CHAPTER FOUR

Figure f. Conceptual Sketch (Author 2016)

4. DESIGN DEVELOPMENT

4.1 SITE ANALYSIS

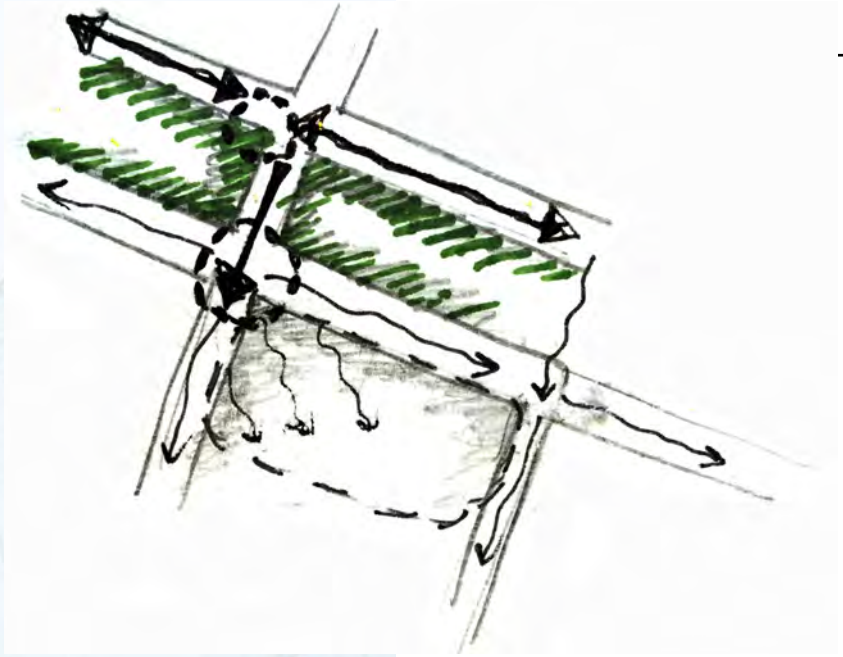


Figure 49. Activity around proposed site (Author 2016).

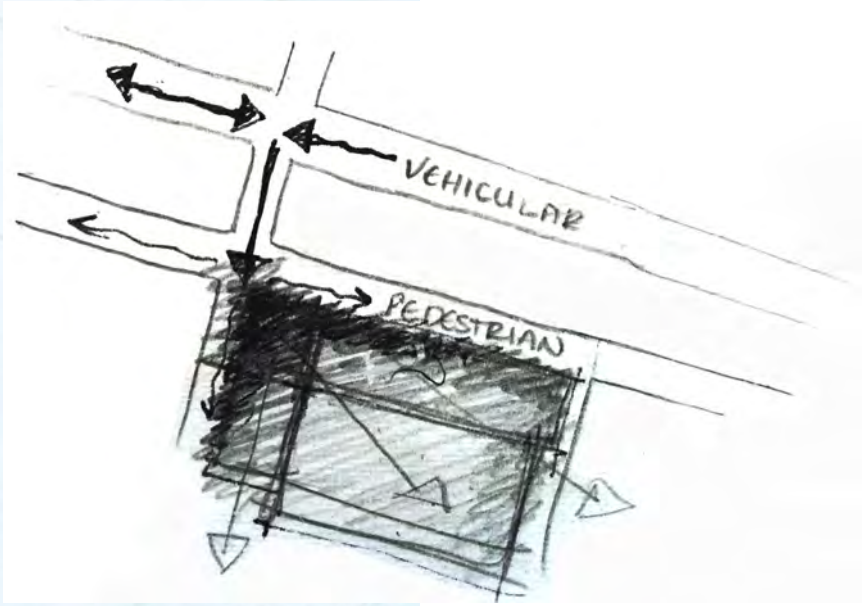


Figure 50. Public to private zoning on site (Author 2016).

In order to apply the concept and refined programme to the chosen site, an analysis of the site and its surrounding context informed by the urban vision was then conducted. As discussed previously, community engagement in supporting preventative health care provision and community interaction with the facility are considered to be very important informants on the design. Therefore, in order to start this analysis, the site was investigated according to the anticipated pedestrian traffic in and around the site.

The vehicular access road and parallel pedestrian boulevard across the precinct is anticipated to be the heaviest influx of pedestrian movement, with the busiest area around the chosen site being the intersection between these two access roads. The direct line of movement from this point is anticipated to be the secondary route while the other roads splitting from this point are anticipated to be the tertiary roads.

The results of this investigation helped to establish the site into a zoned hierarchy of most public to most private areas of the site. The results of these two investigations then informed possible routes of access from the surrounding context in terms of hierarchy of flow, as well as the programmatic arrangement of the design. A number of other analyses were done on the site which are shown on the following page.

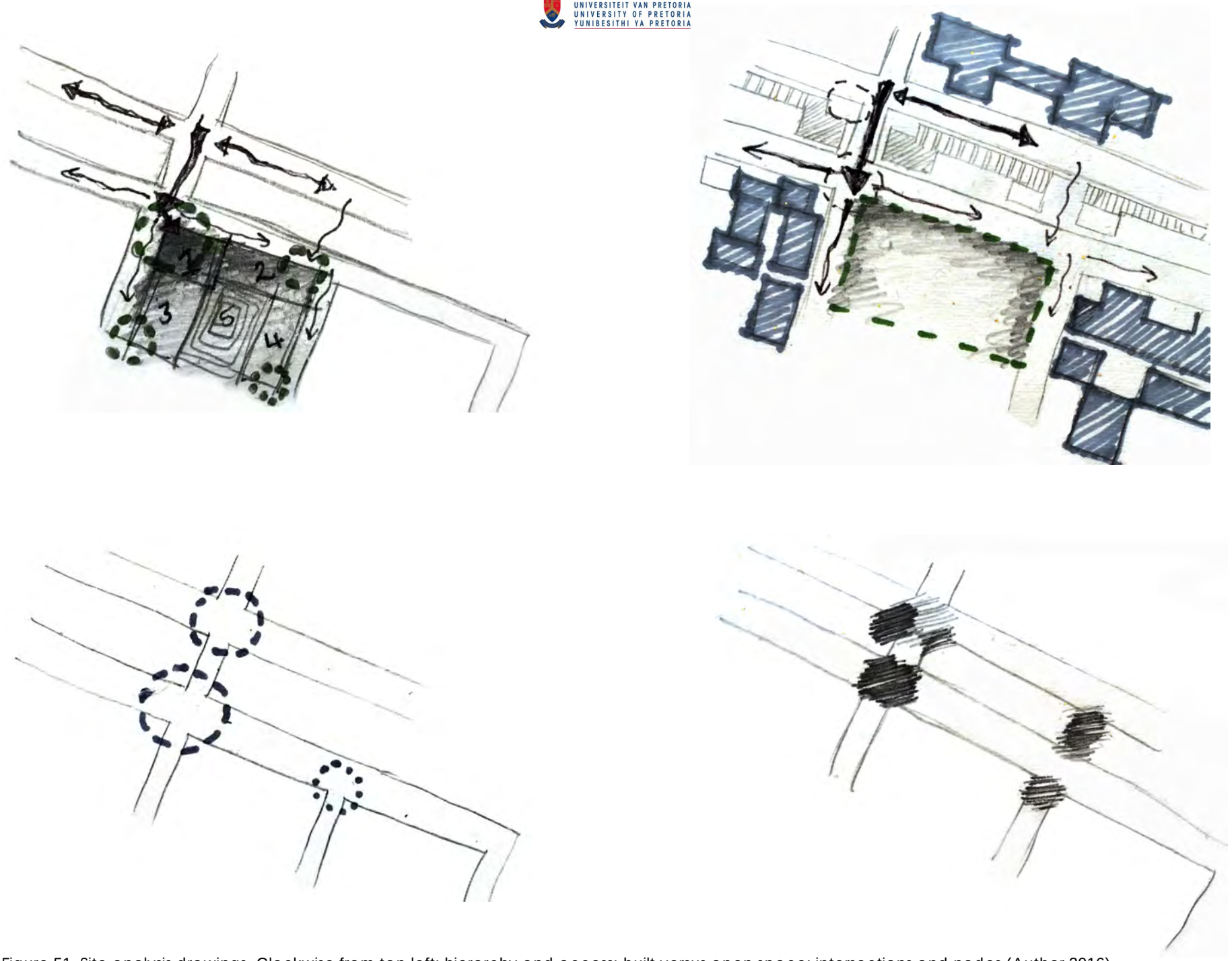
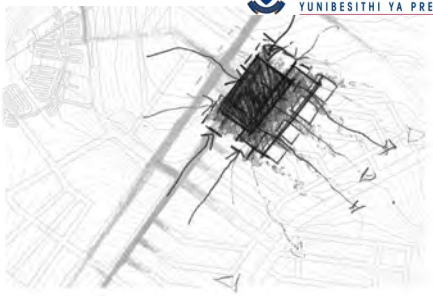
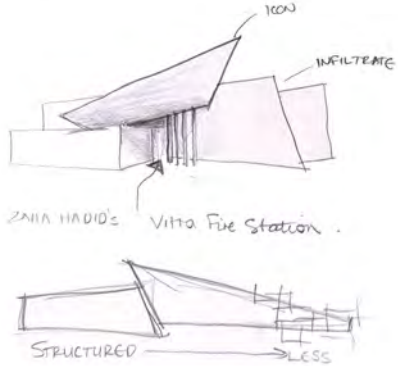


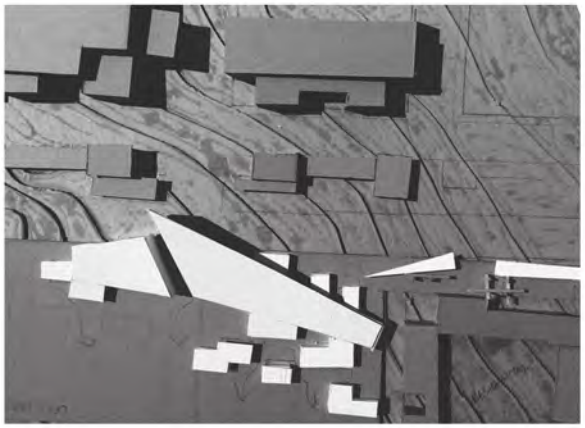
Figure 51. Site analysis drawings. Clockwise from top left; hierarchy and access; built versus open space; intersections and nodes (Author 2016).

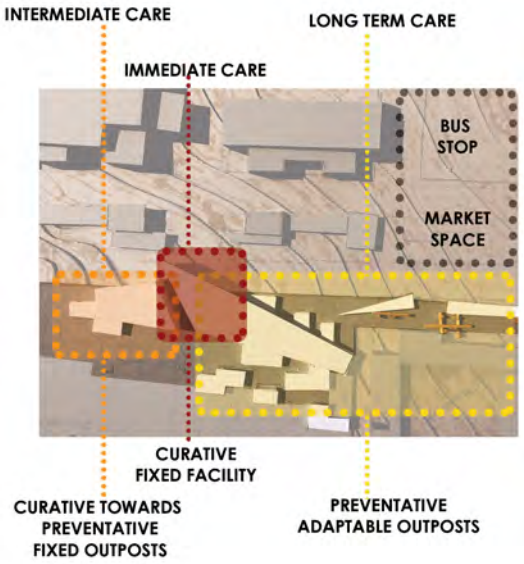


De-centralised system, dispersion into community



Iconic structure in society





Conceptual model presented in April

Figure 52.Conceptual development model and sketch process (Author 2016).

4.2 CONCEPTUAL DEVELOPMENT

The start of the conceptual design development process was a very literal translation of the initial conceptual intentions into form.
Using the conceptual investigation of the co-existence between the institutionalised top down and community driven bottom up approaches, the design was initially conceived as a de-centralised model consisting of a main fixed curative healthcare provision facility, supported by smaller preventative oriented field outposts which the COPC programme was based out of. The layout of these components was then envisioned as a literal dispersion of healthcare activity concentration from the site location, infiltrating into the finest urban fabric of the precinct.
The purpose of this intention being to satisfy the aforementioned concept of engaged citizenship of preventative healthcare in the health care delivery process. This concept was then further enforced by the initial conceptual design forms taking the shape of important iconic elements in the community, in order to also become a visual actor in the community's everyday lives, subconsciously suggesting the importance of health care.
This approach was presented to a panel of external examiners in the concept crit evaluations in April.

4.2.1 CONCEPTUAL DEVELOPMENT RE-EVALUATION

The criticism received on this approach during the April evaluation was that the approach to form was too literal a translation of the concept and therefore the intentions laid out in the dissertation thus far were not evident in the form proposed. Instead, the form was reading as a large scale curative hospital type facility that was over powering the other programmes suggested. Therefore the resulting design was simply reflecting another high tech facility which the community would only visit when physically unwell, rather than the previously suggested holistic health care facility made up of more humane and emotionally sensitive environments intended to welcome community engagement.
In conclusion, the feedback given advised a refined programmatic response to the issues and conceptual intentions laid out above; specifically considering the scale, size and extent of the programme, and to re-consider the holistic well being of the users interacting with these spaces.

As the conceptual intentions and issues still remain a valid influence in the dissertation, the design process following on from this then consisted of a number of precedent studies of facilities with intentions similar to those laid out previously, in order to understand their architectural result. The preference at this point, and from this point onwards, being towards a smaller scale clinic solution rather than a hospital typology.

4.3.1 ARCHITECTURAL TYPOLOGY CASE STUDIES

As a starting point for this precedent study, the design development process reconsidered the aspect of holistic well being of all users of the spaces. Specifically looking at examples which resonate with the architectural issues discussed in the previous chapter of this dissertation. The two most prominant local examples which also incorporate the aspects of a connection to nature and the landscape in order to assist the healing process, being the Hermanus and Du Noon Community day centres, as discussed previously.
These case studies incorporate similar design principles which became highly influential on the layout approach to the floor plan of the design. To begin with, both case studies acknowledge the surrounding context and public realm by extending these spaces into the building. This becomes an important ordering principle on informing the approach and clarity of progression from public to private through the design. The programmatic appropriation of a public space as an entrance threshold announces both buildings as a public facility and it is from this space that the functional progression through the building starts (Barker, 2015). Users enter the building through this space and into a primary circulation route , which then branches off into wings hosting different areas of functionality (Barker, 2015). These functional areas are then privately arranged around individual courtyards which let in light and ventilation into the interior spaces (Barker, 2015) and provide that connection to nature which Cooper Marcus (1995) and Ulrich (1993) have proven to be a vital part of the healing process.

The result of this approach to the case studies informed the initial sketch floor plans. However due to the complexity of the arrangement of the programmes involved in healthcare facilities, another precedent study was conducted in order inform the organisational layout and hierarchical flow of the users through the space.

4.3.2 ORGANISATIONAL CASE STUDIES

The intention behind this study was to analyse a number of design considerations and their resulting form in order to better inform the regulations involved in the clinical aspect of the research proposal. These include; the circulation and flow of the public through the facility, the provision of public versus staff oriented spaces, the analysis of built space versus courtyard space and the hierarchical order of these courtyards. The Hermanus Community Day Centre, and the Du Noon Community Day Centre were used again in this case study and were then compared to the contextual case study, the Pretorius Park Clinic.

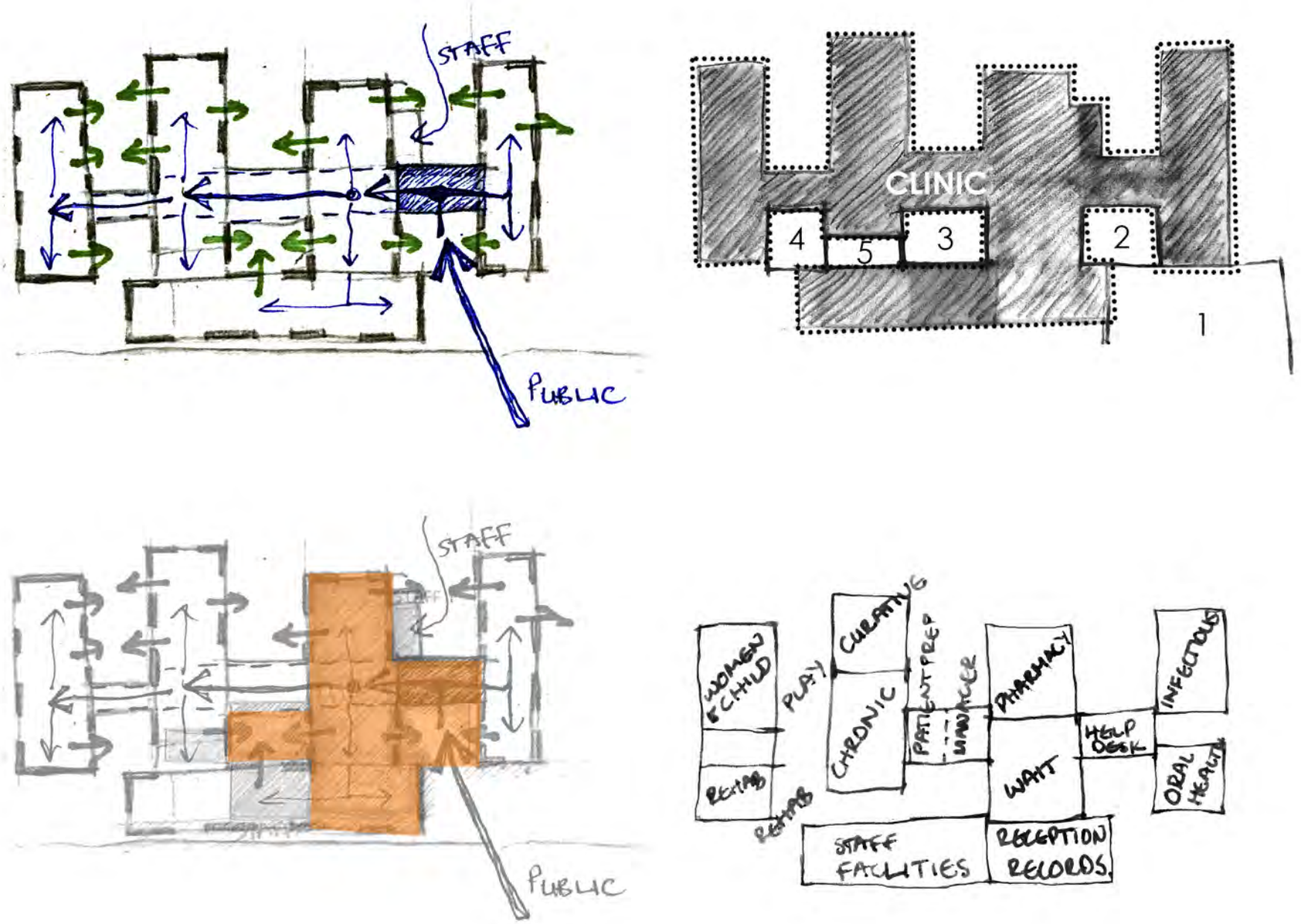


Figure 53. Diagrams of Hermanus Community Day Centre clinic layout, showing circulation and flow, hierarchy of courtyards, public vs staff space and organisational layout (moving clockwise). Author 2016.

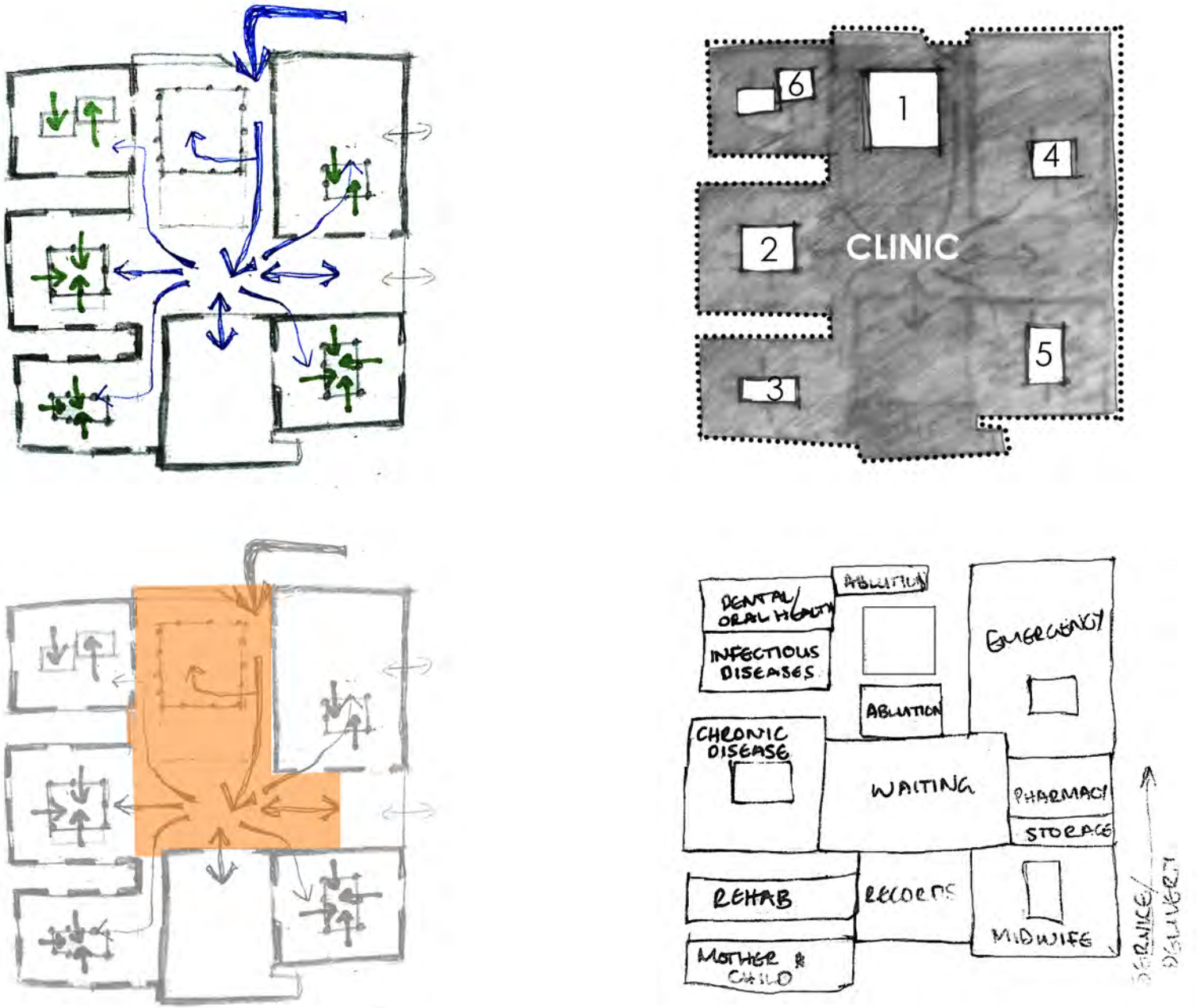


Figure 54. Diagrams of Du Noon Community Day Centre clinic layout, showing circulation and flow, hierarchy of courtyards, public vs staff space and organisational layout (moving clockwise). Author 2016.

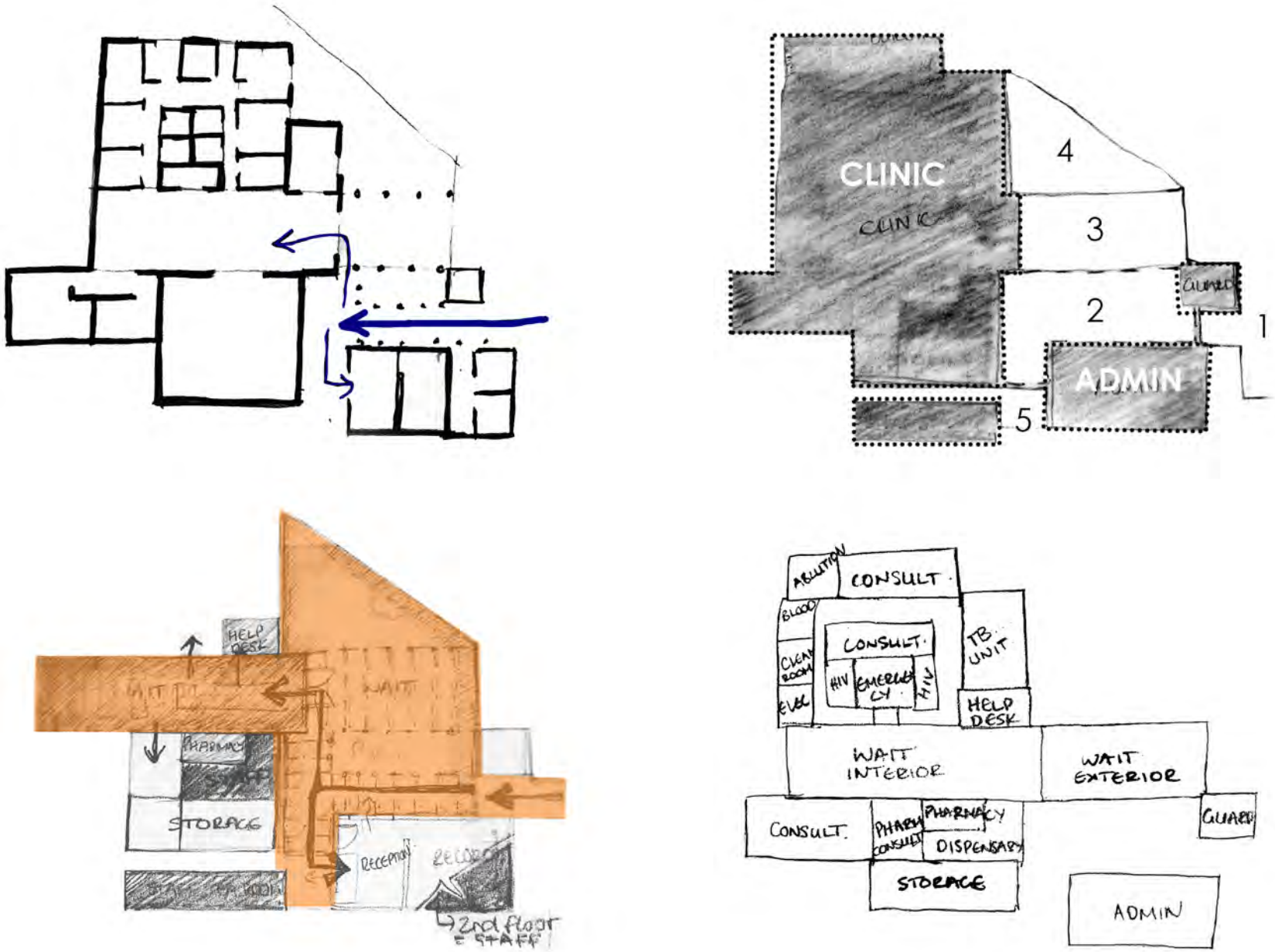


Figure 55. Diagrams of Pretorius Park Clinic layout, showing circulation and flow, hierarchy of courtyards, public vs staff space and organisational layout (moving clockwise from top left)(Author 2016).

Due to a number of rules and regulations regarding the mandatory procedures undertaken in South African clinic designs, all three case studies exhibited similar programmatic organisational arrangements. This organisational arrangement is seen to be summarised below.

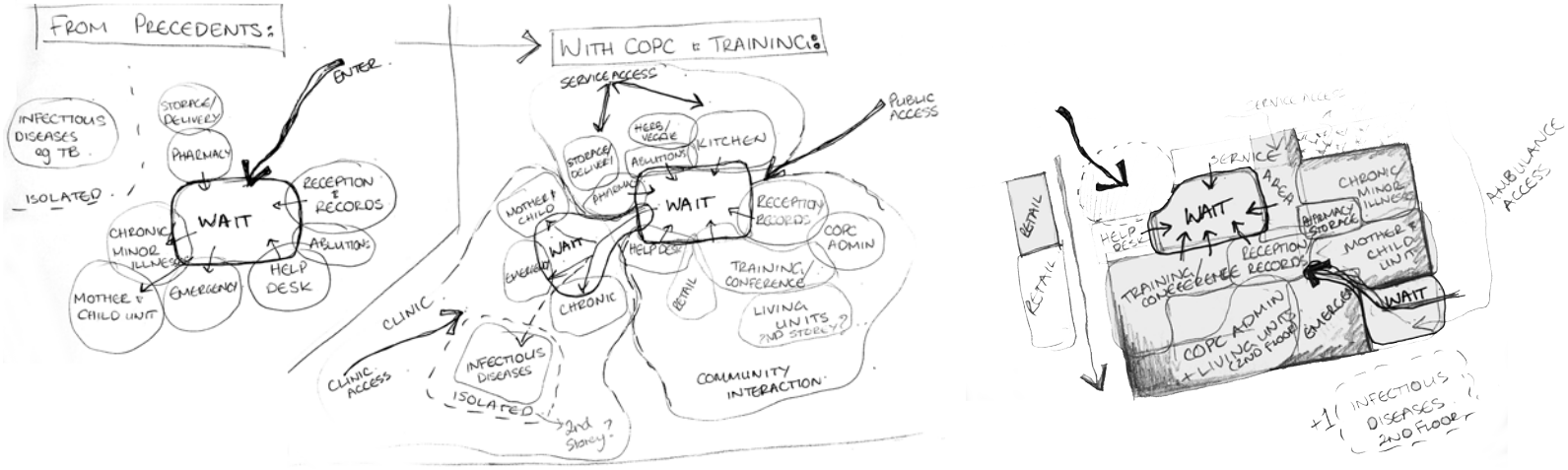
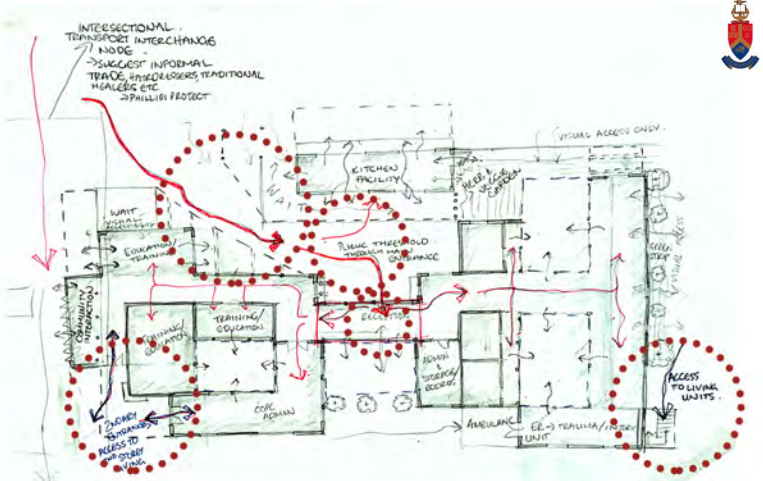
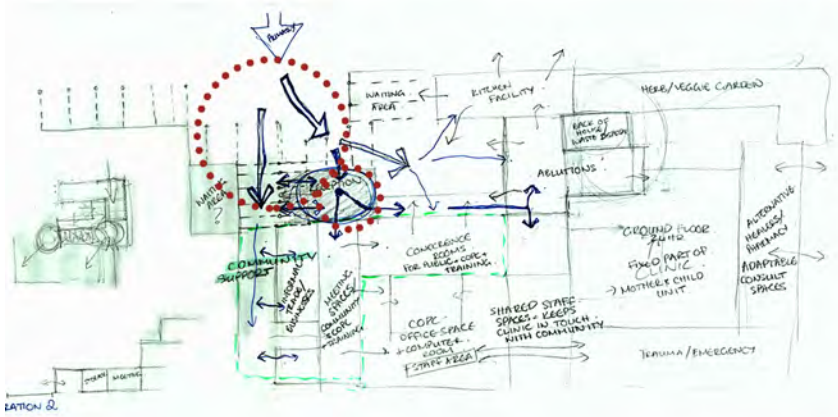


Figure 56. Bubble diagrams showing organisational analysis of precedent studies and the application of this in the design process (Author 2016).

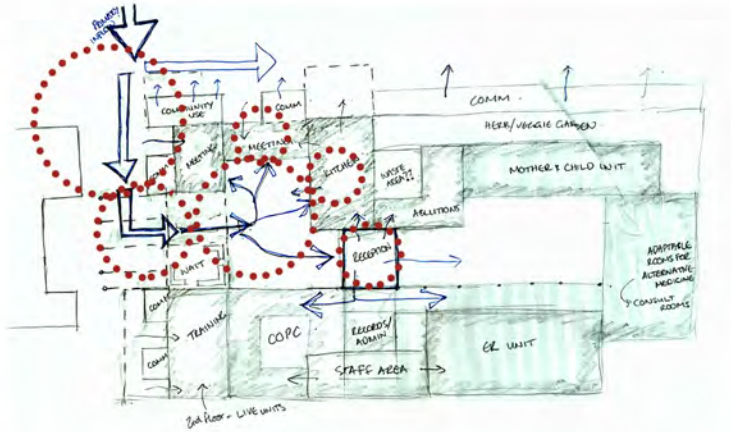
This observation was then used as a precedent to advise on the programmatic layout of the revised design in order to ensure that the flow of users in the facility adheres to a certain process that follows the administrative procedures required by the South African medical facilities. However this was considered in such a way so as not to undermine the critical approach adopted in this dissertation. A number of explorations were then carried out on this revised programmatic layout in order to investigate possible access points into the facility as well as an exploration into the hierarchy of flow from the surrounding context into the facility.



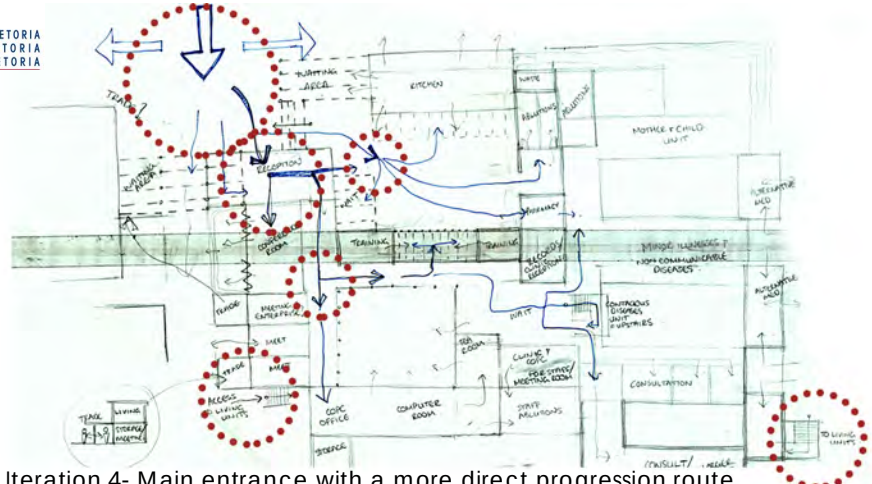
Iteration 1-One main public entrance, secondary entrances



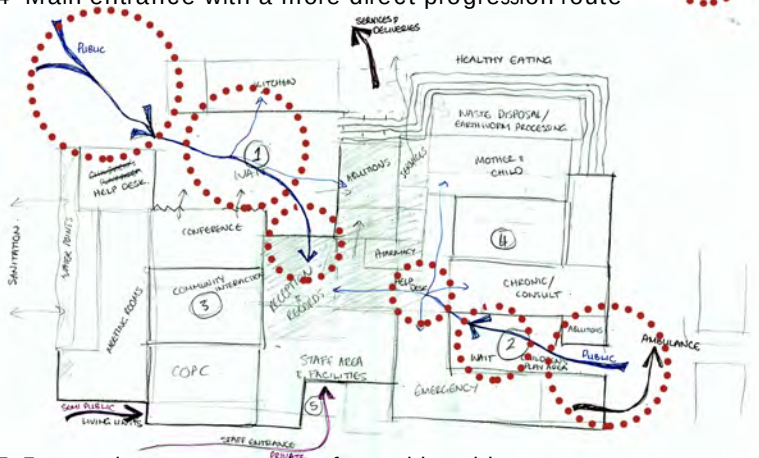
Iteration 2- One main entrance from the corner



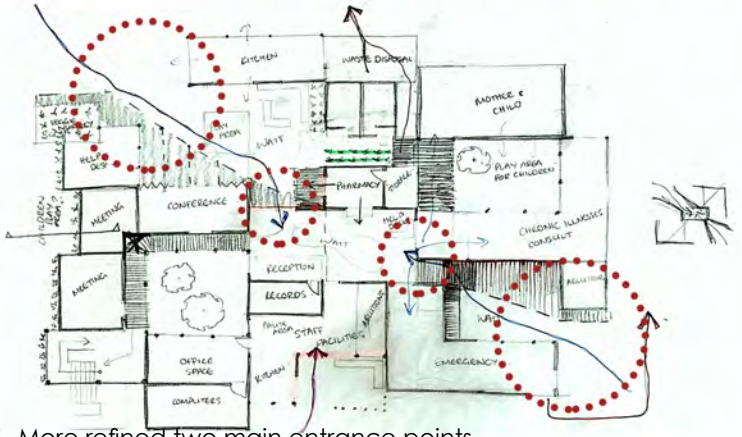
Iteration 3- One main entrance perpendicular to the street



Iteration 4- Main entrance with a more direct progression route



Iteration 5- Two main entrance points from either side



Iteration 6- More refined two main entrance points

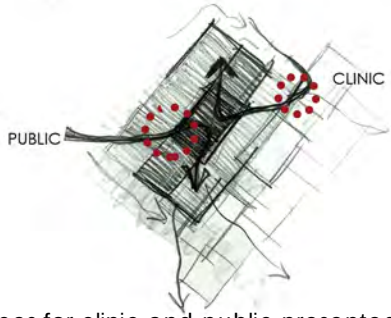
Figure 57. Exploration process into different access points into the facility (Author 2016).

As the busiest corner of the precinct is anticipated to be the North West corner of the facility, connecting with the adjacent pedestrian boulevard, the decided access point to the facility is anticipated to be the most successful from this corner. Borrowing from the architectural typology studies conducted, this access route is designed to happen through a large public square that will act as an extension of the public pedestrian boulevard.

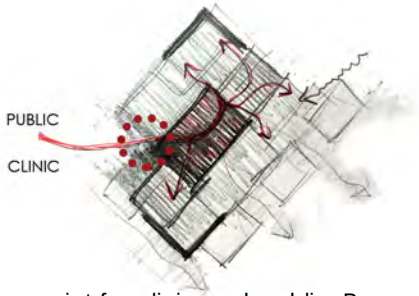
4.3.3 ACCESS, CIRCULATION AND FLOW

From this accessible public square, a primary route of circulation through one main entrance into the facility, to both the educational and training side as well as the clinical side, was initially proposed. This proposal was then iterated in order to explore the possibility of two separate entrances into the facility, one for the general public accessing the educational/training side of the facility, and another entrance on the opposite corner of the site in order to provide a more private access point to the clinic side of the facility. After applying the organisational clinical layout research described previously, the latter iteration proved to be an inappropriate method of dealing with the flow and the clinical procedure process that had to be undergone by the users through the clinic, for example the collection and return of records and collection of pharmaceutical medicines after appointments. The introduction of a secondary square adjacent to this second access point was also seen to detract from the intention of a primary route of circulation through one main public square, as well as decreasing security and control in terms of who is and isn't able to access the clinic.

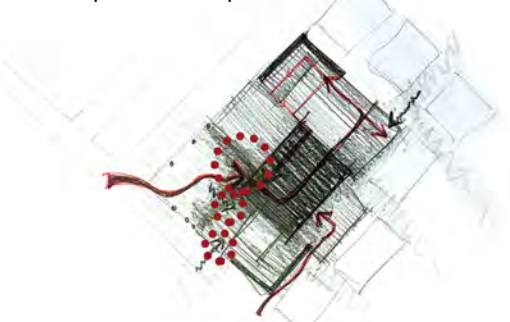
Initial concept diagram



Iteration 1- Two main entrances for clinic and public presented an issue of security and access control.

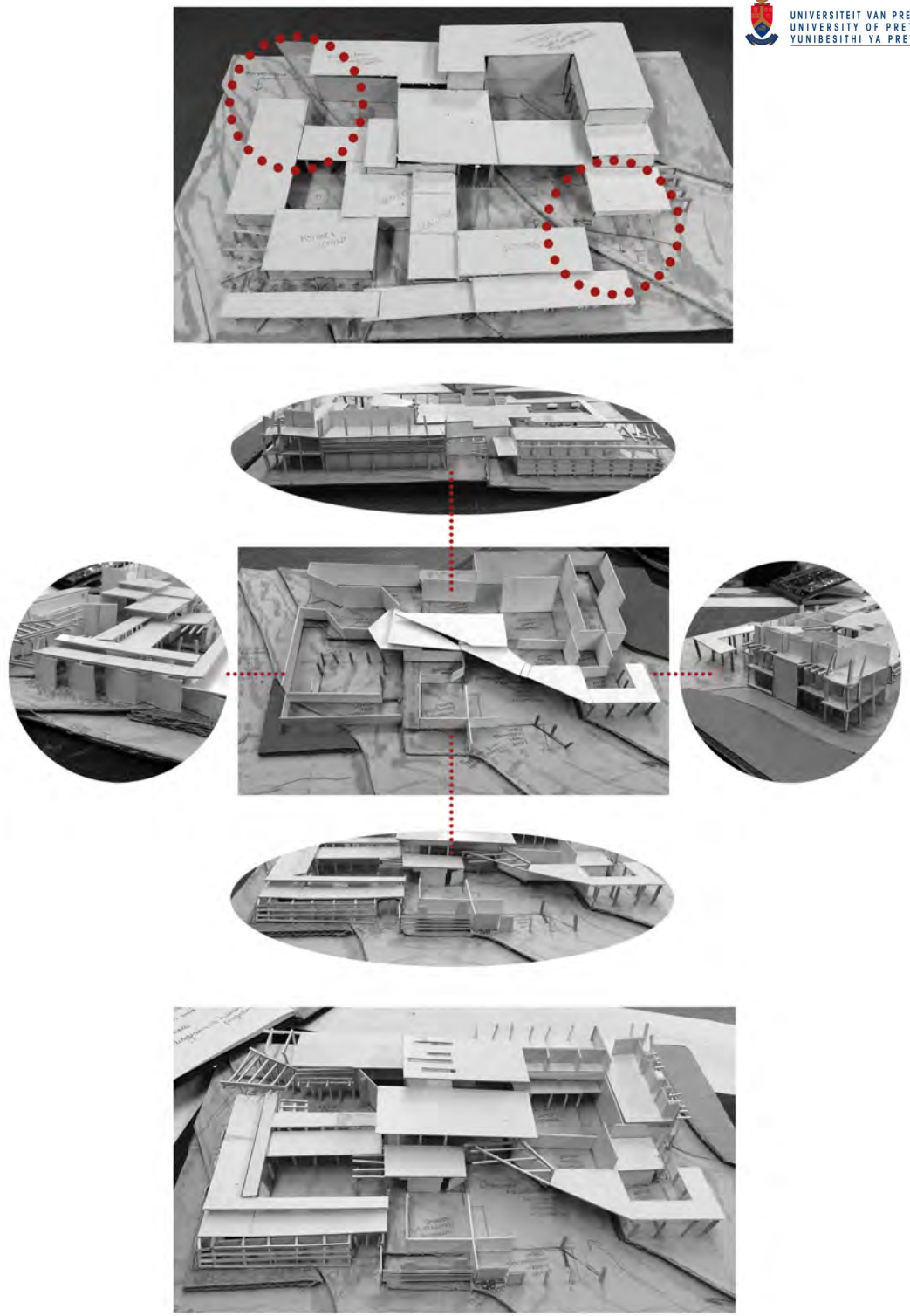


Iteration 2- One main entrance point for clinic and public. Presented an issue of separation between staff rest spaces and public view.



Iteration 3- One main entrance point for clinic with external public entrance points for education and training.

Figure 58. Diagrammatic representation of iteration process (Author 2016).



4.3.4 FACADE DEVELOPMENT

At this stage of the design process, the research component of the dissertation concurrently introduced the concept of the holistic well being of users of health care facilities and the effects that space and architecture may have on the mental and emotional well being of the users. This discovery highlighted the fact that little consideration had been given to the design of the facades and the interior spaces themselves up until this point. Therefore, the design process followed an investigation into how these facades may be designed in order to create positive emotional and mental responses to both users of the facility, as well as the general community passing by the outside of the facility.

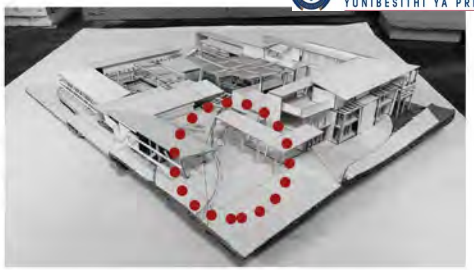
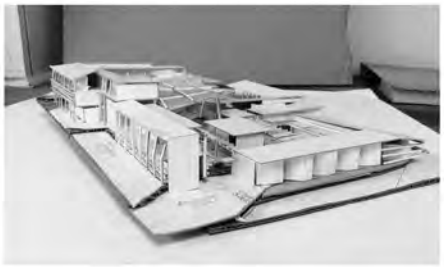
Using the principles laid out in the research conducted by Claire Cooper Marcus (1995) and the text *Active Design: Shaping the Sidewalk Experience* (2013) as a starting point for this design investigation, a number of vignette sketches and sections showing the relationship between the interior and exterior of the facility and the experience of the facades was explored. The intention behind these sketches was to investigate the possible transparency of the facility, from both the interior and exterior perspective, and if there was an opportunity for any possible interaction of the exterior users with the facility itself, such as interactive facades etc. The interior environmental quality was also considered in these sketches.

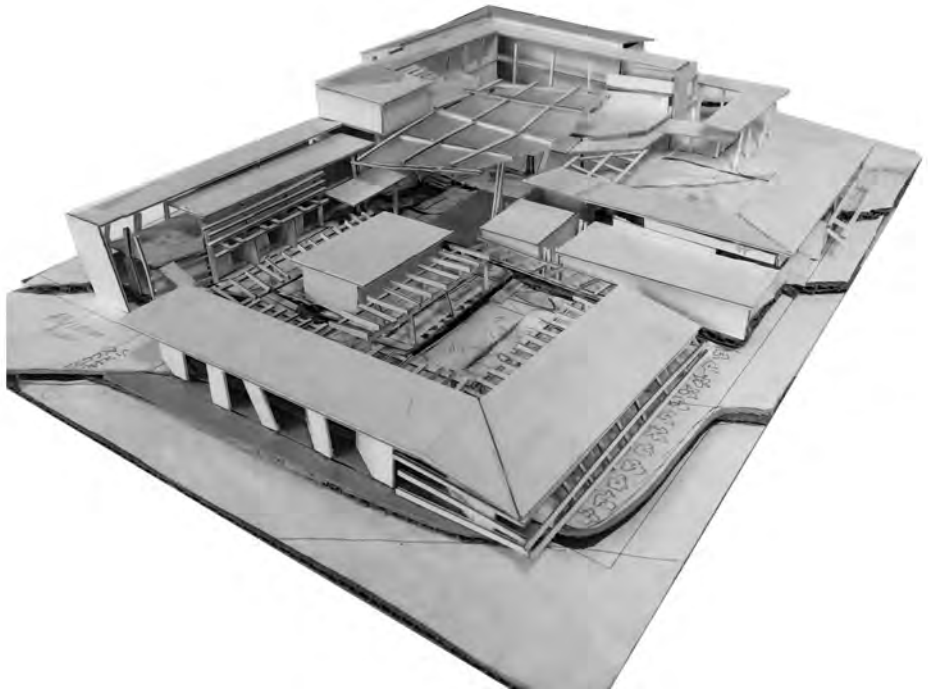
These sketches were then tested through a phased model exploration process whereby each facade was developed and explored and then tested against the design as a whole. This process proved to be a turning point in the design and was the first attempt at defining an appropriate language for such a context.

The result of the design process at this stage was then presented to a number of external examiners during the June evaluation.

Figure 59. Facade development process through model explorations (Author 2016).

Figure 60. Elevations developed for the mid year June evaluation(Author 2016).



4.3.5 MID-YEAR REVIEW DESIGN EVALUATION

The comments made during the June mid-year review concluded that whilst the planning of the circulation and flow of spaces throughout the design was seemingly well arranged, the resulting facade design lended itself to a more institutional personality than what the argument of the design was attempting to portray. The advice given during this session recommended further exploration into the possibilities that materiality, textures, wall thicknesses, light exploration etc. may contribute to the design in order to overcome this institutional feel and promote a more positive mental and emotional health care facility experience. This advice was taken forward into the second semester and was intended to be explored together with research conducted into sustainability and technification of the design. Specifically the role that materiality, structure, textures and transparency may play in the role of controlling the quality of interior environments within the facility.

Figure 61. Model presented for the mid year June evaluation(Author 2016).