

UNIVERSITY OF KWA ZULU NATAL

**INVESTIGATING HOLISTIC HEALTH AND WELLNESS AND ITS  
RELATIONSHIP TO ARCHITECTURE: A PROPOSED  
INTEGRATED TRAINING FACILITY FOR THE SAPS IN DURBAN,  
KWAZULU NATAL.**

By

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A dissertation submitted in partial fulfilment of the requirements for the degree of

MASTER OF ARCHITECTURE

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## **DECLARATION**

A Dissertation submitted in partial fulfilment of the requirements for the degree of Master of Architecture.

I hereby declare that this dissertation is my own unaided work. All citations, references and borrowed ideas have been appropriately acknowledged. It is being submitted to the School of Built Environment and Development Studies, University of KwaZulu-Natal, Durban, for the degree of Master's in Architecture, and has not been submitted before for any degree or examination at any other University.

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Signed by Alisha Moodley

On 22 November 2019

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This success is ours.

## **ABSTRACT**

Safety is a crucial aspect of any city's perception. Peoples interaction with the city is directly dependant on their level of security within that environment. South Africa relies on the South African Police Service for safety.

Prior to 1994 elections, the South African Police were answerable only to those in power, beginning the culture of police brutality as well as not holding the force accountable for their actions. The SAPS have since aimed to serve and protect the community. This transition saw increased numbers of police officers appointed with less regard for the standard. The resultant is older and newer members having completely different training, now expected to work in the line of duty seamlessly.

Police service lifestyle is physically and emotionally challenging. The job often leads to exposure to many troubling and violent situations. Many Police officers experience stress, anxiety and depression which can result in them resorting to a plethora of unhealthy coping mechanisms which can result in violent outbursts or even suicide (Wassermann, 2016).

The negative police image creates doubt on the Police Force's ability to keep people safe. People then lose faith in their Police force which leads to public feeling unsafe as well as increasing criminal disregard for the law.

The training facilities and the police stations are often simple face brick building with fortified characteristic relying on mechanical lighting and ventilation at the detriment of the officer's wellbeing. They appear cold, clinical buildings that don't facilitate a positive mental outlook. The facilities are symbolically representative of the old Police force.

The mind body and spirit act as one. Keeping the physical body comfortable in its environment allows the mind and spirit to be comfortable too. For SAPS to function well as a cohesive unit, they need to live well individually and to fill the gaps in their training. It is necessary to rehabilitate officers who are already in the line of duty.

The re-training facility should be aimed at holistically strengthening individual members to promote better work performance. Building a professional and capable SAPS is the basis of achieving goals set out for their improvement.

The aim is to use a multidisciplinary approach to investigate holistic wellness and its relationship to architecture in order to create an integrated training facility for the South African Police Service. A literature review, case studies, precedents, interviews and questionnaires cover the bases of various aspect of the research by studying relevant people or spaces respectively, achieving a holistic consensus regarding the various approaches toward training, mental and physical wellness.

Emphasis will be placed on creating a multisensory architectural approach to mental and physical wellbeing in order to combat the negative effects of their work environments such as phenomenologically inadequate police stations. The facility will combine a medical and non-medical approach to improve mental and physical wellness thus training and retraining police officers to strengthen the force.

Key words: SAPS, Training, mental, physical, wellness, symbolism, sensory

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# 1. Chapter One: background research

## 1.1 Introduction

### 1.1.1 Background of the study

Safety is one of the fundamental aspects of a city's lure. The individual's relationship with the public space is directly dependant on their level of security within that environment. Public spaces that have a high level of surveillance are frequented (Garvin, 2016: 40). Likewise, on a broader scale, cities that have low crime rates or high conviction rates are preferable.

*“A safe and secure environment does not only benefit basic activities such as education, health care and social development, but also promotes international investment and tourism, which benefits the country as a whole.”* (Saps.gov.za, n.d.).

In South Africa, we are dependent on the South African Police Service (SAPS) for crime prevention and ensuring a sense of safety for all residents. Prior to the 1994 elections, the South African Police were answerable only to those in power. This instilled the culture of police brutality, as well as not holding the force accountable for their actions. However, the South African Police Service has aimed since to serve as an organ of protection for the community.

The Police service lifestyle is mentally and physically challenging due exposure to many emotionally troubling and violent situations. Many Police officers experience stress, anxiety and depression which can result in them resorting to a plethora of unhealthy coping mechanisms. The dysfunctional habits can result in violent outbursts or even suicide (Wassermann, 2016).

There have been several incidents in which the members of the Police force are associated with crimes including association with criminals, fraud or even domestic abuse. At present, there is an increased number of cases of police brutality in South Africa. *“More than 5 500 cases of police criminal offences are reported every year. Of these numbers, according to the Independent Police Investigative Directorate (IPID) Annual Report Statistics, more than 3 500 cases of torture and assault (police brutality) were reported”* (Independent Police Investigative Directorate, 2015).

Over the years, generals and those in high authority have been found to be incompetent or corrupt while the *“important crime intelligence unit of the SAPS has been reduced to Zuma’s political bodyguards”* (Du Preez, 2017).

This, in turn, creates a shadow of doubt on the Police Force’s ability to keep people safe which should be the primary focus of the SAPS. The Policemen seem to be struggling internally as they are not upholding the law which is what they initially devoted their lives to. One can understand this drastic change would be cause for concern. People of the city then lose faith in their Police force which leads to increasing criminal disregard for the law and the public feeling unsafe.

The image and demeanour of the Police force, as well as their interaction with the public skew the public perception. The declining rates of reporting crimes like rape and assault over the past decade illustrate the deteriorating negative perception of the members of the SAPS (Newham, 2018).

The majority of officers aren’t always in the peak physical condition, so they aren’t being associated with icons of safety and law enforcement. The same can be said for the buildings that represent the police force. They are generically designed for shelter and control with complete disregard for environmental, phenomenological or social factors resulting in undesirable working conditions and poor productivity.

The training facilities and the police stations are designed to be low maintenance and have little identity or character being only recognizable by signage. They are often simple face brick building with fortified characteristic relying on mechanical lighting and ventilation at the detriment of the officer’s wellbeing. They appear cold, almost clinical buildings that don’t facilitate a good mental outlook. In addition, it is symbolically representative of the old Police force.

### 1.1.2 Motivation of the study

The transformation of the SAP into the SAPS included changes to the uniform and organizational structure however, no changes to the training facilities were made despite the number of recruits doubling and training programme halved. The inadequate and now reduced training is the root of the problem as officers are trained differently causing incoherence in the unit.

Building a professional and capable SAPS is the basis of achieving goals set out for their improvement (Saps.gov.za, n.d.). The SAPS tried to tackle mental and physical issues of existing officers by implementing a 'wellness indaba'. This saw some recognition for mental and physical health however it was limited to an event with various practitioners made available for appointments at a later stage.

The relationship between mind, body and spirit are inseparable (Seaward, 2013: 28). Psychoneuroimmunology (PNI) explains the connections that transpire between the endocrine, neurological, and immune systems. PNI identifies the direct links between psychological distress and illness (Lovas, 2016).

Integrative medicine concerns itself with the complete spectrum of physical, emotional, mental, social, spiritual and environmental influences that affect a person's health (Duke Integrative Medicine, 2019). Therefore, by ensuring the physical body is comfortable in the environment within which it exists, one inevitably finds the mind and spirit to exist comfortably too.

"We shape our buildings, and afterwards, our buildings shape us." – Winston Churchill.

Architecture is a tool for creating space, therefore, the most basic approach would be shelter, more specifically, addressing the shortfall of the wellness indaba and designing space for these activities.

The problem can be solved architecturally by creating a designated place dedicated to the officer's wellbeing, available without fear of job loss or stigmatisation allowing for a journey of mental and physical wellness by taking the individual out of their direct setting and providing a more conducive one.

In the Research paper, Solitude as an Approach to Affective Self-Regulation, it revealed that solitude makes people less angry or anxious in addition to making them more relaxed (Nguyen, Ryan and Deci, 2017).

The new buildings for training, like the uniform, should represent the new symbolism of the SAPS. It is important that a training and continuous development facility be thought of as a learning space. Studies have shown that nature activities have a significant improvement on mood and self-esteem (Barton, Griffin and Pretty, 2012).

Through anthropocentric architectural intervention, combining the medical and natural approach will provide a holistic care model that engages the complete spectrum of an individual's being, inclusive of; exercise, diet, mental state and attitude, being connected to himself, his surroundings and his Higher self to promote the image, perfection and performance of the SAPS.

The integrated treatment facility will include a range of specialists including Psychologists, Psychiatrists, Occupational therapists as well as include a range of natural methods of coping with stress and trauma. The programmes will engage officers of varied ranks including new and current officers thus strengthening the force. By including training policemen as well as those who have been part of the line of duty it will create a positive mix as they learn and benefit from each other.

Emphasis will be placed on creating a multisensory architectural approach to mental and physical wellbeing in order to combat the negative effects of their work environments such as phenomenologically inadequate police stations. The facility will combine a medical and non-medical approach to improve mental and physical wellness thus training and retraining police officers to strengthen the force.

## 1.2 Definition of the problem, Aims and Objectives

### 1.2.1 Definition of the problem

The World Internal Security and Police Index is based on an evaluation of four main categories which address the capacity, process, legitimacy and outcomes of a security and police force. South Africa ranked 89th out of the 127 nations covered. It is, thus, the 39th worst police force globally.

South Africa is one of the world's most unsafe countries. Personal safety ranks at the same levels of actual war-torn countries. The country had middling scores across all categories but while it performed best for its capacity with a police force just under 200,000 officers, it also ranked worst for its legitimacy. (Businesstech.co.za, 2019)

The SAPS are not representative of a protective entity. They are often seen as enforcers rather than protectors, yet some fail to uphold the law and are involved with crimes (Independent Police Investigative Directorate, 2015). The poor image, perception and performance of the police force affects communities by creating a sense of fear and distrust.

The buildings and environments which they are exposed to have a negative effect on their performance. The current training facilities such as police stations and training facilities do not cater to the established officers and do not pay attention to design considerations specifically to aid human wellbeing and learning. The training facilities and the police stations are simple brick buildings that have little identity or character being only recognisable by signage. They are not designed for work or a particular purpose. In addition, it is symbolically representative of the old Police force.

The SAPS need to be a unit of mentally and physically healthy individuals equipped with the training to serve their community. Additionally, for SAPS to function well as a cohesive unit, they need to live well individually and to fill the gaps in their training. This dissertation will investigate holistic health and wellness and its relationship to architecture.

Emphasis will be placed on creating a multisensory architectural approach to mental and physical wellbeing in order to combat the negative effects of their work environments such as phenomenologically inadequate police stations to promote the image, perception and performance of the SAPS.

### 1.2.2 Aims

The aim of this research is to use a multidisciplinary approach to investigate holistic wellness and its relationship to architecture in order to create an integrated training facility for the South African Police Service which will combine a medical and non-medical approach to improve mental and physical wellness thus training and retraining police officers to strengthen the force.

### 1.2.3 Objectives

1. To explore the use of symbolism as an empowerment tool to improve the image, perception & performance of the SAPS
2. To investigate what spaces can facilitate wellness and rehabilitation
3. To determine what spaces are used by the Police Force to facilitate training and improvement
4. To explore relevant design strategies required to create holistic healing environments

## 1.2 Setting out the Scope

### 1.3.1 Delimitation

The scope of this research concerns itself with training new recruits and the retraining of existing members of the SAPS. Focus is placed on using medical and non-medical or natural means to address mental and physical wellness. Rather than using spirituality, it will use nature to connect to the users in a naturalistic approach. Light, colour, texture and nature will be extensively analysed as factors of multisensory design. The design philosophies will be geared toward human-centred design in a response to the static, cold and clinical buildings for the police force. Although the same approach would be relevant to other fields of public service-related work, for the purpose of this research, it will be limited to the South African Police Service to ensure the resultant facility is appropriately designed and considerate of time constraints.

### 1.3.2 Definition of terms

Integrated Treatment: In this context, it refers to the integration of medical and non-medical or natural approaches to achieving mental and physical wellness.

Multi-sensory: Engaging all the senses through stimulated experience. In this context, it will refer to a phenomenological approach inclusive of nature and various architectural interventions.

SAPS: South African Police Service

Wellness: a dynamic progression involving holistic change and growth in an individual's awareness and decision making aimed at a healthy and rewarding life. Wellness goes beyond the lack of illness. Preserving an optimum standard of wellness is vital to achieving a higher quality of life. In this context, it refers to the mental, physical and holistic sense of being and health.



### 1.3.3 Stating the assumptions

It is assumed that training is not entirely conducive to preparation of the police lifestyle and by creating a system of continuous development it would aid in the wellbeing of members of the SAPS throughout their service to allow them to perform their duties effectively.

### 1.3.4 Key Questions

1. How can symbolism be used to improve the Public and self-Perception as well as the performance of the police force?
2. How can health care and naturalistic approaches be integrated to facilitate wellness and rehabilitation for the SAPS?
3. What spaces are conducive to police training?
4. What are the relevant design strategies employed in creating holistic healing environments for police?

### 1.3.5 Hypothesis

Using a multidisciplinary approach in order to create an integrated training facility will enable new and existing officers to live well and work well together in the line of duty to promote the image, perception and performance of the SAPS. Combining medical and natural approaches to improve mental and physical wellness will be beneficial in training and retraining police officers to strengthen the force.

#### 1.4 Research Methodology

*‘If it is difficult to quantify aesthetics, it is utterly impossible to quantify the experience of being in a great space’* (Goldberger, 2011: 114)

To achieve the aims of this study, qualitative research will be undertaken. A qualitative approach is essential to understand the qualities of spaces as it requires observation. (Kothari, 2014: 2) The observations will be conducted in an unbiased manner.

Observation involves recording exactly what is perceived through the senses. To avoid bias, research analysed will be without personal interpretation. Observation Protocol will be used to remove bias by separating observations and interpretations in data collection.

The observations will include that of architectural elements which enclose the space as well as characteristics which affect the quality of space such as; materiality, texture, light, colour and connection to nature.

The collection of primary data will include interviews of professionals to achieve a holistic consensus regarding the various approaches toward mental and physical wellness. The interviewees will be assured of their anonymity to allow honesty and accuracy in their responses. To ensure the questions are answered accurately, they will be unambiguous to avoid misunderstandings.

Secondary sources of data will be collected from various theorists during a literature review. The theories covered will be; self-determination theory, semiology and phenomenology. The theories provide an adequate basis from the social to architectural issues. The data will then be critically analysed and interpreted for action correlating with the research objectives.

Precedents and Case studies will be analysed with intent to achieve the research objectives. These will be selected to analyse the success of existing facilities and determine any factors necessary for improvement.

### Instruments:

The Case Study will allow the researcher to experience the facility and comment based on observations from a first-hand experience. The researcher will visit the Case Study and attend a class in order to fully immerse in the experience of the built intervention.

Participant observation occurs when the researcher is a member of the observable setting in which they intend to collect data. Semi Structured observation will allow for flexible research rather than an imposition of predisposed frames of reference.

The observation on architectural form and space will also be inclusive of a one-hour class within the facility as well as a self-guided walk around the complex. The data from the observation will be recorded pictorially and through field notes.

The Precedents will allow analysis of a facilities which is inaccessible to the researcher. The precedents are especially significant to the scope of this research due to the lack of a local operational facility of a similar use. While not being observed, it will be analysed through the use of plans, sections, photographic and literary sources.

Spatial mapping of the proposed site will determine accessibility and facilities around the chosen site. This will include sensory walks.

### 1.5 Conclusion

It is imperative that the proposed training facility cater to the mental and physical wellbeing of the SAPS through integration of natural and medical approaches in order to enhance the image, perception and performance of the SAPS.

Since the facility will be exclusive in its use to police officers, Understanding the user's history and factors which influence their behaviour and motivation becomes an integral component of the design. The experience is crucial in that the facility's success will lie in its ability to detach the user from their setting but train them for the environment which they will return to.

## 2. Chapter Two: Self Determination theory to promote training and wellness

### 2.1 Introduction

Self Determination Theory, referred to as *SDT*, is a theory of human behaviour, motivation and personality development. It explores the manner in which an individual's capacity for psychological growth, wellness and engagement are helped or hindered by biological, social and cultural conditions (Ryan and Deci, 2018: 3).

The theory was developed by Edward Deci, a professor at the University of Rochester, and Richard Ryan, a clinical psychologist and Professor at the Australian Catholic University.

In psychology, self-determination is an important concept that concerns itself with two basic types of a person's motivation, being internal and external. This theory links personality, human motivation and optimal functioning (Ackerman, 2018).

SDT proposes that individuals are often motivated by an inherent need to grow and gain self-actualization (Cherry, 2018). The theory covers two basic types of motivation as well as factors thereof. Essentially, it denotes an individual's ability to exercise control over their own life through the freedom of decision making. This ability plays an important role in psychological health and well-being.

The constant of the research is the individual. As outlined, the problem lies in the Police force being unmotivated and not performing their duties properly. This affects the community as they don't trust their protectors.

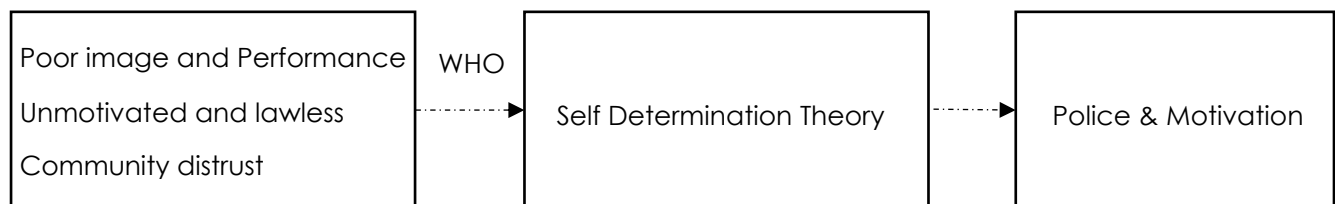


Figure 1: Maslow's Hierarchy of Need (McLeod, 2018)

In Maslow's Hierarchy of needs, the pyramids base, to be understood as the beginning, concerns itself with the most fundamental physiological needs of the individual. It then progresses to the increasingly complex social needs.

The physiological needs are starting point and thus the basis of the architectural innovation, yet the other facets should be considered in parallel when understanding the needs of the user.

SDT is an important point of departure in understanding what makes people do what they do and by extension, how to use these factors for motivation. Since members of the SAPS are involved in crimes or not upholding the lawfully as they should, it is significant to explore why the change in motivation happens and how to ensure it is restarted. SDT is essential to understand how to motivate and train the police in order to promote their image, perception and performance.



*Figure 2: Relationship of research problems and Self-determination theory (Author, 2019)*

## 2.2 Self-determination theory for physiological growth

Self-determination theory states that individuals are required to satisfy their need for competence, relatedness and autonomy to attain an optimal level of psychological growth and development. Deci and Ryan propose that individuals become self-determined when they experience these three factors. Within the theory of SDT, needs are nutrients which are imperative for growth, integrity and well-being (Ryan and Deci, 2018: 10).

Firstly, an individual's need for autonomy relates to the need to be the instigator of one's actions. People need to feel free to exert charge over their own lives rather than stifled and made to conform. Autonomy can be assisted by avoiding micromanaging (Caldwell, 2018). This relating conceptually to self-efficacy in social cognitive theory.

Secondly, Competence includes an individual's need to be capable in order to accomplish tasks and attain favorable results. To capitalize on this, it is best to ensure that people are in their correct role and competently trained. People generally feel unhappy or dissatisfied when they are unable or experience difficulty in performing tasks that they find important or enjoyable.

Thirdly, relatedness reflects an individual's need to feel understood. Individuals require the feelings of a sense of belonging, connection and attachment.

These three factors empower an individual's intrinsic motivation; thus, they aspire to pursue the things of their own interest. It can be said that meeting these three needs allows people to grow and function optimally. This can be thought of in the way athletes feel internally motivated by passion, so it causes them to keep physically fit and externally motivated by fans cheering them on.

The initial assumption of the Self Determination Theory is regarding the inherently directed towards growth. Mastering challenges and embarking on new experiences are vital for the formation of a cohesive sense of self. Self-determination theory's primary focus is on internal motivating factors such as a need to acquire knowledge which is defined as intrinsic motivation.

Following the writings of Deci and Ryan, Professor Shlomo Ben-Hur discusses the need to foster Autonomy, relatedness and competence for sustained behavioural change. In his writing, it is elaborated that the ingredients for intrinsic motivation are to create autonomy, emphasize mastery and to create connections like relationships, (Ben-Hur and Kinley, 2016)

## 2.3 Intrinsic and Extrinsic Motivation

Self-Determination Theory covers the interaction between the extrinsic forces which act on the individuals, their own intrinsic motives and inherent requirements for survival or wellbeing. (Selfdeterminationtheory.org, 2019).

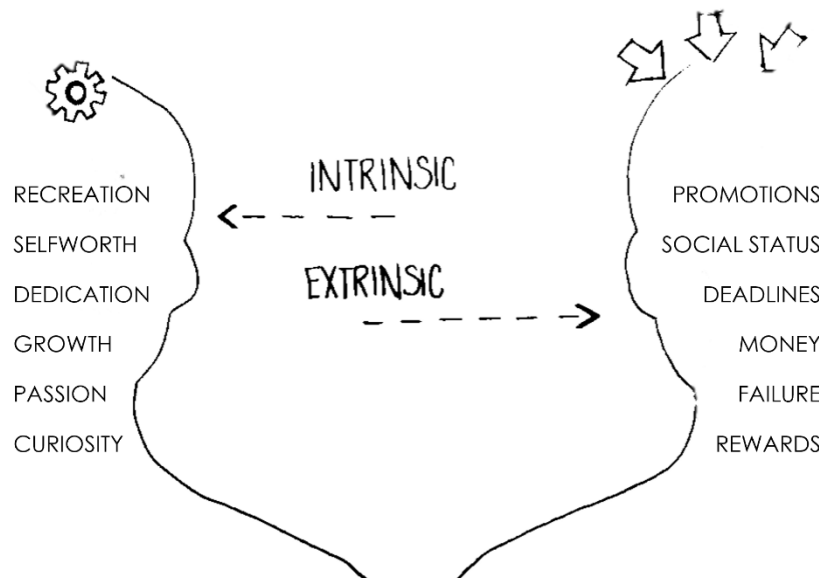


Figure 3: Intrinsic vs Extrinsic motivating factors (Author, 2019)

The most basic understanding of intrinsic motivation theory is the basic human needs and drives. (Santos-Longhurst, 2019) Intrinsic motivation can be explained as the pursuit of an activity due to its inherent interest. This type of motivation stems from engaging in activities one would find interesting, challenging or internally rewarding.

Intrinsic motivation comes from the completion of tasks that the individual associate with being enjoyable, so it is not viewed as a chore. These intrinsic motivators arise internally and can sustain passions or interests unique to each person. These activities can be fulfilling through self-satisfaction and don't necessarily need to result in external reward.

Internal motivation can be the self-driven desire to complete a task like reading a book, simply because that's enjoyable to the individual. In contrast, one is more likely to read an examination book with the intention of getting a good grade, an external motivating factor.

Autonomous motivation includes that which stems from internal sources and from extrinsic sources if the individual has identified with an activity's value and sees it parallel with their sense of self. Ryan and Deci state that autonomous or controlled types of motivation are hypothetical concepts which reflect and individuals psychological undertaking (Ryan and Deci, 2018: 15)



Extrinsic motivation can stem from the reward of completing a task or the fear of repercussions following the task not being completed (Caldwell, 2018). External motivating factors include reward systems, grading or fear of how others see them. Intrinsic rewards are often intangible while extrinsic rewards are often tangible. Similarly, Extrinsic motivation can have intrinsic or extrinsic rewards.

Considering police work, the successful apprehension of criminals would be intrinsic in that it is self-satisfactory. The associated job benefits such as increased rank would be external motivating factors.

Kendra Cherry, Author and Psychology educator, discusses the differences between intrinsic motivation and extrinsic motivation. Cherry also states that external rewards can be advantageous to a situation as they can motivate a person's behavior to allow them to complete activities, they may not find enjoyable. Once the person has received the rewards, they become conditioned to associate this activity positively. In this sense, they may be more intrinsically inclined to pursue the activity.

Cherry also enlightens that it is counterproductive to reward behaviors or activities that are already of interest. In some situations, it can forge the association of a reward with this activity which may, in turn, make it seem obligatory. If the rewards are unexpected then they will still promote the intrinsic desire for the task. (Cherry, 2018).

SDT has also addressed the role of values and aspirations in goal pursuits. Author and researcher Ackerman's aspirations and goals are what one would use to guide their own behavior. They are, however, considered learned desires as opposed to the basic needs being autonomy, relatedness and competence. (Ackerman, 2019).

Simply understood this would be how different individuals' views weight loss or conversely bodybuilding. Despite these two being complete opposite outcomes, either one is desirable to the respective individual. Thus, with their goal in mind, each individual follows certain diets, fitness regimes in pursuit of their goal.

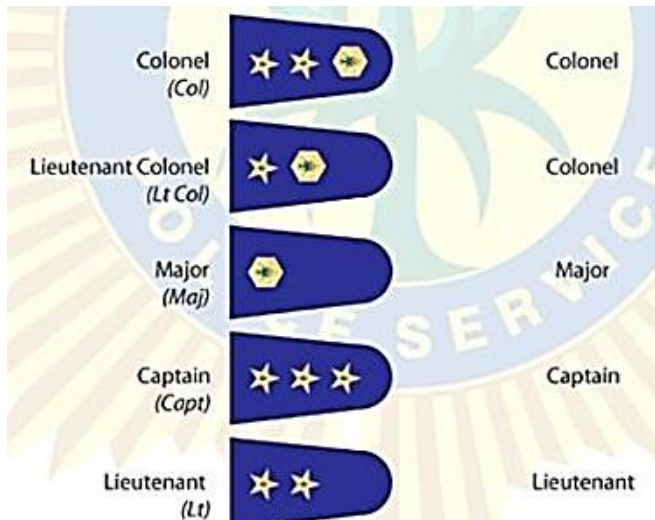


Figure 4: Commissioned Officers ([www.saps.gov.za](http://www.saps.gov.za))

Similarly, the organizational structure of rank in the police force has an associated prestige and meaning. It can be thought of as an aspirational which would require certain characteristics to achieve. This would provide a behavioral guide in order to achieve this goal. Understandably this would be a learnt behavior as the ranking system is not inherent but rather understood as an achievement.

Intrinsic aspirations reflect goals that are more internal to the self and include meaningful relationships, personal growth, community contributions, and health. Research on aspirations within the SDT framework has focused largely on the extent to which people value intrinsic relative to extrinsic aspirations.

Placing a stronger emphasis on intrinsic aspirations has been associated with a variety of positive outcomes including greater autonomy and vitality. This provides the basis for a spiritual approach which aids people to become closer to their sense of self. It illustrates the importance behavioral guides based on moral and job satisfaction of each member of the police force. Essentially, the individuals of the police force need to feel positively about their job in order to maintain a high level of work performance.

In contrast, when individuals place primary emphasis on extrinsic aspirations, they show lower levels of autonomy and relatedness as well as poorer physical and mental well-being and greater health risk behaviors.

In this context, it can be understood that officers which are motivated solely by external factors such as money or status are likely to also be tempted toward corruption or criminal activity. It is important for the SAPS to serve the public and not use their status to manipulate or intimidate.

"Internalization" is the term used to define the process of behaviours becoming comparatively more autonomously regulated over a period of time. Autonomous self-regulation is imperative component for achieving healthy behaviour. An increase in the individual's autonomous

regulation toward a given behaviour results in more effort, engagement, and stability shown towards the behaviour. The understanding one can draw is that people want to see an outcome or result from their progress.

Understanding these factors of motivation provide a solution to tasks which seem unenjoyable. One must intentionally seek autonomy, relatedness and competence. For tasks which seem unpleasant, in the context of Police Work, this could suggest reward-based motivation would be necessary to complete tasks which seem unenjoyable. Since SDT is a behavioural theory, it stands to reason that the individuals would respond differently to various tasks.

## 2.4 Eudaimonia and self-determined individuals

Ultimately, as previously stated, the best approach would be to enhance and utilize the intrinsic motivation of individuals. In the context of this research, it stands to reason that the members of the SAPS should be intrinsically motivated as they should be passionate about law enforcement and their line of work. Job satisfaction, pride and positive public relationships should keep them motivated.

For police officers to achieve optimal performance, they need to live well and be healthy mentally and physically. Wellbeing is essential, especially in the context of police work as reasoning, relationships and decision making are exceptionally important for their performance.

Ackerman (2018) describes a self-determined individual as possessing the following traits:

- In control of their own life
- Able to take responsibility for their behavior
- Is self-motivated rather than externally motivated
- Describes their actions based on personal values and morals

In the Context of Police officers, this motivates for a holistic approach to wellness. The individual needs to be mentally and physically well to perform well and thus improve their image, public interactions and ultimately public perception which would reestablish positive symbiotic relationships.

Ackerman goes on to explain that self-determined individuals would place more importance on the activity they chose to pursue because it is aligned with their morals rather than its prestige. (Ackerman, 2018) As previously established, the intrinsic factors aligning with morals are important to establish to avoid temptation toward corruption or association with criminal activity.

It becomes essential to instill or restore the morals of the individuals by ensuring they are self-motivated. In the Police context, individuals need to, themselves be law abiding in order to affectively uphold the law.

Eudaimonia is made up of two Greek words;

Eu: meaning Good and Daimon: relating to self or soul (Philosophy Terms, 2019).

In the article '*Living well: a self-determination theory perspective on eudaimonia*', the hedonic and eudemonic approaches to wellness are differentiated. The former relates to the outcomes of happiness whereas the latter focuses on the outcomes of living well. Eudaimonia is more than a feeling, it is a state of being (Ryan, Huta and Deci, 2008).

Happiness	Eudaimonia
Emotion	State of being
Temporary	Ongoing
Measured by pleasure	Measured by excellence
Achievable by immoral means	Only achieved by moral living
Connected with luck	Connected with effort

Figure 6: Happiness Vs Eudaimonia (Philosophy Terms, 2019)

Essentially, Living well is constantly striving for what is truly worthwhile as it is of what is intrinsic. Happiness can come from simple pleasures and even possible to achieve through negative actions.

Eudaimonia as a concept also supports the intrinsic rewards the individual can obtain that is associated with the excellence resulting from their efforts. Eudaimonia and the association of morals, once again, illustrate the significance of intrinsic reward of Police lifestyle. Living well will ensure the internal change in the individuals which needs to be simultaneously introduced with the external image.

## 2.5 Conclusion

The article entitled *The Role of Self-Determination in Mental Health Recovery* reiterates the connection between self-determination and the ability to make decisions as well as self-confidence (Piltch, 2016). Understandably, a lack of confidence creates uncertainties which diminishes decision making abilities. Poor decision making hinders one's self-confidence thus worsening feelings of incompetence.

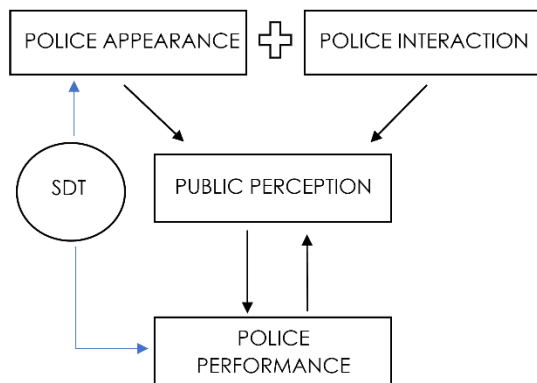


Figure 7: SDT for Police Image and performance  
(Author, 2019)

These feelings cause a poor self-perception. Individuals that do not view themselves in a positive light are unlikely to portray a good image. Specifically, to police, it is detrimental to have poor self-perception as the line of duty requires a level of authority, which would be challenging if the individual themselves lack the confidence.

SDT highlights the importance of enhancing intrinsic motivation but also expresses a correlating understanding of reward based extrinsic motivation. In this context, the protective nature and job satisfaction need to be intrinsically significant to all the SAPS while the prestige or rewards should motivate extrinsically.

Eudaimonia, as a state of being, is a pinnacle concept of holistic wellness. For the members of the SAPS to be fulfilled, they need to be living well in all aspects. This is substantiated through the approach of medical and natural holistic wellness. Eudaimonia also supports the input of effort to achieve excellence with associated morals which avoids any temptation towards illegal activities.

Considering the presence of the SAPS and the existing public perception, it stands to reason that their image and persona need to be reestablished in order to improve how the SAPS performs and how the public sees them. A good police image, performance and perception is required to promote positive symbiotic relationships between the SAPS and public. It is important to understand the symbolism of the SAPS and how to reintroduce the SAPS symbolically as protectors of the community.

### **3. Chapter Three: Semiology and its effect on the SAPS**

#### **3.1 Introduction**

Semiology is the theory of the production and interpretation of meaning as displayed by signs. Semiology is useful to determine what things mean to people.

Charles W Morris, the American philosopher and semiotician, states that people are the interpreter of signs. Signs have interpretative factors that signify. The first being designative which directs the interpreter to an object. The second, appraisal which highlights the qualities of the object allowing evaluation. The prescriptive aspect directs specific Responses. Oregonstate.edu, n.d.)

In the 1960s, Roland Barthes expanded on the theory of semiotics by linking semiotics to any system of signs regardless of the context. Roland Barthes was one of the 20<sup>th</sup> centuries major cultural theorists (Robinson, 2011). Semiology is useful to understand perception-based meaning across a range of fields.

Many events which occur are merely observed by humans. Events which we observe fall into a dyadic model. Events which involve perception such as viewing art, fall into a triadic model as it involves the viewers' perception rather than merely just the action of it occurring (Ransom, 1991).

Richard Nordquist, writer and English Professor discusses how Semiotics can be verbal or nonverbal. Nordquist uses examples that are globally understood such as traffic lights and emojis (Nordquist, 2018). The nonverbal examples explain how one perceives architecture and built form. Certain elements of the building are indicative of its usage. With regard to Police facilities, they are often characterised as fortified with only signage denoting their use.

Semiology is useful in this context to understand human interpretation. It will also establish how design strategies will convey meaning in the built structure to influence various mental states through perception. Since everybody perceives differently, no two people will view a building the same way. It then becomes the work of the architect to search for elements which evoke similar reactions which can then be implemented in the design.

Symbolism is closely related to semiology. Symbolism is a visual representation of the intangible expression thus relevant in the context of the built environment. Icons have a physical resemblance to the signified while a symbol has a learnt relation or association. Symbols are harder to define than signs or signals as they are rooted in the observers continuing the perception of the world.



Figure 8: Warning sign  
(Author, 2019)

Symbols have a powerful influence. For instance, a danger sign can be understood in its visual depiction to a vast range of people across language barriers. This symbol is widely understood as denoting danger which evokes fear. Similarly, it is interesting to consider the flashing blue lights and police siren are also perceived as danger in that it too evokes fear.

Symbolism becomes a useful tool for influencing perception. There exists a global set of normal that are generally adopted. Despite using Rands as currency, in South Africa we still associate a dollar sign as indicative of money. The same can be said for the ideal view of Police officers. Movies and media have portrayed a set of physical ideals.

In the book, *Meaning in Architecture*, it is stated that every act, object and statement that man perceives is meaningful even if it is nothing. This point justifies semiology in that everything has meaning so one either becomes aware of how this meaning technically works or follow one's intuition. In addition, it is stated that meaning is always momentarily, in a state of collapse or paradox. (Mambrol, 2016)

In terms of identity, restoring the meaning behind the police insignia is key for the community and member of the SAPS. In addition, with regard to training, it is beneficial to establish what certain symbols mean and condition how they affect individuals to control how they respond in the line of duty. When confronted with weapons, this should be symbolically similar to the warning sign and evoke an appropriate reaction of protection rather than retaliation. A quick response is imperative to control the situation, the wrong response could be harmful to public safety.

Similarly, it can be understood that to rectify the negative working environment of the police stations, these elements could be separated and taken into a different context to alter how they could be perceived changing the resultant reaction. For example, by reinforcing productivity in the calm nature of the dark and cold spaces during training, it would evoke a similar reaction in the dark, dimly lit police stations or environments they may encounter in the line of duty.



Altering the Perception of the space will alter the reaction toward it and thus the work performance. Positive associations of similar environments would aid the members demeanour thus their productivity. A conformable and in control officer can be empathetic when dealing with people in distress who come to report crimes. The police would deal better with the public and thus slowly build a new foundation of trust for the community to promote their symbiotic relationship.



*Figure 9: Relationship of research problems and Semiology (Author, 2019)*

### 3.2 The history of symbolism of the police

In 1994, following President Nelson Mandela's election as the first President of the new South Africa, South Africa became an internationally accepted democracy, thus dissipating the "apartheid" era.

Prior to the 1994 elections, the South African Police were answerable only to those in power. This began the culture of police brutality as well as not holding the force accountable for their actions. However, the South African Police Service (SAPS) has aimed since to serve as an organ of protection answerable to the community.

*'With the amalgamation of the ten homeland policing agencies and the South African Police in 1994, new uniforms, rank structures and service conditions were introduced under the newly-established South African Police Service' (Saps.gov.za, n.d.).*

This change saw larger numbers of police officers being recruited with less concern for the standard. In turn, creating the problem of older and newer members having completely different training, now expected to work in the line of duty seamlessly.

The SAPS badge is the organisations' identifier. The badge comprises of an eight-pointed gold star. At the centre sits a green aloe with red flowers, within a blue annulet inscribed with the words "South African Police Service" (Saps.gov.za, n.d.)

The sword and staff, with other insignia, is used as a sign of rank in the South African Police Service and is worn by persons having the rank of assistant commissioner and higher. (Saps.gov.za, n.d.)

This insignia is to represent varying levels of symbolism and meaning. The terms of an Act of Parliament give the SAPS the symbol of Power to establish the protection of both the state and its' people. Similarly, it is set to symbolize authority, Lawfulness, legality, righteousness, a position of rank and leadership, humility with authority and power and partnership with the law.

One key point that is understood is that symbols can be universal but can also mean different things to other people. While everyone may react to the danger symbol the same way, it is not the same with the police badge or representative flashing lights.

Onishi, Foreign correspondent for the times, discusses Post-apartheid policing. Onishi acknowledges the lengths South Africa went to in order to overcome the racial separation however the writer also mentions that “*corruption, poverty and the continued use of deadly force*” are adding to distrust and division between the police and community. (Onishi, 2016)

Elaborating on this Onishi writes that South Africa is more dangerous than the United States despite it having a smaller population. Estimates reveal that there are higher rates of South African officers killed than their American counterparts. Similarly, the South Africans citizens are subject to higher murder rates by their Police Force.

The police can be seen as enforcers of the law or as protectors of the community. It is important to establish both meanings to both police and the community. It is essential to create community safety and trust but dissipate the misuse of power and control.

Mkhize Notes that the SAPS are ‘*on a drive to improve its image and professionalism*’ (Mkhize, 2014)

*“The academy needs to create a police service that is steeped in the values enshrined in our Constitution, that is ready to serve the citizens and is able to inspire the confidence of the ordinary person on the street.”* said Minister Mthethwa.

### 3.3 Meaning, Perspective and Perception

Perspective affects and individuals understanding of symbols. (Noyes, 2018). Human minds make associations. Certain images or objects have an attached connotation and evoke a reaction. It is stated that perception, experience and interpretation are inseparable. (Scruton, 1979: 75). It can be understood in the way the icon with a dress denotes a woman and thus can be used to signify that it is a women's bathroom.

Perception	Perspective
The way you think about or understand something. Can be interpreted from five senses.	The way of regarding something from your viewpoint
Can be influenced by past experiences, feelings or thoughts	Can be influenced by the attitude
Can be influenced by Perspective	Looking at things from a new perspective can change your perception

Figure 10: Perception vs perspective (Hasa,2016)

As previously stated, the public perception is skewed due to the image and resultant perception of the SAPS. The idyllic view of police officers is still portrayed by the media as heroic and physically fit. It is a predisposition that often exists in the mindset of the public. Reinventing the image of the force will re-establish community trust and relationships.

The perspective based on its semiology reveals the logic as to why individuals concern themselves with buildings of the past. The dimension of time creates a perceptual distance which separates individuals from historic buildings despite the immediate connection they may have now (Jencks and Baird, 1970: 96).

In the Book, *Meaning in Architecture*, it is explained that the intrinsic theory of meaning illustrates a direct connection between the universe and self. Extrinsic theory then explains the environmental stimuli that convey meaning. It is also said that the amount of meaning is

directly proportional to the lack of expectancy. Essentially, the less the message is expected, the greater its' meaning (Jencks and Baird, 1970: 21).

In the context of meaning in language, this is explained by a subversion of one's expectations in, perhaps, what would follow a cliché. If the outcome is not what was presumed, it alters the meaning more significantly. The same can be said for architecture. A subversion of one's expectation will arouse the senses more so than a predicable space.

The way an individual perceives an object is predetermined by the concepts they have (Jencks and Baird, 1970: 17). Architecture is both social and individual in that the same people can experience the same architecture but have different reactions, as they could with music or painting. The unique quality of architecture is that it imposes a common experience despite the possible differences in judgement. Architecture is a powerful icon as it represents a common experience (Goldberger, 2011: 15)

Pallasmaa states that architecture activates and strengthens our sense of self since the user's experience is unique. (Pallasmaa, 2018). This understanding relates to the perception of each user. Pallasmaa differentiates Perceptions from experiences since they exist only as recordings of stimuli lacking in contextualization, judgement and meaning. (Pallasmaa, 2018).

Generally, exposure to a setting one may not be used to would create dis-ease. By exposing one to the same environment under different circumstances, this could create a new sense of comfort in dealing with such a situation. A sense of familiarity would put one at ease.

An example of this may be subjecting oneself to a dark cold environment which is reminiscent of the police station (i.e. the work environment) but doing it in a situation in which they are calm. Thus, the subject creates a toolbox for dealing with this environment better when exposed to the familiar circumstance.

### 3.4 Semiology and the built environment

In the Book, *Meaning in Architecture*, Jencks and Baird state that the basic concept of semiology of architecture is the idea that “any form in the environment, or sign in language, is motivated, or capable of being motivated.” A new form being invented or simply noticed gives it meaning (Jencks and Baird, 1970: 13).

*‘Architecture is built form in the physical world and must be understood, experienced, and judged by the standards of built form in the physical world.’ -Paul Goldberger, why architecture matters. (Goldberger, 2011: 66).*

This can be understood that anything which exists has meaning. The meaning however, dependant on the interaction and perception of the object to the individual. The physical reality of building makes one think of them initially as objects.

Space can be thought of as both everyday actions and symbols which thus makes Architecture conceivably symbolic technology. It can be said that people impart meaning on their physical environment and then they act upon those meanings (Parker Pearson and Richards, 1997).

This is particularly relevant to consider in the context of this research where there is a need to establish a positive symbolism on the built intervention. By forging a positive meaning, it will evoke the appropriate positive response.

Signs and symbols in architecture are physical representations which denote the buildings function. Architectural signs include the spires which indicate churches or glass walls which are indicative of office blocks (Gawne and Snodin, 2004: 72)

Additionally, in *Architecture and Order*, Umberto Eco describes the manner in which ‘great monuments’ express their iconic nature and evoke the sense of wonder in contrast to how familiar environments are overlooked. (Parker Pearson and Richards, 1997)

Agreeably in the book, *Why Architecture Matters*, it is discussed that Architecture is omnipresent in that it obliges us to stop seeing it. Furthermore, it is explained in that with even the nicest of music as a constant would eventually be tuned out. Every building connects to the way the eye perceives both space and composition. The relationship with a building almost always begins with its visual appearance. (Goldberger, 2011: 68).

It can be understood in terms of associations such as a door means an entrance. Architectural engagement involves the engagement of social, cultural, historic and business factors also as every building serves to house something. Architecture sees buildings as more than “neutral envelopes”, therefore one must understand what goes into the building in order to make the building.

Scruton also mentions that all buildings begin in their vernacular style. They respond to the climate and setting. The modern approach may sway the material choice but ultimately the building is vernacular till the decorative styles are applied. (Scruton, 1979: 17)

Arguments can be made that the first shelters built by savages were inexpressive. The lack of ornamentation can be misconstrued as lack of meaning. However, Broadbent opposes that by explaining that the shelters were actually expressions of ‘protection’ from the external elements. It is further explained that this remains the aim of all buildings, protection from hostility. (Jencks and Baird, 1970)

In addition, Goldberger states that architecture does not exist in isolation for it has a connection to the buildings, lack of buildings and natural surroundings around it. (Goldberger, 2011: 212). Agreeably, Goldberger expresses the importance of the building as well as the surroundings on which it sits.

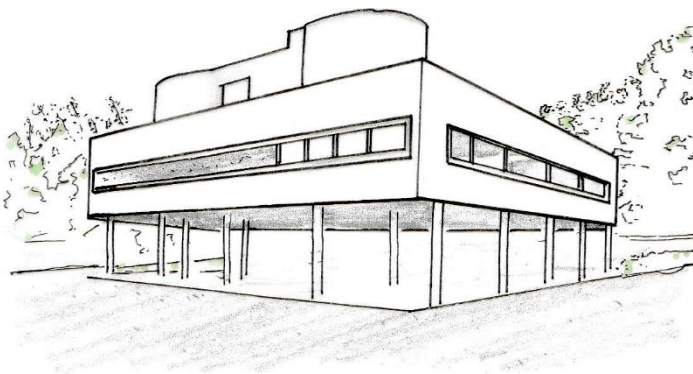


Figure 11: Le Corbusier, Villa Savoye, Poissy, France, 1929 (author, 2019)

This statement can be understood considering Le Corbusier’s Villa Savoye. This building was designed to open to the landscape on all four sides and similarly, the landscape was designed to act as the buildings setting. Thus, neither the building nor the landscape appears the same without the other as both are taking form codependently.

The setting can also be an aid to the design itself. In the case of Falling Waters, the environment serves as the primary inspiration for its composition. In that way similar to Villa Savoye, it also becomes completely tied to its environment so much so that if it were on a different site, it would be a different building.

Considering these statements, the natural environment in which the building sits needs to be carefully considered as part of the overall experience. While it is always necessary to consider how the building will affect the natural environment, it becomes of critical importance to consider the characteristics of the site as it will influence the built intervention.

In *The Aesthetics of Architecture*, Roger Scruton agreeably distinguishes Architecture from other works of art by its highly localised quality. Scruton elaborates how buildings are inseparable from their environments. Unlike the ability of other art which can be reproduced, a building reproduced in a new setting would have dire consequences. Importance is thus placed on creating a sense of place rather than merely designing a building which can be placed anywhere. (Scruton, 1979: 10)

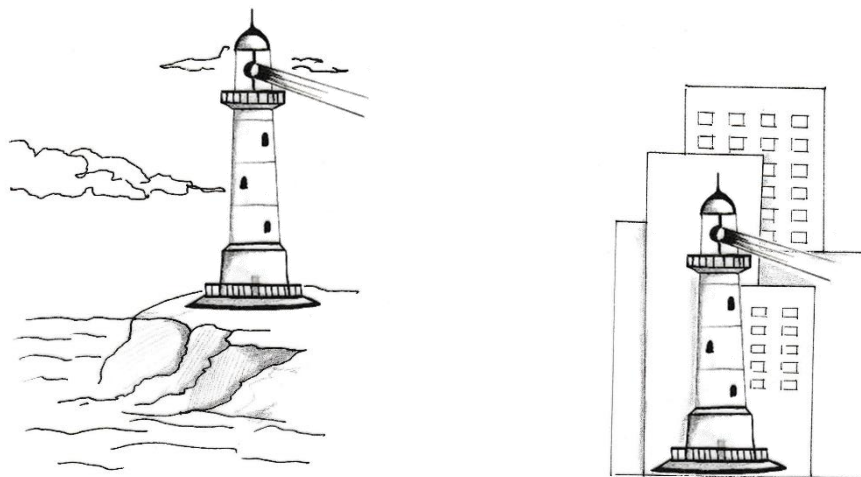


Figure 13: Same Building in different Context (Author, 2019)



Figure 12: Same Art in different Context (Author, 2019)

The above illustration explains how the same painting or art can fit into a number of different environments, the above being an airport waiting area or a bedroom. In addition, it shows how a built intervention would be ill fitted if places in a context it was not designed for. While the lighthouse is the same, its symbolism and meaning is completely removed when it is not in an appropriate context as seen above when its at sea versus in a cityscape.



In the book “the words between the spaces”, the writings of Umberto Eco are recalled in saying that the objects don’t communicate but rather function. It is further explained in the way it could link to their primary use such as a stair for vertical incline or decline or a roof for shelter. Furthermore, in the gothic vertical expressionism which denotes the ‘elevation of the soul towards God’ (Cameron and Markus, 2003).

Similarly, in the book “why architecture matters”, Paul Goldberger discusses a quote by Sir Nikolaus Pevsner that the difference such as “a bicycle shed is a building, Lincoln Cathedral is architecture” (Goldberger, 2011: 2). Goldberger, however, says that both are buildings, and both are architecture. Despite the fact that the cathedral is more complex and there is more to say about it than the cathedral, both buildings shape the environment and evoke certain feelings and emotions.

By interpreting this stance on what differentiates building and architecture, it becomes apparent that the ‘real architecture’ begins when the building goes mere shelter. However, in saying this, it is important to recall that his distinction is not based solely on decoration but goes beyond that. Goldberger mentions the ‘*conscious crafting of space, the deliberate shaping of form, or the juxtaposition of well-considered materials*’ (Goldberger, 2011: 6). This understanding supports that the built form need not be iconic or elaborate to express its Architectural presence.

The purpose of Architecture to provide shelter and in doing so, its physical existence in the world distinguishes it from that which are categorised as art. Nevertheless, in addition, we expect architecture to possess the capability of evoking more feeling than mere practical objects (Goldberger, 2011: 3).

It can be interpreted that architecture has a function as soon as one begins to add features to the block of space which is considered appropriate for the users. In its simplest form, the building in its setting gains its meaning by being functional. The meaning can be enhanced stylistically or by decorative means. The way the space is enclosed is the ‘architecture’.

### 3.5 Conclusion

Public perception plays a role in the performance of the SAPS as their success often relies on positive community relations. The way the public perceive the members of the force is directly related to their perspective. To reinstate a positive symbolism of the SAPS, the public perception needs to be positive and that is reliant on good symbiotic relationships between the SAPS and public.

The fundamental symbolism that characterizes a space are the components which enclose it. The way these elements are designed are the difference between building and architecture. It is also symbolically relevant for the building to express the nature of the activity within.

Thus, to decisively be for the members of the SAPS, the building needs to be designed for use of people and expressive of such. This being a characteristic lacking from the usual buildings for the SAPS.

It would also be largely so influenced by the surroundings in terms of space creation as well as identity. Exploring the perception of such ideas would be beneficial to create healing environments.

Overall, the essence of the architecture needs to be a building set within an environment to which it relates. In addition, the emphasis must be placed both on its physical and non-tangible quality to separate it from mere shelter.

Thus, the conclusion that can be drawn is that when considering current architecture, it becomes imperative to consider the built environment. It also becomes essential that the architecture should be both evoking feelings from the point of appearance and experience. (Goldberger, 2011: 65).

Semiology teaches about the mental understanding and perception of spaces whereas phenomenology concerns itself with the subconscious experiential perception of spaces and built environments. Sonesson argues that that semiotics needs phenomenology and vice-versa (Sonesson, 2015: 43).

## **4. Chapter Four: Phenomenology to heal individuals through the built environment**

### **4.1 Introduction**

Phenomenology is an undertaking of philosophy which, German philosopher, Edmund Husserl initiated circa 1800. Phenomenology can be said to be the study of how humans experience a particular phenomenon from the first-person point of view through sensory stimulation. These phenomena may be objects, people or experiences within a temporal period.

It prioritizes the emotion of the experience an individual experience in the world at large. In relation to architecture, it relates to how we use this understanding to actively evoke different emotions and responses in humans.

When discussing phenomenology, authors like Peter Zumthor, Christian Norberg-Schulz, Steven Hol, Martin Heidegger and Juhani Pallasmaa are key theorists. Pallasmaa introduces phenomenological characteristics of multisensory perception individuals' physical body into theoretical discourse about built form (Tamari, 2016).

Pallasmaa states that the artistic dimension of any piece of art lies in the perception of the individual who experiences it rather than in that of the entity itself. Phenomenology underlines the attitudes to site, place, landscape and tectonics.

Martin Heidegger molded an integral stance of phenomenology discourse in which he defines the meaning of building as to dwell. It was then followed up by the idea that simply building already indicates dwelling thus creation of space within the built form as now of importance. He placed emphasis on the creation of a sense of place.

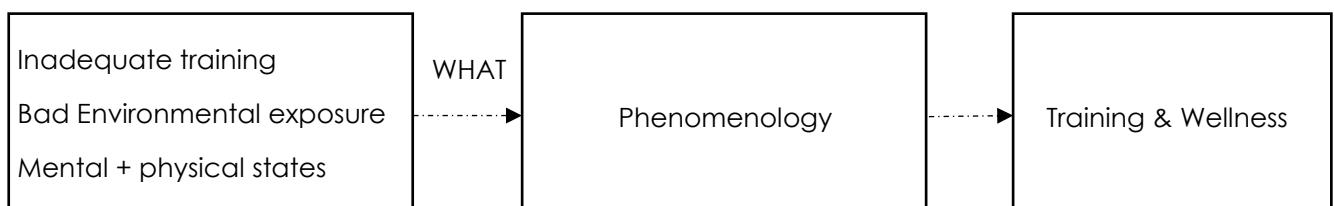
One of the essential topics Norberg-Schulz questions is the meaning behind being home or bounded emotionally to places. Reflecting on a short story about a timber feller in a Norwegian Pine forest, Norberg-Schulz puts forth that all places are built up and perceived by the user. The story describes a general forest scene and makes no mention to differentiate it from others but to the timber feller, it is perceived with a sky ceiling and tree walls and the ground as the floor. He dwells there as he would in another building due to his connection to his environment.

Phenomenology involves experiential and personal perception. Consequently, Phenomenological theory addresses the meaning things possess in the experience of an

individual. This can relate to the significance of events, objects, temporal dimensions, the self, and others, as these things manifest with capabilities of being experienced in the world of the individual.

In the context of this research, the individual is the constant but so is the experience and thus phenomenology is integral. Phenomenology will focus on the users' experience and interpretations of architectural space.

The theory will be useful to determine what spaces can evoke different feelings to aid the healing process. An exploration into colour, light, texture, connection to nature, sensory deprivation as well as sensory stimulation will be followed up.



*Figure 14: Relationship of research problems and Phenomenology (Author, 2019)*

## 4.2 Experiential design for the user

As previously stated, the design of the buildings in which police officers spend most of their time is not designed for human comfort. The police stations are simple brick buildings, often poorly lit and ventilated. Designing a space that is considerate of human comforts is necessary but more so, it is imperative to design to ensure the individual can cope and thrive within the conditions of existing environment. Since the environment will remain unchanged, it is therefore necessary to alter the perception and thus the resultant experience.

In the book, *why architecture matters*, Goldberger simply puts that ‘*architecture is physical form*’. It can be summed up that aside from the cultural symbolism or concepts, it is the way buildings enclose spaces which make the architecture. Here it is drawing focus to architecture in the physical sense rather than the theoretical as previously discussed. (Goldberger, 2011: 66)

The appearance of the building is ultimately what initiates one’s connection to it. It is suggested that most buildings disappoint due the architects’ disregard to aesthetic aspiration and focus on efficiency yet generally fail to deliver that. Philip Johnson compares the quality of the Chartres Cathedral, which is rarely lived in as opposed to the functionality of the Harvard dormitory.



Figure 16: Chartres Cathedral  
<https://www.discover-chartres.com/inside-chartres-cathedral.html>



Figure 15: Figure 6: One side of Hollis Double (Megan Ross, 2016)  
<https://thetab.com/us/harvard/2016/08/24/definitive-guide-freshman-dorms-3826>

Contradicting the ‘form follows function’ cliché, Goldberger suggests the term ‘comfort’ instead. The term ‘comfort’ is defended as practicality but one which directly links to the individuals’ needs more than just mere practicality of the purpose (Goldberger, 2011: 55)

Lehman goes one step further than Goldberger who says comfort is a reasonable expectation of architecture. Lehman states that good multisensory architecture should go beyond comfort in order to foster beneficial functions within the space. (Lehman, 2018)

Goldberger criticizes the way in which design follows the practicality over the comfort in that airports subject users to concourses which feel like basements in order to accommodate moving planes.

This statement brings about several truths when considering schools, malls or airports designs and their secondary considerations to the main users experience as opposed to the functionality. Goldberger summarises this by explaining that comfort is closer to contentment which can be a worthy aspiration of architecture.

Ultimately the experience of the user begins when they interact with the environment of the building. Following which when they see the building then perceive it. Similarly, it furthers when they enter the building, experience, perceive and ultimately explore the space. While the order in which it happens may vary, the above covers the basic experience of the building.

Scruton Agrees with the statement: *‘to say how my experience is, I must say how the world seems to me.’* Unlike the perception of other objects, the experience of architecture is on the enjoyment of the appearance of that which is already known rather than the intent of knowledge. (Scruton, 1979: 69)



Figure 17: The Blur Building (Diller and Scofidio, 2012 <https://arcspace.com/feature/blur-building>)

The *Blur Building*, a media pavilion in Switzerland goes about the user's journey with experiential design. The cloud that forms the pavilion is created by filtered lake water that is shot out as a fine mist. The ramp takes users to an open level which allows freedom of movement. At night the fog duals as a projection screen. The final level is reminiscent of flight simulation as the users move above the 'cloud' (Arcspace, 2015).

The building uses the ramp and directional cues to curate the users experience. The utilisation of the predetermined path allowed the architect to enhance the journey through use of varied stimuli.

It is an important learning from SDT that the individual needs to be in control of their experience but here the role of the architecture is to guide the journey through subconscious cues. It is also considerable to note that for the experience of the user to be enhanced, the space needs to engage all the senses to evoke a reaction.

Design considerations for the proposed building are required to enhance mental, physical wellness through both medical and non-medical holistic approaches. It is important to also consider how these newly designed environments respond to the everyday working conditions of the Police Officers.

### 4.3 Multisensory architecture

Humans sense of reality is enhanced through sensory engagement. The human senses transfer information about their surroundings to the brain to bring about a response. The five senses referred to are that of: sight, audibility, touch, taste and smell. It is the unique job of architects to design spaces within buildings which evoke reactions in the way they would be stimulated by people or an external environment (Croome, 2000: 33).

Phenomenology aims to transform the users of a space from uninvolved spectators to active participants. The article “*understanding multisensory architecture*’ expresses the deep relation between the five senses and perception. It is explained that the senses mediate perception. (C.N and Nair, 2014)

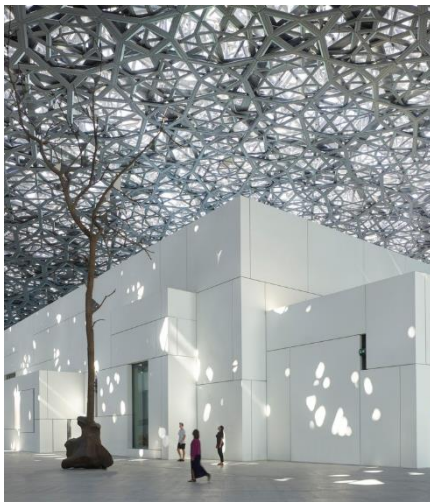


Figure 19: Louvre Abu Dhabi  
([www.archdaily.com](http://www.archdaily.com), 2017)

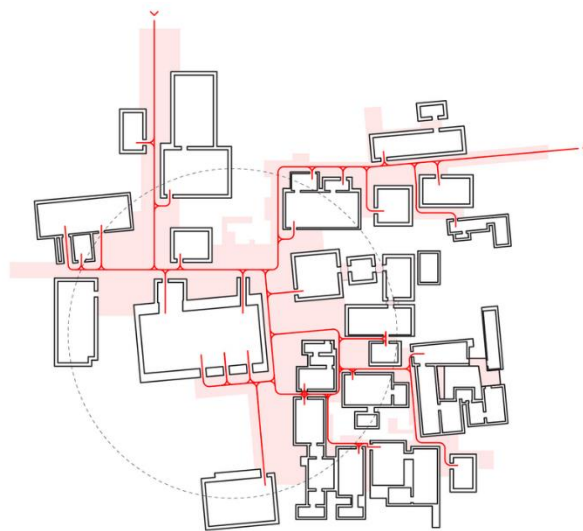


Figure 18: Louvre Abu Dhabi access Plan ([www.op-al.com/monu-vol-21-1-1](http://www.op-al.com/monu-vol-21-1-1), 2015)

Louvre Abu Dhabi, designed by Ateliers Jean Nouvel, creates an experience by engaging the user. The multitude of smaller forms are arranged to be reminiscent of a street.

The design of the roof creates a unique characteristic of light in the space while also keeping the internal environment comfortable.

The contrast of the geometric forms against the organic dome are visually interesting and further enhanced by the contrast of color.



Facades are discussed based on appearance, yet spaces are discussed in sensory quality (Goldberger, 2011: 8). Goldberger differentiates architecture as an object and architecture as space. It is then further explained that when one thinks of a building, they consider the mass, line, color or material but most importantly, the feelings associated upon encountering the space. (Goldberger, 2011: 110)

The tactile sense is versatile in that the skin possesses the ability of understanding an objects' temperature, texture, mass and other characteristics. The tactile sense establishes the relation between the body and the world. Contrasting textures invite the tactile sense and reinforce connections between individual's and the space they come into contact with (C.N and Nair, 2014).

It is also important to note that reflective glass, a loss of hapticity or connection can result in alienation. It is also elaborated that the eyes are capable of stimulating other senses in the body. Pallasmaa states tactility is the sense from which all others are derived (Ong, 2013). The eyes are first to 'touch' or contact the object and judge its proportions and characteristics.

Visual senses are direct while auditory sense is omnidirectional. Therefore, sound integrates while sight isolates. Sound imparts a characteristic to a space. Although often not considered, all buildings have a characteristic sound, be it that of intimacy or monumentality represented through echoes. Surface textures and the shapes of spaces regulate the distribution of sound (Croome, 2000: 34). While olfactory senses are rarely considered in the realm of built form, spaces have a characteristic smell often brought about by the materiality. This sense can be enhanced through the treatment of the material such as various varnishes or polishes.

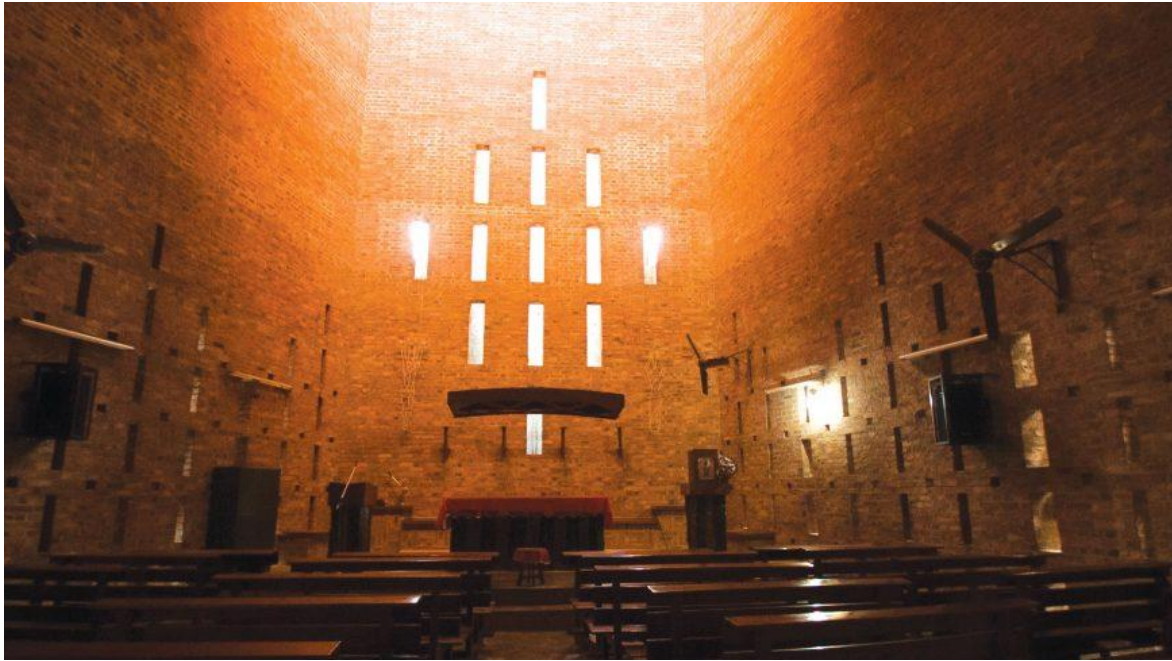


Figure 20: Loyola Chapel (Architectural Digest) <https://www.architecturaldigest.in/content/fathers-day-grandsons-tribute-grandfather-laurie-baker/>

Loyola Chapel by Laurie Baker is an exemplary example to understand multisensory architecture. The initial perception begins with a humble entrance but changes drastically due to a grand enclosed space due to the high ceilings. The exposed surfaces and brickwork lead to reverberations of sound which creates an acoustic identity specific to this space. (C.N and Nair, 2014)

Unknown destinations assist in triggering curiosity in the visitor. For the proposed facility, Wayfinding techniques can be employed strategically to create a journey. As put forth in SDT, the person needs to feel in control of their outcomes.

An important part of the understanding of sensory architecture is manipulating the senses to control the resultant effect. Sensory deprivation is one such methodology. Restricting the potential of the visual sense force one to use their auditory senses. Similarly, inhibiting the capabilities of any of the senses will stimulate the other senses causing their potential to amplify.

Considerable alterations in the scale of the spaces aid in sensory stimulation at various levels. When entering from a smaller space and the angle of vision opens to a grander volume, it invites one to discover the space visually. Instinctively, one glances up and around while also drastically changing the acoustical properties. (C.N and Nair, 2014)

#### 4.4 Design Strategies to create holistic healing environments

Discussing *a multisensory system to encourage the awareness of mindfulness*, the authors explain the necessity of a ‘short break’ from the workplace in order to destress under the reasoning that long term stays may be difficult for the majority of the working population due to their occupational situation (Briant et al., 2015). This is a notable concern in Police environments.

The authors also make note that undertaking purposeful meditation to relieve stress is largely aided by a guide thus making the retreat beneficial as it provides the supervision and training necessary (Briant et al., 2015). This coupled with the understanding of SDT supports the motivation that people would be less inclined to do the exercises they didn’t fully understand.

It can be understood that spaces evoke feelings when a reaction is brought about by stimuli in the environment. The stimuli, following careful consideration, can influence the users experience of the space. Multisensory architecture is essential for engaging the user physically and psychologically.

The article “*Healing Spaces: Elements of Environmental Design That Make an Impact on Health*” opens with the notion that humankind seeks safe shelters in which to heal (Schweitzer, Gilpin and Frampton, 2004). This statement proves that the most fundamental approach to solving the mental and physical issues of the SAPS would be to provide a safe space in which they can do so.

Schweitzer et al. offer insight into positive distraction for healing spaces. While this isn’t necessarily a design consideration, it becomes an important factor to consider social dynamics and communal fun activities with correlating spaces for such healing environments. References are made to humour, and one could relate that to a lighter approach to healing. Evidence from the Ancient Greek temples also supports this notion. (Schweitzer, Gilpin and Frampton, 2004)

In ancient Greece, illness was deemed a result of multiple social, environmental, psychological, spiritual, emotional and physical factors. This resulted in an all-inclusive treatment approach being undertaken. These included psychotherapy, massage, herbal remedies, mud and bathing treatments, surgeries, which were prescribed based on the patients dreams (Gillan, 2018). The Greek temples had theatres for patient entertainment over long stays. It was believed that it was not only the patient’s body that needed to heal but also their soul. (Gillan, 2018).

The ancient Greek temples dedicated to the God Asclepius can be recalled. Temples like the one at Epidauros were designed to *reinstate harmony while encouraging healing* by embracing non-medical modalities such as *nature, music, and art*.

The article brings forth the issue that while physicians are taught firstly to ‘do no harm’ This is often an afterthought in Architecture. The school of architecture, often, promotes efficiency in the design. Hospitals are designed for state-of-the-art equipment. (Schweitzer, Gilpin and Frampton, 2004).

Elements such as ornamentation, texture or even lighting become a relevant component to the space. A simple change such as using natural or artificial lighting on two identical spaces can portray differently and thus affect the user differently.

In an article entitled Designing therapeutic space, Davis explains that since the environment is always affecting our mood subconsciously, therefore the counselling rooms and clinics will likewise have an impact on the mental health of the users. (Nicola Davies, 2018)

Correlating with the writings of Goldberger, Davis too prioritizes comfort as a driving factor for the design of a counselling room.

In agreement with Davis, Schweitzer et al. elaborate on the way in which environmental complexity aids healing. It is stated that varied thermal environments affect mood and function. In addition, varied visual connection to spaces and “multiple sensory retreats” are essential for cognitive and emotional functioning. This, in turn, supports the notion behind sensory deprivation and recreating the symbolism of dark cold police stations as previously discussed (Schweitzer, Gilpin and Frampton, 2004).

#### 4.4.1 Light



Figure 21: Tado Ando's Church of light  
(Osaka Ian, 2016)  
[https://www.flickr.com/photos/osaka\\_ian/8649737655](https://www.flickr.com/photos/osaka_ian/8649737655)

Lighting is important to health. Daylight has effects on us that are physiological, psychological, biological, physical and even chemical. Sunlight is essential for life processes as physiologically, it accelerates toxin elimination (Day, 2002). Natural light can have positive health benefits and unlike artificial light, won't diminish productivity (Croome, 2000:6)

Natural light helps regulation of hormone melatonin which aids the body's natural clock for better sleep quality. It also helps serotonin production which has anti-depressant qualities (Designblendz, 2017).

Contrasts between light and shadows stimulates both the haptic and visual sense. Uniform lighting tends to contribute to monotony. Warm lighting is preferable over florescent lighting which is subject to glare. Lighting that is too bright can be bothersome and result in headaches. (Schweitzer, Gilpin and Frampton, 2004).

Tado Ando's Church of light shows an aesthetic and symbolic interplay of light, concrete and space. The space is dark, yet the horizontal and vertical slits form the cross illuminated by the light from outside. These slits are formed by the four panels of concrete. This light is used symbolically is gives a transcendent atmosphere.

Bennett states that lighter coloured surfaces reflect more light and make the room brighter. Darker surfaces often require additional light sources however these sources of light are increasingly uncomfortable as the size increases (Bennett, 1977:91).

In the context of this research, light needs to be carefully considered in the design of healing environments since most of the existing facilities are reliant on fluorescent lighting due to their restrictive openings characterised by the fortified design.

#### 4.4.2 colour

Colours applied to various surfaces alter the visual effect and can influence the perception of the space. Darker shades on the ceiling seem to generate a lower space. By painting the lateral walls of the space, it narrows it can act in a guiding sense. Painting a central wall and a ceiling in a similar hue will cause environmental enlargement. Colours do not exist without the presence of light. (Pereira, 2018)

Implementing the basic principles of colour psychology along with strategic use of colour can promote desired behaviours, influence mood or even induce physiological reactions. Cool colours like blues walls promote tranquillity and security so they are often associated with business use such as banks. Blues, however, are symbolically they are reminiscent of sadness or indifference. Green colours are associated with wellbeing and generally used in a hospital setting. Alternatively, warm colours like reds are reminiscent of feelings ranging from love to anger but essentially passionate. Hues such as yellow and orange cause an individual to be attentive. This is thought to allow for clarity in decisiveness and encouraging interactions. Oranges project a sense of creativity and intensity. Bright coloured furnishings boost social exchanges. (Bromberg, 2016)

Chroma therapy works for various fields, from controlling light exposure or massages which employ colour-saturated oils to nutritionist view on basing food consumption of colour. Light therapy such as projecting various colours through the patient's eyes has been known to increase brain activity. Colour's role in health care environments reverts to ancient Egypt. One example being the Temple of Heliopolis in which different rooms dispersed the sun's rays into the various colours of the spectrum. (Schweitzer, Gilpin and Frampton, 2004)

Cool colours are generally preferable over cool colours. Colours have connotations on emotions. (Bennett, 1977:107)

In the principles of chromotherapy or colorology: (Cherry, 2019)

- Red: Exciting, increases blood flow.
- Yellow: Cheerful, purifies the body.
- Orange: intensifies vigour.
- Blue: Soothing, treatment of disease and discomfort.
- Indigo shades: Dignified, lessens skin complications. (Bennett, 1977: 109)

#### 4.4.4 Texture

Texture appeals to the visual and haptic senses of a person. Davis discusses that people respond better to light colour wood grain rather than sleeker chrome alternatives. In addition, people prefer not to see traces such as fingerprints of other people there previously. However, Davis does say that it is appropriate and encourages adding personal touches such as a therapist's credentials to the décor. Emphasis is placed on making the space feel homely rather than making the user feel like a visitor (Davies, 2018).

In agreement Schweitzer et al discuss that designers should be encouraged to design towards a domestic aesthetic which promotes safety and belonging. This, in turn, makes the users more at ease. (Schweitzer, Gilpin and Frampton, 2004). Davis suggests that it is best to avoid clutter, neglected waiting rooms and closed in spaces. (Davies, 2018).

Scruton Explains that visual qualities translate into a tactile assumption (Scruton, 1979: 35). Rough Cast concrete appears uninviting because, upon the appearance, one anticipates the feeling of brushing against it. Similarly, therefore smoother finishes appear more inviting as they anticipate no harm.

Materials which are locally sourced and minimally processed connect humans with life, place and time. These materials are also proven to perform well and are healthy to live with. They provide an opportunity for local labour as well as reinforce a local identity. The reduced transportation and manifesting costs also make it more sustainable. (Day, 2002)

#### 4.4.5 Nature



Figure 22: Changi Airport- Moshe Safdie ([www.globetrender.com](http://www.globetrender.com))

Nature has been an important consideration for design not only for sustainability but also for human health. For humans, it is intuitive that spending time in nature can significantly improve their mood.

Highlighting the connection between nature and the physical vessel aids the state of human consciousness that is required within states of wellness (Moodley, 2014). In Changi Airport, nature was used to relieve the user from stresses associated with travel. The users of a building are more comfortable, productive and happier when nature and its cycles are integrated within (Van der Ryn, 2013: 19)

Biophilic Architecture is the merging of artificial and natural structures (Heerwagen, Kellert and Mador, 2013). In terms of structures, they aim for the parts to work as a unit to achieve a unified goal. In nature, often a complex arrangement of parts makes up a whole and those wholes interact to achieve a different function. Considering a tree, it is made up of leaves, branches, the bark and roots. Each of those pieces is further made up of a set of specific cells like the spaces in a building.

One aspect of nature taken from living subjects is material selection since organisms tend to utilise the best structural power with the least possible material being used. The human foot bone depicts optimal structural form with minimal material.

This principle was applied by Mies van der Rohe in the era of modern architecture. This era prompted the "less is more" notion as can be seen in the work of "Glass House". In addition, the principle is seen in works by Frye Otto, Calatrava, and Fowler. (Pourjafar, Mahmoudinejad and Ahadian, 2011).

Considering the environments, the SAPS are exposed to, it would be beneficial to immerse them in nature in order to experience the full benefits. In the line of duty, they often work outdoors yet are not present in that moment to experience it. Combining nature as well as improving their association with the elements will ensure that nature benefits them in the line of duty.



#### 4.5 Conclusion

Phenomenology concerns itself with the user's interaction with the architecture. Pallasmaa states that the dimension of time and temporal experience had been overlooked in terms of the study of Architecture (Pallasmaa, 2018). Considering this, it is why grounding the user in the present should be a focus of the design. Multisensory design is intended to focus the user in the present and aid in promoting mindfulness.

It has been established that the police facilities lack multisensory quality and have a negative effect on their work performance. The research provides an outline of relevant design strategies that aid in creating healing and training environments with a focus on experiential design for the individual.

Moving forward, this theoretical groundwork will be the underpinning of the design process which will address the aims of the research. The use of user-based experiential design will connect the individual to the built environment and establish positive associations. A set of design strategies which promote productivity, wellness and a healthy quality of life has also been outlined. Along with the motivational factors from SDT and semiology, the design will focus on user-specific design aimed to promote a positive image, perception and performance of the SAPS.

## 5. Chapter Five: Precedent

### 5.1 The police treatment centers

#### 5.1.1 Concept and Locality

The Police Treatment Centre's (TPC) was started as a charity to assist retired and working police officers.

The Vision: *“Establish the PTC as a Centre of excellence that delivers class leading treatment for our police family patients for their physical and psychological injuries, conditions and illnesses.”* (Thepolicetreatmentcentres.org, 2019).

Locations: Castlebrae, Auchterarder, Perthshire.

#### St Andrews, Harrogate, North Yorkshire

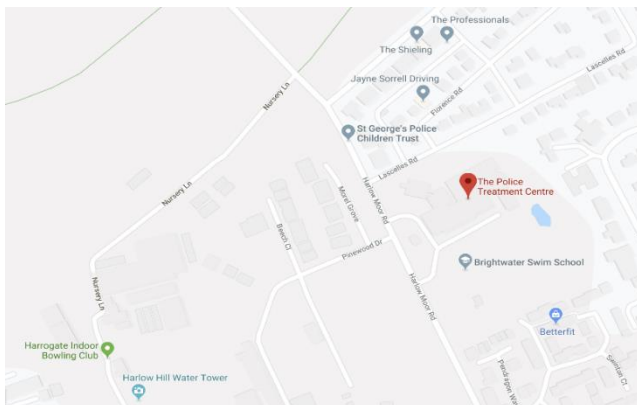


Figure 23: Map of TPC (Google Maps)



Figure 24: Harrogate(thepolicetreatmentcentres.org)

Harrogate is a town in Northern Yorkshire in England. The facility is in an urban setting and of similar architectural style to the many residential buildings at its borders. There are inclusions of green space and even inclusions of ponds and garden spaces.

### 5.1.2 Justification of the Precedent

This precedent is not an architectural application as the buildings are adaptive reuse or simply designed due to budgetary constraints of the charity and therefore not designed for this purpose. The precedent is selected to provide programmatic insight in order to establish the spaces needed as it caters for a similar purpose to the proposed building in that it is specifically designed for the police force. It outlines the suggested activities for police specific aid. It is the facility that is functionally the most similar to that of the proposed building.

### 5.1.3 Facility overview

The St Andrews facility, being the first began by occupying half of the police orphanage. It then got its site and building through fundraising. In addition to the expansion and upgraded equipment, the new Catherine Gurney Sensory Garden was formed to aid in patient recovery. The garden has fragrant plants and varied textures to promote mindfulness in an attempt to reestablish the center as a preventative solution rather than a crisis center.

The facility accommodates and treats a maximum of 77 patients over a 2-week average stay.

Castelbrae was originally a private home which had been bought for the PTC. The expansion saw an addition of a pool hydrotherapy pool and doubling the size of the gym.

The Facility accommodates and treats a maximum of 67 patients over a 2-week average stay.

The precedent has a similar goal of the proposed facility and is utilized to understand what spaces are used for police specific training by successful facilities already in operation.

From an analysis of the two facilities, the common requirements for the operations include:

<b>Living Component</b>	<b>Mental/spiritual</b>	<b>Physical</b>
the accommodation component	counselling rooms	hydrotherapy pool
spaces for nutritional exercises	Spaces for aromatherapy	gym – rehab area
Reception and offices	Sensory Garden	physiotherapy rooms

Figure 25: Table showing break down of spaces at TPC Harrogate

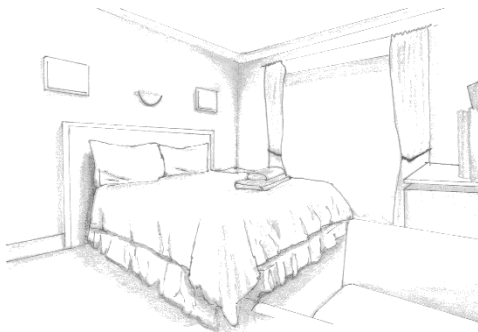
It is essential to include these spaces for the proposed facility since they are crucial to the success of this facility. The design needs to be contextually appropriate and site responsive. The facilities of the precedent were somewhat limited in that they were adaptive reuse.

The precedent has allowed the researcher to establish the type of spaces that need to be included for the success of a police specific facility. It still, however, is necessary to correlate the types of spaces with the relevant design strategies for these spaces respectively. The opportunities to design human centered spaces sustainably exist with the proposed facility.

#### 5.1.4 Theoretical underpinning and design considerations

In terms of Phenomenology, there is little consideration to the experience of the individual through built form. The buildings are adaptive reuse, meaning they were not designed for their current purpose, but rather retrofitted to adapt to the current use. The facilities are limited in their multisensory appeal.

Considering the Interiors at Harrogate, they are simple, yet adequately light filled spaces. The rehab gym which is the newer addition has an exposed wooden roof structure within inset skylights which provide adequate natural lighting. The indoor hydrotherapy pool walls contain an expanse of glass providing natural light and connection to nature outside. Despite being newer, the Castlebrae facility appears more clinical due to the stark white interiors and considerably limited smaller openings.



*Figure 26: Bedroom at Harrogate (Author, 2019)*

The accommodation component makes use of a large window for natural light and provides the basic amenities. It is simple and doesn't utilise any considerations towards colour or textural contrasts. Simple picture frames or light fixtures break the monotony of the white wall interiors.

The programs are tailored to be all-inclusive of mental and physical activities to establish holistic wellness. The concept of living well is reiterated in these facilities through combination of both medical and naturalistic approaches to wellness.

Patients are encouraged to get involved with educational or exercise classes. These activities are optional which provide an opportunity for autonomy and decisiveness on the user's part which aid in them becoming self-determined.

The facility also includes police specific exercises into the treatment plan. In addition, one such case is the inclusion of protective gear when training to familiarize and increase their stamina while in uniform. These would be important considerations when considering the spaces to include storage for such items over and above the required equipment.

Uniquely, the facility offers an open plan physiotherapy suite which also has private curtained-off clinical areas. While this is a good idea to maximize customizable space, it is simply

executed with a screen. However, when considering the user and motivation from SDT, it seems more applicable to create a more deliberate private space.

The facility boasts high-quality healthy catering. While the program prioritizes classes about nutritional values, it is a missed opportunity not to grow items on-site for consumption or to include cooking classes. This nutritional guidance will be important to officers when they leave the facility.

For psychological wellbeing, the facility offers '*group sessions in stress management, coping strategies, relaxation, sleep and mindfulness*' (Thepolicetreatmentcentres.org, 2019). Alongside these are group exercise sessions as well as individual counselling and complementary therapy sessions. The inclusion of group activities relates to the need for relatedness.

There are various classes and workshops ranging from aromatherapy for home use to Pilates, but these are currently occurring in the same rooms. These activities should be done in rooms more catered toward the kind of activities. The facility should provide a specific calm space and a specific learning space dedicated toward concentration as well as a separate space for more recreational activities to change the way these activities are viewed.



Figure 27: Catherine Gurney Sensory Garden (thepolicetreatmentcentres.org)

The inclusion of the Sensory garden displays the facilities recognition of multisensory spaces which aid in the treatment and healing of police officers. The garden includes water features to provide calming sounds and connection to nature. The use of textured flooring such as the pebbles appeal to the tactile and auditory senses alike.

### 5.1.5 Conclusions

Due to being of similar use and already operational, TPC provides an adequate basis for the inclusions of various police specific activities for the proposed facility. The facilities do not connect well to the external environment within which they exist. With both these facilities, the building is merely to serve the purpose of shelter.

There are basic design considerations in terms of the requirements of the space however little architectural consideration to the user's experience. The user considerations have been limited to privacy curtains for example. The newer additions show an attempt at employing techniques to enhance the quality and experience of the space.

While both these facilities function well, for the nature of the proposed building, a significant improvement can be made regarding the experience in order to improve the image, perception and performance of the SAPS.



## 5.2 The Therme Vals

### 5.2.1 Concept and locality

Project: 1996

Location: Graubünden, Switzerland

Architect: Peter Zumthor, Marc Loeliger, Thomas Durisch and Rainer Weitschies

Graubünden is a mountainous region in Switzerland. The facility is built on a steep gradient formed by the Swiss Alps. The Spa sits among other Hotel Complexes. The facility responds to its context by blending in and essentially becoming one with the landscape.

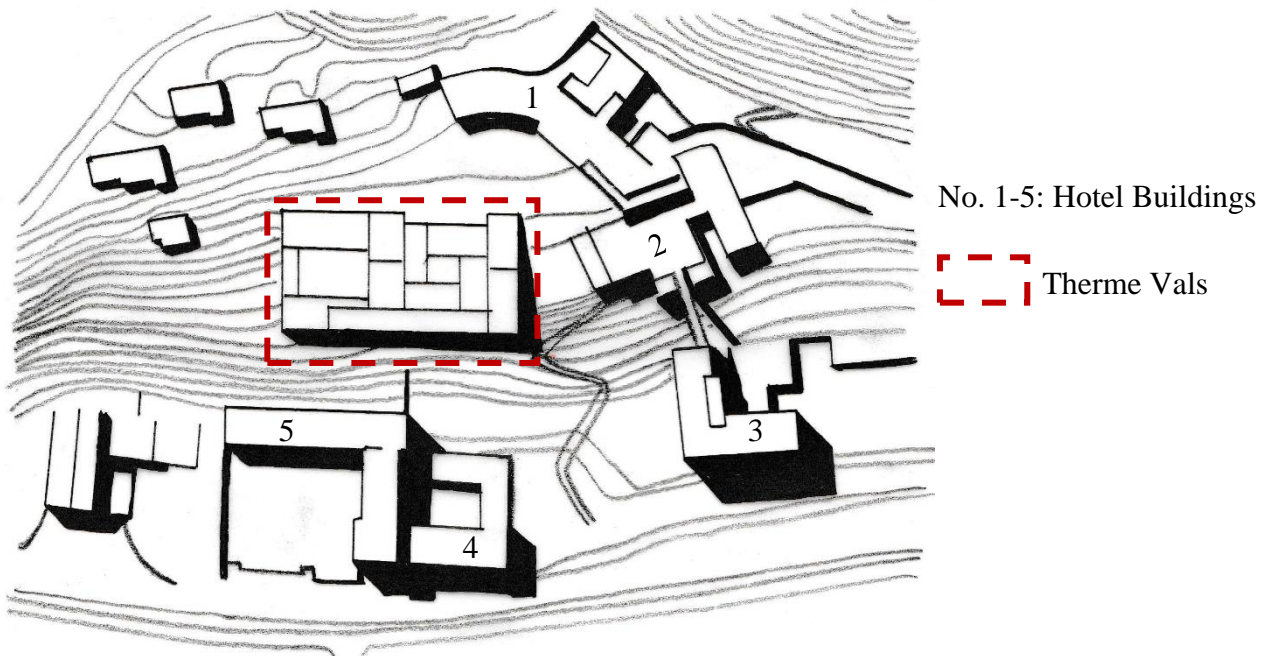


Figure 28: Site Plan showing Therme Vals in Context (Author, 2019)

Therme Vals is an iconic contemporary work. Zumthor, a Swiss architect, was commissioned to design the thermal bath which was declared a protected building only 2 years after. The language differed to that of the existing hotel complex. (Dreki, 2015). The complex was designed to sit partially into a hillside below a green roof to give an experience reminiscent of being in a cave.



Figure 29: Tucked into the hillside (ArchDaily, 2009)  
<https://www.archdaily.com/13358/the-therme-vals>  
[Accessed 27 Jul. 2019].



### 5.2.2 Justification of Precedent

The precedent was selected to explore the use of multisensory design in enhancing the healing and experience of the user.

Phenomenology strives to argue for a sensory experience to be an exactitude of the design of built form. Therme Vals is undoubtedly one of the most effective works in the consideration of Phenomenology. In keeping with the intentions of the thesis, this precedent uses light, materiality and nature to create a place of healing and contemplation.

### 5.2.3 Facility Overview

It exists as a sleek geometric piece representative of a rock in the hillside. The grassed roof blurs the distinction between building and landscape. The section of this building exposes the inherent connection of the construction and the topography within which it sits.

The material became the driving factor of the design. Valser quartzite natural stone extends throughout the spa area.



*Figure 30: Therme Vals Section (Author, 2019)*

Following Heidegger's approach, Zumthor also prioritized the sensory aspect of architecture (Dreki, 2015). The facility utilizes light, colour, texture and temperature to evoke various responses from the users.

The building's one exposed facade appears as a solid with openings punched out of it. The openings are strategic and often frame a certain view to direct the user towards. The idea of the frame is apt in aiding the users experience while still allowing for self-discovery. Uniquely, there are no doors on the facade. The entrance is actually hidden, and users access the building through a tunnel.



On the exterior, one can also see the pools. The steam contrasts the snow-covered mountains and similarly, the rigidity of the stone exterior contrasts the greenery of the hillside.

The simplicity and lack of ornamentation is in keeping with the modernist design approach. It can also be assumed as an attempt to ensure the user focuses inward for contemplation rather than they would by employing elements that evoke mindfulness such as status or ornamentation.

Figure 31: Facade (ArchDaily, 2009)  
<https://www.archdaily.com/13358/the-therme-vals> [Accessed 27 Jul. 2019].

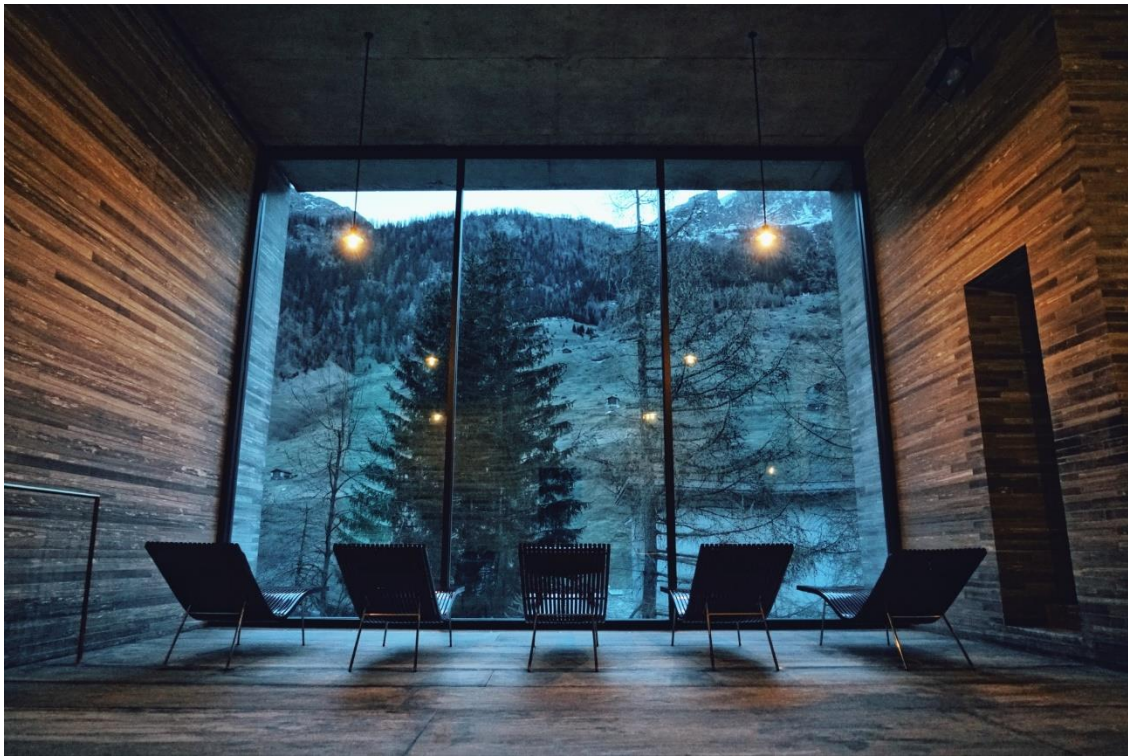


Figure 32: Framed Views (ArchDaily, 2009) <https://www.archdaily.com/13358/the-therme-vals> [Accessed 27 Jul. 2019].



Figure 33: Roof of Therme Vals (Author, 2019)

The gaps in the roof don't coincide with the floor plan thus it creates slits of natural light. These slits give the illusion that the massive concrete roofs float, lightening them. The green roof is reminiscent of the Swiss meadows, relating to the context.

#### 5.2.4 Theoretical underpinning and design considerations

The building firstly is to be thought of as an environment of the senses. It incorporates the sensory experience within its setting and accurately creates a unique sense of place.

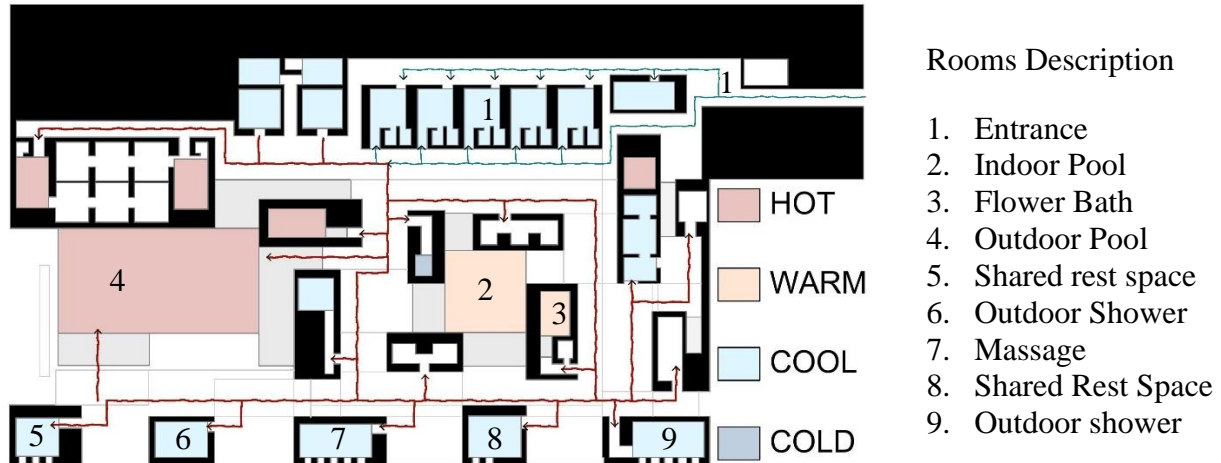


Figure 34: Floor plan of Therme Vals (Author, 2019)

The experience is curated through a series of pathways that allow the user to wander through the various spaces. It makes use of prescribed pathways but leaves certain areas open for exploration. The Blue pathway at 1 shows the entrance from the hotel. The red pathways show the various routes to the other healing spaces.

The architect likens the experience of the interior to walking through the woods, wandering with no preset path. The negative space between the blocks connects everything. SDT enlightens the importance of Autonomy and the users need to feel in control. The explorative nature of the guided pathways is in line with the teachings of Self Determination theory and is an apt design consideration.

The pathways in the cave-like experience direct users to certain spaces or expanses of view strategically by framing certain views to direct the user toward. Simple inclusions like seating are indicative of an invitation to pause here. These can be considered as mindfulness tools. On a visual level, the user engages with nature through such framed views.

The scale is exaggerated rather than responsive to human scale. The 5m high walls give the illusion of grandeur thus diminishing others presence to the user. (ArchDaily, 2009) In terms of symbolism, this can be understood as enhancing the experience similarly to how high ceilings in places of worship are implemented. This change in scale is associated with more

space which links to a sense of freedom. By raising the level of vision, it evokes a sense of calmness and contemplation. (Senthilingam, 2015)

Uniquely, despite the stone being a driving force to the design, it is not the only material consideration. Light, stone, mountain and water are all perceived as material. The atmosphere is apparent through stimulation of all the senses. Simply put, one can see the colors, feel the temperature, smell the stone and hear the ripples of the water. This differs in each area. The users are more vulnerable to the other senses since they are naked.

The complex contains 15 units which each express the state of the water in it. In the rooms where the water is hot, calm red lighting is employed. In the rooms where the water is cold, blue lighting is employed. In terms of Color and Chroma therapy, the colors are used here to create an atmosphere specific to each room to enhance the experience.

The interior of the building possesses a visual appeal to the user and with the interplay of light, the reflectivity and temperature of the water as well as the textural appeal of the water. The interior exploits the idea of sensory deprivation which in turn heightens the other senses to provide a unique experience by engaging various levels of consciousness.

### 5.2.5 Conclusions

Therme Vals is successful in curating user experience through the use of multisensory design strategies such as materiality, texture, temperature, light and nature. These characteristics are utilized to entice the individual's senses and enhance the experience aiding in the overall healing and relaxation benefits.

The space can be thought of as harmonized by the contrasting elements. The strength and rigidity of the cut stone contrast the softness of the water. This combined with the right lighting and color creates an atmosphere for the space. One can then understand the interplay of elements to be at work to make a space evoke a particular feeling. It can also be said that simply altering the lighting in one of the rooms would change the atmosphere. This is explaining the importance of the lighting so by harnessing that potential, light could be used to alter the mood of a space if used effectively.

The design uses sensory design and nature to effectively create healing spaces. The Precedent shows great consideration towards human-centered design. The importance of movement is highlighted and explained as well as the inclusions of mindfulness.

Technological advances afford architectural design strategies the power to greater the human experience, which is what the essence of architecture seeks to accomplish. An adaption of traditional and technological sensory stimulation can be used to achieve the best results. This lends itself to the idea of projected facades. Using technology such as 3d mapping, the lighting controls can be manipulated to give the same space different atmospheres. The advantage would be maximized in multipurpose spaces.

## **6. Chapter Six: Fieldwork and Analysis**

### **6.1 Introduction**

The purpose of this chapter is to document the firsthand sources of information obtained by the researcher. It covers the facilities in terms of the case studies and personal respondents from the outlined interviews.

The case study has been selected in order to address design considerations specifically catered to mental wellness and mindfulness in a South African context. The significance of this information is that it is obtained through observation and a fully immersive experience in considering the built environment and its effect on the success of the facility.



## 6.2 Case Study: Waterfall retreat

### 6.2.1 Concept and Location

Location: 20 Debengeni Rd, Waterfall, 3652

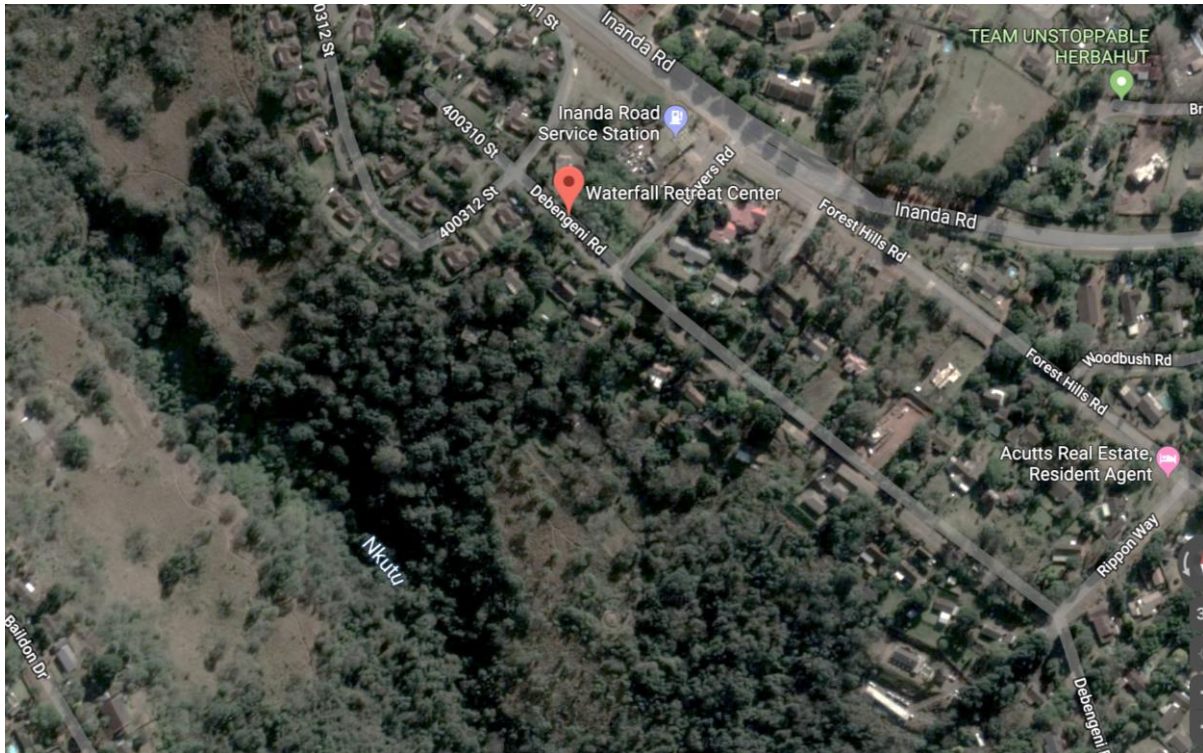


Figure 35: Map of Waterfall retreat (Google Maps, 2019)

The Site is located in a residential setting at Waterfall in Hillcrest, Kwa Zulu Natal. The facility itself exists as a sanctuary within a preserved indigenous site situated on 28 acres over the Nkutu Valley. It is bordered by residential units on two sides as well as across the road. The back of the 8 Hectare site also has a stream that runs through it and the walking route leads to the 3-waterfall site.

The facilities respond selectively to the natural environment, being raised on stilts and minimizing foundations. The built intervention is also strategically placed in areas where there were invasive plant species. The buildings of the complex all share a similar style, of Japanese influence, but differs to the general architecture of the surroundings. The Majority of the Facilities, being the main house, yoga studio and the tearoom all are south facing, notably contrary to solar orientation guidelines. The routes and mindfulness inclusions like the labyrinth are integral features of the facility.

It is said by the owner that the Gardens of Kyoto, Japan serve as in inspiration for the retreat.



*Figure 36: The Gardens of Kyoto, Japan (www.waterfallretreat.com)*

The Japanese influence is evident in the overall style of the building features and further enhanced through smaller decorative or structural elements. One such example is the gates that are welded with the typical symbolism of Japanese culture. This style of architecture is usually connotative of a Zen environment, a characteristic essential to the success of this facility.



### 6.2.2 Justification of Case Study

This case study was undertaken by the researcher in order to gain insight into a natural holistic healing environment that caters to mental wellness. It is contextually and functionally relevant to the proposed facility.

Data collection was assisted by Bruce, the owner and practitioner of the facility. The research consisted of a kundalini Breathing class, review of the facilities, Mindfulness walk in the garden and an interview with Bruce.

The use of observation was particularly prevalent when determining the quality of spaces. This analysis concerns itself with experiential design to understand a successful facility aimed at holistic healing.

The facility is applicable as it is a complex style as well as being relevant to a South African context. The case study, Like the proposed building, is integrated with nature and is based on the principles of mindfulness and aimed at achieving natural, tranquil space to benefit mental wellbeing.

### 6.2.3 Overview of the facility

This facility is a non-denominational one of mindfulness in an undisturbed natural setting. It comprises of a floating meditation studio, a tea garden as well as two individual accommodation units. One descends a steep driveway with natural planting along the side. Upon parking, one encounters a pathway with water features and first sees the floating studio amongst the natural vegetation.

There are various winding pathways with simple items of curiosity along the way to engage users. The area is quiet and whilst one walks down the gravel path one becomes aware of the sound which draws attention to each footstep. The researcher notes the feeling as being quite transcendent and, as intended, grounds the user to the present.

The buildings are stilt construction in order to respond sensitively to the natural environment. The use of steel and timber diminishes the use of concrete which reduces environmental impact. The large overhangs provide passive shading to the expanses of glass which provide a connection to the natural setting. The extensive use of glass in the floating studio blur the lines between inside and outside.



*Figure 38: Entrance to the trail  
(Author, 2019)*



*Figure 37: Mindfulness stop.  
(Author, 2019)*



*Figure 13: Bench and Chimes along path.  
(Author, 2019)*

It is an 8-hectare site which is curated with mindfulness stops and pathways only outlined with wayfinding implements like small colored signs and the footpath forged by those who have walked it before. The entrance to the route is identified by a wooden archway in a typical Japanese style.

The route is well outlined but occasionally opens to larger portions of space which force the user to engage with the space and look for the next marker. The route is especially peaceful being undisturbed with only sounds of footsteps, moving water and the wind in the trees. The route leads past a river on the property and toward the three-waterfall reserve. There are wooden access ladders along each level.

Bruce explained the initial layout differed greatly to that which now exists. Despite initially planning, the buildings were eventually placed in an overgrowth of invasive trees in an attempt to preserve the natural environment. Bruce explains that the tea garden is South Facing so it often feels like a cold space. In order to combat this, the use of skylights and warm flooring make the space brighter. The flooring is a very economic particle board which gives a unique warm look.



Figure 39: Panorama of tearoom (Author, 2019)

In the tearoom, the circle windows were basic aluminum windows onto which the additional curved pieces were welded to complete the circular shape. This was done in order to enhance the Japanese quality of the building and also act as the frame for the Japanese tree outside.

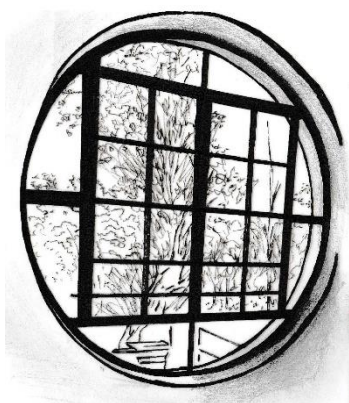


Figure 41: Circle window from tearoom at waterfall retreat (Author, 2019)

From outside, the roof of the tearoom is strategically cut back at the corner to allow the view onto the yoga studio at the back, visually linking the buildings. Outside the tearoom has benches and then leads down onto the pathway toward the walking route.

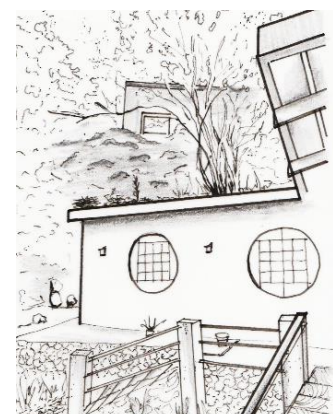


Figure 40: Tea room roof cut showing yoga studio (Author, 2019)





*Figure 42: Planted roof of floating studio. (Author, 2019)*

The roofs of all the buildings are planted and have 16 metric tons of topsoil with another 4 tons of added vegetation. The rain also adds weight and must be considered. There are a mix of waterwise indigenous planting alongside a skylight.

The floating meditation studio is a simple open-plan Japanese style building on stilts that appears to rise out of the ground and float among the trees, like that of the tearoom and residential units. It has full glass-paneled walls. It has a wraparound deck with a tension cable and post balustrade to appear as minimal as possible in order to maintain its connection with the surrounding.

There are water features along the pathway which need to have more considered safety measures as they can be hazardous in the dark. When experiencing the morning class in winter, you enter in almost complete darkness at 6 am. This class was a kundalini breathing class. The space was lit with a log fire in the corner. There was soft calming music played through a speaker which the teacher controlled, and everyone sat on the mats in a circle. The class proceeded with various breathing techniques, stretching and concluded with chanting.

As the class proceeds and the sun rises the outside world begins to indirectly illuminate by 8 am. The researcher notes the interplay of the south lighting is useful to the running of the facility.

#### 6.2.4 Theoretical underpinning and design considerations

The cottages on the site are also innkeeping with the Japanese concepts and value openness. Light is introduced through long narrow slits on areas where the ground level is at floor level. This is done to address security concerns as it is narrow to prevent a criminal from entering this space and thus avoids harsh use of burglar bars. The other sides have glass paneling and open onto a balcony. The curtains were recently added as privacy features, an important consideration with an open design scheme.



Figure 44: Lounge area showing shading and security. (Author, 2019)



Figure 45: Kitchen and living area of Accommodation at Waterfall Retreat (Author, 2019)

The living areas also have required Gates and security balustrades in order to meet the code to be habitable and have since been implemented. Bruce addressed the security gate as a design by getting Japanese insignia laser cut onto the steel. The interior keeps a neutral color pallet with simple furnishings.

Throughout the facility, the buildings are common in style. They are all representative of the Japanese style architecture. They employ a light neutral color pallet for the most part and utilize natural materials like wooden flooring. They also have exposed wooden rafters and planted roofs. The tectonic expression is evident with exposed beams.

The exposed materiality and tectonic nature of the buildings excite the visual senses. The multisensory environment is created through the use of indoor fireplace and music. The yoga studio is south facing and is ambiently lit creating a transcendent atmosphere during the classes.

There is an emphasis on the connection with nature not only by sitting among the natural setting but also by large openings that blur the indoor and outdoor divide. The security factor is carefully considered and handed along with solar control in the form of horizontal bars which also act as burglar bars.

The other pathway leads to the labyrinth, which Bruce explained was dedicated to his teacher. There is a dedicated area for planting of students who complete a retreat. This is thought to connect the users and the space. This kind of personal connection creates a bond between the user and the environment through a sense of ownership. It emphasizes the successful completion of the learning. In the understanding of SDT, this completion is understood as the need for Competency.

The mindfulness cues along the pathway are carefully chosen to provide symbolic reminders to bring one's consciences to their thoughts. Inclusions such as chimes and bells have been chosen to invite the user to interact with them.

The labyrinth is a simple natural stone outline and natural planting. The plants are maintained but not fully perfected and grow in their natural form. The importance of this space removes the traditional notion of aesthetics in landscape design. Regarding the inclusion of nature, it is done in a more natural way, less control in order to keep the space authentic to real growth.



### 6.2.5 Conclusion

The case study provides a unique insight to orientation and site placement. The use of pathways as part of the journey becomes almost essential as the buildings it connects. The design of the building and pathways are of equal importance and all aid in the healing experience for the user. It also provided a contextually appropriate facility which addresses realistic safety concerns as well as provides a sense of practical and simple application. The facility also allows the understanding of real contextual understanding and handling external noise factors and that which is beyond the control. It functions on a refined and basic application in the setting which is understood only through visiting an established facility.



*Figure 46: Floating Meditation/ Yoga Studio (www.waterfallretreatcenter.com, 2019)*

## **7. Chapter Seven: Analysis and Research Findings**

### **7.1 Introduction**

The research set out to address the problem of the Poor image, perception and performance of the SAPS. This problem was linked to their poor working environments and lifestyle. The aim of this research was to provide a tangible solution, a place of shelter in which the police force can learn, train and heal. It can be considered a sanctuary free from fear of stigmatization or job loss.

The Analysis of the various data is reviewed in order to determine a concise set of findings that will aid in the design of the proposed facility that aligns with the aims. The focus was placed on creating a user-based experience integrating medical, natural, mental and physical training to enhance the image, perception and performance of the SAPS.



## 7.2 Identifying the Challenges

### Limitations of Data

Analysis of the current Police facilities are largely based on observation and needed to be carried out in an unbiased manner. Due to the privacy levels of the organization, it was difficult to obtain spatial planning or data from them.

There is evidently a lack of a similar facility available to the SAPS which could be observed. This forced the research to be guided by precedent examples of facilities which specifically cater to police wellness and rehabilitation.

With regard to the programmatic precedent, The Police Treatment Centres, it was evident that there was a lack of consideration to the users experience through the built form. This was due to the building being an adaptive reuse. The attempt at user comforts were internal applications as an afterthought.

This made the precedent, Therme Vals, necessary as it curated each moment of the users experience through the building. The two precedents counteracted what the other lacked in terms of function or experience.

### Key Concerns

There exist questions around the validity of data regarding the Police force as it is a governmental organisation. Media and high-ranking individuals often skew the data in a biased manner. Fortunately, the research outcomes will not be affected by marginal statistical errors in the background of the research.

Perception is highly individualised and influenced by a number of social, economic and cultural factors. While there cannot exist only one correct solution, the research sets out a proposal for guidelines to cater for responsive stimuli to appeal to the members of the SAPS.

### 7.3 Interview – Waterfall Retreat

Interviewee: Bruce - Owner, Engineer and Practitioner of Waterfall Retreat.

What brought about the inception of this facility?

According to Bruce, he always intended to create the facility and even envisioned the location with a natural setting and a stream. It was in the inception for 10 years in which he worked overseas in order to fund his project. He refers to Waterfall retreat as a passion project and not one of financial gain.

What age groups frequent this facility? What is the most common reason for visiting this facility?

Bruce explains that there are various reasons however the most common one is the escape. The idea of getting away from something such as a trauma or daily life. He elaborates that people just often need something different.

What activities or programs (social, health) are encouraged to improve the mental state of the users?

The retreat offers various activities such as yoga and meditation classes. At the primal cause of these, Mindfulness is always the goal. The classes make use of various berating techniques and mantras. Bruce suggests breathing and walking meditation. There are often guest teachers and thus various specific events.

Does your facility offer counselling or dedicated therapy sessions?

It does not. Courses can be specifically curated for groups of people such as work retreat or team building classes for corporate retreats.

Is the programme flexible for the user to decide which activities to do or is it structured?

While each retreat is signed up for individually, Bruce does talk of how it often is ineffective if you simply attend just one of the classes. He explains that often people need an escape, come for 6 months and then find some other path and do not return till much later.

Does your facility encourage social integration between the users of the facility?

There are often silent walks or activities that need to be done in isolation, however, it becomes apparent that there is a sort of bond between the frequent users as they become accustomed to the other and often do interact after the classes.

What challenges do staff encounter whilst managing the facility?

Bruce explains a major challenge as being the safety in our county. While he would prefer not to have many burglar bars and fences, it is regulation and necessary in our country. He explains how he overcame these challenges by using long slit windows, not wide enough for a person to get through and further split with one long burglar bar. He also uses a Japanese symbol pattern gate to give an additional design quality to the security gates. He has laser-cut bamboo with traditional patterns for burglar bars also.

What should be the main considerations towards a retreat facility in terms of location or design?

Bruce explains while he initially wanted to place the buildings by the gorge and river, he later decided to leave the forest land untouched in order to respect the land. Instead, he decided to build where there were invasive trees, and that became the placement for the buildings.

The walls of the cottages are all glass which can become dark at night. In order to overcome this, they had to introduce soft white curtains to create an aspect of comfort. The other factor was keeping the style and serenity without compromising safety.

What spaces do you think will be needed to benefit those attempting to deal with stress?

Bruce explains how a simple pathway with curious markers along it could make a retreat. These markers are simple mindfulness tools. He suggests a place for nature to be incorporated. There are bells, chimes and other curiosities along the way that act as mindfulness tools.

Is there any further information you could provide that will help benefit this research paper?

Bruce explains that most importantly, just keep it simple. Provide people with the tools that they can then adapt to everyday life. In terms of the SAPS, teach them to look at each situation and in the present so then they are presented with delicate situations, they can use their techniques to respond appropriately.

To create a connection between the users and the people, Bruce has them plant a tree in his “teacher’s Garden”. He explains that this creates a sense of ownership. He also explains that the garden should be sustainable and utilize indigenous species. He explicitly states the value of the natural lived in gardens and says they don’t need to be pretty and perfect space.

He also explains that many people have different views of how the spaces should be designed according to different backgrounds, teachings or preferences. He says the most important thing is to do what feels right and to do it with good intention.

Bruce tells the story of the Buddhist and the hole in the ground. He walks the path and falls in the hole. he is upset over that but starts the route again and falls in the hole clouded by his anger. The next time he focuses on not falling but he remembers when he takes the step into the hole. Eventually, he will know before he takes the step in the hole. Seeing is doing. When he is in the present, he sees the problem and the thought goes away. The emotions do not follow

## 7.5 Analysis of Research Findings

Research on The Police Treatment Centres (TPC) was conducted to establish the types of spaces that facilitate Police specific training. It was relevant in that it was of similar use to the proposal in that it integrated medical and natural approaches to mental and physical wellness of police officers. TPC was an adaptive reuse so it shall not be considered as a model for built environment.

Research on Therme Vals was conducted to establish relevant design strategies employed in creating multisensory environments. It addressed the shortfalls of TPC. The basis of TPC provided the types of spaces and Therme Vals was an exploration of using these characteristics to better design those spaces.

Research on Waterfall retreat was conducted as it is a contextually appropriate facility which promoted mindfulness and mental wellbeing. It allowed the researcher to observe and fully immerse in the experience of the activity within the facility.



Figure 47: Conceptual Sketches illustrating connection to Nature (Author, 2019)

A common element across all 3 facilities is the inclusion of nature in the process of healing despite being addressed differently. Therme Vals is built in the environment. Waterfall Retreat is built with the natural environment as it is raised to float among the trees. The Police Treatment Centres engage with nature through window openings. The larger openings blur the inside and outside while smaller offer views to the nature outside.

Considering the relationship to the natural environment, unlike that of Therme Vals, the more sensitive approach would be that of Waterfall retreat. By raising the buildings off the ground, it will minimize the impact on the natural environment.

Therme Vals used materials specific to the site to relate to its context, while the material is not applicable, the concept itself is. Sourcing local materials will connect the building to the context.

Analysis of Waterfall retreat in terms of materiality is more prevalent than that of an international example.

Waterfall retreat provided contextually appropriate advice regarding the construction, safety and sustainability. As previously mentioned, the concern with safety in South Africa also leads one to avoid low-level wide openings. As seen in Waterfall retreat, it is preferable to opt for long narrow openings in areas where accessible from ground level.

The use of Steel and timber construction, such as that of Waterfall Retreat, minimizes the use of concrete which is reduced only to the foundations. This would be applicable to keep environmental impact minimal. The facility also uses this method of construction and is able to support an accessible planted green roof.

It becomes necessary to introduce exposed brick to cater to the users current working environment. The majority of the police facilities employ exposed brickwork to be low maintenance. As per the research, the brick textures will be useful to stimulate the visual and tactile senses.

The materiality should be exposed and the overall look to be tectonic in order to create a sense of honesty to the overall scheme. The exposed elements will also enhance the sensory appeal of the complex while being symbolically appropriate.



Figure 48: Passage at TPC Harrogate

A common element between Waterfall retreat and Therme Vals is the importance placed on the user's journey. Unlike in TPC which uses narrow passageways, the other facilities offer a better approach to engage the user with the facility through the use of wayfinding tools.

The Findings from Therme Vals illustrated how the factors of light, colour, texture and nature played a vital role in creating multisensory environments and experiential user-based design. However, waterfall retreat also provided a use of various characteristics of multisensory design yet in a more environmentally sensitive manner.

Furthermore, Primary sources of information obtained from the interview with Bruce was especially useful to the research and he was able to provide the insight of both a facility owner, practitioner and engineer.

Bruce enlightened that, like a computer, individuals rely on input and output. The trigger brings about a response like a glandular secretion. Each time one reacts to something, a pathway is created in the brain which makes the next similar event easier to react upon as the path is forged already. Mindfulness allows you to see your triggers.

From discussions with the owner of Waterfall Retreat, it can be understood that one must acknowledge that they are experiencing an emotion and process it to not let it have negative ramifications on subsequent events. It can be said that individuals have two minds; the experiencing mind and the thinking mind. Our minds are not in the moment. Bruce says that all thoughts are neutral, and each personality differs and thus our reaction differs simply because we all have unique triggers. While one person will see a neutral event, such as rain, as a great occurrence, another person might find that ruins their day.

Through the process of mindfulness, one learns to see their triggers. In addition, one learns to come to the present and respond through compassion. Essentially the process begins with identifying the trigger, accepting it and moving on. It is important to not transfer personal state of mind, especially relevant when considering the police interactions with public.

The focus is placed on not succumbing to the emotion or letting it hinder state of mind. These principles of coping with situational discomfort is particularly relevant to the police force. This research also provided a system of guidelines for the adaptation of methods to develop a tool kit for use when the individuals return to their existing environments. It has been established that most important principle at Waterfall retreat is Mindfulness. This correlates with the concept of Eudaimonia, to live well by moral means.

Waterfall retreat, like Therme Vals, employs the technique of a self-guided, contemplative walk. This relates to the teachings of SDT in improving the autonomy and competence of the user. The markers along the way act as both wayfinding tools and mindfulness cues. These markers, in turn, act as powerful symbols which are stored in the users subconscious and can be reexplored when they return to their environment.

Creating a space of mindfulness is the goal of waterfall retreat as a whole. One must be in a space so they can realize that memories are becoming present. It should be a learning process. Each time the user gets a little closer to learn not to react to the trigger.

Waterfall Retreat provided activities that could be implemented in similar spaces which could expand the program established from analysis of TPC. The facility included activities such as yoga, breathing classes, aromatherapy and reiki as it focuses on mental wellbeing.

The Proposed facility will act as a hybrid typology in that it will combine the Types of spaces from TPC with the design considerations from Therme Vals while being contextually appropriate and aimed at holistic wellbeing like Waterfall Retreat.



#### 7.4 Discussions and theoretical implications

The Police Treatment Centres (TPC) was not adequate in terms of multisensory design. Similar to the plight of the South African facilities, the building is not symbolically representative in its physical reality either. The meaning is derived from the users experience within the building which is largely reliant on the functionality of the programme.

Therme Vals is an adequate facility to establish how various design strategies aid in enhancing multisensory experience. The facility can be considered quite to Waterfall Retreat similar in aspiration of promoting wellness, yet they portray two very different approaches.

Waterfall retreat provided an apt contextually appropriate facility of mindfulness. The relevance of the South African Context is seen in its focus on safety factors as well as in its technology and material usage. It aligns with the concept of Eudaimonia for wellness in that it is based on the principle of mindfulness.

The value placed on mindfulness principles were measured along with the considerations of self-determination in order to create a facility which fosters Autonomy, relatedness and competence to improve the Self Perception of police officers and ensure they live well.

Throughout the review of phenomenology, it was clear that the stimulation of senses evoked by a multisensory environment was crucial. The choice of the sensory stimulation needs to be carefully considered specifically to each space in order to evoke the desired state of mind as per the activity.

## **8. Chapter Eight: Conclusions and Recommendations**

### **8.1 Conclusions**

Throughout this research, Self-determination theory, semiology and phenomenology were integral in considering the creation of an integrated training facility for SAPS. These theories aided in understanding and motivating decision making around enhancing the perception and performance of the SAPS.

To explore the use of symbolism as an empowerment tool to improve the image, perception & performance of the SAPS

This research objective was necessary as determined by the scope of the research that put forth that the issues of community distrust towards the SAPS were inexplicably linked to their poor image and performance. It was also essential considering the history of the SAPS and their poor performance.

Through the analysis of Self Determination theory, factors that influence self-perception in individuals were outlined. This insight into factors which influence motivation provided the insight from a social perspective necessary for user-based design. This was then correlated to an understanding of the members of the SAPS.

Through the analysis of the theory of Symbolism, the concepts of meaning, perception and perspective were determined. These were useful to understand interactions between public and police, police and environment as well as building and environment.

It was concluded that as the Members of the SAPS undergo their training to live well, physically and mentally, their image and self-perception improve, thus their performance improves. By changing the public perception through their increased performance and interactions, the police symbolic representation will improve. Symbolism is thus, relevant in forging symbiotic relationships between the public and SAPS.

Furthermore, it is relevant in the built environment to carry a sense of purpose of functionality and representation. The proposed facility should be symbolic of the new SAPS in that it is open and tectonic but specifically catering to the SAPS by being a place of sanctuary. Forging a positive symbolism will promote positive perception and interaction with the built intervention.

### To investigate what spaces can facilitate wellness and rehabilitation

The research objective was based on the need to address Police health and wellness at an individual level. It was also a response to the 'Wellness Indaba' efforts at tackling these issues from the SAPS. The aim was to integrate naturalistic and medical approaches towards wellness.

From Reviewing TPC, the Programmatic precedent, it became clear that several medical and non-medical activities were used to aid in Police wellbeing. The Design did not consider the experience, hence the exploration of Therme Vals, a precedent specifically catered toward experience. This explored the design considerations for multisensory design.

The use of literature explored the characteristics of multisensory design and concluded the benefits in healing. They outline factors to consider when designing medical and non-medical facilities.

The case study was utilized to provide firsthand experience for the spatial considerations of mindfulness practices. In addition, the Case study was used to ground the design and make it appropriate to a South African context.

The research objective was achieved through the analysis of the two precedents, literature and the case study. It allowed a consensus to be reached regarding the type of spaces needed and also how to design those spaces to optimally integrate both health care and naturalistic approaches to wellness.

To determine what spaces are used by the Police Force to facilitate training and improvement

This objective was based on the evidence that the current facilities are inadequate for training and do not cater for human experience or officers who are already in the line of duty. There is no consideration to the mental wellness of the recruits. Additionally, the working environments of the SAPS have negative effects on their performance.

The research objective was achieved through analysis of secondary sources being the TPS precedent of successful facilities of similar use or desirable characteristics, currently in operation despite it not being accessible to the researcher. The findings from TPC includes the type of spaces necessary for the training, wellness and police specific activities. The analysis allowed the researcher to determine the types of spaces which were understood in terms of their purposes addressing mental, spiritual and physical concerns.

### To explore relevant design strategies required to create holistic healing environments

The research objective was necessary under the consideration that the current available treatment and training facilities for the SAPS were inadequate. As previously mentioned, the symbolism and meaning are inexplicably linked to the success of the facility in that there will be a predisposed perception toward it.

The analysis of the theory of phenomenology provided insight into experiential user-based design and multisensory design. As hypothesized, it was concluded that multisensory, user-based design is imperative when creating holistic healing environments. The inclusions of light, colour, texture and nature are particularly significant in evoking a reaction from the individual.

The analysis of the Precedent, Therme Vals allowed conclusions to be drawn on the application of various multisensory characteristics which were established through the review of secondary sources of literature.

The analysis and observation of the Case Study, Waterfall Retreat, helped achieve the research objective by observation of a contextually appropriate successful healing environment. The analysis allowed the data collected from literary sources while observation through firsthand engagement provided a practical understanding design strategy used in healing environments.

## 8.2 Recommendations

The recommendations are a guideline for an approach to addressing the image, perception and performance of the SAPS through an integrated training facility. The above considerations ensure the sustainable and appropriate use of a natural setting. The considerations also cover those physiological needs for self-determined individuals.

The recommendation can be made that the Architect must employ critical thinking when creating Architecture in order for it to benefit the users. This is especially significant in the Context of the SAPS in that the current facilities lack the human centered design. In addition, the facilities are representative of the oppressive SAP, the buildings should correlate to the new branding of the SAPS. The significance of the symbolism needs to be holistically adhered to in order to promote the image, perception and performance of the SAPS.

### Site Selection Criteria

It has been established that the environment within which the building sits is of equal importance to the consideration of the individual experience. The site is a crucial component to the success of the facility. By utilizing a site in a natural setting, it maximized the exposure to nature which aids in the healing process.

The site also needs to be accessible to all the relevant police stations in the general surrounding area to ensure it can be useful to the members of the SAPS.

In addition, by taking the users out of their setting, but carefully recreating elements of their environment, it becomes an adequate space in which to train. The user is able to detach from their expectations but subconsciously gain the toolkit for coping and thriving within their existing environments to which they will return.

The site should align with the following criteria:

- Natural Setting
- Calm and Conducive Environment
- Allow for good Views
- Respect a privacy gradient
- Large enough to allow for hiking and exercise routes
- Without Dense settlements

The facility should cater for the following spaces:

- Admin or reception
- Accommodation for 30 users
- Recreational area for Social interaction
- Medical Practitioner consultation rooms
- Non-Medical Treatment rooms
- Contemplative spaces
- Gym or area for physical Training
- Classroom specifically for learning
- Communal dining hall

The Design considerations should include elements for multisensory design such as:

- Light
- Colour
- Texture
- Nature

Day 1					
6-8	BREAKFAST	6-7	Horse riding	6-8	Meditation
8-9	Stress management WS	7-8	Nutritional guidance	8-9	BREAKFAST
9-10	Group therapy and tea	8-9	BREAKFAST	10:30-11:30	Massage
10:30-11:30	Daily organizational	10:30-12	Kayaking	12-1	Counselor
12-1	Nutritional Guidance	12:30 -1:30	LUNCH	1-2	LUNCH
1-2	LUNCH	2-3:30	Yoga	2:30-3:30	Group Counsel
2-3	Biokinetic session	4-5:30	Counselor	3:30-4:30	Reenactment class
3:30-4:30	Sleep Pattern	6-7	Art therapy	5-6:30	Gym Session
5-6	Gym session	7-8	DINNER	7-9	Potjie
7-8	DINNER	8-9	Movie night	onwards	social
Day 4					
6-8	Hydrotherapy	6-8	BREAKFAST	6-8	Meditation
8-9	BREAKFAST	8-9:30	Breathing Exercise	8-9	BREAKFAST
10-11:30	Silent walk	10-11:30	Hike	10-11:30	Horse riding
12-1	Counselling	12-1	LUNCH	12-1	LUNCH
1-2	LUNCH	1-2	Aqua aerobics	1-2	Hydrotherapy
2:30-3:30	Gym	2:30-3:30	Target practice	2:30-3:30	Target practice
3:30-4:30	Target practice	4-6	Group Reenactment	4-5	Gym
5-7	Nutritional Guidance	5-7	Sleep/ stress workshop	5-5:30	walk
7-8	DINNER	7-8	DINNER	6-9	Braai
6-8	Hydrotherapy	8-9	Sport	onwards	Social
Day 5					
6-8	BREAKFAST	6-8	BREAKFAST	6-8	Meditation
8-9	BREAKFAST	8-9	BREAKFAST	8-9	BREAKFAST
10-11:30	Silent walk	10-11:30	Hike	10-11:30	Horse riding
12-1	Counselling	12-1	LUNCH	12-1	LUNCH
1-2	LUNCH	1-2	Aqua aerobics	1-2	Hydrotherapy
2:30-3:30	Gym	2:30-3:30	Target practice	2:30-3:30	Target practice
3:30-4:30	Target practice	4-6	Group Reenactment	4-5	Gym
5-7	Nutritional Guidance	5-7	Sleep/ stress workshop	5-5:30	walk
7-8	DINNER	7-8	DINNER	6-9	Braai
6-8	Hydrotherapy	8-9	Sport	onwards	Social
Day 6					
6-8	BREAKFAST	6-8	BREAKFAST	6-8	Meditation
8-9	BREAKFAST	8-9	BREAKFAST	8-9	BREAKFAST
10-11:30	Silent walk	10-11:30	Hike	10-11:30	Horse riding
12-1	Counselling	12-1	LUNCH	12-1	LUNCH
1-2	LUNCH	1-2	Aqua aerobics	1-2	Hydrotherapy
2:30-3:30	Gym	2:30-3:30	Target practice	2:30-3:30	Target practice
3:30-4:30	Target practice	4-6	Group Reenactment	4-5	Gym
5-7	Nutritional Guidance	5-7	Sleep/ stress workshop	5-5:30	walk
7-8	DINNER	7-8	DINNER	6-9	Braai
6-8	Hydrotherapy	8-9	Sport	onwards	Social
Departure					
In Uniform					
Guided walk and way forward consultation					
Planting – Along the entrance walkway					
Breakfast					

Figure 49: Proposed 1-week Course (Author,2019)

- A multipurpose space should be easily adaptable to allow flexibility in the programme. To avoid stigma, the medical and nonmedical practitioners should be indistinguishable from each other so to reinforce the solidarity of their treatment.
- The facility should cater for social engagement and recreational activities. The users, unlike that of other retreats, are required to function well as a team. This would also provide the relatedness, a component understood through self-determination theory.



- In terms of the signage posts, they could double as Hawk Boxes to reintroduce Fauna onto the site. The Birds of Prey will act as a natural pest control



*Figure 50: Proposed  
Wayfinding Elements  
(Author, 2019)*

- With regard to environmental sustainability, Techniques such as the optimizing orientation, Natural ventilation and passive cooling can be adapted. Water storage tanks should be implemented and allow for reuse of rainwater for irrigation and other uses. Sourcing local materials will cut down on transportation costs. The considerations of the materiality will also be sensitive to environmental concerns.
- With Regard to Social sustainability, the construction techniques should allow for the skills development and employment of local labor. The local construction can also include the hand excavation where necessary.
- With regard to Economic sustainability, the buildings and vegetation should be relatively low maintenance thereby cutting costs. The use of environmental sustainability will also reduce the running costs of the building.

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## 10. APPENDICES

### 10.1 Appendix A: Consent Form



The School of Built Environment and Development Studies  
Architecture Programme

University of KwaZulu Natal

RE: RESEARCH FOR MASTER OF ARCHITECTURE DISSERTATION AND CONSENT  
TO PARTICIPATE IN RESEARCH

Date: 01 April 2019

To Whom it may concern,

My name is Alisha Moodley (Student No. 214568738). I am currently working toward a master's degree in Architecture. The proposed research document is "Investigating holistic health and wellness and its relationship to architecture: a proposed integrated training facility for the SAPS in Durban, KwaZulu Natal."

#### Student Details

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**HSSREC Research Office Details**

Dr Shenuka Singh. Humanities & Social Sciences Research Ethics Committee  
University of KwaZulu-Natal, Westville Campus, Durban  
Email: [ximbap@ukzn.ac.za](mailto:ximbap@ukzn.ac.za)  
Cell: 031 260 3587

This information consent letter, a copy of which has been given to you, outlines the details of my theses research and what your participation entails. This project is part of my requirements for the course, Arch808H0: Dissertation: Architectural Design, Under the supervision of Viloshin Govender. This research primarily focuses on investigating holistic health and wellness and its relationship to architecture: a proposed integrated training facility for the SAPS in Durban, KwaZulu Natal.

.

Participation in this project is voluntary and there are no known or anticipated risks to you as a participant in this study. The interview will be approximately 20min-30min in length. You can decline to answer any of the interview questions if you so wish or terminate the interview at any time. Any information you provide is kept confidential. Your identity will remain anonymous in any written report and your information will be de-identified prior to storage. However, with your permission anonymous quotations may be used. With your consent, data collected for this project will be retained for five years in my supervisors' locked office at Howard College. The data will only be accessed via my supervisor at Howard College, UKZN and myself.

If you have any questions, please feel free to contact me. Please indicate below your willingness to participate in this study. Thank you in advance for your co-operation in this research.

.....

Yours sincerely

Alisha Moodley

## CONSENT FORM

(To be signed by the participant before each interview)  
One copy to participant, and one signed copy to the researcher

I have read the information presented in the information letter about a project being conducted by Alisha Moodley of The Department of Humanities and Built Environment Studies at Howard College, UKZN, under the supervision of Viloshin Govender. I have had the opportunity to ask any questions related to this study, to receive satisfactory answers to my questions, and additional details I wanted.

I am aware that I have the option of allowing my interview to be recorded to ensure accurate recordings of my responses.

I am aware that my quotations will be anonymous.

I was informed that I may withdraw my consent at any time without penalty by advising the researcher.

I was informed that if I have any comments or concerns resulting from my participation in this project, that I may contact the researcher.

With full knowledge of all foregoing, I agree, of my own free will, to participate in this study.

☐ Yes ☐ No

I agree to the use of anonymous quotations in the final research project report that comes of this research.

☐ Yes ☐ No

I agree to allow audio-recording during the interview.

☐ Yes ☐ No

**Signature of Participant**

---

**Date**

---

**Signature of Witness**

---

**Date**

---

## 10.2 Appendix B: Gate Keepers Letter



The School of Built Environment and Development Studies  
Architecture Programme

University of KwaZulu Natal

Durban, South Africa

RE: PERMISSION TO CONDUCT RESEARCH / GATEKEEPERS LETTER

Date: 01 April 2019

To Whom It May Concern,

My name is Alisha Moodley (Student No. 214568738). I am currently working toward a master's degree in Architecture. The proposed research document is "Investigating holistic health and wellness and its relationship to architecture: a proposed integrated training facility for the SAPS in Durban, KwaZulu Natal.

### Student Details

Name of student: Alisha Moodley

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Cell: 031 260 3587

This information consent letter, a copy of which has been given to you, outlines the details of my theses research and what your participation entails. This project is part of my requirements for the course, Arch808H0: Dissertation: Architectural Design, Under the supervision of Viloshin Govender. This research primarily focuses on investigating holistic health and wellness and its relationship to architecture: a proposed integrated training facility for the SAPS in Durban, KwaZulu Natal.

.

This Letter serves to state that Gatekeepers permission is hereby granted to conduct research at \_\_\_\_\_ towards the Post Graduate studies provided ethical clearance is obtained by the University of KwaZulu Natal Humanities and Social Sciences Research Ethics Committee.

Participation in this project is voluntary and there are no known or anticipated risks to you as a participant in this study. The interview will be approximately 20min-30min in length. You can decline to answer any of the interview questions if you so wish or terminate the interview at any time. Any information you provide is kept confidential. Your identity will remain anonymous in any written report and your information will be de-identified prior to storage. However, with your permission anonymous quotations may be used. With your consent, data collected for this project will be retained for five years in my supervisors' locked office at Howard College. The data will only be accessed via my supervisor at Howard College, UKZN and myself.

If you have any questions, please feel free to contact me. Please indicate below your willingness to participate in this study. Thank you in advance for your co-operation in this research.

Participant name ..... (please print)

Participant signature.....

Date.....

Witness name..... (please print)

Witness signature.....

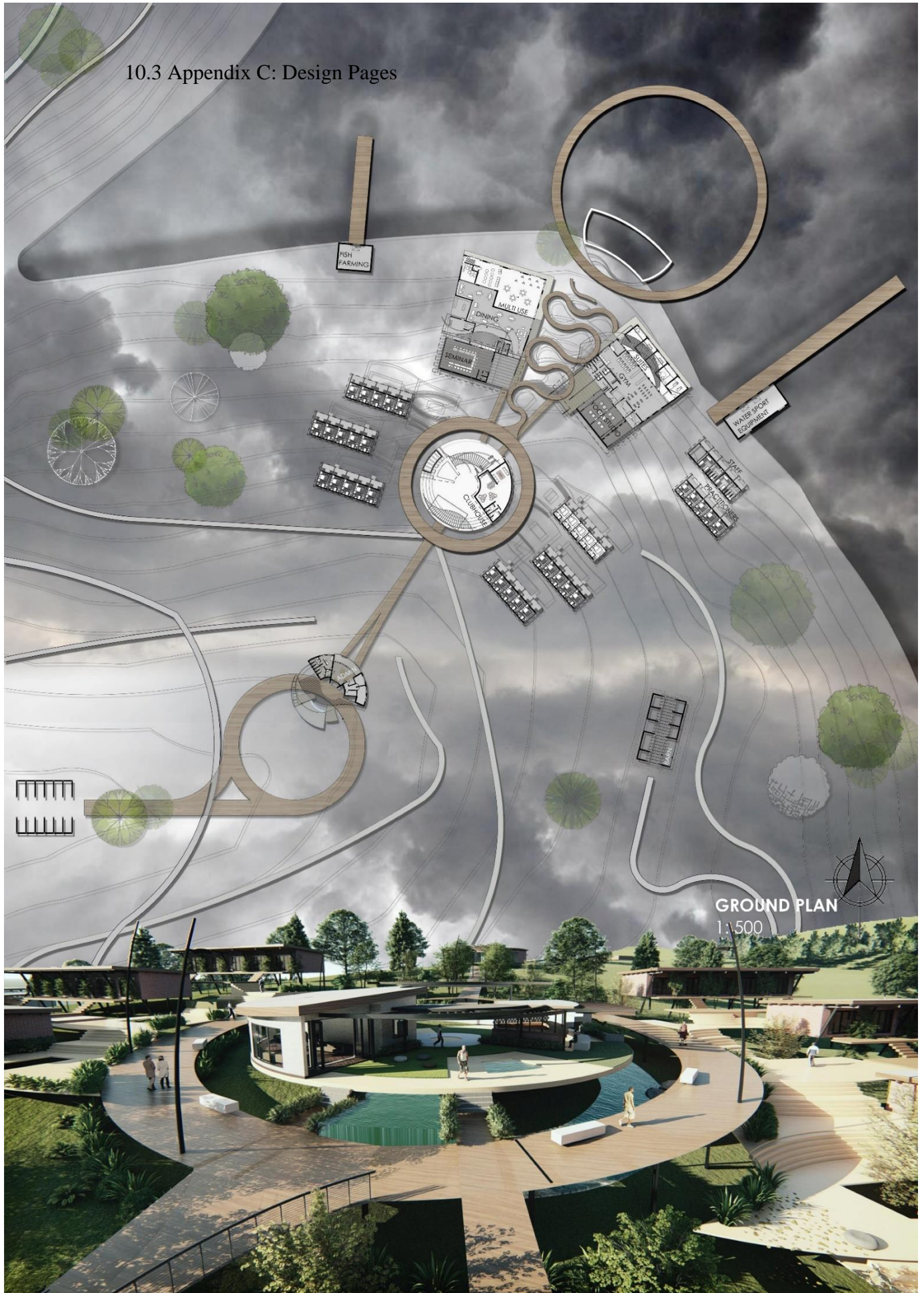
.....

Yours sincerely

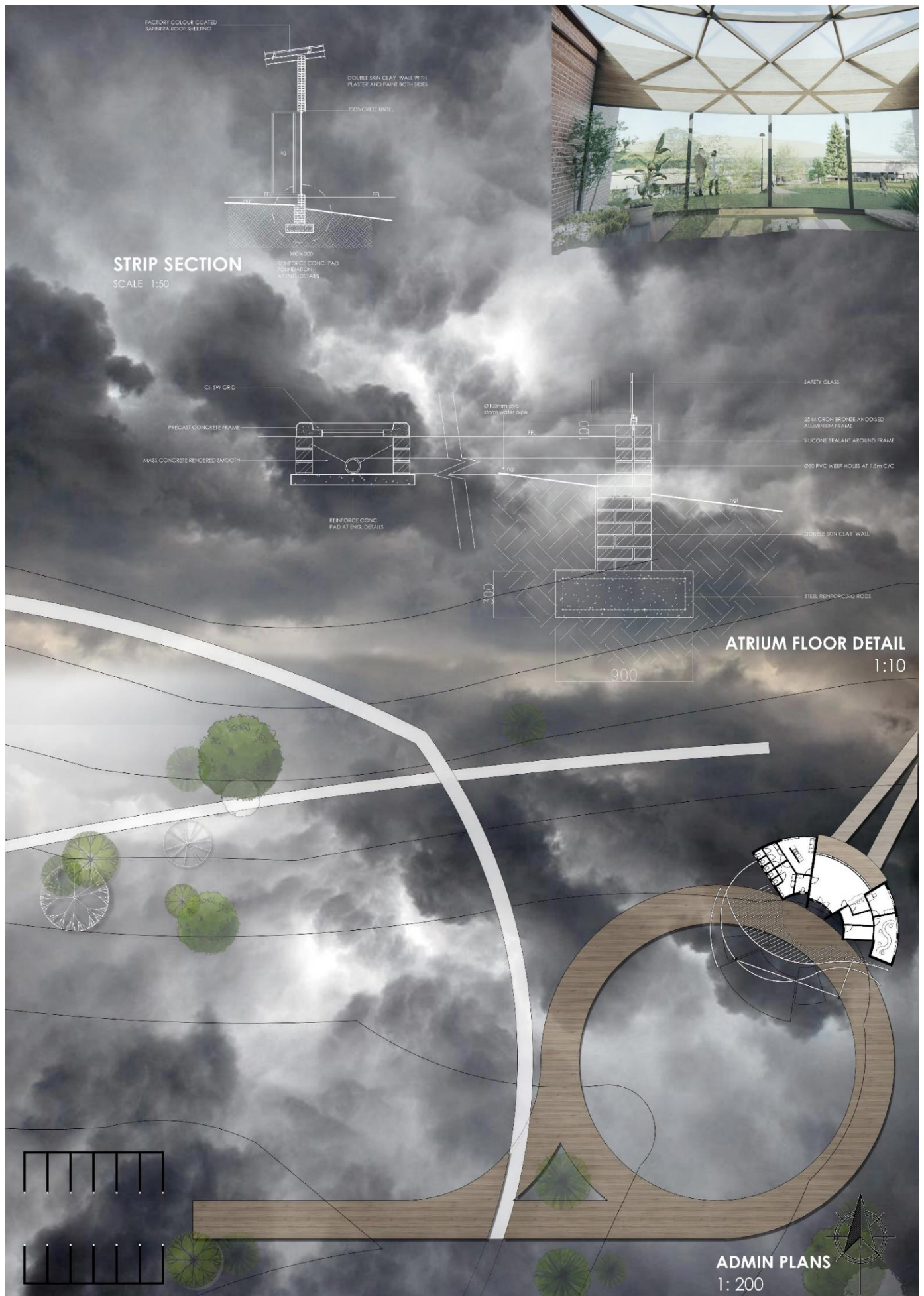
Alisha Moodley



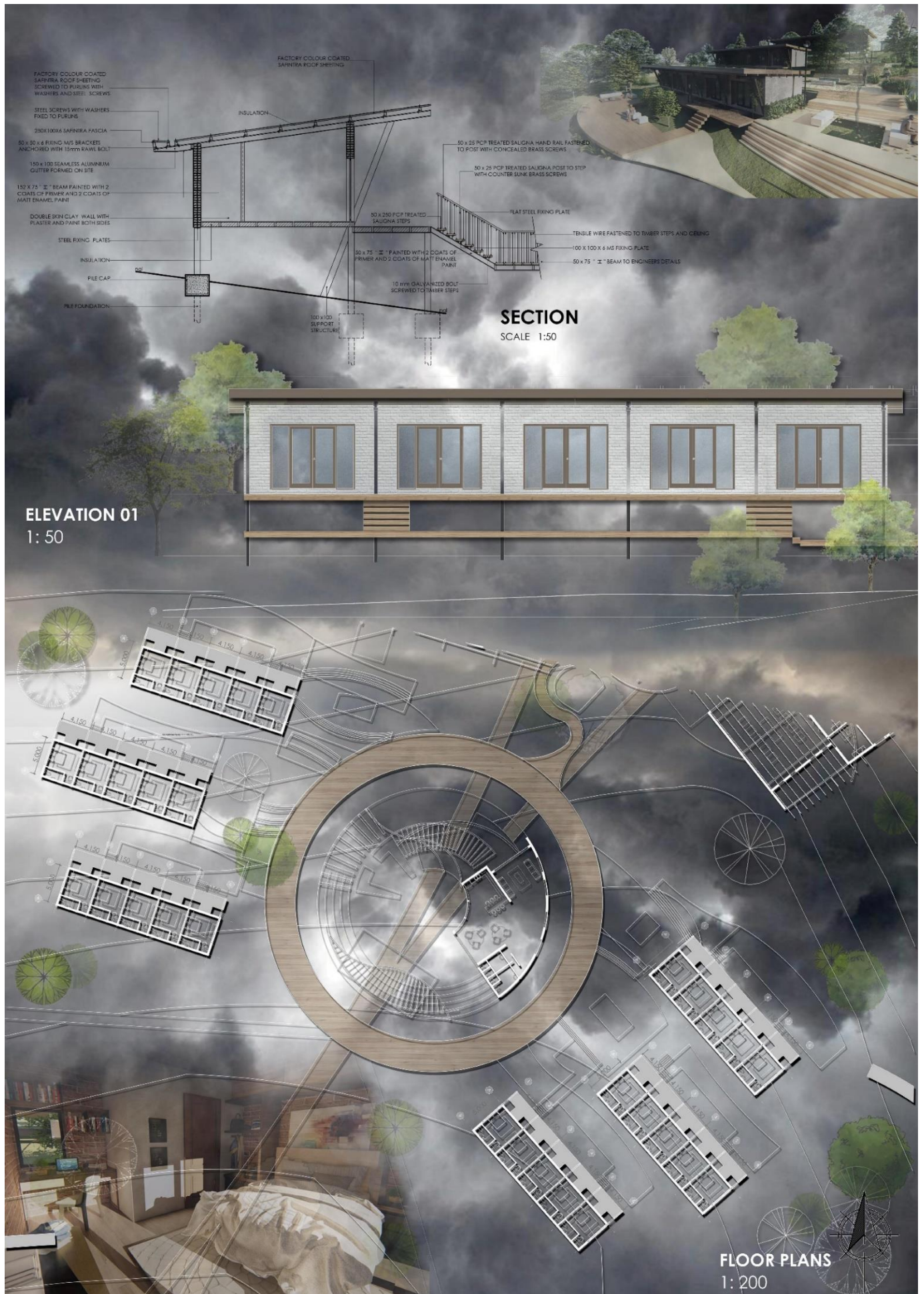
### 10.3 Appendix C: Design Pages







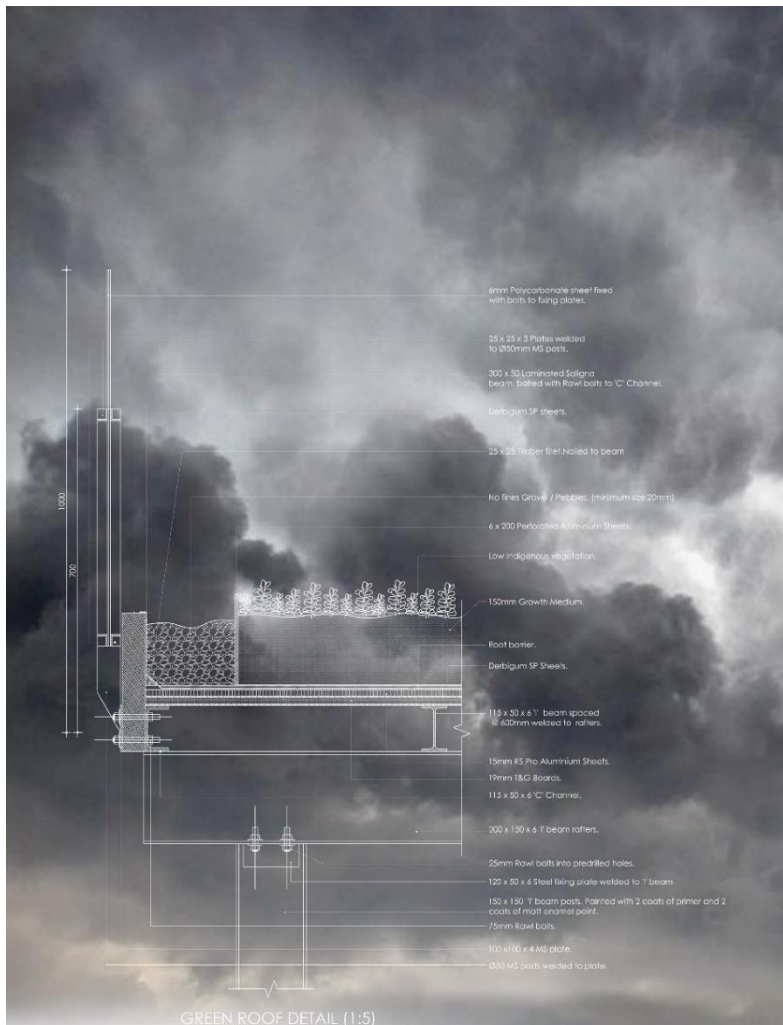




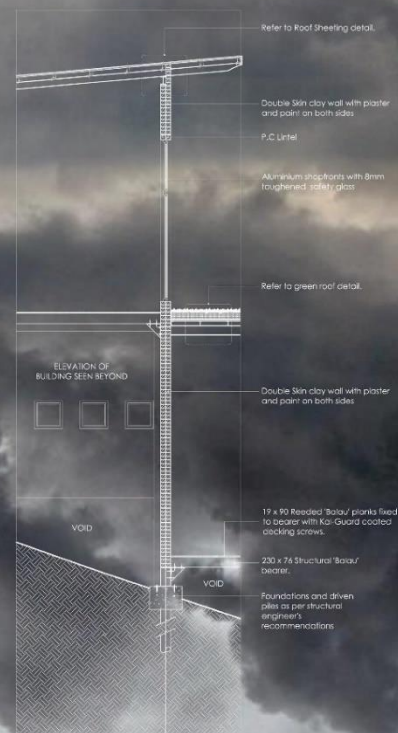








GREEN ROOF DETAIL (1:5)



STRIP SECTION (1:50)



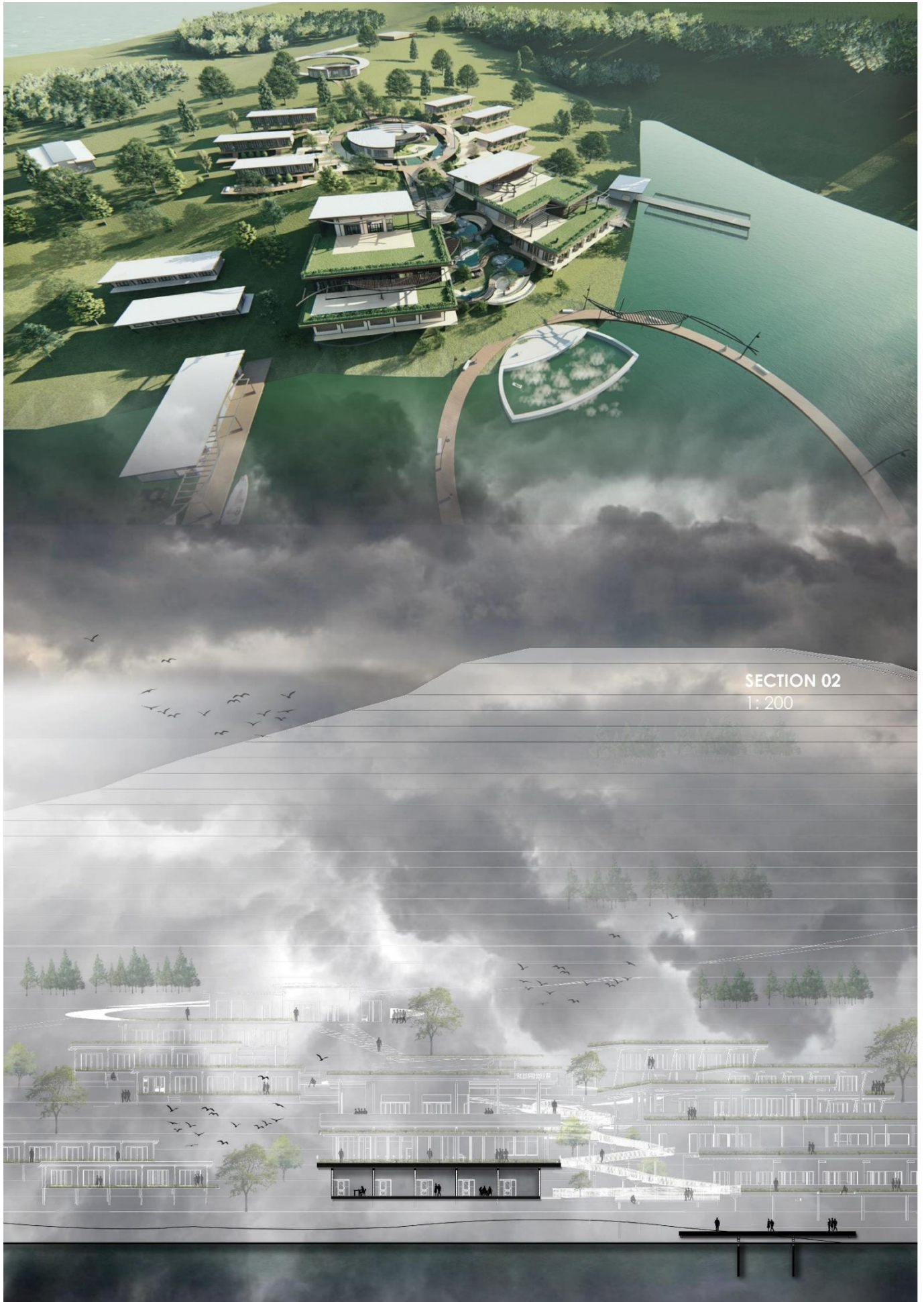
(1:200)

## SECTION 01

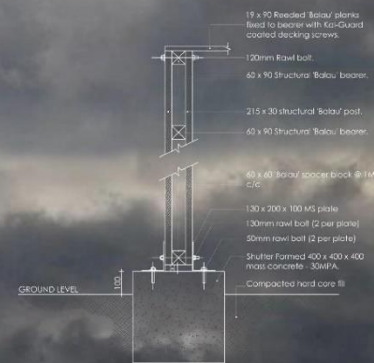
1: 200











**WALKWAY POST DETAIL**  
1:10



**HAWK BOX**  
natural pest control  
wayfinding  
flora and fauna