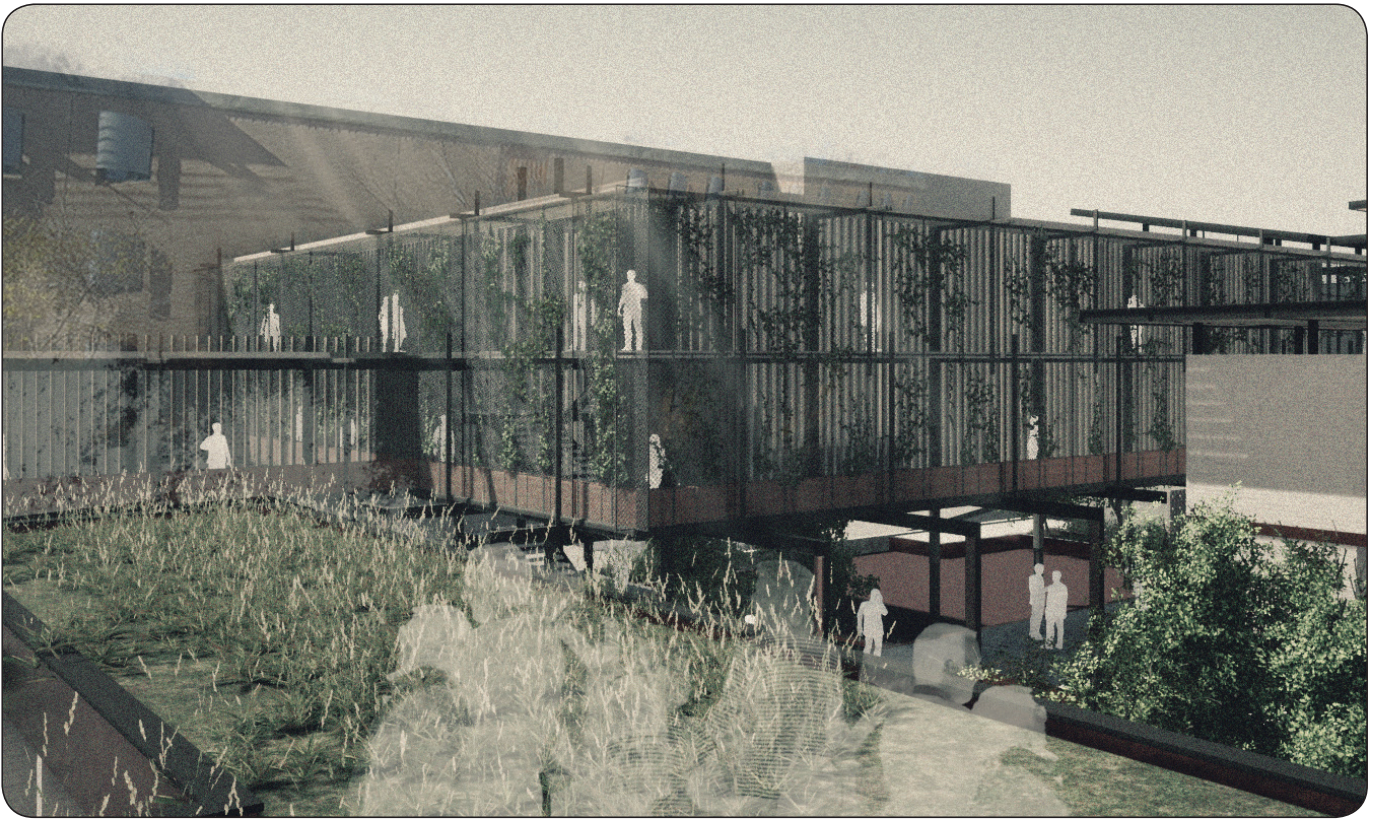


Figure 7.95: Top: View N
(Author 2019)

Figure 7.96: Bottom: View O
(Author 2019)

SUBMERSION

- View N: View of DTI link -



SUBMERSION

- View O: View of seminar room + outdoor space -