PEDESTRIAN ROUTE

The prospect of a pedestrian entrance directly from the north, from the public transport node, was also considered. However, it was decided that this configuration was too conventional in the sense that it left little opportunity for creating a sense of expectation in the visitor and that the address and the function of the building called for an appealing entrance on a grander scale. Thus, access from the north was given, but it flows into the 'forced' route that takes one to the entrance of the building.
The option of a second access route into the building, for staff only, was already apparent. The entrance on the southern side of the theatre gives direct access to the parking area, and is close enough to the important areas of the building for deliveries, etc.

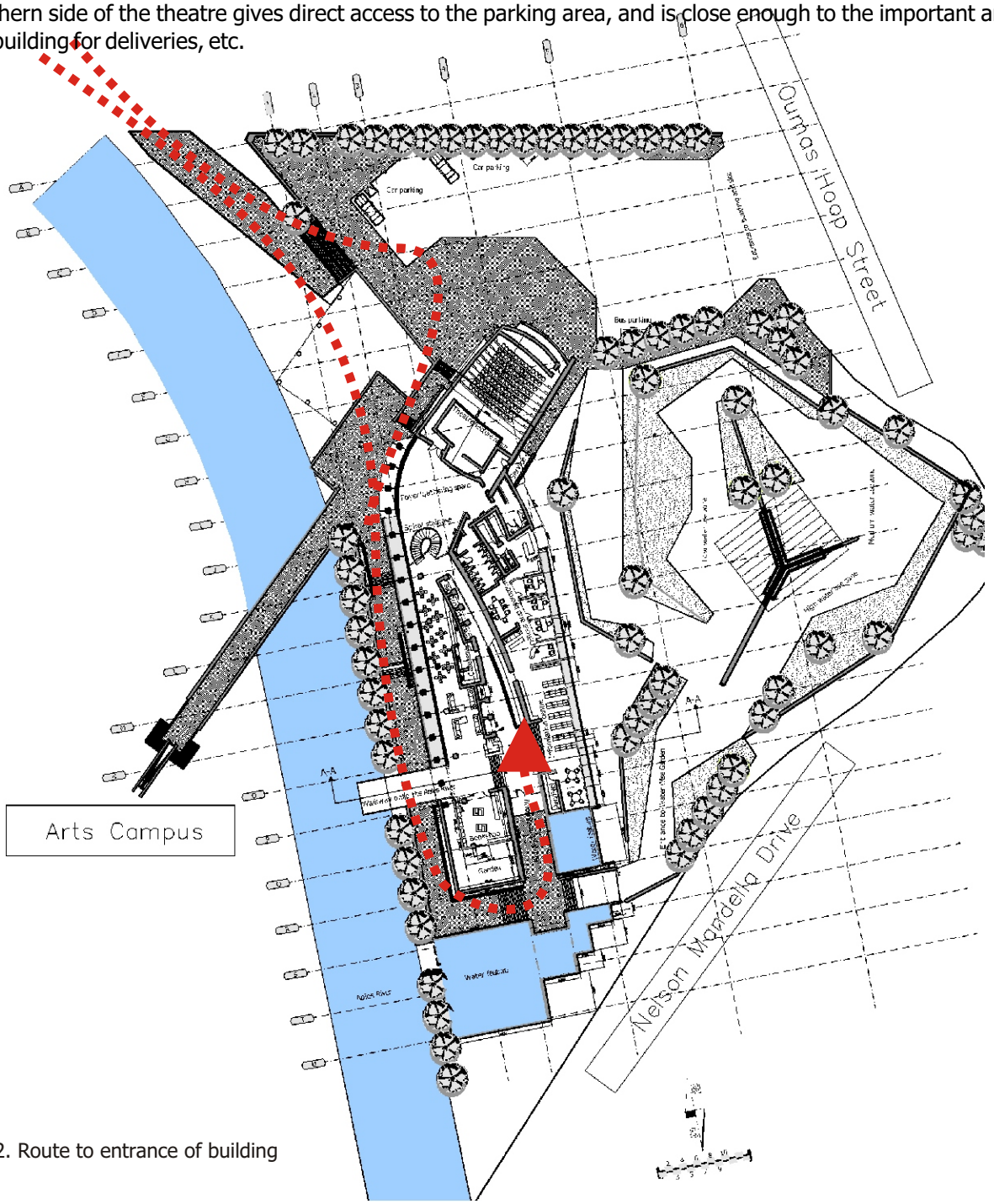

Fig 202. Route to entrance of building

ROOFING

The roof structure of the northern office block is solely used for the catchment of rainwater. This system consists of a catchment area, a roof-washing system, a rainwater conveyance system, a cistern or storage container, a delivery system, and a water treatment system. The system works on the following principle - the roof-washing system captures the first 70 to 80 litres of water in a separate pipe that removes the first flush, allowing the heavier solids to sink to the base so that the water flowing into the collection system is relatively free of particulates. The water is purified by a simple sand filter system. The roof covering consists of galvanised steel sheeting with a baked-on enamel, lead-free finish.

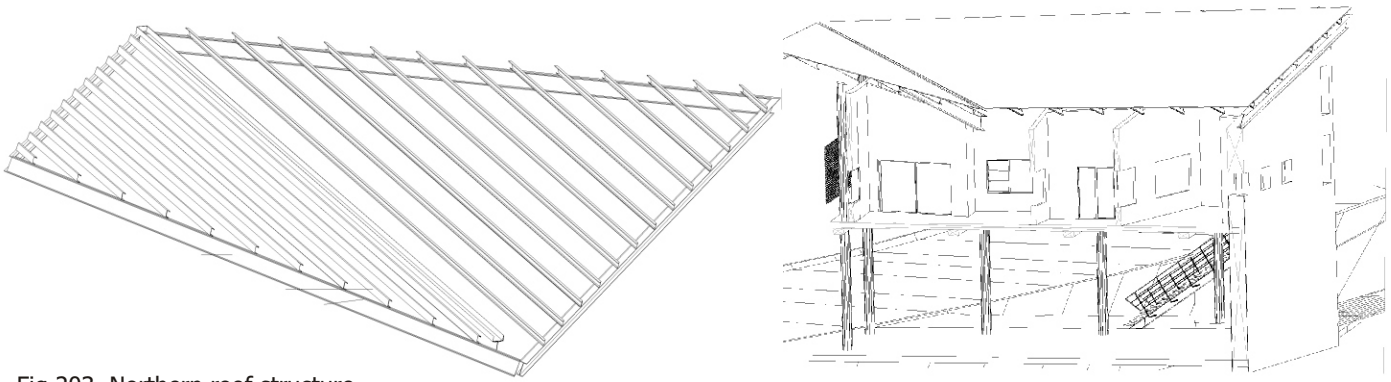

Fig 203. Northern roof structure

INFORMAL LABORATORY

The collected rainwater will be used for experiments in the laboratory that forms part of the office block. This decision was made due to the fact that there should at all times be supervision close by, when and if children are doing experiments in the laboratory. The indoor laboratory is a formal space with all the safety regulations in place. If one descends down the staircase running from the laboratory, one finds an informal 'laboratory'. The floor of the office block forms the roof for this area. This area has direct access to the river. The central open space has

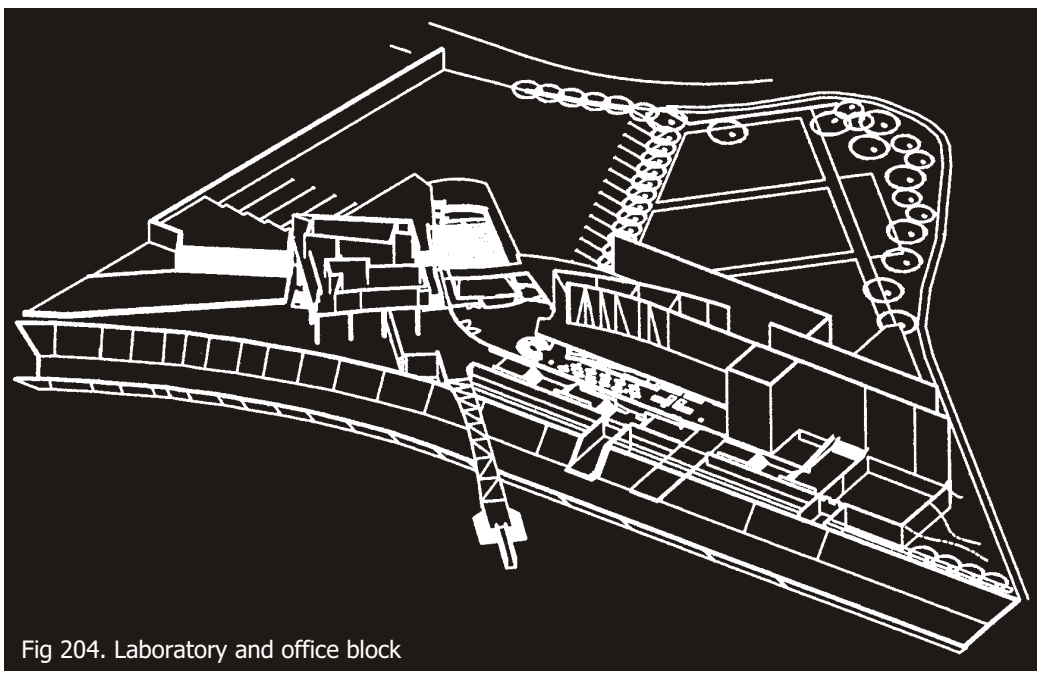

Fig 204. Laboratory and office block

LAYOUTS

The client requires very little office space, due to the fact that a small amount of permanent staff is necessary to run a facility of this kind. Most of the people participating in the educational programmes are privately contracted. There are only 4 offices on ground level, near to the information centre, since here would be the place where most assistance would be needed. The other offices are located in the northern block due to reasons already mentioned. The yellow hatching indicates the location of the offices.

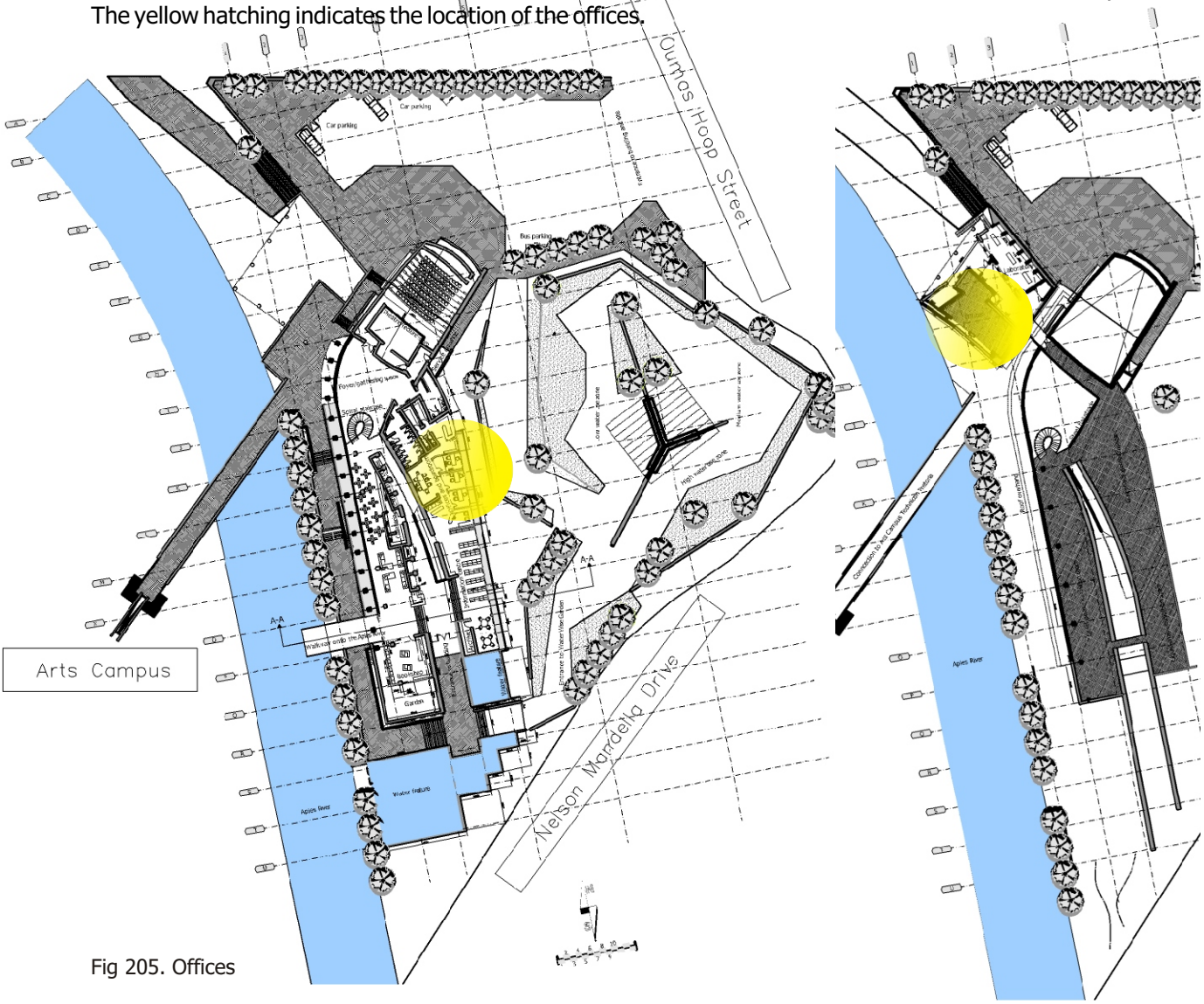

Fig 205. Offices

The building footprint was by now established. The generous floor to ceiling space answers the question concerning its potential for extension. In two of the exhibition areas, there is ample space to add additional mezzanine floor levels. Even within the offices in the northern block, space is provided generously. These offices don't have a fixed layout and can be determined by the clients themselves.

Once the footprint was established, scaling and arranging of the different spaces for the needed functions followed. This process was mainly influenced by the accommodation schedule and the grid dictated by the structure of the columns. The form and shape of the theatre were modified for acoustic reasons. Proportionally the new shape is better suited to the rest of the building's form. The objective was to create an architecture which was honest, unambiguous and to the point.

The order inherent in the architecture has a subconscious effect on the inhabitants' common knowledge that human needs can be categorised into two groups: physical and psychological. Physical needs include shelter, food and protection against the elements, whereas basic psychological needs include the desire to create order. Where there is order in a space, man achieves a certain level of "psychological comfort". In this building, these two needs are played against one another. Whilst one experiences the building as being organised and that there is a strong order within it, one's physical comfort is constantly challenged, due to the exposure to water in all its guises. Therefore, the exposure and discomfort one might experience at times are limited to specified areas. On the other hand, the formal areas where one should feel the potential of being productive and efficient are structured and ordered.

Too much order in a space can cause that space to become sterile and monotonous. Too much variety, on the other hand, could result in chaos. Thus there has to be a balance between order and variety, in order to create a healthy environment. This is not so easy to achieve. The exhibition spaces provided are very much ordered, but with carefully planned exhibitions in place the balance between order and chaos will be achieved.

LANDSCAPE

The Water Wise garden is a space not only for outdoor activities, but also becomes an element that is responsible for the "well-being" of the building through the presence of nature. The proximity of nature to the workspace creates a tranquil effect within. It has been proven that nature slows people down, whether they pass through it or whether they observe it passively. All the offices have views either of the Water Wise garden or of the natural surroundings. This puts the occupants of the building in contact with the natural surroundings. Opposed to controlled static spaces, such as vast areas of harsh landscape commonly found in highly populated areas of modernist cities, these spaces are dynamic. The diversity provided to the natural landscape by seasonal changes, texture and colour is visually stimulating and keeps the occupants of the building alert. This alertness stimulates productivity.

Fig 206. View to Water Wise garden from parking

Fig 207. View to parking from garden

Fig 208. View to the centre from the garden

Fig 209. Arial view of the garden

CIRCULATION

The public spaces of the building are arranged at logical positions along circulation routes. The conference venue/theatre, atrium and cafeteria are all located on the ground floor of the building, enabling the natural flow of movement.

The atrium, which lies at the centre of the building, becomes a binding element in the building. Upon arrival, the visitor, having passed the walkway, enters the building via the stairs leading one to the information desk and straight to the ramp in the atrium. Either way, the atrium is a concourse and main point of orientation of the building, since all public spaces are accessed via the atrium. It is also within the atrium that smaller exhibition spaces are located. These spaces can either be used as part of the client's exhibition spaces, or for example, for advertising by sponsors.

This space act as an extension to the adjacent spaces during official gatherings, or when the client houses larger exhibitions. It is also suitable for catering activities due to its proximity to the kitchen.

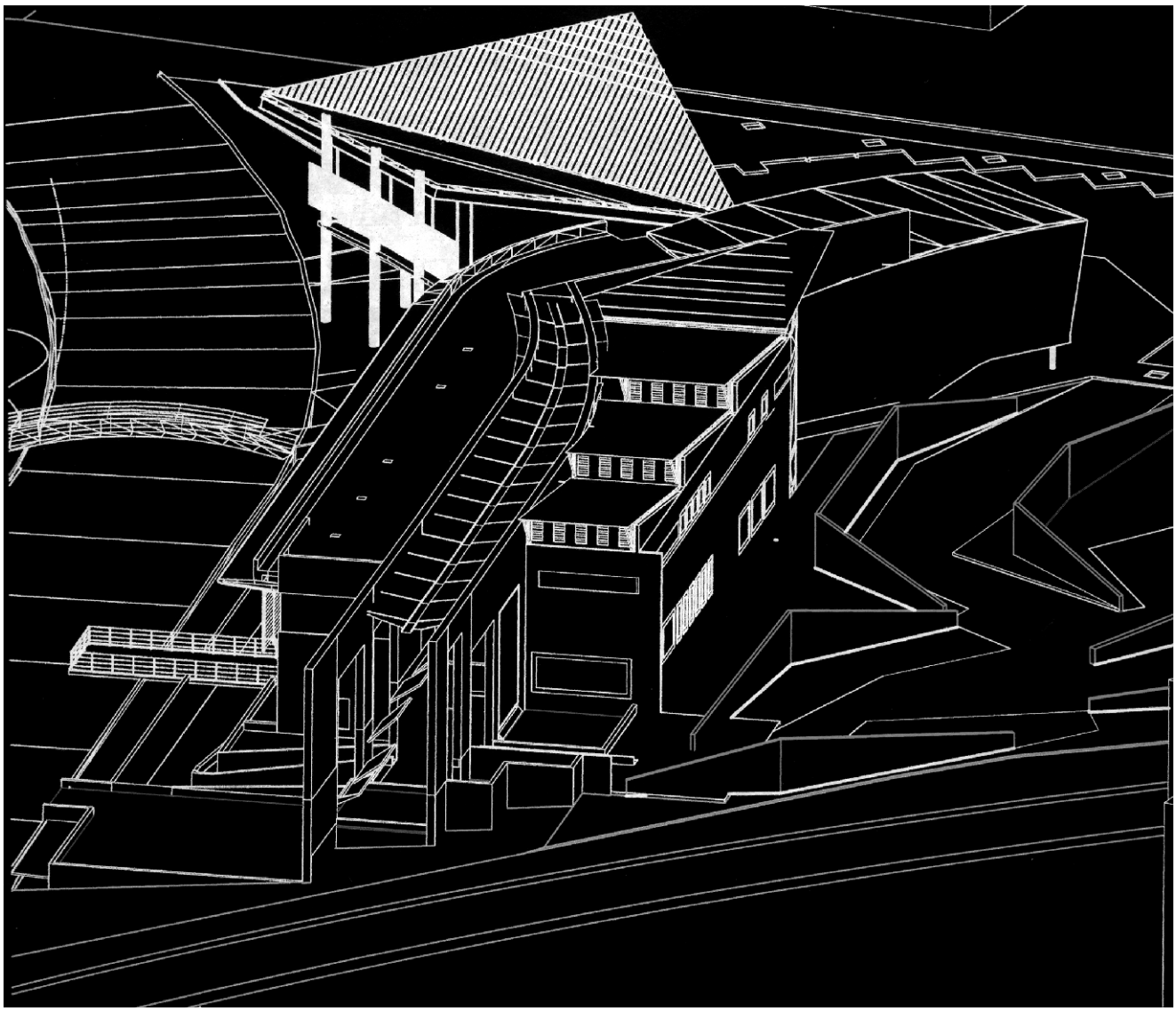

Fig 210.Arial view of the Water Wise centre

EMOTIONAL EXPERIENCE

The architectural language and the pursuit of geometry has had to accommodate the reality of an excavated site and a series of hydraulic installations that have been used to control the waterways of the area.

A complex architectural landscape has been created rather than a discrete, individual building. Approached from the parking area, the building is like a cliff that must be scaled. When one arrives at the beginning of the route, one suddenly finds oneself at the edge of the cliff looking down into the abyss of a walkway and route. The landscape is permeable and one can walk around and through, disappear inside at one level and emerge again at another.

Concrete, rough recycled bricks and glass form the surfaces of the centre. These have an intrusive effect on the visitors' pristine world. The real energies were channelled into making the entire building a symbolic demonstration of humanity's ability to manage water as a life-giving resource. The heart of the project is not only the internal exhibition hall, but rather the building and its landscape as a whole. One senses the presence of the spaces long before they are seen. As you progress along the route you gradually become aware of the sound of cascading water. This is the kind of noise you get when water has been provoked. But it's origin reveals itself only gradually as you descend a staircase through a slot cut into the concrete wall.

The curved lines of the concrete walls and the water features has the effect of softening the impact of the concrete that has been used. It is in the reflective quality of the glass used on the western facade that one is gradually taken to a point of self-reflection. The glass reflects the landscape playfully and is visible through the louvres protecting the building against western sun. Standing at the centre of what seems like a gigantic water machine is a hypnotic experience and it serves as an appropriate reminder of jus how strong the presence of water is in the life of every human being.

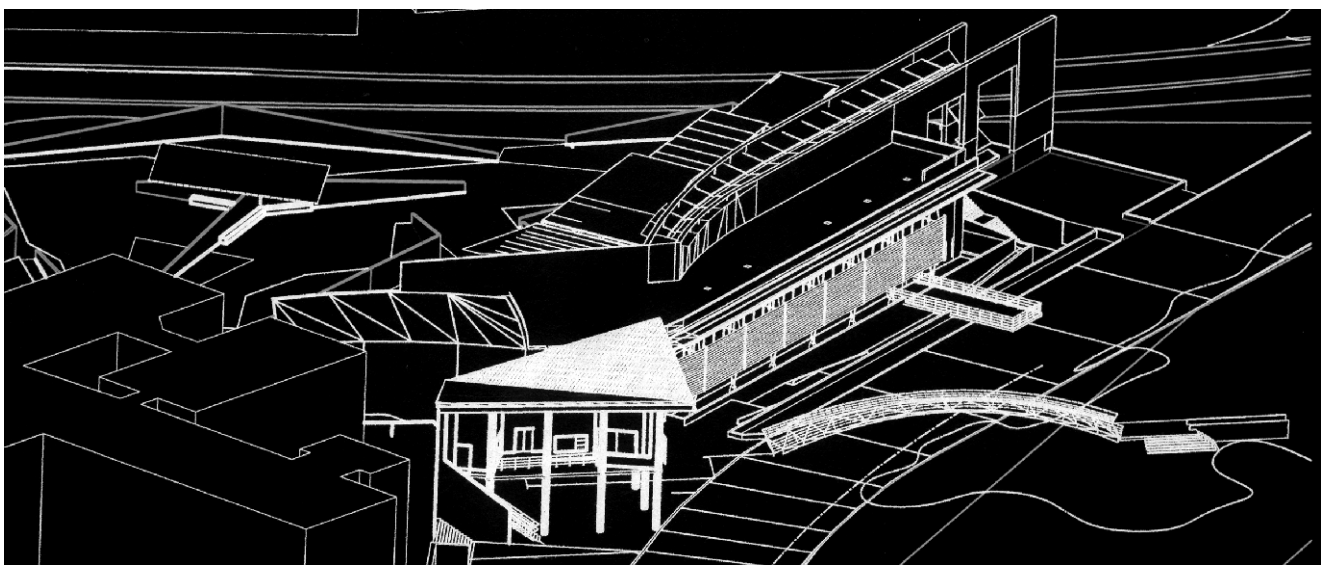

Fig 211. Curved concrete walls

DESIGN ASSESSMENT

Any design regardless of the quality thereof can be refined and improved. A designer can recognise points of improvement through a process of self reelection and criticism from others.

In retrospect, the orientation of the building was generated by contour lines, and visual focal points. This created an inconventional shape for the building. The exposed east and west facades created a challenging design for external shading and methods of achieving natural ventilation. Although basic intelligent and responsible design as far as climate and choice of materials was applied, the designer feels that the footprint, and orientation of the building could have been investigated further. On the other hand, this would have a negative impact on the edge created next to the Apies River.

Further investigation on water technology that could be used in buildings that concur with the principles of Water Wise living methods would have been a great challenge and very rewarding. This topic is so comprehensive that it could become the subject of and entire thesis. The designer whishes to make a thorough investigation of this field of study in the future.

The design has achieved the following:

- It is site specific and sensitive to the physical and social context
- The design is sustainable
- Circulation routes are clearly legible
- It is naturally responsive to climatic conditions
- Spaces have an emotive quality, achieved by the use of natural light, scale and through materiality

It adheres to the client's design criteria with regard to:

- Providing an educational centre which is robust and 'fun'
- Providing functional accommodation which is robust
- The spaces can be extended internally, due to the ample space between floor and ceiling
- Creating a healthy working environment
- Providing a building that uplifts the image of the inner city
- A building that is divided in, private and public areas
- Low maintenance
- Durability of finishes

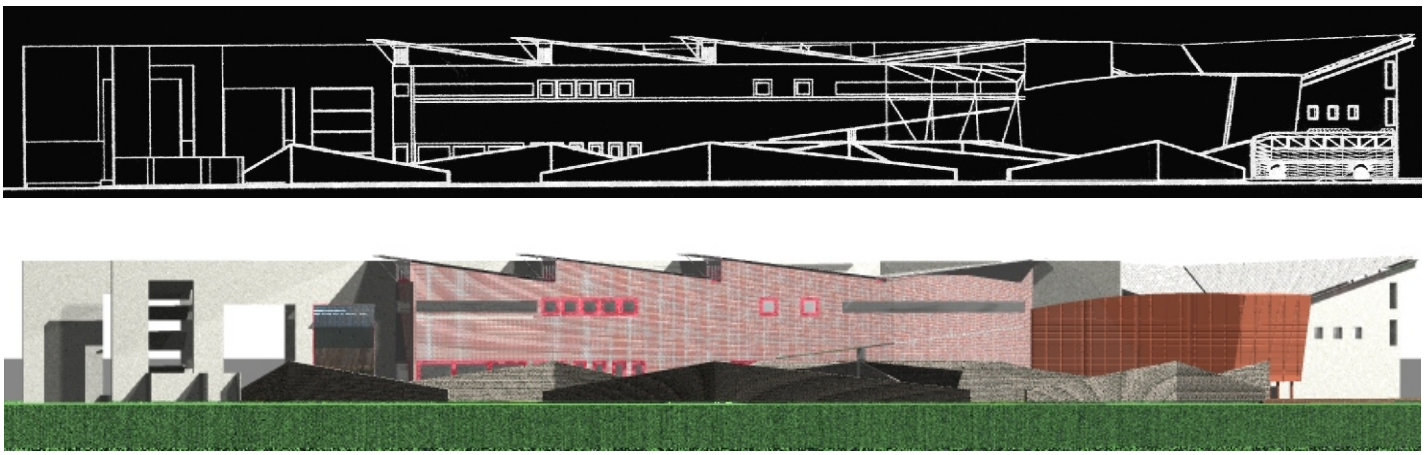

Fig 212. Eastern Elevation

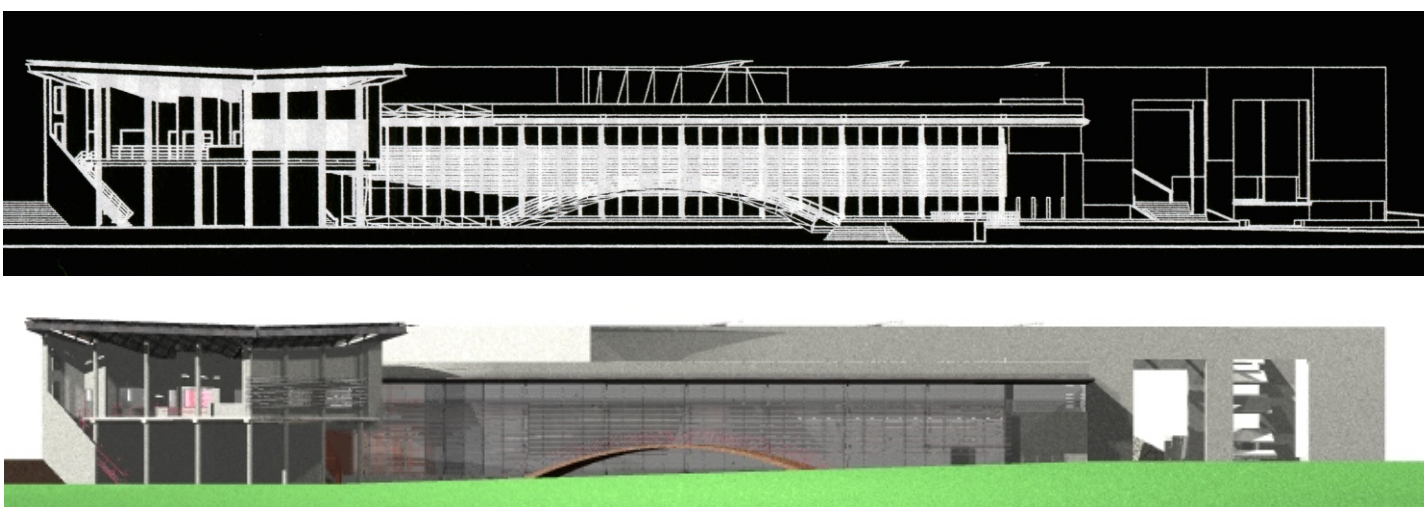

Fig 213. Western Elevation

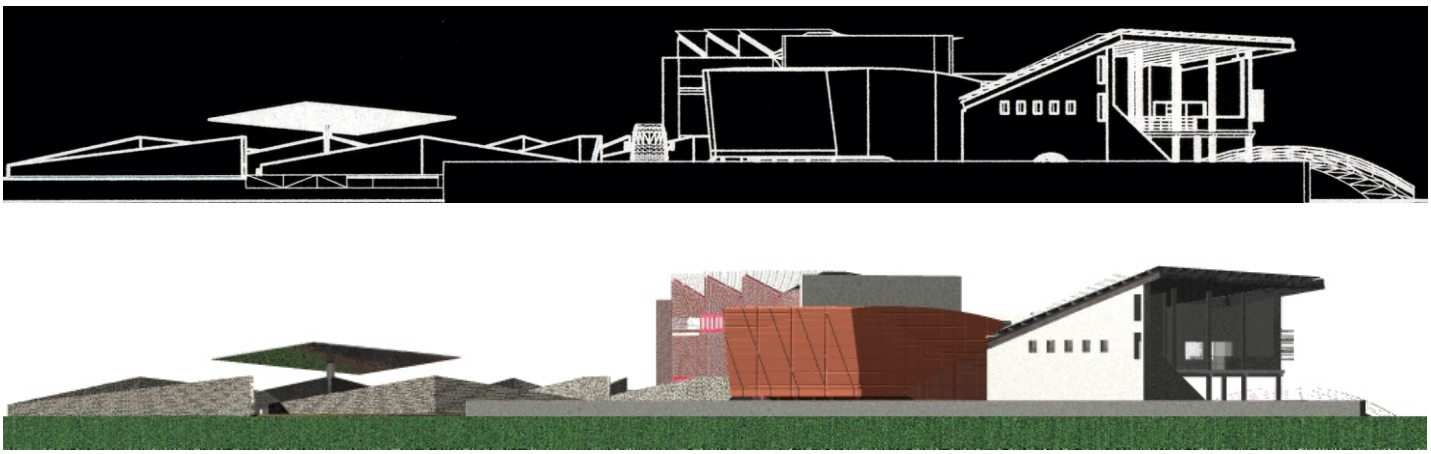

Fig 214. Northern Elevation

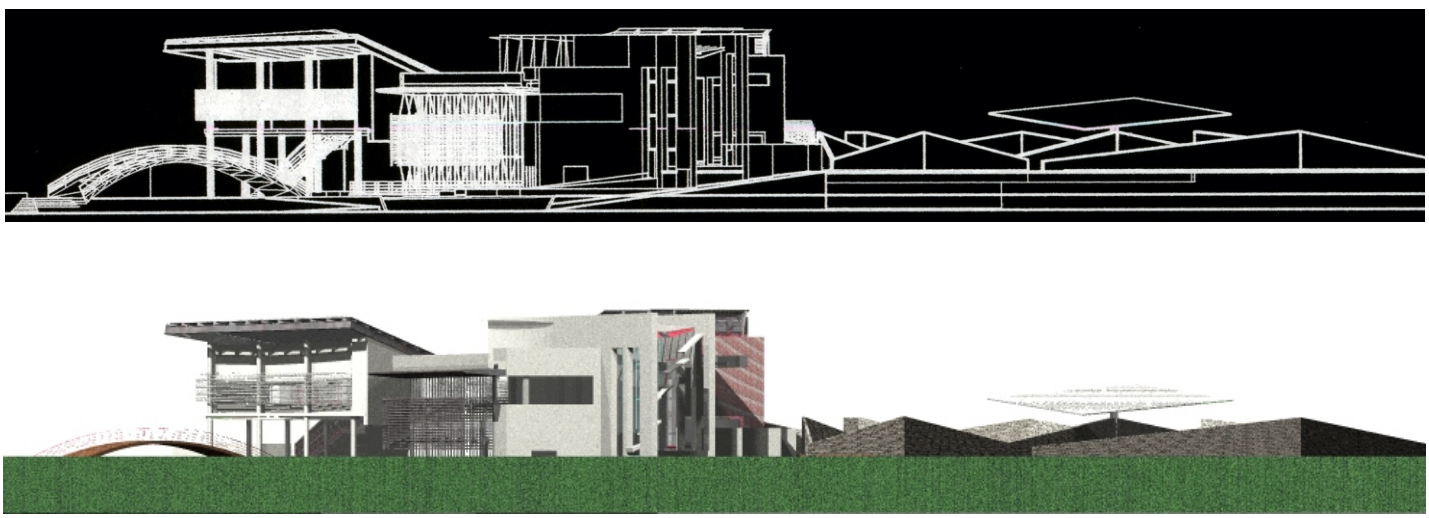

Fig 215. Soutthern Elevation