

8. DESIGN IMPLEMENTATION

Key words: Horizontal
Vertical
Communication
Third landscape

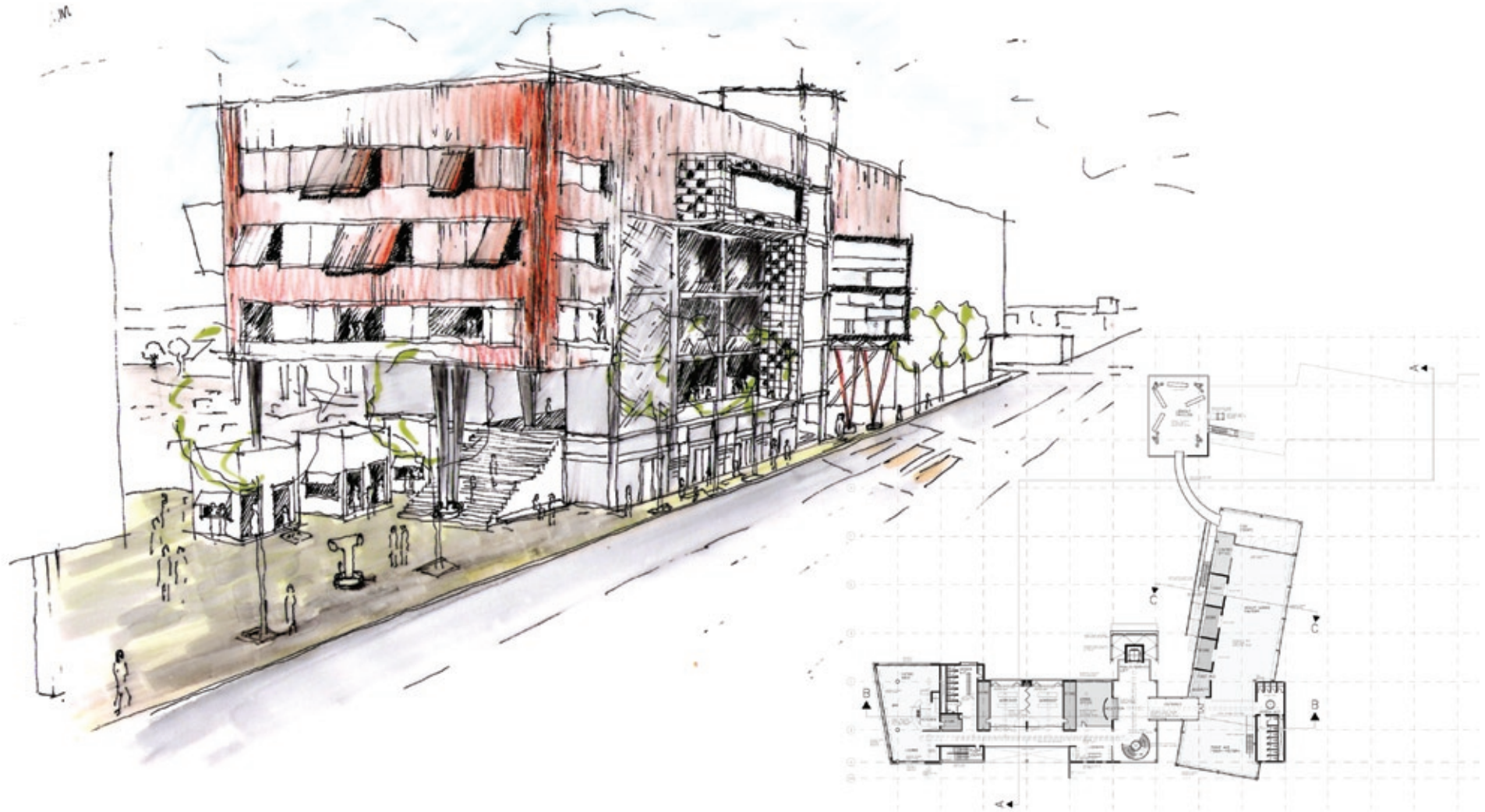


Fig 8.1: South-west perspective and second floor plan collage



Vector design program

The design recognises the different layers of interaction between the human mind and the built environment. The horizontal vector design differentiates between the structured interaction and the diverse interaction. Structured interaction occurs on the street perimeter while diverse interaction occurs within the site.

The vertical vector differentiates between the levels of interaction between the building and the user as a function of time. Each level represents a degree of understanding the complex mechanics and language of the urban environment. Each level is a different approach to understanding and ultimately negotiating the urban context.

In the vertical vector design the ground is seen as solid heavy earth connected to the basic survival of the urban context. The sky is seen as the summit to reach in order to understand and negotiate the urban context. The levels in between is the process between surviving and negotiating the urban context. This is analogous to the view from the structure into the city.



Fig 8.2: Horizontal vector design

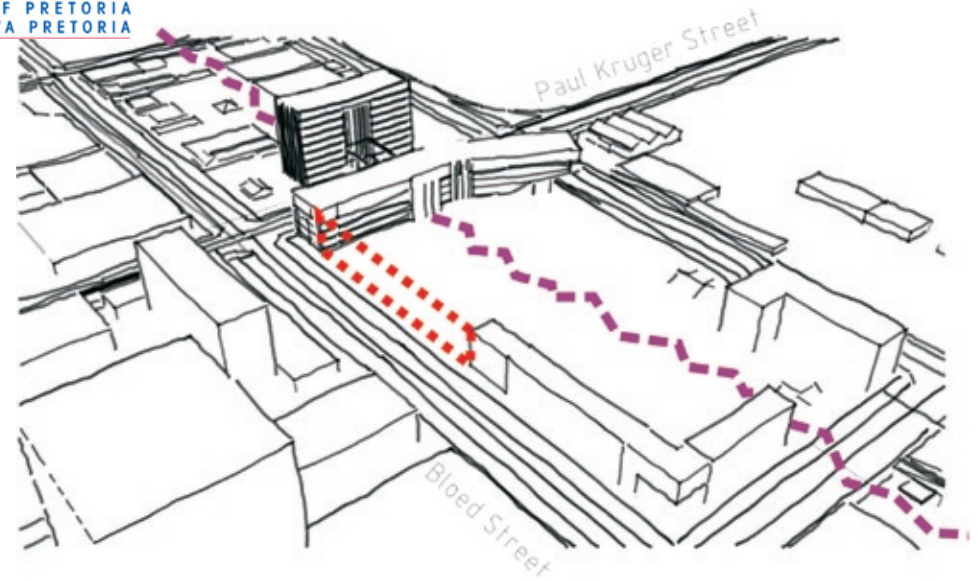
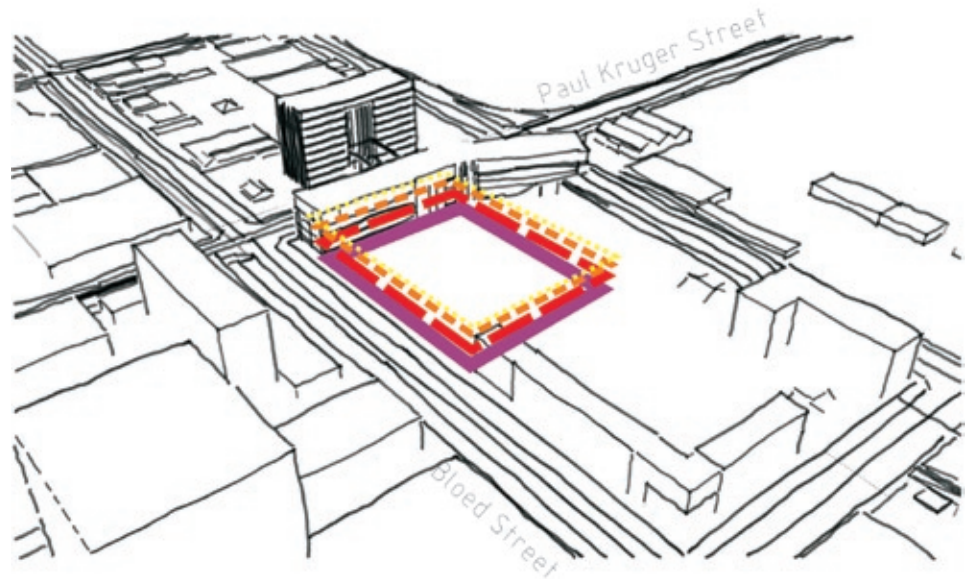


Fig 8.3: Vertical vector design



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In order to accommodate the horizontal and vertical vector system in the design of the facility, it is necessary to allocate (predict) the most favourable locations for each structure.

The optimum location for the structured interaction is adjacent to Bloed Street. Bloed Street forms a metaphysical linear boundary framing the internal activities. The street itself represents everything that is functional, pragmatic, logic, mechanic and structured. The street is the grid, everything conforms to the will of the street.

The pedestrian walkway is free from the constraints of the street. The walkway act as an extension of the market, a social space, a place to rest or a performance space. The open pavilion is located along the pedestrian walkway.

The market represents the 'Third Landscape' where space is open to diversity, interpretation and performance. The dynamic factory frame is located over the market.

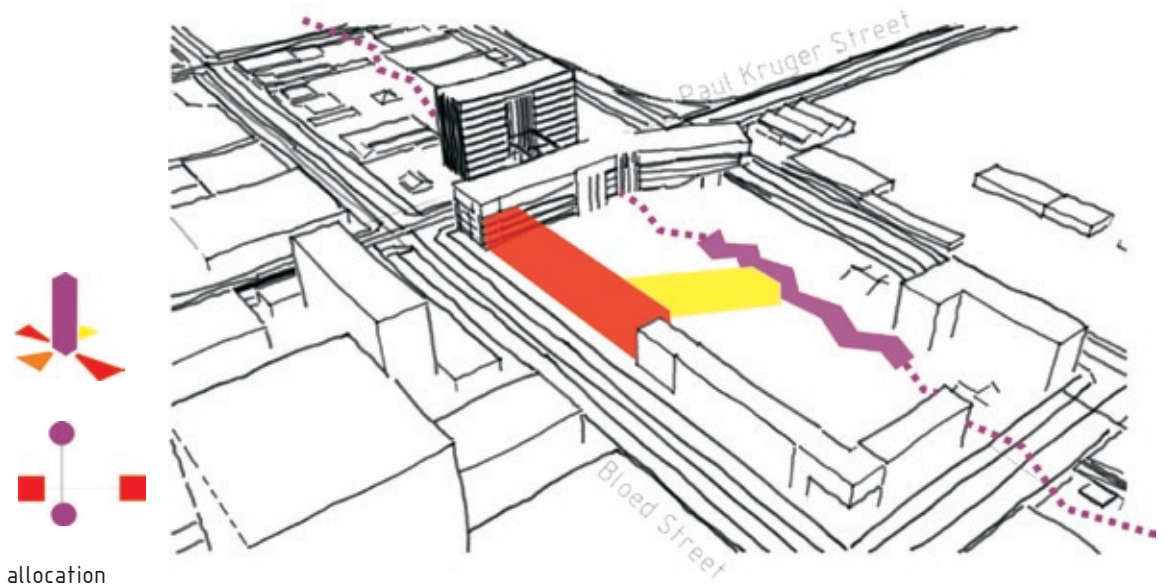


Fig 8.4: Structure allocation

- Legend:
- Rigid box
 - Dynamic frame
 - Open pavilion



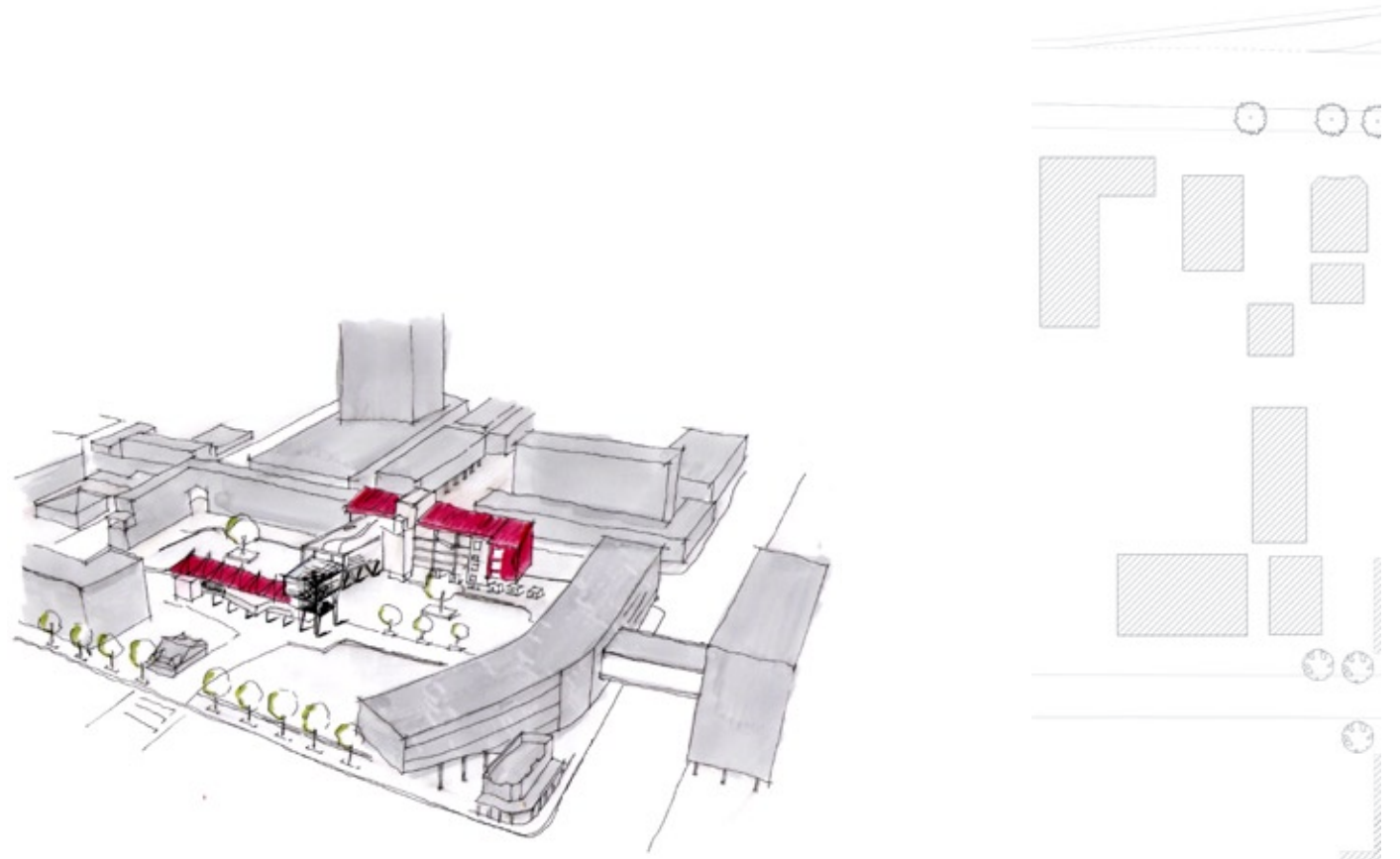
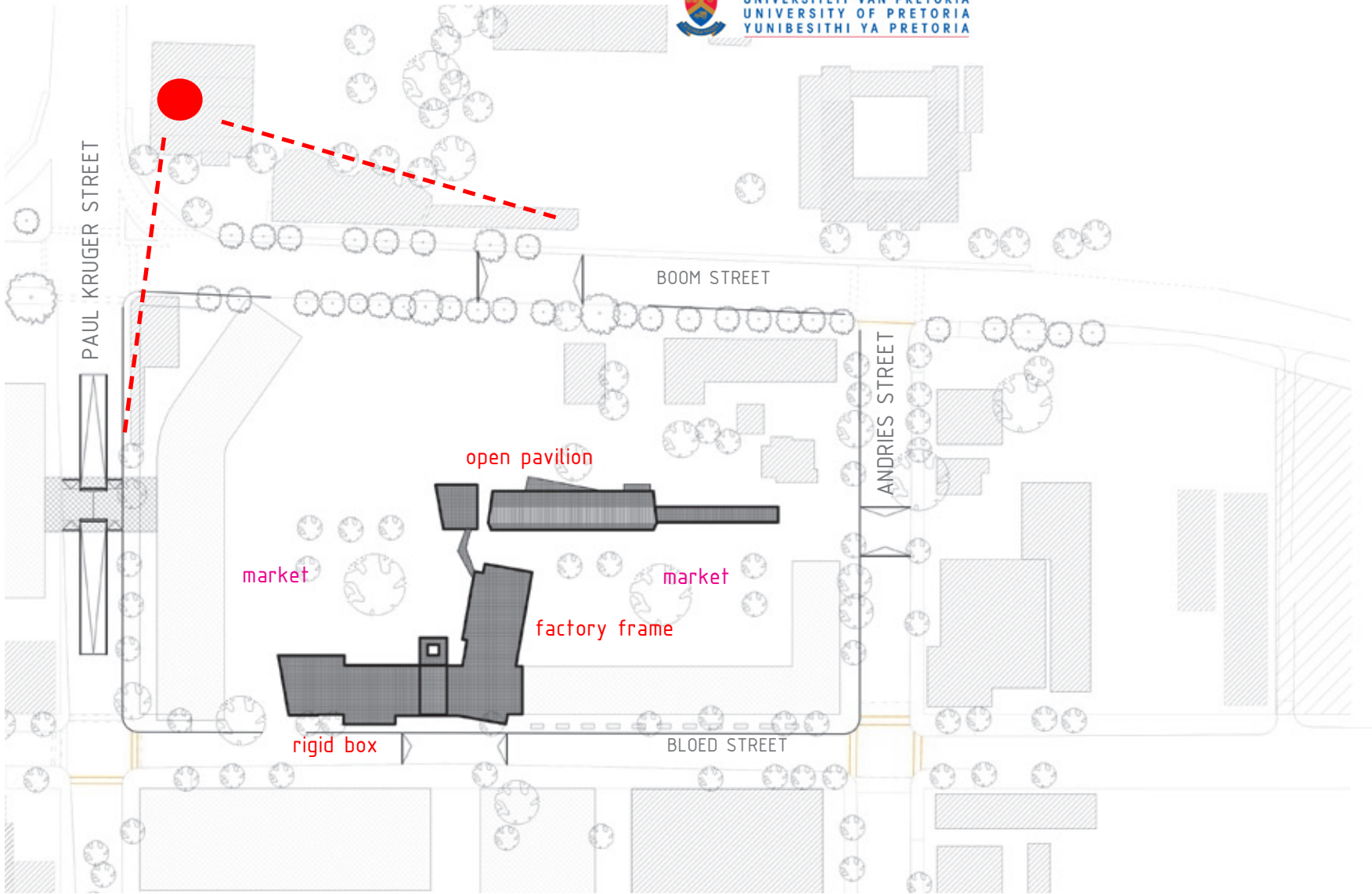


Fig 8.5: North-west perspective and site plan

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The Market



The market is the focal point of the mobile market units. It is located on site at the intersection between the east-west and the north-south pedestrian walkways. The mobile market units operate beside the east-west pedestrian walkway that connects Bloed Street, Belle Ombre and Metro Mall transport interchanges. The north-south walkway connects the city with the Zoological Gardens. The market is a connection point and a destination.

The market is an opportune meeting point between the rural immigrant and the urban context. The market is seen as the 'Third Landscape' (Clement 2006: 90). It is a space open to performance, interaction, communication and diversity. The diversity of the traders and the mobile units form the fabric of the market.

SITE

Existing Belle Ombre Train and Taxi Station

Proposed Metro Mall

Paul Kruger Street

Existing Zoological Gardens

Existing Bloed Street Taxi Station



Fig 8.6: Strategic location of market



Basic amenities are provided in the market area in order to create favourable trading clusters. The clusters are located at trading stations, benches and trees.

The predominant material used in the market area is reinforced concrete due to its robust nature. The surface material of the market is 1200x800mm cast in-situ concrete blocks separated with 50x50mm black and white mosaic tiles. The concrete blocks are rotated 10 degrees east of north in order to follow the line of the dynamic factory frame.

Reinforced concrete trading stations with storage compartments allow for quasi-permanent trading locations. Elevated reinforced concrete platforms allow for products to be displayed and functions as performance platforms. Deciduous trees give natural shade in the summer and allow sun in the winter. The market is lit at night in order to facilitate night activities.

The market is framed by the rigid box on the south perimeter and the open pavilion on the north perimeter. The factory frame is a spectator overlooking the market.

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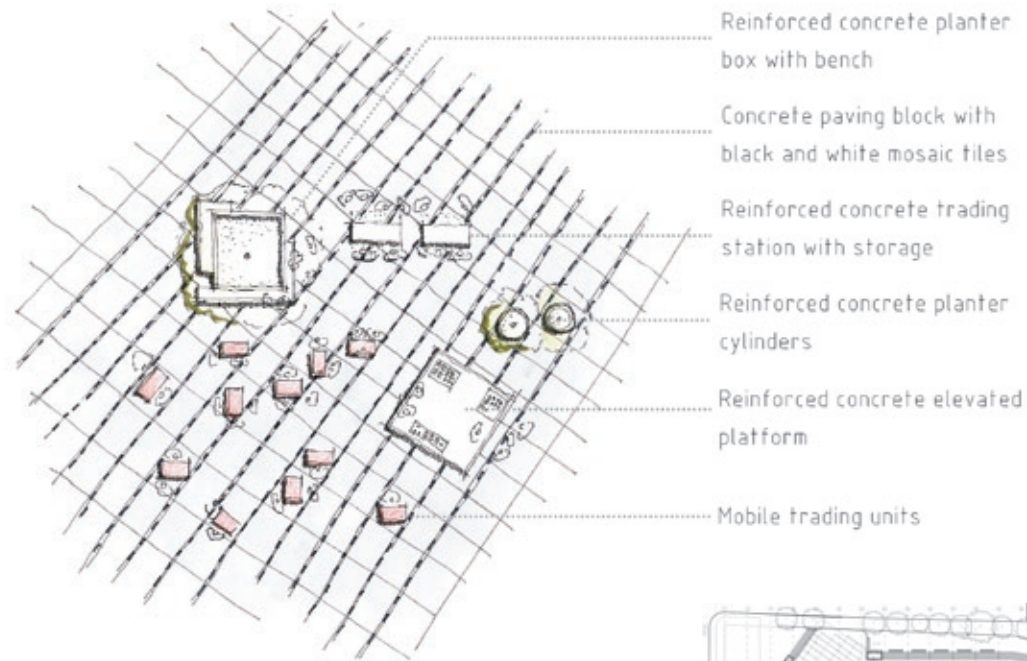


Fig 8.7: Trading cluster in market



Fig 8.8: Plan of focal market on site

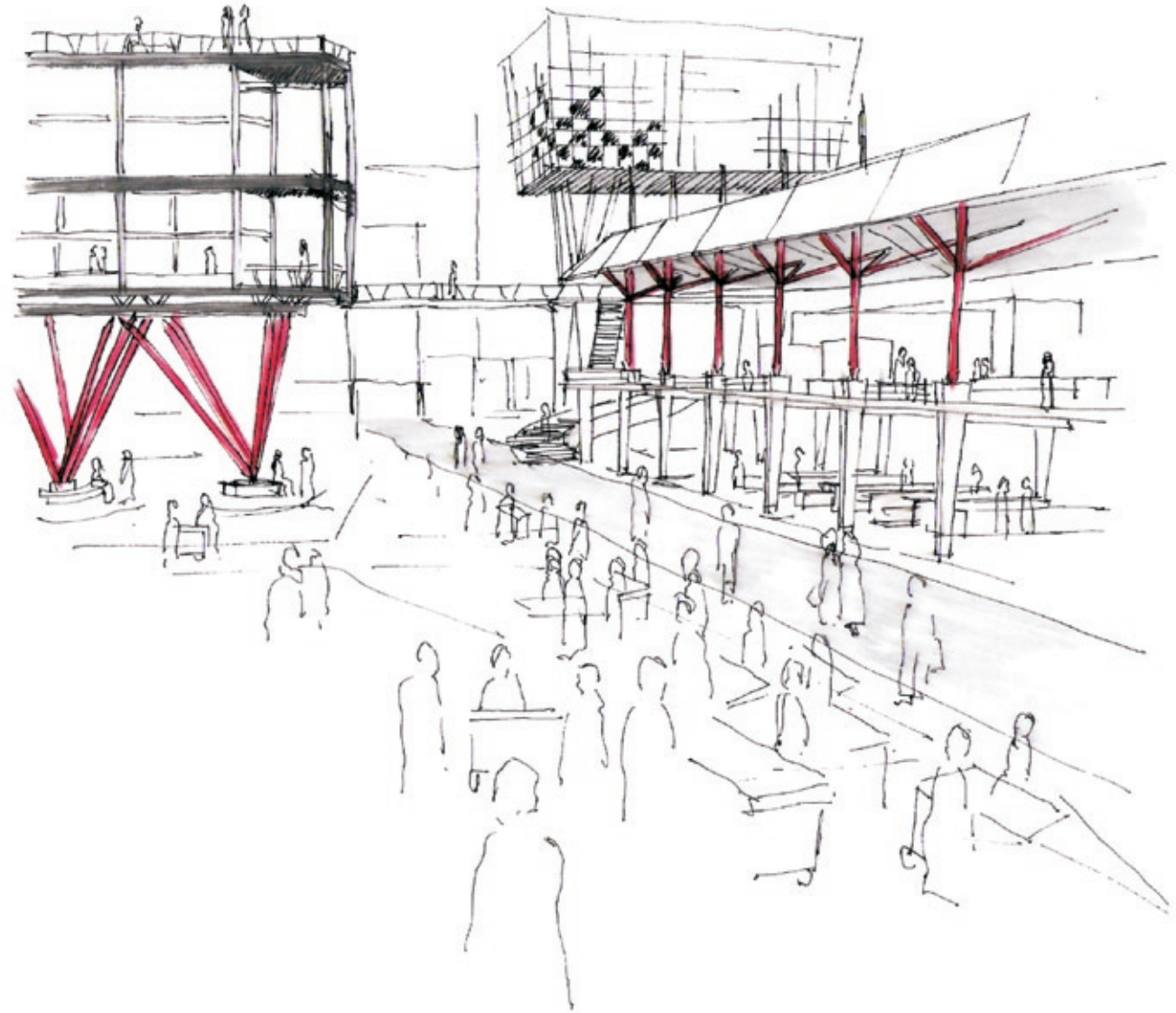


Fig 8.9: East view of market



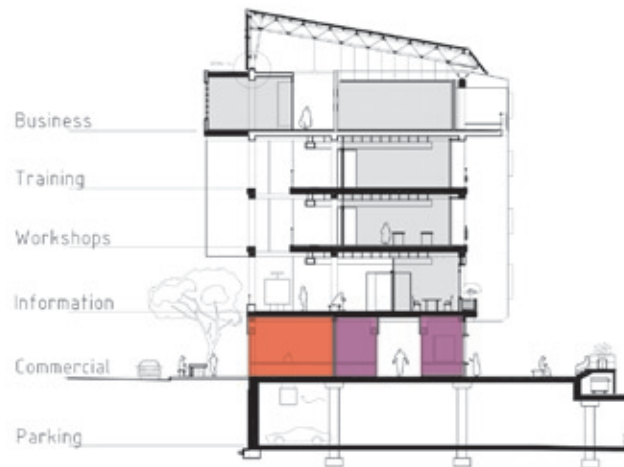
The Rigid Box



The rigid box structure is the epitome of the vertical vector design principle. The ground floor is part of the everyday urban life. It comprises of retail and public rest rooms. The retail component is divided into shops and traders. The shops accommodate small and medium-sized retailers to encourage entrepreneurs and micro retailers. The traders have stations on the street to encourage street activity.

The shops are designed to form two walkways, an exterior on Bloed Street and an interior within the structure. The structure is punctuated on the market side (north) in order to increase interaction space between retailers and clients. The larger shops are accessible from the street (south) and the market (north) to encourage pedestrian flow between the two spaces.

The ground floor extends toward the market. It is elevated 850mm above the market plane in order to create a platform from where to view the activities happening in the market.

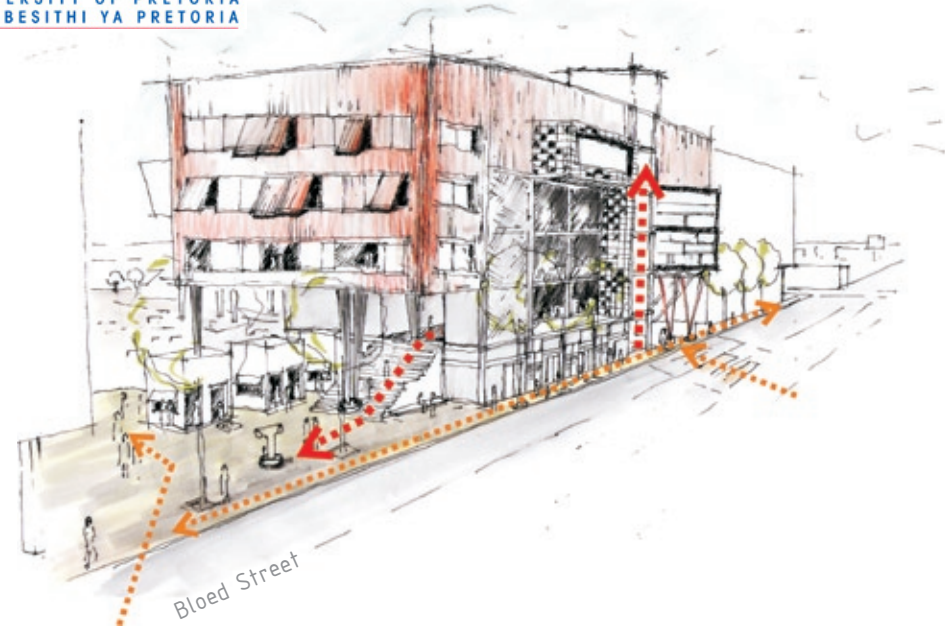
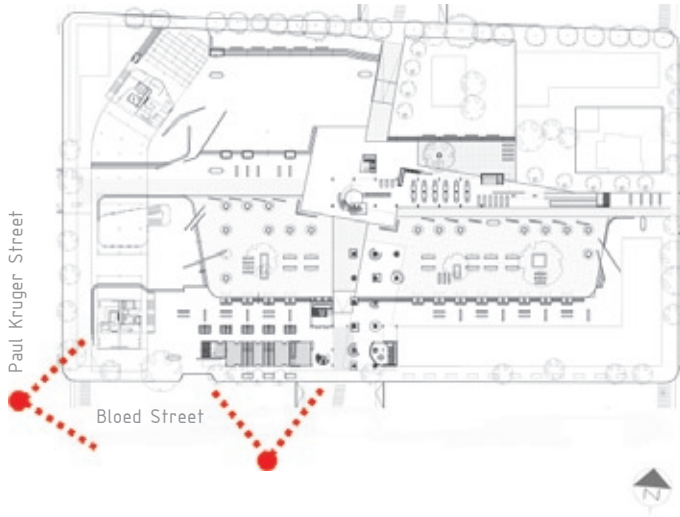


- Legend:
- Shop A - Large
 - Shop B - Medium
 - Shop C - Small
 - Trade stall
 - Movement

Fig 8.10: Ground floor accommodation

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There are two entrances to the structure. The west entrance is a series of large steps, 6000mm wide, visible from Paul Kruger Street. The large staircase is a clear indication that the building is an extension of the street and not an object next to the street. The main entrance is in line with the north-south pedestrian walkway and comprises of a 3000mm radius spiral staircase and an elevator.

The spiral staircase causes a disruption in the horizontal and vertical design indicating that it is a place of importance. It is the element that connects the horizontal vector with the vertical vector.

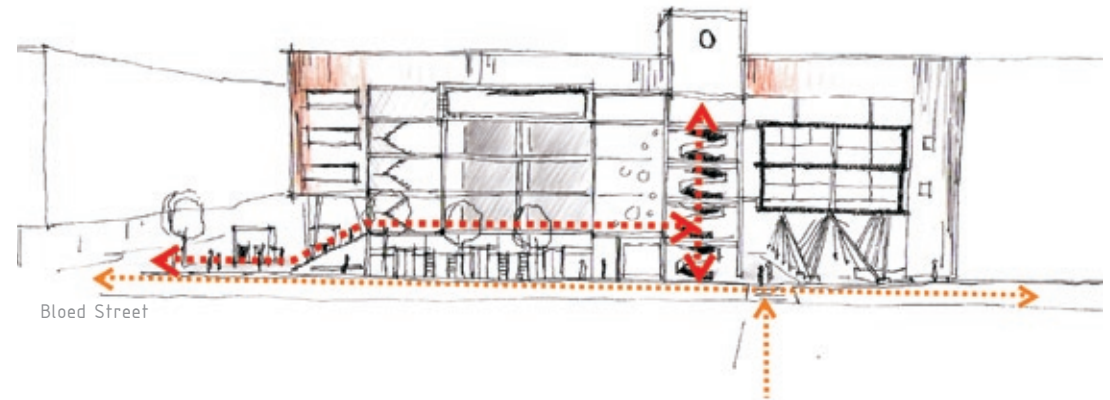


Fig 8.11: Entrance to rigid box structure



The first floor is an information centre in order to facilitate basic orientation in the urban context. The first floor is accessed from either the west or the east. The two entry points allow the first floor to become a semi-private extension of the street below.

The layout of the structure is planned so that circulation is on the southern perimeter and functional activities on the northern perimeter. The rest rooms are on the northern perimeter in order to have a view of the market. Basins are designed to be social spaces where people meet.

Self-help information is attached to screens that can be examined at leisure. In addition, an open plan information office assists with various inquiries. It is a recruitment office where information on work, health, education and housing can be obtained.

The first, second and third floor is open to Bloed Street. This allows direct communication with the street and the city.

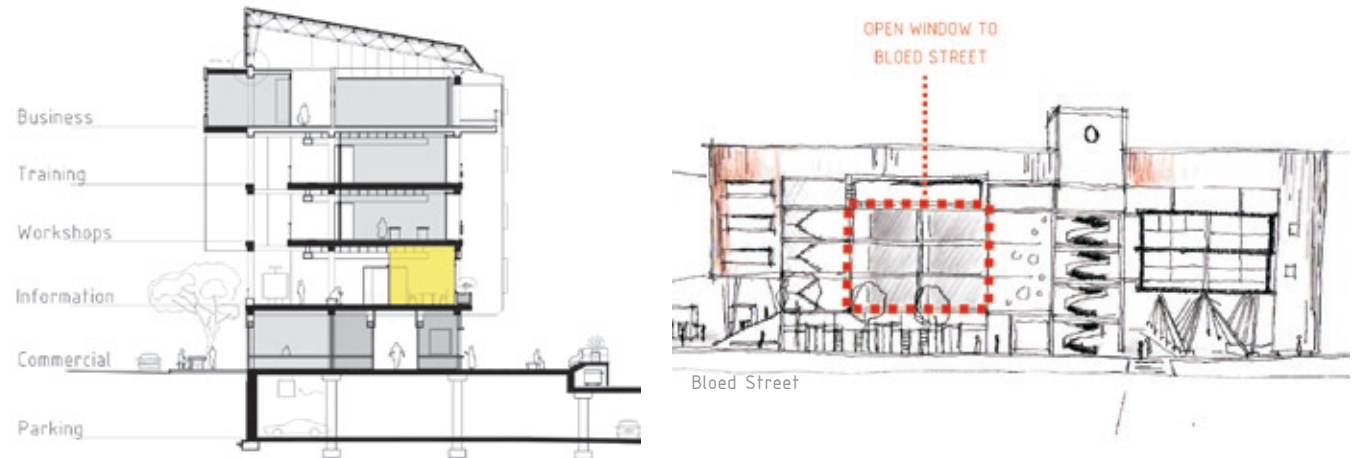


Fig 8.12: South elevation

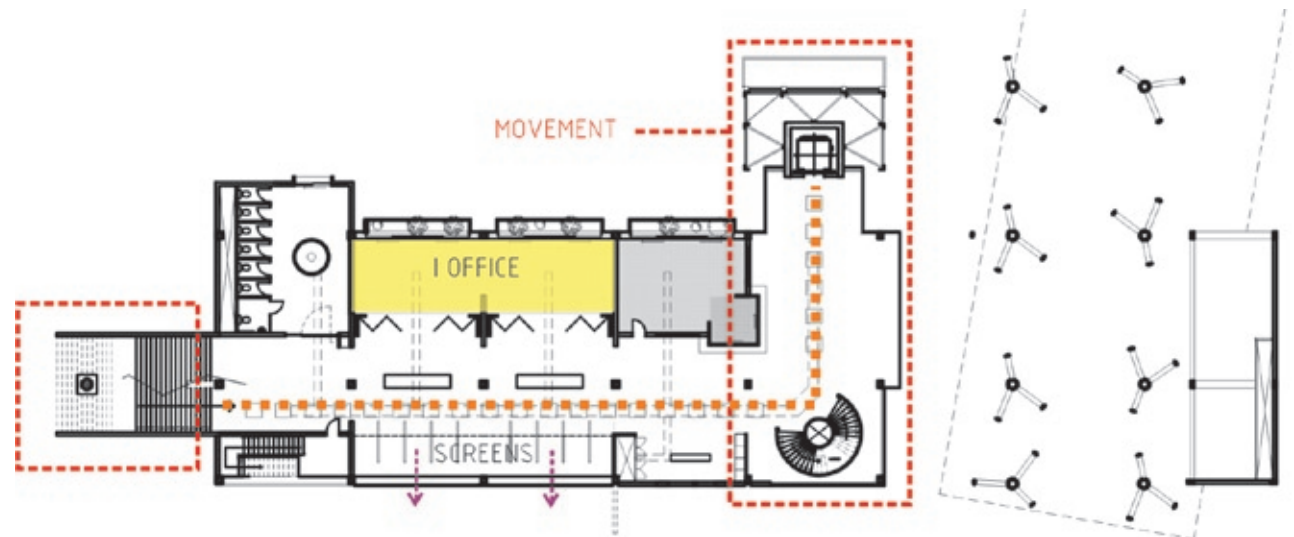


Fig 8.13: First floor accommodation

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The second floor comprises the factory entrance, workshops and a cafeteria. The factory entrance is a white steel plated box projecting from the foyer into the factory. The entrance is suspended over the space between the rigid building and the factory in order to emphasize the threshold.

The two workshops are situated on the northern periphery of the building to capture the sunlight during the winter. The door between the two workshops can be folded away to create a single large workshop if needed. The northern façade of the workshops comprises of folding doors that opens onto the market. This allows for direct communication between the process and the product.

The 3000mm walkway acts as an extension to the workshops to encourage interaction between people when they move in or out of the workshops. Communication between the first, second and third floors are enhanced with a triple volume cut into the floor slabs adjacent to the walkway.

The cafeteria is located on the western edge of the structure as to communicate with people entering the market from Paul Kruger Street and Bloed Street. It is the meeting place where people can sit and relax. Ribbon windows allow for natural ventilation and sunlight in the cafeteria.

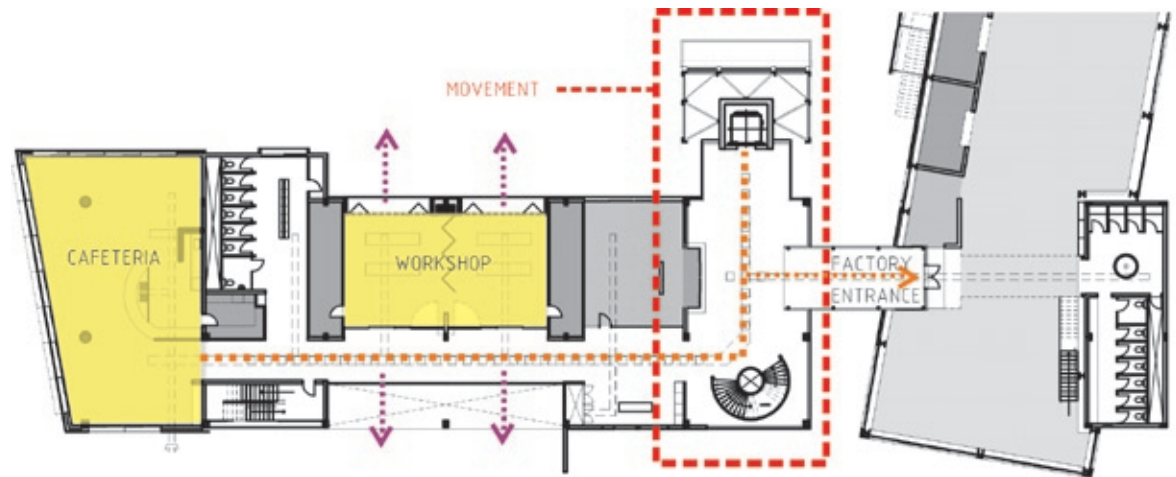
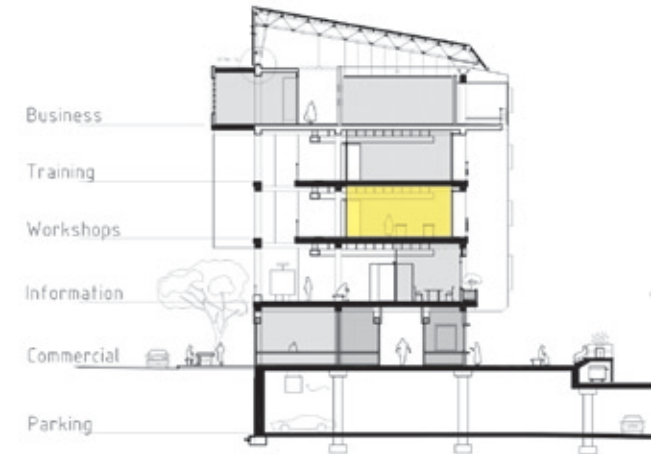


Fig 8.14: Second floor accommodation



The third floor comprises training rooms and offices for the Metro Trading Company (MTC). The third and second floors work together to form the educational facility for the factory.

The two training rooms can work separately or they can be combined by folding the dividing door away. The doors on the northern façade can fold away to increase the communication with the market. The 3000mm walkway acts as an extension to the training rooms to encourage interaction between people when moving in or out of the workshops. The south façade is punched to create a framed view of the building opposite Bloed Street and the city skyline.

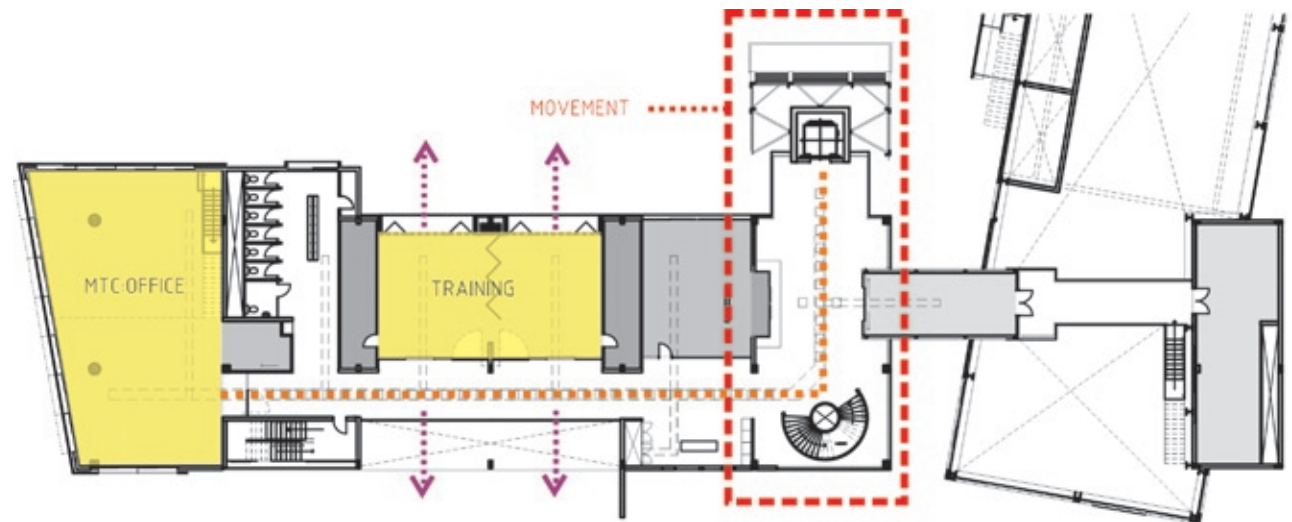
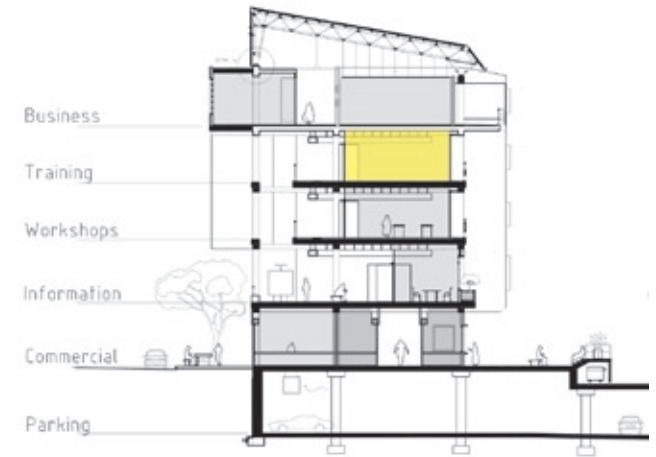


Fig 8.15: Third floor accommodation

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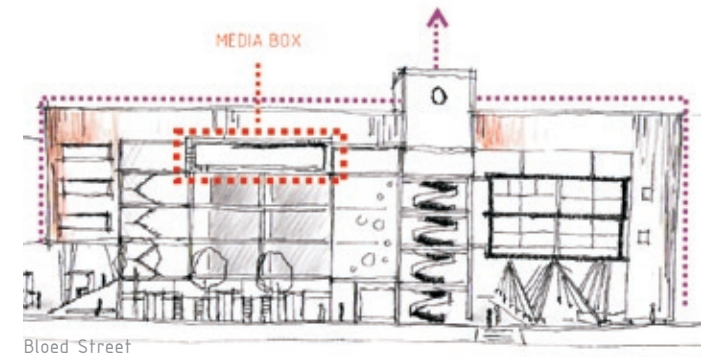


Fig 8.16: South elevation

The fourth floor is the public service floor and houses the management offices of MTC. The public services include a media and computer room and a resource centre (library). The media room is a rectangular box that punches through the south façade of the building to announce its presence to the city. The media box therefore has an unspoiled view of the buildings opposite Bloed Street and the city skyline. It is within this box that the feeling of being above the city exists. The library has a balcony on the northern perimeter that acts as a viewing platform from where the market activities can be seen.

The building is encapsulated by a sheet metal roof that folds around the walls from the roof to create the impression that the structure needs to be tied down to the earth. Only the shaft over the spiral staircase cannot be contained as it punches through the roof into the sky. The shaft is covered with coloured Plexiglas panels. The result is that the foyer is bathed in different colours of light during the day.

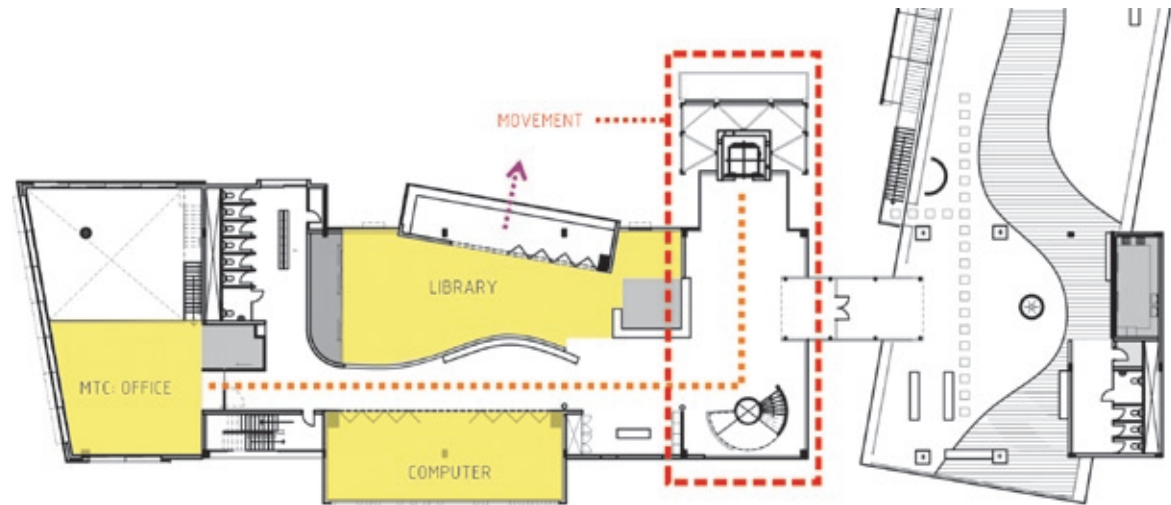
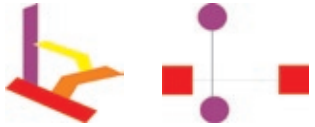


Fig 8.17: Fourth floor accommodation



The Factory Structure



The factory is a dynamic frame connecting the street with the market. It is an exhibition box elevated from the ground and supported on skew columns in order to give the impression that it is in motion. The factory cuts through the rigid box to view the street and the city. It is a curious spectator but ultimately the performer.

The frame of the factory is painted black while the supporting columns are painted red. Strong colours convey the strength of the structure. The ground floor beneath the factory is landscaped with benches in order to activate the space and bring focus to the factory.

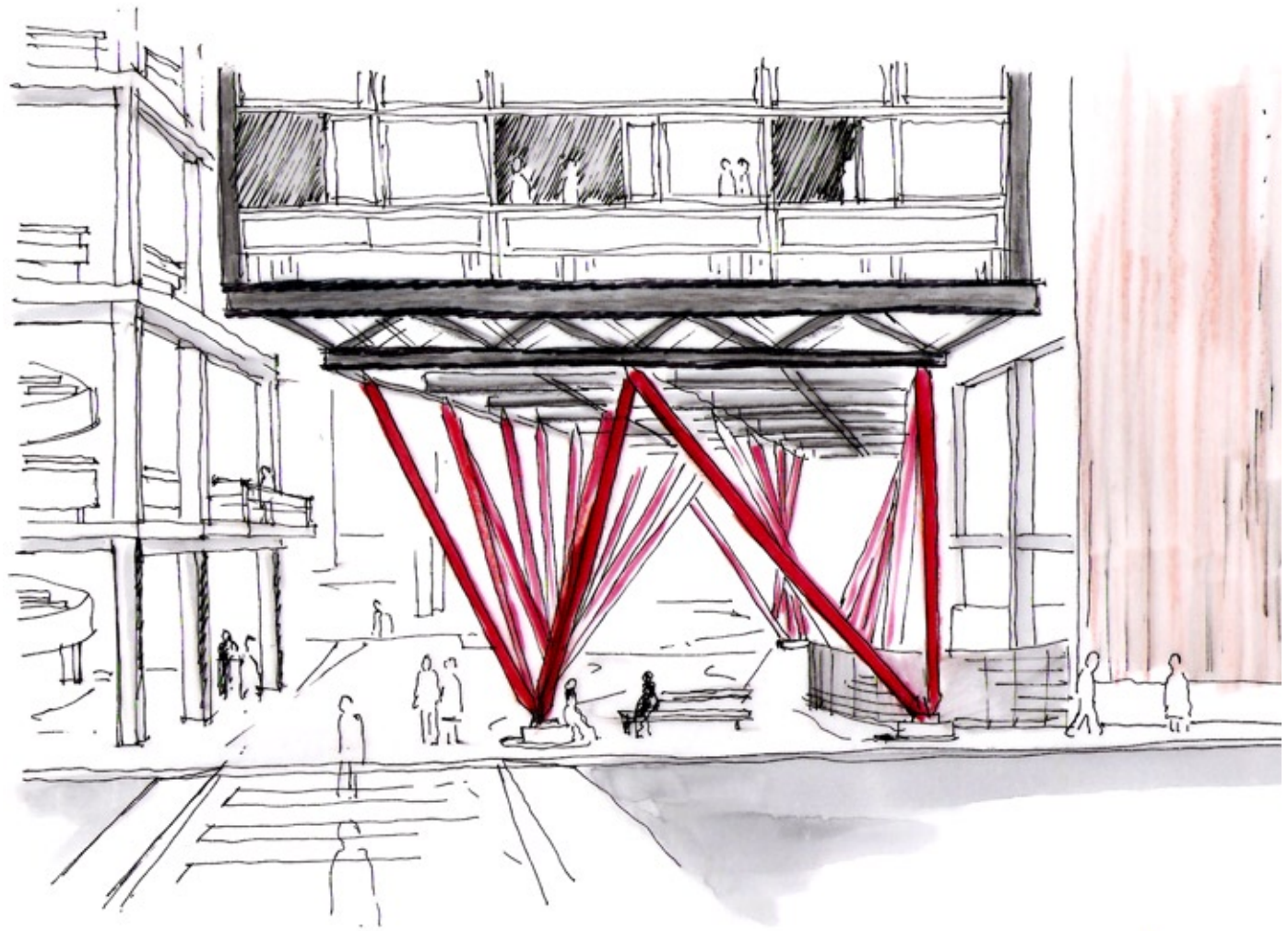


Fig 8.18: South elevation of factory

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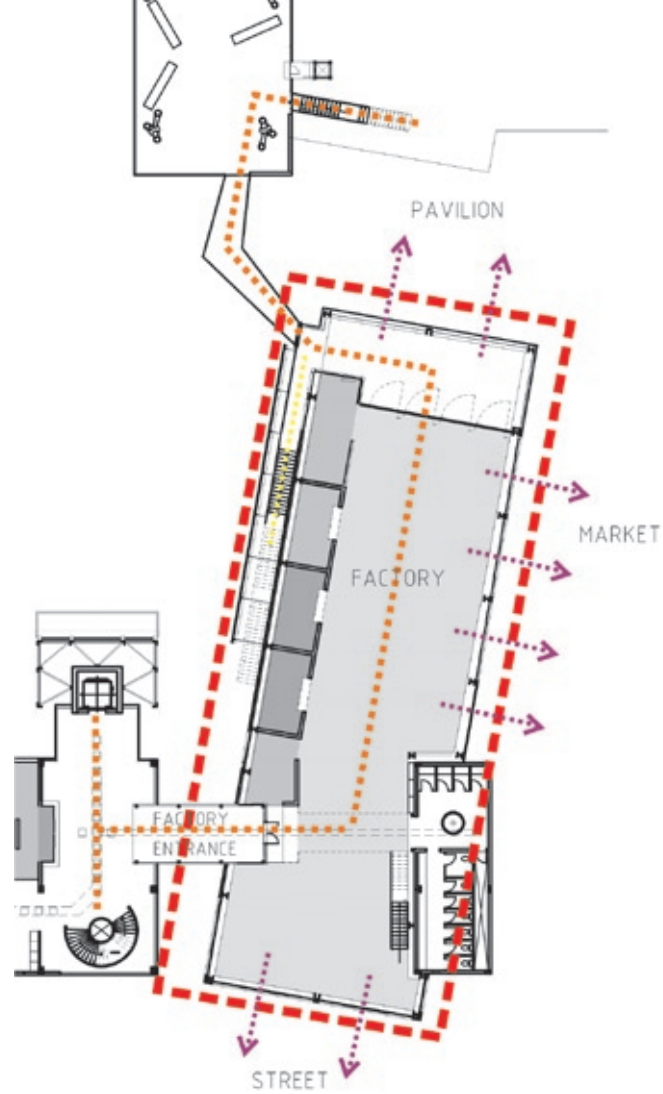


Fig 8.19: Second floor accommodation

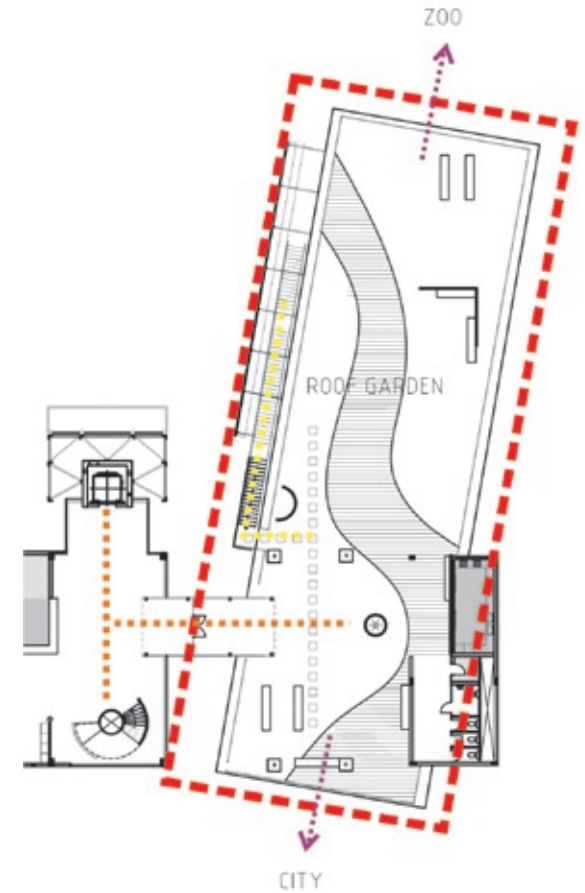


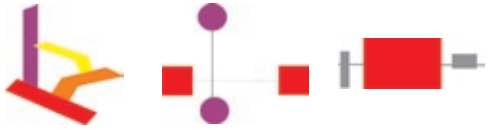
Fig 8.20: Fourth floor accommodation

The southern and eastern facade are clad in aluminium framed sliding glass ribbon windows in order to give a maximum degree of transparency into the factory activities. The western façade is screened and stairs run the length of it up to the factory roof. The stairs enhance the movement of the factory box. The northern façade opens up to the pavilion and can be accessed by a steel bridge. The factory therefore transcends its utilitarian function and becomes a exhibition space.

The roof of the factory is a public viewing platform. From the roof it is possible to have a northern view over the market and beyond the market into the Zoological Gardens. The southern view is of the buildings opposite Bloed Street and the city skyline.



The Open Pavilion



The open pavilion is adjacent to the pedestrian walkway which links Bloed Street Taxi Station with Belle Ombre Train and Taxi Station. The focus of the open pavilion is to provide services that can be used by people moving between these stations and people moving towards the city from these stations. The ground floor comprises cooking stations.

Food is an important factor when arriving in a city. The cooking stations and its patrons act as a valuable source of information for rural immigrants. It is a quick and effective tool for navigating the urban context. The open pavilion has two vertical movement points. The eastern point is a disabled ramp situated among fever arcadia trees. It is a slow moving and relaxing environment.

The western point is in the centre of the site underneath a water tower. The large spiral staircase disrupts the horizontal flow pattern to emphasise the connection between the horizontal and vertical movement. The water tower acts as the central focus point of the site. It is therefore the meeting point.

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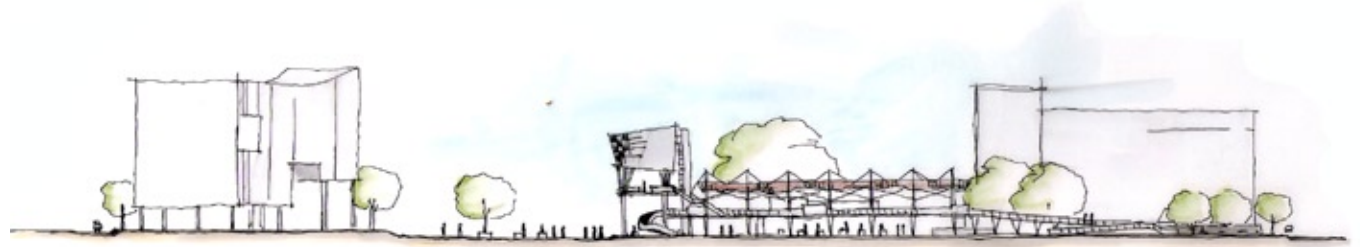


Fig 8.21: South elevation of open pavilion

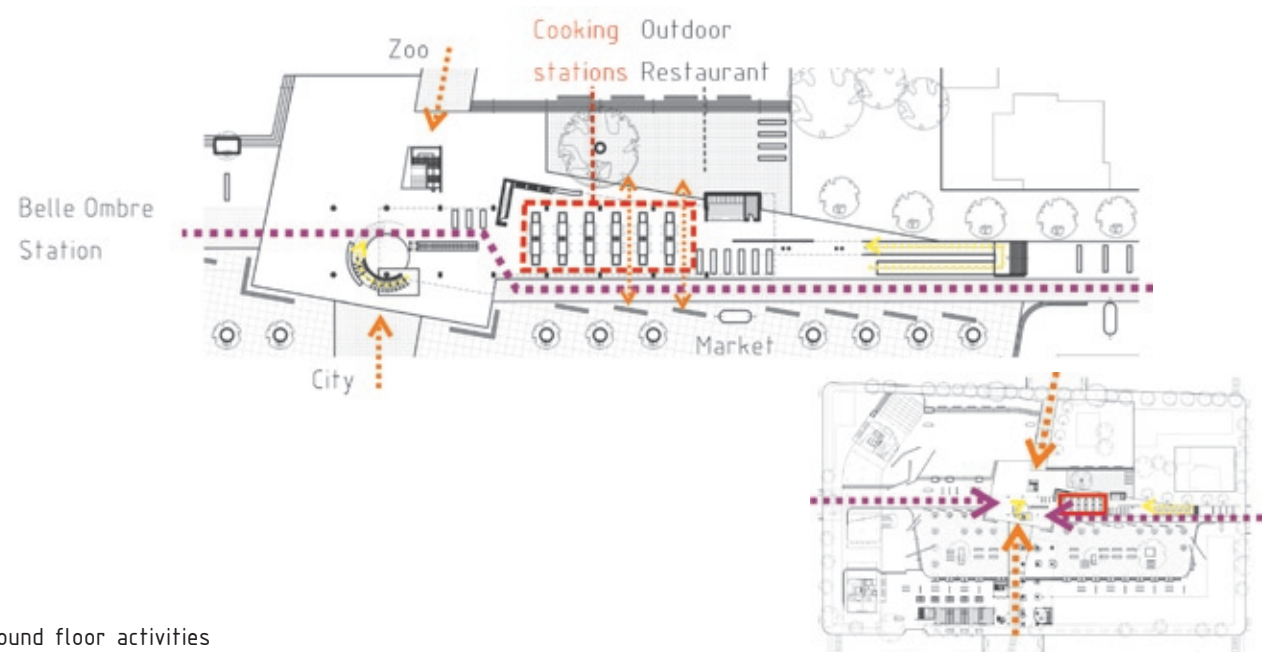


Fig 8.22: Ground floor activities

The first floor of the pavilion comprises ablution and public shower facilities. These are public facilities intended for arriving rural immigrants and informal traders. The pavilion is elevated from the ground to increase privacy, but it is ultimately open so as to be part of the market environment. The tensile roof structure is 4500mm from the floor level in order to increase the vertical space dimension. The coloured Plexiglas roof panels bask the shower facilities in variety of colours, giving it a vibrant atmosphere.

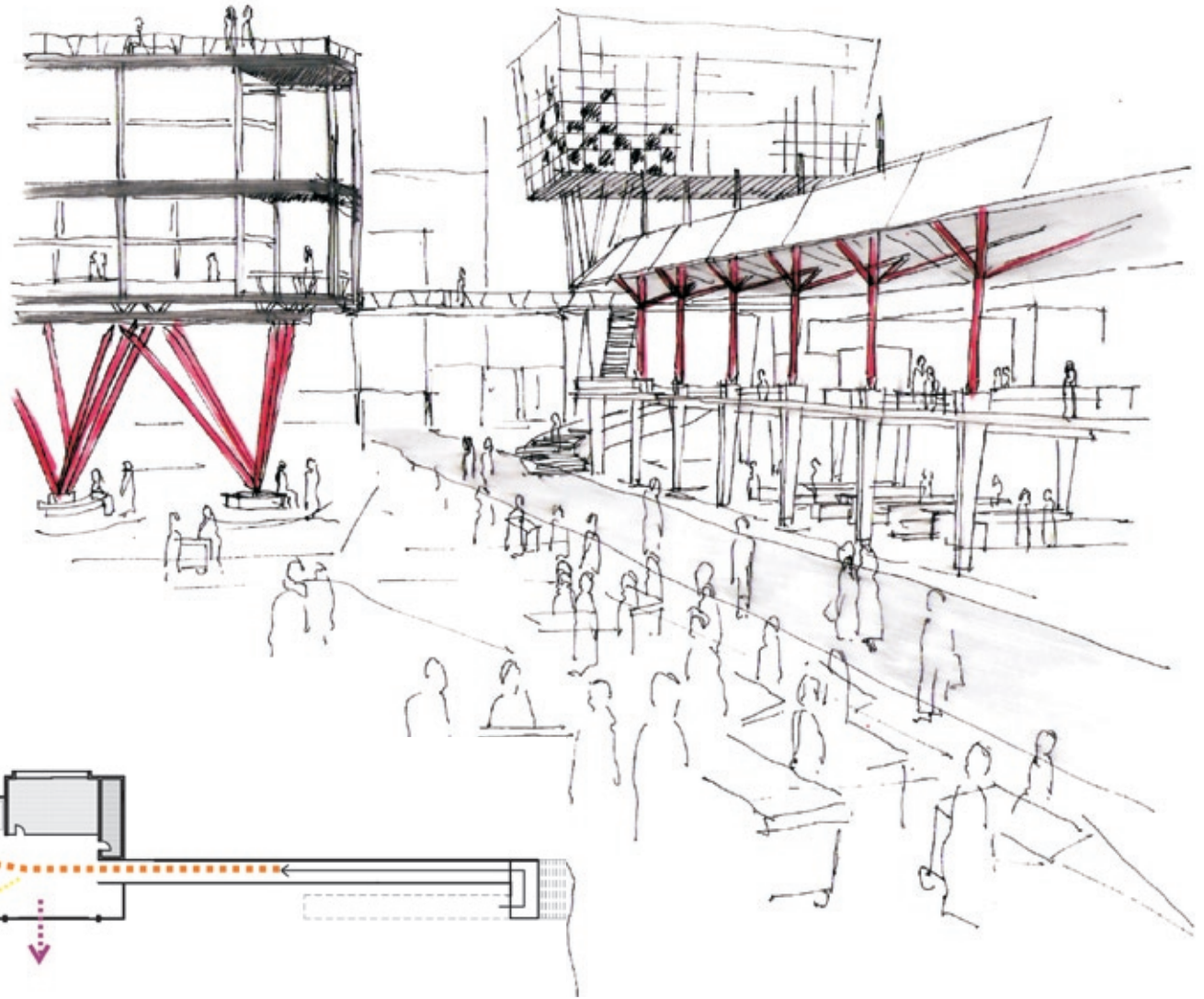


Fig 8.23: First floor of open pavilion

Fig 8.24: East perspective of open pavilion



The Water Tower



The water tower is the central orientation beacon of the site bounded by Paul Kruger, Boom, Andries and Bloed Streets. It is the meeting point, central to the site and on the intersection point between the market and the urban square.

The reinforced concrete tower is clad with black and white mosaic tiles in a 500x500mm square pattern. The dramatic effect of the black and white checkerboard pattern creates a visual attraction to the water tower.

The water tower intersects the east-west and the north-south pedestrian walkways. Water points are located on the ground floor underneath the tower. Apart from being an orientation beacon and a meeting point, the water tower stores a 6 month water supply for the public shower facilities in the open pavilion.

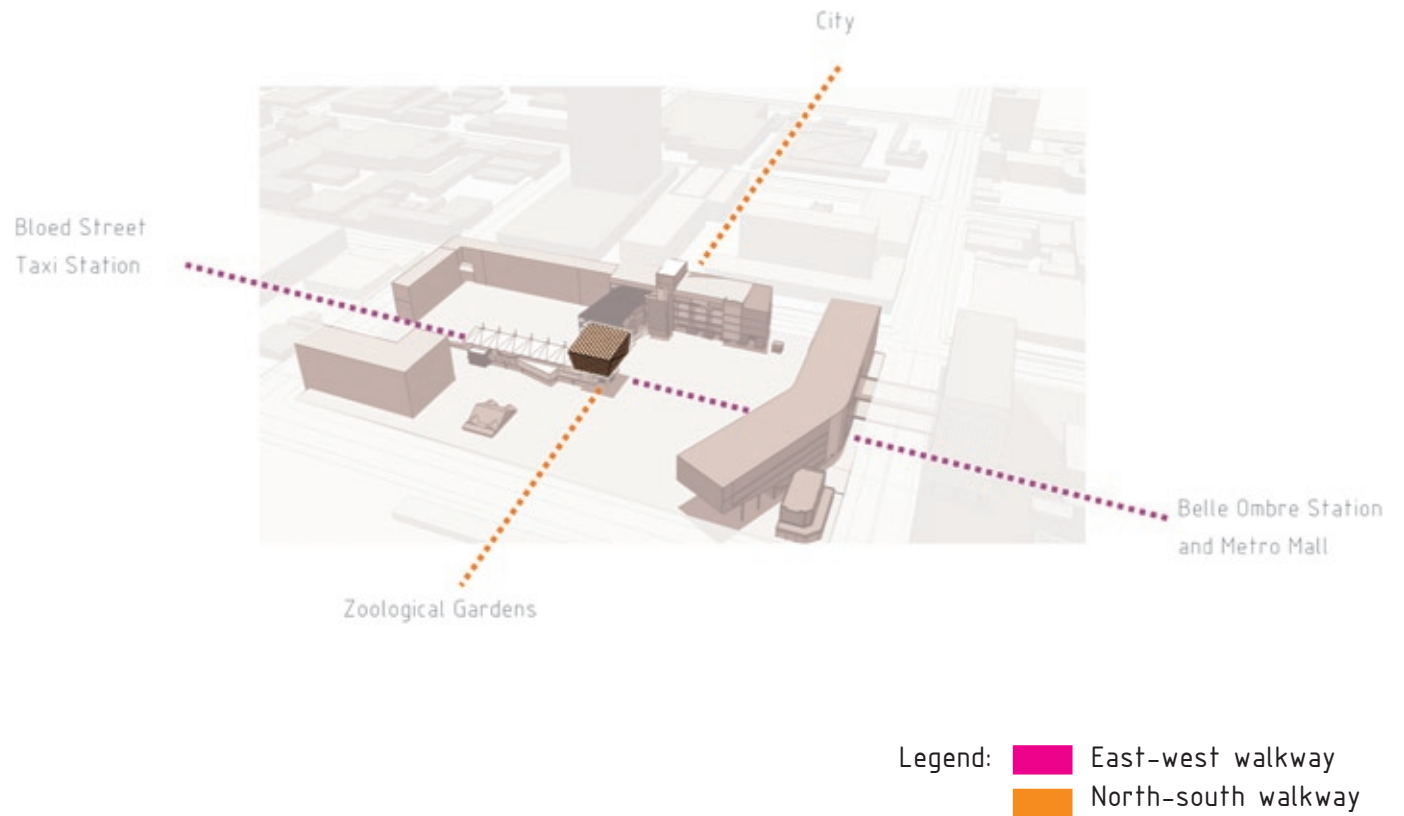


Fig 8.25: Water tower as meeting point

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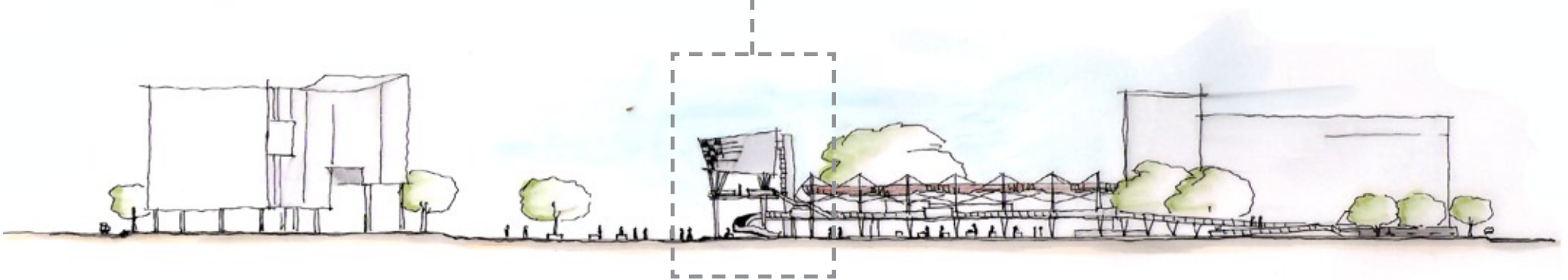


Fig 8.26: Water tower as beacon on site

