



figure 69.

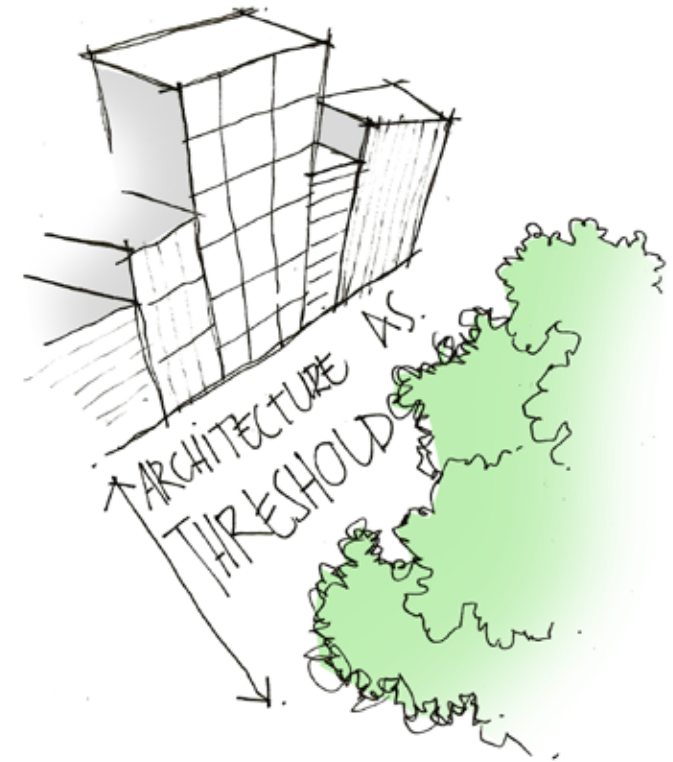
juvet landscape hotel, Norway. Hotel set in natural surroundings

“Without the recognition that the city is of and within the environment, the wilderness of the wolf and the moose, the nature that most of us think of as natural cannot survive, and our own survival on the planet will come into question.”

(Botkin, 1990, p. 167)

chapter 5 theoretical concept & strategies

figure 70. architecture as threshold between city and nature



5. THEORETICAL CONCEPT AND STRATEGIES

The following chapter documents the process of a design solution and discusses the various factors which were taken into consideration to formulate the concept.

5.1 THEORETICAL CONCEPT – NATURE vs. CITY

Urbanization in the Western world has always been coupled with the exploitation of nature by man. In Africa, especially in its Southern parts, nature plays a greater role in the development of our work and live spaces, but is still dissociated from our urban fabric.

The concept of this intervention is the play between the city and nature. Nature is signified by horizontal elements, spanning vast areas and covering the ground to promote life. The city on the other hand is represented by tall

horizontal elements, spanning upwards to increase usage and floor space. The concept aims at interweaving these two elements in order to create a green urban space that is not only sympathetic to the natural world around it, but also delivers an enriching and active urban environment.

“Without the recognition that the city is of and within the environment, the wilderness of the wolf and the moose, the nature that most of us think of as natural cannot survive, and our own survival on the planet will come into question.” (Botkin, 1990, p. 167)

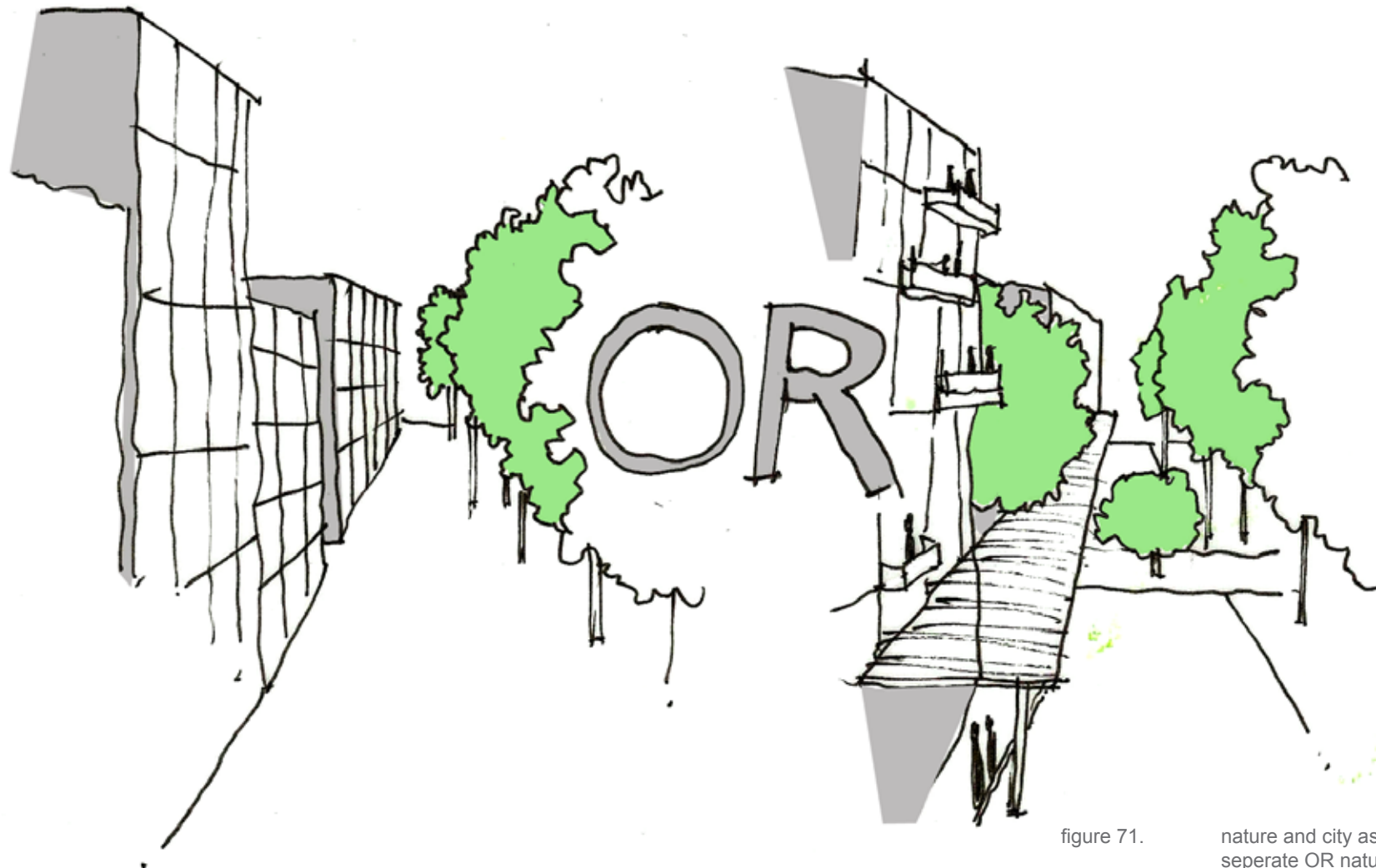


figure 71.

nature and city as
separate OR nature
integrated into city

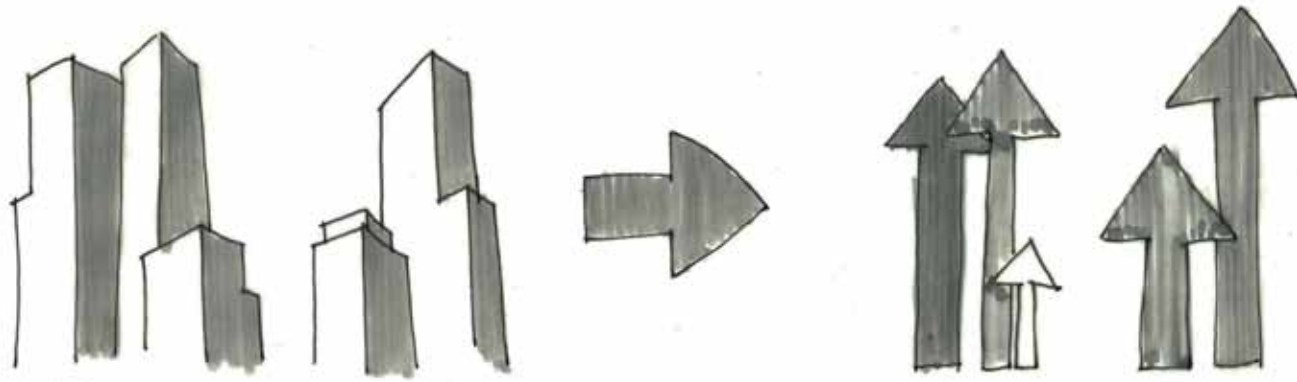


figure 72. the architecture in the city portrayed as vertical elements

5.1.1 VERTICAL=CITY

Norberg-Schultz states that a phenomenological notion of place is comprised of the landscape (natural) and the settlement (man-made). This settlement shapes man's understanding of the natural environment, forming a cultural landscape (Norberg-Schultz, C. 1980. P. 52). Through the exclamation of the vertical elements, that represent the man-made settlement, we become more aware of the nature around it. It frames the landscape and adds praise to the natural flow.

These vertical elements form viewpoints in the city fabric that act as visual points of identity while visitors and locals travel through the city. This is especially important at the Northern gateway of Pretoria, as the area is understated and lacks the legibility of an international tourist precinct in the CBD.

Vertical elements can draw people into an area and focus their attention on certain aspects of the development, but almost as important, it guides visitors through the architecture. It becomes the element of movement in the scheme, along which all activity takes place.

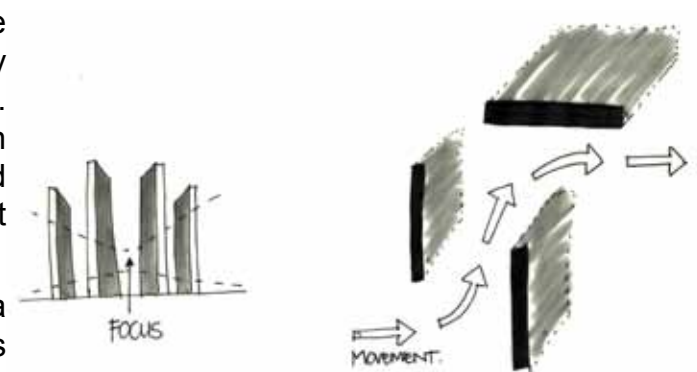


figure 73. vertical elements negate focus and movement

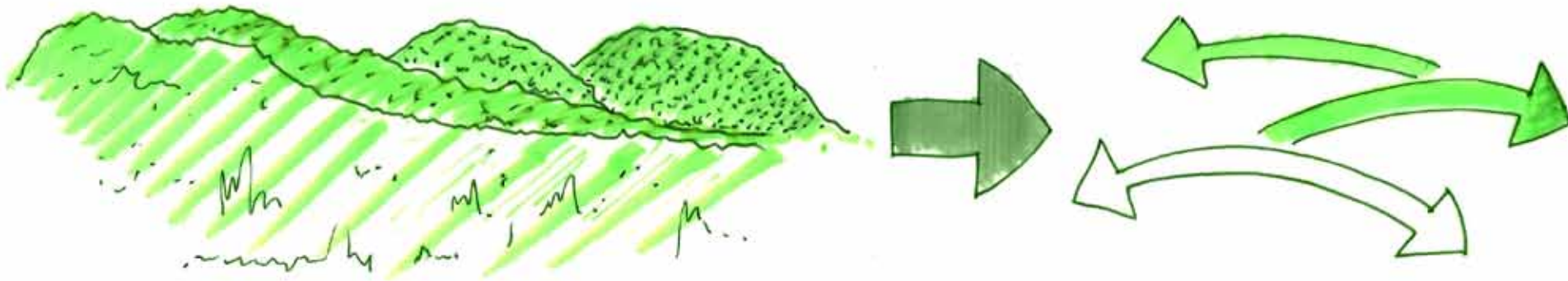


figure 74. nature portrayed as horizontal planes and elements

5.1.2 HORIZONTAL=NATURE

Almost all architectural proposals include a response to the surrounding context. The Zoo proposal also has architectural context to take into consideration. On site there is however an element that overshadows all the built form around it: nature. Nature is represented by flowing horizontal elements across the city-
scape and forms the heart of the proposal.

As the vertical elements negate flow, the horizontal elements link all these areas of flow together. This creates points of rest and relaxation, or admiration along the man-made natural elements.

The man-made nature introduced into the scheme will start to re-connect the grey concrete city with the natural wonder and green landscapes that the Zoo and its Northern boundary have to offer. The combination of vertical and horizontal will break down the hard edges that currently constrain views along Boom Street. It will give visitors framed views of the landscape all along in inside the proposal.

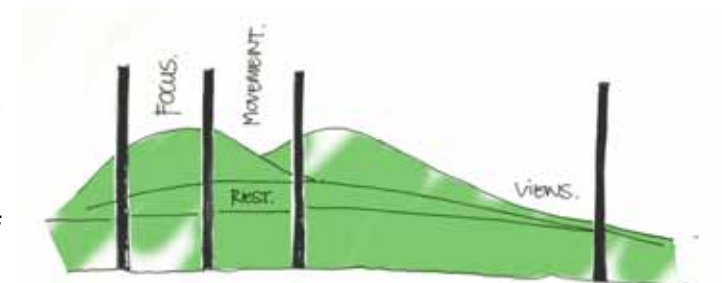


figure 75. vertical and horizontal elements



5.2 PRECEDENT STUDY

Architects: Foster and Partners

Project: Elephant House

Location: Copenhagen Zoo, Denmark

This precedent was chosen as a study in Zoo architecture

“Set within a historic royal park, adjacent to the Fredriksberg Palace, Copenhagen Zoo is the largest cultural institution in Denmark, attracting over 1.2 million visitors a year. Replacing a structure dating from 1914, this new Elephant House seeks to restore the visual relationship between the zoo and the park” (www.fosterandpartners.com).

The project consists of two enclosures that are embedded into the natural landscape; one for male and the other for female elephants. The simple geometry and rounded glass dome roofs form a direct contrast to the original 1914 Elephant House as it rises out of the earth, like a buried structure resurfacing.

The domes create a natural flow over the landscape as the structure raises above the natural ground level and disappears below ground. These structures form the elephant

quarters and outside playing and exhibition areas. The level difference is ideal for viewing platforms and temperature control inside the enclosure.

The scheme is not without an element of verticality and rigidity. High massed walls, filled with earth and planted, organises movement in and out of the structure. The built mass of these walls give the Elephant House a sense of being grounded as it seems that the entrance was dug out and framed with the

natural earth.

The Elephant House is a mixture of vertical and horizontal elements that seamlessly come together to create something more than architecture. It is a home, an event space, an exhibition in itself, but most importantly; it reconnects architecture and the built form to the natural environment in which it is placed.



figure 76. artist impression of proposal



figure 77. photo of elephant house

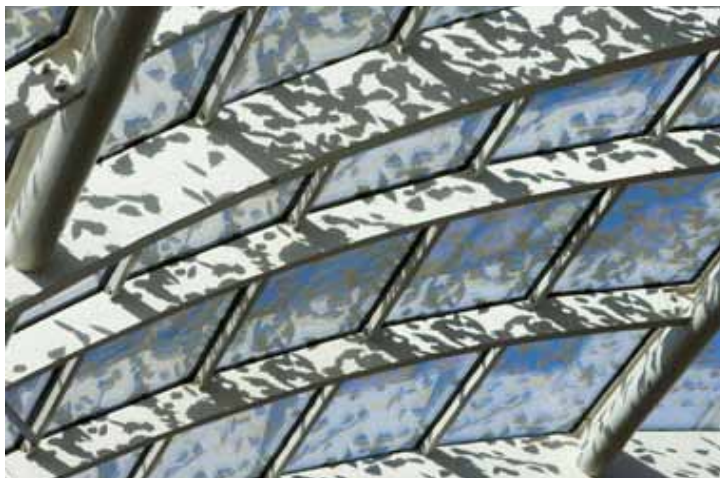


figure 78. photo of roof glass treated with leaf pattern

“Foster and Partners’ design had to respond both to the needs of elephants and to those of their caretakers and visitors, and their first zoological building has led them to seek unique solutions to the needs of unusual clients – in terms of security, maintenance, stimulation and comfort. Both economic and environmental considerations were priorities: the building will be naturally ventilated and rainwater will be recycled. While the glass domes will fill the spaces with daylight, the panes will be fritted to avoid unnecessary heat gain. Trees will be planted to provide extra shade in summer”. (<http://www.arcspace.com/architects/foster/elephant/index.html>)

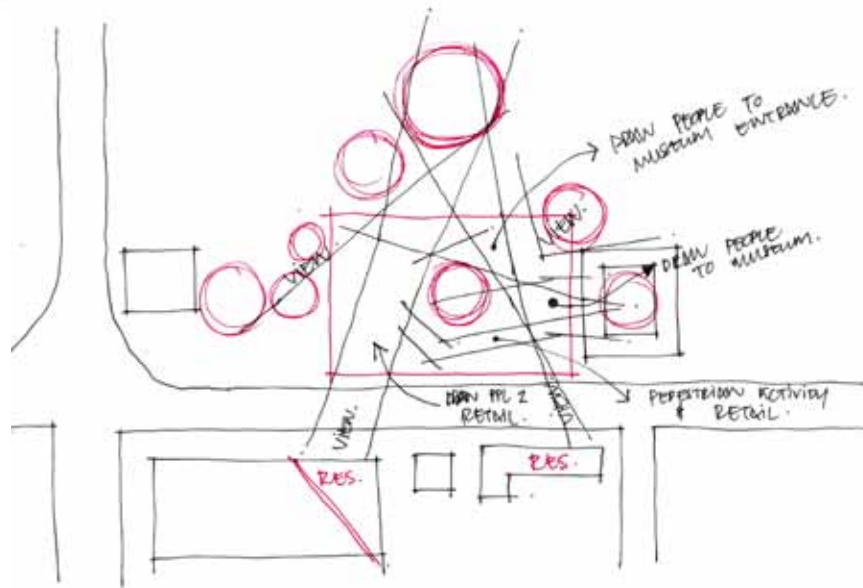


figure 80. beginnings of a response to context



figure 79. form development from context plan

5.3 ARCHITECTURAL STRATEGY

5.3.1 FORM DEVELOPMENT FROM CONTEXT

HERITAGE

A historical path, leading from Boom Street right through the Zoo, has been present since its inception. This path will remain and form the main route into the Zoo, linking up with the heritage houses to the South of Boom Street. The new information centre on the North-West corner of the Museum will be lower in height, and the Southern edge of the centre will slope back down to the ground to give accent to the single entrance on the Western façade of the Museum.

ZOO

The Western wing of the new development will border the existing ponds in front of the Aquarium, with balconies and view areas overlooking this area. The Northern wing is situated facing the trees in the Lemur enclosure.

BOOM STREET

The pedestrian activity and movement along Boom Street will be accentuated by the informal trade and curio stalls on the Northern sidewalk along the street. This will form a square in the middle of the development, which will house other retail opportunities.

SOUTH OF BOOM STREET

The block of apartments on the South of Boom Street has always been blessed with a great view of the Zoo. The lower information centre will still offer this to the residents, and the retail square will provide them with entertainment and leisure right on their doorsteps.

NATURE

Almost all the trees on site have been preserved, and the area to the West of the museum creates space for natural rest areas. The square also draws attention to the large trees as the building wraps around them.

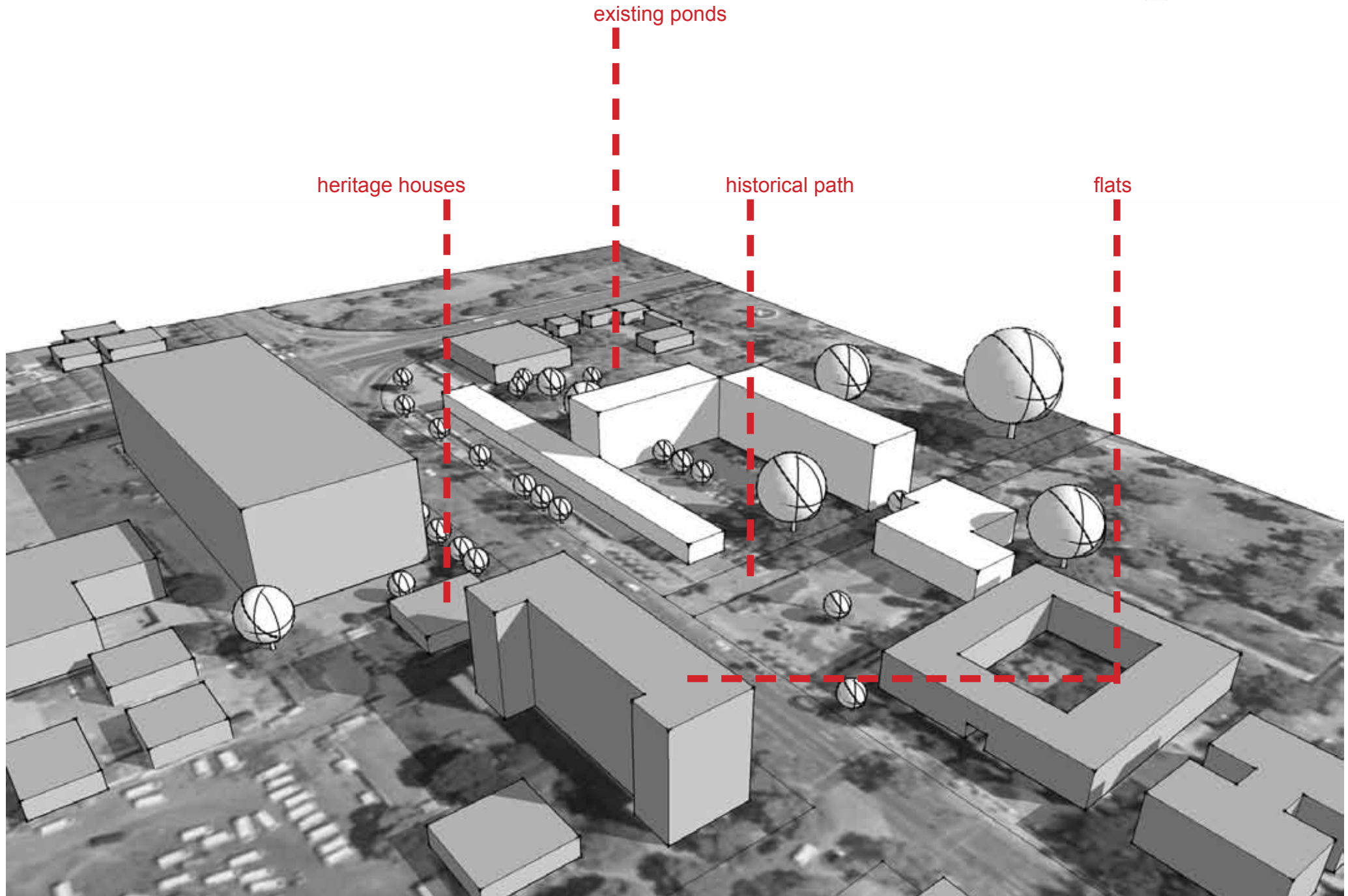


figure 81. form development from context 3d

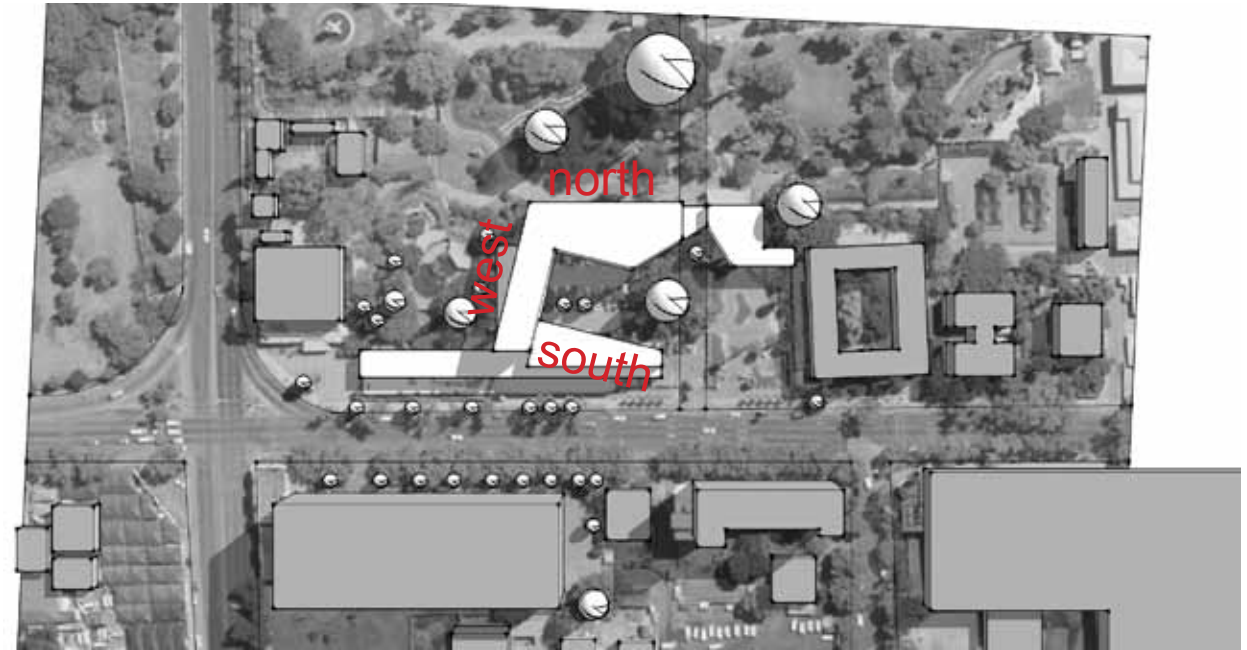


figure 82. form development from theory plan

5.3.2 FORM DEVELOPMENT FROM THEORY

NATURE

The North, South and West wing has been rotated and augmented in order for occupants to have a view of the big trees and green area in the square. Retail and offices on the North of the proposal will overlook the nature in the Zoo, while activity on the West wing will have views of the ponds and square.

GREEN STREETS

With the city as a backdrop, the green area will provide the public with a natural environment to relax in. This will add a most needed attraction in the Northern Region of Pretoria.

ENTRANCE TRANSITION

Visitors will move from the busy sidewalks, through the informal market and into the formal retail square. The transition will be easy, and is facilitated by the natural elements of the Zoo, that is seen from the street. Visitors entering through the open area next to the trade stalls will experience the information centre and entrance as the portal to the Zoo.

PUBLIC SQUARES

The Square is proportioned to accommodate enough activity, yet it does not seem too large. This will improve the quality of the space in quieter hours when there are fewer visitors.

HIERARCHY OF SPACE

The Square is orientated in such a way to provide visitors with great views, while sitting with their backs to the buildings.

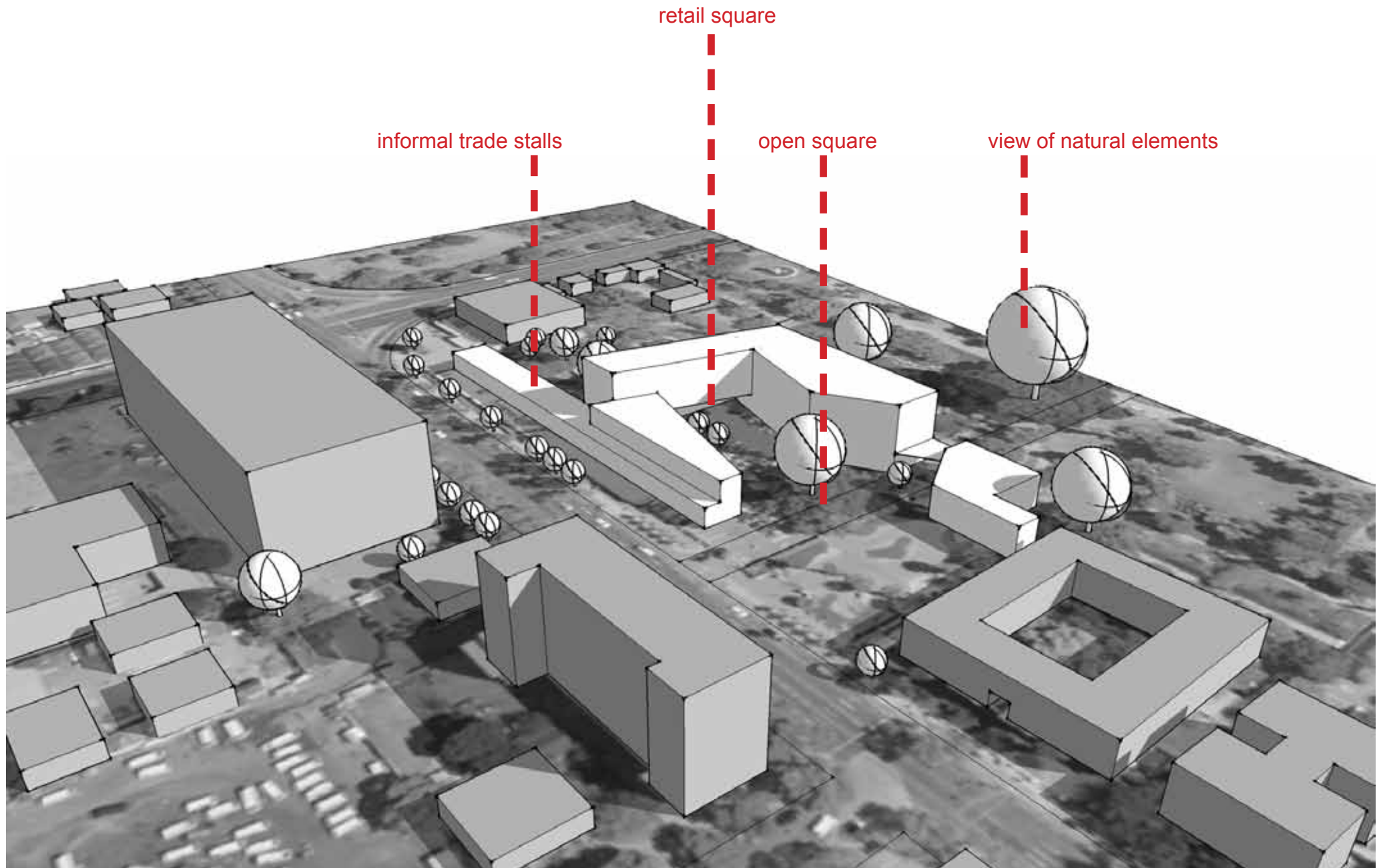


figure 83. form development from theory 3d

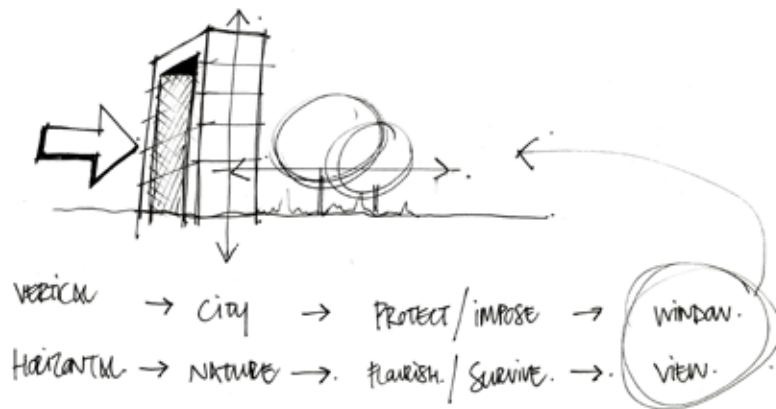


figure 85. beginnings of a theoretical concept



figure 84. form development from theoretical concept plan

5.3.3 FORM DEVELOPMENT FROM THEORETICAL CONCEPT

HORISONTAL (Nature)

Nature is represented by green horizontal planes cutting through the development on both ground and first level. This will provide visitors with open space and great views of the Zoo, while still inside the building. The planes will create areas of rest and focus along them, integrating built fabric with man made nature. It will also signify the approach to re-connect nature with the inner city, as they will originate at the Zoo, cross Boom Street and enter the parking structure proposed by Andries Haasbroek. (MProf. 2010)

VERTICAL (City)

The proposal does not ignore or forget the city back drop in which the site is situated. The city is represented by the verticality of the structure itself and these vertical elements will negate movement along them, and frame views of nature for visitors to admire. The structure is rotated at such an angle as to give the residents across the street in Andries Haasbroek's development (see nr. 1 on diagram) a view of the trees in the square and the Zoo.

1. Andries Hasbroek's proposal
2. Heritage houses
3. Block of flats
4. State Museum
5. Public green space
6. Curio sales
7. Informal trade
8. Restaurant
9. Offices
10. Public square
11. Information Centre

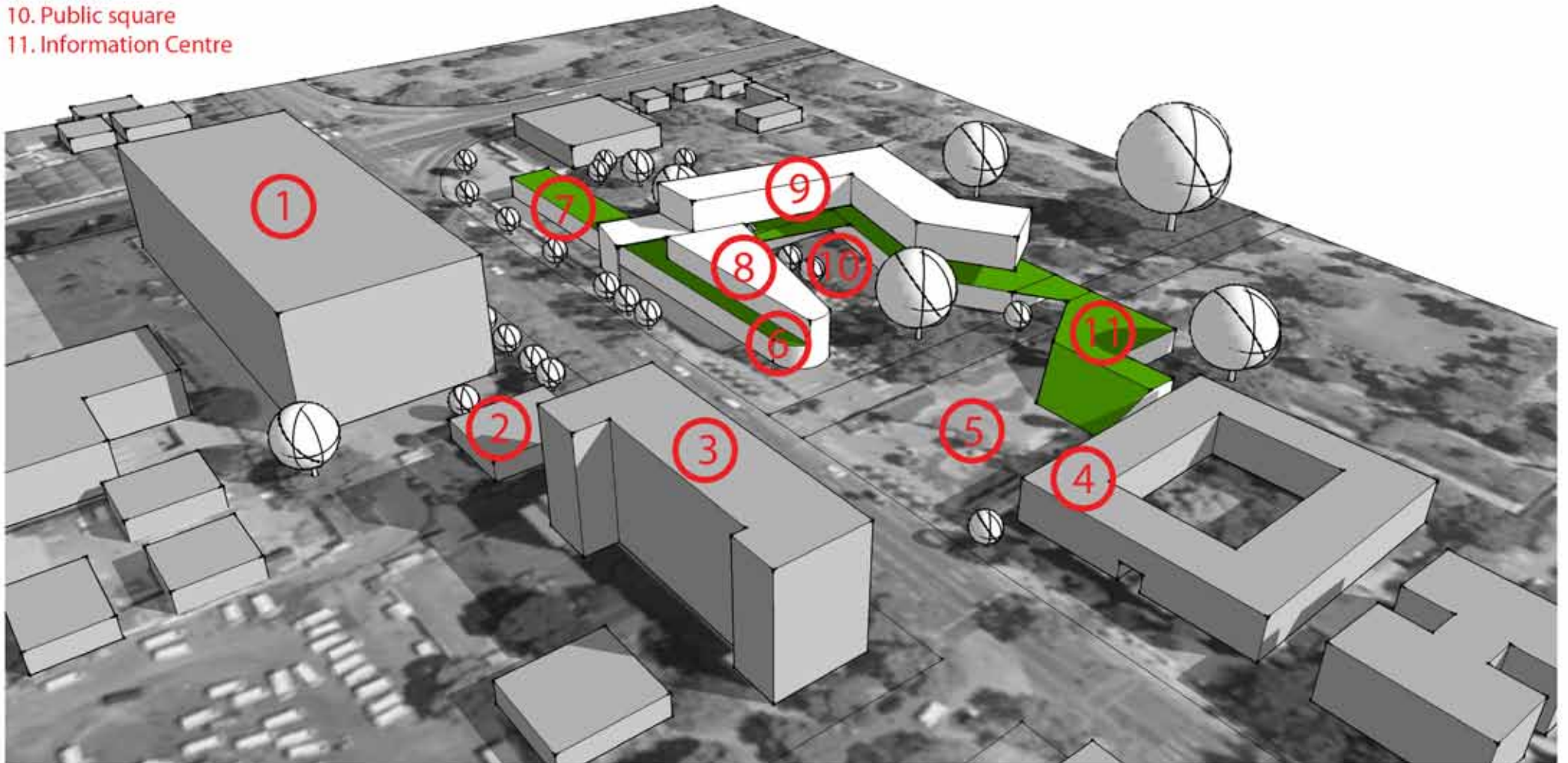


figure 86. form development from theoretical concept 3d