

BUYING INTO RESIDENTIAL ECO-ESTATES: PERCEPTION AND REALITY OF “GREEN LIVING” IN ECO-ESTATES IN GAUTENG, SOUTH AFRICA

by

ROSELLE DANETTE SHERRIFF-SHÜPING

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DEDICATION

For Ross, this is especially for you.

Declaration

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ABSTRACT

With few studies focusing on the construction of green buildings in South Africa, there is a need to understand the reasoning behind the development of residential estates that have classified themselves as “eco”. The aim of this study was to establish whether or not residential estates that market themselves as “eco” are in fact sustainable. This study looks at the environmental sustainability of residential eco-estates (n=7) and compares them to non-eco-estates (n=7) in the Gauteng Province of South Africa. The study used content analysis to evaluate the marketing material of the 14 estates sampled for the study.

The data gathered through content analysis was then used to determine the environmental sustainability for each estate using an adapted version of the Sustainable Building Assessment Tool. The findings indicate that although the residential eco-estates had higher environmental sustainability scores when compared with non-eco-estates, the overall score for many of the eco-estates was too low for them to be classified as sustainable. The results of the study also highlight that a number of the eco-estates use greenwashing methods to attract potential homeowners. By selling nature, these estates are able to attract homeowners who may be interested in protecting the environment.

When looking at these findings, it is possible to assume that the development of residential eco-estates has less to do with the sustainability of nature and has more to do with a desire to increase profits. In order to achieve environmental sustainability, it is therefore important to provide guidelines for developers to use if they are genuinely interested in creating estates that focus on the protection of the environment and natural resources. These guidelines can be developed through frameworks that exist to evaluate the sustainability of developments. Although much of the focus of this research is placed on the developers of each estate, it is important to acknowledge that the individuals who live within these estates are just as responsible for achieving sustainability.

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List of abbreviations

“Eco”	Ecological
ASA	Advertising Standards Authority
BREEAM	Building Research Establishment Environmental Assessment Methodology
CASBEE	Comprehensive Assessment System for Built Environmental Efficiency
CFL	Compact Fluorescent Lightbulb
CSIR	Council for Scientific and Industrial Research
DEAT	Department of Environmental Affairs and Tourism
EL	Estate Living
EMP	Environmental Management Plan
LED	Light Emitting Diode
LEED	Leadership in Energy and Environmental Design
NEMA	National Environmental Management Act
SAEP	South African Education and Environment Project
SAPOA	South African Property Owners Association
SBAT	Sustainable Building Assessment Tool
WCED	World Commission on Environment and Development

Glossary of Key Terms

Eco-building	The development of a building in such a way that it does not cause harm to the environment
Eco-estate	A development that is designed to minimise impacts of the houses built in that particular area on the surrounding environment by using materials and processes that are considered to be environmentally friendly.
Estate	A development containing a number of residential houses, contained within a secured perimeter. These estates are often governed by a body corporate, which includes residents who act as trustees. Some of estates contain various on-site amenities, such as gyms, clubhouses, and Wi-Fi.
Green washing	Marketing that uses green imagery and terminology to promote a perception that the establishment and its aims and policies are environmentally friendly.
Green-building	Also known as green construction, it is the process of building as well as the actual built structure that are environmentally responsible and resource-efficient.
SBAT	A sustainable building assessment tool, created in South Africa, to encourage sustainability performance improvements in buildings and construction processes.
Sustainability	Supporting long-term ecological balance to ensure that the environment is protected and that natural resources are not depleted.

Chapter One: Introduction

1.1 Introduction

One of the greatest challenges faced by the contemporary world is the contrast in the need to provide for current human welfare, while at the same time preserving the environment and its resources for future generations (Adams, 2009). Global leaders are required to address environmental issues such as climate change, biodiversity depletion, and pollution, while simultaneously tackling inequality and poverty and ensuring that the global economy does not suffer (Adam, 2009). There is thus a need to achieve sustainable development, a process of balancing human development with ecological sustainability.

In order to have effective sustainable development, there needs to be an appreciation of the value of natural resources, since current and future development depend on a wealth of resources. To ignore this relationship between the environment and development is self-defeating (Emas, 2015). The connections between the environment and development thus provide a powerful rationale for environmental protection (Dernbach, 1998). Essentially, sustainable development refers to development that must remedy social inequities and environmental damage and at the same time maintain a sound economic base (Harris, 2000). These principles, when looked at as a system of interconnected components, suggest that new guidelines for the development process are required (Harris, 2000). The creation of new guidelines would ensure that development practices that have existed over the last half-century improve to reduce economic imbalances, as well as reduce growing negative environmental impacts, especially since development will continue indefinitely (Harris, 2000).

Globally, there is an ever increasing demand for infrastructural development, which is particularly driven by high rates of urbanisation and the growth of the middle class. As the need for infrastructure continues, greenfield sites are exploited for residential and business developments (Kearney, 2006). Many of these sites are specifically developed for the unique and significant natural characteristic they have and housing developers want to market their newly developed properties as existing in nature. However, that which make these areas so valuable (in terms of development), such as nature and wildlife, recreational opportunities, rural character, and air quality, are most likely to be negatively impacted as development occurs and the existing landscape is fragmented or altogether lost (Kearney, 2006).

Although population and urban development are factors that are considered to be responsible for the concept of sustainability, there needs to be a change from the use of greenfield sites to brownfield redevelopment, such as urban re-densification,

for this type of development to be truly sustainable (Roosa, 2010). These concepts are interrelated since growing populations result in changes in urban development, especially where there is an influx of people migrating to urban areas in search of employment and other amenities provided in an urban environment (Roosa, 2010). Most population growth takes place in the suburban areas, which results in greater construction of housing in this area (Roosa, 2010). This increased development has several unintended consequences, including greater resource consumption, which in turn results in more significant environmental damage (Kahn, 2000).

This need for development can particularly be seen in the global south, such as South Africa, where, with a growing population, the country is seeing an increase in the number of new residential developments. This increase in development means that areas that were previously undeveloped are now sought after by developers, especially since residential properties in South Africa are increasing in value (Montagu-Pollock, 2015). As a result, property developers are targeting this market, owing to its steady growth and high economic returns (du Toit, 2006). Although lucrative, the development of residential property is challenging as a result of constant change (Motshegwa, 2015). These challenges faced by property developers are compounded by the increasingly relevant issue of environmental sustainability within the property industry (South African Property Owners Association (SAPOA), 2013). Environmental sustainability can be achieved through the use of green building requirements for new developments, energy management on new and existing properties, and increased utility costs, which are at times complicated by the constant stream of new regulations (SAPOA, 2013).

The need to develop environmentally sustainable housing has seen a growth in the real estate market where housing estates differentiate themselves from other developments by choosing to focus on the environment. A key way in which to differentiate a particular housing estate in a competitive market is to market it as an eco-estate (Ballard & Jones, 2011). Since there are widespread concerns about environmental degradation, resource shortages, and human health impacts caused by human activities (especially activities connected to built environment design and construction) in the environment (Kibert, 2013), this study aims to determine whether or not residential developments that are marketed as eco-estates have less of an impact on the environment than non-eco-estate developments.

It is apparent that developers are trying to achieve sustainability through the development of eco-estates. This is especially true in South Africa where there are now more than 50 estates that are marketed as “eco”. These developments look set to increase in their numbers over the years, since eco-estates provide potential investors with a profitable investment, such as unique natural surroundings with secure, well-organised management structures, while at the same time professing to

be sustainable developments (Landman & Badenhorst, 2012). It is therefore necessary to determine their exact role in environmental sustainability, since in many cases, the benefits of development are unevenly distributed, with income inequality remaining persistent or increasing over time (Harris, 2000). Globally, the numbers of those living in poverty and those who are malnourished remain high, despite the global middle class reaching relative affluence (Harris, 2000).

Demand is crucial to economic development and, as such, where demand leads, supply will follow (McKay, 2011). As such, developers worldwide are constructing buildings that are built with greener products as well as adapting operations to appear more environmentally friendly (McManus, 2008). However, this commitment to environmental protection has more to do with a desire to sell their product, thus these developers are greenwashing (McManus, 2008). Greenwashing is global concern that sees companies marketing their products as green when they are not (Pindela, 2014; Delmas & Burbano, 2011; Furlow, 2010; Alves, 2009; Gillespie, 2008; Ramus & Montiel, 2005; Greer & Bruno, 1996).

Greenwashing is a term that has been used to describe companies that mislead consumers (both intentionally and unintentionally) regarding the environmental practices of the company, or the environmental benefits of the product or service the company offers (Le Roux & Viljoen, 2012). Greenwashing has significantly increased along with the increased demand for green products by consumers (Le Roux & Viljoen, 2012).

1.2 Sustainability and Construction

The last decade has seen a shift from a focus on specific environmental issues to the broader concept of sustainable development (Gibberd, 2008; Roosa, 2010). This shift has occurred as a result of environmental degradation and resource depletion, as well as the need to focus global efforts on social, environmental, and economic sustainability (Gibberd, 2008). Notably, sustainability developed from multiple sources and evolved with the realisation that problems and potential solutions may be interrelated across systems, rather than existing individually (Roosa, 2010).

Sustainable construction addresses the ecological, social, and economic issues of a building in the context of its community (Kibert, 2013; Ortiz *et al*, 2009). The need for sustainability within the construction sector is to reach a point where there is a contribution to the improved environment as well as advancement within society (Shen, *et al*, 2010). In the quest to achieve sustainability within the construction industry, there is a need for developers to address specific questions that relate to the approaches used to handle environmental problems within the overall design process, the materials that are most suitable for use, environmentally benign

practices, as well as other issues and aspects that contribute to the environment (Ball, 2002).

The building and construction industries play an important role in achieving sustainability as well as in addressing basic human needs in the provision of housing and social infrastructure (Gibberd, 2008). In 1994, the Conseil International du Bâtiment (CIB) put forward that sustainable construction is the creation and operation of a healthy built environment based on resource efficiency and ecological design (Kibert, 1994). It is therefore crucial to develop and use tools that can measure whether or not sustainability is being achieved.

There is also, however, a need to ensure that the tool used to assess sustainability is applicable to this specific context. It is a widely accepted fact that the average standard of living in developing countries is far lower than that of developed countries, and as such many basic human needs are not met. Therefore, in a developing country, the emphasis for sustainability should be on development that addresses these basic needs while avoiding negative environmental impacts (Gibberd, 2008).

One method used to assess sustainability in the construction sector is through the use of environmental building assessment methods. Globally, there are more than 20 environmental building performance assessment methods, including, but not limited to, LEED, Green Star, CASBEE, BREEAM, and GBTool. The primary role of an environmental assessment method is to provide comprehensive assessment of the environmental characteristics of a building (Cole, 2005). This assessment is done through the use of common and verifiable criteria, which enable both owners and designers of buildings to achieve environmental standards (Ding, 2008).

With a shift towards environmental protection and sustainability, environmental building assessment both enhances the environmental awareness of building practices as well as lays down the fundamental direction for the building industry (Ding, 2008). Yet even though environmental building assessment methods assist in developing an understanding of the relationship between buildings and the environment, there are limitations (Ding, 2008). These limitations may hamper their future usefulness and effectiveness in the context of assessing environmental performance of buildings (Ding, 2008).

Sustainability is thus revolutionising the way that buildings are being constructed, as well as the way that resources are being allocated (Roosa, 2010). This shift has seen the emergence of greenwashing tactics to garner favour among consumers who feel inclined to participate in the “green” movement.

1.3 Green Building

The last two decades have seen an increase in the adoption of the terms “sustainable design” and “high performance buildings”, which in turn has led to the development of assessment tools (Todd *et al*, 2001). These tools have helped design this emerging field by providing ways for building owners and managers, architects, builders, community planners, and other interested parties to communicate with one another about the built environment and how to construct an environmentally sustainable building (Todd *et al*, 2001).

At present, high performance green buildings are defined as such by the assessment systems that are used to rate and to certify them (Kibert, 2013). Using the principles and methodologies of sustainable construction, green buildings refer to the qualities and characteristics of the actual structure (Kibert, 2013). Green building aims to provide people with healthy, comfortable, and safe spaces to live and work, while at the same time promoting efficient use of resources throughout the entire building lifecycle (Liu & Xu, 2015; Samer, 2013). The driving factor in the development of green buildings is sustainable development, which calls for a change in not only the physical structures of the built environment, but a shift in the way that companies, organisations, and individuals think about and act in the environment (Kibert, 2013).

The purpose of green buildings is therefore to transform fundamental human assumptions of wastefulness and inefficiency and replace them with a paradigm of responsibility towards present and future generations (Kibert, 2013). Green building is important as it encourages the minimisation of environmental degradation caused by building practices in an attempt to ensure that future generations have a cleaner and more energised planet (Kamana & Escultura, 2011).

Since green building allows for sustainable development to occur, many countries have adopted this approach as the best way forward in preserving resources and sustaining the environment (Al-Kaabi *et al*, 2009). The situation in South Africa reflects this move to more sustainable building practices, with the country now positioned as the fastest growing sustainable building country in the world (Mahlaka, 2014).

Unlike the traditional definitions of design, which denote the intentional shaping of matter, energy, and process to meet a desire outcome, ecological design is the transformation of matter and energy through processes that are compatible and interact with nature, or that have been modelled on nature (Kibert, 2013). Although the terms “ecological design”, “ecologically sustainable design”, and “eco-construction” are often used interchangeably with regards to green building, they are

in fact terms that are used to describe the application of sustainability principles to building design (Kibert, 2013). Defined as a holistic and integrated approach aiming to support accessibility to healthy habitats, eco-construction is crucial in ensuring the conservation of natural resources, as well as developing the cultural and architectural heritage in construction (Samer, 2013).

1.4 Eco-Estates and Sustainable Development

The term “eco-estate” is relatively new; the development of eco-estates has gone from being a virtually unknown concept to numbering more than 50 across South Africa (Koblitz, 2006). Based on the concepts of sustainability, economy, environment, and people, eco-estates should in turn focus equally on profit, people, and the environment (Hooper, 2008). Thus there is perhaps a need for eco-estates to not only deliver overall value for the homeowners, but to do so in a manner that lowers environmental impact.

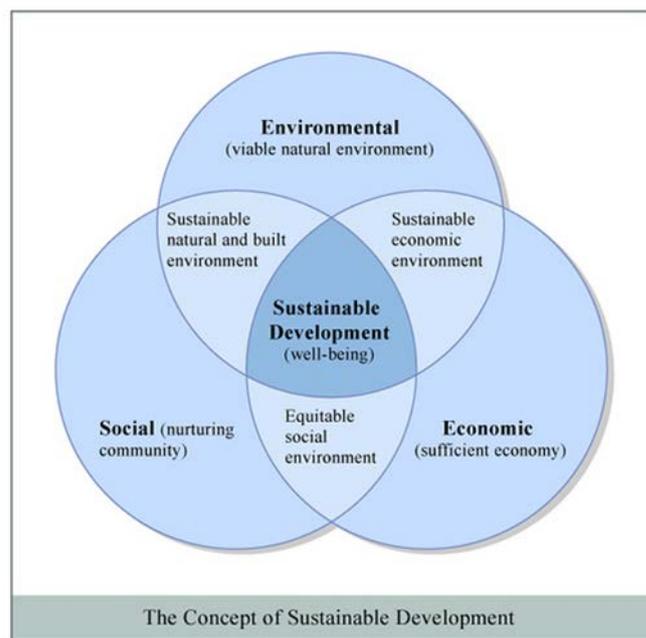


Figure 1.1. The concept of sustainable development (Source: MIT OpenCourseWare)

Figure 1.1 shows the complex nature of the term “sustainable development”. Sustainable development is not a term that is well defined, however, the definition provided by the Brundtland Report highlights two fundamental issues of sustainable development: environmental degradation accompanies economic growth, while economic growth is necessary for the alleviation of poverty (Adams, 2006). In most debates about sustainable development, either the environment or the economy is given priority (Giddings *et al*, 2002).

Sustainable development is often presented as a conceptual model with three interconnected rings (Giddings *et al*, 2002). Figure 1.1 above shows each of the three rings, which represent the economy, environment, and society. Figure 1.1 highlights that sustainable development exists where environmental, social, and economic objectives and outcomes are all sufficiently met. Where a balance cannot be entirely achieved, trade-offs between the various dimensions need to be negotiated (Dalal-Clayton & Sadler, 2014).

Green developments, and therefore eco-estates, are developments that seek to limit negative environmental effects that are often associated with the built environment (Hostetler & Noiseux, 2009). Furthermore, these developments aim to ensure that the buildings are energy efficient and that the site planning and the landscaping are environmentally sensitive (Hostetler & Noiseux, 2009).

Eco-estates have become popular as a response to the need to accommodate a more environmentally friendly lifestyle, and, as such, developers have responded by providing individuals with a new and green way to invest in property by creating housing associated with a focus on the importance of the environment (Waterberry, 2014). Properties in eco-estates are thus selling quickly, owing to the high demand for the security they provide as well as the increased awareness of environmental issues among homeowners (Bosch, 2013).

1.5 Motivation for the Study

With the global focus on sustainability, the construction industry has seen changes in the governance of the built environment (Berardi, 2015). The new agenda for the construction sector is the creation of policies, laws, and regulations as ways for the sector to adopt more sustainable practices (Hellstrom, 2007). There is an important need to address the construction industry specifically, since the building sector uses large amounts of energy and has high greenhouse gas emissions (Levine *et al*, 2007). Furthermore, the building sector is also one area in the economy in which potential for energy saving and pollution reduction is highest (Levine *et al*, 2007).

The development sector in South Africa has been mandated by the South African government to provide buildings that have a smaller environmental impact, with eco-development being one tool that can be utilised to meet this mandate. As such, the Department of Social Housing (2003:3) has acknowledged that “the development of acceptable and sustainable medium density... housing can only be realised through sustainable social housing institutions and adequate private sector involvement... It

clearly contributes to sustainable development, especially when location, integration, viability and sustainability are carefully considered”.

Since 1994, the development of residential areas within gated communities has increased dramatically (Ballard & Jones, 2011). In a bid to differentiate themselves from similar developments both locally and abroad, developers in South Africa have begun to create estates with a particular theme (Ballard & Jones, 2011). However, whether or not these eco-estates stay true to their initial aims is questionable. Recently, other lifestyle estates have been the focus of environmental concern, with specific regard to putting local water resources under pressure, as well as disrupting natural areas in South Africa (property24, 2006). As a result, the South African government has adopted an approach that is stricter, as there are many concerns regarding the ecological effects of these estates on the environment (property24, 2006).

In response to the government’s suppression of approving plans for lifestyle estate development, developers have opted to create estates that address government’s concerns by marketing them as ecologically friendly. These developers claim that these developments are eco-friendly because they invest in and assist with the preservation of wilderness areas (property24, 2006). However, greenwashing may suggest that this trend in “going green” creates an opportunity for developers to employ questionable tactics in an effort to surpass competitors and gain an advantage (Mitchell & Ramey, 2011).

1.6 Research Problem, Aims and Objectives

In the current context of development in South Africa, consumers and developers have become increasingly aware of the need for a more sustainable method of construction and a need to ensure that houses that are built have a minimal impact on the surrounding environments. As a result, developers have begun developing residential areas that they term “eco-estates”.

Growing international awareness of environmental issues, as well as a sense of responsibility to preserve the environment for future generations, means that many buyers are being influenced to purchase houses in eco-estates (Bosch, 2013).

The aim of this research is:

To establish if residential estates, which market themselves as “eco”, are in fact sustainable.

The objectives of this research are to:

1. Calculate the environmental sustainability ‘score’ for residential developments using the Sustainable Development Assessment Tool (SBAT);
2. Explore the concept of greenwashing in the context of estate development in Gauteng; and
3. Assess the role that eco-estates can play in fostering sustainable development.

As the human population continues to grow beyond the 7 billion mark, so too does the number of environmental issues. Many of these environmental issues occur as a result of the development and provision of housing for the growing population. Buildings use a vast number of natural resources and create various forms of pollution. Some developers have become aware of the need to provide housing that reduces these negative environmental issues, and have begun to develop estates that focus on environmental friendliness. Consumers too are aware of the need to protect the environment, thus many are choosing to purchase products that will benefit the environment. Since homes represent a substantial investment for many individuals, it is important to determine whether or not potential homeowners are really buying what eco-estate developers are advertising. The sustainable building assessment tool was designed to determine the sustainability of buildings in the South African context. This tool was adapted for use in this study to calculate the environmental sustainability of eco-estates and to determine whether or not eco-estates were more sustainable than other lifestyles estates.

With government, businesses, and residential developers across the country embracing sustainable building methods, South Africa’s green building sector has seen an overall increase in the number of eco-developments. This trend has seen an increase in green features and fittings that did not feature on potential homeowners’ checklists five years ago (Bosch, 2013).

In order to achieve sustainability within this sector, developers need to adopt practices that involve more efficient allocation of resources, minimum energy consumption, and other mechanisms to achieve effective and efficient short- and long-term use of natural resources (Ding, 2008). Environmental assessment methods enable developers and other interested individuals to achieve the goal of

sustainable development by providing a methodological framework to measure and monitor environmental performance (Ding, 2008).

Chapter 2: Methodology

2.1 Introduction

This study seeks to establish whether or not residential estates use greenwashing methods to attract potential homeowners. The purpose of this study is to investigate a sample of both eco and non-eco residential estates to determine if there is any difference between the two types of estates with specific reference to their overall environmental sustainability. This research employed quantitative methods to generate findings for this study. Participants of this study included 14 residential estates within the Gauteng Province of South Africa.

This chapter will describe in detail the methodology used in the collection of the data for this research. Covered in this chapter will be the research design, specifically, the quantitative components, as well as a discussion of the participants and the sample used in this research study. A detailed explanation of methods used for analysis, as well as the ethical considerations for this research, will follow.

2.2 Research Design

Since the research aimed at studying large-scale patterns of behaviours, quantitative methods were used in this study to determine the environmental sustainability of residential estates in the Gauteng Province of South Africa. The number of residential estates chosen for this study is limited, since there are only seven residential estates that are currently marketed as eco-estates in Gauteng. In order to have a comparative sample, only seven non-eco-estates were then selected using simple random sampling, since the total number of non-eco-estates was significantly higher than the number of eco-estates.

Quantitative methods were implemented to ensure the authenticity of random sampling, as well as allowing for the generalisation of the results of the study. Since the study aims at determining whether or not eco-estates employ greenwashing as a way to attract potential homeowners, it is necessary to determine if there is a causal relationship between eco-estates and their environmental sustainability. In using the SBAT, quantitative data is produced.

The quantitative data collected for use by the SBAT was generated from performing content analysis of the estate documentation. The information used from each of the websites is classified as secondary data. Secondary data can be described as many different kinds of information, such as information about natural and human processes, that has been gathered by various agencies, often for a purpose that is different to that of the research (St Martin & Pavlovskaya, 2010;

Montello & Sutton, 2013). The original purpose of the information published on the residential estates websites was to inform potential and current homeowners of the rules and regulations of each of the estates, as well as to guide the architectural designs. These rules and regulations are directly related to the overall ethos of the estates.

Based on these resources, content analysis techniques were employed. Content analysis is a quantitative technique where the researcher objectively describes the denotative meaning of the content being analysed (du Plooy-Cilliers & Cronje, 2014). Since content analysis uses only the denotative meaning of words, this method is free of misinterpretation, thus there is an assumption that the data analysed is valid and reliable (du Plooy-Cilliers & Cronje, 2014). The process of content analysis is lengthy and often requires the researcher to re-examine the data several times to ensure that he or she was thorough (du Plooy-Cilliers & Cronje, 2014).

Once contextual analysis was completed, the data was then transformed to numerical coding to be used in the completion of the SBAT. For this study, however, the information was used to generate data that could then be used to calculate scores, which generated an overall environmental sustainability score, using the SBAT.

The SBAT is a tool that was developed to support sustainability performance improvements in buildings and construction processes by setting targets for sustainability (Gibberd, n.d.). In addition, objectives for sustainability performance can be set using this tool, and it can also be used to assess and improve the sustainability performance of buildings (Gibberd, n.d.). These different functions highlight the adaptability of the tool, which allows the user to target specific sustainability indicators. This specific targeting was used in this study, as only the environmental sustainability was calculated. Once these scores were generated, they can then be used to make adjustments to the areas where sustainability scored lowest.

All aspects of sustainability – social, economic, and environmental criteria – are addressed by the tool (Gibberd, n.d.). A building or construction process is measured by the SBAT in terms of the degree to which it supports environmental, economic, and social sustainability (Gibberd, n.d.) For this study, as indicated above, only the environmental component of the SBAT was calculated, since the eco-estates use only environmental components in their advertising.

2.3 Research Setting

With more than 250 000 residential properties located in estates across South Africa, the majority are considered security estates, while 12% are considered more lavish golfing estates and the remaining 3% are uncategorised, but include eco-estates (Estate Living (EL), 2014). Estate living is in demand and on the rise owing to issues of security, but there is also an increasing trend that sees investors interested in purchasing homes in more exclusive and luxurious estates, more specifically, in estates that have been classified as country or eco-estates (EL, 2014).

When compared to other provinces in South Africa, Gauteng has the highest number of estates (Watt & Loos, n.d.): 61 % of the national total of estates is located within Gauteng. The Western Cape has less than half the total in Gauteng, while the remaining provinces make up just 10% of estate developments (Watts & Loos, n.d.). The large population in Gauteng and relentless property development in line with economic growth coupled with relatively high crime rates are factors that have led to the increased development in estates in the province (Watt & Loos, n.d.).

There are 11 residential estates within Gauteng that have marketed themselves as “eco-estates” (refer to figure 2.1). Included in this study were non-eco residential estates. All residential estates range in size from 240 hectares to over 500 hectares of land. The density of houses within these estates also varies considerably, with some having only seven stands available for purchase and development, while others have over 3000 stands developed and ready for purchase. Estates can either be classified as high or low density, where high density refers to estates that have an average plot size less than 700sqm, and where low density refers to estates that have a larger average plot size (Watt & Loos, n.d.). Although low density estates in Gauteng are aimed at providing a combination of security, community involvement, and a parkland lifestyle, they are often not as attractive to buyers as they are located further from key business nodes, which leads to longer commutes (Watt & Loos, n.d.)

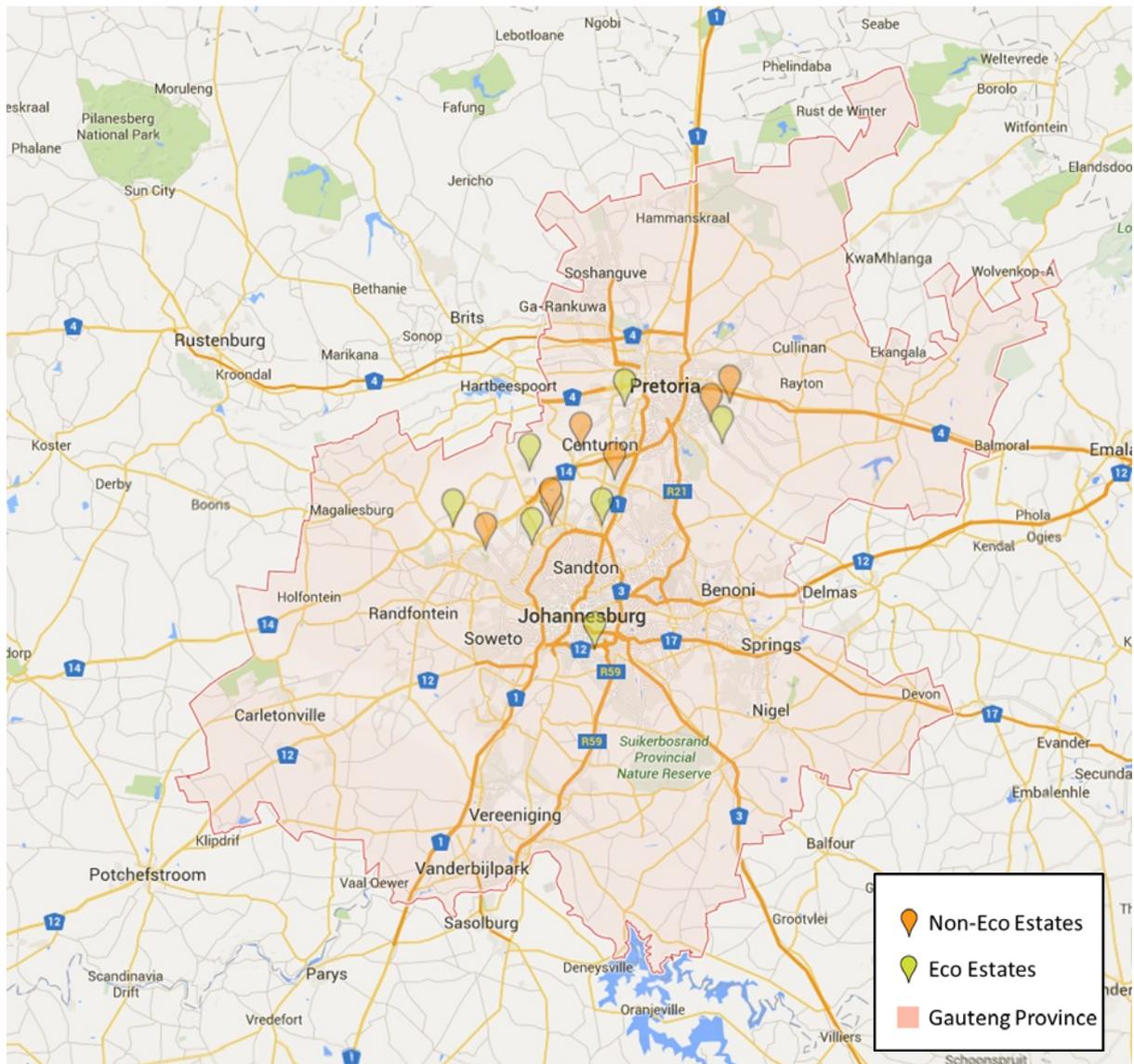


Figure 2.1 A Map showing the location of the eco and non-eco residential estates in the Gauteng Province of South Africa used in the study (Created using Google Maps, 2015)

The study was conducted within the Gauteng Province of South Africa. Covering a total area of 16 548 square kilometres, Gauteng is the smallest of the country's nine provinces, although it has the largest population with over 23% of the South African population residing in this province (Statistics South Africa, 2014).

Gauteng was chosen as the study area since the province is known to be the economic hub of South Africa. The province has the highest levels of per capita income and per capita disposable income in the country (Gauteng Economic Development Agency, n.d.). With a variety of business opportunities available in Gauteng, building activity, while slowing elsewhere in the country, has remained high in the province (Mahlanga, 2013).

This increase in development has seen approximately half of the flats and townhouses built in South Africa between 2001 and 2011 constructed in Gauteng (Mahlanga, 2013). This increase in property development has resulted in a net inward migration of more than 1 000 000 people over that timeframe (Mahlanga, 2013). As the population with the highest density (approximately 675 people per square kilometre), and as the economic hub of South Africa, migration to Gauteng increases annually, which results in an above average increase in building activity in Gauteng (Mahlanga, 2013).

2.4 The Study Population and Sample

For this study, the population consisted of all residential estates within Gauteng that have marketed themselves as “eco-estates”. A control group of non-eco-estates was also sampled.

Sampling is used as a way to select a subset of entities that can be used in a study to represent all of the entities in the population (Montello & Sutton, 2013). Convenience sampling can be defined as a method of nonprobability sampling, where the researcher accepts cases based on the availability and easy access (Montello & Sutton, 2013). As such, convenience sampling was used in this study as the research was gathered from online sources. Certain estates were chosen based on the availability of relevant online information. Although there are numerous estates, by process of convenient sample selection, only a number of these were used in the study (n=14).

Since the population for eco-estates was small (11 developments), a convenience sample of seven estates was used. These seven estates were selected based on the availability of online marketing and estate information. Four of the 11 developments did not have any materials available for use, which excluded them from selection. The same sample size was applied to non-eco-estates, which were selected based on simple random sampling. Simple random sampling refers to the procedure where each element in the population has the same and equal chance of being selected, which prevents researcher bias from occurring (Pascoe, 2014).

Since the population for eco-estates was small (11 developments), a convenience sample of seven estates was used. These seven estates were selected based on the availability of online marketing and estate information. Four of the 11 developments did not have any materials available for use, which excluded them from the sample chosen. The same sample size was applied to non-eco estates as well. The non-eco estates were selected based on simple random sampling.

Although convenience sampling is ideal for this study, there are draw-backs to this type of sampling. In some instances, convenience sampling is considered weak since there is little to no evidence to indicate that the researcher knows the population (Gravetter & Forzano, 2009). Furthermore, the researcher is unable to exercise control over the representativeness of the sample, which can result in the sample being biased (Gravetter & Forzano, 2009). It is, however, important to note that although convenience sampling does not guarantee a representative and unbiased sample, it is still a commonly used technique that offers an easier, less expensive, and timelier way of selecting participants (Gravetter & Forzano, 2009).

2.4.1 The Sampling Criteria

Residential estates included in the sample were chosen if they met certain criteria. In order for residential estates to be considered for the study, they needed to be an existing estate, i.e. they should not be in phase one of the development. This requirement is important, since all new developments must abide by the SANS 10400 Building Regulations, which have strict guidelines and rules for developers to follow with regard to elements of sustainability. Another criterion needed for the estate to be considered as part of the study is that it had to be marketed as “eco”, including the use of the labels “green”, “eco-friendly”, “nature” or “country”. In the case of non-eco-estates, the marketing had no reference to eco living. The final criterion for the population sample was that the estates must be located within the Gauteng Province of South Africa.

2.5 Data Collection

This study employed a number of processes in the collection of data. The estate information and resources were collected online from each of the individual estates' websites. This information was then scrutinised using content analysis. After the content analysis was completed, the information gathered was included in the SBAT to determine the final environmental sustainability score for each estate.

2.5.1 The Data Collection Instrument

The SBAT is a tool that was developed as a way to implement sustainable practices in the building and development industries within South Africa (Gibberd, 2002). The tool identifies 15 areas that can indicate the level of sustainability of the building (Gibberd, 2002). There are three major headings under which these areas fall, environmental, economic, and social sustainability. For the purpose of this study, only the aspects referred to under the environmental component of the tool were assessed, since the estates focused only on environmental components when advertising themselves as eco-estates. The study could therefore not focus on the

other elements of sustainability, as these estates were not marketing themselves as socially or economically sustainable. Additionally, greenwashing focuses only on environmental aspects. As such, the study focused solely on the environmental elements of each of the estates and ignored the social and economic aspects.

The environmental component of SBAT focuses specifically on the following areas:

- Water
- Energy
- Waste
- Site
- Materials and components.

Building Performance - Environmental				
	Criteria	Indicative performance measure	Measured	Points
EN 1	Water			0.0
EN 1.1	Rainwater	% of water consumed sourced from rainwater harvested on site	0	0.0
EN 1.2	Water use	% of equipment (taps, washing machines, urinals showerheads) that are water efficient	0	0.0
EN 1.3	Runoff	% of carparking, paths, roads and roofs that have absorbant/permeable surfaces (grassed/thatched/looselaid paving/ absorbant materials)	0	0.0
EN 1.4	Greywater	% of water from washing/relatively clean processes recycled and reused	0	0.0
EN 1.5	Planting	% of planting (other than food gardens) on site with low / appropriate water requirements	0	0.0
EN 2	Energy			0.0
EN 2.1	Location	% of users who walk / use public transport to commute to the building	0	0.0
EN 2.2	Ventilation	% of building ventilation requirements met through natural / passive ventilation	0	0.0
EN 2.3	Heating & Cooling	% of occupied space which has passive environmental control (no or minimal energy consumption)	0	0.0
EN 2.4	Appliances & fittings	% of appliances / lighting fixtures that are classed as highly energy efficient (ie energy star rating)	0	0.0
EN 2.5	Renewable energy	% of building energy requirements met from renewable sources	0	0.0
EN 3	Waste			0.0
EN 3.1	Toxic waste	% of toxic waste (batteries, ink cartridges, flourescent lamps) recycled	0	0.0
EN 3.2	Organic waste	% of organic waste recycled	0	0.0
EN 3.3	Inorganic waste	% of inorganic waste recycled.	0	0.0
EN 3.4	Sewerage	% of sewerage recycled on site	0	0.0
EN 3.5	Construction waste	% of damaged building materials / waste developed in construction recycled on site	0	0.0
EN 4	Site			0.0
EN 4.1	Brownfield site	% of proposed site already disturbed / brownfield (previously developed)	0	0.0
EN 4.2	Neighbouring buildings	No neighbouring buildings negatively affected (access to sunlight, daylight, ventilation) (100%)	0	0.0
EN 4.3	Vegetation	% of area of area covered in vegetation (include green roofs, internal planting) relative to whole site	0	0.0
EN 4.4	Food gardens	Food gardens on site (100%)	0	0.0
EN 4.5	Landscape inputs	% of landscape that does not require mechanical equipment (ie lawn cutting) and or artificial inputs such as weed killers and pesticides	0	0.0
EN 5	Materials & Components			0.0
EN 5.1	Embodied energy	Materials with high embodied energy (aluminium,plastics) make up less than 1% of weight of building (100%)	0	0.0
EN 5.2	Material sources	% of materials and components by volume from grown sources (animal/plant)	0	0.0
EN 5.3	Ozone depletion	No materials and components used requiring ozone depleting processes (100%)	0	0.0
EN 5.4	Recyled / reuse	% of materials and components (by weight) reused / from recycled sources	0	0.0
EN 5.5	Construction process	Volume / area of site disturbed during construction less than 2X volume/area of new building (100%)	0	0.0

Table 2.1: Environmental Building Performance (Gibberd, 2002).

Each of the areas above are addressed by five specific questions (see table 2.1 above) that specifically assess the environmental sustainability of a building. The environmental aspects of the tool, used to evaluate the criteria discussed above, cover a wide range of criteria and score each of these criteria and the overall environmental sustainability score on the following criteria:

Overall Value	0-1	1-2	2-3	3-4	4-5
Classification	Very Poor	Poor	Average	Good	Excellent

The advantage of using SBAT is that the tool was designed to be used in developing countries, specifically, to be used in South Africa (Gibberd 2002). The design of SBAT thus takes into account the context and settings of buildings in South Africa. SBAT is the only tool that understands that development in South Africa means “addressing basic needs while avoiding negative environmental impacts” (Gibberd, 2002).

Although there are many positive aspects of using SBAT, there are also negative aspects. For instance SBAT is aimed at providing an indicative guide to the sustainability of buildings, and does not necessarily provide a comprehensive assessment (Gibberd, 2002). The use of indicators in the SBAT is a feature of the tool that enables users to assess a variety of different building types. This flexibility can be considered a weakness in that it does not allow comparisons of performance within a particular building type, but could become a strength through the development of a database that would house the indicators and performance targets for a variety of building types and contexts (Gibberd, 2003). Another benefit of using SBAT is the lack of prescribed performance targets as it allows the tool to be used in a much wider range of situations (Gibberd, 2003).

2.5.2 Data Collection Procedure

The SBAT was adapted in a way that allowed the researcher to record percentages based on the information that was gathered. This adaptation meant that instead of the estate manager awarding a score (as a percentage) for each question based on his/her own point of view, each estate was awarded a score according to the following criteria:

1. If the estate clearly stated (in their code of conduct, rules and regulations, or other documentation) that a certain element **must** be used, avoided, or done, the estate was then awarded 100% for that particular question.
2. If the estate clearly stated (in their code of conduct, rules and regulations, or other documentation) that a certain element **should** be used, avoided, or done, as a suggestion rather than a requirement, the estate was then awarded 50% for that particular question.
3. If there was no mention of the element in the estate’s documentation, then the estate was awarded zero for that particular question.
4. All estates received 100% for EN5.3 (See table 2.1), in accordance with the National Environmental Management: Air Quality Act 39 of 2004.

Content analysis of the estate’s code of conduct, rules and regulations, as well as any other available documentation was performed. This process entailed the researcher reading the documentation and making brief notes on relevant

information. These notes were then reviewed and classified according to the adaptation made to the SBAT, and the information was grouped according to the evaluation criteria. These steps were repeated for all documentation for all of the estates. The scores were then placed in the relevant evaluation criteria of SBAT and an overall environmental sustainability score was generated.

Once the data had been collected, it was analysed, using parametric statistical analyses. The data was subjected to testing using Microsoft Excel as well as the Statistical Package for Social Sciences (SPSS). Analyses included descriptive statistics, independent t-tests, as well as graphical representations of the data. These analyses determined any significant, as well as non-significant, difference between residential estates

2.6 Ethical Considerations

In order to avoid personal bias on behalf of the estates, and to adequately determine whether or not greenwashing was taking place, only information that could be obtained from the public domain was used in the study. Furthermore, the SBAT was completed by the researcher using standardised responses, ensuring that all estates were given fair consideration using the guidelines explained above. The research was given ethical clearance by the Research Ethics Review Committee of the College of Agriculture and Environmental Sciences, Unisa.

2.7 Conclusion

In this study the researcher used a quantitative tool known as the Sustainable Building Assessment Tool (SBAT). This tool was then adapted by the researcher to collect the data from a convenience sample of 14 subjects. The SBAT had 25 closed-ended questions that related specifically to the environmental, social and economic components of buildings in relation to sustainability. This research focused specifically on the environmental components to determine an overall environmental sustainability score for each of the residential estates. These scores were then used to determine whether or not these estates are in fact sustainable. This chapter described the research methodology by outlining the population, sample, and the data collection instruments used to collect the data. The ethical standards, reliability and validity of the study were also reported upon in this chapter.

Chapter 3: Literature Review

3.1 Introduction

The number of environmental problems the world faces increases on a daily basis. These issues can no longer be thought of as stand-alone issues that need to be addressed by individuals, but rather as global challenges that need to involve the entire human race (Essick, 2009). Although efforts to address these concerns need to be made by developed and developing countries alike, the latter also need to achieve social and economic advancements. Socio-economic disparities in developing countries require that environmental initiatives incorporate sustainable development principles (Sebake, 2008).

The focus of this chapter is on the importance of the construction industry in supporting environmental sustainability, since all developments, regardless of their size, have an impact on the surrounding environment. Residential developments in particular have long-term impacts, both on the communities they house, as well on the surrounding neighbourhoods (Gormley, 2009). It is important to view new developments as more than simply bricks and mortar; factors that will shape the lives of people on a daily basis, as well as for future generations to come, also need to be considered (Gormley, 2009).

There are many aspects to consider when dealing with the issues of sustainable development and residential developments. These key issues include: sustainability and development, eco-housing, and greenwashing. Greenwashing is used globally as a way to sell sustainability. Coupled with competitive altruism, greenwashing has seen an increase in the sales of products that are marketed as eco-friendly because consumers compete to appear “greener” than others. Although the literature presents these topics in a variety of contexts, this review will shift its focus from global perspectives to the South African context, as is required for comprehension of the research problem.

Environmental assessment tools used globally, such as BREEAM, LEED, and Green Star South Africa, will be discussed as ways to evaluate the sustainability of buildings, before addressing the Sustainable Building Assessment Tool and its role in analysing sustainability of buildings in a developing country, specifically in South Africa. Since sustainable development is a major component of this study, this chapter will provide an in-depth analysis of the concept as well as discussion of the history of the term, in addition to providing a critique on whether or not sustainable development is actually possible.

3.2 Sustainable Development and Eco-development

3.2.1. Sustainable Development

The generally accepted definition of sustainable development (SD) is “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). Many researchers agree that the term “sustainable development” is vague and is often open to misinterpretation (Banon, *et al*, 2011; Marshall & Toffel, 2005; Filho, 2000). However, there is consensus that the terms “sustainable” and “development” are increasingly being used to describe the relationships between humans and the global environment (Brown *et al*, 1987).

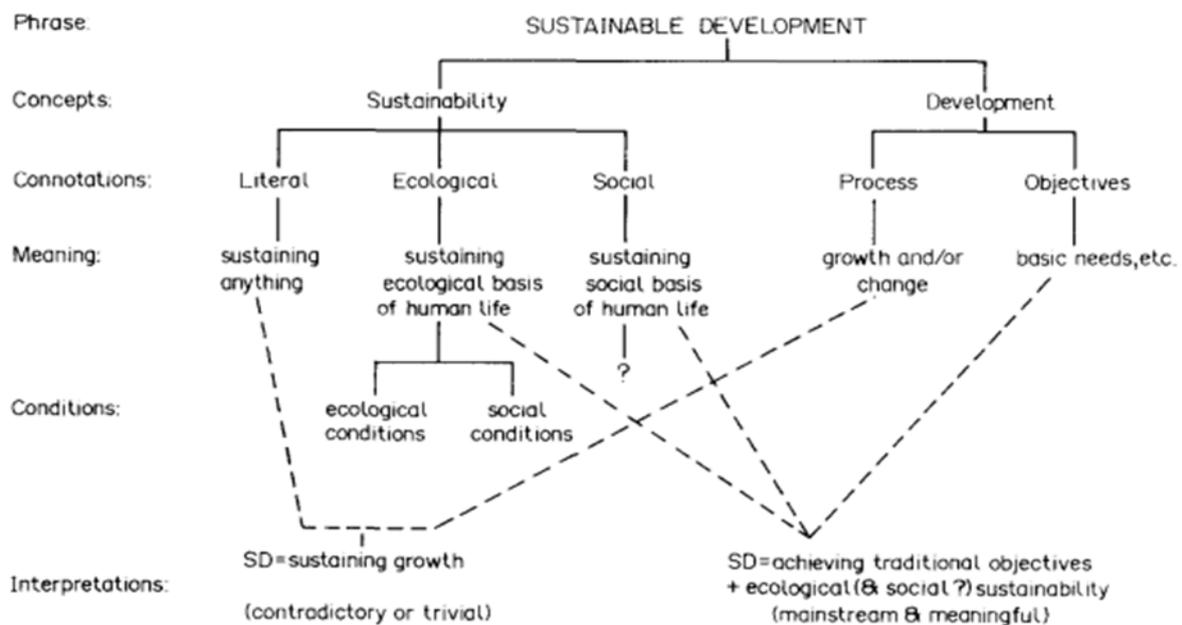


Figure 3.1: The Semantics of Sustainable Development (Lélé, 1991).

Figure 3.1 shows the complexity of the term “sustainable development”. It is evident in the diagram that there are two distinct meanings that need to be considered when referring to sustainable development. Firstly, there is the somewhat vague and at times trivial interpretation, where sustainable development is seen as a way of sustaining growth (Lélé, 1991). The second, more widely accepted, definition is that sustainable development is a method of achieving traditional objectives, while ensuring ecological sustainability (Lélé, 1991). Figure 3.1 also highlights the complexity of the term, since there are multiple connotations that exist when discussing sustainable development. These various connotations allow for multiple interpretations, which can at times appear vague or trivial. The figure also illustrates

that the literal definition for sustainability would mean that "development that can be continued -- either indefinitely or for the implicit time period of concern" (Lélé, 1991).

Sustainability is based on systems theory, which stipulates that society, the environment, and the economy are interrelated constituents of a larger system (Magis & Shinn, 2009). Although each of these phenomena is related to one another, it needs to be understood as distinct and different. Often referred to as an intergenerational equality, sustainable development is based on the premise that natural resources should be shared not just with the current generation, but with future generations as well (SAEP, n.d.). Sustainable development demands that focus needs to be placed on intragenerational equity (between the rich and poor), as well as intergenerational equity (between present and future generations) (Adams, 2009).

Thus sustainable development should be seen as more than the careful conservation of natural resources (SAEP, n.d.). Effective sustainable development should promote the eradication of poverty and extreme income and wealth inequalities, while providing access to quality and affordable basic services to all citizens (SAEP, n.d.). This requirements are especially important in fostering a stable, safe and just society within South Africa.

Since 1994, South Africa has successfully navigated from Apartheid to a democratic society. This shift rescued the economy from virtual bankruptcy and broke one of the critical binding constraints on growth (National Planning Commission, 2012). Although the country has managed to overcome obstacles constructed by Apartheid, it still faces the task of transforming the economy to one that employs more people, enabling the entire population to meet their potentials.

One of the ways that South Africa is able to transform the economy is through development, especially development in the built environment sector. Yet although this sector is responsible for job creation within South Africa, it is one aspect of the economy that has a disproportionate environmental impact (Kibert, 2013; Othman, 2009; San-Jose, Garrucho, Losada & Cuadrado, 2007). This impact occur as a result of the large number of resources required, as well as the replacement of natural systems with human artefacts (Kibert, 2013; Othman, 2009).

In South Africa, the Department of Environmental Affairs and Tourism (DEA&T) included sustainable development into the National Environmental Management Act (NEMA). Within this Act, three components of sustainable development were noted, including environmental, social, and economic sustainability. Based on these criteria, sustainable development in South Africa thus refers to development that sustains the natural environment; looks after its citizens, and ensures that economic welfare can

be maintained (Rosenberg, 2011). Therefore, in order for development to be considered sustainable in South Africa, all three of these principles need to be taken into account in every development decision (Rosenberg, 2011).

3.2.1.1. Ecological Sustainability

While sustainable development encompasses the three principles of the environment, society, and the economy, ecological sustainability focuses more on the balance of the three through the integration of these principles (EDO, 2010). Ecological sustainability should, by definition, be developmental activity that helps to sustain natural resources (Rosenberg, 2011). Furthermore, ecological sustainability should create a balance, where the sum of benefits people derive from the landscape is maintained (Haines-Young, 2000). This balance implies that economic objectives should not be favoured over environmental considerations. In reality, however, this is seldom the case. Without clear guidelines and policy, the concept of ecological sustainability will remain as only a concept.

However, NEMA (1998) does set out clear guidelines for achieving ecological sustainability, by highlighting the importance of considering all relevant factors, including:

- “(i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- (ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- (iii) that the disturbance of landscapes and sites that constitute the nation’s cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;
- (iv) that waste is avoided. or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;
- (v) that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;
- (vi) that the development. Use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;
- (vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions;
- (viii) and that negative impacts on the environment and on people’s environmental rights be anticipated and prevented, and where they cannot be altogether prevented

are minimised and remedied.” (NEMA, 1998).

These guidelines provide a clear framework for how development in South Africa should take place. The key component of these guidelines is the precautionary principle, which states that developments should not occur until there is a reasonable amount of surety that there will not be any negative impacts. If, however, there is any uncertainty, then the development should not occur (Rosenberg, 2011). In order for these guidelines to be followed, there needs to be decision-making model with a set of simple, measurable ecological planning indicators (Termorshuizen *et al*, 2007).

Models include environmental impact assessments, as well as environmental management plans, which are required under South African law. Environmental impact assessments (EIA) are used to provide decision-makers with an indication of the likely consequences of the development prior to decision-making (Wathern, 1988). EIAs aim to predict environmental impacts in the early stages in the project planning and design. They are also used to reduce adverse impacts, as well as shape projects to suit the local environment and present the predictions and options to decision-makers. Although EIA is internationally recognised and has both environmental and economic benefits, it is merely a tool that can be used to achieve sustainability.

Ecological sustainability can be achieved in many ways, and can in certain circumstances increase developmental opportunities, for example, decontaminating soil and re-growing forests. Some of these strategies are being used within eco-estates in South Africa.

3.2.1.2. Social Sustainability

Environmental issues are by definition social issues, and it is thus important to view from a broader interdisciplinary perspective rather than as stand-alone issues (Blaikie, 1995). Environmental conditions relate specifically to three aspects of social sustainability: (1) livelihoods: people living in poverty tend to be the most reliant on natural resources, and as such are the first to suffer adverse effects when these resources are degraded (SAEP, n.d.); (2) health: people living in poverty often inhabit environmentally impoverished areas, exposing them to various types of pollution, which affect the health of the individuals living there (SAEP, n.d.); and (3) vulnerability: poor people are most often exposed to environmental hazards, as well as environment-related conflict. They are often unable to cope with these issues, whereas wealthier individuals are able to afford healthcare for pollution-related illnesses, as well as are able to move away from the source of the problem (SAEP, n.d.).

The principle of social sustainability implies that the majority of people must benefit from development, thus requires fairness in the access to and benefits from resources, including natural resources (Rosenberg, 2011). Social sustainability also incorporates education, healthy environments, security, as well as the right for people to participate in decision-making processes that directly affect them (Rosenberg, 2011). Quantifying social sustainability is difficult to do, and, as a result, it is often overlooked or completely ignored (McKenzie, 2004).

South Africa is on track to achieving social sustainability through the abolition of Apartheid and the establishment of a democracy focused on equal rights (Rosenberg, 2011). There are, however, obstacles that prevent social sustainability from occurring, such as the discrepancies in the way people participate in the economy, as well as the ways in which different people benefit from the economy (Rosenberg 2011).

There are thus barriers that prevent complete social transformation from taking place. One such factor is poverty. While global poverty has declined rapidly over the last three decades, poverty in South Africa remains high, with 21.7% of South Africans living in extreme poverty (Nicolson, 2015). It can be argued that the poverty and inequalities seen in South Africa are not natural and represent ideals that were historically created and sustained (Gutto, 2001). While South Africa enjoys the title of being one of the wealthiest and most materialistically developed countries in Africa, the disparity between wealthy and poor is too glaring to overlook, and has at times been referred to as a rift (Gutto, 2001).

3.2.1.3. Economic Sustainability

Poverty is not the only challenge that South Africa currently faces. In order for the country to continue on the path to successful economic development, poverty, unemployment, and inequality all need to be overcome (Nicolson, 2015). Thus, as a principle, economic sustainability should focus on the economic activities that sustain people and the planet, with less focus on the maintenance of the economy (Rosenberg, 2011). As such, sustainable development requires that economic activities are reformed by (for example):

- (1) the removal of unfair trade barriers;
- (2) the removal of Government subsidies that are harmful to the environment, as well as to the poor; and
- (3) the inclusion of the polluter pays principle, whereby those responsible for pollution and other harmful effects are responsible for redress (Rosenberg, 2011).

The construction industry is one area of the economy that is of high economic importance, but that also has numerous social and environmental consequences

(Burgen & Sansom, 2006). The built environment is also unique in that existing buildings and the infrastructure needed to support these buildings, as well as the process of adding to it, have numerous environmental, social, and economic impacts (Sev, 2009). When compared with other industries, the construction industry is long lasting, since structures in the built environment on average have a lifespan of 80 – 100 years (Sev, 2009). Therefore, in order for a construction project to be considered sustainable, it needs to incorporate economic, social, and environmental sustainability, by providing a building that is affordable, assessable, and environmentally conscious (Kibert, 1994; Wyatt, 1994).

However, viewing sustainability as three distinct yet interconnected elements creates the potential for complications to arise (Harris, 2000). The goals of sustainable development require a balancing of objectives, and a lack of balance therefore implies failure. In reality, however, trade-offs are rarely avoided, since people are often capable of maximising one objective at a time (Norgaard, 2006). The concept of sustainability is idealistic and creates a superlative standard for how development should be, making it difficult to pin down analytically (Norgaard, 2006). The principles discussed above do, however, resonate on a level paralleled with common sense (Harris, 2000). The conundrum of sustainable development is simply that if it was achieved, “the world would be a better place” (Harris, 2000). In reality, however, sustainability is difficult to achieve as it is difficult to balance the three components equally in order to achieve sustainability (Harris, 2000). In some sense, it is therefore easier to identify unsustainability than sustainability, and in making this identification, policy action can take place to rectify it (Harris, 2000).

In light of the above, with the sustainable ideal set more than 25 years ago, there are often questions as to whether the concept is still relevant or even achievable (Park, 2011). The concept of sustainability is a rather contentious one, which often polarises and divides opinion, but sustainable development is possible (Roosa, 2010). In order for sustainable development to be achieved, a long term view is necessary, where there is recognition of the interconnectedness between issues, fields, disciplines, and actors (Roosa, 2010). Sustainable development is global in nature, and it is therefore not enough for one country to achieve sustainability, as environmental degradation is universal; contemporary pollution has international impacts and local pollution problems are repeated the world over (Elliot, 1999).

Sustainability can be achieved through the use of local resources and participatory processes, both of which are low cost. The empowerment of local communities is vital to the success of sustainable development (Elliot, 1999). A lack of empowerment is also what has prevented sustainable development from happening in the past, indeed, .Development processes that undermined local

control over resources lead to increased insecurity of livelihoods and environmental degradation (Elliot, 1999).

3.3 Sustainable Development and Construction

The role of the construction industry in achieving the three elements of sustainable development – economic growth, social progress, and the protection of the environment – cannot be disregarded (Sev, 2009). The construction industry and sustainable development are interwoven, since construction impacts all three tiers of sustainable development. Not only does the construction industry contribute significantly to the economy, it also has strong environmental as well as social impacts (Sev, 2009).

The construction industry provides social security through the development of housing, workspaces, and infrastructure, as well as bolsters the economy, but has significant environmental consequences (Burgan & Sansom, 2006). It is evident in its emission of greenhouse gases, energy consumption, raw material consumption, and the production of waste (see table 3.1). These effects are further exacerbated since structures are long lasting (Sev, 2009), thus these structures have the ability to impact the environment long after they have been built.

Table 3.1 indicates that there are many issues created by the construction industry and buildings themselves, which affect all three components of sustainable development. There are more economic consequences, but there are also numerous and long lasting environmental issues. Some of the environmental issues occur during the initial phases of development (land use change and raw material extraction), while others continue long after the building is completed (energy and water use). The construction industry, although being of economic importance, has serious environmental consequences (Burgan & Sansom, 2006), demonstrating the interconnectedness of the components of sustainability. This table (3.1) suggests that by reducing environmental problems, economic problems can also be addressed.

Table 3.1: Main impacts of construction industry and buildings (Adapted from Sev, 2009).

	Environmental	Social	Economic
Raw material – extraction, consumption, depletion	X		X
Land use change	X	X	X
Energy use and emission of greenhouse gases	X		X
Other indoor and outdoor emissions	X		X
Water use and wastewater generation	X		X
Increased need for transport (site specific)	X		X
Waste generation	X		X
Opportunity for corruption		X	X
Disruption of communities		X	X
Health risks on worksites, as well as for occupants		X	X
Aesthetic degradation		X	

In order to minimise the impacts of the built environment on the natural environment, the two should be viewed as linked, since there is an exchange of matter and energy that naturally occurs (Yeang, 2000). Furthermore, for a construction project to be considered sustainable, it needs to incorporate economic, social, and environmental issues at all stages, and not only in the planning stage (Kibert, 1994). To achieve sustainability, the construction industry has to rely on three basic principles (Sev, 2009), namely: (1) resource management, (2) life-cycle design, and (3) design for human and environment. These principles are shown in detail in Figure 3.2, below.

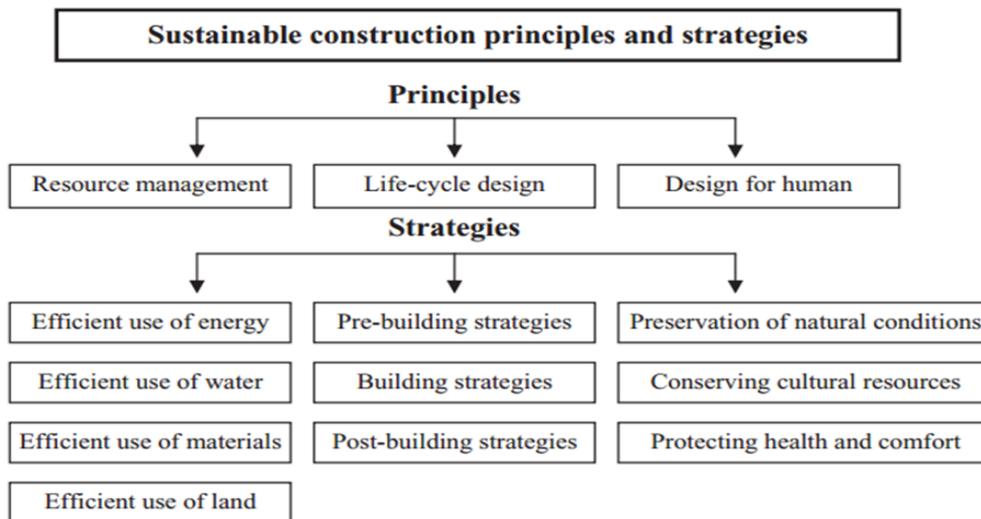


Figure 3.2: Framework for evaluating the sustainability of the construction industry (Sev, 2009).

Although there is consensus that construction needs to be sustainable, development of sustainable buildings has been limited by a number of factors (Glicksman & Lin, 2007), including the fragmentation of the building industry, resulting in very little vertical integration (Glicksman & Lin, 2007). People also associate sustainability with a loss of comfort, and as such they are less likely to choose products that promote sustainability (Glicksman & Lin, 2007). It is important to acknowledge that the solution for an increase in the number of sustainable buildings requires the proper integration of many factors in the planning, design and technology, and operation of a building. Owing to the nature of building activities, developers focus more on controlling and correcting environmentally damaging actions related to development (Akadiri *et al*, 2012). Role players involved in all aspects of the construction of a building (architects, designers, and engineers) are able to reduce environmental impacts through the implementation of sustainable building designs and objectives (Akadiri *et al*, 2012).

However, while global aspirations are the focus of current sustainability initiatives, strategies, and processes, micro-level (project specific level) integrated decision-making goes largely unnoticed (Ugwu *et al*, 2006). This neglect is ironic, since it is at the micro-levels that sustainability objectives must be translated into concrete practical action (Akadiri *et al*, 2012). Nevertheless, the green building movement continues to gain momentum (Kibert, 2013). Professionals in both design and construction have used green buildings as the cornerstone of their practices. This, coupled with a multitude of innovative products and tools that are developed each year, ensure that the global movement remains relevant and achievable (Kibert, 2013).

Yet, in the South African context, there are individuals who believe that green building is too expensive, unprofitable, and unnecessary (King, n.d.). Despite the concerns of the few, many acknowledge the need for greener developments

3.4 Sustainable Housing Guidelines

Agenda 21 was formulated at the 1992 Earth Summit in Rio as the international proposal for sustainable development. Chapter 7 of Agenda 21 alludes to the specific role human settlements have in relation to sustainable development, since meeting basic human needs relates in one way or another to the creation of human settlements and their performance (du Plessis, 2002). The Habitat Agenda, formulated in 1996 as a second international action plan, was created specifically to address the role of human settlements in sustainable development.

The latter indicated that the construction sector has a major role to play in terms of the sustainable development of human settlements, as is highlighted in Chapter 4, Section C of The Habitat Agenda (du Plessis, 2002). The construction industry and its activities are responsible for the consumption of vast amounts of global resources, as well as the production and emission of waste. Furthermore, the construction industry plays a role in socio-economic development and quality of life (du Plessis, 2002). Sustainable construction of residential settlements thus promotes resource efficiency, which in turn reduces the impact the buildings have on the environment, as well as the costs of running the buildings (City of Cape Town, 2012). The motivating factor towards a more sustainable built environment is the need to reduce greenhouse gas emissions and other environmental impacts (City of Cape Town, 2012).

3.4.1 Energy as an element of sustainability

Energy is an essential aspect of sustainable development, yet the challenge lies in the fact there while there is a need to produce energy that has limited impacts on the environment and global resources, energy production still needs to be assessable to a growing global population (UNDESA, 2015). Furthermore, the production of electricity has substantial impacts on the environment and uses vast amounts of natural resources As buildings are large consumers of energy, the reduction of energy or the use of renewable energy in buildings has an important contribution towards sustainability (Gibberd, 2003).

One of the most challenging areas for the development of sustainable buildings is the reduction of energy that is used in the built environment (Kibert, 2013). Although electricity is the most widely used source of energy able to run a full range of household appliances, it is the biggest producer of greenhouse gases (Masjukia *et*

al, 2007). Furthermore, the current rate of energy consumed through fossil fuels is not sustainable (Roosa, 2010): there is a growing demand for electricity in South Africa, but the supply does not meet the current demand. As a result, South African residents have experienced the inconvenience of load shedding (City of Cape Town, 2011). These factors have created a need for South Africans to make a conscious effort to ease the burden on the national grid through the use of energy saving methods and technologies. Often referred to as the best energy resources, energy efficiency is one of the most effective ways of meeting the demands of sustainable development (Sebitosi, 2008).

With the average household consuming most of its energy through heating, cooling, ventilation, lighting, and appliances, it is important to find innovative ways to reduce energy consumption (Milford, 2009). There are numerous technologies and practices that can be used to achieve sustainability in energy, while overcoming the primary obstacle of minimising environmental and economic consequences of the current method of energy generation and utilisation (Roosa, 2010).

3.4.1.1 Appliances and Lighting Fixtures

Electrical appliances use approximately 30% of all the energy used in a household (CPD, 2014). It is therefore important for homeowners to look for energy-rated white goods, such as refrigerators, tumble dryers, and dishwashers, which consume less energy. Cooking efficiently can also be done through the use of gas hobs, as they are cheaper to operate and produce 50% less greenhouse gas emissions than the electric equivalent (City of Cape Town, 2011).

One of the most cost effective and simplest methods of implementing energy saving in a household is through the phasing out of incandescent lamps and replacing them with compact fluorescent lamps (CFLs) and Light Emitting Diodes (LEDs) (CPD, 2014). Other energy efficient installations, such as geysers, stoves, and refrigerators, also provide the cheapest and easiest ways to reduce energy use, and, in doing so, improve the economic and environmental performance of existing developments (City of Cape Town, 2012).

By choosing to furnish homes with appliances and fixtures that use less electricity, homeowners contribute to sustainable development through the reduction in greenhouse gases that are ordinarily released during the production of electricity.

3.4.1.2 Green Architecture and Passive Design

Unlike the use of technology to reduce energy requirements in a building, green architecture is a method of architecture that focuses on the climate and geography of

an area in order to produce a building that combines both new and old technologies in a sustainable manner (City of Cape Town, 2011). The main premise behind green architecture is to ease the architectural burden on the environment by employing technologies and designs that save energy and resources (Xu & Liao, 2010). Green architecture is a philosophical view that advocates the use of sustainable energy sources, the conservation of energy, the reuse and safety of building materials, as well as the location of a building influenced by the impact it will have on the environment (Wines, 2015).

Previously known as “solar architecture”, green architecture focuses on the reduction of natural resources and fuels that are ordinarily used for heating and cooling of a building. Solar architecture focuses on harnessing the incident radiation, which is currently far exceeding the worldwide demand for energy, and curbing the use of fossil fuels for energy production (Schittich, 2003). Furthermore, fuel resources can be conserved through the immediate use of available solar energy through effective building design (Schittich, 2003; Milošević, 2004).

Elements of green architecture have been used in the years pre-dating the use of the term. Once considered as a contemporary movement, green architecture is in fact a historical concept. Green designers are not the first to consider the importance of using renewable resources; many architects have been designing buildings with attention to the environment for centuries (SSArchitects, 2015). The use of local building materials as well as harnessing natural energy represent simple yet effective sustainable design methods, which have been employed before many of the technological advancements seen in modern construction (SSArchitects, 2015). Many older buildings took a passive approach to design, since there was no other options available (Mehaffy & Salingaros, 2013). The use of passive design elements means that the building does not require any mechanical heating or cooling by utilising the natural climate of the area in maintaining thermal comfort (CPD, 2014; City of Cape Town, 2012). Some of these buildings were constructed in a time when energy was expensive, even unavailable in some locations, and solar architecture gained significant momentum in the early 1970s as a result of two oil crises (Schittich, 2003). Buildings were thus designed in a way that allowed for optimal natural daylight and warmth through their shape and orientation (Mehaffy & Salingaros, 2013).

Modern environmental and economic challenges have brought sustainability to the forefront of design and construction methods (SSArchitects, 2015). Although green architecture is aimed at designing buildings that are in harmony with the environment through the reduction in materials that are energy intensive and by utilising natural elements to meet the ventilation, heating, and cooling needs of the

building, there is a possibility that green architecture can become a label and marketing tool. If this happens, the practice of building optimisation with the aim of saving energy will become marginalised (Hartmann, 2012).

3.4.1.3 Renewable Energies as an Aspect of Sustainability

In order for development to occur within a society, a secure supply of energy is needed (Dincer, 2000). Sustainable development requires a sustainable supply of energy resources that are available readily, sustainably, and at a reasonable cost over a long period of time (Dincer, 2000). It would therefore appear that renewable energy resources are in many instances the most efficient and effective solutions in achieving sustainable development (Dincer, 2000).

Seen as the cleanest form of energy production, renewable energy systems are becoming more accessible to South African homeowners (City of Cape Town, 2011). Renewable power systems use renewable energy sources, such as sun, wind, and water, to produce electricity, which is continuously replenished from natural sources (CPD, 2014). While not all renewable resources are intrinsically clean, there is a multitude of choices that would provide cleaner energy (Dincer, 2000).

3.4.2 Water as an Element of Sustainability

There is a complex connection between water and energy, since all sources of energy (including electricity) require water in their production processes (United Nations Department of Economic and Social Affairs (UNDESA), 2014). Water resources are made available for human use and consumption (including irrigation) through pumping, transportation, treatment, and desalination, using energy (UNDESA, 2014). As with the impending electricity shortage (Dincer, 2000), water shortage is a reality faced by many countries around the world, as freshwater resources become polluted and depleted (Li *et al*, 2010). This situation is likely to continue as the global demand for water doubles roughly every 21 years (Li *et al*, 2010).

However, water is at the core of sustainable development, critical not only for socio-economic development, but for healthy ecosystems and human survival as well (UNDESA, 2015). Yet there are many negative environmental implications with regards to the large-scale provision and storage of water (Kibert, 2013), which are exacerbated by the need to pump the water through large networks of piping. This process consumes energy and requires maintenance. Furthermore, the delivery of water is not the only concern, since there is also a need to dispose of the water once it has been used, also requiring space and infrastructure. The reduction of water

consumption therefore supports sustainability since there are fewer environmental impacts relating to the delivery and disposal of water (Gibberd, 2003).

However, a reduction in water consumption does not seem possible, as it is one of the most critical resources in the built environment (Kibert, 2013). McKinsey and Company recently reported that by 2030, the global demand for water will exceed supply by more than 40%, and of the new demand from now until 2030, roughly 42% would come from four countries only: China, India, Brazil and South Africa (Kibert, 2013). Yet currently categorised as a water stressed country, South Africa is forecast to experience physical water scarcity by the year 2025 (Otieno & Ochieng, 2004). With an increasing population and continued pollution of the resource, it is expected that there will be increased pressure on the available water. This pressure may result in increased conflict over its allocation and a further stress on this resource, leading to scarcity (Otieno & Ochieng, 2004).

The built environment hydrological cycle has thus been labelled as wasteful, inefficient, and illogical. This cycle is characterised by the input of potable water and the release of used, contaminated water, and as such rethinking of this cycle is needed to better use water resources, as well as to reduce the impacts and costs of treating effluent (Kibert, 2013). As such, the protection, conservation, efficiency, and re-use of water is necessary to reduce consumption and to reduce pressure on an already over-stressed resource (City of Cape Town, 2011).

3.4.2.1 Water-wise Installations

Reducing the consumption of water used in buildings can extend the availability of water (Kibert, 2013). The use of low-flow devices and water-efficient appliances can achieve a reduction in water consumption of up to 50% (City of Cape Town, 2012). Showers can be fitted with low-flow shower heads, which significantly reduce the amount of water used when showering. Similarly, indoor taps can be fitted with aerators, which aerate the water and decrease the amount of water used. Dual-flush or multi-flush mechanisms can also be fitted to flush toilets with cisterns. These work by allowing the user to control the amount of water needed, as well as to prevent unnecessary flushing (City of Cape Town, 2012).

3.4.2.2 Rainwater Harvesting and Grey Wastewater Systems

Domestic rainwater harvesting and greywater treatment systems can play an important role in future water management (Li *et al*, 2010). Harvested rainwater is a renewable clean water source that is ideal for domestic uses. The harvested water is an alternative for many non-potable purposes, such as toilet flushing, cleaning, and for use in the garden (Li *et al*, 2010; City of Cape Town, 2012). These systems can

be used to address current water shortages, and can be an important aspect in achieving sustainable development (Li *et al*, 2010).

Grey wastewater is water that has been collected from washing operations, such as showers, bath tubs, washing machines, sinks, and dishwashers, but intentionally exclude black water sources, such as toilets (Li *et al*, 2010; City of Cape Town, 2012). Grey wastewater produces a more continuous supply of water for reuse, unlike rainwater, which is seasonal (City of Cape Town, 2012). Water collected from grey wastewater is mainly used for low-quality water applications, such as toilet flushing, garden watering, and car washing (Li *et al*, 2010).

3.4.2.3 Water-wise Landscaping

It has been suggested that approximately 30% of water used in a residential settings is used for exterior purposes, with the bulk of this being used for maintaining landscaping (Kibert, 2013). With water scarcity a growing trend globally, there looks to be less water available for landscaping, as water is diverted for use in more important aspects (Wade *et al*, 2007). Water-wise landscaping, also known as xeriscaping, can be used to reduce outdoor water use by as much as 50 percent (Wade *et al*, 2007). The use of indigenous plants is important in water-wise landscaping, as they tend to be hardier and are specifically adapted to the weather of the particular location (City of Cape Town, 2012). A water-wise landscape requires very little additional water from irrigation, and, when irrigation is used, it is applied efficiently and effectively (Wade *et al*, 2007).

3.4.3 Waste Minimisation and Management as an Element of Sustainability

The ecological effects of waste are far-reaching, impacting soil, water, and air quality, as well as energy consumption (Choate *et al*, 2005). Buildings are also responsible for producing large amounts of waste. Recycling building materials reduces the need for new materials and limits the amount of waste being produced by each building. As such, sustainability can be supported by reducing resource and energy consumption (Gibberd, 2003). There has been growing international concern about pollution, which has increased over the past 20 years. As such, a number of international protocols and conventions have been created as a way to address this growing problem. In an effort to meet the goals set out in Agenda 21, the South African government created an Integrate Pollution and Waste Management Policy (IP&WM) (Department of Environmental Affairs and Tourism, 2000).

The South African government published this policy in 1999 in recognition that inadequate or inappropriate waste management presents a threat to both human

health and environmental protection. This strategy presents a long-term plan for addressing key issues, needs, and problems experienced with waste management in South Africa (Gauteng Department of Agriculture, Conservation and Environment, 2006). For example, local authorities have the primary role of waste collection and disposal. The general public need to accept co-responsibility for this role in an effort to prevent pollution and minimise waste at the source (City of Cape Town, 2014). The implementation of effective recycling solutions will help to minimise household waste such as glass, metal, plastic and paper (City of Cape Town, 2012; City of Cape Town, 2014).

TO conclude this section, the green building movement gaining moment and is evolving in the process. It has been proven that sustainable buildings have substantial benefits both for the environment as well as for the economy (Kibert, 2014). Although there is progress in this field, there are also obstacles that limit the effectiveness of green building. Green building boosts the productivity with which buildings and their locales use resources – energy, water, and materials – while minimizing building effects on human wellbeing and environment throughout the building life cycle (Harris, 2011).

3.5 Eco-housing in South Africa

A report released by World Green Building Trends indicates that South Africa is the biggest developer of green buildings in Africa, with over 36 developers reporting plans for green developments (de Bruyn, 2015). Although it has been suggested that the current energy constraints are responsible for the shift to more sustainable methods of development, there are a number of other factors that are driving this trend (de Bruyn, 2015). In addition, South Africa has numerous policies and planning that have a role to play in residential developments. This section will analyse current trends with regards to housing and eco-housing, as well as identifying reasons for these local trends.

The National Department of Human Settlements (2014; 27) states that “a home is an asset that offers an entry point to social, commercial and work opportunities, thus offering a sense of being a full citizen”. For the first time in South African history, there are more black owned houses than white owned houses in suburban areas (Loos, 2015; Muller, 2014). This trend indicates progress with specific references to racial integration of South African cities and towns, as well as in terms of the growth of the black middle class (Loos, 2015). Black ownership of properties that fall within the upper-income bracket has more than doubled over the past 10 years, from 3.3% to 7.8% of total sales, which can be attributed to the increasing spending power of the middle to upper-income black consumer (Watt, 2013).

In addition, prior to the worldwide recession in 2008, South Africa experienced tremendous growth in the property market. This growth occurred in both in the residential as well as in the more exclusive leisure and lifestyle property markets. With urban areas predicted to increase as a result of a growing population as well as changing socio-economic profiles indicated above, two trends in the residential housing market have appeared. These trends either result in an increase in high-density, low-cost housing with small gardens, or relatively low density, expensive, expansive, and exclusive housing often associated with golf courses or open areas (Grey-Ross *et al*, 2008). Eco-estates meet the requirements of the latter trend, since the density and position of development is constrained, but are positioned as niche as they are projected as conserving biodiversity (Grey-Ross *et al*, 2008).

As with most forms of development, urban development in South Africa has resulted in many local extinctions, as well as the complete elimination of the majority of native species. Furthermore, urbanisation is a more permanent transformation (Neke & Du Plessis, 2004). As a result, the South African government has since restricted lifestyle developments, which, in turn, has led to a significant increase in the number of eco-friendly developers who invest and assist in preservation of wilderness areas throughout South Africa (property24, 2006).

In South Africa, there is thus a great awareness about the need to protect the environment and its various natural resources (Tibane & Vermeulen, 2014). This awareness is evident in the South African Constitution (1996), which gives all citizens the right to have the environment protected through reasonable legislative and other measures that secure ecologically sustainable development. The Constitution further acknowledges that economic development and social development is limited by what the environment can provide and only if the environment is sustained.

Not only is there a greater focus on the environment, but there is also a shift towards a healthier lifestyle. These factors, coupled with a need for personal space, has seen developers creating a niche market in eco-estates (Golding, 2015). By definition, an eco-estate is a “development in an unspoilt area where the natural environment of the flora and fauna flourish. Space is one of the major principles of any eco-estate and they are designed to accommodate fewer properties” (Gauteng and NW Province, 2015). The density of homes in a traditional eco-estate is considerably lower than single home suburbs, with a density of between one and five homes per hectare, as opposed to 20 homes per hectare. Furthermore, an eco-estate is subjected to an on-going Environmental Management Plan (EMP). This EMP requires a conservation office to complete a yearly report that is handed to local authorities for scrutinisation (Rainharvest, 2010).

Eco-estates provide the potential investor with a very lucrative investment. The investor has a property that is situated within a diverse natural environment, as well as the security and well-organised management structure offered by these estates (Levitas, 2012). There are a number of additional factors that have resulted in an increase in eco-estate development, including the location (proximity to the city or to a major tourism attraction like a game park), its concept and other selling features. These features may include roaming game and breath-taking scenery (Levitas, 2012).

3.6 Greenwashing

Since the beginning of the sustainability movement, environmentalists, lobbyists, and good manufacturers have pursued the benefits of going green (Harris, 2011). There is also an increased awareness of environmental issues, and many individuals feel compelled to protect the environment and the natural resources within it (Mitchell & Ramey, 2011). Organisational cultures are being adapted to reflect a greater responsibility for the environment, which is evident in the number of green products and services that companies are promoting (Mitchell & Ramey, 2011) through the use of advertising campaigns and logos (Mitchell & Ramey, 2011). In so doing, a greenwashing trend has emerged (Harris, 2011).

The term “greenwashing” is defined as tactics that are used to mislead consumers regarding the environmental practices of company or the environmental benefits of a product or a service (Bradford, 2007). There are, however, instances that may suggest that greenwashing is not an intentional endeavour, but represents a lack of communication between the company and its target audience (Arvizu, 2008). Despite this suggestion, it is important to recognise that in an attempt to maintain social legitimacy whilst engaging in seemingly illegitimate practices, corporations do employ a variety of tactics, including greenwashing (Arvizu, 2008).

Developers are not excluded from the practices of greenwashing. In fact, development corporations have the greatest incentive to integrate environmental values into their business practices (Parlow, 2008). Real estate developers have a greater motivation to be environmentally conscious, since the negative environmental consequences (urban run-off, poor air quality, unsustainable energy consumption, and degraded water quality) of this sector are under constant scrutiny (Parlow, 2008).

Developers therefore either use greenwashing to obtain discretionary land use approvals for their proposed developments, or the developers build green developments to meet the demand from environmentally conscious buyers (Parlow,

2008). In some instances, however, developers choose to build properties that are green since they believe that green developments are important for future development. Greenwashing is therefore often apparent, since residential developers need to package their product correctly in order to attract possible buyers. They do this by knowing who they are targeting and working towards providing a solution that will meet their customers' needs (Walker & Wan, 2012). With increasing need to create products that consumers want to buy, the motivation to greenwash urban developments is clear (Schmitt, 2012).

With the sustainable building market increasing annually, it is important for developers to have a well-designed marketing strategy that can set them apart from other similar developments (Eerikäinen & Sarasoja, 2013). Although there is substantial growth in the sustainable building market, it is still a relatively new one, and, as such, it is vital for developers to find unique and unused position in the market (Eerikäinen & Sarasoja, 2013). This need to establish a niche is taking place in the South African real-estate market, seen through the appearance of eco-estates in a rather saturated sector of lifestyle and security estates.

3.7 Greenwashing Development

There are both negative and positive aspects related to the concept of greenwashing. The negative side of greenwashing is the deliberate attempt to disguise a potential failure that often results in an increase in the problem it was claiming to reduce. The positive side is that greenwashing can reveal how difficult it is, even with the best of intentions, to precisely define sustainability, as well as how to achieve it (Bennetts, 2011). For some, true sustainability requires a sensitive balance between social, economic, and environmental factors (Bennetts, 2011). For others, the sheer vagueness of this concept is one reason why greenwashing has become so prevalent (Bennetts, 2011).

The green building industry is a source for greenwashing, which is reflected in the fact that green building is defined by multiple attributes, ranging from materials used to the actual performance of the building itself in its energy, water, and resource usage (Hunter, 2014). Ideally, green buildings would contain various green elements and products, which have been verified by a third-party certification body for specific and relevant claims, and the building itself, which would also be assessed by a third-party expert (Hunter, 2014). In reality though, this process seldom happens, since green building standards are "meta" standards (Hunter, 2014). Within the construction industry, the idea of sustainability is confusing and daunting.

3.8 Building Assessment Systems in South Africa

The prevalence of greenwashing in the building sector has led to green building certification systems being developed (City of Cape Town, 2012). These certification systems are aimed at providing an industry standard for claims relating to green buildings (City of Cape Town, 2012). It has been found that ratings have an important role in assisting consumers to make more responsible evaluations (Parguel *et al*, 2011). Similarly, third-party certifications are seen as the best way to ensure that consumers are made aware that the product is indeed environmentally sustainable (Kapalko, 2010).

With over 83 environmental assessment models globally (see figure 3.3.), there are many ways for developers to avoid the use of greenwashing. These assessment models are paramount in providing certifications that are considered to be acceptable to determine building sustainability. LEED and BREEAM are the most commonly used assessment tools, with many countries in Europe using both tools, while the Americas use LEED as their preferred method of building assessment.

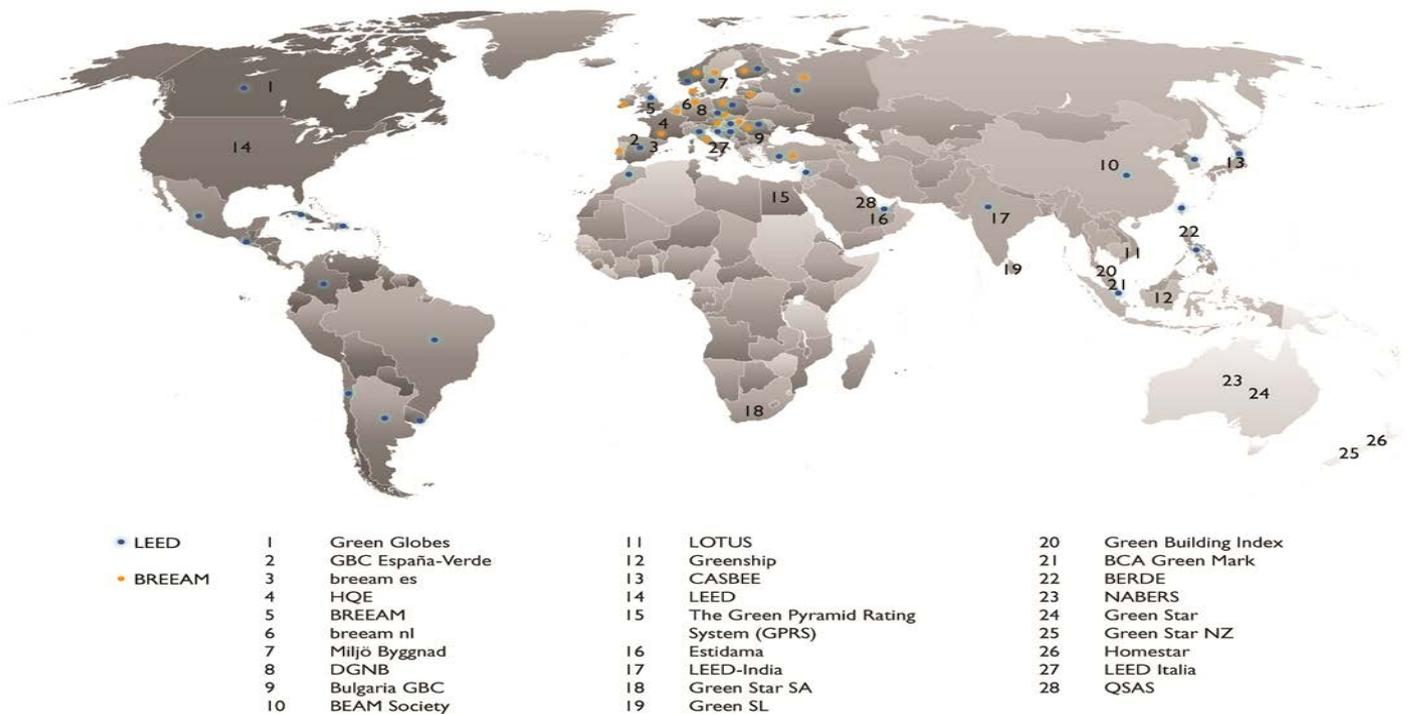


Figure 3.3. A world map showing the most commonly used environmental assessment models by country

These rating tools set standards and benchmarks for green buildings by awarding points based on the measures that have been included in the building, after which a total score is given (Gunnell, 2009). Often developed under the guidelines of a rating system, green buildings are built following these measurements and are

subsequently recognised for that level of commitment (Wu & Low, 2010). There are two distinct categories of rating systems, namely, one which focuses on specific building components or activities, and the other that centres on regarding the building as a whole entity (Wu & Low, 2010).

Many studies have highlighted the importance of assessing sustainability (Cheng *et al.*, 2008; Ding, 2008). Sustainability measurements in the building sector have since shifted from fashionable certifications to current practices in many areas of the world (Berardi, 2012). Certification systems have facilitated the move to greener buildings by enhancing the transparency of building operating costs and other sustainability metrics (Nelson *et al.*, 2010). Until recently, South Africa was the only country in Africa that used building assessments to evaluate the sustainability of buildings (Berardi, 2012).

Although there are a variety of tools available for use in South Africa, many of the tools are not adequately adapted to suit the South African context and are for profit companies.

One tool, BREEAM, was developed in 1990 as the first environmental building assessment method and remains the most widely used (Larsson, 1998). This tool awards a single rating scheme of fair, good, very good, or excellent for single buildings. This system sets out a list of environmental criteria against which building performances are checked and evaluated (Ding, 2008). The assessment process can begin in early in the process, beginning in the initial stages of a project. The results of the study can then be input into the design development stage of buildings, which allow for changes to be made accordingly to satisfy pre-designed criteria (Johnson, 1993). As the oldest building assessment system, BREEAM serves as the foundation for many other rating systems, including LEED (Kibert, 2013).

Launched in 1998 by the US Green Building Council (USGBC), the Leadership in Energy and Environmental Design (LEED) was designed as a building assessment system for new construction (Kibert, 2013). The LEED building assessment system provides range used to rate products, for the purpose of guiding the life-cycle of design, construction, and operation of high performance green buildings (Kibert, 2013). Buildings are awarded certification in one of four levels, namely, certified (26-32 points), Silver (33-38 points), Gold (39-51 points), and Platinum (52-69 points) (Ding, 2008; Kibert, 2013; Roderick *et al.*, 2009).

As this tool was created as a way to rate design and construction processes, focuses on points scored across seven categories, namely: site selection, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, regional priority, and innovation in design. A total of 100 points are available

across these criteria, with mandatory prerequisites for energy and water-use reduction, recycling collection, and tobacco smoke control (Vierra, 2014). It has been argued that the vision of the LEED rating system is severely limited, since the point system is only applicable to architectural building standards and does not take into account financial relevance, client relations or, simply, development (Rosenfield, 2013). These drawbacks are especially problematic when the development is in certain parts of Africa, as development in Africa requires that the needs and standards of construction must shift not simply to a new geographical and cultural context, but to one of development needs and capabilities (Rosenfield, 2013).

Furthermore, it is evident that LEED was created with American buildings in mind since there is the use of units that are not typically used in many other countries, for example, distance is measured in feet, while lighting is measured in footcandles (Gibberd, 2003). The use of American guidelines and standards means that the tool is not relevant to many other countries (Gibberd, 2003).

Similar to BREEAM and LEED, Green Star is a major green building assessment scheme used in Australia (Kibert, 2013). Green Star has been adapted to the South African context and is used locally as the Green Star South Africa. The Green Star SA was developed by the Green Building Council of South Africa and is based on the Australian Green Building Council tools. The Council SA continually develops the Green Star SA rating tools to provide an objective measurement for green buildings in South Africa and to recognise and reward environmental leadership in the property industry (Vierra, 2014). This rating tool is aimed at assessing different market sectors, such as office, retail, multi-unit residential, public, and education buildings (Green Building Council SA, 2008). However, the tool is adaptable to various market sectors, such as office, retail, and multi-unit residential. The objectives of the Green Star SA rating tools are to: “establish a common language and standard of measurement for green buildings, promote integrated, whole building design, raise awareness of green building benefits, recognize environmental leadership, and reduce the environmental impact of development” (Vierra, 2014).

Unlike other rating tools, Green Star has removed the process of applying weightings to criteria. What this means is that the number of scores available for a criterion simply reflects on the weighting for that criterion (i.e. one point for the energy criterion is equivalent to one point for the transport criterion). This system is, however, potentially problematic, in that there is a tendency for a criterion that has the higher the number of sub-criteria to be weighted more heavily (Siew, 2014). In fact, many of these tools described above are not adequately adapted to suit the South African context and are for profit companies.

The Sustainable Building Assessment Tool (SBAT) was thus developed in South Africa by the CSIR Building and Construction Technology to address the deficits of similar sustainability tools that often overlook the social and economic impacts of the built environment (Gunnell, 2009). SBAT focuses specifically on sustainable building and construction processes in developing countries by measuring sustainability performance in the built environment across 15 social, economic, and environmental criteria (Gibberd, 2008; van Wyk, 2008). Furthermore, since South Africa is a developing country, sustainability needs to be addressed in a unique way (Cosser, 2015). SBAT thus collects information throughout the building lifecycle for analysis and is stored on a database for use in future projects (Cosser, 2015).

In conclusion, as environmental consciousness increases amongst individuals, so does the market for greener homes (Parlow, 2008). With an increased growth of \$30.6 billion between 2005 and 2010, developers globally are attempting to meet the demand for greener homes for what it appears are financial gains (Parlow, 2008). The major factors driving making green building mainstream can be attributed to homeowners' demand, as well as the superior environmental performance of green buildings (Nelson *et al*, 2010). Stricter government regulations have also led to the increase in the number of green buildings (Nelson *et al*, 2010). Although sustainability ratings may assist consumers make more environmentally informed decisions, it may be challenging and time consuming to determine which standards, certifications, and rating programs are most credible (Vierra, 2014).

3.9 Regulating Greenwashing in South Africa

A sustainability survey conducted by Ogilvy Earth SA (2011) indicated that South African consumers have a high level of eco awareness, with only 18.3% of consumers trusting a company's green credentials (Le Roux & Viljoen, 2012). This distrust can be attributed to unsubstantiated and false claims made by companies. Greenwashing thus threatens those who are legitimately trying to provide services and goods that are in fact ecologically friendly. However, terms such as "environmentally friendly", "eco", "energy efficient", "water friendly", and "green", are currently not regulated by South African legislation, yet some are regulated by industry watchdogs, such as the Advertising Standards Authority and The Carbon Neutral Company (Le Roux & Viljoen, 2012).

Appendix G of the Code of the Advertising Standards Authority (ASA), which governs all advertisements, deals specifically with the use of environmental claims in advertising. According to the Code, environmental claims refer to "any direct or indirect claim, representation, reference or indication in an advertisement relating to the immediate or future impact or influence on the environment of a product or its packaging or a service" (The Advertising Standards Authority of South Africa (ASA),

2015). Furthermore, the Code states that “all environmental claims and statements made in advertising should provide accurate information, meaningful to the consumer and based on recognised scientific standards and principles” (ASA, 2015). Finally, the Code stipulates that “advertisements should not contain vague, incomplete or irrelevant statements about environmental matters, nor should it impair public confidence in the efforts made by the business community to improve its ecological standards” (ASA, 2015).

Other than the Advertising Standards Authority, South Africans can rely on the Consumer Protection Act if green claims are too vague and unsubstantiated (Le Roux & Viljoen, 2012). The Consumer Protection Act prohibits any misleading trade descriptions that are direct or indirect indications of the materials and mode of manufacturing or production of products (Le Roux & Viljoen, 2012).

It is evident that there are ways that are in place to protect consumers from greenwashing through misleading environmental claims, but South Africa lacks formal guidelines that would direct how specific words or trade descriptions should be used. This lacuna suggests that consumers of green products are ultimately responsible for investigating the truth of the claims made regarding the environmental friendliness of the goods and services which they buy, and they should therefore be more active in the decision-making process (Le Roux & Viljoen, 2012).

Yet without legislation in South Africa to adequately define and provide requirements for what an eco-estate should be, there will always be confusion as to what they are (Grey-Ross *et al*, 2009). For some, eco-estates are housing developments that consider alternatives for the conservation of energy and water and the reduction of waste, focus on the impact of sanitation, while considering the use of sustainable building material (Swilling & Annecke, 2006). Others see eco-estates as conservation tools, providing refuges for endangered species (Grey-Ross *et al*, 2009). There is therefore an argument that eco-estates that focus on sustainable development may not necessarily allow for the conservation of natural fauna and flora (Grey-Ross *et al*, 2009), which implies that one definition of eco-estate cannot necessarily support the other. This observation is significant since the majority of eco-estates use wildlife as part of their advertising campaigns

3.10 Competitive Altruism

In order to fully understand the impact of green advertising, it is important to also consider consumers’ responsiveness to this advertising, since consumers responses to an advert can be driven by individual motives and preferences, as well as collective and communal motives (Richards, 2013). With regards to this study, it is

important to identify that individuals across cultures and time have been known to compete for status by appearing to be more altruistic (Griskevicius *et al*, 2010). This behaviour is termed competitive altruism (Barclay & Willer, 2007; Roberts, 1998; Hawkes, 1993). Previously, social status was achieved through the consumption of luxury goods. With evolving social norm, it has been suggested that esteem can be attained through the demonstration that one is environmentally conscious through the consumption of products perceived to have a lower environmental impact (Sexton & Sexton, 2011). It has been theorised people would forgo luxury for environmental status as a result of competitive altruism (Cloud, 2009).

In light of current global concerns about environmental damage and global climate change, environmental protection conveys an image that was previously linked to wastefulness and excess (Kotchen, 2006; Sexton & Sexton, 2011). As such, consumers are undertaking costly actions to signal themselves as environmentally friendly, or “green” (Sexton & Sexton, 2011). Green products demonstrate to others that the owner is voluntarily incurring the cost of owning the product for the benefit of the environment (Griskevicius *et al*, 2010). It has been shown that as many as one third of consumers are willing to pay a premium for products with green characteristics, such as renewable energy (Blumenschein *et al*, 1997). This desire to be considered as environmentally friendly is further demonstrated by homeowners who have been known to install solar panels on the shaded side of the house in an attempt to display their investment to people on the street (Sexton & Sexton, 2011).

Competitive altruism theory thus suggests that the modern consumer will pay more for a product if in doing so they are perceived to be caring towards the environment (Griskevicius *et al*, 2010; Mitchell & Ramey, 2011). This concept can therefore be extended to developers, as well as potential homeowners, who use competitive altruism to garner interest in their proposed environmentally friendly developments. Competitive altruism may perhaps highlight a competitive strategic step made by some developers to create residential housing estates that are “green”. A belief of competitive altruism is that the more visible the products green label (calling a residential estate an eco-estate); the more likely consumers will be to attain it as a way to elevate the status (Mitchell & Ramey, 2011).

The competitive altruism theory offers an insight into why consumers will spend significantly more money, time, effort, and other valuable resources to procure goods and services, or patronise organisations that they perceive are environmentally friendly (Mitchell & Ramey, 2011). Although this theory allows organisations and developers alike to meet the demands that have emerged in response to the current green trend, some developers are taking advantage of this situation by using greenwashing instead (Mitchell & Ramey, 2011).

3.11 Conclusion

Being green is more than an environmental choice (Joseph, 2014). Status motives lead one to forgo luxury as a way to positively influence ones reputation (Cloud, 2009). Competitive altruism encourages individuals to behave in a way that can be beneficial to the environment. Many companies have realised this, and, as such, there is a growing increase in greenwashing as well as use of celebrity endorsements to encourage others to buy green products (Cloud, 2009). For these companies, It is also important to sell products at a higher price since it is difficult for less wealthy people to engage in status-seeking behaviours (Cloud, 2009). However, greenwashing can be avoided in the housing sector through the use of building assessment tools, which rate buildings according to their level of sustainability based on criteria that impact sustainability.

As South Africa is a developing country, sustainability is affected by a number of factors. The SBAT has thus been specifically created to assess buildings in the specific context of development. It is the only assessment tool that has been specifically created for use in South Africa. With an increase in green buildings expected to rise, it is important that such tools are used to ensure that new developments meet the standards required to be considered sustainable.

Chapter 4: The Sustainability of Eco-Estates in Gauteng, South Africa

4.1 Introduction

With the abundance of available technology, materials, and design methods for construction (De Wit, 2008), it would seem that new buildings would be able to achieve eco-friendliness and sustainability. Ultimately, sustainable development is a choice that is made by the developer. This choice relates to all aspects of sustainability, including environmental, social, and economics.

As South African cities are expanding, there is a shift in focus to find ways to minimise environmental impacts associated with new developments (Parlow, 2008). The important point to consider is whether these developments have been built to meet the market demand from environmentally conscious buyers (Parlow, 2008), or the developers have adopted environmentally responsible business practices for altruistic reasons alone, or greenwashed (Parlow, 2008).

This chapter will show that although many residential estates market themselves as eco, their environmental sustainability score reflects otherwise. These estates use greenwashing techniques to attract homeowners. While these homeowners may have been misled, competitive altruism suggests that the homeowners are as much to blame in believing for the false adverts in an attempt to appear as though they care about the environment.

4.2 Residential Estates and Sustainability

Residential estates in South Africa rely on various methods of marketing to distinguish themselves from other similar estates. Some of these residential estates have chosen to market themselves as eco-friendly. The estates have differentiated themselves from others through the use of the terms “green”, “eco”, “country”, and “nature”. Non-eco-estates make none of these environmental claims. Therefore, when comparing the environmental sustainability scores of eco-estates and non-eco-estates, eco-estates should outperform the latter.

Since the claims made by eco-estates focus especially on the environment, the other aspects of sustainability were excluded in this study.

Table 4.1. A summative table showing total environmental sustainability scores and averages for both residential eco-estates (green) and residential non-eco-estates (orange).

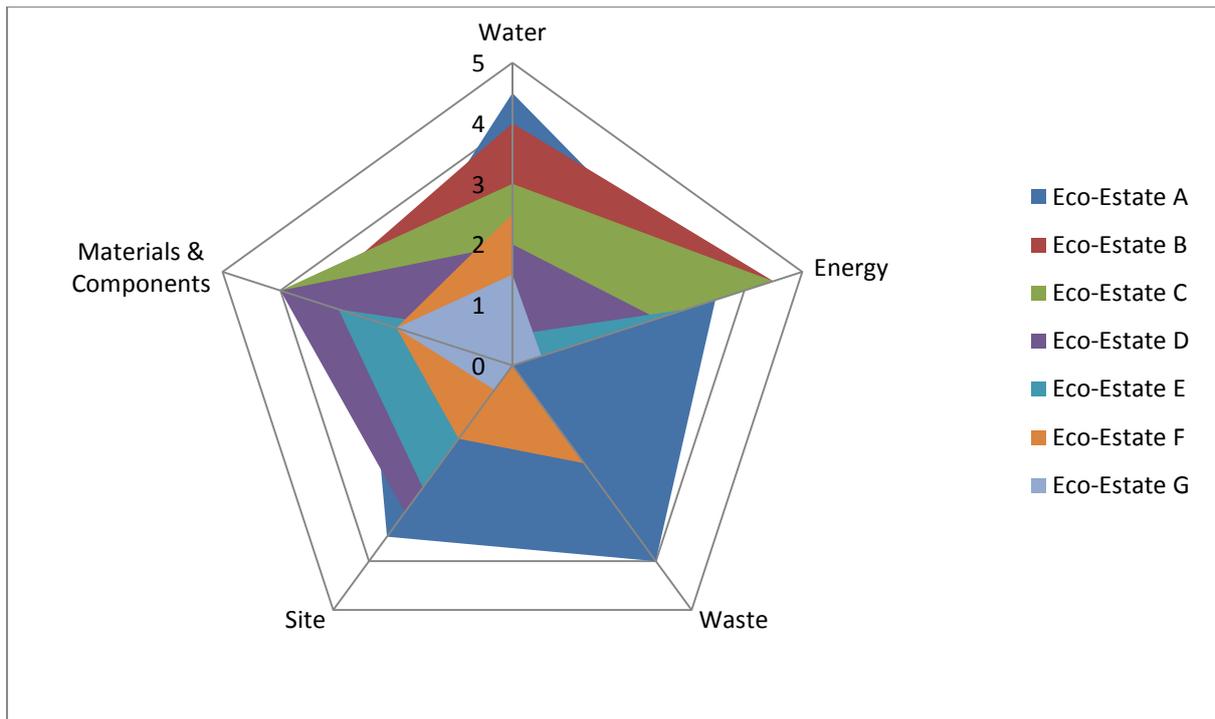
Eco-Estate	Water	Energy	Waste	Site	Materials & Components	Total Scores (25)	Average	Non- Eco Estate	Water	Energy	Waste	Site	Materials & Components	Total Scores (25)	Average
Eco-Estate A	4.5	3.5	4	3.5	3.5	19	3.8	Estate A	1.5	2.5	0	0	2	6	1.2
Eco-Estate B	3	4.5	0	2.5	4	14	2.8	Estate B	1	1	1.5	0.5	1	5	1
Eco-Estate C	4	4.5	0	2	3.5	14	2.8	Estate C	1	2	0	0.5	1	4.5	0.9
Eco-Estate D	2	2.5	0	3	4	11.5	2.3	Estate D	0	1	2	0	1	4	0.8
Eco-Estate E	0.5	3	0	2.5	3	9	1.8	Estate E	0.5	0.5	0	0.5	1.5	3	0.6
Eco-Estate F	2.5	0	2	1.5	2	8	1.6	Estate F	0.5	0.5	0	0.5	1.5	3	0.6
Eco-Estate G	1.5	0.5	0	0.5	2	4.5	0.9	Estate G	0	0.5	0	0.5	1	2	0.4
Total (35)	18	18.5	6	15.5	22	78.5	16	Total	4.5	8	3.5	2.5	9	27.5	5.5
Average	2.57	2.64	0.86	2.21	3.14	11.43	2.29	Average	0.64	1.14	0.50	0.36	1.29	3.93	1.38

Table 4.1 shows a side by side summation of the environmental sustainability score for each of the 14 estates used within the study. All of the scores are rated on a scale of 0-5, where 0 – 1 = very poor; 1 – 2 = poor; 2 – 3 = average; 3 – 4 = good; and 4 – 5 = excellent. A score of less than 3 renders the criterion not sustainable. These results indicate that the overall environmental sustainability score for the residential eco-estates were higher than the overall environmental sustainability score for the non-eco-estates. These results are similar to the findings done in previous studies, which indicate that the best performing buildings in a comparative study were those that took a fully integrated approach to sustainable design—addressing site development, water savings, energy efficiency, materials selection, and indoor environmental quality (GSA Public Buildings Service, 2008).

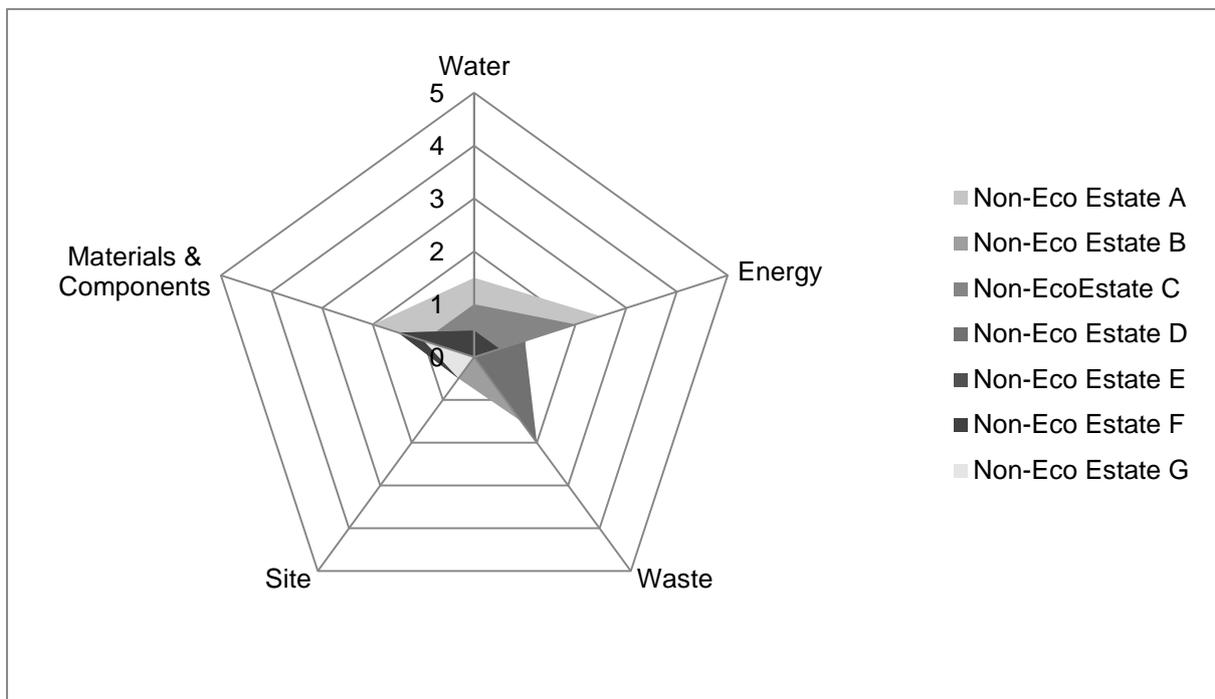
The average environmental sustainability score for eco-estates was 11.43 out of a possible score of 25, and the average environmental sustainability score for non-eco-estates was 3.93 out of the possible score of 25. This difference (7.5) is significant and indicates that there is a substantial difference between the two types of residential estates. While the environmental sustainability scores for eco-estates are higher than the non-eco-estates, the scores for some of the individual eco-estates are not sufficient enough for them to be classified as sustainable. Although the overall difference in the total environmental sustainability score is high, there are also differences between the individual criteria, which will be elaborated on in the sections below.

The results shown in table 4.1 indicate that 14.28% of the eco-estates studied can be considered “good”. What this infers is that the estates have some sustainability features, but that there can be improvements made to ensure that they are completely sustainable. 42.86% (the majority) of the eco-estates surveyed had scores which classifies them as average. Thus the estates are neither sustainable, nor are they unsustainable. 42.86% of the eco-estates used in this study received scores below 3, resulting in a classification of poor to very poor. This result indicates that these estates are unsustainable and, although they advertise themselves as being eco-friendly, they have not adopted any features that reflect this status. It is therefore necessary to determine why these residential estates have chosen to market themselves as “eco”, since their overall scores show that they are not sustainable.

Although a large number of eco-estates did not obtain scores that classified them as ecologically sustainable, none of the non-eco-estates received a sufficient score either. 28.58% of the non-eco-estates received a classification of poor, while the majority, 71.42%, received a classification of very poor. While this was expected for non-eco-estates, the results of the eco-estates are interesting, since green buildings have lower operating and maintenance costs than compared to conventional buildings. Green buildings are also more energy efficient, as well as reduce negative impacts on the environment (ACE Update, 2014). As such, eco-estates should represent development that is the most efficient, as well as offering the least disruptive way of using land, water, and energy resources (ACE Update, 2014). The results of this study indicate the opposite.



Graph 4.1. A spider-graph showing the overall environmental sustainability score for each of the seven eco-estates.



Graph 4.2. A spider-graph showing the overall environmental sustainability score for each of the seven non-eco-estates.

When looking at graph 4.1 and graph 4.2, it becomes apparent how vastly different the environmental sustainable scores between the two types of estates are.

These spider-graphs display the multivariate data of the SBAT, with each of the environmental categories represented on axes that start from the same point. The more complete the graph is, the greater the sustainability of the building, since more of the requirements are being met. Eco-estate A had the highest environmental sustainability score. Overall, the majority of the eco-estates performed poorly in the categories of “waste” and “site”, but the majority of the eco-estates performed well in the “water” criterion

4.2.1. Water Efficiency Measures

Although the residential eco-estates generally scored higher in this category, there is one non-eco-estate (Estate A) that had a higher score for water compared to one of the eco-estates (Eco-Estate E), where Estate A received a score of 1.5 and Eco-Estate E received a score of 0.5. When looking at the estate documentation, it is evident that Estate A scored higher as it has an on-site sewage treatment facility, which allows the estate to manage and treat their sewage and greywater. In doing so, they are able to reuse the water in the gardens and on the golf course of the estate. What is indicated is that some features of sustainability are not unique to the type of residential estate, but rather are used to fulfil a specific need of that particular estate. This observation is reflected in the excerpt from Estate A marketing material, shown below.

“Estate water and sewer reticulation is self-maintained. A Utilities plant is situated on the southern side of the estate supplying potable water to the estate as well as to the college. 3 x 1 000 000 litre sewer reactors process the sewer and the grey water is reintroduced into the lakes on the estate. This water in turn is utilized for irrigation purposes. Water quality is of utmost importance and thus our water and sewer gets tested on a daily basis by the operating staff at the utilities plant. Monthly laboratory tests are conducted by an independent lab appointed by Prentec and quarterly tests are conducted by Aquatico on both the potable as well as irrigation water.” (Estate A, 2011).

Overall, most of the residential eco-estates make provision for the use of rainwater harvesting methods, including, but not limited to, rainwater tanks that should be used to capture and store rainwater onsite. This water should be used to supplement municipal water supplies, especially for use in landscaping and irrigation.

Linked to this concept of using rainwater harvested for irrigation and landscaping is the use of water conservation through planting. Almost all of the residential estates (eco and non-eco) had elements of water conservation through the use of specific planting, highlighting the importance of xeriscaping as a method of water conservation, especially in areas which are water scarce. Since South Africa is a water scarce country, it is not surprising to see that both eco- and non-eco-

estates have policies that focus on the importance of saving water through the planting of indigenous vegetation. Eco-Estate E (below) discusses the reasoning behind their rules for homeowners to plant indigenous plants.

“The entrance to the site and the houses shall only be landscaped with indigenous plants... Plants that use a minimum amount of water shall be planted as far as possible and all planted areas shall be watered sparingly” (Eco-Estate E; 2005).

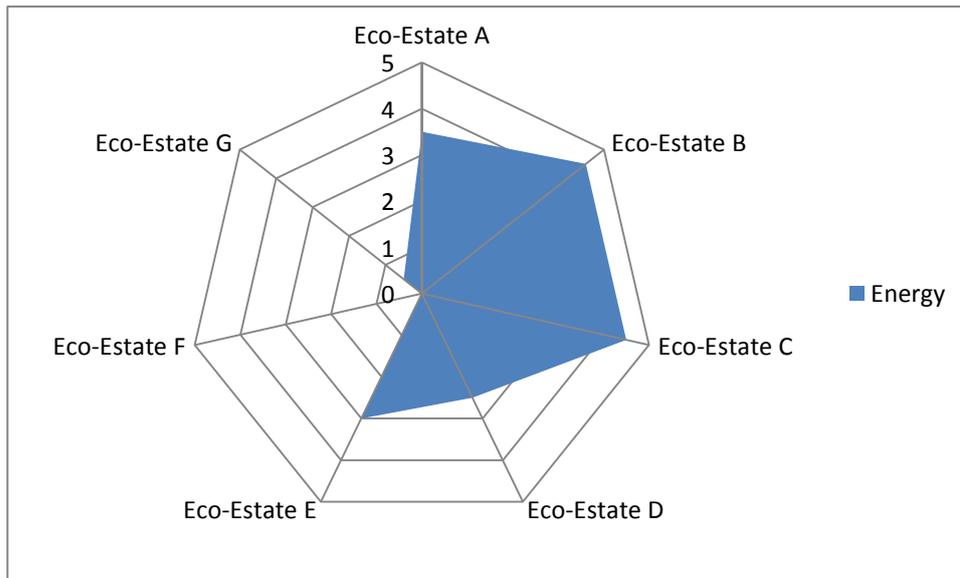
The estates all required that indigenous plants be used in favour of exotic plants, since indigenous plants often tend to consume less water than exotic plant species. Non-native plants use approximately 576 million m³ of water per annum more than the natural vegetation (Way n.d.). The planting of indigenous plants is therefore important as less water is needed for gardening purposes.

However, the word indigenous has also become a marketing tool (Ballard & Jones, 2011). In some sense then, indigenous planting is not just important for environmental protect, but for economic reasons as well. The latter is highlighted by the reality that landscape architects are opting to landscape with indigenous plants, despite the cost, in order to meet market demand (Ballard & Jones, 2011). Buying property in an indigenously landscaped estate is a form of ethical consumption (Ballard & Jones, 2011) that is in many ways a form of competitive altruism.

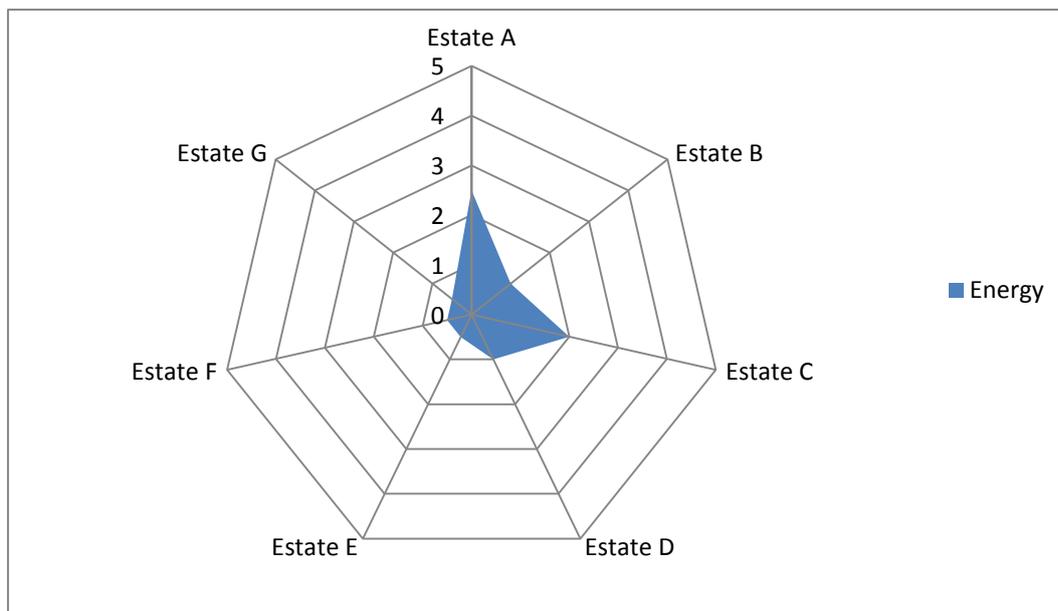
Gardening and the use of indigenous landscaping is not the only way that homeowners are able to display their concern for the environment. One other way is through the use of renewable energy forms, such as solar, which can be placed on the roof of houses thus indicating to other homeowners a desire to protect resources.

4.2.2. Sustainable Energy Use

The majority of the residential eco-estates (see graph 4.3) scored above 3 in the category of energy use. This score indicates that these estates are classified as “good” to “excellent” with regards to their environmental sustainability score, according to the SBAT. All of the non-eco-estates, however, scored below 3 (see graph 4.4), indicating that their energy performance is below average, and in many cases (5 out of 7), their performance was “very poor”.



Graph 4.3. A Spider-graph showing the sustainability scores for energy in eco-estates.



Graph 4.4. A Spider-graph showing the sustainability scores for energy in eco-estates

The residential eco-estates scored higher in this section, as many of the estates use less energy through the use of passive and natural processes for ventilation, heating, and cooling. This use of passive design is clearly documented in many of the architectural guidelines for these estates. An example of this can be seen in the architectural and landscaping guidelines for Eco-Estate C, which states:

“It is our hope that this development will create a... climatically appropriate style that is... relevant to the region of Gauteng... where it is warmer outside in winter, the sun shines all year round and the temperature can fluctuate... thus material choice is critical to ensure low running costs through passive heating and cooling of the building” (Eco-Estate C, n.d.).

The South African Bureau of Standards (SABS) provides guidelines and general requirements for energy efficiency under the South African Building Regulations. These regulations (SANS 204/XA) state that wherever possible, passive building design must be encouraged (SABS, 2011). The SANS 204/XA regulation is relatively new (released in 2009) and, as such, some of the estates will automatically score higher as they have been developed after 2009.

When comparing electricity usage and lighting in conventional buildings and green buildings, it is evident that green buildings use significantly less energy than their counterparts (ACE Update, 2014). One study compared the actual energy used in green buildings to the actual energy used in conventional buildings and found that the green buildings on average used 5% to 30% less energy than conventional buildings (Committee to Evaluate Energy-Efficiency and Sustainability Standards, 2013).

“...we actively encourage the reduction of energy consumption through the use of renewable energy, passive design elements, energy efficient appliances and lighting... we do not endorse the use of diesel or (sic) petrol back-up generators, and urge a thoughtful consideration of battery and solar” (Eco-Estate D, 2014).

In the current context of energy in South Africa, it is important that sustainable energy be sourced as a replacement for coal-based energy production. With this in mind, both eco- and non-eco-estates should be striving to achieve energy efficiency. Currently, it would appear that competitive altruism is a driver in promoting the greening of some homes, with homeowners installing energy saving devices as a way to impress friends: “Buying a green product like one of those long-life compact fluorescent bulbs means giving up the understated softness of a regular incandescent. But you also gain something precious when you buy a compact fluorescent: status. When your friends see the bulb screwed into the socket of your lamp, many of them will think you're a better, more socially conscious person” (Cloud, 2009).

Home solar panels are one of the most visible consumption decisions households make. Behavioural economists have suggested that homeowners tend to over-invest in solar panels, while under-investing in other green home improvements, such as additional insulation and window caulking, since the former can be seen by others, while the others are not as obvious (Sexton & Sexton, 2010).

4.2.3. Waste Reduction

Waste reduction, unlike energy reducing products, is not visible. As a result, few individuals participate in the act of recycling, which is evident in the scores for this category where many of the residential estates (10 out of 14), both eco and non-eco, receiving 0 out of a possible score of 5, thus that they fall into the category of “very poor”. These low scores may exist since the focus on waste in the SBAT is specific to recycling of all types of wastes. Almost all of the estates lacked any sort of on-site recycling programme, and much of their waste was simply diverted to municipal landfills via the use of metropolitan services such as “Pikitup”.

This neglect affects the overall sustainability score for “waste”, since recycling and the reduction of waste is one of the most effective ways to reduce environmental impacts. Only one residential eco-estate (Eco-Estate A) scored 4 out of a possible 5, because they have implemented a comprehensive recycling initiative that focuses on recycling of paper, metals, glass, plastics, cardboard, as well as computer components and printer cartridges.

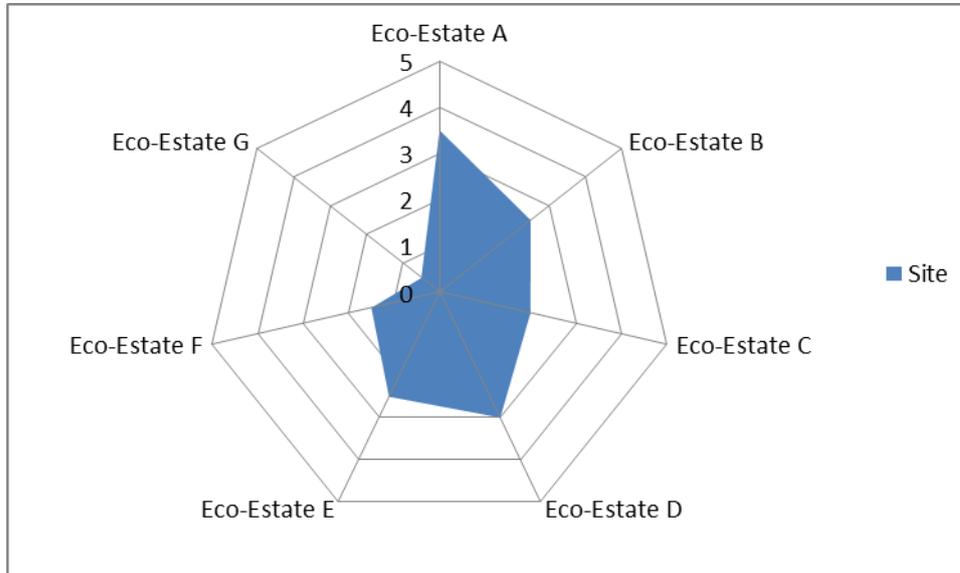
This initiative is in contrast to what is expected with competitive altruism. Previously, a negative stereotype was assigned to people who recycled, as recycling was associated with a lack of resources, which in turn lowered the social status of those who did it (Smith, 2011). However, although the green movement is now a popular decision, it only tends to be effective when there is a public display of green products, behaviours, and decision-making (Smith, 2011). Since the estates have no recycling centres placed within their confines many homeowners would not feel the need to recycle, since there is no way to actively show others what they are doing.

Only Eco-Estate A had guidelines for the management and disposal of waste. This waste focused solely on building waste (see quotation below), but there was no mention of wastes generated on a daily basis within the house (municipal waste). There is more waste generated by homeowners on a daily basis than waste generated during the construction process, because individuals occupy a house over a longer period of time. According to the 1999 State of Environmental Report for South Africa (DEAT, 1999), the country generates over 42 million m³ of solid waste every year. This is about 0.7 kg per person per day (Ogola *et al*, 2011).

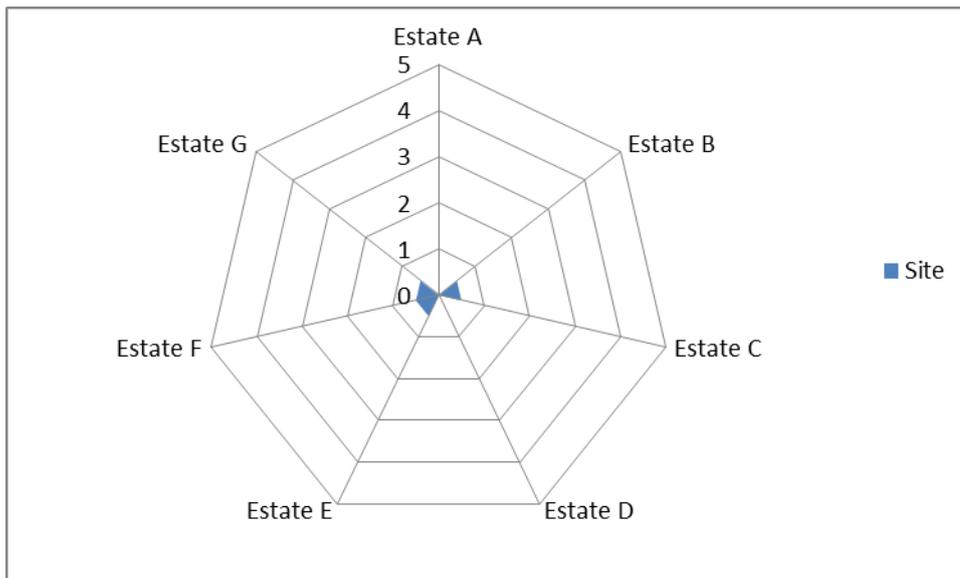
“During construction an area should be dedicated for building waste to be separated and be made available for recycling and/or re-use elsewhere. If unavoidable, waste materials can be transported off site for re-cycling elsewhere or spoilt in an approved land fill area... Owners must design & dedicate a small area to house recycling containers. Specification of containers will be supplied by the HOA. This area should be adequately sized & located to allow access from outside to allow recycling sub-contractors to collect & remove materials from time to time... Where used building materials from other buildings can be re-used, owners are encouraged to do so. Materials that are obtained & transported to site from a 200km radius will be acceptable” (Eco-Estate A, n.d.).

4.2.4. Building Footprint: Site

Like waste, sites for development can be recycled. Both the residential eco-estates and non-eco-estates performed poorly in this category, although the non-eco-estates performed the worst, with all of the estates receiving a score of less than 1. Only two of the seven residential eco-estates scored above 3, while the remaining 5 scored between 0 and 2.5. There are a number of factors influencing this score. One of these factors, linked to energy, is that of neighbouring buildings.



Graph 4.5. A spider-graph showing the sustainability scores for site in eco-estates.



Graph 4.6. A spider-graph showing the sustainability scores for site in non-eco-estates.

These graphs indicate that both eco- and non-eco-estates performed poorly in this category. Many of the estates have been developed on previously unoccupied land, especially those estates located on the edge of the urban fringe. Here, grasslands are being replaced in favour of development. By building on “green” sites, biodiversity is lost, as it is removed to allow for development to occur.

Residential eco-estates that used natural and passive design elements tended to score highly on the neighbouring buildings question, since the houses needed to be built in such a way that the neighbouring buildings were not negatively affected by the positioning and size of the new building. In other words, one building should not influence another's access to sunlight, daylight and ventilation.

Another factor that influences the scores for “site” is the vegetation of the area. Many residential eco-estates focus on leaving large portions of the development open and undeveloped. Although these areas will remain undeveloped, some of the estates use these areas for low-impact recreational activities such as hiking, mountain-biking, and game viewing. As such, these areas are largely covered in natural vegetation, such as grasslands, or woodlands. This is important as it increases biodiversity. Below is an example of the advertising used to describe land use for Eco-Estate C:

“The bulk of the 480 hectare estate is dedicated to the game reserve, natural parklands and green belts that create an authentic African Bushveld experience for the residents” (Eco-Estate C, 2015).

This quote highlights the importance that eco-estates place on nature as an object that can be bought and sold at a premium. The homeowners in eco-estates are able to show their friends and family their slice of nature, as well as being able to tell them about their role in conserving the environment. In many instances, the overall land occupied by the estates is subdivided to fit a maximum number of houses into the area, which means that very little conservation takes place.

4.2.5. Materials and Components

As with some of the other categories in the SBAT, the residential eco-estates performed better than the non-eco-estates with regards to “materials and components”. 28.57% of eco-estates were categorised as being excellent (receiving a score of more than 4), 42.86% of eco-estates were categorised as being good, while 28.57% of the eco-estates were rated as average. These results indicate that all of the eco-estates performed well in achieving sustainability for the materials and the components that were used in the construction process. The non-eco-estates performed poorly, with only 14.28% of estates being rated as average, while the remaining 85.72% were categorised as poor.

This section of the SBAT focuses on the materials used during the construction of the houses, as well as the impacts the building process would have on the overall site. Many of the estates (both eco and non-eco) had very lengthy documents pertaining to the specific materials that were permitted to be used in the construction of houses within the estate. However, these guidelines and rules tended to focus on the aesthetic appeal of the estates, rather than the environmental impacts of using certain materials. For example, one estate had over one page of information on paint choices, but there was no information about the use of materials with low embodied energy.

To conclude this section, it should be noted that with the increasing trend of gated communities in South Africa, there seems to be a need for estates to differentiate themselves. Buyers are becoming increasingly environmentally conscious, which means that homes that are more "green" seem to sell quicker and often at a premium price (McDonald, 2010; Levitas, 2015). Another factor that seems to be driving the increase of residential eco-estates is the rising costs of energy. Green communities that have been designed to conserve natural resources do not necessarily attract residents who have sufficient knowledge and motivation to independently maintain sustainable development (Hostetler & Noiseux, 2009). Although homeowners in green communities reported more knowledge about sustainable development than homeowners in conventional communities, their overall environmental scores were low and they showed similar attitudes to those in conventional communities (Hostetler & Noiseux, 2009). What this indicates is that sustainability in a residential setting is more than the building itself. It is important

that the values and the attitudes of the people living within those buildings align with and are willing to support endeavours to ensure sustainability.

4.3 Greenwashing of Residential Estates

It may appear through the naming or branding of these residential eco-estates that the environment is one of their main priorities, but under closer examination, many of these estates are not focused on environmental aspects. In the past, gated communities have been criticised for their role in reinforcing social inequality (Mbeki, 2005). As such, it was important for gated communities to rebrand themselves to garner greater social credibility, which they did through the use of indigenous plants (Ballard & Jones, 2011). The use of imaginary eco-sensitive styles (see Appendix A) and suggestive names are seen as a solid method for increasing an effectively substantial potential in the residential developments sector (see Appendix A). This illusion of a rustic country way of life is accomplished through persistent reference to nature (Hook & Vrdoljak, 2002).

However, many of the estate documents used to generate findings for this study show a greater focus on aesthetic appeal, security, and exclusivity, rather than on issues surrounding water and energy conservation, waste reduction, and limiting impacts on the environment. Table 4.2 indicates the advertising trends that each of the eco-estates follows when attracting potential homeowners.

Table 4.2 Advertising trends of eco-estates

		Eco-Estates						
What Are they Advertising	Description	A	B	C	D	E	F	G
Space	Size of the overall Development	✓	✓	✓	✓	✓	✓	✓
Wildlife	Free-roaming animals			✓		✓	✓	✓
Convenience	Closeness to off-site amenities, such as shopping malls.	✓	✓	✓	✓	✓		
Stand Size	Size of the stands available		✓	✓	✓	✓	✓	✓
Security	Level of overall security, including 24 hour guarding of the development, cameras, sign-in and ID's		✓	✓		✓	✓	✓
On-site amenities	Club-house, gym, school, restaurant and other facilities located within the estate.	✓	✓	✓	✓	✓	✓	✓
Location	Located close to (20 – 30 minute drive) to major business centres in the Gauteng Province.		✓	✓	✓	✓	✓	
Exclusivity	Who can afford to live in the estate	✓	✓	✓	✓	✓	✓	✓
The environment	Eco-design elements and a focus on sustainability	✓	✓		✓	✓		
Investment opportunity	A return on investment		✓			✓		

An estate rating conducted in 2015 by New World Wealth reported that the top 10 residential estates in South Africa all had similar criteria. These criteria included value for money, security, scenery and wildlife, space, facilities, and

activities (Amoils & Bathurst, 2015). Many of these criteria used to determine the top estates in South Africa appear in almost of all of the documentation for the eco-estates used in this study. It would therefore appear that most estates use similar marketing strategies to attract potential homeowners. It can be seen in the table above that all (100%) of the residential eco-estates advertised space, on-site amenities, and an exclusive, upmarket lifestyle. This figure is in contrast to the 57% of eco-estates that refer to having some elements of environmental protection in the marketing:

“...Eco Estate is one of the most upmarket and exclusive private residential estates for the discerning individual insisting on the highest standards of living, security and safety, while enjoying the splendour of the natural environment” (Eco-Estate E, 2014).

Research conducted by Lightstone Properties in 2010 on community and estate living in South Africa indicates that the estimated total value for the residential properties in these estates and communities has a total value of R 643 billion. This figure equates to an average value of more than R 2 million per home, which is significantly higher than the national average of R884 000 per home (du Toit, 2015). With the average property price greater than R1.5 million, property in these estates falls within the luxury market (van Sittert, 2010). These statistics clearly indicate that only people who are wealthy would be able to afford to live in these areas.

In an attempt to appear prosocial, estates have chosen to incorporate elements of environmental friendliness over elements which outwardly display wealth and grandeur. This highlights competitive altruism at its best, since these outward displays of altruism (towards the environment) function to build and maintain prosocial reputations (Griskevicius *et al*, 2010).

Space and on-site amenities were also advertised by all the eco-estates in the study. Estates are islands that have been created for separate users of the estate away from people not living in the estate (Lemanski *et al*, 2008). Many estates have, in an attempt to cut-off connections with the surrounding city, included an array of activities that in many ways create a theme park-like feel. This aspect creates an even greater sense of detached from the reality of the asymmetrical socio-economic conditions that exist beyond the confines of these estates (Hook & Vrdoljak, 2002). These hotel-like amenities (restaurants, squash/tennis courts, private bars, children’s play-areas, swimming-pools, and a full accompaniment of caretaking staff), are paramount in ensuring that these estates are by definition, virtually “recreationally self-sufficient”, and so there is an ever decreasing need to leave the premises (Hook & Vrdoljak, 2002).

In one such estate, its main advertising brochure described in sublime detail the available amenities as a way to draw homeowners to the estate:

“Facilities include 37 kilometres of walking and biking trails that meander through 300Ha of pristine green belt along the riverside, a majestic 5Ha lake for non-motorized water sports, a 5000m² clubhouse with full gym, squash courts, studio's, climbing wall, restaurant, indoor kids play area and even a private school... which means resident children can ride or walk safely to school without leaving the perimeter of the estate. Along with the impressive facilities of the estate, each stand also has a fibre optic connection and piped LP Gas. Located within... a number of convenient retail and commercial elements... where every possible convenience and luxury will be available for residents on their doorstep” (Eco-Estate B, 2014).

This quotation highlights more than 10 different facilities, and more than three distinct services that are available to homeowners. In many ways, estate living provides a retreat, an antidote to the harsh realities from a racist past and a convenient escape from the social inequalities of the post-apartheid dispensation (Murray, 2011). This abundance of recreational facilities, coupled with the ability to partake in extended leisure time, means that residents are afforded the luxury of a sensory experience close to that of an endless weekend (Murray, 2011).

Security, location, and convenience were also used in the advertising of five out of the seven residential eco-estates (see table 4.2). There was however reference to security in the remaining estates advertising. While most South Africans who are buying property are interested in having easy access to amenities, most are increasingly concerned about living in a secure environment (Property 24, 2015).

One estate uses both security and natural elements as their slogan on their advertising materials, stating: *“Secure living for your family, within Johannesburg’s largest secure parkland”* (Eco-Estate B, n.d.). Yet another estate lists all of the security features of their estate, which although impressive, seems somewhat excessive: *“...Offers top security... 24 hours access control, on-site alarm monitoring and armed response, foot, vehicle patrols and guard dogs, full electric fencing, perimeter thermal CCTV system”* (Eco-Estate G, 2012).

These statements indicate that for many of the residential eco-estates, security and safety of the residents is the top priority. This trend appears to be a global one, with a significant growth in private residential areas throughout the world (Lemanski *et al*, 2008). This global trend has seen gated communities worldwide using security features such as hard walling, razor wire, and fortified motifs (Ellin, 1997; Caldeira, 1999; Low, 2005).

Security in estates portrays a new and better place for an uncertain future (Murray, 2011). The security provided by these estates represents a concrete alternative to the imagined landscape of greater Johannesburg (Murray, 2011). Gated residential communities provide homeowners with an escape by creating

landscapes that evoke ideas of leisurely country living and a disconnection from dangerous city afforded to them by their privileged status.

The biggest area of growth in residential estates has been in Gauteng, where these estates have become popular as a response to high levels of crime, and a fear of crime (Landman & Schönteich, 2002), thus residents feel a need for safety and security. Estates are perceived as being safer than other types of neighbourhoods (Landman, 2004) thus, although homeowners bought into certain estates owing to the lifestyle they offered, for example being closer to nature, safety and security was the main motivator in their decision to invest in the estates (Landman, 2004).

Even though the biggest motivation to invest in residential estates is suggested to be a fear of crime, estates have had to find new ways of branding themselves. As such, estates have chosen to brand themselves as “eco-estates,” “game estates,” “nature estates,” and “forest estates” (Ballard & Jones, 2011). The marketing and consumption of nature has become integral to the production and consumption of gated communities in South Africa (Ballard & Jones, 2011). The excerpts from Eco-Estate E and C (below), show how nature can be used as commodity, a selling point for homeowners.

“The 112 000 square meters of beautiful landscaped areas, using indigenous plants only, adds to the aesthetic beauty of the estate. The three dams, where indigenous fish species have been introduced, are fed from two natural springs ensuring that the dams remain full all year round. Supporting biodiversity principles 14 game species, totalling [sic] 243 animals, which occurred historically in the area - ranging from Kudu to Steenbuck - have been reintroduced. The estate has thus far recorded 98 bird species, 28 species of reptile, 5 fish species and a magnitude of plant and insect life” (Eco-Estate E, 2014).

“The... Estate is an upmarket, secure 480 hectare residential estate which includes a game reserve stocked with several species of antelope and zebra” (Eco-Estate C, n.d.).

Not only have estates managed to differentiate themselves from other estates by choosing to brand themselves as “eco”, there are also additional marketing benefits associated with designing with the environment in mind (Green Building Council of South Africa (GBCSA), 2012). It has been reported that one development generated an additional R360 000 of free advertising after being accredited by the Green Building Council of South Africa (GBCSA, 2012). It is therefore more likely that estate developers would choose to go the route of an environmentally sustainable development since there is an almost guaranteed return on investment because South Africans are increasingly demanding green buildings (Property24, 2014).

Only one of the eco-estates (Eco-Estate E), focused on both the environment and wildlife, stating that:

“Eco Estate living is a philosophy whereby man [sic] lives in harmony with nature. This is achieved by careful design of houses, sensitive landscaping, energy efficiency and general conservation principals. In order to protect, conserve and maintain the natural beauty of Eco Estate an Environmental and Wildlife Management Plan has been implemented to ensure the sustainability of this exclusive natural environment for the next generation” (Eco-Estate E, 2014).

A study conducted in South Africa to determine the drivers of green building in the country found that the development of green buildings in South Africa has very little to do with environmental factors (Windapo, 2014). Rather, the study found that the motivation to develop green buildings was driven by economic factors. These economic factors, such as operating costs and stakeholder demands, were central to the increase in the overall number of green buildings in South Africa (Windapo, 2014).

4.4 Conclusion

This research has indicated that there are no clear criteria to define exactly what an eco-estate is and should be. This lack of clarity is evident in the ways that these estates choose to advertise – many of the eco-estates used in this study focused more on the security and lifestyle features of their estates, rather than focusing on the elements that in fact make them sustainable. This facet highlights the need to create a well-defined term for “eco-estate”. Without this definition and guidelines for operation, eco-estates will continue to function in any manner they choose.

The confusion created by a lack of an accepted definition for the term eco-estate has led some to question the integrity of the term. In the past, a complaint was lodged with the advertising standards authority by an environmentalist who argued that the use of the word “eco-estate” was misleading and constituted false advertising, since many of these estates were filled with “energy-hungry houses” built to accommodate long distance commuters (Ballard & Jones, 2011). In order for the estates to act in a more environmentally sustainable manner, they need to adopt and outline to potential homeowners building practices that are in line with global green building trends. Furthermore, building assessment tools, like SBAT, can be used in the design phase to determine the environmental sustainability of proposed houses and developments. Developers therefore need to make use of these tools if they have a genuine interest in creating estates that are truly environmentally sustainable.

Chapter 5: Conclusions and Contributions

5.1 Introduction

Development is an unrelenting process resulting in continued environmental degradation and destruction (Lélé, 1991). The resulting green trend has seen an increase in the number of renewable technologies, as well as various changes in the construction process. These changes are designed to ensure that future development has a smaller impact on the environment, including the resources it contains (UNEP, 2014). Without any government regulations or eco-friendly building standards, sustainable development does not appear to be an achievable goal. The choice for developments to become eco-friendly remains a voluntary process, which many developers are now choosing. Prior to 2010, there were less than five eco-estates within South Africa. With an ongoing global trend of environmental awareness, the number of eco-estates in South Africa has risen sharply to meet the demand for an environmentally friendly lifestyle. Since these types of developments are new, there are several concerns regarding their environmental sustainability. This chapter discusses the findings of this study, as well as presenting possible opportunities for further study. The contributions of this research, as well as the limitations of this research, are also described in this chapter.

5.2 Environmental Sustainability in Residential Estates

Many residential estates in Gauteng have chosen to market themselves as “eco-estates”, thus this study looked to determine whether or not these estates are in fact “eco” by determining their overall environmental sustainability score. In order to calculate the environmental sustainability of residential estates in Gauteng, the online marketing materials, as well as rules and regulations for each estate, were analysed. The findings and the analyses of the study were presented in chapter 4.

One of the possible reasons for development of residential eco-estates is for like-minded, environmentally-conscious homeowners to contribute to the environmental sustainability of the country. In doing so, these estates have set themselves apart from other residential estates by incorporating environmental components into the development. However, the results of this study have found that although eco-estates had higher overall environmental sustainability scores when compared to non-eco-estates, their results were not high enough for them to be considered sustainable.

Many of the eco-estates performed poorly in the categories relating to the disposal and management of waste, the types of building materials used, as well as

the site itself and development of the site. These are the areas where developers have the most control and the scores for these criteria could significantly be improved through more stringent rules and regulations for homeowners. Since it is the developers who have chosen to create estates that are classified as “eco”, this area should be where the eco-estates score highest.

However, although developers are responsible for the overall decision to market the estate as “eco”, the potential homeowners, landscapers, architects, and other relevant individuals have an equal responsibility to ensure that the finished product – the home within the estate – meet the criteria to increase overall environmental sustainability. Sustainability moves beyond simply the products used in the development of an area, it is about choices that individuals make on a daily basis that will determine whether or not environmental sustainability is achieved.

5.3. Marketing of Eco-Estates

Greenwashing is a term that has been used to generate sales of products that are supposedly green. This term can however be extended to developments as well, as developers try to find ways to differentiate themselves from one another. As residential estates are the norm South Africa, it is important that new estates find ways to succeed in a saturated market. One way of doing so is to market the estate as “eco”.

However, although eco-estates market themselves as being environmentally friendly, it is evident from this research that they are not. This inspired the research to look more closely at what the eco-estates were marketing. The results of this study indicate that all of the eco-estates focused predominately on marketing aspects of space, exclusivity, and on-site amenities: they were marketing a lifestyle that would isolate the homeowners from the rest of the city. Thus although eco-estates have chosen to brand themselves as “eco”, very little of their marketing material focuses on creating awareness about the types of features that would be required to make the estates truly sustainable. In other words, there is a greater emphasis on the amenities and the aesthetics of these estates rather than any sincere effort to protect and preserve the natural environment and its resources.

Competitive altruism makes it easier for potential homeowners to succumb to the promise of environmental preservation, especially as global trends focus on the promotion of environmental awareness and the need for individuals to “go green”. It appears that people are prepared to pay more simply for the perception of being environmentally conscious. It is also financially beneficial for eco-estates to present an image of environmental-friendliness in the current market driven by the current green trend.

Exclusivity is another aspect that acts as a driver of this green trend. As there are only seven residential eco-estates in the Gauteng Province, the idea of exclusivity is evident: only a few estates have chosen to focus on environmental protection while providing homeowners with an environment that is reminiscent of a bushveld escape. Marketing nature is a way to differentiate these estates from other similar estates.

5.4 Contribution

The study found that although eco-estates are often perceived as sustainable, not all of them meet the criteria to actually be classified as environmentally sustainable. The research therefore highlights a need to develop a framework that will guide future developments in ensuring that they are in fact environmentally sustainable. Without a concise framework describing the requirements needed to be considered as an eco-estate, any developer can choose to market themselves as one, thereby leading to greenwashing. As such, eco-estates currently refer to anything that relates to the environment and nature. In an attempt to create a clearer understanding of this term, developers and estate managers, in consultation with environmental specialists, need to provide a concise and accurate definition for the term. This newly defined term (eco-estate) should include all of the relevant aspects necessary for sustainability, such as water, energy, waste, site, and materials.

Presently, there is no legislative requirement necessary for estates of this nature to undergo in order to be marketed as “eco”. Through further research and in consultation with developers, a framework needs to be established which will ensure that future developments of this nature comply with certain green building regulations. In doing so, these developments can then be awarded a rating that can be used to attract homeowners.

Another potential reason why eco-estates do not meet the criteria to be classified as environmentally sustainable is due to the marketing materials used to advertise these estates. Often, estates use imagery and phrases that are associated with preserving the environment, but the actual guidelines and rules for the estate make no such effort to conserve the environment. In order to address this misrepresentation, estates should be more transparent about the product they are selling. Residential committees, such as the Association of Residential Communities, should act as a governing body to guide and regulate the materials used to advertise estates.

Furthermore, environmental sustainability scores for eco-estates are in many ways affected by the homeowners within each estate. The estates may suggest that the homeowners, architects, and developers use certain fixtures, fittings, and building materials, but without buy-in from homeowners there is no possible way for an estate to improve their environmental sustainability score. Thus, it is important for

eco-estates to ensure that the interested homeowners are prepared to develop the land and build their home in accordance to stringent green building guidelines.

5.5 Limitations of the Study and Areas for Future Research

Firstly, the study focused only on residential estates within the Gauteng Province of South Africa. As such, the results of the study are not representative of the entire country. A large scale study, which included a larger sample, could be conducted in order to be representative of the larger population of eco-estates. An in-depth study could be beneficial, since it would provide detailed qualitative and quantitative data. This information could be collected through in-depth interviews with estate managers and homeowners alike.

Secondly, the adaptation of the SBAT meant that only the environmental components of sustainability were addressed. As a developing country, sustainability needs to also focus equally on social and economic issues. Future studies that incorporated all of the aspects of sustainable development would be able to accurately demonstrate the overall sustainability of eco-estates.

Furthermore, results may differ if SBAT was used within the design and construction phase of a development, rather than analysing completed estates only. It would also be interesting to see if the results of the study differed when using an array of different assessment tools. This type of study could then determine which tool is best suited for this type of assessment, as well as providing recommendations for the future.

Finally, as many of the estates included in this study had set aside portions of the development for conservation purposes, further research could be undertaken to study the impact these eco-estates have on the conservation of sensitive fauna and flora. Many of the current eco-estates include wildlife and proclaim to restore ecologically sensitive areas.

5.6 Conclusion

In order for sustainable development to occur, change and action is required to limit the impacts made on the environment through development processes. All aspects of development result in negative impacts on the environment, thus there needs to be an overarching goal for both developed and developing nations to take responsibility for the environmental issues that result from development.

Environmental assessment tools have been shown to be beneficial throughout all phases of the construction process. While many of these assessment tools were designed for use in developed countries, the SBAT was created with developing

countries in mind. The tool therefor acts as a way to balance environmental, social, and economic issues relating to sustainable development in these countries.

Although this study focused only on residential lifestyle estates in the Gauteng Province of South Africa, the results indicated that very few of the estates studied were sustainable. In analysing the estates, it became apparent that many of the estates used the environment as a marketing tool, using competitive altruism as a motivating factor for homeowners to buy into the idea of protecting the environment. Without regulations and legislation, this trend of greenwashing developments will continue. There needs to be a shift from assessing green developments as a voluntary process to one that is better regulated and managed.

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Appendix – De-identified Estate Information

Eco-Estate A

Annexure "C2"



Environmental Design Guidelines & Rating Verification

Table of Content:

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 - Building- & Natural Materials
 - Ground Conservation & Ecology
 - Pollution & Waste
 - Innovation

INTRODUCTION:

The Environmental Guideline & Rating document for the [redacted] is a supplementary document for and must be read in conjunction with the [redacted] Esthetical Design Guidelines. The purpose of this document is to inform the land owner, his professional team and/or the contractor of the minimum criteria required to achieve an environmental rating set by the [redacted].

The EGR document does not wish to prescribe or pre-determine how buildings in the Estate should be designed, implemented or built, but rather to encourage an awareness of environmental considerations, when building are to be designed & built.

To complement the [redacted] vision, the EGR's objective is to promote sustainable buildings, technologies & design. It strives to create integration of all the factors that determine the building's life cycle, benefits that will arise and to minimize the impact on the immediate environment of the ECE.

DISCLAIMER:

The Developer of the [redacted] the Home Owners Association or the appointed Esthetical Architect does not accept liability or responsibility for technical inaccuracies or negligence, within this guideline from direct or indirect parties, nor accepts liability insofar accuracy or completeness, for any information contained herein or for any injuries, losses or damages arising out of such use or reliance.

This document does not substitute professional advice. Applicants are advised to consult with appropriate specialists in the various fields applicable.

The intellectual content of this document is protected by the copyright, trademark & other laws in favour of DK Architects. This document may only be used in the context of the Elgin County Estate and may not be copied, sold, modified or re-used in any other context.

Statutory requirements, such as Local by laws, Zoning conditions or the South African National Standards must take preference over the content of this document. Where discrepancies or conflict is identified, this should be reported to the Architect whom will make the necessary adjustments to this document.

This document is subject to revision from time to time (refer to the main Guidelines) Building that have not been adjudicated & achieved a score (Work Drawing phase) must adhere to the revised guideline.

RATINGS & PROCEDURES:

The applicant's design drawings, specifications & end product will be rated in terms of the schedule provided in the document. The design will be fairly rated by the Architect appointed by the HOA and will be phased as follows (refer to the Esthetical Design Guidelines):

- Sketch plan phase
- Work drawing submission
- During Construction
- Post Final completion
- be re-evaluated

Evidence for consideration
The following supporting documents should be included in the [redacted] in documentation, these documents

- Drawings & Details
- Specifications (on drawings)
- Specifications, as a separate document or extracts from the specification
- Standard signed declaration form that binds the owner to certain standard documentation that has been made available by the Developer or HOA.

- CV of the nominated professional, as a rating of this portion is sought
- Documents, calculations or other evidence as supporting evidence where required.
- Further evidence documentation could be requested by the Architect should above not be sufficient.

The Environmental Rating & Verification Schedule below indicates the maximum scores that can be achieved for each sub-category and will be adjudicated by the Adjudicating Architect as appointed by the ECE Home Owners Association as part of the submission as described in the Ethical Design Guidelines.

Certain sub categories can only be adjudicated once construction is underway and/or when the building had been completed. These sub categories will be provisionally scored, but would be re-adjudicated at the various stages of construction. A minimum of 50 points must be achieved during the various adjudication stages.

At Sketch plan & Work drawing submission stage, applicants will have 1 opportunity to object to the rating and will be provided 10 working days to present further supporting evidence to the Architect, whom would reconsider the rating based on the new evidence.

An un-scheduled site visit will be made by the Architect (or his nominee) to verify relevant sub categories on site. Non-compliances will be noted & owners will be informed to correct these or forfeit the points.

At Final Completion, a scheduled site visit will be made by the Architect to verify all sub categories on site. Non-compliance of any categories will be noted and owners will be afforded the opportunity to comply within 20 working days. Should the building still not comply after this period, the Certificate of Completion (COA) will be withheld indefinitely until the compliance is achieved.

The Architect's verification, rating & decision will be final and binding on all owners in the

Environmental Rating & Verification Schedule

Revision	5/8/2010				
Prepared by	D. Kock				
Eft. Number	0-44				
Eft. Owner / Entity					
Applicant: Designer / Professional					
Category	Max. points available	Sketch plan score	Work draw's Score	Site Inspection	Completed Score
Positioning & Innovative Design	3				
Built form	3				
Passive heating & cooling	3				
Thermal mass	1				
Fenestration & Glazing	3				
Insulation	5				
Implementation					
Qualified 'Green' Professionals	3				
Management of Mechanical systems	1	P	P		
Building Manual	3	P	P		

Environmental management plan	3	P				
Internal quality	3					
Natural Ventilation	3					
Natural Daylight	3					
Electrical Lighting	2	P	P			
External Views	2					
Thermal Comfort	3	P	P			
Noise Levels	1	P	P			
No smoking policy	1					
Energy						
Energy Monitoring	3	P				
Lighting power densities	1	P	P			
Lighting Zoning	3	P				
Reduced Peak Demand	2	P				
Alternative equipment	3	P				
Water						
Water monitoring	3					
Reduced Water consumption	3					
Irrigation	3					
Building- & Natural Materials						
Reduce & Recycle Waste on site	1	P	P			
Recycling Facilities	3					
Reuse building materials	3					
Reduced cement	1	P				
Reduced Steel	1	P				
Eliminate PVC	1	P				
Eliminate Insulant ODP	1	P				
Sustainable Timber	1	P				
Reduced materials	3	P				
Local procurement	4	P	P			
Ground Conservation & Ecology						
Top Soil	3	P	P			
Ecological value	3					
Pollution & Waste						
Watercourse pollution	3					
Sewerage	3					
Light pollution	1	P	P			
Boiler & Generator Emissions	1					
Innovation						
Innovation 1	1					
Innovation 2	1					
Innovation 3	1					
Total Score	100	0	0	0	0	0

P = Provisional Score. Assumed to be confirmed on site
 Minimum score of 50 Points to be achieved on Completion

1. Passive & Innovative Design

1.1 Background:

'Green architecture' is not a style, trend or a new concept. It is a climatologically, geographically and culturally appropriate method of designing and constructing buildings. It revisits principles that we have forgotten and marries this with new technology.

The key benefits are:

- ✓ Reduced operating and life cycle costs for buildings and their landscapes.
- ✓ Improved health and productivity for building inhabitants.
- ✓ Higher property values
- ✓ Low environmental impact
- ✓ Sustainable development
- ✓ Lower carbon footprint
- ✓ Social responsibility

Passive design strives to eliminate mechanical heating or cooling by taking advantage of the natural climate for its specific geographical position.

1.2 Design Principles:

The following principles may be used as a guideline for passive design:

- 1.2.1 Positioning & orientating the building for northern sun exposure. Proper orientation reduces the need for auxiliary heating and cooling, and results in lower energy bills and reduced greenhouse gas emissions.
- 1.2.2 Creating a built form to minimize West & East facing ends.
- 1.2.3 Orientation for passive heating is about using the sun as a source of free home heating. Put simply, it involves allowing winter sun in and keeping unwanted summer sun out. This can simply be done by using roof overhangs to exclude high angle summer sun and admit low angle winter sun in.
- 1.2.4 Passive cooling is the least expensive means of cooling a home, as well as producing the lowest environmental impact. Optimal positioning of the structure for exposure to cooling breezes (summer) and to maximize cross ventilation. It maximizes the efficiency of the building envelope by minimizing heat gain from the external environment and facilitating heat loss through air movement, cooling breezes, evaporation and earth coupling. A certain degree of passive cooling is necessary for the Cape climate. This can be facilitated through:
 - Orientation for exposure to cooling breezes
 - Consider directing air flow at levels suitable for the activity proposed for the room.
 - Louvers can direct airflow upward or downward.
 - A canopy over a window tends to direct air upward.
 - A gap between canopy and wall ensures a downward pressure. Downward pressure is improved further in the case of a louvered sunshade.
 - Use window styles with 100% opening area such as louver and/or casement.
 - Increase natural ventilation by reducing barriers to air paths through the building
 - 'Low energy' Fans or Evaporate cooling units can provide ventilation and air movement in the absence of breezes
 - Appropriate sized windows and glazing would minimize unwanted heat gains and allow maximize ventilation
 - Garden ponds and water features should be utilized to provide evaporative cooling for the house

1.2.5

Solar design with insulated thermal mass. Thermal mass is the ability of any material to absorb heat energy. A lot of heat energy is required to change the temperature of high density materials like concrete, bricks and tiles. Therefore said to have a high thermal mass. Lightweight materials like timber have low thermal mass. Appropriate use of thermal mass in the building can make a big difference to comfort, as well as cooling and heating bills. Correct use of thermal mass modulates internal temperatures by averaging day/night extremes.

1.2.6

Passive solar heating is the most cost effective way of heating your home resulting in substantial long term savings for the homeowner. Solar radiation is trapped by the greenhouse action of correctly orientated windows exposed to full sun. Trapped heat is absorbed and stored by materials with high thermal mass, usually masonry inside the house. It is re-released at night when it is needed to offset heat losses to lower outdoor temperatures. For the best passive heating performance, daytime living areas should face north. Ideal orientation is true north and can be extended to between 15 degrees west and 20 degrees east of north. Fixed shading devices can maximize solar ingress to north facing glass throughout in winter, and prevent this in summer.

- In general, living areas should be grouped along the north facade and bedrooms along the south or east facade.
- Living areas and the kitchen are usually the most important locations for passive heating as they are used in the day and in the evening.
- Bedrooms require less heating as it is easy to get warm and stay warm in bed.

1.2.7

All east and west fenestration should be limited & shaded in summer. Reflective insulation should be installed to keep out heat in summer.

- Outdoor areas should be screened and shaded but allow winter sun in
 - Shading of the building and outdoor spaces reduces summer temperatures, improves comfort and saves energy. Direct sun can generate the same amount of heat as a single bar radiator. Shading can block 90 percent of this heat. With ideal north orientation, sunlight can be excluded in summer and admitted in winter using simple horizontal devices such as eaves, as well as the planting of deciduous trees.
 - Patios have been proven over years to compliment the above.
 - Fixed shading devices above openings exclude high angle summer sun but allow low angle winter sun. Adjustable shading can be used to regulate solar access on other elevations.
 - Correctly designed eave overhangs are the simplest and cost effective shading method for northern elevations.
 - East and west facing openings require a different approach, as low morning and afternoon sun from these directions can be more difficult to shade.
 - Shading devices can include eaves, pergolas and louvers as well as trees or planted screens with deciduous vines.
 - All houses in the ECE to have an overhang of minimum 500mm, in response to the climate as an aid to passive design requirements.
- 1.2.8 Bulk insulation should be used in roofs, walls and floors.
- Insulation acts as a barrier to heat flow and is essential to keeping your home warm in winter and cool in summer. A well insulated and designed home will provide year round comfort, cutting cooling and heating bills by up to half and in turn reducing greenhouse gas emissions. The appropriate degree of insulation will depend on climate, building construction type and if auxiliary heating and cooling is to be used.
 - Energy efficiency can also be improved by weather sealing or draught sealing, and is the most effective method of achieving energy savings whilst maintaining healthy indoor air quality. Up to 25% of heat loss from a home is due to draughts while up to 38% of our total greenhouse gas emissions are due to heating and air conditioning.

- Typical sources of warm air leakage:
 - Vented sky lights.
 - Gaps between walls or ceilings and cornices.
 - Construction joints between wall materials.
 - Gaps where pipes penetrate walls.
 - Gaps between floor boards, or floors and skirting boards.
 - Gaps between and around windows and door frames.
 - Air vents and exhaust fans.
 - Gaps around fixed air conditioners, heaters and Chimneys flues
- Insulation of roofs is mandatory. The following insulation is strongly recommended:
 - Cast into the floor slab
 - Installed in the wall cavities
 - Insulation of hot water pipes and geysers
- Typical heat gains and losses in a temperate climate:

• Floor	10% - 20%
• Air Leakage	5% - 15%
• Windows	11% - 20%
• Walls	10% - 20%
• Ceiling	25% - 35%
• Floor	10% - 20%
• Air Leakage	5% - 15%
• Windows	25% - 30%
• Walls	15% - 25%
• Ceiling	25% - 35%

1.2.9 Glazing has a major impact on the energy efficiency of the building. If designed correctly, windows may help maintain year round comfort, reducing or eliminating the need for artificial heating and cooling. Windows in a typical insulated building can account for more heat gain or loss than any other element in the building fabric. In summer, heat gain through an un-shaded window can be up to 100 % greater than through the same area of insulated wall.

- Position and size windows and shading to let sunshine in when the temperature is cold and exclude it when it is hot.
- Position window and door openings to enhance natural cooling by cross ventilation.
- Provide seals to openings to minimize unwanted draughts. Solar heat gains through glass can be reduced by using spectrally selective glazing which filters solar radiation, allowing maximum light visible light transmission while reflecting unwanted UV and solar near-infrared wavelengths.
- Double glazing is also effective but can be expensive.
- Skylights can make a major contribution to energy efficiency and comfort within the home. Daylight provides cool light, meaning that a given amount of light is accompanied by less heat gain than most types of artificial light. Skylights provide one of the best and easiest ways to admit daylight and distribute it evenly, displacing most artificial light, improving light quality and reducing heat generation and saving on energy costs.

2. Implementation

2.1 Background:

Green Buildings are not created by design only, but also through good implementation & management throughout all the phases of design, construction & lifecycle of a building. This category may focus on education & management of consultants, contractors & end users of buildings. It aims to recognize & reward buildings that reduce the impact on the environment

2.2 Implementation Principles:

2.2.1 Qualified 'Green' Professionals. By appointing a Professional (Architect and/or Engineer) with the correct 'Green' credentials as part of the core professional team, owners would reap the benefit in creating sustainable buildings & environments. The following criteria would be beneficial:

- Experience by the professional in at least 5 or more 'green' residential buildings
- Formal qualified professional, accredited by organizations such as the Green Building Council of South Africa (GBCSA) or similar & acknowledged.
- Specialist accredited qualifications in disciplines such as Energy, Mechanical etc.

2.2.2 Long term management of Mechanical systems. Ensure that long term maintenance agreements are in place with all mechanical equipment to ensure that all mechanical equipment are functioning optimal, correctly tuned & checked for leakage on a regular basis. This maintenance plan will ensure that an optimal balance of interior quality is achieved, and may ensure a longer lifespan of equipment.

2.2.3 Building Manual. Create a simple & user friendly building users manual for the occupants & their successors in time. This could include the following information & should be kept on the premises at all times.

- Design, Energy & Operational strategy & methodology implemented.
- Measuring & Comparing benchmarks & objectives for energy consumption, water usage, waste recycling etc. on an ongoing basis.
- Building Services descriptions, functioning & maintenance agreements.
- Waste management procedures
- Principles to consider in terms of the master plan for expansion and/or refurbishments of buildings.
- References & other useful information.

2.2.4 Environmental management plan (EMP). This section is specific to the construction phase of the project. It is recommended that the owner/professional provides a site specific EMP to the contractor at tender stage. Items to be included in this plan may include the following:

- Usage of energy, water, resources, pollution, noise, disturbances & protection of Fauna, Flora & People.
- Limit, treat, recycle & manage building site waste

3. Internal quality

3.1 Background:

One of the significant objectives of good environmental practice for the creation of buildings is to achieve a quality internal living environment. This category may focus on achieving comfortable levels of temperature, lighting, ventilation, views, sound, interaction with nature, but eliminating Sick Building Syndrome, diseases & indoor pollution. It aims to achieve a balance between these objectives, energy usage, climatic conditions & economy.

3.2 Internal Quality Principles:

3.2.1 Natural Ventilation: Allow enough natural air to flow through the building & wash away any pollutant build ups. This could be beneficial in occupied & unoccupied areas such as garages, storerooms etc. Limited use of mechanical heating & cooling mechanical equipment is encouraged. Minimum requirements should be as follows:

- Minimum 90% of the building to be naturally ventilated
- SANS 10400-O prescribes that a minimum of 5% of the usable area to be provided with ventilation openings.
- Quality (effective) cross air flow is to be considered.
- Ventilation openings & air flow to be controlled by inhabitants. No less than 1% of the usable area to be provided with controllable openings by inhabitants.

3.2.2 Natural Daylight: Allow ample direct and/or indirect daylight into the building to achieve a quality spread of lighting levels into occupied & unoccupied parts of the building. A minimum of 250 LUX measured at desktop level on 'clear sky' days, should be achieved. Lighting levels can only be determined once the building had been completed by means of actual measurement. Special attention should be given to the effects of direct glare derived from sunlight (especially in summer)

This sub-category should also be read with the passive Design Category in terms of lighting design.

3.2.3 Electrical Lighting: It is unavoidable to use artificial lighting at night or very overcast days. However, it should be limited to basic minimal average level of 250 LUX on average for 90% of the occupied & unoccupied parts of the building. Where higher LUX levels are required, accent lighting could be introduced by means of moveable lamps or permanent in certain areas. Lighting levels can only be determined once the building had been completed by means of actual measurement.

Special attention should be given to the effects of lighting pollution towards neighbours and/or other areas. Low frequency flickering in fluorescent luminaires should be avoided. High frequency ballasts should rather be used.

3.2.4 External Views: Designs should encourage interaction with external views & natural elements such as trees, water features etc. At least 20% of the Occupied Area should benefit from these views.

3.2.5 Thermal Comfort: Design should strive to achieve an optimum level of thermal comfort. This does not only include temperature, but also the humidity factor. Although artificial mechanical systems are discouraged, it may be unavoidable to use to achieve the levels of comfort. Minimum requirements should be as follows:

- Internal temperatures are within 80% of the norms as prescribed American Society of Heating, Refrigeration & Air-Conditioning Engineers (ASHRAE) Standard 55-2004 Acceptable Limits, for at least 90% of the occupied hours of the year.

3.2.6 Noise Levels: Internal noise can be a health hazard. Designs are to maintain appropriate noise levels & prevent external noises deriving from vehicles, people, animals, etc. Minimum requirements should be as follows:

- 90% of the buildings area must not exceed SANS 10103:2004 & does not exceed 40 dB at any given position in the building.

3.2.7 No smoking policy: Smoking is a health hazard. Buildings should be non smoking (including smoking rooms) & signage endorsing this policy should be prominent in the building.

4. Energy

This category aims to reduce & improve the efficiency the overall energy consumption of the building & its inhabitants. This will play its part in the overall reduction of non-renewable fossil fuel emissions to generate energy. It also focused on alternative & sustainable methods of generating energy, such as solar, wind, etc. Combining these solutions, may also relieve pressure on the current electrical usage in South Africa and minimize the need for load shedding.

4.1 Energy principles:

- 4.1.1 Energy Monitoring:** By installing sub meters at various levels in the electrical reticulation system, the inhabitants of the building would be able to visualize energy usage. Concepts that may be considered include the following:
- Provide a sub-meter separately for lighting, plugs, floor levels, mechanical equipment, etc.
 - Sub-meters per circuit up to say 100 kVA per circuit
 - Meters should be very visible to occupants. Each meter should be clearly identified. This will create a bigger awareness of energy consumption.

4.1.2 Lighting power densities: Designs should specify artificial lighting with minimal energy consumption. Designs should strive to achieve a lighting power density of minimum 3 W/m² per 100 LUX over 90% of the building.

4.1.3 Lighting Zoning: Lighting designs are to make use of flexible zones throughout the building. More frequent occupied areas to be placed on different circuits than less occupied areas. These switches & circuits should be clearly marked & made accessible to occupants. There are many new & cost effective control systems currently available and owners are encouraged to consider these.

4.1.4 Reduced Peak Demand: Reducing peak demands would relieve pressure on the national electricity supply grid & prevent older 'fossil fueled' plants to be revived. Building should either reduce energy usage during these peaks or use energy stored during low peak periods. Some practical principles could be:

- Re-distribute energy in the system
- Use alternative energy sources, such as solar, wind, etc.
- Batteries could store energy during low peaks or by alternative sources.
- Thermal storage systems. Could also include the building structure.

4.1.5 Alternative equipment: Introducing alternative household equipment such as a gas stove / hob, in stead of an electrical one, could save energy (especially at peak hours) and make use of cleaner natural energy sources. Smaller gas geysers could be strategically placed at the source where it is required & could prove more efficient in terms of heat loss via water pipes.

- Some suggestions for energy effective technologies would include (but not limited to):
- Photovoltaic panels and inverters to produce power to be stored in batteries
 - Various solar heated geysers systems are widely available in the market today
 - Fit an efficient convection fireplace in place of a radiant one
 - Use gas for cooking and heating

5. Water

Water conservation is a very important & critical issue, especially in the South African context. SA falls within a region of low and unreliable rainfall, and water resources do not get adequate replenishment from rainwater. Water lost by rainfall, could be harvested and supplement municipal supply. Apart from reducing water usage, water lost to sewer systems could be minimized by means of grey water systems. In SA, up to 50% of potable water could be used for irrigation of gardens. By means of careful irrigation planning & effective landscaping principles, this could significantly be reduced. Apart from protecting the environment's water sources, users of these principles could make a significant saving in terms of operational savings.

5.1 Water principles

5.1.1 Water monitoring: Apart from the conventional water meter installed to measure water consumption from municipal water supply, owners are encouraged to install other sub meters to measure pre determined zones such as bathrooms, kitchen, mechanical plant and/or irrigation systems. These water meters are to be visible & clearly labeled, and it would be advantageous to connect this to a management system. If users are aware of how much they use, behavior can be changed. It has been proven that this method can save up to 5000l of potable water per household per month!

5.1.2 Reduced Water consumption: Water systems designs must saved and re-used potable water. This can be achieved by means of (not limited to) the following basic methods or combinations thereof:

- Rainwater harvesting from roofs and other surfaces. This could be used in the domestic system, or for other purposes such as irrigation.

- Water obtained from boreholes is not considered as harvested water and cannot contribute to 'non-potable' water sources.
- Grey-water can be recovered from domestic systems such as baths, showers, sinks, washing machines, etc. Grey-water can be stored & used later for irrigation or toilet flushing.
- Black water treatment could be considered, but would require the approval of the authorities.
- Dual flush toilets should be specified as a minimum standard.
- Waterless urinals could be considered.
- Flow reducing or aerating taps or showers & smaller shaped & limited baths.
- Low volume and low consumption appliances such as dishwashers and washing machines.

5.1.3. **Irrigation:** Reduce the use of potable water for irrigation. Not only would a reduction of at least 50% from standard norms be achieved, but the specification of plants that do not require a large amount of watering ('Water wise' or Xeriscape methods), must be considered. Although a reduction of 'water thirsty' Flora is encouraged, soft landscaping should still account for at least 25% of the total site.

6. **Building- & Natural Materials:**

This category targets the choice, specification, consumption, re-use & management of the building- and other materials from design to completion of the building process. It aims to reduce the amount of natural resources, encourage re-cycling of materials, prevent wastage of materials that end up on landfill sites, limit the transportation of material to and from building sites, takes cognizance of manufacturing processes to produce building materials and prevents materials harmful to humans & the environment.

5.2 Principles

- 5.2.1 **Reduce & Recycle Waste on site:** During construction an area should be dedicated for building waste to be separated and be made available for recycling and/or re-use elsewhere. If unavoidable, waste materials can be transported off site for re-cycle lining elsewhere or spilt in an approved land fill area. Contractors should be encouraged to prevent, measure & manage waste (to be read with the 'Implementation' Category) Recycling Facilities (Post Construction): Owners must design & dedicate a small area to house recycling containers. Specification of containers will be supplied by the HOA. This area should be adequately sized & located to allow access from outside to allow recycling sub contractors to collect & remove materials from time to time.
- 5.2.3 **Reuse building materials:** Where used building materials from other buildings can be re-used, owners are encouraged to do so. Materials that are obtained & transported to site from a 200km radius will be acceptable.
- 5.2.4 **Reduced cement:** Reduce the quantity of cement in concrete mixes by means of substituting it with industrial waste products, or oversized aggregate to achieve a 20% reduction compared to conventional concrete mixes.
- 5.2.5 **Reduced Steel:** Reduce the usage of virgin steel for reinforcement, structural steel and components such as window- & door frames. The specified entity should strive to use recycled steel and/or used steel.
- 5.2.6 **Eliminate PVC:** Eliminate and/or reduce the use Poly Vinyl Chloride materials, & components in buildings. PVC is used in elements such as pipe services, electrical cables & conduits, floor coverings, window frames & cladding. For each of these components there are alternative products in the market place. Owners should strive to minimize PVC usage by 50% compared to conventional usages.
- 5.2.7 **Eliminate Insulating ODP:** Do not specify insulating material associated with Ozone Depleting Potential (ODP) substances. Specifications must stipulate that the manufacturing & material are free of ODP.
- 5.2.8 **Sustainable Timber:** Use recycled, used or certified timber (Environmentally responsible forest management practices). Owners should strive to achieve a 50% content of timber used in the building from the following categories:
- Re-used timber
 - Recycled timber
 - Forest Stewardship Council (FSC) Certified timber

5.2.9 **Reduced materials:** Use fewer materials to reduce the buildings impact on the environment. This can be achieved through careful design & planning. The following concepts could be considered to achieve a 10% reduced material mass (compared with conventional building types):

- Building efficiency (the ratio of usable area & gross construction area). Eliminate excessive circulation, wasted space, etc.
- Less structural components such as thinner concrete slabs, less support etc.
- Building components could be designed as to be disassembled, removed & re-used elsewhere in future.
- More exposed structural areas in lieu of cladding & decorated finishes, such as ceilings in stead of exposed roofs.
- Dual functions of building components, such as conventional roofs to be used for gardens or solar panels.
- Less piping, e.g. waterless urinals

5.2.10 Local procurement:

Not only will local sourcing of materials & labour make a huge impact on the environment, but will also contribute a vernacular dimension to the building in its context. Reduced transportation emissions & cost will not only have a positive effect on the atmosphere, but may save the owner on building cost.

- Qualification:
- New materials that have been extracted, harvested, recovered, manufactured & distributed within a radius of 400km from the site.
 - Recycled materials that are recovered, recycled, obtained & transported to site from a 200km radius from the site.
 - Labour- & management sourced & resident within 200 km from the site.

6. **Ground Conservation & Ecology**

It is well documented that SA has a very rich Fauna & Flora diversity compared to other regions. Unfortunately, this is constantly under threat resulting from human behavior via agriculture, urbanization & economic development. This category aims to reduce the impact that the built environment may have on the immediate ecological system, biodiversity and environment.

6.1 Land use principles:

6.1.1 **Top Soil:** As a valuable & diminishing natural resource in SA, the integrity of the Top soil (200mm) should be protected. It takes years for top soil to generate and is the ecological foundation for Fauna & Flora. This (but not limited) can be done as follows:

- At least 75% (of the total site) of the topsoil should be protected from contamination, degradation or erosion.
- No imported top soil will qualify as topsoil, because it will simply disturb the ecology somewhere else.
- Top soil should be stockpiled safely in a demarcated area on the site and be re-spread to the same thickness (as removed) only after the site had been de-contaminated & construction has been completed.
- Stockpiles must be kept moist from time to time as protection against wind erosion. Vegetation must be established to cover piles that will stand longer than 3 months.

6.1.2 Ecological value:

This sub-category strives to balance the ecological value of the site from pre-development to post-development. Factors such as vulnerable species & sensitivity of native vegetation should be taken into account. This can be achieved as a combination of the following actions:

- Protect threatened species (a species list will be supplied by a botanical specialist)
- Native vegetation should not be reduced by more than 25%

- The ecological value (current state) of the site should not be over enhanced.
- Only approved plants & trees may be used for landscaping from a pre-approved plant list
- Vertical & roof gardens are encouraged
- Impermeable ground coverings (paving) should not exceed 5% of the erf area. Owners are encouraged to use permeable coverings in stead.
- Rehabilitate or create wetland areas to encourage natural ecological processes & invite birdlife.
- Encourage landscaping to regenerate indigenous habitat

6.1.3 Responsible Landscaping

Replanting cleared sites is no substitute for leaving native vegetation intact. It is recommended that homeowners attempt to minimize biodiversity impacts. This can be done by:

- Limiting clearing outside the building footprint. Vehicle tracks, contractor's parking and refuse dumps should be concentrated in one contained area.
- Any significant indigenous or habitat trees should be designed around, protected and retained where possible.
- Specify indigenous species in the garden.
- Maintain links between adjacent natural vegetation and formal landscaping where possible.
- Avoid unnecessary disturbance to vegetation and soil.
- Storm water retention ponds can be constructed along drainage lines to collect rain water that can be used in many ways, from irrigating common areas, to creating diverse habitats for flora and fauna. (Refer to Storm water pollution)
- Exotic species should be removed from the drainage lines on an erf if applicable and replaced with indigenous plants, marsh and reed species.
- Hard landscaping should be limited. The width of driveways should be limited and shared driveways should be considered. This allows for more of the street frontage to be landscaped and provides a better environment for pedestrians.
- The landscaping in the development area should be of a continuous style and theme.
- All landscaping must emphasize and enhance the urban design and can be used for screening, or as a windbreak or to frame select views.
- The use of drought resistant plants must also be promoted.
- Use a landscaper who has extensive knowledge in this field.
- A list of recommended plants and trees has been incorporated into the architectural and landscaping guidelines for your information.

7. Pollution & Waste

The implication to the environment of building waste & pollution is often under estimate in SA. Storm water often receives little or no treatment (unlike sewerage) before it is release into natural water courses. It is not only beneficial to manage the quantity & quality, but also to harvest these waste products & re-use elsewhere.

7.4 Principles:

- 7.1.1 **Watercourse pollution:** Pollution of any natural water courses by means of untreated storm water run off's should be avoided & carefully managed. It is more effective to manage the run off at the source that to manage it further on. This sub category should be read with the approved storm water management plan (SMP) for this development. The following criteria should be considered.
- The specific development should not increase the storm water flow for a 1-2 year storm.
 - Storm water leaving the site (1 in 20 year storm), should be treated or filtered in terms of the SMP
- The following techniques could be implemented on a micro scale on individual sites to compliment the above:
- Open, grassed swales could receive run offs from driveways. Small catchments dams could be added to swales to swales to slow velocities & increase pollutant removal.

- Permeable paving materials such as grass blocks or porous concrete will allow penetration of water into the ground, as well as provide a hard standing.
- Constructed wetlands could provide additional absorption of water quantities.
- Specific plants such as reeds may assist in absorption of pollutants.
- Rainwater harvesting (described elsewhere) may help to reduce storm water run off's.
- Bio basins are created & can be covered with vegetation to help attenuate peak flows of storm water.
- Vegetation filter strips can be planted across storm water flow & could absorb the velocity & flow paths of excessive storm water.

7.1.2

Sewerage: Minimize sewer discharge to municipal sewerage systems. Public infrastructure is already burdened with an over supply of sewerage and increasing the use of grey water reduces the burden on potable water supplies. The following concepts could be considered to achieve a 30% reduction in sewerage outflow to bulk sewer systems compared to conventional usage:

- Introduce a Grey-water system (as described elsewhere)
- Grey water could be used for irrigation, toilet flushing, cooling towers & wash-down.
- Introduce waterless urinals (as described elsewhere)

7.1.3

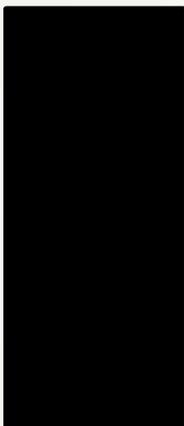
Light pollution into the night sky or onto neighbouring properties is a form of pollution & should be avoided. Apart from wasting valuable energy resources, it could also have a negative effect on bird- & animal life.

7.1.4

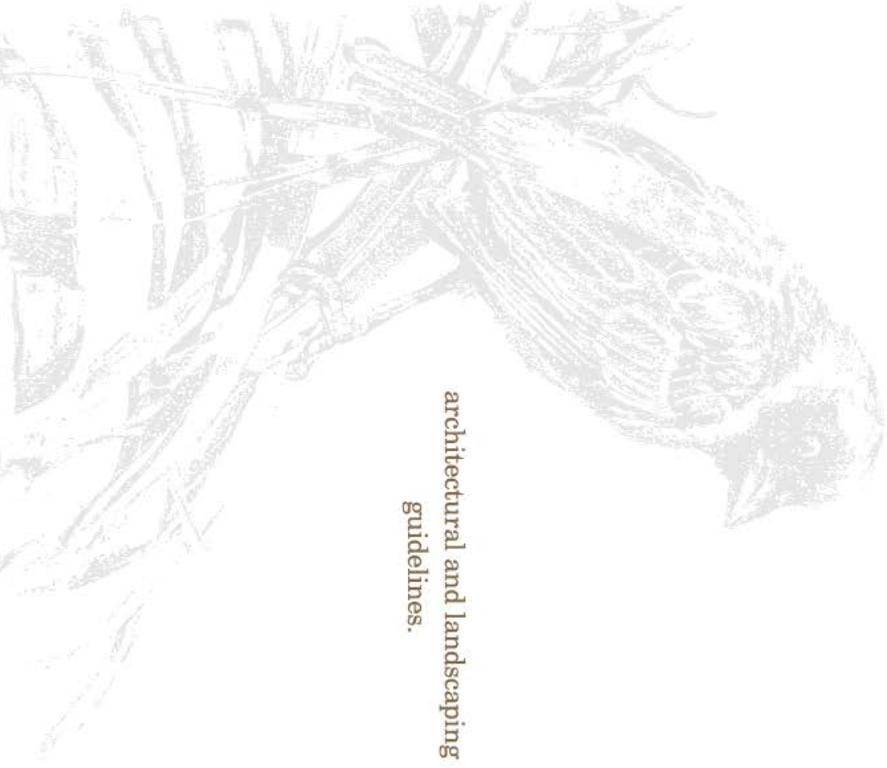
Boiler & Generator Emissions are harmful to the atmosphere for obvious reasons such as CO2 & Noise emissions.

8. Innovation

In this category Owners, Consultants & Contractors are encouraged & awarded to produce innovative concepts, systems & technologies that may have a positive impact on the environment. These are to be over and above the concepts already covered in this guideline & will only be classified as innovative if not already implemented (but not described herein) elsewhere or described in this document. A maximum repeat of 3 innovative concepts per owner, consultant or contractor will be allowed for this project. Thereafter I will be viewed as a standard concept of this estate.



Eco-Estate B



architectural and landscaping
guidelines.

*"When we build, let us think that we build forever.
Let it not be for present delight, nor for present use alone;
Let it be such work as our descendants will thank us for."*



Architectural & Landscaping Guidelines

This document must be consulted prior to commencing with the design of any property improvements or building proposals.

This handbook is issued by the Estate Management Association to each registered homeowner. The first issue is free, additional copies of this handbook may be obtained from the offices of your Estate Management Association on payment of a fee.

It is important for a basic understanding of the operation of the estate that every homeowner is thoroughly familiar with all the information contained in this handbook.

The HOMEOWNER undertakes to comply with the contents of this schedule in its entirety.

SIGNED: Homeowner

DATE

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- Annexure A:** Century Gas
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1. Definitions

Please refer to definitions in homeowner's manual which can be found on the CD or at [REDACTED]

2. Introduction

Welcome to another [REDACTED] by [REDACTED]

The purpose of these guidelines is to inform homeowners and their architects or designers of the building and landscaping requirements for the estate and to provide information relating to the procedure to be followed in order to obtain the necessary approval from the Aesthetics Committee for all buildings and structures to be erected on each erf and any alterations and additions thereto.

The 140ha [REDACTED] is divided into generous residential stands of approximately 1 Morgan (8567sqm) each. [REDACTED] are divided into generous residential stands of approximately 600 - 2000sqm each catering for all requirements, with residents being responsible for the design and building of their homes. When designing their houses, homeowners are required to make use of a registered architect. A list of preferred architects is available on request. This will ensure a professional product that is in keeping with the aesthetic guidelines of the estate.

A unique element of this development is that architectural guidelines have been stipulated in an attempt to create an estate in which the architecture responds to climate and environment whilst embracing the use of construction materials in their true form. With this in mind there has been a conscious decision to specifically exclude imported styles such as Tuscan, Baines, Georgian and French.

We intend for this estate to be a landmark, as well as a benchmark for all residential developments in South Africa for years to come. With this in mind we have an opportunity to create an aesthetic icon. We aim to realize a truly unique, South African architecture that has been developed in harmony with the environment, embracing natural materials in their true form and responding effectively to the highveld climate.

It is intended that these guidelines will allow for a fairly broad range of personal choice in the external appearance of the houses but that the overall character of the development will be identifiable by the use of certain unifying external elements such as the colour and finish of external walls, and roof coverings. The nature of the landscaping will also contribute to this objective thereby ensuring long term property values for homeowners.

The primary concept behind these guidelines is to allow the individual homeowners to express their personal needs and preferences freely, guided only by the use of materials and the restriction of stylized elements. This will encourage a new and fresh approach specifically relevant to our unique South African context.

3. Aesthetics Concept

The design of houses throughout the estate should be in response to the unique South African climate and lifestyle. Homeowners will have the freedom to create unrequited and diverse homes which will be in keeping with the proposed theme of the estate while still achieving energy efficiency and minimizing environmental impact. Within this specified formula the use of various raw materials will be encouraged, with a focus on stone, brick, wood and glass.

It is our hope that this development will create a truly unique and climatically appropriate style that is honestly South African and particularly relevant to the region of Gauteng and our world-renowned climate, where its warmer outside in winter, the sun shines all year round and the temperature can fluctuate by 20 degrees Celsius in one day. Thus material choice is critical to ensure low running costs through positive heating and cooling of the building.

We also have a unique lifestyle that requires an appropriate architectural response. We envisage both classical and contemporary interpretations of these 'farmhouses', sheds, barns and manor houses that respond not only to the broader context, but also to the individual site and the estate as a whole. We envisage simple, honest structures, with good indoor-outdoor flow, at home in their surroundings and sympathetic to the climatic conditions of the area.

Emphasis should be placed on excellent proportions, scale and the interrelationship between architectural and structural elements to the landscape and context. The aesthetic of this estate should be refined through excellence in detailing and execution. Simplicity of form requires excellent detailing and construction quality as well as thoughtful resolution of the interrelation of forms, materials and spaces.

Materials should be chosen for their ability to improve with age. The estate and each of its residences should be seen as an example of excellence in Highveld design, exclusivity and durability, tastefulness and authenticity. The homes on this estate should set a precedent for all future developments in this country, and be unparalleled in both South Africa and the world for many years to come. This estate should be an embodiment of our South African Lifestyle, past, present and future.

The design of the house must take into account its immediate surroundings as well as the greater environment and should, from the outset, endeavor to be sustainable and eco friendly where possible. This can be achieved by making the house thermally efficient, using solar geyser and panels, energy efficient lighting, and low consumption fittings and appliances. Building a home using good design principles will save energy, water, be more comfortable to live in, and have long term cost benefits for the end user in addition to benefiting the environment as a whole. Please consult the sustainable housing guidelines or our recommended book list (annexureB) for more information.

It is important that all homeowners embrace the vision for the estate and it is vital that they work together with and support the developer and architect appointed to scrutinise the plans in implementing these guidelines. It should be borne in mind that we should strive to create an environment in the estate where the whole is greater than the sum of the parts and in so doing homeowners may need to make compromises for the benefit of all.



4. Plan Approval Process

The homeowner must refer to the below points regarding the requirements for submission to the Aesthetics Committee, for approval. All documentation including cut diagrams, services connection diagrams and contour plans that may be required in order to facilitate the design process, are available on the CD (which is free of charge and may be obtained from the sales office), alternatively please visit our website. No building or addition may be erected or altered without the approval of the Aesthetics Committee. This does not apply to internal alterations. It will be the responsibility of a homeowner to ensure that he or she is in possession of the current version of the guidelines. The approval process will involve the following stages:

4.1 First Stage

Architects to ensure that all gas appliances are noted in the submission drawings. It is noted that electrical underfloor heating and conventional electrical systems are not allowed and that gas fired underfloor heating or gas space heaters are to be specified instead. A list of recommended suppliers can be obtained from the Waterfall Green Design Centre. The design concept and sketch plans must be submitted to the property development company, Century Property Developments for approval. A scrutiny fee of R 3,500.00 for [REDACTED] and R 2,500.00 for [REDACTED] will be payable upon submission of the plans. This fee is for the approval of stage 1 and stage 2 and may be required again should there be any further changes, amendments etc to the approved stage 2 plans. The fee may be increased from time to time.

Stage 1: Sketch Plans - A3 booklet to include the following:

- Site Plan showing the site, building lines, entrances, boundary treatment, all structures, landscaping, paving, pool etc.
- Plans and elevations to scale, describing finishes.
- An artist's impression or three dimensional CAD model.
- Submit a detailed area schedule.

Please submit one CD containing a PDF or DXF drawing (to be kept by the Committee for their records), and two A3 coloured sketch plan booklets (one to be kept by the Aesthetics Committee for their records and one to be returned upon approval)

4.2 Second Stage

After the design concept and sketch plans have been approved the detailed design and working drawings must be submitted to the Aesthetics Committee for approval.

Stage 2: Working Drawings to include the following:

- Working Drawings A1 plans ONML / The committee will only accept A1 plans for review.
- Boundary wall elevation including all finishes and height.
- Services: drainage plan compulsory, Water supply recommended.
- A landscape plan specifying indigenous plants.
- Smart Village stamp of approval

Please submit one CD containing a PDF or DXF drawing (to be kept by the Committee for their records), and at least two sets of plans, one coloured and one monochrome. The monochrome set will be kept by the Aesthetic Committee and the coloured set, plus any further sets, will be returned. The committee will not approve more than 4 sets, this includes the committee set. Please bear in mind that the committee will always keep a set of plans, from every submission. Therefore, should only one set be submitted, this will be kept by the Committee for their records. A further set will need to be resubmitted, and this set will go through the full plan review process again before being stamped and returned for council submission.



4.3 Third Stage

After the detailed and working drawings have been approved they must be submitted to the local authority for approval. Certain prescribed fees will be payable at this stage to the local authority. These aesthetic guidelines are in addition to, and do not supersede, the requirements of the local authority or any statutory authority or the National Building Regulations.

5. Building Process

No building shall commence until all the relevant approvals have been obtained and the Building Code of Conduct (annexure D) has been read, fully understood and signed by the home-owner and builder. The builders code can be found below (annexure D) or with the estate manager. These must be signed and returned to the estate manager before construction starts. It is recommended that the home owner and their builders visit the estate manager before construction commences to clarify what is required.

The sidewalk deposit and/or rubble removal fee will be payable to [REDACTED]. The sidewalk deposit less deductions, will be refunded at the end of the building period. These deposits must have been concluded prior to the commencement of building operations. An amount of R2000 will be deducted from the deposit upon return, for the maintenance of the estate infrastructure. The development company and estate management will be entitled to regulate the activities of all building and other contractors and determine that the contractor(s) and the homeowner sign the Builder's Code of Conduct with the Home Owners Association for this purpose.

5.1 Completion Certificate

On completion of the house the aesthetic and estate management committee is to be notified. The committee will then verify that the house is built as per the approved design while estate management inspect the state of the surrounding infrastructure. The committee will then issue a completion certificate to ensure that penalty levies will not be billed for late completion or non-compliance and the pavement deposit will then be refunded to the owner. All owners will need to be in possession of a completion certificate to avoid being billed penalty levies.

6. Materials

We aim to encourage the use of materials in their natural state, thereby creating a unifying element to all the homes, as diverse as we hope they will be. The quality of design and the application of these raw materials in new and relevant ways are of paramount importance to this concept. The materials that will be expressed in their natural form on the estate are as follows:

Stone: The use of natural stone can be used to give warmth and depth to design, especially in the form of founding or feature elements for example chimneys, columns, bases and retaining walls. No fake concrete facings will be allowed.

Brick: The use of exposed brickwork is very effective in detailing arches, hints, and edges, as well as introducing a human scale and earthy feel to larger buildings.

Plaster: Plaster whether plain or pigmented tends to improve over time with a natural patina, as well as being extremely flexible in terms of creating moulded or sculpted details. It is also useful to create contrast with the more heavily textured brick and stone elements. The plaster may be painted in a limited selection of colour's chosen from the attached chart. (see point 6 under the annexure section).

Wood: Timber in its natural state lends warmth and interest in many applications, from doors and windows, to heavy beams, columns and trusses. The grain of the wood itself gives texture and life to elements and spaces.



The wood may also be painted in a limited selection of colours chosen from the attached chart.

Steel Steel allows spaces to become light and airy, especially when used in conjunction with glass. It makes it possible to span large openings and create spaces that are open and free. Steel is a modern material that can be used to create dramatic effects. It may be galvanized or painted grey.

Glass: Glass can create warmth when it's cold and provide cooling when it's hot. This is done through the use of shading and screening devices in summer and by allowing the low winter sun to penetrate from the north in winter. It can bring the outdoors inside and can create spaces that flow. The use of glass in a home is unlimited in its application, from doors and windows, to screening devices and ventilation.

Green Materials: A full range of green materials are on display in the [redacted] together with reference material which will be constantly updated and expanded to ensure homeowners are exposed to the latest technologies available. Please see the Sustainable Housing Guidelines as well as our recommended booklist for more information on incorporating green materials into your house designs.

7. Interiors

Although not specifically included in the architectural guidelines, it is our intention that the interiors will be as unique and beautiful as their exteriors, with the application of the new materials on the inside as well. Application of such new materials in the interior of the home extends to the use of timber floors, steel and glass volumes, screeded surfaces and exposed brick or stone walls. This will lead to a natural transition between internal and external spaces, with indigenous gardens further enhancing the houses found throughout the estate. We aim to encourage a fresh look at our South African climate and lifestyle in the planning and finishing of the interior spaces of the homes on this estate. We hope that this flexibility and diversity of spaces and materials will create a new and lasting South African ideal. It is noted that the following electrical appliances are specifically excluded and the gas equivalent must be specified. A list of recommended suppliers is available in the [redacted]

Excluded:	Recommended:
Electrical underfloor heating	<ul style="list-style-type: none"> Piped water underfloor heating with a gas fired boiler and under slab insulation. Gas fired space heaters
Electrical geyser	<ul style="list-style-type: none"> Gas fired instant water heater Solar water heater
Electrical hob	<ul style="list-style-type: none"> Gas hob
Electric space heater	<ul style="list-style-type: none"> Gas space heaters

8. Exteriors and Landscaping

We expect that the landscaping of stands will be considered as an integral part of these home designs and that the outdoor spaces be as well planned and detailed as the homes themselves. At no point may the cut or fill on a stand exceed 500mm from natural ground line. The use of indigenous planting and the creation of outdoor 'rooms' will further enhance the concept of natural materials being used to build this estate into something original and outstanding. Considering the natural beauty of the area, some purchasers may wish to retain a portion of their stand



8.1 House Forms

in its natural state; however the area between the street boundary and the home-stand line must be landscaped (see Annexure 1).

Building forms must be simple rectangular or composite rectangular and frontages facing the street should be parallel to the street along the building line. In [redacted] a minimum of 300m² and a maximum of approximately 850m², and in [redacted] a minimum of 200m² and a maximum of approximately 500m². This area includes the main dwelling, garages and outbuildings. The maximum permissible height of any building on an erf is 2 storeys 10.5 meters when measured from the highest point of the roof to the highest point of the natural ground level along the perimeter of the building. Chimneys will be exempt from height restrictions. The maximum permissible height of the external walls is 8 meters when measured from the top of the wall plate to the lowest point of the natural ground level along the perimeter of the building.

Natural ground level shall be deemed to be the level as determined on a contour plan. Should a dispute arise relating to the determination of any natural ground level, the development company and/or appointed architect will be entitled to rely on the details shown on the contour plan in his possession. No decorative beams, structures or double volume columns will be allowed to protrude from the exterior of the house. Double volume port cochers or entrance columns are not allowed in the estate (and approval thereof will be solely at the discretion of the Aesthetics Committee)

8.2 External Walls

External walls must be plastered and finished in earthy colours with an approved paint in accordance with the specifications which are to be obtained from the development company or appointed architect. The principle external paint colour may not be white. A sample of specifications must be submitted to the appointed architect for approval prior to commencement of the application thereof. No type or form of face or un-plastered brick will be permitted on external walls as the dominant feature of the house but may be considered for decorative purposes solely at the discretion of the appointed architect. A guideline is that only 40% (forty percent) of face brick will be allowed on the exterior of the house. Two-tone face brick work and yellow face brick work will not be allowed in the Estate. If face brick is to be used then flush joints are recommended.

Natural stone can be used to give warmth and depth to design, especially in the form of founding or feature elements for example chimneys, columns, bases and retaining walls. NO fake stone or concrete/fibre-glass facings will be allowed.

Horizontal string courses and simple plaster surrounds to openings will be permitted, but no multiple corbeling or coiling will be permitted on any part of the building, boundary wall or outbuildings.

8.3 Roofs

Roofs must be dominantly pitched in form. Major plan forms are to be roofed with symmetrical double pitch roofs with a pitch of between 17.5 and 45 degrees. Roofs over verandas may have a lesser pitch provided that the same covering is used as on the major elements. The same material must be used on all pitched roofs with the exception of slate and grey Chromadek sheeting which may be mixed.

Up to 30 percent of the total roof area which includes the main dwelling, garages and outbuildings may have a pitch of less than 17.5 degrees provided that these sections are concealed behind parapets which are extensions of main walls. Single



pitch or lower pitch roofs may be approved but approval is strictly at the sole discretion of the aesthetics committee and will be assessed in relation to the overall design aesthetic of the house. Sections which have a pitch less than 5 degrees and are constructed in concrete shall be finished with pebbles or stone chips up to a thickness of no less than 50mm. No siluwaterproofing may be visible. No lean-tos will be permitted. Roof lights and roof windows are permitted provided that they are set in the plane of the roof. Dormer windows may be approved if motivated by the overall design. Mono pitch roofs will be considered, on condition that the pitch is not less than 17.5 degrees.

Sheeting must be colour banded and may not be painted. Concrete roof tiles are not accepted in the Estate. Roof coverings are to be restricted to natural slate, Broseley clay tiles, terracotta clay tiles, cedar shingles, or Grey Chromadek or similar sheeting in various profiles and in accordance with the specifications which are to be obtained from the architect. A sample or specifications must be submitted to the architect for approval prior to the commencement of the laying thereof. All houses are required to have eaves, both for aesthetic reasons, as well as in response to the climate as an aid to passive design requirements. There must be a minimum 500mm eaves overhang, while roof fixtures and chimneys must complement the main structure.

No variations to these restrictions on roof coverings will be permitted under any circumstances. The development company may demand the removal of any roof covering that is in contravention to the guidelines, or impose fines up to (with all deviations) R3,000.00 per month if not removed. These fines form part of the levy and will be due and payable on the first day of the next month the fine is imposed. If possible, solar panels should not be visible from the street and should be integrated in to the overall design aesthetics. The panels must be mounted flush on the roof and the geyser's are to be housed in the roof void or a cupboard, they may not be external.

8.4 Windows, French Doors & Sliding Doors

Windows, French doors and sliding doors must be constructed from natural hardwood, aluminium natural anodized or powder coated grey or white. No steel windows, no tinted or reflective glazing, and no glass blocks will be permitted. Windows, French doors and sliding doors must be at least square or have a dominant vertical proportion of no less than 1:1.15, however variations to this may be permitted, approval solely at the discretion of the aesthetics committee. Windows on all elevations must be carefully thought out and proportioned so that no elevation is left blank or with uneven openings. Each elevation must have a minimum of 5% fenestration. All Northern windows and openings should be taken into account in the overall passive design of the house. External shutters are encouraged on north exposures, but no fake shutters will be permitted. Shutters must be constructed from natural hardwood or aluminium. External burglar bars and expanding security grids are not permitted. For security purposes roller shutters may be used but they must be completely built in to the wall and not exposed. No external fixed or mobile awnings will be permitted.

8.5 External Doors
External doors must be constructed from natural hardwood or from natural hardwood and glass. Curved doors and doors constructed from driftwood, railway sleepers etc. are not permitted. Expanding security doors are not permitted on the exterior of the building. Natural hardwood may only be painted in accordance with pre-approved colour samples to be obtained from the architect.



8.6 Verandas, Porches & Pergolas

At least 5% of the area of the house must include a covered veranda. Supports may be constructed from timber or steel sections. No round concrete columns or pre-cast classical columns or piers will be permitted. Simple caps, bases and brackets will be allowed. Pre-cast classical, fluted or reeded columns will not be permitted. Pre-cast concrete balustrades will also not be permitted.

9. Garages & Driveways

Garages must be set back at least to the building line from the erf boundary abutting the street. The doors may be double and may exceed 2.5 meters in width. Carports may not be of the pre-fabricated type and must form part of the architectural design of the residence.

Driveways shall not be constructed from asphalt, concrete, interlocking or any form of crazy or brick imprint paving. A sample or specifications must be submitted to the aesthetics committee for approval prior to commencement with the laying thereof. Exposed aggregate concrete may be considered as a driveway material.

The paving outside the fence line must be done strictly in accordance with the guidelines as per the attached annexure. The only materials to be used in the road reserve are red Holcim dump rock laid in concrete to match road edge and Infraset tan blocks to match intersections.

If the driveway is to cross an open storm water channel then the bridge is to be constructed out of timber as per the sketch annexed hereto.

A minimum of two 150mm diameter PVC sleeves are to be laid under driveways and paths constructed by homeowners across sidewalks for purposes of accommodating any pipes and cables that may be laid in the sidewalks. These sleeves are to be laid 2 meters from the boundary line.

If the driveway crosses the canal then an approved bridge as per the details must be built.

10. Boundary Walls Along Street Frontages

Boundary walls along or relating to street frontages are not mandatory but if constructed they must be constructed from Corbridge County Classic Sand masonry with flush joints, bagged brickwork painted as per approved colour chart colour, or rock work and gun poles in accordance with the details, finish and colours of the relevant specifications which are to be obtained from the development company. Should a street boundary wall be constructed, no more than 30% of the front wall may be solid (see annexure 2). Precast concrete walls or walling systems are not allowed. All boundary walls must follow the contours and be stepped evenly. No palisade or similar V design fencing will be allowed. At no point may these walls exceed the maximum height of 1.4 meters unless agreed to in writing by the aesthetics committee.



11. Internal Boundary Walls

Internal boundary walls are not mandatory but if constructed they must be constructed from masonry, or rock work and gum poles, in accordance with the details, finish and colours of the relevant specifications which are to be obtained from the development company. Galvanised square wire mesh fencing shall be permitted on an erf, provided that it is combined with gum pole fencing and approved by the Aesthetic Committee. Palisade must be custom designed and made from natural timber or steel with a galvanised finish or painted in charcoal grey from approved colour chart. Palisade fencing must be suitably designed to ensure that panels do not sag in the centre. Pre-fabricated palisade and pre-cast fencing will not be allowed. All dogs kept on an erf must be contained in an adequate enclosed area. At no point may these walls exceed the maximum height unless agreed to in writing by the aesthetics committee.

Internal boundary walls can be constructed to a maximum of 2.1 meters in height measured from the top of the wall to the natural ground level on the highest side. All boundary walls must be constructed in accordance with SABS 0400 and all wall plans must be accompanied by an engineer's certificate and on completion an engineer's completion certificate is to be issued for the developer's records. All building sites must be temporarily fenced during construction with an approved barrier of a mesh fencing with Hessian or shade netting attached.

12. Building Lines

The Johannesburg City Council building lines may be relaxed to the following minimum dimensions with consent from council and the affected neighbours.

Street boundary

- 23.5 meter build to line on South entry stands (20m from fence line)
- 43.5 meter build to line on North entry stands (40m from fence line)
- 3 meter build to line to garage
- 5 meter build to line to house
- 2 meter build to line to garage
- 3 meter build to line to house

Mezzblock boundary

- Single storey 10 meter, double storey 15 meter build to line
- Single storey 3 meter, double storey 4 meter build to line
- Single storey 2 meter, double storey 3 meter build to line

Side boundary

- Aggregate of 25 meters to both sides subject to a minimum of 10 meters on one side.
- Aggregate of 6 meters to both sides subject to a minimum of 2 meters on one side
- Aggregate of 4 meters to both sides subject to a minimum of 1.5 meters on one side

12.1 Coverage

Maximum coverage for single or double storey house 8% of the erf size (May be raised to 15% for a single storey house with consent of the local authority)

13. External Pipes, Pittings, Fixtures & Devices

Maximum coverage for single or double storey house 50% of the erf size

First floor area may not exceed 70% of the ground floor area. Double volume areas and balconies are to be included in first floor calculation.

Gutters must be painted to match the colour of the roof and down pipes to be painted to match the colour(s) of the external walls. All fascia boards must be painted to match the roof colour. Plumbing pipes must be bricked in and made flush against the external wall. Access panels, only at the junctions, must be approximately 300 x 300 in size and painted to match the house. Window mounted air-conditioning units are not permitted. Wall mounted air-conditioning units and geysers are permitted provided they are mounted at ground level and screened from view at street level. Diagnostic cooling plants are recommended but must be suitably screened and integrated into the overall design. Pool pumps must not be visible from the street and should be screened in an aesthetically pleasing manner approved by the aesthetics committee.

Visible aerials are not permitted. Please see the information technology section for information on the proposed services envisioned within the estate. The architect will be entitled to regulate the positioning and intensity of all external lighting. Signs relating to the address and/or the name of the house are permitted provided that the height of the lettering does not exceed 300mm. Street numbers and address signs must be mounted on the wall adjacent to the gate only in natural, unfinished materials.

Balustrades are permitted provided that they are constructed from steel or treated natural hardwood. All railings, balustrades and detailing must be simple and in keeping with the farmhouse aesthetic and not elaborately decorative. No pre-cast concrete balustrades, fountains or statues will be permitted.

14. Signage

All signage (contractor's boards etc.) must be as per the approved format (see Builders Code of Conduct at back of booklet) and may only be mounted in front of the applicable property, one per company. All signage must be kept to standard professional boards only, no private marketing or sales boards will be allowed. No signage of any type including for sale boards etc. may be displayed on any portion of the common property on the estate or near the entrance to the estate.

15. Erf Use

A residential stand may not be subdivided or rezoned or a sectional title plan be registered under any circumstances.

Laundry drying areas and refuse storage areas must be enclosed with screen walls so as to screen them from view at street level. Beds and caravans must be concealed inside garages. Domestic trailers may be stored on the property provided they are screened from the street. Temporary or permanent structures including but not limited to utility houses, huts and tents are not permitted save for during construction and only if approved beforehand by the Aesthetics Committee. Dog kennels are permitted.



provided they are screened off from view at street level. No shade cloth clad structures are permitted, including awnings. No banners or flags may be erected on the lawn.

16. Swimming Pools and Tennis Courts

Any fencing of the pool must be sympathetic to the architectural style and designed accordingly. No prefabricated spaced steel fencing will be allowed. Pool pumps must be enclosed and screened so as not to be audible or visible from adjacent properties or the street. Discharge pipes from swimming pools must not discharge water directly onto a street, sidewalk or erf. The restriction of the building lines shall apply to the positioning of tennis courts, swimming pools and filtration plants. These building lines may be relaxed through application to the developer and any affected residents.

17. Landscaping

The sidewalk landscaping in the estate itself must conform to the Landscaping Master Plan. A homeowner must submit this plan with the building plans, prior to the establishment of any landscaping on the sidewalk adjacent to his/her erf and thereafter the planting may be carried out in terms of the conditions of such approval.

The development company is entitled to determine that a homeowner is required to landscape the sidewalk and islands adjacent to his erf and to irrigate these areas with a specified sprinkler system.

An important aspect of the vision for the estate is to create a distinct and harmonious landscape in accordance with the architectural vernacular and to extend the framework planting of the central boulevard and other sidewalks to the private gardens.

Homeowners are encouraged to make use of indigenous plants in their private gardens as far as it is practical and to select plants from the recommended plant list. Certain non indigenous (exotic) trees will be allowed. No palm trees will be allowed on the estate.

Landscaping is to be limited, as far as possible, to indigenous species and will be done by the Homeowners Association on most of the common areas. A landscaping design of the property should be prepared and submitted to the aesthetics committee with the architectural design for approval. The garden landscaping must be completed within 90 days of issue of the Local Council's Occupational Certificate. All landscaping plans must display what method of storm water disposal will be employed. No concentrated storm water is to be disposed of directly in neighboring stands and must comply with National Building Regulations. Ideally, storm water should be disposed of in a storm water drain, under feature, or soak pit. Children's play areas, "Jungle Gyms" etc. must be adequately screened from streets and public areas and should conform to the use of natural materials. No CCA treated poles are allowed in play areas due to the specific health risks associated with the arsenic and chromium preservative used.

18. Tree Policy

Included in the architectural guidelines is a recommended indigenous plant list:

The landscaping and especially the trees, due to size, go a long way in determining the overall aesthetic ambience of an estate. With our indigenous landscaping policy we hope to reinforce the uniquely South African nature of this estate, not to mention the numerous additional advantages of planting indigenous trees as listed below:

- Bird life is significantly increased through the planting of indigenous trees that have berries for food, or thorns for protection from birds of prey.
- Frost resistance is another benefit of indigenous trees as they tend to be very hardy and are well adapted to our climate.
- Water is always a scarce commodity and indigenous trees require significantly less water than their exotic counterparts and have very little or no effect on our fragile water table. They are also far more likely to survive a drought.

18.1 Recommended Plant List

Common Name	Botanical Name
Ara Tree	<i>Radiolobea Albida</i>
Bladder Nut Tree	<i>Diospyros Whyteana</i>
Cabbage Tree	<i>Cussonia Portulacata</i>
Cape Chestnut	<i>Calodendrum Caperse</i>
Cape Holly	<i>Ilex Mittis</i>
Chesnutwood	<i>Phytolobium Viridiflorum</i>
Common Coral Tree	<i>Erythrina Lysistemon</i>
Common Wild Pear	<i>Dembygo Rotundifolia</i>
River Tree	<i>Acacia Karriphloea</i>
Forest Elder	<i>Nyctia Floribunda</i>
Karoo Tree	<i>Rhus Larrea</i>
Karoo Sweet Thorn	<i>Acacia Karoo</i>
Lamander Tree	<i>Heteropryx Nodulensis</i>
Mountain Karoo	<i>Rhus Leprotica</i>
Paperbark Thorn	<i>Acacia Siberiana</i>
Pompon Tree	<i>Dios Cotonifolia</i>
Red Alder	<i>Canonia Capensis</i>
Red leaf Bushwillow	<i>Combretum Kransii</i>
Ribbed Karoo-bush	<i>Rhus Palens</i>
River Bushwillow	<i>Combretum Erythrophyllum</i>
River Indigo	<i>Indigofera Prutescens</i>
Salt Olive	<i>Buddleia Saligna</i>
Freshia Tree	<i>Dodonaea Angustifolia</i>
Water Berry	<i>Halleria Lucida</i>
Weeping Boer Bean	<i>Syngium Corallum</i>
Weeping Wattle	<i>Scotia Brachyptera</i>
White Stinkwood	<i>Peltophorum Africanum</i>
Wild Olive	<i>Calis Africana</i>
	<i>Olea Africana</i>





Sustainable Housing Guidelines

“When we build, let us think that we build forever.

*Let it not be for present delight, nor for present use alone;
let it be such work as our descendants will thank us for.”*

- Ushawa -

19. Sustainable Housing Guidelines

The generally accepted definition of sustainable development is ‘Development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (WCED, 1987, Brundtland Report). In practice this means living in harmony with the natural environment, considering the social, environmental and economic aspects of our decisions, and reducing our footprint through a less energy, water and material intensive lifestyle. Social sustainability is also important and working towards a healthy and safe community is often inter-connected with economic and environmental endeavours.

Purchasers in the [REDACTED] have a major role in making their houses and environment more sustainable. Awareness of environmentally sustainable design principles and expressing these preferences to their architect, designers and builders can create great change in the industry.

Century Gas in conjunction with Century Property Developments have partnered with Sasol Homegas as the supplier of LPGas to [REDACTED] which will be supplied and stored in underground built gas tanks strategically placed within the Estates. [REDACTED] undertook to install gas pipes in the ground to distribute the gas from these tanks to every property within the Estates. The gas will be sold to property owners through a metering system. [REDACTED] is the largest LPGas piped system in South Africa.

The main ways that homeowners can make a difference is through:

- Recycling of refuse;
- Saving energy through the use of solar geysers and energy saving lighting;
- Utilization of the piped gas network for all heating, hot water and cooking requirements instead of using electrical underfloor heating, electric geysers and electric hobs which are specifically excluded;
- Using passive design or green architecture;
- Storm water capture; and
- Responsible landscaping.

In line with the greater [REDACTED] “green” initiatives which have been planned, we will be striving for the implementation of long term energy management. Sustainable energy interventions, such as solar power, efficient public transport networks and smarter building regulations, could reduce South Africa’s carbon dioxide emissions by up to 864 million tons over the next 20 years. Cities are going to have to use a long-term energy management plan as a foundation for economic development. Evidence suggests that efforts by all South African cities to diversify energy usage and energy sources are in their infancy. Reports have indicated that if cities do not play such an active role in managing both energy supply and use, then their own economies are unlikely to succeed. We truly believe that it is our moral obligation to start thinking not only smarter but “greener” by introducing some key initiatives and thus ensure a minimal impact on the environment and long term cost saving.

19.1 Recycling



Recycling is one of the best ways in which to have a positive impact upon the world in which we live in. Recycling is highly beneficial for the natural environment and human beings. The amount of the rubbish we create and dump into the environment is rapidly increasing everyday and is having a detrimental effect on the environment, resulting in global warming and increasing the rate at which global temperatures are rising.





Recycling is incredibly important as waste has a negative impact upon the ecosystem. Harmful chemicals and greenhouse gasses are released from rubbish in landfill sites. Recycling helps to reduce the pollution caused by waste.

Although local authorities are primarily responsible for waste collection and disposal, it is increasingly becoming more important that the public accepts co-responsibility. Extensive debates on the topic of sustainable development continue to be held and it is acknowledged that the emphasis needs to be placed on preventing pollution and minimizing waste at the source, as it is significantly more costly to clean afterwards.

All the [redacted] will implement a comprehensive recycling initiative and therefore become the first "Green" housing development in Southern Africa.

The successful implementation of a recycling solution will significantly help in the reduction of waste products like:

- Paper (office, newspaper, magazines, packaging)
- Metals (beverage cans)
- Glass (bottles, broken window-panes)
- Plastics (bags, bottles, containers)
- Cardboard
- Computer components and printer cartridges



19.2 Saving Energy

The demand for energy in South Africa is growing more and more every year but the supply is not keeping up. We have all experienced the inconvenience of load shedding and although the program has been suspended we believe this will only be temporary. Unless we, the South African public make a conscious effort to ease the burden on our National Grid we will be left in the dark.

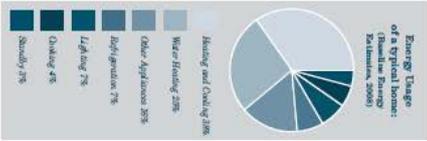
For a country that receives as much sunlight as we do, we have been rather careless in our approach to the design of our buildings, we must pay more attention to the planet's vulnerability. The easiest and cheapest area to start is with our lighting. Home owners should invest in energy saving internal and external lighting both to save on costs and reduce energy consumption. With this in mind it will be a requirement that only energy saving lamps are used in the estates.

SA must be proactive in following the global trend towards phasing out the use of incandescent (GLS) lamps. Compact fluorescent lamps (CFLs) and LEDs are the preferred energy efficient option for lighting applications; further energy savings can be achieved by using natural light through sky lights to effectively light a building during daylight hours.

Incandescent light bulbs were developed almost 125 years ago and have undergone no major modifications. They are incredibly inefficient, converting only about five percent of the energy they receive into light, the rest is lost to heat.

Tips for efficiency in houses:

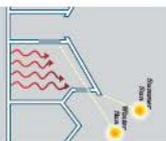
- Reducing demand by putting in efficient lights and using day lighting to reduce cooling loads



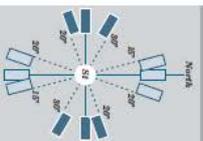
19.3 Green Architecture and Passive Design



High fuel demands, whether people are wild or tame, and even the cooling currents in the atmosphere.



Site Orientation



- Solar geysers or instantaneous gas geysers (Mandatory)
- Photovoltaic panels and inverters to produce power to be stored in batteries
- Fit an efficient convection gas or wood fireplace in place of radiant units
- Use gas for cooking and heating
- Effective passive design
- Well sealed doors and windows with double glazing
- Sun shades and large eave overhangs.
- Intelligent load demand metering (May become mandatory on the estate)
- Use renewable forms of energy wherever possible
- Conventional electric underfloor heating and electric geysers are banned

These energy saving initiatives will reduce the over-all demand for maximum power, and lighten the load from Eskom significantly.

Green architecture is not a style, trend or a vernacular. Neither is it at all new. It is a climatically, geographically and culturally appropriate method of designing architecture and constructing buildings. It combines the best of both old and new technology. Green Architecture treats lightly on this planet and respects and cares for the Earth in a sustainable manner.

The key benefits are:

- Reduced operating and life cycle costs for buildings and their landscapes.
- Improved health and productivity for building inhabitants.
- Higher property values
- Low environmental impact
- Sustainable development
- Lower carbon footprint
- Social responsibility

Passive design is design that does not require mechanical heating or cooling. Homes that are passively designed take advantage of natural climate to maintain thermal comfort. Houses should be designed for the climate making use of:

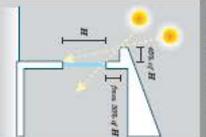
- Solar design with insulated thermal mass
- Maximised cross ventilation
- Evaporative cooling or ceiling fans if required
- Optimal positioning for solar access and exposure to cooling breezes
- All east and west glass should be shaded in summer
- Reflective insulation should be installed to keep out heat in summer
- Bulk insulation should be used in ceilings and in walls and floors
- Outdoor areas should be screened and shaded but allow winter sun in
- Garden ponds and water features should be utilised to provide evaporative cooling for the house

Orientation

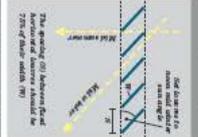
Proper orientation reduces the need for auxiliary heating and cooling, and results in lower energy bills and reduced greenhouse gas emissions. Orientation for passive heating is about using the sun as a source of free home heating. Put simply, it



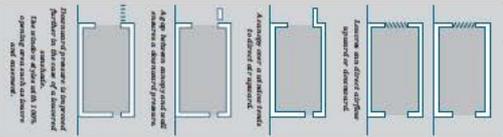
General rule of thumb is when designing an entire facade, orient it to an optimal angle.



Setting your louvers to an optimal angle.



Consider directing air flow of heated window for the room.



Involves allowing winter sun in and keeping unwanted summer sun out. This can all be done by using shading devices to exclude high angle summer sun and admit low angle winter sun in. Good orientation for passive cooling excludes unwanted sun and hot winds and ensures access to cooling breezes. A certain degree of passive cooling is necessary for the highland climate.

Shading

Shading of the building and outdoor spaces reduces summer temperatures, improves comfort and saves energy. Direct sun can generate the same amount of heat as a single bar radiator. Shading can block 90 percent of this heat. With ideal north orientation, sunlight can be excluded in summer and admitted in winter using simple horizontal devices such as eaves as well as the planting of deciduous trees. East and west facing openings require a different approach, as low morning and afternoon sun from these directions can be more difficult to shade. Keep the area of glazing on east and west elevations to a minimum where possible. Shading devices can include eaves, pergolas and louvers as well as trees or planted screens with deciduous vines.

Passive Solar Heating

Passive solar heating is the most cost effective way of heating your home resulting in substantial long term savings for the homeowner. Solar radiation is trapped by the greenhouse action of correctly orientated windows exposed to full sun. Trapped heat is absorbed and stored by materials with high thermal mass, usually masonry inside the house. It is re-released at night when it is needed to offset heat losses to lower outdoor temperatures. For the best passive heating performance, daytime living areas should face north. Ideal orientation is true north and can be extended to between 15 degrees west and 30 degrees east of north. Fixed shading devices can maximize solar access to north facing glass throughout the year, without requiring much effort from the user. Proper orientation is essential for effective passive shading. Fixed shading devices above openings excludes high angle summer sun but allows low angle winter sun. Adjustable shading can be used to regulate solar access on other elevations. Correctly designed eaves are the simplest and cost effective shading method for northern elevations.

In general, living areas should be grouped along the north facade and bedrooms along the south or east facade. Living areas and the kitchen are usually the most important locations for passive heating as they are used in the day and in the evening. Bedrooms require less heating as it is easy to get warm and and stay warm in bed. Childrens bedrooms can be classified as living areas if considerable hours are spent there.

Passive Cooling

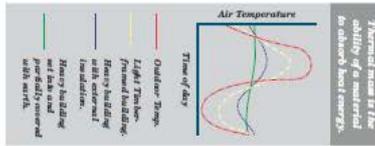
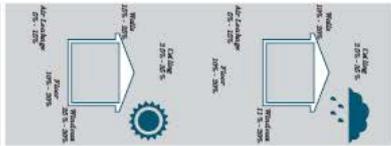
Passive cooling is the least expensive means of cooling a home, as well as producing the lowest environmental impact. Passive cooling maximises the efficiency of the building envelope by minimizing heat gain from the external environment and facilitating heat loss through air movement, cooling breezes, evaporation and earth coupling.

This can be facilitated through:

- Orientation for exposure to cooling breezes



Typical heat gain and loss in a temperature climatic:



- Increase natural ventilation by reducing barriers to air paths through the building
- Fans that provide ventilation and air movement in the absence of breezes
- Appropriate windows and glazing to minimize unwanted heat gains and maximize ventilation
- Effective shading
- Living and sleeping areas zoned appropriately for climate
- Evaporative cooling units

Insulation

Insulation acts as a barrier to heat flow and is essential to keeping your home warm in winter and cool in summer. A well insulated and designed home will provide year round comfort, cutting cooling and heating bills by up to half and, in turn reducing greenhouse gas emissions. The appropriate degree of insulation will depend on climate, building construction type and if auxiliary heating and cooling is to be used. Energy efficiency can also be improved by weather sealing. Weather proofing or draught sealing is the most effective method of reducing energy savings whilst maintaining healthy indoor air quality. Up to 25% of heat loss from a home is due to draughts while up to 38% of our total greenhouse gas emissions are due to heating and air conditioning. Insulation of roofs is mandatory and insulation cast into the floor slab and installed in the wall cavities is strongly recommended along with the insulation of hot water pipes and tanks.

Thermal Mass

Thermal mass is the ability of any material to absorb heat energy. A lot of heat energy is required to change the temperature of high density materials like concrete, bricks and tiles. They are therefore said to have high thermal mass. Lightweight materials like timber have low thermal mass. Appropriate use of thermal mass in your home can make a big difference to comfort, as well as cooling and heating bills. Correct use of thermal mass modulates internal temperatures by eveninging day/night extremes while on the other hand, incorrect use can exacerbate the worst extremes of the climate, radiating heat all night during a summer heatwave or absorbing all the heat you produce on a winter night. Thermal mass should always be used in conjunction with good passive design.

Glazing

Glazing has a major impact on the energy efficiency of the building envelope. Poorly designed windows, skylights and glazed surfaces can make your home too hot or too cold. If designed correctly, they will help maintain year round comfort, reducing or all together eliminating the need for artificial heating and cooling. Windows in a typical insulated home can account for more heat gain or loss than any other element in the building fabric. In summer, heat gain through an unshaded window can be up to 100 times greater than through the same area of insulated wall. Locate and size windows and shading to let sunshine in when the temperature is cold and exclude it when it is hot. Locate window and door openings to enhance natural cooling by cross ventilation. Provide seals to openings to minimize unwanted draughts. Solar heat gains through glass can be reduced by using spectrally selective glazing which filters





solar radiation, allowing maximum light visible light transmission while reflecting unwanted UV and solar near-infrared wavelengths. Reflective glass also allows for this but must be cleaned regularly and causes a glare which may annoy neighbours. For this reason its use is expressly forbidden within the estate. Double glazing or insulating glazing is also effective but are cost prohibitive for most developments.

Skylights

Skylights can make a major contribution to energy efficiency and comfort within the home. Daylight provides cool light, meaning that a given amount of light is accompanied by less heat gain than most types of artificial light. Skylights provide one of the best and easiest ways to admit daylight and distribute it evenly, displacing most artificial light, improving light quality and reducing heat generation and saving on energy costs.



19.4 Water Conservation

The protection, conservation, efficiency and re-use of water is a vital part of our estate. As South Africa is a country that is water poor and there is much that can be done to reduce consumption. This could be done by fitting items such as: Dual flush toilets (which are mandatory), flow reducing or aerating taps, flow reducing or aerating showers, a smaller shaped bath, low volume and low consumption appliances such as dishwashers and washing machines. Rainwater, or grey water from baths and basins, can also be captured and stored for irrigation purposes. Low water-use vegetation or Xeriscaping can greatly reduce the need for supplementary garden watering. See our website or saleshouse showroom for recommended suppliers.



19.5 Biodiversity Impacts on Site

Replanting cleared sites is no substitute for leaving native vegetation intact. Once any land is cleared it is almost impossible to recover the full range of indigenous species, remove introduced species and restore ecological processes. Given the natural beauty and biodiversity of the estate it is recommended that homeowners attempt to minimize biodiversity impacts. This can be done by:

- Limiting clearing outside the building footprint. Vehicle tracks, contractors campsite, and rubbish dumps should be concentrated in one contained area.
- Any significant indigenous or habitat trees should be designed around and retained.
- Rehabilitating disturbed areas with saved topsoil and salvaged plants from cleared areas.
- Using indigenous species in the garden.
- Maintain links between adjacent bush and your garden if possible.
- Avoid introducing environmental weeds into your garden
- Avoid unnecessary disturbance to vegetation and soil.



19.6 Environmentally Conscious Landscaping



Being environmentally conscious developments, the [redacted] have an indigenous tree planting policy. The proposed indigenous landscaping policy will reinforce the uniquely South African nature of this estate. Sustainable landscapes are concerned with the planning and design of outdoor space. It is important to consider the landscape as an integral part of your home's sustainable design.

The topography of a garden should ideally reflect the original slope to minimize the



impact on drainage patterns. Storm water retention ponds can be constructed along drainage lines to collect rain water that can be used in many ways, from irrigating common areas, to creating diverse habitats for flora and fauna. Exotic species should be removed from the drainage lines on an erf if applicable and replaced with indigenous plants, marsh and reed species. Hard landscaping should be kept to a minimum. At no stage during the construction or operational phase should the flow of water into any of the retention ponds be cut off.

The landscaping in the development area should be of a continuous style and theme. One has to bear in mind that landscaping is more than just aesthetic. The environment must inform the design and layout of the site. The landscape design must be an integral part of the planning and not an aesthetic after thought. All landscaping must emphasize and enhance the urban design and can be used for screening, or as a wind-break or to frame select views.

Plants used for landscaping must be indigenous and the use of endemic plants must be promoted. The site is an intermediate between the pure grasslands of the highveld and the more wooded vegetation of the Bushveld, false thornveld and thornveld. This should be kept in mind during the plant selection process. Invasive plant species must be removed and all disturbed areas must be rehabilitated.

The use of drought resistant plants must also be promoted. Low water-use vegetation or Xeriscaping can also greatly reduce the need for supplementary garden watering thus preserving our natural resource.

In the last 10 years the theme in urban and corporate landscaping has shifted significantly towards the use of plants indigenous to South Africa. Previously, designs had remained very stereotyped and were often characterized by mass planting and the use of limited so called "food proof" species. This was due to the fact that most landscapers did not know a wide variety of indigenous plants or how to use these plants in a more integrated and wild life friendly manner. It is recommended that homeowners use a landscaper who has extensive knowledge in this field. A list of recommended landscapers is available on request.

A list of recommended plants and trees has been incorporated into the architectural and landscaping guidelines for your information.

19.7 Sustainable Communities



When you choose a home you are also choosing a street and most of all a community. A street is more than a collection of buildings and trees. Well-designed and cared for streets encourage connected, inclusive, supportive, and safe communities. A good street consists of houses that have their own character but fit together in a complementary, respectful way. Characteristic attributes like building height, street setbacks, form and materials as set out in the architectural guidelines will assist with this. A good street improves quality of life in numerous ways by:

- Promoting community interaction.
- Providing a safe environment
- Enhancing the character and comfort of the neighbourhood





- Enhancing the character and comfort of the neighbourhood
- Encouraging people to walk to the shops and around the neighbourhood
- Increasing property demand and resale value.
- Houses facing towards streets, porches and open spaces improve visual access and security but must be balanced with good site orientation for passive heating and cooling.
- Garages should be situated away from the house frontage to minimize their visual impact. This also allows more landscaping at the street frontage and establishes a direct visual connection between the house and the street for security.
- The width of driveways should be limited and shared driveways should be considered. This allows for more of the street frontage to be landscaped and provides a better environment for pedestrians.
- Trees should be planted to enhance the quality of the street. Good tree cover increases property values and provides improved shade, habitat, windbreaks, air quality and appearance.
- High walls and hedges on the street should be avoided as they isolate the home from the neighbourhood. They create a perception of isolation and impede observation of the street.
- Respect your neighbour's privacy, sunlight and views. Utilise appropriate building setbacks and building height to retain your neighbour's view while maximizing your own.

19.8 Energy Use



Electricity is the most widely available energy source and is the only source able to run the full range of household appliances. However, it is the most greenhouse intensive. It is also becoming more expensive. Natural or liquefied petroleum gas (LPG) is less expensive to use than electricity and provides fewer greenhouse gas emissions. It can be used for water heating, room heating, and cooking. Solar water heaters and passive solar building techniques reduce the need to use nonrenewable resources. Other fuels such as wood and coal should only be used in small quantities such as for heating as they create air quality problems in urban areas. Renewable energy is the cleanest form of energy and systems using solar and wind are becoming increasingly accessible to homeowners. Renewable power systems use renewable energy sources to produce electricity with very low greenhouse gas emissions. Renewable energy sources such as the sun, wind, and water are continuously replenished from natural sources. Renewable energy systems operate at low cost but can be expensive to install. However, the kWh price is unaffected by future energy price rises.

Efficient energy use is the best way to reduce energy bills and environmental impacts while maintaining or improving comfort levels. While some solutions cost nothing at all, most investments in energy efficiency will pay for themselves through lower energy bills.



Heating and cooling your home

Use high efficiency gas, electric heat pumps, gas or solar heated under floor heating or wood heaters for room heating rather than electric convection and radiant heaters. Using the passive design principles contained in this handbook will also help to minimize the need for heating and cooling. Use ceiling fans if possible instead of air conditioning. If cooling is required then use evaporative systems or high efficiency air conditioning units with occupancy sensing. These units should be appropriately sized for their environments and be maintained regularly. Use thermostat controls for hot water and temperature regulation systems and set on the most efficient level.

Cooking Efficiently

In general choose gas hobs rather than electric. They are often cheaper to use, have more responsive controls and produce 50% less greenhouse gas emissions than an equivalent electric unit. A gas oven will also produce less greenhouse gas than an equivalent quality electric model. However some very efficient electric hobs and ovens are available from several manufacturers.

Appliances

Electrical appliances account for about 30% of household energy use. When buying white goods such as refrigerators, freezers, tumble dryers, and dishwashers look for the Energy Rating label. This gives a star rating and annual energy consumption for the appliance. The more stars, the more efficient the appliance. An efficient appliance usually costs a little more to buy, but will soon pay for itself in reduced energy bills.

Other Items

There are many small items throughout the home that consume a lot of energy. These include pool filter pumps, heated towel rails, computers, televisions, and gaming consoles. Ensure they are not left on unnecessarily.

Lighting

Use fluorescent or compact fluorescent lamps as they are substantially more energy efficient and long lasting, they are also available in the warm white colour spectrum similar to natural sunlight and, with newer production technology, are not subject to the flickering once associated with fluorescent lighting products.

- Avoid using low voltage down lights for general lighting as they are not energy efficient. Compact fluorescents for down lights are becoming available.
- Use occupancy sensors for certain lighting applications
- Turn off lights when not in use and use separate switches for each light fitting.
- Use timers or sensors on outdoor lights which can also be solar powered.
- Use the minimum wattage lamp to provide sufficient light.



Lights can be automated so that they operate only when needed and switch off when rooms are vacant. This can be done through motion sensors and timers or through more elaborate centralized systems. Motion sensors can be used to switch on external lights when needed or lights when entering the home, rather than leaving lights on. Motion sensors, light sensors, and timing controls could be used to switch off lights when they are no longer needed. Priority should be given to rooms like bathrooms, pantries and toilets that often have light left on unnecessarily.

Automation can be used to operate appliances, lighting and equipment only when needed. Remote control and timer control of appliances from coffee makers to home theatres to spas, can lead to energy savings if the appliances usually use standby power, even though they are not operating, e.g. stereos, TVs, DVD's and home office equipment. It is also useful when the need for the equipment to operate varies, such as for pool pumps, where daily operating hours can be matched to the season.

Home automation systems work by managing the electric power of the device being automatically controlled. The degree of intelligence and how it is distributed between the elements of the home automation system varies with the design and with the manufacturer.

Control can be implemented by isolated sensors, timers, and processors embedded in the switches and relays. Alternatively centralized control can be obtained through networked sensors linked to a controller or computer, which then operates the power systems of equipment throughout the house.

The operation of more sophisticated devices such as central heaters, air conditioners, or home theatres can also be brought under the control of the automation system, but with more intelligent controlled devices, care is needed to ensure that the controllers instructions do not create conflicts.

Automated equipment can therefore include any appliance or machinery in the home, the operation of which is controlled through its electricity supply.

Automation and electricity demand

Homeowners may be required, as part of Eskom's and the developers' new energy policy, to have a smart meter/load management system installed in their homes in order for the electricity supplier to be able to meter electricity demand and usage and switch off certain items like geysers during high demand times. This system replaces the triple relay system that was previously used. Design the electrical installation to ensure that all the non-essential loads are grouped on the same circuits. This will facilitate future remote shedding of these non-essential circuits by the distributor using a load management system/smart meter technologies. By installing the system, homeowners will see the following benefits:

- A reduced carbon footprint for the estate
- Reduced energy bills

Instantaneous Gas Geysers & Solar Geysers

Instantaneous Gas Geysers and Solar Geysers are mandatory on all of the [REDACTED]



- Use task lighting to supplement general lighting if needed.
- Use well designed windows and skylights to provide natural light while keeping winter warmth in and summer heat out.

Reducing standby energy consumption

Standby energy is drawn when some electrical equipment is not actually being used, such as when the TV is turned off with the remote control rather than the switch on the unit or at the wall. It is sometimes used to power digital displays or maintain memory settings, but often it is just wasted energy.

Be aware of the standby energy use of electrical equipment such as televisions, DVD players, clocks, computers, faxes, microwaves, security systems, battery chargers and power packs. Some appliances, such as video/DVD players and microwave ovens with digital displays, can use much more energy over a year in standby than in actual operation. Standby energy use can account for 10% or more of household electricity use.

Home office and entertainment equipment

- Large screen TV's use more energy than those with a smaller screen.
- If buying a computer consider buying a laptop, they require less materials to make and less energy to run.
- An LCD screen for desktop computers will use less energy and take up less space than a traditional CRT monitor.
- Switch off computers and printers if you won't be using them for half an hour or more.
- Look for printers and faxes that can use recycled paper. Use recycled ink and toner cartridges. Re-use blank sides of used paper.

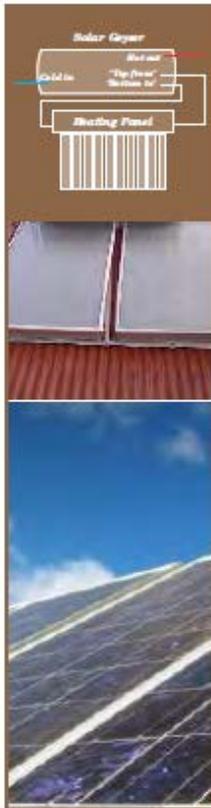
Home Automation

Home automation is the automated or remote control of appliances and equipment in the home. Automated controls can be used to turn equipment on or off or adjust the operating settings at predetermined times, on site or remotely, or can be set to adjust the operation of equipment in response to changes in the home environment, e.g. temperature. Homes using these techniques, which may also involve the integration of broadband communications, are sometimes called smart homes or smart houses.

Home automation systems can, however, only improve the energy efficiency of your home if they are designed for this purpose. A well designed automation system can improve passive solar heating and passive cooling through the control of blinds, windows, vents and fans. It can also control heaters and air conditioners so they are only used when and where they are needed to achieve a desired temperature.

A hot water system can be automated to switch off when not required, such as when the homeowner is on holiday. Solar systems can be controlled so they do not require heat boosting during summer months.





estates, as the use of conventional electrical geysers will not be allowed to be installed. This is in line with current Eskom requirements and our green homes initiative. Homeowners are not however limited to one product although the developers will endeavor to source certain recommended units at a reduced price for the homeowners. Instantaneous Gas Geysers (also known as Tankless Water Heaters) units are designed to be highly efficient and only heat water when it's needed, a revolutionary advantage over inefficient tank-style water heaters/geysers. Tankless water heater technology will supply endless amounts of hot water to your lifestyle demands with up to 40% energy savings with a tankless water heater/geyser. These units can be used as a secondary heat source for solar geysers, eliminating the need entirely of costly electricity as a back-up heating source. From an aesthetic point of view split solar geysers units are mandatory. This means that the solar panel that heats water is separate from the geyser. This allows the homeowner to place the low profile panels unobtrusively on the roof while placing the bulky geyser within the roof void. If planned correctly the water or glycol will circulate through convection and no pump will be necessary. A pump is however recommended in the unlikely event that there is total cloud cover for an extended period of time. For aesthetic reasons it is also a requirement that any visible solar panels and frames as well as geysers are powder coated in a charcoal colour or to match the roof. This is to avoid glare and minimize the aesthetic impact.

Underfloor Heating

Gas or solar heated underfloor heating is mandatory on all of the [REDACTED] as the use of conventional electrical underfloor heating will not be allowed to be installed. The use of gas and Solar heated underfloor heating has several benefits. In addition to saving on electricity bills and reduction in electrical demands, the owner also has a permanent hot water supply to heat the home which is not reliant on Eskom. Underfloor heating is achieved through the circulation of hot water through piping installed in the floor. This can be controlled through the use of valves and pumps to heat individual rooms or the entire house and can even be linked to a home automation system which will monitor the temperature, activate the pumps and open and close valves to maintain the desired environment in the home. Obviously the electrical cost savings are substantial as the only power required is for the pump and the control of the gas.

20. General

These building, landscaping, I.T and sustainable housing guidelines are to be read in conjunction with the Agreement of Sale between the homeowner and the developer and the constitution of the Home Owners Association including any amendments thereto. Even if a homeowner may have complied with these set out guidelines, the development company will have the absolute discretion to reject any plans which do not, in its sole discretion embody the spirit of what is intended for the built environment in the estate. The Aesthetics Committee will in its absolute discretion, be entitled but not obliged to waive any of these guidelines but any waiver granted shall not constitute a precedent which will automatically be applicable to any other homeowner(s). Homeowners must be members of the Home Owners Association. During the development period, the developer shall be entitled in its absolute discretion to amend these guidelines from time to time. Should at any time any disputes arise relating to the application or implementation of these guidelines the Aesthetics Committee and or the development company's decision shall be final and binding on the parties concerned. These guidelines may not be amended by the Home Owners Association in future without the development company's written consent.



Guidelines

Checklist for Building Approval

Note: This checklist serves as a guide as to the information that the Aesthetics Committee requires and will assist the applicant and the Aesthetics Committee in the speedy approval of plans. This information is to be submitted with stage 1 & 2 applications.

1. The Site	YES	NO	Notes
Contours _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Final levels after construction, max 1m cut and fill _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Maximum building height (12m incl. roof) _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
First floor <70% ground floor _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Large roofs to be fragmented _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building lines:			
<i>Waterfall Equestrian Estate:</i>			
Fence line: 3.5m _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Street: 23.5 m South entry build to line _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
43.5 m North entry build to line _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Side: Aggregate of 25m, minimum of 10m _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Midblock: 10m single storey _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
15m double storey _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
<i>Waterfall Country Estate:</i>			
Street: 3m to garage _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
5m to house _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Side: Aggregate of 6m, minimum of 2m _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Midblock: 3m single storey _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
4m double storey _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
<i>Waterfall Country Village:</i>			
Street: 2m to garage _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
3m to house _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Side: Aggregate of 4m, minimum of 1.5m _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Midblock: 2m single storey _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
3m double storey _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Screen wall max 30% of boundary length _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Building inside building lines _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Site plan: Building lines _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Servitudes _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Extent of buildings _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
Floor levels incl. a datum height _____	<input type="checkbox"/>	<input type="checkbox"/>	_____

2. Land Use and Coverage

Attic loft - wall plate max 9m above ground level (8.1) _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
<i>Waterfall Equestrian Estate:</i>			
Maximum coverage of 8% of erf size _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
<i>Waterfall Country Estate/Waterfall Country Village:</i>			
Maximum coverage of 50% of erf size _____	<input type="checkbox"/>	<input type="checkbox"/>	_____

3. Landscape Plan

Site clearing to be minimized, 1m cut and fill max _____	<input type="checkbox"/>	<input type="checkbox"/>	_____
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	YES	NO	Notes
Tree felling - tree types: Alien invaders _____	<input type="checkbox"/>	<input type="checkbox"/>	
Other than alien _____	<input type="checkbox"/>	<input type="checkbox"/>	
Landscape features to be submitted for approval: _____	<input type="checkbox"/>	<input type="checkbox"/>	
Pergolas _____	<input type="checkbox"/>	<input type="checkbox"/>	
Screen walls _____	<input type="checkbox"/>	<input type="checkbox"/>	
Features: Water features _____	<input type="checkbox"/>	<input type="checkbox"/>	
Focal points _____	<input type="checkbox"/>	<input type="checkbox"/>	
Natural rocks (no artificial rock) _____	<input type="checkbox"/>	<input type="checkbox"/>	
Fencing: Fencing _____	<input type="checkbox"/>	<input type="checkbox"/>	
External walls _____	<input type="checkbox"/>	<input type="checkbox"/>	
Painting - exterior _____	<input type="checkbox"/>	<input type="checkbox"/>	
Painting - internal _____	<input type="checkbox"/>	<input type="checkbox"/>	
Berms - for shelter and privacy _____	<input type="checkbox"/>	<input type="checkbox"/>	
Laun - keep to minimum: _____	<input type="checkbox"/>	<input type="checkbox"/>	
Buffalo _____	<input type="checkbox"/>	<input type="checkbox"/>	
Kwek _____	<input type="checkbox"/>	<input type="checkbox"/>	
Kikuyu _____	<input type="checkbox"/>	<input type="checkbox"/>	
Gulf green _____	<input type="checkbox"/>	<input type="checkbox"/>	
Planting: _____	<input type="checkbox"/>	<input type="checkbox"/>	
Indigenous plants as far as possible _____	<input type="checkbox"/>	<input type="checkbox"/>	
Exotics near entrance of houses, veranda _____	<input type="checkbox"/>	<input type="checkbox"/>	
pools and pergolas _____	<input type="checkbox"/>	<input type="checkbox"/>	
No pools _____	<input type="checkbox"/>	<input type="checkbox"/>	
Plant suitability _____	<input type="checkbox"/>	<input type="checkbox"/>	
Landscape layout (required for stage 2): _____	<input type="checkbox"/>	<input type="checkbox"/>	
Is plan clear and to correct scale _____	<input type="checkbox"/>	<input type="checkbox"/>	
Are items clearly identified and described: _____	<input type="checkbox"/>	<input type="checkbox"/>	
Painting _____	<input type="checkbox"/>	<input type="checkbox"/>	
Stepping stones _____	<input type="checkbox"/>	<input type="checkbox"/>	
Plant material _____	<input type="checkbox"/>	<input type="checkbox"/>	
Features _____	<input type="checkbox"/>	<input type="checkbox"/>	
Fencing _____	<input type="checkbox"/>	<input type="checkbox"/>	
Design sustainability: _____	<input type="checkbox"/>	<input type="checkbox"/>	
Indigenous _____	<input type="checkbox"/>	<input type="checkbox"/>	
Exotic _____	<input type="checkbox"/>	<input type="checkbox"/>	
Privacy between houses _____	<input type="checkbox"/>	<input type="checkbox"/>	
Have views been taken into account _____	<input type="checkbox"/>	<input type="checkbox"/>	
Balance and scale of landscape and _____	<input type="checkbox"/>	<input type="checkbox"/>	
buildings _____	<input type="checkbox"/>	<input type="checkbox"/>	

4. Building Form

Maximum 2 storeys in height above NGL (8.1) _____	<input type="checkbox"/>	<input type="checkbox"/>	
Maximum height restriction - 12m _____	<input type="checkbox"/>	<input type="checkbox"/>	
Garage - 2 storeys _____	<input type="checkbox"/>	<input type="checkbox"/>	
Levels _____	<input type="checkbox"/>	<input type="checkbox"/>	
No columns, piers or similar to support house _____	<input type="checkbox"/>	<input type="checkbox"/>	
Respond to contours - step with slope _____	<input type="checkbox"/>	<input type="checkbox"/>	
Rectangular or square forms _____	<input type="checkbox"/>	<input type="checkbox"/>	
Privacy of adjoining properties' views _____	<input type="checkbox"/>	<input type="checkbox"/>	
Columns as per design guidelines _____	<input type="checkbox"/>	<input type="checkbox"/>	

	YES	NO	Notes
Window forms _____	<input type="checkbox"/>	<input type="checkbox"/>	
Window positions _____	<input type="checkbox"/>	<input type="checkbox"/>	
5. Colour _____	<input type="checkbox"/>	<input type="checkbox"/>	
Selection from approved colour palette (on CD) _____	<input type="checkbox"/>	<input type="checkbox"/>	
Sample colour swatches required for approval with _____	<input type="checkbox"/>	<input type="checkbox"/>	
submission _____	<input type="checkbox"/>	<input type="checkbox"/>	
6. Construction and Materials _____	<input type="checkbox"/>	<input type="checkbox"/>	
Roofs: _____	<input type="checkbox"/>	<input type="checkbox"/>	
Roofing type and colour _____	<input type="checkbox"/>	<input type="checkbox"/>	
17.5° - 45° Pitch (lean-to min 7°) _____	<input type="checkbox"/>	<input type="checkbox"/>	
Flat roofs max 30% - stone chip/tile _____	<input type="checkbox"/>	<input type="checkbox"/>	
Variation of roof's required _____	<input type="checkbox"/>	<input type="checkbox"/>	
Closing roof ends , barge boards, fascias etc. _____	<input type="checkbox"/>	<input type="checkbox"/>	
External walls: _____	<input type="checkbox"/>	<input type="checkbox"/>	
No prefabricated walling system _____	<input type="checkbox"/>	<input type="checkbox"/>	
Must follow contours and be stepped evenly _____	<input type="checkbox"/>	<input type="checkbox"/>	
Site walls and fences _____	<input type="checkbox"/>	<input type="checkbox"/>	
Materials allowed - plaster, stone, timber, brick _____	<input type="checkbox"/>	<input type="checkbox"/>	
Min 30% of length of site boundary to be solid _____	<input type="checkbox"/>	<input type="checkbox"/>	
Wall to compliment house _____	<input type="checkbox"/>	<input type="checkbox"/>	
fenestration doors and shutters: _____	<input type="checkbox"/>	<input type="checkbox"/>	
Windows and doors: _____	<input type="checkbox"/>	<input type="checkbox"/>	
Wood - treated _____	<input type="checkbox"/>	<input type="checkbox"/>	
Wood - painted _____	<input type="checkbox"/>	<input type="checkbox"/>	
Aluminium - powder coated/ anodised _____	<input type="checkbox"/>	<input type="checkbox"/>	
Window proportions - vertical expression _____	<input type="checkbox"/>	<input type="checkbox"/>	
No u/n blocks allowed _____	<input type="checkbox"/>	<input type="checkbox"/>	
Horizontal slatted garage door type - timber _____	<input type="checkbox"/>	<input type="checkbox"/>	
(aluminium or steel if approved) _____	<input type="checkbox"/>	<input type="checkbox"/>	
Large window openings to be recessed _____	<input type="checkbox"/>	<input type="checkbox"/>	
No external burglar bars allowed _____	<input type="checkbox"/>	<input type="checkbox"/>	
Boarded or louvered timber shutters preferred _____	<input type="checkbox"/>	<input type="checkbox"/>	
aluminium allowed (approved colour) _____	<input type="checkbox"/>	<input type="checkbox"/>	
Chimneys to compliment the main structure _____	<input type="checkbox"/>	<input type="checkbox"/>	
Pergolas: _____	<input type="checkbox"/>	<input type="checkbox"/>	
Timber _____	<input type="checkbox"/>	<input type="checkbox"/>	
No corrugated or sheet metal on pergola's _____	<input type="checkbox"/>	<input type="checkbox"/>	
Soil and waste pipes to be concealed in ducts _____	<input type="checkbox"/>	<input type="checkbox"/>	
- not visible - ducts to not project beyond wall line _____	<input type="checkbox"/>	<input type="checkbox"/>	
Gutters and down pipes to be unobtrusive _____	<input type="checkbox"/>	<input type="checkbox"/>	
Visible skylights not allowed on flat concrete roofs _____	<input type="checkbox"/>	<input type="checkbox"/>	
Visible solar panels require detail approval _____	<input type="checkbox"/>	<input type="checkbox"/>	
Balustrade - detail approval required _____	<input type="checkbox"/>	<input type="checkbox"/>	
Colour scheme _____	<input type="checkbox"/>	<input type="checkbox"/>	
Laundry, gas and refuse areas to be enclosed _____	<input type="checkbox"/>	<input type="checkbox"/>	
No visual TV aerials or dishes on roads _____	<input type="checkbox"/>	<input type="checkbox"/>	
No awnings allowed _____	<input type="checkbox"/>	<input type="checkbox"/>	

YES NO Notes

7. Driveway _____

Paving type and design: _____

External _____

Internal _____

8. Storm Water _____

Layout or disposal system to accompany plans _____

9. Pools and Fences _____

Pool fence design to be submitted (to comply with _____ National Building Regulations). _____

10. Sustainable Communities _____

The site allows for good solar access. _____

The character of surrounding streetscape has _____ been addressed. _____

Sustainable landscaping and plant selection _____ has been included. _____

Biodiversity impacts on the site have been addressed. _____

Noise issues around the home have been addressed. _____

Erosion and sediment control on the site has _____ been addressed. _____

11. Passive Design _____

The main living areas are orientated north to _____ maximise winter sun and minimise summer sun. _____

Rooms are zoned or grouped and divided up as _____ needed for economical heating and cooling. _____

The house is in a suitable location to avoid over- _____ shadowing problems from neighbouring buildings. _____

Eaves or other shading devices have been used to _____ provide shading from summer sun and allow _____ winter sun to enter. _____

Windows located on the east or west have been _____ avoided or minimised and provided with adequate _____ shading. _____

Windows and doors are located to get good natural _____ cross ventilation and ventilate bathrooms and _____ uel areas. _____

Windows are located and sized appropriately to _____ provide natural daylight and winter sun pen- _____ tration while avoiding summer overheating. _____

Maximum insulation has been provided in the _____ roof, walls and floor. _____

There is appropriately designed thermal mass _____ internally to moderate indoor air temperatures. _____

YES NO Notes

Ceilings are high enough to accommodate ceiling _____ fans. _____

12. Materials Use _____

Materials used have low environmental impact _____ and/or embodied energy. _____

Recycled materials or materials with recycled _____ content have been included. _____

Local Materials and suppliers have been included. _____

Building materials and appliances are durable _____ and low maintenance. _____

Materials are designed efficiently to minimise _____ waste and are designed for recycling, re-use and _____ or disassembly. _____

Materials have been included that moderate _____ indoor temperatures -thermal mass- and improve _____ indoor air quality. _____

Light and dark coloured materials have been _____ included to reflect and absorb heat as appropriate. _____

13. Energy Use _____

Draughts and air leaks have been adequately sealed. _____

Heating and cooling systems are energy efficient _____ and appropriately sized. _____

The amount of lighting has been minimised and _____ is energy efficient. _____

Appliances (kitchengoods, TVs, DVDs, computers _____ etc) are energy efficient. _____

Solar hot water has been included. _____

The hot water system has been sized appropriately _____ for the number of occupants and is a split system. _____

Renewable energy sources (such as PV) have been _____ included. _____

14. Water Use _____

Taps, hot water systems and other appliances are _____ water efficient. _____

Hot water pipes are insulated and lengths of pipes _____ kept to a minimum. _____

Outdoor surfaces and vegetation to retain water _____ have been included. _____

Outdoor areas with water retaining finishes and _____ vegetation are being appropriately considered to _____ ensure no detrimental impacts from construction _____ ie. compacted grass areas. _____

Greywater recycling systems have been considered. _____

Low water use toilets have been considered. _____

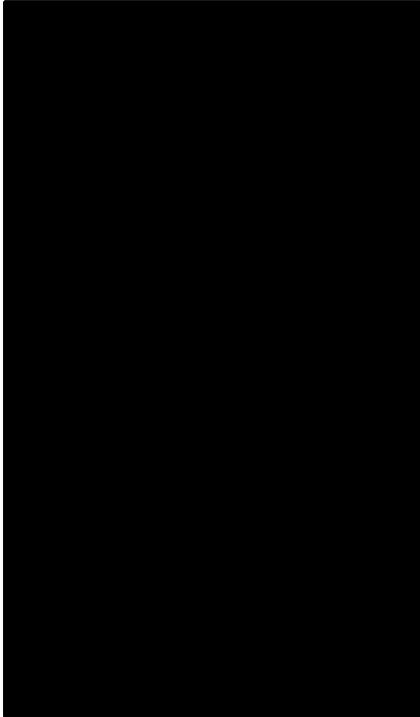


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*Architectural & Landscaping
Guidelines*

Version 1.2 – September 2014

*This document must be consulted prior to commencing with the design
of any property improvements or building proposals.*

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1. DEFINITIONS

Please refer to definitions contained in the Memorandum and Articles of Association read in conjunction with the conduct rules. This information can also be found on the CD or at [REDACTED]

2. INTRODUCTION

Welcome to another signature lifestyle estate by Century Property Developments.

The purpose of these guidelines is to inform homeowners and their architects and builders of the aesthetic, building and landscaping requirements for the estate and to provide information relating to the procedure to be followed in order to obtain the necessary approval from the Aesthetics Committee for all buildings and structures to be erected on each stand and any alterations and additions thereto.

Covering an area of approximately 473 Hectares, [REDACTED] is located in a magnificent natural landscape with rolling hills and a rural, bushveld feel. The estate is divided into two distinct areas, the standard residential stands, comprising of 800 generous residential stands of approximately 700m², and an additional 17 stands of approximately 3000m² and the Eco Village, which is comprised of 61 generous residential stands all which have a maximum of developable footprint of 1000m² each. It is, however, envisaged that the estate will be extended with future residential phases.

When designing their houses, or any other structures on their erf, homeowners are required to make use of a registered, practicing, Architect (i.e. professional architects with a university degree "Pr Arch") and may not use any technician, draughtsperson, design or drafting bureau for the design of their house.

In terms of new government legislation, SANS 10400 - Section A19, homeowners are required to employ the architect for the full architectural service, which includes full site supervision. Alternatively, the legislation allows for a registered project manager to be retained for the site supervision. A list of preferred architects and builders will also be made available. This will ensure a professional product that is both in keeping with the aesthetic guidelines of the Estate, and of the highest standard.

While it is preferred that the Homeowner use an architect from the approved architectural panel, should the homeowner have a prior relationship with a specific, registered architect or architectural practice they may approach the aesthetics committee and apply for them to be approved. All applications must be accompanied by a company CV. Further information on this process can be found in section 31, Architects, Contractors and Construction Management.

A unique element of this development is that the architectural guidelines have been shaped with the intent to create an estate in which the architecture or the traditional Highveld farmhouse vernacular responds to climate and the environment whilst embracing the use of construction materials in their raw form. The objective of the guidelines is to achieve the following:

- To create an aesthetically appealing built environment whilst preserving the rural ambience and sense of place of [REDACTED]
- To ensure the integration of [REDACTED] with its immediate environment as well as the larger agricultural area around it.
- Enhance the agricultural sense of place through interpretation of traditional Highveld farmhouse vernacular
- Ensure that homes are energy efficient, thereby ensuring that the overall carbon footprint of the estate is kept to a minimum.
- Ensure harmonious and attractive streetscapes through attention to the exterior detail and architectural language of the houses
- Create an outwardly focussed, socially sensitive, built environment, while retaining the residents' sense of privacy where required
- Mitigate possible negative impacts of buildings on the adjoining properties

It is the developer's intention that, as with our previous award winning estates, this estate will be seen as both a landmark and a benchmark for all residential developments in South Africa for years to come. With this in mind we have an opportunity to create an iconic estate with a uniquely South African architecture, in harmony with the environment, embracing natural materials in their true form, and responding effectively to the Highveld climate.

It is intended that these guidelines will allow for a fairly broad range of personal choice in the external appearance of the individual houses, while still embracing the farmhouse vernacular.

The overall character of the development will still be identifiable through the use of certain unifying external elements such as chimneys, boundary walls, roof coverings, external wall finishes and colours etc. The nature of the landscaping will also contribute meaningfully to this objective, thereby ensuring long term property values for homeowners.

The primary function of these guidelines are to ensure that the value of the estate and the houses therein is preserved and enhanced while still allowing individual homeowners to express their personal needs and preferences within the overall aesthetic framework.

3. TOWN PLANNING CONTROLS

The Town Planning Controls applicable to all stands in [REDACTED] are contained in the Conditions of Establishment which were issued by the Local Authority on approval of the Township.

3.1 Land Use Rights

The Land Use Rights are defined in terms of the Peri-urban Areas Town Planning Scheme 1975. The primary development right for all properties zoned "Residential 1" is a single dwelling house at a maximum density of 1 dwelling unit per stand. Stands zoned "Residential 1" may only be used for residential purposes.

3.2 Consolidation and Subdivision

No stand may be subdivided.

Eruen may be consolidated with prior written permission from the developer and the approval of the City of Tshwane Metropolitan Municipality, in which case the owner will be liable for the combined levy pertaining to each original stand. Levies for the second stand will, however, receive a 30% discount. Therefore, for two consolidated stands a factor of 1.7 would apply to the overall levy.

3.3 Height

2 (two) Storeys (May be rezoned to 3 stories in the case of a loft or basement on approval from the Aesthetics Committee).

Towers, agricultural features and basements which are not designed for living, working, sleeping, or storage purposes shall not be regarded as storeys for the purposes of the scheme.

3.4 Maximum Coverage

The maximum coverage of all roofed buildings is expressed as a percentage of the total area of the stand and is as follows:

- Extension 3 (Eruen 1 - 62 & 64 - 245)
 - Single storey dwellings - 50% of stand area
 - Double storey dwelling - 50% of stand area
- Extension 4 (Eruen 252 - 486)
 - Single storey dwellings - 50% of stand area
 - Double storey dwelling - 50% of stand area
- Extension 5 (Eruen 497 - 730)
 - Single storey dwellings - 50% of stand area
 - Double storey dwelling - 50% of stand area
- Extension 6 (Eruen 734 - 839)
 - Single storey dwellings - 50% of stand area
 - Double storey dwelling - 50% of stand area
- Extension 6 (Eruen 840 - 901) (Eco-Village)
 - Single storey dwellings – footprint area: Maximum 1000m² (Coverage 100% of footprint)
 - Double storey dwelling - footprint area: Maximum 1000m² (Coverage 100% of footprint)

Architectural and Landscaping Guidelines

Council regulations require that the roof overhang is not permitted past the Erf Boundary.

Audit of boundary pegs must be done by a registered Land Surveyor and be submitted before a completion Certificate can be issued.

Boundary pegs must remain visible at all times during construction.

3.4.1 The following will be included in the maximum coverage ratio:

- Covered verandas and patios
- Garages and staff quarters
- Conservatories

The first floor area may not exceed 70% of the ground floor area.

Double volume areas and staircases are to be included in the first floor calculations.

3.5 Floor Space Ratio (FSR)

A maximum FSR of 1.5 applies to each stand in Estate. This is the total area of all roofed buildings divided by the total area of the stand and is often referred to as bulk.

The following will be included in the FSR calculation:

- Garages and outbuildings
- Staff quarters
- All enclosed abutments – Patios, conservatories, verandas and balconies.
- Lofts

3.6 Building Restriction Lines

The building restriction lines are defined in the Conditions of Establishment and are as per the City of Tshwane Metropolitan Municipality. They may, with the exception of the street boundary, be relaxed to the following minimum dimensions with consent from the Aesthetics Committee, the affected neighbours and the Local Authority.

The Generic building lines are:

- Side Boundaries 3m (May be relaxed to 2m on non-servitude boundary)
 - Midblock boundaries 3m (May be relaxed to 2m for a single storey structure on non-servitude boundary)
 - Street Boundaries 5m (May be relaxed to 2m to garage and 3m to house)
- Walled yards may be on boundaries but should be preferably set back 3m to ensure continuity of open space between houses.
- Swimming pools may not be constructed closer than 2m to any boundary.

Architectural and Landscaping Guidelines

Conditions of title state:

"An erf shall be subject to a servitude 3m wide for municipal services (water, sewer, electricity and storm water) in favour of the local authority, along any two boundaries, excepting a street boundary and in the case of a panhandle erf, an additional servitude for municipal purposes, 2m wide over the entrance position of the erf.

No buildings or other structures may be erected within the aforesaid servitude area and no trees with large roots may be planted within the area of such servitude or within a distance of 2m from it."

In line with the principles of privacy and good neighbourliness the Aesthetics committee may, at its discretion, reject the relaxation application without recourse.

It is important to check the combined services layout scheme as contained on the Estate CD, as well as the SG Diagram and Title Deeds to ensure that the Homeowner and architect are familiar with any services and servitudes running through the individual stands. Final positions of all manholes, kerb inlets, electrical kiosks, etc. must be physically checked on site to ensure that they are as per the service drawings. The developer shall not be held responsible for any deviation in terms of the final position of these services.

3.7 Second Duellings

No second dwelling is allowed at [REDACTED] in terms of the approved town planning scheme.

3.8 Staff Quarters and Outbuildings

Staff quarters are allowed. If, however, these quarters contains a kitchen it will be viewed by the Local Authority as a separate dwelling.

Outbuildings may not be larger than 20% of the area of the main dwelling or 80m², whichever is the larger.

A garage is classed as an outbuilding, as is a separate roofed gazebo or barbeque.

Outbuildings may be attached, freestanding or semi-attached to the main building by means of a link veranda or pergola.

No garage or outbuilding may be double storey unless linked to the main dwelling.

Outbuildings will form part of the coverage and the bulk (FAR) calculations.

4. AESTHETIC CONCEPT

The design of houses throughout the estate should be in response to the unique South African climate and lifestyle. Homeowners will have the freedom to create unequalled and diverse homes, which will be in keeping with the proposed theme of the estate, while still achieving energy efficiency and minimizing environmental impact. Within this

specified formula the use of various raw materials will be encouraged, with a focus on stone, brick, wood and glass.

It is our hope that this development will create a truly unique and climatically appropriate style that is honestly South African and particularly relevant to the region of Gauteng and our world-renowned climate, where it's warmer outside in winter, the sun shines all year round and the temperature can fluctuate by 20 degrees Celsius in one day. Thus material choice is critical to ensure low running costs through passive heating and cooling of the building.

We also have a unique lifestyle that requires an appropriate architectural response. We envisage both classical and contemporary interpretations of these 'farmhouses', 'sheds', 'barns' and 'manor houses' that respond not only to the broader context, but also to the individual site and the estate as a whole. We envisage simple, honest structures, with good indoor-outdoor flow, at home in their surroundings and sympathetic to the climatic conditions of the area.

Emphasis should be placed on excellent proportions, scale and the inter-relationship between architectural and structural elements to the landscape and context. The aesthetic of this estate should be refined through excellence in detailing and execution. Simplicity of form requires excellent detailing and construction quality as well as thoughtful resolution of the interrelation of forms, materials and spaces. Materials should be chosen for their ability to improve with age. The estate and each of its residences should be seen as an example of excellence in 'Highveld' design, exclusivity and desirability, tastefulness and authenticity. The homes on this estate should set a precedent for all future developments in this country, and be unparalleled in both South Africa and the world for many years to come. This estate should be an embodiment of our South African Lifestyle, past, present and future.

The design of the house must take into account its immediate surroundings as well as the greater environment and should, from the outset, endeavour to be sustainable and eco-friendly where possible. This can be achieved by making the house thermally efficient, using solar geysers and panels, energy efficient lighting, and low consumption fittings and appliances. Building a home using good design principles will save energy, water, be more comfortable to live in, and have long term cost benefits for the end user in addition to benefiting the environment as a whole. Please consult the sustainable housing guidelines or our recommended book list (annexure D) for more information.

It is important that all homeowners embrace the vision for the estate and it is vital that they work together with and support the developer and architect appointed to scrutinise the plans in implementing these guidelines. It should be borne in mind that we should strive to create an environment in the estate where the whole is greater than the sum of the parts and in so doing homeowners may need to make compromises for the benefit of all.

5. ARCHITECTURAL CHARACTER AND DESIGN GUIDELINES

5.1 Introduction

The primary function of these guidelines are to ensure that the value of the estate and the houses therein is preserved and enhanced, while still allowing individual homeowners to express their personal needs and preferences within the overall aesthetic framework.

Typical Elements of the genre include:

- Vertically Proportioned windows
- Pitched roofs
- Extensive use of verandas
- Vertical slatted doors
- Shutters
- Red face brick
- Natural dry packed stone
- Ship lapped cladding

A contemporary architectural interpretation of the guidelines is encouraged, with the emphases on simplicity, scale, proportion, and refined detail.

The design guidelines are primarily concerned with the external appearance and positioning of the estate's buildings and structures. Owners are relatively unrestricted with regard to the interior layout and finishes of their homes.

The design guidelines will be strictly enforced. Any detail deviations or exceptions will have to be thoroughly motivated to the aesthetics committee who will consider any such deviation on its merits and reserve the right to reject the deviation without recourse.

It is the onus of the homeowner and architect to ensure that they are in possession of the latest set of guidelines and to familiarise themselves fully with it. Furthermore, it is the responsibility of the homeowner and architect to specifically identify any proposed non-compliance to the guidelines.

The Aesthetics Committee accepts no liability through the approval of drawings and the approval relates purely to ensuring that the building s comply from an aesthetic point of view. If any aspect of the building is in contravention of the guidelines and has not been specifically brought to the attention of the Aesthetics committee and approved as a specific item in the approval letter then that item will still be viewed as being in contravention of the guidelines, notwithstanding the approval of the drawings. In this case the Aesthetics Committee reserves the right to instruct the homeowner owner to rectify such contravention at the homeowner's cost and without recourse.

5.2 Scale and Proportion

The architecture of the estate should be harmonious and of human scale, avoiding unnecessarily large building forms. Large building forms must be broken up into

smaller, well defined components. The size, proportion and placement of buildings must take cognisance of site and environmental conditions.

The size of a house must be a minimum of 200m² and a maximum of approximately 600m² in the residential estate and a minimum of 300m² single storey and 350m² for double storey and a maximum of 1700m² in the Eco Village. This calculation includes the main dwelling, garage and outbuildings.

The maximum permissible height of any building on an erf is two storeys or 10 meters when measured from the highest point of the roof to the highest point of the natural ground level along the perimeter of the building. Chimneys are exempt from this height restriction.

Natural ground level is deemed to be the level as determined on a contour plan. Should a dispute arise relating to the determination of any natural ground level, the Aesthetics committee will be entitled to rely on the details shown on the contour plan in their possession.

An additional loft storey will be allowed in the roof void if approved by the Aesthetics Committee and Local Authority and will be subject to a rezoning application. Loft areas will be seen as a storey and must be included in the Maximum Floor area calculation.

5.3 House Forms

Building forms must be simple, rectangular or composite rectangular and frontages facing the street should be parallel to the street along the building line as far as possible. Cylindrical 'silo' forms are permitted providing that are well proportioned, not dominant and integrate well with the other buildings and structures.

Buildings must be designed to blend with their surroundings and not dominate them. As such, buildings must be stepped along slopes instead of creating platforms - being "of the hill not on the hill". They should make extensive use of verandas and pergolas.

No decorative beams, structures or double volume columns will be allowed to protrude from the exterior of the house. Double volume porte-cochères or entrance columns are specifically excluded.

The maximum permitted building width of a single storey gable, or equivalent, is 8.0 meters and of a double storey gable, or equivalent, is 7 meters. This may be relaxed at the discretion of the Aesthetics Committee.

Maximum permitted width under a lean-to roof with parapets must not be more than 2/3 the width of the adjacent gable. Outbuildings must be of the same form as the house if they are freestanding.

5.4 External walls

External walls must be finished using a combination of approved materials as per 5.4.1 below.

All specifications, including samples where required, must be submitted to the Aesthetics Committee.

No type or form of un-plastered brick will be permitted on external walls as the dominant feature of the house but may be used for decorative purposes at the discretion of the Aesthetics Committee. A maximum of 40% of face brick will be permitted on the exterior of the house. Two-tone face brick work and yellow face brick work is specifically excluded. If face brick is to be used then flush joints are recommended.

Natural stone can be used to add warmth and depth to the design, especially in the form of founding or feature elements e.g. Chimneys, Columns, Bases and retaining walls. "Dry packed" or stacked stonework is preferred to riven walling as it is more in keeping with the rustic aesthetic. NO fake stone or concrete/fibreglass facings will be allowed.

Horizontal string courses and simple plaster or timber surrounds to openings are permitted, but no multiple corbelling, quoining, rustication or decorative mouldings will be permitted on any part of the building, boundary wall or outbuildings.

The developer reserves the right to specify the style, detail, and finish of the boundary wall in certain areas e.g. Main Boulevards. In the event that this becomes necessary, all details and specifications will be issued to the Homeowner's architect by the Aesthetics committee and the building of these walls to the approved detail will be strictly enforced.

5.4.1 Recommended Wall Finishes

- Natural 'Dry Packed' Stone
- Smooth Plaster
- Textured or scratched plaster, painted, or with tinted finish e.g. Marmoran
- Timber Plank or Everite fibre cement building planks – only Horizontal Shiplap style is permissible
- Corrugated metal if combined with the same corrugated metal roof – Maximum 50%
- Facebrick in red colour e.g. Corobrick Country Classic, Roan Satin or similar approved – sample to be provided (Max 40% of elevations)
- Combination of plaster and planking finish – subject to approval

5.4.2 Wall Colours

All exterior paint colours must be chosen from the approved colour palette for walls, doors and windows. The principal external paint colour may not be white. Any deviation from the approved colour palette will require specific approval from the aesthetics committee who will require a sample for approval. The colour palette will be included in the guideline annexures.

6. ROOFS

All major plan forms must be roofed. Roofs must be dominantly pitched in form and be between 30 to 45 degrees, in traditional styles – simple double pitched, pyramid, hipped and half-hipped. Roof pitches must be consistent. Peaks must be symmetrical. Flat or

lean-to roofs with a pitch of 5 to 15 degrees are acceptable provided that they do not exceed a maximum of 30% of the total roofed area. An extra allowance will be made for open lean-to verandas. The same material must be used on all pitched roofs, with the exception of slate and grey Chromadek sheeting, malthead shingle tiles, or similar, which may be mixed. Sections which have a pitch of less than 5 degrees and are constructed in concrete shall be finished with pebbles or stone chips up to a thickness of no less than 50mm.

Lean-to roofs must abut the wall of a pitched roof and not exceed 6 meters or 2/3 of the gable width, whichever is the lesser. Roofs must coincide with plan elements.

6.1 Approved Roof Coverings are restricted to the following:

- Corrugated Metal Sheeting – Chromadek or similar (Buffalo Brown, Kalarari Red, Sandstone Beige, Gemstone Sand, Dove Grey or Dark Dolphin colours) additional colours may be approved at the total discretion of the Aesthetics Committee.
- Slate tiles – Mazzisa or similar (Blue Grey, West Country or Matt Black colour)
- Concrete Roof Tiles (Flat profile only) - Monier Couerland "Elite", Monier Couerland "Perspective", Infracel "Horizon" standard colour range (excluding red, terracotta and dolomite) and vintage colour range (excluding red, terracotta and dolomite). No verge tiles will be permitted. No multi blends will be permitted.

Corrugated sheeting is, however, recommended as this material best fits the architectural style. The sheeting must be colour baked and may not be painted on site.

A sample or specifications, including the profile, must be submitted to the architect for approval prior to the commencement of the laying thereof. All houses are required to have eaves, both for aesthetic reasons, as well as in response to the climate as an aid to passive design requirements. Eaves may be of the open or closed type but overhangs should project at least 700mm and a minimum of 400mm over gable walls.

Chimneys and roof structures must complement the main structure.

Any roof mounted air conditioning units e.g. Breeze Air must be hidden within the roof structure or housed in a roof lantern/ridge ventilator.

If possible solar panels should not be visible from the street and must be integrated into the overall design aesthetic. The panels must be mounted flush on the roof and the gutters are to be housed in the roof void or cupboard and may not be external.

Seamless aluminium or Chromadek gutters and downpipes are recommended. These should be in an egee pattern and must match the colour of the roof.

No variations to these restrictions on roof coverings will be permitted under any circumstances. The development company reserves the right to demand the removal of any roof covering that is in contravention of the guidelines, or impose fines of up to R10 000.00 per month if not removed. These fines form part of the levy and will be due and payable on the first day of the next month the fine is imposed.

7. WINDOWS

All window openings are to have a vertical form in keeping with the historical proportions of the Highfield farmhouse vernacular.

Window frames and panes are to be rectangular with a dominant vertical proportion of at least 1:1.2, but 1:1.6 is recommended.

Small windows can be square but may not exceed 900x900mm.

The proportion, style, and material of the windows selected should be consistent throughout all the buildings on the erf.

Reflective, coloured or heavily tinted glazing or film will not be allowed.

The use of glass blocks is also strictly prohibited.

7.1 Window Placement

Windows on all elevations must be carefully thought out and proportioned so that no elevation is left blank or with unbalanced openings.

Each elevation must have a minimum of 10% fenestration.

All windows and openings must be taken into account in the overall passive design of the house and excessively large glazed areas are to be avoided.

Windows should generally be:

- Taller on the ground floor and shorter on the first floor.
- The same height at the same level throughout the same storey.
- Of the same width in vertical succession and line up above one another.
- Should not be placed closer than 690mm from an external corner of the building.

In the creation of large glazed areas, vertically rectangular windows should be joined together.

7.2 Window Types and Materials

Window frames must be constructed from natural hardwood, painted or treated, or powder coated aluminium to approved colours.

Steel windows are not permitted.

PVC windows are permitted with the approval of the Aesthetics Committee.

Window types should generally be:

- Side hung casement.
- Vertical sash or mock sash
- Outwardly opening top or bottom hung windows
- Horizontal sliding with dominant vertical proportion

Where bay windows are used these should not exceed an overall width of 2.4 meters and a depth of 0.9 meters. They must be in sections, with dominant vertical proportions. Oddly shaped or proportioned windows e.g. triangular are not allowed.

7.3 Maximum window and Door Areas

Windows and doors should form individual openings in the dominant wall plane and may not exceed a maximum of 70% of the wall area of each elevation.

7.4 Dormers and Skylights

Dormer windows will be subject to approval by the aesthetics committee. They should have dominant vertical proportions and should be no wider than the window width with its trim. Skylights are also subject to approval. They must be traditional in terms of style, size and proportions with flat glass recommended and must be set in the plane of the roof.

7.5 Shutters

Shutters are encouraged, but must be traditional style and must be functional. They may be internal or external and should be constructed of natural, painted hardwood or powder coated aluminium.

For security purposes, roller shutters are permitted but these should be completely built into the wall and not exposed. An internal installation is preferred.

7.6 Burglar Bars

External burglar bars and expanding security grids are not permitted. Internal bars should be of a simple rectangular pattern, however, clear Perspex bars e.g. Multisafe or Yalva Securbars are recommended.

8. EXTERNAL DOORS

All doors must be constructed from natural hardwood painted or treated, or powder coated aluminium to approved colours. Steel and PVC doors are not permitted. All doors are to have dominant vertical proportions. No ornate, carved doors, or doors constructed from driftwood, railway sleepers etc. are permitted. Glass door styles are to be consistent with the window styles used.

9. VERANDAS, PERGOLAS AND EXTERNAL STRUCTURES

These will be considered as coverage if less than 70% is perforated or open. Only laminated pine or treated hardwood structures are permissible if timber is used. At least 15% of the floor area of the house must be utilised as a covered veranda.

10. TIMBER DECKS

Due to the steep slopes in certain areas the use of timber decks as an extension of living areas is encouraged. These avoid the need for large-scale masonry and fill operations and make buildings "float" in the landscape.

The maximum height of decks above natural ground level is 1.5m and should be planted below. Decks should cantilever at least 500mm over support columns.

The use of well-seasoned treated durable timber for deck structures and planking is important e.g. Balau.

11. COLUMNS

Columns, piers and supports to verandas or external structures may be constructed from timber or steel sections. Round smooth tapered precast concrete columns may not be used. Simple caps, bases and brackets will be allowed. Brick columns or piers are not to exceed 460 x 460mm.

12. BALCONIES

Balconies are to be placed and designed in such a way so as not to compromise the privacy of the adjoining homes. The placement and design of balconies are subject to Aesthetics committee approval. Balconies should be accompanied by a roof or pergola.

13. BALUSTRADES

All balustrades are to comply with the National Building Regulations. Balustrade colours are to comply with the prescribed colour samples. Balustrades are to be simple and undorned. No overly ornate cast iron or wrought iron balustrades will be permitted. Precast concrete balustrades will also not be permitted.

14. CHIMNEYS

Chimney stacks may exceed the roof apex by a maximum of 1 meter. Simple clay or concrete chimney pots may be used. No ornate pots will be allowed.

15. CONSERVATORIES

A glass conservatory will be considered but will be subject to the following:

- It must be a clearly defined add-on component to the side of the building
- All walls and roof to be glass in a timber or powder coated aluminium frame
- In proportion to the building
- Not on the street boundary
- One per site

Conservatories will be included in both the maximum coverage and the bulk calculation.

16. COURTYARDS

All homes are to have a yard. These walls are to be sympathetic with the house design and positioned to conceal wash lines, refuse, storage areas and kennels.

The courtyard must make provision for at least 4 wheelite bins to enable waste recycling.

17. CELLARS AND BASEMENTS

A non-habitable, below ground cellar not exceeding 20% of the ground floor will be considered by the Aesthetics Committee if it has no external entrance. Exposed walls above ground may not exceed 800mm on street sides and 1200mm on private sides of the house.

18. GARAGES

Garages must be set back at least to the building line from the stand boundary abutting the street. While it is preferable to face them into the stand, a Maximum of two garages may face the roadway. Additional garages may, however, not face the road. These garages may have a single double door, or two single doors.

Garage doors may be of pre-painted sheet metal, Powder coated aluminium, or timber. Slatted timber doors are preferred in the architectural character of the estate. Glass panelled and excessively decorated doors are not permitted. Carports must not be of the prefabricated type and must form part of the architectural design of the residence.

19. BOATS, TRAILERS, CARAVANS AND HORSEBOXES

Boats, trailers, caravans and horseboxes must be concealed inside garages or screened from the street and neighbours. This is especially important with regards to corner stands and Greenbelt stands.

20. WENDY HOUSES, TOOL SHEDS, LAPAS

Temporary or permanent structures including but not limited to tool sheds or lapas are not permitted save for site huts during construction and only if approved beforehand by the Aesthetics Committee. No banners, flags, or shade cloth structures may be erected on the stand. Children's Wendy houses are permitted but must be painted to match the colour of the house and the roof must be the same colour as the house.

21. EXTERNAL PIPES, FITTINGS, FIXTURES & DEVICES

Aerials and satellite dishes must not be visible from the street; all residents are to make use of the fibre optic network provided. Please see the information technology section on the proposed services envisioned within the Estate. Solar panels are to be in the same plane as the roof or to be hidden from site. All Plumbing is to be bricked in and made flush against the external wall, with access panels only at the junctions. Access panels must be approximately 300 x 300mm in size and painted to match the house. Stubb stacks are to be used in favour of full height soil vent pipes. Air-conditioning / Heat Pump units or pipes may not be visible from the road or any other resident's property.

22. RETAINING STRUCTURES

No retaining wall higher than 1.5 meters is permitted. While it is recommended that retaining walls be built from natural stone, face brick or plastered brick walls are also permitted. No precast concrete retaining structures or walling systems are permitted. All

retaining walls must be designed by a structural engineer and accompanied by a structural certificate of compliance.

23. EXCAVATIONS

No development will be permitted on slopes steeper than 1:4 or below the 1:50 flood line.

As far as possible the natural ground level of each individual site is not to be disturbed or altered. All site works required for the development of the site are, as far as possible, to be confined to the footprint of the building or access to the property.

Buildings must be designed to blend with their surroundings and not dominate them. As such, buildings must be stepped along slopes.

If, however, it is impossible to keep the natural slope of the landscape and a certain amount of land forming is required, all new land forms should be designed to look as naturally part of the existing topography as possible. Care must be taken to accommodate all storm water runoff.

Cut and fill excavations should not exceed 1.5 meters on either side.

The manipulation of natural landforms is to be limited and the preservation of the natural landform by reinstating the stands is an essential principle to be strictly adhered to. The site and surrounding area shall be shaped to permit the ready drainage of surface water and to prevent ponding.

No excavation or filling of the stands may be undertaken without the permission and written approval of a detailed architectural and site development plan to the aesthetics committee. All proposed foundations or excavations for exterior buildings, patios, swimming pools and retaining walls must be certified by a structural engineer.

24. GREENBELT STANDS

Houses facing onto the greenbelt areas have a much higher visibility within the public realm and, as such, special design consideration is required for the elevations exposed to these public areas and should have a high level of quality and details consistent with the front elevation. Upgraded building materials such as stone are also encouraged.

25. CORNER STANDS

Corner stands, due to their nature, play a significant role in setting the image, character and quality of the street. Both street frontages must be addressed in a consistent manner and should incorporate ground level detailing such as porches, windows and verandas etc. which reinforce the pedestrian scale of the street. Extensive verandas are encouraged while articulated flanking elevations are required to avoid flat, blank, uninteresting facades. Upgraded building materials such as stone are also encouraged.

26. URBAN DESIGN PRINCIPLES AND CONTROLS

The urban design principles cover the interface of the private residence with the public realm and are intended to create an understated yet sophisticated ambience throughout the estate.

The elements contained in this section must be shown on the site development plan and the owner must include perspective and detail design with their submission.

26.1 Boundary Walls, Fences and Hedges

Boundary walls along or relating to street frontages are not mandatory but if constructed are subject to certain criteria. In order to create an outwardly focussed built environment while retaining the residents' sense of privacy the following guidelines apply:

Materials - Only the following materials may be used in the construction of walls and fences:

- Natural Stone
- Post and Rail Fencing (Tonolith treated; unpainted unvarnished timber, with or without galvanised square weld mesh inserts)
- Brick and smooth or bagged plaster painted as per approved colours (See annexes).
- Palisade if custom designed and made from natural timber or steel with a galvanised finish or painted in charcoal grey from the approved colour chart (See annexes)

The following are strictly prohibited:

- Precast walls
- Artificial/concrete rock
- Razor wire/barbed wire/security spikes
- Electric fences
- Prefabricated palisade fencing

26.1.1 Eriven situated within the Eco Village

Boundary Walls

No fences or walls are permitted at the Residential Eco Village

Yard Walls (Note: Yard walls are not boundary walls)

As the eriven situated within the Eco Area are not subject to building line restrictions yard walls may be erected on the boundary of an erf subject to the following conditions:

- Yard walling must be a usual extension of built forms and must have the same finishes as the house.
- Yard walls may not exceed 30% of the length of a particular boundary.
- Yard walls may not exceed a height of 2.1 metres measured from the yard floor.

- 26.1.2 Erven situated within the conventional residential estate.
- 26.2 Street Boundaries

The street boundary of a property is the most important interface with the public domain.

They following guidelines apply to all street frontages:

- The boundary wall/fence must be shown on the site development plan and be presented to the Aesthetics committee for approval prior to construction.
- Maximum height
- Solid wall – 1500mm (not more than 30% of wall length on street boundary)
- Solid Low wall – 750mm
- Stone pillar and wood railing combination – 1.5m
- Post and rail fence – 1.5m
- Hedge – 1.5m

The above measurements are to be taken from natural ground level along the perimeter of the wall.

- All Boundary walls must follow the contours and be stepped evenly.
- All brick walls are to receive concrete copings as approved.
- All dogs kept on an erf must be in an adequately contained area.

If an owner wishes to exceed the aforementioned height restrictions of the wall, hedge, or fence then it must be set back onto the house building line and must form part of the design elevation of the house.

26.3 Side and Midblock Boundaries

Internal boundary walls are not mandatory.

The maximum wall height is restricted to 2.1m

All brick walls are to receive concrete copings as approved.

All boundary walls must be constructed in accordance with SABS 0400. All wall plans must also be accompanied by an engineer's certificate and, on completion, an engineer's completion certificate is to be issued for the Aesthetic Committee's records.

All building sites are to be temporarily fenced, with a lockable gate, during construction with an approved barrier of wire mesh fencing with hessian or shade netting attached. These must be neat and well maintained for the length of the construction period.

Only a single wall/fence may be built on these boundaries. Owners are encouraged to cooperate in construction of the common wall between their properties. In the event of a

dispute the aesthetics committee will be the sole adjudicator and both owners will agree to abide by the committee's decision.

26.4 Gates

Gates must be in wood or steel in a simple design and may not be higher than the adjoining wall (See Annexures).

Vertical wooden slats in a natural or varnished finish are preferred.

Excessive ornamentation or decorative finishes are prohibited.

Driveway gates may not be higher than the adjoining wall and must be of simple design and match the garden gate.

26.5 Street Numbers

All street and house numbers must be according to approved samples by the aesthetic committee.

The lettering should not exceed 300mm. It should be in natural unfinished material and should be mounted on the wall adjacent to the gate. No other signage may be displayed on the stand.

26.6 Driveways

The design, position and materials used for driveway construction have a major impact on the public spaces. The following are guidelines for the construction of driveways.

Position: The position of driveways must be governed by the following:

- Only 1 point of access to each dwelling stand will be permitted with a maximum width of 6m at the street.
- The driveway position must be indicated on the site development plan for approval
- Road safety must be considered and should be the primary determinant of the driveway to a site
- The position of underground services, manholes and storm water inlets must be taken into account and physically checked on site to ensure that no clashes occur.
- Whenever possible adjoining stands should have adjoining driveways to ensure the maximum road reserve for the planting of trees and shrubs.

The aesthetics committee reserves the right to determine the position of all street accesses at its discretion.

26.6.1 Dimensions

The driveways may be a maximum of 5 meters wide and must be perpendicular to the street boundary.

Materials: Driveways may be constructed from the following materials:

- Brick Paving
- Concrete Paving
- Natural Stone
- Exposed aggregate Paving

Driveways shall not be constructed from asphalt, concrete interlocking, or any form of crazy, brick or stone imprint paving. Excessively coloured or patterned driveways are not permitted. A sample or specifications must be submitted to the Aesthetics Committee prior to commencement with the laying thereof.

The road paving outside the site boundary line must be done strictly in accordance with the guidelines as per the attached annexure.

26.6.2 Sidewalks

Sidewalks will be constructed on one side of certain roads by the developer. The side walk will take precedence over the driveway in that that the sidewalk must remain a continuous surface and level across all driveways.

26.6.3 Panhandle Access Routes

A number of erven have panhandle access where the following will apply:

Single Panhandle

Panhandle driveways may not be intrusive and are governed by the following rules:

- No gates onto street fronts
- The gate must be set back at the end of the panhandle nearest the house
- No structures may be erected in the panhandle

Double panhandle

These driveways are governed by the following rules:

- No gates onto street fronts
- The gate must be set back at the end of the panhandle nearest the house
- No wall or boundary structure may be built down the centre of the driveway
- A single paved surface must be constructed down the middle of the two access routes to a maximum width of 6 meters
- Appropriate planting should be undertaken to ensure harmonious integration with the streetscape
- The cost of constructing and maintaining the driveway will be apportioned equally between the owners of the paired stands.

The Aesthetics committee will be the final adjudicator in the event of dispute between owners regarding the positioning, construction or financing of the common driveway.

26.6.5 Signage

All Signage (contractor's boards etc.) must be as per the approved format (See builder's code of conduct) and only one may be mounted in front of the applicable property. All signage must be kept to standard professional boards only, no private marketing or sales boards will be allowed. No signage of any type including for sale boards etc. may be displayed on any part of the common property on the estate, or near the entrance to the estate.

27. MATERIALS

We aim to encourage the use of materials in their natural state, thereby creating a unifying element to all the homes, as diverse as we hope they will be. The quality of design and the application of these raw materials in new and relevant ways are of paramount importance to this concept. The materials that will be expressed in their natural form on the estate are as follows:

Stone: The use of natural stone can be used to give warmth and depth to design, especially in the form of founding or feature elements for example: chimneys, columns, bases and retaining walls. No fake concrete facings will be allowed.

Brick: The use of exposed brickwork is very effective in detailing arches, lintels, and edges, as well as introducing a human scale and earthy feel to larger buildings.

Plaster: Plaster whether plain or pigmented tends to improve over time with a natural patina, as well as being extremely flexible in terms of creating moulded or sculpted details. It is also useful to create contrast with the more heavily textured brick and stone elements. The plaster may be painted in a limited selection of colours chosen from the attached chart. (see point 6 under the annexure section).

Wood: Timber in its natural state lends warmth and interest in many applications, from doors and windows, to heavy beams, columns and trusses. The grain of the wood itself gives texture and life to elements and spaces. The wood may also be painted in a limited selection of colours chosen from the attached chart.

Steel: Steel allows spaces to become light and airy, especially when used in conjunction with glass. It makes it possible to span large openings and create spaces that are open and free. Steel is a modern material that can be used to create dramatic effects. It may be galvanized or painted grey.

Glass: Glass can create warmth when it's cold and provide cooling when it's hot. This is done through the use of shading and screening devices in summer, and by allowing the low winter sun to penetrate from the north in winter. It can bring the outdoors inside and can create spaces that flow. The use of glass in a home is unlimited in its application, from doors and windows, to screening devices and ventilation.

Green Materials: Please see the Sustainable Housing Guidelines as well as our recommended booklist for more information on incorporating green materials into your house designs.

28. INTERIORS

Although not specifically included in the architectural guidelines, it is our intention that the interiors will be as unique and beautiful as their exteriors, with the application of the raw materials on the inside as well.

Application of such raw materials in the interior of the home extends to the use of timber floors, steel and glass volumes, screeded surfaces and exposed brick or stone walls. This will lead to a natural transition between internal and external spaces, with indigenous gardens further enhancing the houses found throughout the estate.

We aim to encourage a fresh look at our South African climate and lifestyle in the planning and finishing of the interior spaces of the homes on this estate. It is envisioned that this flexibility and diversity of spaces and materials will create a new and lasting South African ideal.

It must be noted that the following electrical appliances are specifically excluded and the gas equivalent must be specified. A list of recommended suppliers is available in the [REDACTED]

Excluded:	Recommended:
Electrical under floor heating	<ul style="list-style-type: none"> Piped water under floor heating with a gas/solar fired boiler and insulation to underside of slab. Gas fired space heaters
Electrical Geyser	<ul style="list-style-type: none"> Gas fired instant water heater. Solar water heater.
Electrical Hob	<ul style="list-style-type: none"> Gas hob.
Electric space heater	<ul style="list-style-type: none"> Gas space heaters.

29. GARDEN LANDSCAPING AND PLANTING GUIDELINES

29.1 Introduction

The landscaping and planting of gardens is subject to certain guidelines. Landscaping is to be limited, as far as possible to indigenous species and will be done by the homeowners association on most of the common areas. While the private garden is not part of the public domain, it must be acknowledged that the diversity and structure of its flora has a major effect on its surroundings. An important aspect of the vision for this estate is to create a distinct and harmonious landscape in accordance with the architectural vernacular and to extend the framework of planting of the entrance and other sidewalks to the private garden. A recommended plant list is attached to the annexures.

We expect that the Landscaping of the stands will be considered as an integral part of these home designs and that the outdoor spaces will be as well planned and detailed as the homes themselves. The use of indigenous planting will further enhance the concept of natural materials being used to build the Estate into something original and outstanding. Considering the natural beauty of the area some homeowners may wish to

retain a portion of their stand in its natural state, however the area between the street boundary and the Dwelling must be landscaped (See attached annexure).

The sidewalk landscaping in the estate itself must conform to the guidelines and developer's existing planting scheme. A Homeowner must submit his plan, together with the building plans, prior to the establishment of any landscaping on the sidewalk adjacent to his or her stand and thereafter planting may be carried out in terms of the conditions of such approval.

The development company is entitled to determine that a Homeowner is required to landscape the sidewalk and islands adjacent to his erf and to irrigate these areas.

A landscaping design of the property must be prepared and submitted to the Aesthetics Committee with the architectural design for approval. The garden landscaping must be completed within 90 days of the issue of the Local authority's Occupation certificate. The estate completion certificate will not be issued until all landscaping is complete.

29.2 Landscape strategy

The landscape strategy is to create an environment within the estate that will maximise indigenous bio-diversity of the area and be sustainable into the future.

The strategy is founded on the following principles and practices:

- Highveld indigenous planting material is the most ecologically sustainable flora for the soil and climatic conditions of the estate and its environs.
- The estate is situated in a water deficient area and thus the conservative use of water is fundamentally important to sustainability.
- The natural sense of place is unembellished with little or no ornamentation
- Each garden is a contributor to the conservancy area of the estate in its bid to create an environment where maximum indigenous bio-diversity can exist (birds, insects, animals and plants).

29.3 Mandatory Guidelines

29.3.1 Existing trees

All existing indigenous trees on the estate with a stem diameter of greater than 100mm measured 1 meter above ground are worthy of protection and thus may not be removed without formal consent from the aesthetics committee.

All trees with a stem diameter of greater than 100mm must be clearly shown on the stand's site development plan and any interference with such trees must be minimised. Any removal of trees must be fully motivated and approved by the Aesthetics committee.

The approved removal of any tree with a stem diameter of greater than 100mm must be accompanied by a written commitment to plant two indigenous trees with a minimum size of 100 litres or to relocate the existing tree.

29.3.2 Garden Ornamentation

Artificial ornamentation such as artificial rocks, garden gnomes, overly elaborate sculptures etc. is prohibited.

29.3.3 Garden Lights

All exterior lights, whether attached to a building or free standing, must be diffuse and subdued and in addition the light source must be screened to avoid glare. The lights must be designed to prevent light pollution in such a way that direct light does not leave the property. Coloured light are prohibited. These restrictions also apply to tennis court lighting.

29.3.4 Prohibited plant species

All declared invasive alien plants listed in the Conservation of Agricultural Resources Act of 1983 and subsequent amendments may not be cultivated and the HOA retains the right to remove such plants at the cost of the owner.

29.3.5 Vacant Stands

The owner becomes responsible for his stand on transfer. The owner will keep his stand neat and tidy and free of weeds and ensure that the grass is cut regularly.

29.4 Swimming Pools and Spas

Formal pool shapes such as square, rectangular or round pools are recommended as these harmonise with the architecture. Dark coloured pools are encouraged.

Materials such as brick, natural stone, slate, timber decking, clay pavers or suitable concrete pavers or flagstones, may be used to surround pools and spas.

Pools and spas, filters and pumps are to be within the building lines. These building lines may, however, be relaxed through application to the Aesthetics Committee and any affected residents.

The top level of the pouring or pool may not be raised more than 500mm above natural ground level. Any fencing of the pool must be sympathetic to the architecture and designed accordingly.

Pumps and filters must be enclosed and screened so as to be not to be visible or audible and positioned so as not to negatively affect the neighbours.

All water emanating from swimming pools shall be discharged as required by the Local Authority and should not discharge water directly onto a street or stand.

29.5 Rainwater tanks

The installation of rainwater tanks is recommended. These tanks should be buried in the ground or if exposed, must be suitably clad to complement the architecture of the building it serves.

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29.6 Storm water Management

All landscaping plans must display what method of storm water disposal will be employed. No concentrated storm water is to be disposed of directly into neighbouring stands and must comply with National Building Regulations. Ideally storm water should be disposed of in a storm water drain, water feature, or soak pit.

29.7 Children's play areas

Children's play areas, jungle gyms, etc. must be adequately screened from streets and public areas and should conform to the use of natural materials. No CCA treated poles are allowed in the play areas due to the specific health risks associated with the arsenic and chromium preservative used.

29.8 Tennis Courts

Tennis courts are not permitted in the estate due to the limited stand size and slope.

29.9 Agricultural elements

The use of natural stone structured agricultural elements and garden furniture is encouraged to create a sense of unity and place and to complement the rural ambience.

29.10 Good neighbourliness

This is particularly important along midblock boundaries. When planting trees it is important to consider the effect the full grown tree will eventually have on neighbouring properties and to therefore ensure that appropriate species are selected.

29.11 Recommended plant list and tree policy

A recommended plant list is attached in the annexures.

The landscaping and especially the trees, due to their size, go a long way in determining the overall aesthetic ambience of an estate. With our indigenous landscaping policy we hope to reinforce the uniquely South African nature of this estate, not to mention the numerous additional advantages of planting indigenous trees such as increased bird and insect life, frost and drought resistance and general hardiness. Bird life is significantly increased through the planting of indigenous trees that have berries for food, or thorns for protection from birds of prey.

Frost resistance is another benefit of indigenous trees as they tend to be very hardy.

30. ESTATE AESTHETICS COMMITTEE

The Developer has established the Estate aesthetics committee to control the design and construction of all buildings on the estate. The main aim of the aesthetics committee is to endeavour to:

- Ensure that all buildings are designed strictly in accordance with the architectural guidelines

Architectural and Landscaping Guidelines

- Protect the long-term values of the properties within the estate by acting as the aesthetic "watchdog"
- Ensure that all buildings are constructed in accordance with the approved building plans
- Consider any proposed alterations or additions to the architectural guidelines and standard of the estate

All property owners must obtain the written approval of the aesthetics committee prior to the commencement of the following:

- Erection of new buildings
- Alterations/additions to existing buildings
- Construction of external elements such as boundary walls, swimming pools, Jacuzzis, driveways etc.
- Landscaping where the removal of any tree with a trunk diameter of 100mm or more is envisaged
- External repainting of recoding to any building

30.1 Aesthetics Committee Proceedings

The aesthetics committee will meet once every week to consider plans submitted for approval.

The committee will issue its findings, recommendations, or approval within 3 working days of the meeting.

30.2 Approval Process

The Homeowner must refer to the below points regarding the requirements for submission to the Aesthetics Committee for approval. All documentation including the Surveyor General's stand diagrams, services connection diagrams and contour plans or surveys, which may be required to facilitate the design process. This information, where possible, will be made available on a CD and will be issued free of charge, from the sales office. Alternatively please visit our website. No building or addition may be erected or altered without the approval of the Aesthetics Committee. This does not apply to minor internal alterations.

It will be the responsibility of the homeowner to ensure that he or she is in possession of the current version of the guidelines.

When designing their houses, or any other structures on their erf, homeowners are required to make use of a registered, practicing, architect and may not use any technician, draftsman, designer or drafting bureau for the design of their house.

In terms of new government legislation, SANS 10400 - Section A19, homeowners are required to employ the architect for the full architectural service, which includes full site supervision. Alternatively, the legislation allows for a registered project manager to be retained for the site supervision. A list of preferred architects and builders will also be

made available. This will ensure a professional product that is both in keeping with the aesthetic guidelines of the Estate, and of the highest standard.

While it is preferred that the Homeowner use an architect from the approved architectural panel, should the homeowner have a prior relationship with a specific, registered architect or architectural practice they may approach the aesthetics committee and apply for them to be approved. All applications must be accompanied by a company CV. Further information on this process can be found in section 29, Architects, Contractors and Construction Management.

The approval process will involve the following stages:

Stage One

The design concept and sketch plans must be submitted to the property development company. Century Property Developments for approval. A scrutiny fee of R5000.00 (Five thousand rand) will be payable on submission of the plans. This fee is a once off payment and may be increased from time to time. However, plans which have to be re-submitted will incur an additional fee of R1000.00 per additional submission.

The aesthetics committee has the discretion to determine that a re-lodged plan is a new plan and subject to the original submission fee if it differs so materially from the previous plan lodged as to effectively constitute a different or new plan. Plan submission and scrutiny fees are subject to periodic review by the aesthetics committee.

Architects are to ensure that all gas appliances are noted in the submission drawings. It is noted that electrical under floor heating and conventional electric heaters are not allowed and that gas fired or geothermal under floor heating or gas fired space heaters are to be specified instead.

Stage 1: Sketch Plans (Scale 1:500) – A3 Booklet which must include the following:

- Position of building on adjacent stands (if applicable)
- All Building lines
- Positions of driveways and access points, including pathways
- Boundary treatment, including the proposed detail of boundary walls
- Landscaping concept, including the position of trees with a trunk diameter of 100mm or more
- Earthworks concept diagram, showing the extent of any proposed cut and fill
- Position of all buildings and structures on site, including pools
- Position and routing of all services onto the site
- Storm and rainwater water management proposal
- Plans and elevations to scale, clearly describing all proposed finishes
- An artist's impression or 3 dimensional CAD model
- Area schedule indicating site, floor, covered patios and outbuilding areas
- Samples of finishes for approval e.g. paint colour swatches, picture of proposed stone etc.

Please submit one CD containing PDF or DXF's of the drawings (to be retained by the Aesthetics Committee for their records) and two A3, coloured sketch plan booklets (one to be retained by the Aesthetics Committee for their records and one to be returned upon approval of the design).

Stage 2: Working Drawings (Scale 1:100) – After the design concept and sketch plans have been approved the detail design and working drawings must be submitted to the Aesthetics Committee for approval. These drawings must include the following:

- Working Drawings, AI plans ONLY, sections, elevations, roof plan, foundation plan, and schedules (door and window schedules, finishes)
- Area schedule indicating site, floor, covered patios and outbuilding areas
- Coverage and FAR calculations
- Position of building on adjacent stands (if applicable)
- All Building lines
- Positions of driveways, including details of any storm water channel crossing and any additional access points, including pathways
- Boundary treatment, including the proposed detail of boundary walls, finishes and height
- Landscaping plan, specifying all plants and details, including the position of trees with a trunk diameter of 100mm or more
- Earthworks diagram, showing the extent of any proposed cut and fill
- Position of all buildings and structures on site, including pools
- Position and routing of all services onto the site
- Storm and rainwater water management details
- Plans and elevations to scale, clearly describing all proposed finishes
- Samples of finishes for approval e.g. paint colour swatches, picture of proposed stone etc.

Please submit one CD containing PDF or DXF's of the drawings (to be retained by the Aesthetics Committee for their records) and at least two paper copies, one coloured and one monochrome. The monochrome set will be retained by the Aesthetic Committee for their records. The coloured set, as well as and further sets, will be returned. The committee will not approve more than 4 sets, including the Committee set. Please bear in mind that the committee will always retain a set of plans form every submission. Should only one set be submitted this will be kept by the Committee for their records and a further set of drawings will need to be re-submitted and will need to go through the full plan review process again before being stamped and returned for council.

Stage 3: After the detail and working drawings have been approved they must be submitted to the Local Authority for approval. Certain prescribed submission fees will be payable at this stage to the Local Authority.

It is a condition of establishment that Tshwane will not accept any plans for approval without the prior written approval of the aesthetics committee.

These Aesthetic guidelines are in addition to, and do not supersede, the requirements of the Local Authority, any statutory authority, or the National Building Regulations.

30.3 Dispute Resolution

Should an owner/architect feel aggrieved by the decision of the aesthetics committee he or she must apply to the developer within 7 days for a review of such decision.

The decision of the developer will then be final.

30.4 Special Considerations

The aesthetics committee evaluates only the aesthetics of any submission and does not take any responsibility for any technical, structural, health or safety standards or for compliance with any Municipal or Statutory requirements and no such responsibility shall arise by virtue of a plan being approved by the aesthetics committee.

30.5 Maximum building period

Construction of buildings must commence ("break ground") within 24 months from the date of registration of transfer of ownership or completion of the Gatehouse and perimeter wall whichever is the later. This construction must be completed within 18 months after commencement of building activities. Should the owner be in breach of either of these time limits, then the HOA may impose a monthly penalty equal to 3 times the monthly levy for the first 12 months, escalating to 6 times the monthly levy thereafter, until such time as the owner has complied with these conditions.

30.6 Deviation from approved plans

If an owner deviates from the approved building plans, the aesthetics committee reserves the right to issue a stop order and thereafter insist that the unapproved building works be demolished or rectified at the owner's cost.

30.7 Commencement of Excavations or Building without plan approval

The aesthetics committee may, at its discretion issue a works stop order and force the owner to re-inside the site or demolish the unapproved structures.

30.8 Building Process

No building shall commence until all the relevant approvals have been obtained and the Building Code of Conduct attached to the Annexures has been read, fully understood and signed by the Homeowner and builder. A signed copy of this document must be then forwarded to the Aesthetics Committee for their records.

A pavement deposit fee will be payable prior to the commencement of construction. This deposit less deductions, if applicable, will be refunded at the end of the building period.

This deposit must have been paid prior to the commencement of building operations. Please see the conduct rules for more information on this.

The Developer and/or the Aesthetics Committee will be entitled to regulate the activities of all building and other contractors on and determine that the contractor(s) and the Homeowner sign the Builder's Code of Conduct with the HOA for this purpose.

30.9 Completion Certificate

On completion of the house the Aesthetics Committee is to be notified. The committee will then verify that the house is built as per the approved design and issue a completion certificate. This is to ensure that penalty levies will not be billed for late completion or non-compliance and the pavement deposit will then be refunded to the owner. All owners will need to be in possession of a completion certificate to avoid being billed penalty levies.

30.10 Penalties for non-compliance

The Architectural and Landscaping Guidelines are binding on all owners. Any breaches/deviations will be investigated by the Developer/Aesthetics Committee/HOA who will endeavour to prevent re-occurrence and determine responsibility.

Corrective measures must be taken by, and at the cost of, the responsible party. A penalty levy will be levied on the responsible party for any contravention of the guidelines that is not rectified within 3 months of the homeowner being notified that a contravention has occurred. This levy will be a monthly penalty equal to 3 times the monthly levy for the first 12 months, escalating to 6 times the monthly levy thereafter, until the breach/deviation has been resolved to the satisfaction of the relevant parties.

Repeated non-compliance by professionals or contractors may result in removal from the approved panel of architects and barring of entry onto the estate.

The Developer / Aesthetics Committee/HOA/ does not give an undertaking to homeowners that it will enforce compliance for each and every breach and retains a discretion as to which measures, if any, it will implement under the given circumstances. It also does not warrant that similar steps will be taken in respect of all similar instances of breach. It does, however, agree to act responsibly in terms of the exercising of its authority.

31. ARCHITECTS, CONTRACTORS AND CONSTRUCTION MANAGEMENT

In order to ensure the quality and design integrity of the built environment within the estate, the appointment of architects is subject to the following conditions.

The developer will appoint a panel of architects. The home owners are obliged to select their architects from this panel.

The architects on the panel are qualified and registered as professional architects as contemplated in section 18(1)(a) (i) of the Architectural Profession Act no 44 of 2000 read together with section 19 (a) (a) of the act.

Architectural and Landscaping Guidelines

The architects in the panel have entered into co-operation agreements with the developer to ensure a uniform and professional application of the Architectural Guidelines.

Should a homeowner insist on using an architect who is not on the panel the following will apply:

The homeowner must arrange for the proposed architect to meet with the aesthetics committee.

The proposed architect must provide proof of the following:

- Appropriate house design experience
- Qualifications and registration in terms of the Architectural Profession Act
- Good standing with the South African Council for the Architectural Profession
- Adequate Professional Indemnity Insurance

The proposed architect, if approved by the developer, must then sign a co-operation agreement with the developer, undertaking to ensure a uniform and professional application of the Architectural Guidelines.

In terms of new government legislation, SANS 10400 - Section A19, homeowners are required to employ the architect for the full architectural service, which includes full site supervision. Alternatively, the legislation allows for a registered project manager to be retained for the site supervision. This will ensure a professional product that is in keeping with the aesthetic guidelines of the Estate and of the highest standard.

31.1 Panel of Approved Building Contractors

In order to ensure that the construction of buildings is completed to a high standard and for better management control in the estate, the developer will select a panel of building contractors from which the purchaser is obliged to select a contractor to erect the buildings on his or her property.

Should a homeowner insist on using a building contractor who is not on the panel the following will apply:

The homeowner must arrange for the proposed building contractor to meet with the aesthetics committee.

The proposed building contractor must provide proof of the following:

- Appropriate house construction experience
- Registration in terms of the National Home Builders Registration Council (NHBRC)
- Registration in terms of the Master Builders Association (MBA)
- Letters of recommendation from previous clients

The proposed building contractor, if approved by the developer, must then sign a co-operation agreement with the developer, undertaking to ensure that the construction of his or her buildings within the estate is completed to the highest standards.

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31.2 Building Contractor Management and Control

In order to ensure that the construction of buildings within the estate is executed in a controlled manner and to ensure that the life-style of existing owners and residents is not unreasonably disrupted, the developer will issue a Building Contractors Code of Conduct.

The Code of Conduct must be signed by all contractors and will be strictly enforced by the developer or HOA, with penalties for non-compliance. In this regard the developer is not in a position to warrant that any penalties impose will have the desired result. Furthermore the developer does not undertake to necessarily impose a penalty in terms of each and every breach of the code, but will use its discretion in this regard, which it undertakes to exercise responsibly. It should be clearly understood that the developer is not in a position to warrant compliance with the under mentioned aspects of the code of conduct but that the developer will, at all times, use its best endeavours to ensure compliance.

The code of conduct will cover, inter-alia, the following:

- The days and times of the day during which construction may take place*
- Receipt and storage of building materials*
- Rubbish disposal*
- Access for deliveries*
- Staff ingress and egress from the estate*
- Staff toilet and ablution facilities*
- General behaviour of staff*
- Contractor's boards*
- Fencing and screening of construction sites*
- Protection of existing infrastructure*
- Damage repair*
- Environmental control*
- Penalties for breach of rules*
- Monitoring of construction activities in accordance with approved building plans*
- Such matters as the developer deems to be in the interest of the general body of owners and residents of the estate*

ARCHITECTURAL AND AESTHETIC GUIDELINES

Version 3 - May 2014

HOMEOWNERS' ASSOCIATION (MNEHOA)

SECTION 1

GENERAL BACKGROUND AND INFORMATION

1. INTRODUCTION

Nature estate living is a philosophy whereby man lives in harmony with nature. This is achieved through careful design, sensitive landscaping, energy efficiency and general conservation. The development of [REDACTED] will take place in an environment characterised by the Klipriviersberg, which has a high conservation status. In order to protect, conserve and maintain the natural features of [REDACTED] an Environmental Management Plan will be implemented in conjunction with these design guidelines for the built environment. This will ensure the long term sustainability of this exclusive natural environment.

[REDACTED] encaptures the natural beauty and splendour of the Klipriviersberg and Highveld flora in a secure private estate. It offers exclusive residential opportunities for individuals wanting to enjoy living close to nature and insist on the highest standards of environmental quality.

2.

ARCHITECTURAL AND AESTHETIC COMMITTEE

The [REDACTED] Architectural and Aesthetic Committee was formed to ensure high quality standards for all building activities in the [REDACTED] ("MNE"). The Committee consists of the following portfolios and current members:

- Trustees appointed at the Annual General Meeting;
- Estate Manager; and
- Estate Architect – Etienne Stolz, SCS Architects

The functioning of the Committee is to be co-ordinated by the Estate Manager. The Committee has the maintenance of the living standard of the whole estate community as its objective, including the overall master plan for the entire estate, the design of the open spaces, the design and maintenance of the pedestrian routes and green belts, the approval and monitoring of construction of all Residential One dwellings and the design and maintenance of the streetscape.

Should the need arise, the Committee may consult a town planner and/or landscape architect on an ad hoc basis. Other consultants may be employed as and when their services are required, i.e. civil, geo-technical or land stabilising experts (to stabilise soil erosion in open spaces), to quote one example. Should contact with these experts be required, the contact will be co-ordinated through the Estate Manager. For contact details of the relevant experts you may also contact the Estate Manager.

3. ALTERATIONS TO THIS DOCUMENT

- 3.1 This is a working document, which may be updated from time to time, without notice.
- 3.2 With the natural course of time certain design criteria will evolve that will necessitate the updating of the Design Guidelines from time to time.
- 3.3 The onus is on the owner to ensure that his appointed architect, contractor or any other person is referring to the latest version of this document prior to commencing with the design of any building on the estate (check the version number and date in the front of this document)

4. PRECEDENT

No precedent on the Estate may be referred to by owners, or their architects, as motivation for any divergence from these Design Guidelines.

5. OWNERS / EMPLOYERS (of the Building Contractor)

- 5.1 Only contractors registered with the NHBRC may undertake construction work within Meyersdal Nature Estate.
- 5.2 The owner / employer (of the Building Contractor) will indemnify the Estate from any cost, financial or otherwise, whether to the owner, Building Contractor, or any other party associated with the building operations, arising from their prudent exercise of the rules and guidelines defined within this document.
- 5.3 Owners / employers will, ultimately, be held liable for any damage or unreasonable disturbance inflicted on the Estate by the building contractor or any other party in his employ.

6. CONTRACTORS GUIDELINE AND CODE OF CONDUCT

6.1 The owner / employer (of the Building Contractor) is ultimately responsible for conduct and discipline of all contractors, subcontractors and employees on site.

6.2 Upon the approval of building plans by Local Council and prior to any construction, the Rules of Conduct for Contractors' agreement must be signed between the owner and the [REDACTED]

7. VARIATIONS

- 7.1 Any variations of any kind to the design or finish of any house or external works, that is contemplated, must first be submitted to the Aesthetical and Architectural Committee for its consideration.
- 7.2 The procedure for submission is similar to that in section 3 below.
- 7.3 Variations as a result of complications during construction, that require immediate action, can be discussed directly with the Estate Manager, and following his approval, may be implemented. In this case, amended drawings must be submitted to the [REDACTED] within two (2) weeks of such approval.

8. GENERAL

- 8.1 Only plans prepared by registered architects will be considered for scrutiny.
- 8.2 All buildings to comply with the National Building Regulations.

9. CONTROL OF BUILDING ACTIVITIES

All building activities are to be conducted in accordance with the Rules of Conduct for Contractors. Sub-Contractors and Suppliers operating within [REDACTED] and all conditions in the Environmental Management Plan.

9.1

Introduction

The [REDACTED] is the legally constituted representative of all owners of land in [REDACTED] and is incorporated to represent the rights of homeowners and to protect the interest of all landowners and the Estate as a whole. The Rules of Conduct for Contractors referred to above were adopted to ensure this.

9.2

Legal status

The rules governing building activities, referred to above, are rules adopted by the [REDACTED] and Committee and are therefore binding on all homeowners in terms of the articles of association of the [REDACTED]. Furthermore, each homeowner is obliged to ensure that his building contractor and all his sub-contractors are made aware of the rules and complies with them. The rules in their entirety, therefore, form part of any building contract entered into in respect of any property in [REDACTED]. The [REDACTED] and the Committee have the right to suspend any building activity in contravention of any of the rules and accept no liability whatsoever for any losses sustained by a homeowner as a result thereof.

9.3

Building rules

9.3.1 All building activities have to comply with the conditions contained in the Environmental Management Plan.

9.3.2 All building has to be approved by the Local Authority, as required from time to time.

9.3.3 All building activities and access to the estate will be in accordance with the Rules of Conduct for Contractors, Sub-Contractors and Suppliers operating within [REDACTED].

9.3.4 No littering by any contractors or their staff, or any sub-contractors or their staff on the Estate will be permitted.

9.3.5 If any contractor, sub-contractor or supplier fails to follow these rules, their activities on the Estate may be suspended and/or access to the Estate may be denied.

9.3.6 Any damage caused to any property on the Estate by any contractor, sub-contractor or supplier will be repaired to the satisfaction of the owners, the [REDACTED] the developer or the Local Authority. Failure to comply with instructions for repairs to be effected could lead to suspension of activities and/or denial of access to the Estate, and/or civil litigations for damages.

9.3.7 The [REDACTED] and Committee reserve the right to institute further controls in respect of any building activities or supply of any products or services on the Estate, if they deem further controls necessary. These further controls will be in the form of written notification and these additional controls will also be binding on all contractors, sub-contractors and suppliers operating in MNE. Non-compliance will also result in suspension of activities and/or denial of access to the Estate.

9.3.8 Security staff may also impose penalties on contractors breaking the rules or committing other forms of transgression on the Estate. Failure to pay these penalties will result in denied access.

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SECTION 2**ENVIRONMENTAL DESIGN**

10.

ENVIRONMENTAL DESIGN

This unique residential estate is located in a high conservation priority area of the Kijipwitsberg. It is the unspoiled natural beauty that is the eco-estate's most priceless asset, and is the express intention of the present and future owners of this virgin piece of earth to prohibit any development that may negatively effect on its visual and ecological qualities.

The form and nature of the building work that will take place within [REDACTED] area will be affected. It would therefore be desirable to restrict the scale, height, materials and finishes of all proposed structures and to encourage extensive use of natural materials to minimise visual impact and ecological damage. To this end a set of principles, guidelines and controls have been formulated to guide and inform the future development of housing within the development.

The implementation and maintenance of these guidelines and controls will ensure a development within which the following aims will be achieved:

- 10.1 A coordinated and aesthetically pleasing residential development to enhance the investment value of the area as a whole, and individual properties in particular.
- 10.2 To safeguard the natural ecological balance and minimise any damage to the virgin habitat.
- 10.3 To limit visual impact on the inherent natural beauty of the terrain.
- 10.4 To assist individual owners during the design and building processes to achieve a coherent and pleasing aesthetic.
- 10.5 To protect established properties from haphazard building development in their proximity.

As much of the indigenous vegetation should be retained as possible. Planting of alien/exotic or invader species will not be allowed.

The connection between climate and building is one of the primary determinants of the nature of architecture. Selective design is the process in which the building envelope is configured and constructed in such a manner as to make positive use of the beneficial elements of the naturally occurring climate.

The development of the site and its architectural forms can therefore be responsibly guided by sensitive ecological awareness. For example, the path of the sun, or solar geometry, will influence the development of built form, the use of fenestration and shading devices. The generation of solar and hydrogen power, planned gardening, maintenance and other activities directed towards conservation within the housing precinct can be not only ecologically beneficial, but also economically sound. More specifically, the following considerations would be generally present in an ecologically aware design approach.

11.

THE SITE

- The building should be orientated with reference to the sun, the existing land formation and vegetation to create privacy and protect architecture from climatic extremes.

- Care should be taken when working the site to ensure conservation of the existing topsoil
- Modification of the existing land formation should be kept to a minimum.
- When planning supplementary planting, artificial irrigation should be kept to a minimum and consideration given to the prevention of soil erosion.
- Climatic extremes can be moderate by using a combination of deciduous and evergreen trees to the north, north-west and north-east for summer shading.

12. ARCHITECTURE

- Orientation and location are critical to optimize the benefits of solar radiation, daylighting, controlled air movement and thermal efficiency.
- Careful and detailed site analysis is required to enable climate-responsive architectural forms, surfaces and openings to effectively respond to microclimatic sun, earth and water conditions.
- Ergonomically designed homes conserve energy consumption.
- Maximising the ratio of interior volumes to exterior surfaces conserves both energy and materials.
- Treating outdoor spaces as part of the architectural design, and conversely indoor spaces as continuity of the outdoors, can afford a dynamic connection between the inhabitants and nature.
- Providing cross ventilation of all interior rooms and spaces is a most effective form of natural cooling, thereby conserving energy.

13. SOLAR MANIPULATION

- In the Gauteng climate, living spaces benefit by maximising northern exposure.
- Maximum glass to the north, a moderate amount to the east and west and the minimum of glass to the south afford the best solar advantage.
- Shading of openings should not be neglected for summer sun conditions.
- Carefully designed roof overhangs on the sun-side of buildings can effectively control summer sun penetration, yet admit the gentler sun in winter.
- Skylights are generally areas through which energy is lost, but correctly designed north-facing clerestory windows may be utilized to admit full winter sun, thereby conserving energy as well as providing welcome daylighting of deep interior spaces.
- Windows in the north façade work best if not fully draped with solid curtaining; alternatively adjustable blinds that provide privacy while still allowing for solar gains during winter are a preferable option.

14. VENTILATION

- Screened ventilation air-intakes are sometimes more effective than operable windows.
- Windows best serve for daylighting, thermal gain, view, privacy control and interior space function.
- Carefully located interior doors can aid and control the cross-ventilation of rooms and all interior spaces.
- Wide interior doors improve interior air circulation, daylighting and view between interior spaces.
- Exterior screen doors that double as insulated storm doors simultaneously provide access, summer ventilation and winter thermal protection.

- ## 15. EXTERIOR AND INTERIOR COLOURS
- During cold seasons darker coloured exterior walls benefit from winter solar gains, but these should be protected from overheating during summer months from the more steeply angled sun by means of roof overhangs.
 - The reflectivity of exterior earth and paving surfaces should be considered year-round regarding the influence they may have on the temperature of interior spaces, especially where there is a predominance of exterior glazing.
 - White or very light-coloured ceilings and interior side-walls allow for the deeper reflective penetration of natural light.

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SECTION 4

ARCHITECTURAL GUIDELINES

26.

BACKGROUND

The purpose of these design guidelines is to encourage individual creativity while fostering a unity of materials and finish to ensure that the overall development harmonises to create a balanced lifestyle for all residents.

The main emphasis in these guidelines is on reducing visual impact of the buildings by means of sensitive integration into the landscape. This is achieved by breaking up the building forms into separate elements, carefully placed within natural contours, terracing down the slope with minimal cut and fill. Separate forms with individual roofs are an option – it will safeguard views from neighbouring properties and minimise the building mass.

does not warrant contrived stylistic/replica architecture – by remaining within the contextual guidelines, the long term value of each purchaser's investment will be protected. The appropriate aesthetic encouraged is on horizontal forms harmonising with the terrain. A careful selection of natural materials and textures along with a limited colour palette within a prescribed earthy range will serve to assist the forms to blend into the landscape. Dark non-reflective roofs assist to reduce the visual impact of the structure by creating an unobtrusive neutral lid to the buildings. While the wide eaves of a pitched roof primarily serve as sun control, they also prevent external reflection off the glass, and the shadow created serves to visually lower the roof eave/wards. Door and window frames should be dark in colour thereby adding to the recessive nature of the openings.

The following guidelines will be implemented to ensure a sensitively constructed environment with a high quality aesthetic and maximum privacy:

- 26.1** Construction and improvements must commence within 36 months from the date of first registration of transfer of ownership of the particular stand. In order to reduce inconvenience to neighbours, as well as unsightliness, construction must proceed without lengthy interruptions and must be completed within 12 months from the date of commencement. Phased design and construction must be handled in such a way that the end of each phase is to be aesthetically acceptable to the Home Owners' Association.
- 26.2** The design of the dwelling unit and the entire stand must show a special sensitivity to the existing natural features, flora and topography.
- 26.3** Permission is required before any existing trees are removed and all existing trees are to be shown on the site plan. Surrounding structures must be taken into account in the design process.
- 26.4** No erf may be subdivided or rezoned for any other use than for a single dwelling with outbuildings.
- 26.5** Evenly may be consolidated with prior written permission from the HOA in which case the owner will be liable for the combined levy pertaining to each particular erf and any other costs.
- 26.6** No borehole may be drilled on any erf.
- 26.7** All houses (including outbuildings) must be designed to conform with these architectural guidelines to the satisfaction of the HOA. The objective is to achieve an interesting range of mutually compatible house designs within the flexibility afforded by the approved architectural style, whilst avoiding monotonous uniformity.

26.8

All plans must be submitted for approval to the Home Owners' Association for the approval by the Architectural and Aesthetical Committee. Only after this approval has been obtained in writing can plans be submitted to the local authority. It is the owner's responsibility to ensure that all plans are submitted and approved by both authorities prior to construction.

27.

BUILDING FORM

- It is recommended that the main building be broken into separate elements to reduce the visual impact.
- Separate elements must be roofed individually.
- Connecting structures to have lower roofs.
- All structures to be directly attached to ground on a foundation – no stilts permitted unless supporting timber deck.

28.

HEIGHT RESTRICTION

No double storey dwellings shall be higher than 10m from Natural Ground Level (NGL), the primary consideration of which will be to safeguard the privacy of residents on adjacent stands. Not more than two storeys shall be erected vertically above each other, nor shall the height of any part of the structure exceed 10 (ten) meters above the NGL, vertically below that point (excluding the height of chimney stacks). Stands 63 and 64 are specifically excluded from this restriction.

29.

BUILDING LINES

No structures shall be erected within the building lines imposed.

- 29.1 Street boundary**
- 29.1.1 Single storeys – 5m from the street boundary
 - 29.1.2 Double storey - 5m from the street boundary
 - 29.1.3 Garage - 5m from the street boundary

29.2 Side boundaries

- 29.2.1 Single storeys – 2m from the side boundaries
- 29.2.2 Double storey - 3m from the side boundaries

29.3 Rear of Nature boundary

- 29.3.1 Single storey - 5m from the rear/nature boundary
- 29.3.2 Double storey - 5m from the rear/nature boundary

29.3.3 Building lines may be relaxed only with the written approval of the HOA and the local authority.

30.

STAND BOUNDARIES

30.1 Street boundaries

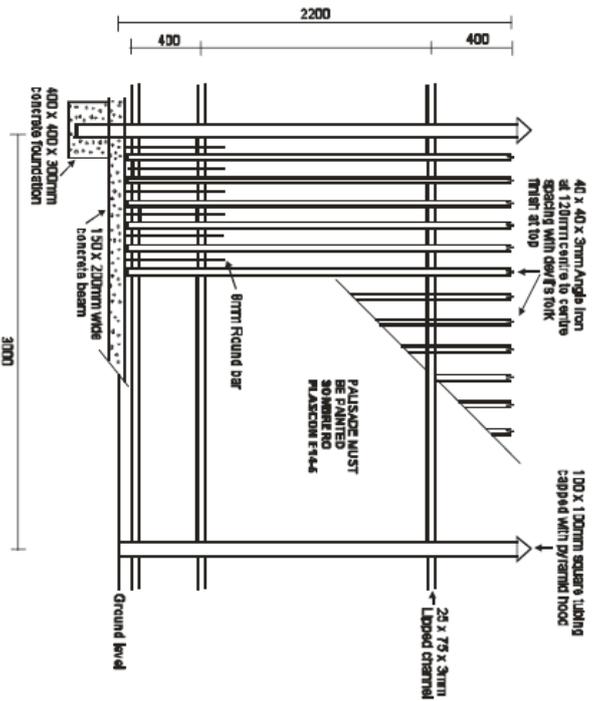
Owners are encouraged not to use fencing on the street boundary or within 2m from the street boundary, but rather to use bermed landscaping and/or structure of the buildings to create privacy and enclosure for children and pet animals or in compliance with Item 30.

30.2

Nature boundary

If for reasons of privacy (for example to screen a swimming pool) it is desired to provide an impenetrable barrier between the house and the nature area such barrier shall be achieved by means of planting, no walling is allowed on the nature boundary.

The nature boundary must be fenced by means of a palisade fence 2.2 m high and of a design and finish as stipulated by the EMP. The palisade fence must be painted beige Plascon Sombro E14-5.



SPECIFICATION FOR PALISADE FENCE FOR ERVEN BOUNDARIES NATURE AREA

- 30.3 Side boundaries
 - 30.3.1 Walling between stands shall not exceed 2.4m in height, shall be plastered and painted on both sides, and shall be of design and finish approved by the HOA or finished in facebrick similar to, or complementing the dwelling design.
 - 30.3.2 If facebrick walls are intended for the boundary walls adjacent to neighbouring properties, these walls must be constructed to 230mm brickwall thickness to allow for the neighbours side of the wall to have a stock brick finish that can be plastered.
 - 30.3.3 No security spikes, razor wire, electric shock wires or any similar devices shall be permitted on the side boundary walls.

31. TREATMENT OF THE STREET BOUNDARIES

- 31.1 Treatment of the street boundaries

Although it is appreciated that the diverse nature of single residential neighbourhoods lead to a varied treatment of street boundaries, every effort should be made to avoid the hostile "canyon-like" effect that high solid walls along streets cause in many residential areas.

In order to enhance the appearance of sidewalks, the streetscape and the Estate generally, the following guidelines will apply:

- 31.1.1 Ideally, no walling whatsoever should be erected along the boundary between stands and the road reserve (create a "park" effect and not a city suburb).
- 31.1.2 If boundary walling is essential on the street frontage, for example, to safeguard small children or pets, then the use of good quality steel palisade and brick or trellis fencing is preferred to brick walls. Height not to exceed 2.2m.
- 31.1.3 If solid walling is required to enhance the privacy of certain parts of the property, for example, to screen the swimming pool from the street, such walling should be as low as possible (maximum 2.2m height), and should not extend for more than 25% (twenty five percent) of its length as a continuous line parallel to the street boundary. If solid walling is unavoidable, a stepped-back or articulated wall is considered less detrimental to the streetscape. In order to provide parking space for cars and for visitors' parking, garages fronting directly onto the street should be set back a minimum of 5 (five) meters from the stand boundary. (This, with the road reserve, will allow two cars to park in front of the garage, without extending beyond the road kerb, or parking on the sidewalk). Additional visitors' parking alongside the garage or elsewhere should be shown in instances of garages within the five metre building line.
- 31.1.4 Screen walls must be constructed around private areas, i.e. washing lines and refuse collection areas, to screen them from view from the street or from neighbouring properties.
- 31.1.5 The restrictions imposed by the Environmental Management Plan for fencing to the nature area erf boundaries will be strictly enforced.

32. ROOFS

New houses shall have pitched roofs or a combination of flat and pitched roofs. Solely flat roofs are not permitted.

- 32.1 Pitched Roofs
 - 32.1.1 Maximum pitch 45° unless specifically approved by [REDACTED]
 - 32.1.2 Using hipped ends instead of gables reduces the overall impact of the roof.
 - 32.1.3 Mono-pitched roofs are allowed.
 - 32.1.4 Perimeter eaves/overhang not to project more than 750mm
 - 32.1.5 Vaulted roofs are permitted.
 - 32.1.6 A combination of pitched and flat roof is permitted.

- 32.2 Combination Roof**
- 32.2.1 Flat sections of the roof shall be concrete and surrounded by parapet walls.
- 32.2.2 Waterproofing to be non-reflective.
- 32.2.3 Flat roof sections must be covered with a 3cm layer of brown pebbles or stone-chip to conceal waterproofing.
- 32.3 Roof Material Permitted**
- 32.3.1 Natural slate.
- 32.3.2 Chromadeck, profiled metal roof sheeting.
- 32.3.3 Fibre cement tiles and concrete tiles.
- 32.3.4 No light or reflective colours permitted for visual reasons
- 32.3.5 Drainage pipes shall be concealed from view.
- 32.3.6 Gutters and downpipes shall form an integral part of the design and shall be constructed and finished to match the style of the house.
- 32.3.7 No thatch, or asbestos cement roof tiles will be permitted.
- 32.4 Roof colours**
- 32.4.1 Dark grey, charcoal, black
- 32.4.2 Dark browns
- 32.4.3 Red browns
- 32.4.4 Green
- 32.5 Fascias and bargeboards**
- 32.5.1 Natural timber is preferred or can be finished to match walls, roofs or pergolas.
- 32.5.2 UPVC is not permitted for fire risk reasons.
- 1. WALLS**
- 33.1 External building walls**
- 33.1.1 External masonry walls shall be a minimum 230mm brick work to be plastered or facebrick finish. Finishes to plaster with colour range submitted for approval by HOA.
- 33.1.2 Facebrick or natural rock (preferably loose packed sandstone) and colour specifications for facebrick to be approved by HOA, chimneys are encouraged for pilinths. Pilinths to be a maximum height of 680mm (8 courses).
- 33.1.3 Coloured, textured wall coatings such as Gamma Zenith, Cemcrete, Earthtone, etc. are allowed.
- 33.1.4 Plastered and painted with earthy colours
- 33.1.5 Clay face bricks in the darker earthy colour ranges (no light colours permitted) if not plastered.
- 33.1.6 Natural stone
- 33.1.7 Maximum 7m wall height permitted in one vertical plane – if higher, then plaster or stone base to be added to break up vertically.
- 33.2 Chimneys**
- 33.2.1 Height may exceed 10m height restriction if required and is not calculated in height restriction.
- 33.3 Yard walls (screen walls)**
- 33.3.1 Maximum height 2.4m above natural ground level (NGL)
- 33.3.2 Permitted to build up to erf boundary
- 33.3.3 Finish to both sides to match house walls in colour and texture.

- 33.4 Retaining walls**
- 33.4.1 To be stepped in 1m increments
- 33.4.2 Maximum height 2m
- 33.4.3 Materials to be used: natural stone, stone gabions, plaster & paint to match house walls. Terracotta blocks (or similar) with exposed aggregate finish or colour earth
- 33.5 Boundary walls**
- 33.5.1 Boundary walls permitted only as per section (fencing)
- 33.5.2 Maximum height 2.2 m between neighbouring stand.
- 34. DOORS AND WINDOWS**
- 34.1 Natural timber frames are preferred
- 34.2 Aluminium frames to be dark in colour (black, charcoal or dark brown)
- 34.3 Reflective glass is not permitted
- 34.4 Primarily horizontally proportioned windows are recommended
- 35. OUTBUILDINGS**
- 35.1 No free-standing habitable buildings permitted – must be attached to main structure
- 35.2 To match main structure in all aspects of finish.
- 35.3 Freestanding change room at pool or a lapa is permitted
- 36. TERRACES, PAVING & DRIVEWAYS**
- 36.1 The following materials are permitted
- 36.1.1 Natural stone
- 36.1.2 Brick pavers
- 36.1.3 Exposed aggregate pavers
- 36.1.4 Terracotta tiles
- 36.1.5 Cobbles of granite or dark tinted cement
- 36.1.6 Flagstones of pigmented cement
- 36.2 Tinted or painted screeds not permitted
- 36.3 No concrete or two concrete strips will be allowed as driveways.
- 36.4 Driveway maximum crossover width not to exceed 5m.
- 37. SWIMMING POOLS, PONDS and WATER FEATURES**
- 37.1 Dark colours preferred
- 37.2 No pale blue or white colour permitted due to visual impact and reflection.
- 37.3 Backwash and drainage to be piped to sewer line – not stormwater.
- 37.4 No drainage or backwash allowed to flow into nature area or through stormwater onto roads.
- 37.5 Filtration units to be concealed from neighbours and street views.
- 37.6 Pool fence must comply with municipal safety requirements.
- 38. EXTERNAL LIGHTS**
- 38.1 Well-designed, soft lighting of the building exterior and surroundings will be permitted, provided that the light source is not visible and that it complements the architecture and landscaping. Lighting should not be intrusive into the conservation or the surrounding natural area, disturbing sensitive fauna. All external lights must comply with the EIMP and must be of such nature that it does not unnecessarily attract night-flying insects. Lights must be "muted" or "soft" and shine downward.
- 38.3 No bright "white" light is allowed.
- 38.4 Yellow/orange lights, i.e. low pressure sodium, must be used for all external lights.

38.5 All external lighting must be used in keeping with an eco-estate and must be used exclusively for entertainment and navigational purposes and may not be left on all night.

39. PROHIBITED BUILDING MATERIALS

- The following will be prohibited:
- 39.1 Unpainted plaster or unplastered stock brick walls.
 - 39.2 Unpainted or reflective metal sheeting.
 - 39.3 Reflective materials.
 - 39.4 Pre-cast concrete walls.
 - 39.5 Asbestos-based products not permitted.
 - 39.6 No swimming pool type mesh fencing will be allowed.
 - 39.7 Thatch roofs for houses and/or lapas.
 - 39.8 Wood panel fencing.
 - 39.9 Razor wire, security spikes or similar features.
 - 39.10 Lean-tos and temporary car ports (shade cloth).
 - 39.11 Shadeports or any shade netting to patios.

The written approval of the Committee should be obtained for the use of any building material (or methods) other than conventional bricks and mortar.

40. MISCELLANEOUS ARCHITECTURAL GUIDELINES

- 40.1 The privacy and views of surrounding properties must be considered as a premium. As a general rule no windows or balconies on the upper level may overlook the living space of the adjacent dwelling.
- 40.2 The aesthetics of the design of parapets, fascias, capping eaves, roof trim, gutters and roofing materials in general will be considered.
- 40.3 All external finishes and colours should be specified, and the colour samples will be requested. The use of earthy colours in the entire Estate will be enforced. The use of natural stone is also encouraged.
- 40.4 Awnings and other items that do not form part of the basic structure should be clearly shown and annotated.
- 40.5 Solar heating panels, if used, should be incorporated into the buildings to form part of the basic structure and should be clearly shown and annotated.
- 40.6 Outbuildings and additions should match the original design and style, both in elevation and in material usage.
- 40.7 Access to staff accommodation and kitchens must be from a screened courtyard or patio.
- 40.8 Yard walls and screen walls should complement the basic materials of the buildings.
- 40.9 No staff accommodation should be nearer to the street than the main dwelling unless contained under the same roof or integrated into the total design.
- 40.10 The privacy of surrounding properties should be considered. As a general rule, no windows or balconies on the upper storey should overlook the "living space", for example, the swimming pool or patio, of adjacent dwellings. Careful consideration should be given to plinth heights – houses to be designed to follow the contours of the land.
- 40.12 Excavations for terraces, retaining walls, etc. should not to exceed 1.5m. Liffenstien earth retaining blocks should be planted immediately after completion of construction.
- 40.13 All retaining walls should be clearly shown on the plan.
- 40.14 All double storey plumbing should be in ducts.
- 40.15 All exposed plumbing and washing lines must be fully screened and not be visible from the street elevations and other elevations onto adjoining properties.
- 40.16 Only approved smoke free type fireplaces are allowed.

40.17 Mechanical equipment such as air-conditioners (and grills), ducts, pool pumps etc. must be designed into the buildings and/or adequately enclosed or screened off from view.

- 40.18 Roofs are to be pitched with wide eaves and external walls to be plastered and painted or a mixture of plaster and face brick are to be used. All external finishes are required to be of a low light reflectance value (LRV).
- 40.19 External door frames are to be hardwood or aluminium, and balustrades are to be hardwood, wrought iron or glass and aluminium.
- 40.20 The use of hardwood or aluminium window frames (in lieu of standard steel) will be strongly encouraged.
- 40.21 No Wendy houses/toilets may be erected without permission.
- 40.22 Caravans, trailers, boats, equipment, tools, engines and vehicle parts must be screened from neighbouring properties and streets.
- 40.23 No solar panels or geysers are to be visible from the street.
- 40.24 No external burglar bars, including "Spanish" type burglar proofing, will be allowed.
- 40.25 It is the duty of any proposed owner, architect, contractor and/or subcontractor to familiarise him/herself with the current and proposed municipal services and their allocation on the whole of the Estate. These municipal services include, but are not limited to, water and electrical services, sewerage removal, storm water pipes and drainage, the HOA will not in any way whatsoever be liable for any damage which any owner, proposed owner or architect, contractor or sub-contractor may suffer as a result of the existence, situation or otherwise of any such municipal services.

41. CONTROL OF BUILDING ACTIVITIES

All building activities are to be conducted in accordance with the Rules of Conduct for Contractors, Sub-Contractors and Suppliers operating within MNE and all conditions contained in the Environmental Management Plan.

42. TIME LIMITS FOR CONSTRUCTION

Effective from 1 January 2011, all incomplete stands in the first phase development are subject to a monthly penalty of R5000.00 which remains in place, irrespective of ownership change, until receipt of both the Certificate from the Architectural Committee and the Occupancy Certificate from local Council.

The construction of improvements should begin within 3 (three) years from the date of registration of transfer of ownership. Should construction not commence within 3 years after transfer of ownership from the developer a monthly penalty of R5000.00 will be payable to the [REDACTED]. This will also be applicable to subsequent owners of the particular stand. In order to reduce inconvenience to neighbours and unsightliness, construction should proceed without lengthy interruptions, and should in any event be completed within twelve months from commencement. If construction exceeds the period of twelve months a monthly penalty of R5000.00 will be payable to the [REDACTED].

SECTION 5

LANDSCAPING GUIDELINES

43. LANDSCAPE CHARACTER

The intention in the greater landscape conservation, rehabilitation, design and construction of the nature reserve itself, is to preserve and protect the unique qualities of the Klippanersberg landscape that is characterised by its openness, rolling landforms and indigenous vegetation.

The layout of [REDACTED] preserves substantial areas of the Klippanersberg natural habitat, a vegetation type indigenous to this area. The private gardens within the development must continue and integrate with the surrounding nature area.

In order to maintain continuity in the overall landscape character owners are required to design and implement landscaping in accordance with the Environmental Management Plan with certain conditions, specifications and restrictions.

In this way the collective natural landscape of the [REDACTED] will be preserved for the appreciation and benefit of all.

44. CONDITIONS

44.1 Landscaping plan, complete with list of plant species to be planted, for each erf must be submitted for approval by the Committee.

44.2 This plan shall be to a scale of 1:100 and shall show the following:

44.2.1 Adjacent areas of nature reserve or erven.

44.2.2 All grading, retaining and terracing intended to be undertaken, including gradients and structural elements.

44.2.3 All plant material, species, numbers, spacing and size must be indicated, including species for lawns. This list of species must comply with restrictions in the EMP.

44.2.4 All paving, water features, swimming pools, pumps, filters, fences and gazebos and any other structural elements must be indicated and the intended finishes specified. This must include detail of stormwater handling and elevation where relevant.

44.2.5 The irrigation layout, pipelines, head types and intended coverage area must also be shown.

44.2.6 Washing lines, dustbin storage areas and other utility areas and their screening must be indicated.

45. RESTRICTIONS

45.1 The gardening and landscaping activities of an erf shall be confined to the physical extent of the pegged residential erven.

45.2 No extension of an erf's garden into an immediately adjacent area of nature reserve will be permitted. This includes irrigation, plantings, storage, fencing, pool equipment, earth mounds or portions of embankments or cut slopes.

45.3 No tree, plant, rock, landscaping or other plantings may be removed from the nature reserve by an erf owner.

45.4 All declared invasive alien plants, trees, shrubs and grasses (including Kikuyu) are not permitted within the estate and may not be cultivated in erf gardens.

45.5 Fences shall comply in height, position and construction with the Design Guidelines for boundary walls.

45.6 Above ground pools – porta pools – are not permitted.

45.7 No temporary structures are permitted within the erf garden, including wendy houses.

45.8 Invasive alien vegetation clearance on any undeveloped erf remains the responsibility of the owner and must be undertaken on a quarterly basis. Failing this the [REDACTED] will undertake the clearance at the erf owner's cost.

46. GARDEN LIGHTS

46.1 All garden lights must comply with the EMP and must be insect friendly.

Lights must be "muted" or "soft" and shine downward.

46.2 All external lighting must be used in keeping with an eco-estate and must be used exclusively for entertainment and navigational purposes and may not be left on all night.

47. PLANT SPECIES PERMITTED

47.1 Based on the EMP and in-line with an eco-estate only indigenous species, suitable to the Highveld may be planted in landscaping. A suggested Plant

47.2 List is available from the Estate Manager. The principle of the Department of Water Affairs and Forestry's "Waterwise" gardening programmes is supported by the estate.

48. HARD LANDSCAPING

Hard landscaping surfaces, i.e. brick paving, tiling, etc around houses will not be permitted to cover the entire site. Cumulative paving shall not cover more than 25% of each erf's area and a minimum of 25% of each erf must be soft landscaping.

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Eco-Estate E

Revision 9

June 2014

BUILDING RULES AND REGULATIONS

Home Owner:
Document date signed:
Date Breaking ground:

SG:
Company:
Contractors email:
Contractor's tel:

CONSTRUCTION ACTIVITIES, CONDUCT RULES FOR BUILDING CONTRACTORS, SUB-CONTRACTORS AND SUPPLIERS, OPERATING WITHIN

As building within [REDACTED] will be undertaken over a lengthy time period, the following guidelines have been formulated for the benefit of all [REDACTED] members.

Please Note that these regulations are subject to change from time to time. The Home Owners Association will acquaint the contractors with these changes.

The farm owner will make contact with one of the [REDACTED] approved builders who are bound by the code of conduct, drafted by the HOA (Home Owners Association) from time to time, and will ensure that they (the home owner) have paid the building deposit. The owner acknowledges that he/she is aware that [REDACTED] and that he/she will at all times adhere to the security regulations and controls, and agree to co-operate with the HOA in the interest of maintaining security on the Farm.

1. Site Access and Exit:

- 1.1 Detailed procedures will be made available by the HOA to Contractors in terms of Security measures for authorized access and identification of vehicles and all personnel. (Security protocol).
- 1.2 Each Builder will have access to the builder's yard and can rent space therein from the HOA. Please note that site offices will not be allowed on the individual stands and late deliveries will be sent back.
- 1.3 As improvements to the security and the access controls are on-going, these procedures will be reviewed from time to time.
- 1.4 Hours of work: Contractors may only enter the Farm after 06h30 in the morning and must vacate the Farm by 18h00. No workers will be allowed to remain overnight on site. Contractors may negotiate with the HOA's appointed security company for this service, if required.
- 1.5 Construction will be limited to Monday 06h30 to Friday 18h00. No construction work will be permitted on Saturdays, Sundays and public holidays unless by prior written agreement with the HOA. Only emergency work with approval of HOA may be applied for.

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- 1.6 Only authorized vehicles will be allowed onto the Farm. There is a load restriction of 6 tons per axle and all vehicles must have fixed chassis. Except for roof truss, 6 cube ready mix trucks and brick truck deliveries. No articulated vehicles are permitted on the Farm. It is the obligation of the Contractor to notify his suppliers of this and the HOA shall not entertain any claims of losses or damages in this regard.
- 1.7 Brick loads are limited to 6000 bricks per truck.
- 1.8 Deliveries must be scheduled for between 07h00 and 15h00 on weekdays only, and contractors must collect all delivery vehicles at the Builder's Yard and escort them to the building site and back.
- 1.9 The Farm Security personnel reserve the right to subject vehicles entering or leaving the Farm to a search.
- 1.10 Points of access: Contractors shall only access and exit through the designated service/contractors gates. With the exception of the driver, all contractors entering the farm will be directed through pedestrian turnstiles with bio-metric controls. Contractors must therefore pre-register all personnel with the security company. Furthermore, they must acknowledge that delays entering and exiting the Farm are inevitable. (See Annexure "D")
- 1.11 Contractor's staff will not be allowed to proceed to the building site on foot, and must therefore be transported to and from the builder's yard.
- 1.12 The "take on" for any new contractors or those coming to site for the first time will only be done from 06:30 to 16:00, Monday to Friday.
- 1.13 All drivers must be in possession of a valid driver's license at all times and shall be required to produce their license prior to entry (Vehicle license needs to be valid to enter the Farm.)
- 1.14 Contractors and sub-contractors need to adhere to the speed limit 40km/h at all times. Fines relating to speeding are tabled on the Contractor's fine structure.
- 1.15 Any contravention of security and access rules will be severely dealt with by the HOA, and depending on the nature and the circumstances, could lead to the suspension of building work, barring of access to the farm and/or fines being imposed.
- 1.16 Access may be denied to site if fines are not paid up to date by every 7th of the month.
- 1.17 The Farm/Homeowner accepts responsibility for any loss or damage caused by his Contractor / sub-contractor's sub-contractors, his own appointed sub-contractors or suppliers, and is responsible for the payment of any fines related thereto. (See Annexure C – Contractors fine's structure.)

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2. Housekeeping and Tidiness:

HOMEOWNERS AND CONTRACTORS ARE SUBJECT TO THE G-DACE APPROVED EMP AND ARE BOUND TO AQUANT THEMSELVES WITH ALL EMP STIPULATIONS THEREIN. OMISSION OF EMP CONDITIONS IN THE RULES BELOW IN NO WAY EXCUSES NON-COMPLIANCE TO THE EMP.

- 2.1 The site is to be kept as clean as possible of building rubble and general cleaning and good housekeeping practice must take place during building operations. The development pocket shall not cover more than 50% of the site. All vehicles must park in the development pocket.
- 2.2 The development pocket must be screened off on all sides, with black shade cloth 1.4m high, and 80% density, and must remain screened at all times during building operations. Proper fencing materials should be used. Corner posts 110mm with stays, y-standards every 4 meters, 3 strand wire.
- 2.3 No concrete, cement or other building materials may be stored, mixed or prepared on any of the roadways, curbs and pavements or on the remainder of the site that does not form part of the development pocket. Concrete / cement to be mixed at designated area specified on the site development plan.
- 2.4 Materials, which are off-loaded, by a supplier or Contractor may not encroach onto the adjacent site, road serviced, roadway or onto the remainder of the site that does not form part of the development pocket. Where suppliers fail to adhere to this, the responsible Contractor shall move the materials accordingly. The Contractor is also responsible for removal of any sand or rubble that may have washed or moved off the development pocket onto the road.
- 2.5 The Contractor is to ensure that the roads and the vicinity of his house site is always kept neat and tidy, including materials or mud spoil being driven or dropped onto the road, sidewalk and swale crossing.
- 2.6 The Contractor shall provide adequate facilities for rubbish / building rubble collection and disposal by way of a skip bin and ensure that the workers use the provided facilities for rubbish disposal and that the rubbish is removed once the skip bin is full. No rubbish may be burnt or buried on site. No form of paper, cement bags, tile off cuts, ceiling boards, roof tiles, rubble or the like is to be left lying around or allowed to blow off the site.
- 2.7 Accumulation of hard core for fill shall be neatly piled. With the HOA's consent on-site disposal dump or spoil zones may be arranged within the development pocket.
- 2.8 Contractors shall ensure special care in their handling, disposal and cleaning up operations, with particular note to paint, tile grout, tile adhesive, cement and rhinolite, chemicals, oil and fuel, etc. Special preventative controls must be taken to avoid spillage of any kind.
- 2.9 Fires for cooking or other purposes will not be permitted, and Contractors shall ensure approved alternative meal arrangements are made. Contractors must ensure that their employees make no fires for heating purposes.

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- 2.10 The Contractor shall provide approved portable chemical toilets for the workers (1 per 20 workers) facilities shall be suitably positioned and kept hygienic.
- 2.11 No Toilet in the building can be used as a toilet during the construction phase.
- 2.12 The location of the toilet, skip, mixing area, material storage, taps must be clearly indicated on the SDP (Site Development Plan).
- 2.13 One compulsory standard builder's/ architect's board will be purchased from a recognized supplier shall be erected per site, and such board is to be erected neatly close to the gate corner of each site. Boards are to be maintained in plumb and level position throughout the contract, and must be removed once the MAC occupancy certificate has been issued of each house construction.
- 2.14 No contractors, sub-contractors, suppliers or advertising boards of any kind will be allowed on the development pocket, one A1 board is allowed in the builder's yard.
- 2.15 Construction material may not be allowed to visibly accumulate on the house site but should be stored in the builder's yard.
- 2.16 The certificate of completion by MAC [redacted] includes for the site to be entirely cleared of all rubble, surplus material, and be impeccably clean, the verge re-installed and all damage repaired, all to the satisfaction of the HOA.
- 2.17 Upon submission of building plans, a building performance deposit of R10000.00 will be deposited and held in trust (interest free) by the HOA.
- 2.18 The deposit amount will be used in event if there is a breach or non-performance to remove rubble or make good any damage caused by the Contractor or his sub-contractor or suppliers, including kerbing, landscaping, community services, roads, irrigation, etc. and for any outstanding spot fines on completion of the building.
- 2.19 The deposit will be forfeited if there is any non-compliance or breach of any or all of the provisions of the Architectural and Landscaping Guidelines by the owner, contractor or subcontractors or suppliers and fines will be drawn against this amount of breaches of EMP.
- 2.20 The building performance deposit shall be released once the Local Authority's certificate of compliance and occupancy and the certificate of completion by the MAC (Mornaghan Aesthetics Committee) has been issued.
- 2.21 Contractor vehicles shall not be parked or left on non-designated areas i.e. park on the grass (swales) but should park within the screened designated development pocket.
- 2.22 No "Site Offices" will be allowed on the building site.
- 2.23 Should the building Contractor not make use of the space available in the Builder's Yard (renting a unit) the contractor will ensure that all staff arrive fully clothed, and leave the site fully clothed. No areas on [redacted] will be used for staff to change into other clothes.
- 2.24 Contractors and Sub contractors staff must wear clearly identified overalls (Company Logo), or specific colour overalls as agreed with MFHOA. Any staff failing to adhere to the dress code will be denied access.

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2.25 Payment of fines shall be made directly to the [REDACTED] by the 7th day of every month, should no appeal be made to the MFHOA.

2.26 All contractor's staff are to remain within the screened off area at all times, and may not roam the Estate.

2.27 The principal contractor needs to ensure that he/ she at all times has a copy of the council approved building plans as well as any approved MAC [REDACTED] VO's on-site.

Landscaping contractors will also be bound by these rules and regulations, as well as the EMP.

2.28 No physical construction (including stripping of top soil) may commence before the following is in place:

- o Copy of Tshwane approved building plans received by MFHOA. Should the plans be MAC approved and awaiting approval by council, the Home Owner may, at their own risk be allowed to only perform bulk earthworks.
- o Screening the process of erecting within 14 days as per 2.2 of this document.
- o Ablution facilities to be in place as per 2.26 of this document.
- o Provide a SDP (Site Development Plan) showing the complete layout of the building site, providing for mixing area, storage of bricks sand etc.
- o Dust bin must be in place with lid from day 1 and must be replaced with a Skip once the wet works starts.
- Hand in the documentation required by ECO for approval of the Contractor.
- After approval, a site induction meeting with the contractor and client is set up.
- If the home owner is not present during the Site Induction meeting he must be present at the signing of the documents.
- Site Establishment
- Identify all the stand pegs (Steel Pegs) if they are there contact Nat Mohlartole (Surveyor) 082 445 6974
- Geotechnical reports must be done by appropriate engineer and the account is for the home owner
- Establishment of the development pocket within 14 days
- Set out the corner of the house
- Establish the development pocket drawing is corrected and approved by the ECO
- Establish and approve position of skip ,mixing area, toilet and water tap
- Update development pocket drawing if needed and submit to MAC for filling

- Foundation Level

- o As soon as the level specified on the approved drawings has been reached with cut and filling, an appointment needs to be made with the MAC representative to confirm and approve the level according to the datum level (dumpy level required)

- Roof level

- o As soon as the roof level has been reached make sure that the MAC representative checks the height does not exceed the 5.5m height restriction.

- Sewer Connection inspection

- o Before any connection is done to the sewer system MFHOA management needs to be present for a flush inspection after every toilet bath basins has been connected (All tiling, plastering sealing must be completed before the flush test)

- Once the work is completed and the council approved occupancy certificate has been issued, the MAC representative needs be invited to the final inspection to issue the MAC occupancy certificate and only then can the construction board be taken down.

- Once the earth works have started and the position of the soil has been identified it is advised to get the landscaping approved. This will eliminate the double handling of the soil backlog to the approved position.

Temporary Power

- As soon as the Eskom account opening process has been followed, the contractor is allowed to install a temporary power point. The COC certificate must be on site at all times for inspection (Time estimation to open an account 3 months)

- Eskom procedure is available on the website <http://www.monaghnfarm.co.za/homeowners/downloads/>

- It is recommended to have the power supply activated to due to the noise pollution in.
- Only a deposit est. R8000 to open the account is payable no connection fee is allowed.

Fine Structure

- All contractors' fines, outstanding rentals and any other outstanding amounts are to be paid on the 7th of every calendar month.

- All main contractors/ Farm owners are responsible for all sub-contractor fines.

- All contractors whose accounts are outstanding will be locked out.

Information/ Updates

- All [REDACTED] information and updates etc. required is available on the website-

Year-end Functions & Stand Braai

This is not permitted on [redacted] builder yard.

Water Connection

- Water meter will be installed by the HOA and an account will then be opened and is payable by the Homeowner.
- The HOA will supply a water meter for the property and the cost for the meter will be recovered from the farm owner.

Swimming pool

- No swimming pool is allowed to be connected to the sewer system.
- Must comply with SABS/ council requirement.

Communication Connection

- Ducting needs to be installed to accommodate communication lines. Please consult MTN directly.

DSTV Connection

- As from 2012 all developments must install DSTV dish, all DSTV dish locations has to be submitted to MAC and approved before installation.

Landscape

- All landscape drawing has to be approved by MAC and supplied within 8 month of breaking ground
- All berm shapes and position has to be approved by MAC
- All landscape projects have to be completed within the 12-month period of receiving the occupational certificate.
- Recuperation of disturbed areas needs to be done in the first month after completion to prevent erosion with wild grass seed, [redacted] must be purchased from a preferred supplier Mike Zingie (Mayfords) 083 252 1894.

Alarm Systems

- Only silent alarms allowed
- Alarm System can be connected to the in-house armed reaction.

Driveway and Swale Crossing

- A detailed drawing has to be submitted to MAC
- Details on material
- Detail on edging
- Detail on the swale and services fish tale crossing

Outside lights

- Low wall mounted downward shining
- Chandeliers must be on dimmers and approved by MAC
- Not radiating more than 1m

Natural ground level

- Build not to exceed 5.5m on any contour cut or filled

Signatures

Home Owner: _____

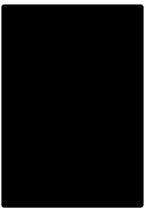
Date: _____

Contractor: _____

Date: _____

[redacted]

Date: _____



ARCHITECTURAL RULES AND REGULATIONS

Introduction

Good architecture and design are very important to the developers of [REDACTED]. We believe that exceptional long-term value can be achieved for properties on [REDACTED] by controlling the look and feel of the houses through a combination of Architectural Guidelines and an active Aesthetics Committee.

Over the past few years [REDACTED] established itself as a showcase of architectural excellence and environmental sustainability. Many of the houses have garnered media attention, competition accolades, respect and approval from a professional and public angle.

Important Notice to All Approved Estate Agents on [REDACTED] and Prospective Home Owners

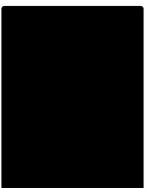
[REDACTED] has an extensive list of pre-approved architectural firms who have been through a strict vetting process, and who have attended the annual [REDACTED] Architects' Briefing sessions.

Prospective farm owners need to clearly understand that they can only select an architect from this accredited list.

This is in order to maintain the stringent architectural standards of which Monaghan Farm residents and investors are so proud. From the very start, [REDACTED] farm developers set out to establish a residential environment, which stands out from other estates and developments in that it displays a level of design & ethical integrity which is lacking in our contemporary 21st century surrounds. MAC-approved architects inherently understand the placing of a house in its landscape, the response to our wonderful yet dramatic weather patterns, sensitivity to energy consumption and sustainability, the needs of the client, all with a level of professionalism to make a home-owner see their dreams realised.

[REDACTED] consists of a group of professionals who are well-positioned and qualified to judge the architectural merits of each submission, however subjectively this is viewed, and reserves the right to refuse a home owner's choice of architect.

Please request a list of the [REDACTED] Approved Architects from [REDACTED]



A very short word on Modern Architecture

When many people think of "modern architecture" they shudder, imagining clinical white cubes where not a pin would be allowed to drop. Some people think they couldn't really live in a modern house. Some people imagine Barbara's interiors filled with lava lamps and futuristic bubblechairs, zany teenage fantasy pads where friends would be embarrassed to visit. Few people realise that modern architecture has actually been around for the last century, and is by now quite mature and varied. When we refer to modern architecture, we are really referring to "contemporary" architecture, which infers honesty, integrity and appropriateness, and is meant to imply current worldwide approaches to architecture that are relevant to both time and place.

There is no sense in trying to recreate the romance of medieval Italy by reproducing a hilltop village (replete with pigeons and swinging laundry) in fibre-glass, concrete and plaster. You cannot instantly, authentically recreate the patina of time. But you can capture the essence of the hilltop village through scale and materials, transition from space to space. Gradually over the years, the patina of time will show and character will develop.

Many examples of early modernist architecture have developed this patina in a natural way, and the shock of the new is no longer felt. For example, Frank Lloyd Wright's Taliesin West, where he and his students lived and worked, has the humility of a truly organic building where the play of scale and the simplicity of the detailing lend the building an aura of wonder. There are no tricks; it is designed for human beings, not for show. Whilst some of the early modernist works were shocking in their day, they have "staying power" and have aged well. They no longer shock, but they do delight!

Good architecture can transcend trends and fads, and should outlive us all. Next time you're looking at an example of classic "Modern Architecture", check the date it was built; you may be surprised!

We say no to:

- doric/ionic/corinthian columns
- porticoes, especially "classical" ones
- gumpole and thatch
- busy architecture
- senseless design
- shiny tiles
- reflective glass
- mock-afro
- mock-anything
- inhumane proportions
- trendy affectations
- Zaha Hadid groupies
- Gehry-inspired fandangos
- Pretentious palaces

But, if you like the work of:

- Norman Eaton
- Glenn Murcutt
- Peter Zumthor
- Sverre Fehn
- Diebedo Francis Kéré
- Maya Lin
- Alvaro Siza
- Alvar Aalto
- Jean Nouvel
- Jo Noero
- Kazuyo Sejima
- Pierre d'Avoine
- David Adjaye
- Gawli Fagan
- Eduardo Souto de Moura
- Ludwig Mies van der Rohe
- Frank Lloyd Wright (middle years)

Energy Efficient Design

At [REDACTED] we actively encourage the reduction of energy consumption through the use of renewable energy, passive design elements, energy efficient appliances and lighting.

We have entered a period of doubtful electricity supply with power cuts becoming increasingly common. We do not endorse the use of diesel or petrol back-up generators, and urge a thoughtful consideration of battery and solar.

Renewable energy is **RENEWABLE** because as we use it, nature replaces it. Examples of renewable energies include wind, sun, water, waves, waste, etc. Once renewable energy technology has been put in your home, the electricity it makes is free. Gauteng is blessed with an enormous amount of sunlight, which can be harnessed very easily, particularly in winter when we need it most.

PASSIVE design elements use elements in the building envelope, which allow for human comfort through all seasons, without having to supply additional heating or cooling. Insulation, orientation, shading, cross ventilation, overhangs and thermal massing are all examples of passive design elements that will reduce the reliance on external energy input. The building is passively doing the job by itself.

ENERGY EFFICIENT appliances (i.e.: fridges, washing machines etc.) and lighting are widely available within well-known brands. All you need to do is compare the specifications of the different units and purchase the model that consumes less. Huge strides have been made with the introduction of compact fluorescent and LED lighting to replace regular light bulbs. Specifications are available through your architect or energy suppliers.

It is possible to supply a well-designed home with renewable energy only, and to live "OFF THE GRID" (i.e. no supply from Eskom). It will demand compromise that might not be acceptable to all. Dual use of renewable and Eskom power is mandatory not only on Monaghan, but throughout the whole of South Africa through the recent introduction of the mandatory SANS 10400 XA energy requirements. Once your architect has designed a home that behaves well thermally, thanks to the correct implementation of passive design elements, you can start looking at supplementing your regular Eskom supply with alternative renewable sources.

- **Solar water heaters.**
Regular geysers are the biggest consumers of domestic electricity. Solar hot water cylinders can remain connected to the Eskom supply in case of back-up required over cloudy or very cold periods. Unsightly storage tanks can be hidden in the roof void and need not be visible. Use of a timer, thermal blanket and the reduction of the thermostat to below 60 degrees Celsius help reduce the power consumption of a geyser.

- **Heat exchangers.**
A fan pulls air into the one side of the heat pump, which extracts the latent heat in that air using the inherent characteristics of gas, and expels the cold air on the other side. The heat pump consists of a compressor, evaporator, condenser and various valves to load that heat into gas, which reaches very high temperatures. That gas is fed into a pipe that is coiled around the hot water cylinder where the heat is transferred into the water. (This is exactly what the element does in an electric geyser.) An alternative to the solar geyser, more than half the homes on Monaghan have opted to use heat exchangers. This highly efficient system can be used to heat water, as well as for under floor heating.

- **Photo voltaics.**
Electricity is generated by the sun and stored in batteries to be used for non-resistant equipment, i.e.: lighting, sound, TV, computers, garage door motors, bells, etc. Resistant equipment are things like stoves,

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kettles, geysers, heaters etc., which require huge amount of energy.) PV cells do not take up a lot of space and continue to drop in price.

- **Gas.**
Although not a renewable energy source, gas is less polluting and recommended for cooking and heating. Electric stoves use a huge amount of electricity. Gas can now even be used safely for space heating in bedrooms.

- **Air-Conditioning**
We do not believe air-conditioning is necessary at all. A well-designed house in Gauteng with cross-ventilation has no need for air-conditioning. However, some home-owners have opted for an evaporative cooling system with a far lower carbon footprint than a conventional air conditioner. Please be aware of the fact that these systems have unsightly external ducting and units, which need to be incorporated into the design of the house, and not as an afterthought.

- **Intelligent Homes.**
A central computerised installation can increase the efficiency of energy use in the home.

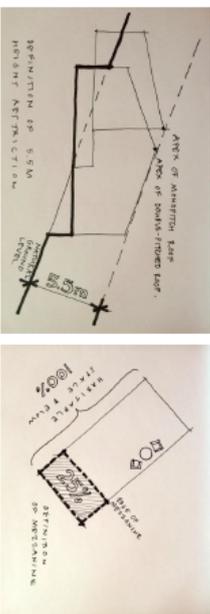
- **Other:**
Geothermal water heating, biomass space heating, in-house rainwater systems, insulated walls, floor & roofs, cavity walls. Please note, there is not sufficient wind in Gauteng for wind power to be a viable option at present.

Paying attention to the above will be an enormous contribution to reducing energy consumption and pollution. For more detailed technical references please contact the developer or the architects. Please show all power saving methods or technologies on the roof plan and on all elevations for MAC approval at Submission 3.

Monaghan Architectural Guidelines: Basic Rules.

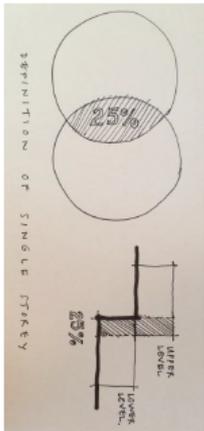
1. Single Storey

Houses must be single storey with a height restriction of 5.5 m from natural ground level (NSGL) to the apex of the roof. Please note that NGL refers to the original contours of a site upon purchase, i.e. – before any construction or earthworks have taken place. Because of the gentle slopes on Monaghan single storey houses will ensure that neighbours do not compromise one another's views. They will also better assimilate with the landscape. At an average size of 4600sqm, even are very large and 50 houses can afford to spread themselves across the erf.



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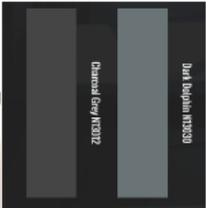


2. Roofs

Shape: 24° double-pitched / 12° mono-pitched / curved or vaulted / less than 5 degree "flat roof" hidden by parapets, decking, turf, gravel, or painted to match walls. Hipped roofs are discouraged as they can create unsightly visual bulk.

Material & Colour: 17.5/18mm corrugated profile Chromadek or Macsteel/ "Classidek" or "Corrugated" "dark dolphin" N13030/ Charcoal grey/ N13032. In the case of "invisible flat" roofs, MAC will make allowance for BR & silver reflective paint as long as this is not visible from the "line of sight" from any reasonable present or anticipated future neighbouring eye level position.

Chimneys are to be MAC-approved, e.g. a simple stainless steel or matt black flue from a reputable manufacturer with a small, subtle matching cap. Alternatively, masonry chimney will be viewed in accordance with the design of the house. No "bird-shaped" cowls will be approved.



APPROVED.



NOT APPROVED.



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3. External Wall Materials

Stone of an approved colour and style (sample to be submitted on site to [redacted] Aesthetics Committee for approval.) The wall to the east of the [redacted] site house is an example of approved stone walling. Bagged, plastered or painted brickwork in an earthy palette (sample to be submitted on site to MAC for approval.) Please note that the earth has many tones, and while most parties have opted for khaki and brown, there is scope for exploration of alternative earthy tones. No facebrick is permitted unless in a courtyard hidden from sight or used as low walling in the landscaping. Corten steel or "corrugated iron" cladding to match the roof. Wood in an approved colour range (sample to be submitted on site to MAC for approval.) Please note that wood is to be stained in a very dark colour (limbus or Ebony) or left untreated to turn silvery grey. Windows and doors are to be dark brown stained timber or aluminium to match the colour of the roof. No creosote is allowed on [redacted] due to its high level of toxicity. www.atsdr.cdc.gov/dtss/dtss.asp?tid=64&cid=18

4. Passive Solar

All houses must demonstrate elements of passive solar design and energy saving construction, as described previously in this document.

5. Water Collection

Houses on [redacted] are connected to Rand Water, but through promoting a culture of resource conservation we hope to significantly cut down household usage. Each house must make provision for a minimum of 20 000 litres of rain water storage for use either as garden water or to integrate into the house water system. This amount will vary according to the roofed area of your house. The entire roofing surface must form the "catchment area". Please ensure that this is both considered practically and authentically as part of the design process of the house, and not sacrificed at the end of the project due to budget constraints.

- 150 - 400sqm - 20 000
- 400 - 500sqm - 30 000
- 500 - 600sqm - 40 000
- 600 - 700sqm - 50 000
- 700 - 800sqm - 60 000
- 800 - 900sqm - 70 000
- 900 - 1000sqm - 80 000 litres

<http://www.umtcfusa.org/work/water/>

The best place to store water is underground, in a submerged reservoir, with a pump and a ring main but tanks may be integrated into the design of the house and may even take the form of a pond or reservoir. "Stormy grey" joists or proposed alternative colours approved by MAC are allowed, as long as they have been placed in a considered manner, as are corrugated iron tanks. All other tanks need to be screened or clad in a MAC-approved position and finish. The position of the tanks must take into consideration the aesthetics and the practicality of the guttering and downpipes.



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6. House Size

Maximum permissible 1000 square metres.
Minimum permissible 150 square metres.
We believe that much of the value of a house on [REDACTED] will be in the increasing rarity of available space in an ever-developing Gauteng. With this in mind, the traditional ideas of undercapitalising your erf do not apply. We hope to promote a culture of building for your requirements rather than for show. There may be no need to build that second sitting room that never gets used. We are finding that the average size of a house on [REDACTED] is 450sqm.

7. Staff Accommodation

Each property is required through the Record of Decision by GDACE to have accommodation for at least one domestic worker.

8. Courtyards

We encourage a break-up of the bulk of the house into separate structures interlinked by courtyard gardens. You may for example have a living area with bedrooms, a study or office, a guest room, a domestic worker's cottage, your garages and store rooms, all separated into different buildings across the erf, but perhaps linked by low walls to form courtyards.

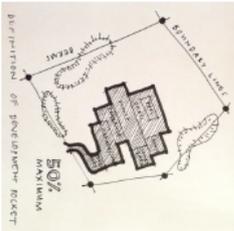
The courtyards have three main purposes:

- The first is to create wonderful landscaping opportunities. Whilst we do not encourage the use of non-indigenous plants, we do allow them within the confines of courtyards.
- The second is privacy. Courtyards are the perfect place to put swimming pools, outside showers, private green lawns, playgrounds, washing lines, etc.
- The third is to contain pets.



9. Development Pocket

Only 50% of your property may be developed. This is termed the "Development Pocket". In our Conditions of Establishment and consists of all your buildings, pool, driveways, paths, lawn and courtyard gardens. The balance of your property must consist of only grasses, and trees from our indigenous plant list, you are not obliged to have non-indigenous courtyards and may choose to develop a garden of indigenous grasses alone; however, you are obliged to plant only indigenous trees with the exception of fruit trees in these courtyards.



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10. Site Plan

All erven must have an approved site plan, which includes a basic landscaping layout with all berms, shown. It is strongly recommended that a landscaper is employed alongside the architect in order to coordinate house and garden design from the outset. Please note that external lighting should be kept to a minimum and that only low-mounted down lighting is permitted. Swale crossings must be detailed and presented to MAC for approval. A detailed landscaping plan is required 8 months into the build.

11. Building Materials

We encourage the use of alternative building materials and technologies. Examples of turf roofs, rammed earth, on-site brick-making and light steel frame are becoming more and more common. Locally-sourced stone, FSC-accredited timber, low carbon building materials and finishes such as alien eradication timber, recycled materials and bamboo, to name a few, are highly recommended.

12. Driveways

The choice of driveway material is to be confirmed by MAC. Examples of permissible driveway surfacing include tarmac, cement-coloured concrete pavers and cobbles, light coloured small gauge "pink" gravel and grass blocks. Swale crossings must be detailed and presented to MAC for approval.

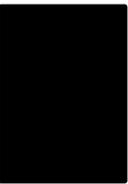


13. Outside Furniture

- a. Lighting: chandeliers, driveway lights, garden lights, spike lights, wall lights. All external lighting should be kept to a minimum, through the use of low wattage or LED lights, and only low-mounted lighting, shining down and back to the house, is permitted. No lit up trees are to be visible. The light source must not be visible, and the "harsh" effect of high-level, decorative windows must be avoided.
- b. Satellite dishes:
 - The positioning of any satellite dish needs to be approved by MAC on site.
- c. Alarms:
 - The positioning of alarm systems needs to be approved by MAC on site, and can be connected to the in-house armed reaction.
- d. MTN telecoms:
 - 1. MTN requires that the customer provide MTN with 50 mm conduit between the kerb and the customer's home. The conduit should be at least 500 mm beneath the earth and will remain the responsibility of the customer to maintain.

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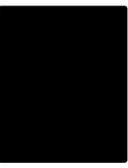
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- ii. The FTTH service will be installed in the customer's designated area. The designated area can be the garage or any area that MTN can have reasonable access to.
- iii. The customer must provide MTN, in the designated area, with a secure enclosure with minimum dimensions of 600 mm high, 800 mm wide and 170 mm deep.
- iv. The secure enclosure must include a double plug socket with a power supply of 220V (15Amp) which is correctly earthed.
- v. MTN will install an Optical Network Terminal (ONT) in the secure enclosure. The ONT will terminate the fibre coming from the kerb.
- vi. The ONT will provide the customer with ports for the customer to terminate his/ her equipment.
- vii. MTN will maintain the ONT until the twelve (12) month warranty expires.
- e. Playgrounds: Jungle Gyms, trampolines, temporary swimming pools, playgrounds, temporary swimming pools, jungle gyms and trampolines need to be screened off and not be visible from any angle on the farm.
- f. Fire pits
- g. Fire pits should show an area that is clear of any vegetation not to promote a fire hazard and a barrier to prevent fires from spreading.
- h. House Numbers.
- i. House numbers are to be according to the MAC-approved standard. No other house numbering or naming is to be visible.



- 14. Renovations and Extensions**
- a. **Submissions and Approvals**
Any exterior renovations or additional builds and structures must be drawn up by an approved Architect.
 - b. **Submission and approval** must be done by MAC.
 - c. **Time Period**
The cost for renovation submissions are R3500.00
 - d. **Contractors**
There is a maximum of 6 months allowed for a second build
 - e. **Only approved** Builders are allowed to do construction and renovations on
- 15. Sign-off Procedure**
The following documents need to be handed to MAC prior to MAC sign off:
- i. Council Occupation Certificate
 - ii. MAC-Approved landscaping plans
 - iii. As-built council plans must be signed by MAC before being submitted to council. Once the council submission is in progress a sign-off appointment must be set up with MAC. Once the as-built drawings have been received and approved by council the needs to receive a hard copy of the council approved as build drawings need to be given to MAC.



- iv. When all the documents are received MAC must be invited to a sign off meeting.
- 16. Swimming Pools**
Please consider the type of pool to be built, include paving, colour, backwash, etc. A wetland pool is a wonderful way of integrating the environment into your recreational life, the water being so clean & pure you can actually drink it! If designed carefully this can also form a percentage of your stored rainwater. Also, although the new pool by-laws are not yet applicable in Tshwane, consideration must be given to the impact of a permanent pool fence with a self-closing, self-locking gate. A walled pool with a separate entertainment area should be considered.

<http://www.naturalswimmingpools.co.za/home.shtml>
<http://www.wetlandpools.co.za>

Tshwane Municipality Conditions of Title

- (a) All erven
- (i) The erf is subject to a servitude, 3m wide, in favor of the Section 21 Company and the Municipality, for sewerage and other engineering services, along any two boundaries other than a street boundary and in the case of a parhandle erf, an additional servitude for services, 1m wide across the access portion of the erf, if and when required by the Section 21 Company and the Municipality; provided that the Section 21 Company and the Municipality may dispense with any such servitude.
- (ii) No building or other structure shall be erected within the aforesaid servitude area and no large rooted trees shall be planted within the area of such servitude or within 2m thereof.
- (iii) The Section 21 Company and the Municipality shall be entitled to deposit temporarily on the land adjoining the aforesaid servitude area any material as may be excavated by them during the course of the construction, maintenance or removal of such works as it in its discretion may deem necessary and shall further be entitled to reasonable access to the said land for the aforesaid purpose subject to any damage done during the process of the construction, maintenance or removal of such works being made good by the Section 21 Company and the Municipality.
- (iv) The purchaser acknowledges that the property is situated in close proximity to the Lanseria airport and existing and operational farms in the vicinity, in particular the Early Bird Chicken Farm. The Purchaser further acknowledges that these facilities and the activities being conducted thereon, as well as the farming activities to be conducted in the development by the Home Owners Association may result in some nuisance, discomfort or inconvenience with regard to noise and smells being experienced by residents and their guests in the development, and will have no claim against the Seller, the Home Owners Association, the local authority or any authority having approved the development as a result thereof.
- (v) As this property is adjacent to land on which an airport is situated, with the subsequent activities of aircraft and aviation operations, the property is subject to noise and disturbance from aircraft, and the owner accepts the nuisance and inconvenience, which may result from such noise and disturbance. The owner indemnifies the operator of the airport against any liability or claims, which may arise from such noise and disturbance due to aviation operations.
- (b) Erven 1 – 260
- (i) The owner of the erven shall become and shall remain a member of the Section 21 Company (Home Owners Association), and shall be subject to its memorandum of articles of association until he or she ceases to be an owner. The said property shall not be transferred to any person who has not bound him or herself to the satisfaction of the Home Owners Association to become a member of such association.
- (ii) To enable the Home Owners Association to maintain the services, it is a requirement that a trust fund must be created for this purpose, and a fixed amount be deposited by every owner into the fund every month. This amount must be determined during a General meeting of all the owners and should be escalated every year.

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- (iii) Any portion shall not be entitled to be transferred to a new owner without a clearance certificate from the Home Owners Association, that all amounts owed by the owner to the Association have been paid and that the Owner has generally complied with the Association's memorandum and articles of association. [REDACTED] is subject to the Peri Urban Town Planning Scheme, 1979, which has been amended and altered in the following manner:

ERVEN 1 -260- USE ZONE I: RESIDENTIAL NO 1

1	Use Zone	I: RESIDENTIAL NO 1
2	Uses permitted	Table D, column 3
3	Uses with consent	Table D, column 4, home undertakings; Clause 7 included
4	Uses not permitted	Table D, column 5
5	Definitions	Clause 1 For the purpose of this scheme, a home undertaking means that a person may practice an occupation from a dwelling house; provided that the conditions as stipulated under point 20.4) are met. For the purposes of this scheme, a loft means a mezzanine storey of which the floor area does not exceed 25% of the floor area of the floor beneath it. For the purposes of this scheme, 'development pocket' means land used for the development. For the purpose of this scheme a 'development footprint' means an area on which buildings may be developed. One dwelling per erf. Provided that no additional dwelling house shall be permitted except for servant quarters.
6	Density	One dwelling per erf. Provided that no additional dwelling house shall be permitted except for servant quarters.
7	Coverage	The development footprint shall not exceed 1000m ² Erven 241 -246: The Development pocket shall not exceed 50% of the erf. Provided that the land development pocket may be increased to the satisfaction of the Home Owners Association.
8	Height	5.5m (1 storey including loft)
9	Floor space ratio	Not applicable
10	Site development plan and landscape development plan	Not applicable
11	Building lines	As per approved building plans
12	Parking requirements	As per approved building plans
13	Paving of traffic areas	Not applicable
14	Access to the erf	Not applicable
15	Loading and off-loading facilities	Not applicable
16	Turning facilities	Not applicable
17	Physical barriers	No physical barriers may be erected on the boundaries of the erf except for around the development pocket to the satisfaction of the Home Owners Association.
18	Health measures	Any requirements for air pollution-, noise abatement- or

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MONAGHAN
FARM

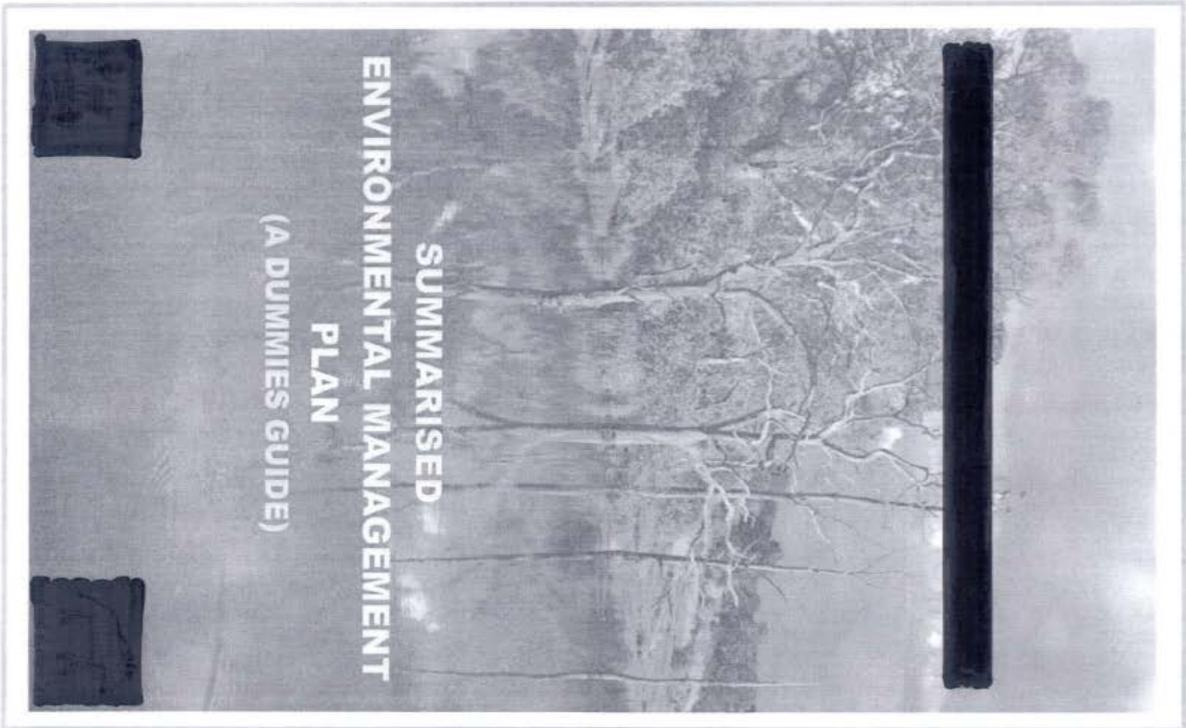


		health measures set by City of Tshwane Metropolitan Municipality shall be complied with to the satisfaction of the Municipality without costs to the Municipality.
19	Outdoor advertising	Not applicable

20. General:

- 1) A certificate signed by an engineer shall state that he/she has studied the relevant geological report and that he/she has prescribed the necessary safety measures according to the geological conditions of the buildings and the site as well as installation of the wet services and such certificate shall be submitted together with the building plans. On completion of the building he must certify that all his specifications have been met.
- 3) All building and structures to be erected shall be made subject to the provision of the [REDACTED] Guidelines and any all amendments to the said document as may be affected and approved by the owners association. Building plans shall only be submitted to the Municipality for final approval once the said plans have been evaluated and approved by the [REDACTED] Aesthetics Committee.
- 6) The recommendations and guidelines as set out in the approved Environmental Management Plan shall be reflected in the building and landscape plans.
- 9) Should the owner obtain consent for a home undertaking, the following conditions shall form part of the consent:
 - 4.1 Any person practicing an occupation must occupy the dwelling house.
 - 4.2 The practice of such occupation may not, to the sole discretion of the Municipality, causes any nuisance of any nature whatsoever nor disturb the surroundings.
 - 4.3 No goods may be exhibited, displayed or stored without the written permission of the Municipality.
 - 4.4 The use of the more than 25% of the floor area of the dwelling house for the practice of such occupation is permitted.
 - 4.5 Not more than two employees in maintenance or support role or two agents may be employed unless the Municipality has given prior written consent. The conditions of Clause 7 are applicable to such application.
 - 4.6 No Occupation may be practiced from outbuilding unless the Municipality has given prior written consent the conditions of Clause 7 are applicable to such application.
 - 4.7 No shops may be practiced from outbuildings or dwelling houses.
- 5) No residential development which will take place within an area with decibel count in excess of the norm with reference to noise contour of Lanseria Aerodrome.
- 6) In addition to the to the above conditions the erf and buildings thereon are further subject to the general provision of the Peri-Urban areas Town Planning Scheme, 1974.

Eco-Estate F



TO MY FELLOW [redacted] RESIDENTS

I am sure that I do not need to emphasise just how privileged we are to be able to live on a [redacted] but with that privilege comes some responsibility. The Environmental Management Programme is a document that was compiled by a group of experts and is intended to assist the residents to fulfil that responsibility.

To make the EMP more "user friendly" and accessible we have drafted this summarised version of the original document, and hope that each of us will gain some insight into the need to respect [redacted] environment.

Positioned as we are in the Cradle of Humankind, a world heritage site, and placed within the grassland biome of South Africa, the most threatened of all our biomes, we have a particular obligation to manage this farm to the best of our ability.

This does not imply that each of us have to becoming raging "greenies" but each in our own way can make a small difference. Let us hand over this small paradise in Africa to the next generation in a better state than we found it.

Remember, we do not own the land, we are only its custodians for the next generation

Enjoy the farm, embrace it and discover its many gems!

Kind regards

Jan Arker

Founder/ Members: J & L Arker, L Cook, O & J Madlerton, M McCrae

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When one bugs at a single thing in nature, one finds it attached to the rest of the world.

*John Muir
(naturalist, 1838-1914)*



ENVIRONMENTAL POLICY

The owners of [redacted] have compiled an Environmental Management Policy that will be honoured at all times, and will be enforced and complied with by all persons on the property described hereunder. This policy is based in the National Environmental Policy for South Africa, as set out in the Preamble of Section 2 of the Environment Conservation Act (No. 73 of 1989) and states:

- i. Every inhabitant of [redacted] has the right to live, work and relax in a safe, productive, healthy and aesthetically and culturally acceptable environment and therefore also has a personal responsibility to respect the same right of his fellow man."
- ii. Every generation that lives, works and relaxes in this [redacted] has an obligation to act as trustee of its natural environment and cultural heritage in the interest of succeeding generations. • Every person on this property has a responsibility to consider all activities that may have an influence on the environment and to take all responsible steps to protect, maintain and improve both the natural environment and the human living environment.
- iii. The maintenance of natural systems and ecological processes and the protection of all species, diverse habitats and land forms are essential for the conservation of biodiversity.
- iv. Renewable resources are part of complex and inter-linked ecosystems and must through proper planning and judicious management be maintained for sustainability. Non-renewable natural resources are limited and their utilisation must be extended through efficient use and maximum reuse of materials with the object of combating further over exploitation of these resources.
- v. The concept of sustainable development is accepted as the guiding principle for environmental management. Development and educational programmes are necessary to promoted economic growth, social welfare and environmental awareness, to improve standards of living and to curtail the growth in the human population. Such programmes will be formulated and applied with due regard for environmental considerations.

Please note that this summarised EMP must be read in conjunction with the Rules & Regulations of the [redacted] and in no ways replaces the Revised Environmental Management Plan, prepared By Sivesl, dated March 2008



1. ENVIRONMENTAL MANAGEMENT PLAN

An EMP seeks to manage and keep to a minimum the negative impacts of a development and at the same time, enhance the positive and beneficial impacts. To make this document more accessible to the residents and shareholders of [REDACTED] a summary of the document is provided here:

The objectives of the EMP are to:

- i. Identify a range of mitigation measures which could reduce and mitigate the potential impacts to minimal or insignificant levels.
- ii. To identify measures that could optimize beneficial impacts.
- iii. To create management structures that address the concerns and complaints of interested and /or Affected Parties (I & APs) with regards to the development.
- iv. To establish a method of monitoring and auditing environmental management practices during all phases of development.
- v. Ensure that the construction and operational phases of the project continues within the principles of Integrated Environmental Management.
- vi. Detail specific actions deemed necessary to assist in mitigating the environmental impact of the project.
- vii. Ensure that the safety recommendations are complied with.

1. Avoiding impacts by not performing certain actions

- i. Minimising impacts by limiting aspects of an action
- ii. Rectifying impacts through rehabilitation and restoration of the affected environment.
- iii. Compensating for impacts by providing substitute resources or environments
- iv. Minimising impacts by optimising processes, structural elements and other design features
- v. Provide ongoing monitoring and management of environmental impacts of a development and documenting of any digressions /good performances
- vi. The EMP is a legally binding document that all parties involved in the project must be aware of and abide by this document.

Environmental Control Officer (ECO)

The ECO is appointed by the Game Farm as an independent consultant who is responsible for undertaking regular monitoring of site activities.

Environmental Managers (EM) (Board of Directors)

The EM is responsible for monitoring site activities on a daily basis. EM interacts with all the contractors and residents to ensure that desirable / acceptable levels of compliance are reached.



1. ENVIRONMENTAL MANAGEMENT PLAN

Responsibility of the Environmental Managers

- i. The Environmental Managers must be responsible for the implementation of the EMP.
- ii. Should the Environmental Managers not have the relevant knowledge to implement certain actions, then he / she must ensure that they have access to this knowledge in order to fulfil his / her responsibilities.
- iii. The Environmental Managers must monitor all activities on the [REDACTED] and keep a comprehensive record of all environmental incidents and remediation methods.

Consultation with shareholders and landowners

The Environmental Managers must convene a monthly board meeting. This meeting is to be an open meeting to all shareholders and landowners. This meeting will serve to update the shareholders and landowners of the environmental status of the [REDACTED] and report any environmental incidents. Comprehensive records of these meetings must be kept and distributed to shareholders and other landowners.

Changes to the EMP

Should any changes to the EMP be proposed in these meetings, they should be reviewed and included within the EMP if relevant. Any changes to the EMP must be approved by DEAT.

Compliance with the ROD (Record of Decision)

- i. Should any activities on the [REDACTED] infringe on the Record of Decision issued by DEAT, these must be recorded and a non-compliance report submitted to DEAT within 48 hours.
- ii. The Environmental Managers must be responsible for any correspondence with DEAT.
- iii. All conditions stipulated within the ROD must be complied with.

Auditing

- i. The Environmental Managers must be responsible for appointing a registered, independent environmental auditor to conduct periodic third party audits.
- ii. These audits will be discussed during the monthly board meeting to which all residents are invited to attend. Actions will be minuted and reports and minutes will be available for the residents perusal. Where necessary, these reports must be submitted to GDACE for inspection and verification.
- iii. The Environmental Managers must be responsible for the implementation of any corrective measures and verify that these measures have been implemented inecously.



2. ENVIRONMENTAL AWARENESS

These are measures which guide the management as well as the residents and subcontractors on how to implement environmental best practice.

The EMP must be considered as a legal document and any failure to comply with the requirements may be grounds for the immediate cancellation of any contract.

- i. All contractors and residents must be provided with a copy of the EMP and they must confirm in writing that they will abide by these requirements. They must also agree to comply with any changes and updates.
- ii. Contractors must be held directly responsible for any environmental incidents on their building sites and are required to report these incidents to the Environmental Managers.
- iii. Contractors must inform all of their staff of the environmental requirements of [REDACTED].

All communications related to environmental issues associated with [REDACTED] must be made for the attention of the Environmental Managers. A deputy must be appointed in the absence of the Environmental Managers.

Response to any environmental incidents must be immediate or at least within 24 hours.

Security must have 24-hour access to the Environmental Managers.

Records must be kept of all internal and external communications regarding environmental incidents including the remedial actions.

3. SAFETY AND SECURITY

These include measures to ensure safety and security of [REDACTED] environment.

- i. Labour must be transported to and from the site to discourage entering in adjacent areas and possible increase in crime or disturbance.



- ii. Unsocial activities such as unauthorised consumption or illegal selling of alcohol, drug utilisation or spilling and prostitution on the site must be banned and any persons found to be engaged in such activities must have disciplinary or criminal action taken against them. Procurement of labour must not take place at the site but must follow formal procurement procedures that should be implemented by the contractor.
- iii. No labour other than essential personnel required for stand-by situations must be housed on the site.
- iv. Measures must be put in place, in consultation with the local authority, to prevent squatting on the site and in areas immediately adjacent to the site, should this occur and if specifically related to the development.
- v. All contractors and their labourers must vacate [REDACTED] by 18:00 during the week and 14:00 on Saturdays. No construction-related activities will be undertaken outside of these times (Sundays and Public Holidays).

The boundary fence must be regularly patrolled to check for any breaks or holes.

- i. All construction sites must be fenced off and all equipment must be locked away safely.
- ii. All construction activities must be conducted in accordance with the requirements of the Occupational Health and Safety Act (Act No 95 of 1993).

- i. Access must be controlled at the two gates which form the main entrances to the property. Entry time for public access must be determined by management in consultation with residents and any other identified parties where necessary.

- i. Movement through [REDACTED] must be controlled through strict access control. All visitors are to sign in and out and the Environmental Manager is to be informed of large parties entering [REDACTED].
- ii. A suitably qualified guide must accompany guests (non-shareholders, non-landowners) on excursions through [REDACTED] whether on foot or horseback.
- iii. Trails and walkways must be designed to limit any disturbance to game, vegetation and watercourses, and limit the potential for soil erosion.
- iv. Trails and walkways are to be established only at the discretion of the Environmental managers (Board) in accordance with the EMP.
- v. Individuals must not remove, damage or disturb vegetation, game, or any sites identified as having cultural, historical or archaeological significance.
- vi. Offenders must be dealt with accordingly (fines, removal from property, etc.).

- i. Maximum/minimum speed limits must be maintained.
- ii. No vehicle may travel at more than 30km/h.
- iii. No commercial vehicle may travel at more than 20km/h.
- iv. Speed limits must be strictly enforced by the security of the [REDACTED] in order to minimise degradation of roads.



- i. Any act of disturbance or occurrence resulting in excessive noise must be reported directly to the Environmental Managers or delegated individual via established contact details that must be communicated to the residents. Reporting of incidents must be possible 24 hours a day.
- ii. The Environmental Managers must take the necessary corrective and preventative action following a complaint, either internally or externally
- iii. No grass cutting on Sunday afternoons.
- iv. No quad bikes or similar recreational vehicles are allowed on [redacted]
- v. The use of generators on [redacted] must be strictly controlled
- vi. Should they be required, permission must be granted by the Environmental Manager. Generators to be used must be "blimped" (quiet) and not exceed 15KW
- vii. According to the South African National Standard SANS 10103:2003, noise levels must not exceed the acceptable noise standards of 50dBA during the day (06h00 – 21h00) and 40dBA during the night (22h00 to 06h00).
- viii. Surrounding land owners need to be informed of noisy activities or any work going on after normal working hours: **Monday – Friday: 08:00 – 17:00, Saturday: 08:00 – 14:00, no work is allowed on Sundays and Public Holidays.**

- i. Residents must be encouraged to minimise spill-out of light over the perimeter of [redacted] **Any lights erected should be inward and downward pointing to avoid impacting surrounding areas.**
- ii. The design and layout of the residential units must take cognisance of this issue.
- iii. Lateral and vertical light spill should be avoided.

GENERAL MAINTENANCE

Measures to maintain public areas of [redacted]

- i. All roads on [redacted] must be maintained as required in order to avoid degradation of the road network.
- ii. All roads on [redacted] must be fitted with adequate drainage and storm water control measures (such as berms) and must be regularly maintained (especially after heavy rains) to ensure that any erosion channels are repaired.
- iii. Areas along drainage lines where active erosion (sheet erosion or donga erosion) is occurring must be rehabilitated.

Parking lots in common areas must be maintained as required to ensure erosion control, especially in the rainy season.



Regular checks of road signs and reflectors must be made and any repairs made immediately.

5. POLLUTION CONTROL

Guidelines which govern the establishment and implementation of pollution control measures

- i. The sewage system must be regularly serviced and maintained. The system must operate efficiently to ensure water quality standards are in line with the standards stipulated by (DWAF).
- ii. Random water quality testing must be conducted by the Environmental Managers on the outputs of the sewage management systems every six months to review the reliability of the sewage management systems.
- iii. No sewage management systems must be located in or near a surface water resource. According to the requirements of the General Authorisations in terms of Section 39 of the National Water Act Septic tanks should be placed at least 100m away from any well or borehole, 100m from a surface water body and out of the 1:100 year flood line.

- i. Use of fertilisers must be kept to a minimum and must not be used within the 1:100 year flood line of any drainage system on [redacted]
- ii. Fertilisers should not be used excessively and slow release fertilizers and organic products should be used in preference to highly soluble and inorganic fertilizers.
- iii. The use of herbicides and pesticides and other horticultural chemicals should be carefully controlled wherever these are used. Where feasible, environmentally friendly products should be utilised.
- iv. Should the use of chemical herbicides be necessary only glyphosatebased systemic herbicides (which become inert on making contact with the soil) shall be used.

- i. Contaminated water should be fed into a sedimentation pond for filtration.
- ii. Other measures such as the use of energy breakers and the planting of vegetation (artificial wetland) must also be implemented to trap silt and other pollutants.
- iii. Silt deposits must be removed for disposal or used for landscaping purposes.
- iv. Oil traps must be regularly maintained. All contaminants must be removed and disposed of at an appropriate landfill site.
- v. No stockpiles and spoil dumps must be located within the 1:100 year flood lines of the drainage systems on site.
- vi. Water quality samples must be taken at the following strategic points on an annual basis:
 - * the point at which the Blaauwbank / Horningklip Spruit enters the property
 - * the point at which the Blaauwbank / Horningklip Spruit exits the property.
- vii. Construction work on new houses must be designed to reduce the potential occurrence of erosion.



- viii. All roads on [redacted] must be fitted with adequate drainage and storm water control measures (such as berms) and must be regularly maintained (especially after heavy rains) to ensure that any erosion channels are repaired.
- ix. Erenching must also be placed at the base of large spoil dumps to prevent rubble from being washed off the slopes by rain, directly into the river and dams.
- x. Where possible impermeable surfaces should not be utilised in the design of roads, paving areas, etc. Permeable surfaces (e.g. permeable pavements or gravel and infiltration trenches) should rather be used to allow for the slow infiltration of stormwater.
- xi. Where significant stormwater runoff is generated from houses or roads, 'passive treatment / attenuation areas' (such as filter strips, detention areas or small wetlands) should be used to trap runoff, ensure its slow release, and to assist with the removal of any impurities contained in the runoff.
- xii. Spoil dumps intended for landscape purposes will be shaped to fit the existing topography of the area, or in line with intended landscape features such as that for lodge/conference centre development.
- xiii. Spoil dumps will be covered with a minimum of 300 mm topsoil, and exposed areas will be re-vegetated as soon as possible to prevent erosion of salt-haten runoff. Surface runoff will therefore be conducted through, over, or around spoil dumps.

General waste management

- i. All individuals must be instructed on the correct method of solid waste disposal.
- ii. Appropriate measures must be implemented in order to reduce the potential for litter and negligent refuse disposal.
- iii. Different non-hazardous waste types must be stored in labelled, secure, leak proof waste skips. Personnel must be instructed as to which skips to use.
- iv. All disposal areas and refuse bins must be made inaccessible to scavengers.

Recycling

- i. Wherever possible, materials must be re-used or recycled.
- ii. Collected waste must be sorted and separated (paper, glass, plastic etc.) and stored in labelled, secure, leak-proof waste skips located in a rain and wind protected area. Cages with roofs will prevent wind from blowing loose litter from the storage area.
- iii. Secure domestic refuse bins must be installed at various locations on site. Domestic waste may include plastic, glass, tins, food, and other biodegradable material).

Skip bins

- i. Contents of the skips must be removed and disposed of on a regular basis by the waste contractor, at a registered/approved landfill site.
- ii. Each building site must be provided with a skip bin during building process.

Litter

- i. Litter must be controlled at all times. A housekeeping team should be appointed to control litter and other on-site waste.
- ii. The housekeeping team should be responsible for sorting of waste for recycling. Waste to be recycled includes:
 - glass bottles (sorted into different colours),
 - metal tins,
 - plastic.



- iii. Whenever necessary, refuse must be removed by the waste contractor from the storage area, and will be re-used, recycled or disposed of at a registered/approved landfill site.

6. MANAGEMENT OF WATER RESOURCES

6.1 DEVELOPMENT PROTECTION

No development should be allowed within the riparian zone of any river on [redacted] and only certain low-impact activities (bird hides, picnic spots, fishing etc) should be allowed within this zone. A buffer between the edge of the riparian zone and any development should be maintained.

6.2 WATER MANAGEMENT

- i. In terms of the Regulations in terms of Chapter 5 of the National Environmental Management Act, 1998, Environmental Impact Assessment must be undertaken for any purpose / activity in the one in ten year flood line of a river or stream, or within 32 metres from the bank of a river or stream (where the flood line is unknown)
- ii. Any water use activities within a surface water body must acquire a water license from DWAF if required.
- iii. Where roads cross wetlands, sufficient culverts must be included in the design to allow flow of water below the road. Where existing roads cross wetlands and contain insufficient culverts, culverts should be retro-fitted.
- iv. Stream/river crossing points used by game should be managed to prevent erosion from movement of game.
- v. High impact recreational use (motorised vessels, noisy activities etc) of any surface water body must not take place.
- vi. No sewage management systems must be located in or near a surface water resource, unless approved by DEAT and DWAF.

6.3 WETLANDS

- i. Any drains identified within the wetlands on [redacted] should be plugged and the affected area rehabilitated.
- ii. New roads should not be constructed through wetlands and alternative routes should be sought.
- iii. Any head cut / donga erosion affecting a wetland should be rehabilitated
- iv. The existing boreholes on site must be registered with DWAF. Abstraction rates must not exceed previous parameters.
- v. No new boreholes are to be drilled.

No abstraction from surface water bodies must take place.



7. EMERGENCY FIRE PROCEDURES

7.1 Procedure in the event of a fire

- i. The local Fire Brigade and the Environmental Managers must be immediately informed of the fire.
- ii. Contact details for the Fire Brigade must be available at all buildings at [REDACTED].
- iii. Residents and visitors must be immediately alerted, and neighbours of the property shall be advised.
- iv. Evacuation of [REDACTED] with assistance from trained staff must take place if necessary.

7.2 Training

- i. All Service Provider personnel must be trained in fire fighting techniques and first aid. In the event of a fire, personnel must immediately implement necessary and appropriate actions to control the fire and to prevent it from spreading.

7.3 Evacuation of game

Where game on the property is at risk, the Environmental Managers must, in consultation with a qualified specialist, take necessary actions to remove game from the danger area.

7.4 Equipment

- i. All buildings on the common property must be equipped with portable fire extinguishers.
- ii. Fire hydrants must be located at strategic points on the common property.
- iii. Fire extinguishers and hydrants must be checked and approved for use on a regular basis.
- iv. The Environmental Managers must keep all fire extinguisher and hydrant maintenance records.

7.5 Fire drills

Fire drills must be held approximately every six months by the Service Provider and associated responsible parties.

7.6 Fire breaks

- i. Fire breaks must be burned at the onset of the dry season under controlled conditions to avoid run away fires. Weather conditions must be strictly monitored during the burns.
- ii. Burning of fire breaks must be conducted in terms of the relevant by-laws.
- iii. Any controlled burning must also be in terms of the relevant by-laws.

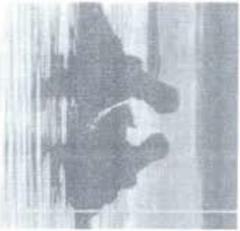
8. CONSERVATION AND PROTECTION OF FLORA

Guidelines to conserve and protect Kudu on the Game Farm

8.1 Vegetation cover

According to the new vegetation map of South Africa (Mucina & Rutherford 2004) the vegetation of [REDACTED] is regarded to be Egoli Granite Grassland which considered to be endangered. Every

111



effort must therefore be made to contain construction to areas of low conservation importance.

8.2 Grassland types

Owners of individual stands may only fence off an area of 1500 m², where their residences and gardens may be developed. This means that no development of garden or cutting of grass occurs outside that 1500 m².

8.3 Grazing

- i. Residents must not be allowed to plant alien and/or invasive species in their garden. The Environmental Managers must approve species for planting. Ideally, the only trees which must be planted are those indigenous to the site and its immediate surroundings. Kikuyu (*Pennisetum clandestinum*) grass may only be planted within the confines of resident's property. The dumping of mowed Kikuyu within [REDACTED] (outside of property 1500 m² boundaries) is strictly prohibited to inhibit the spreading of the species.
- ii. Where possible and feasible indigenous grass species should be planted. These include:
 - Couch grass (*Cynodon dactylon*)
 - LM / Beria (*Dactylenum australe*)
- iii. No kikuyu is to be planted within any watercourse
- iv. From the 1st of July 2008, no residents will be permitted to plant Kikuyu grass. Only indigenous species will be allowed.

8.4 Alien species

The management plan for the control, and where possible the eradication of alien invasive trees occurring within the smallholdings and [REDACTED] area must be implemented.

- i. Some common alien species that occur on the farm:

Species	Common Name
<i>Acacia dealbata</i>	Silver wattle
<i>Acacia mearnsii</i>	Black wattle
<i>Eucalyptus sp.</i>	Blue gum
<i>Melia Azadirach</i>	Syringa
<i>Pennisetum clandestinum</i>	Kikuyu
<i>Salix babylonica</i>	Weeping willow
<i>Pyracantha angustifolia</i>	Yellow fire-thorn
<i>Populus x carnescens</i>	Poplar

- ii. Control of Alien plants must include the following 3 phases (Working for Water, DWAF):
 - a. Initial control: drastic reduction of existing population
 - b. Follow-up control: control of seedlings, root suckers and coppice growth
 - c. Maintenance control: sustain low alien plant numbers with annual control
- iii. Control of alien invasive species must be achieved by any one or a combination of the following methods: mechanical, chemical, cultural (use of fire) and biological control. The table below illustrates the methods unique to the major species present on the site:



Species	Chemical control	Mechanical control
<i>Acacia dealbata</i>	Registered herbicide	1, 4, 5
<i>Acacia mearnsii</i>	Registered herbicide	1, 2, 5, 6
<i>Eucalyptus</i> sp.	Registered herbicide	1, 2, 4, 5
<i>Melia Azederach</i>	Registered herbicide	1, 4, 5
<i>Pennisetum clandestinum</i>	Registered herbicide	3
<i>Salix babylonica</i>	No herbicide registered	5
<i>Pyracantha argusifolia</i>	No herbicide registered	1, 5
<i>Populus x carassensis</i>	No herbicide registered	3

1. Uproot seedlings
2. Uproot saplings or dig out saplings
3. Dig out roots and underground parts
4. Ringbark
5. Cut or ringbark and apply herbicide afterwards
6. Biological control available
7. Mechanical control not recommended

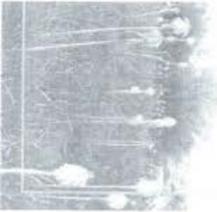
IV. Chemical control should be avoided and only used as a last resort. The following chemicals are available for chemical control of the above mentioned species. This list is not exhaustive and other suitable chemicals are also available. The Environmental Manager must always ensure that all chemicals used are biodegradable.

Species	Active ingredient (s)	Trade name
<i>Acacia dealbata</i>	Triclopyr / Glyphosate	Garton 4 / Roundup
<i>Acacia mearnsii</i>	Triclopyr / Glyphosate	Garton 4 / Roundup
<i>Eucalyptus</i> sp.	Triclopyr / Glyphosate	Garton 4 / Roundup
<i>Melia Azederach</i>	Imazapyr / Triclopyr	Chopper / Roundup
<i>Pennisetum clandestinum</i>	Glyphosate	Garton 4
<i>Salix babylonica</i>	No herbicide registered	
<i>Pyracantha argusifolia</i>	No herbicide registered	
<i>Populus x carassensis</i>	No herbicide registered	

- VI. Priority should be given to removing alien invasive vegetation from drainage lines and wetlands.
- VII. The control of alien invasive plants requires follow-up clearing. Alien plants build up a large seed bank and a soon as the summer rains re-growth begins. Seedlings must not be allowed to reach 30cm in height and should be removed as soon as they sprout.
- VIII. The Environmental Manager must familiarise him / herself with the growth forms of the various alien species on [redacted] in order to implement the correct eradication method.
- IX. The Environmental Manager must implement a maintenance regime to sustain low numbers of alien plants and aim to remove all alien species in the long term.

Care must be taken not disturb any Red Data plant species or [redacted] especially *Eccormis autumnalis* subsp. *calaxata* (Pineapple lily) and *Asclepias relax* which have both been spotted on the Game Farm.

Site contractors must be briefed by an experienced botanist to allow them to identify possible Red Data species in their sites. Should a contractor suspect the presence of a Red Data he / she must contact the Environmental Manager regarding this / her concerns and cease construction if necessary.



9. CONSERVATION AND PROTECTION OF FAUNA

Guidelines to conserve and protect fauna on the Game Farm

- 9.1. Hunting
 - No loud noise (music) must be allowed on site as this can disturb game and other animal species on the Game Farm.

Speed limits must be strictly adhered to in order to avoid potential accidents with wildlife.

- i. Residents must take special care when driving at night on [redacted] as antelope are easily disoriented by bright lights.
- ii. No night game drives will be permitted, unless prior approval has been obtained from the Environmental managers

Incidents of disturbance must be reported to the Environmental Managers and offenders will be issued with warning letters. Fines will be issued should any further infringements occur. This includes construction workers, staff, residents and visitors.

- i. Proper disposal of waste material as per the guidelines mentioned above must take place to prevent undue harm to animal and bird species.
- ii. Waste must be properly contained in order to avoid attracting vermin as well as other small mammals such as mongooses and jackal.

- i. The Environmental Managers must approve the introduction of domestic dogs.
- ii. A maximum of two dogs per household may be permitted. This will be strongly enforced.
- iii. Pets must be properly fenced in gardens of residential units.
- iv. The Environmental Managers reserve the right to destroy any dog found wandering loose on the Game Farm.
- v. No domestic cats must be allowed on site.

No unlicensed firearms must be permitted on [redacted]. Accredited visitors and resident's vehicles may be subject to searches when entering or leaving [redacted].

No snoring of animals will be tolerated and offenders must be strictly dealt with.



9.9 Bird Drop Spillages

Care must be taken during construction with regards to protected invertebrate species. Should any large spider or scorpions be discovered, a competent biologist must be consulted in order to determine if they are any of the protected species which have been identified on the site.

9.10 Fencing

- i. Any fishing taking place on [redacted] must be strictly catch and release. This activity is only available to shareholders & landowners.
- ii. Fishing must be in strict accordance with Gauteng Nature Conservation Ordinance (Ordinance 12 of 1983 as assigned on 31 March 1995 to Ordinance 22 of 1996) as well as in accordance with regulations set out by the Board of Directors.

9.11 Use of Invertebrate Control

The use of chemical fertiliser, herbicides, pesticides and soil sterilants must be avoided during the development unless specifically approved by the Environmental Managers.

9.12 Stocking rates

- i. When deciding on stocking rates, both the availability of forage and the behavioural characteristics of the chosen species must be taken into account. The genetic minimum population size must also be considered. (The minimum number for re-establishment is generally 3 males and 5 females).
- ii. Current and historical distribution of game species, their habitat requirements and their primary food requirements must be used as the basis for the selection of suitable game species for [redacted].
- iii. It must be ensured that only herbivores that are suitable for [redacted] be introduced. These being Blesbok, Buffalo, Burchell's Zebra, Common Duiker, Eland, Mountain Reedbuck, Oribi, Ostrich, Red Hartebeest, Reedbuck, White Rhinoceros, Steenbuck, Warthog and Black Wildebeest.
- iv. Careful consideration must be taken before species such as Mountain Reedbuck, Kudu and Buffalo are introduced as they are not considered suitable but their introduction may be successful due to their historical distributions.
- v. No Warthog, Kipspringer, Grey Kudu and Blue Wildebeest must be introduced onto the Game Farm.
- vi. Ratios of bulk grazers to concentrate grazers must be approximately 50%. Large Animal stock-unit (LAU) concentrate grazers to 50% (LAU) bulk grazers. These ratios should be revised as required to ensure that overgrazing doesn't become an issue.

9.13 Game Enclosures

- i. In order to maintain animal condition and to stimulate grazing so that poorer grazing is better utilised, appetite-stimulating licks with uream or protein base must be used.
- ii. Licks for game must not contain more than 5% uream.
- iii. Energy-rich supplementary feeds are not recommended, except in the case of Hippopotamus.
- iv. Providing all the fodder requirements of Hippopotamus will be essential to maintain the condition of these animals and to prevent grazing pressure which they would otherwise cause in this relatively small area of sour veld.



9.14 Seed reserves

Small seed reserves must be established (5x20 m areas) where palatable species can grow to maturity and from which seed can disperse naturally or be collected and dispersed by hand.

9.15 Veld condition assessment

The veld condition assessment must be conducted and must be regularly consulted in order to establish the stocking rates and maintain these rates at a sustainable level. An update of the vegetation assessment must be conducted every two years in order to ensure that the veld is being managed accordingly.

10 BURNING PROGRAMME

Guidelines on burning regimes and recommendations for when burning is necessary.

10.1 Burning principles

- i. Rotational burning of veld and maintenance of low stocking rates will help to prevent overgrazing as a result of the absence of fenced camps and therefore rotational grazing.
- ii. Burning is allowed during the six weeks before the expected commencement of the growing season (provided the grass has begun to grow due to sufficient moisture) and for a period of two weeks after the start of the growing season.
- iii. [redacted] is classified, by virtue of its locally and climatic factors, as sour veld. Sour veld must not be grazed after a fire before the grass sward has grown to a height of at least 15 mm. Grazing before this will reduce the vigour of the grasses and may lead to the establishment of unfavourable grass species.
- iv. Burnt areas must be large enough in relation to the numbers of game to ensure that grazing pressure on these burnt areas is not excessive.
- v. Surrounding land owners as well as residents must be consulted and informed about an intended controlled burn.

10.2 Wetlands

- i. According to generic wetland guidelines produced by the Maroti Wetlands Project, burning of wetlands should take place on a 3-4 year basis and rotational burning must be encouraged.
- ii. Wetlands containing mounded material should be prioritised for burning.
- iii. Environmental Managers must be aware of faunal species inhabiting wetlands when initiating burning (e.g. grass or marsh owls), especially those that are breeding.

11 MAINTANANCE OF CONSTRUCTION SITES

Guidelines for the rehabilitation and maintenance of construction sites over the longer term.

11.1 Soil erosion control

- i. Compacted soil from construction activities must be deep ripped to loosen compacted layers and regraded to even running levels or original levels.
- ii. Seeding of these areas must take place as soon as possible to avoid possible erosion.
- iii. Areas must be rehabilitated as soon as they are no longer required for construction.



- iv. Where an area is to be fully rehabilitated, the exposed surface must be prepared to ensure a suitable medium for plant growth. This includes the removal of any waste or foreign substances and objects that could discourage plant growth, before final shaping and application of topsoil.
- v. All areas disturbed during construction and not subject to landscaping activities in the residential component, must be rehabilitated.

2. Contaminated soils

- i. Oil-contaminated soil must be removed from site to a DVMAF approved hazardous landfill site.
- ii. If a substance present in the soil cannot be treated, it must be excavated and replaced with topsoil.
- iii. If a substance is hazardous in nature, it must be disposed of in the manner prescribed in this plan.

3. Exposure of soils

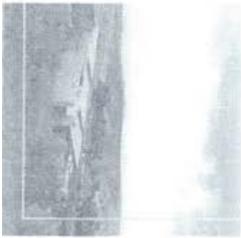
Exposed areas must be re-vegetated or covered with impermeable materials according to the proposed layout plan as soon as possible. This will prevent excessive levels of dust and of silt pollution of water bodies resulting from runoff from exposed areas. The degree and extent of rehabilitation required can be reduced, by ensuring that the area of disturbance remains as small as possible.

4. Soil rehabilitation

- i. Compacted soil from construction activities must be deep ripped to loosen compacted layers and regraded to even running levels or original levels.
- ii. Seeding of these areas must take place as soon as possible to avoid possible erosion.
- iii. Areas must be rehabilitated as soon as they are no longer required for construction.
- iv. Where an area is to be fully rehabilitated, the exposed surface must be prepared to ensure a suitable medium for plant growth. This includes the removal of any waste or foreign substances and objects that could discourage plant growth, before final shaping and application of topsoil.
- v. All areas disturbed during construction and not subject to landscaping activities in the residential component, must be rehabilitated.

5. Construction Management

- k. The Environmental Managers must ensure that all construction activities, including stockpiling of building and excavated materials and movement of personnel and vehicles, are restricted to the development sites only (i.e. the 1500 m² areas set aside for residential development).
- ll. The development sites must therefore be demarcated clearly and no construction activities must be allowed outside those boundaries.
- l. The Environmental Managers must ensure the existing roads and access routes are used to gain access to the construction site.
- ll. Where possible, the construction of additional roads must be avoided.
- lll. The movement of all vehicles and personnel must be restricted to the existing roads.



- i. During excavation, the topsoil must be removed and stockpiled separately and replaced as a top layer after completion of the construction/excavation activities (i.e. the pre-excavation soil profile should be recreated as far as possible).
- ii. All areas of disturbance must be kept clear of alien invasive species, to ensure that the natural process of vegetation succession is not impeded.
- iii. Where possible, no topsoil must be imported into the area.
- iv. If additional topsoil is required, it must be free of seeds of alien plant species.
- v. If alien species do occur in the imported topsoil, seedlings of these species must be removed on a regular basis, to ensure that they do not become established.
- vi. The topsoil must contain a sufficient seed bank of indigenous species to naturally colonise these areas. This seed bank will probably be supplemented by the natural dispersal of seeds from surrounding grassland areas. Succession in larger disturbed areas can be accelerated by harvesting seeds from adjacent grassland areas and sowing them in the areas of disturbance.



Eco-Estate G

HOMEOWNERS ASSOCIATION

ARCHITECTURAL AND BUILDING RULES

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- ❖ House forms – Height definition
- ❖ Typical Boundary Wall – Typical Internal Boundary Wall Elevation
- ❖ Boundary Wall Options (3 pages)
- ❖ Boundary Wall general rules (3 pages)

ARCHITECTURAL RULES

1. Introduction

The purpose of these rules is to inform owners and their architects of the building and landscaping requirements for the Estate and to provide information relating to the procedure to be followed in order to obtain the necessary approval from the architect appointed for all buildings and structures to be erected on each erf and any alterations and additions thereto. Structures include all buildings, outbuildings, walls and swimming pools.

These rules were designed to allow for a fairly broad range of personal choice in the external appearance of the houses but also to ensure that the overall character of the development will be identifiable by the use of certain unifying external elements such as the colour and finish of external walls, roof coverings and, importantly, a standardised form of boundary and site walling.

It is important that owners buy into the vision for [REDACTED] and it is vital that they work together with, and support the manager and architect appointed to scrutinise the plans in implementing these rules. It should be borne in mind that we should strive to create an environment in [REDACTED] where the whole is greater than the sum of the parts and in so doing owners may need to make compromises for the benefit of all.

The architectural rules, as part of the constitution, are binding on all members who will be required to adhere to requests from the manager to make good any contravention of these architectural rules.

Any omission by management to enforce the rules will not create a precedent. Owners will be required to make good any contraventions to the rules, despite management having omitted to require such contraventions being rectified previously.

Management will, from time to time issue a list of previous contraventions that will no longer be permitted.

It should be noted that all laws of the Republic of South Africa, Madiberg Municipality and any other statutory authority shall apply in the application of these rules.

2. Plan Approval Process

The owner must obtain from the appointed architect, prior to the submission of the design concept and sketch plans, a list of the requirements relating to the details to be provided for the plan approval process and also obtain all documentation including erf diagrams, services connection diagrams and contour plans that may be required in order to facilitate the design process. It will be the responsibility of an owner to ensure that he or she is in possession of the latest version of the rules. Such rules will be published on the Estate website [REDACTED]

All plans must be prepared by a professional architect or professional architectural technologist, both of whom must be registered with the South

African Council for the Architectural Profession (SACAP), as well as with one or more of the 9 regional institutes for the architectural profession. In addition, plans must be submitted to the XHOA for approval.

The architect's/technologist's registration number must accompany any application for plan approval - this will ensure an exclusive, up-market designed development.

The approval process will involve the following stages:

2.1

First Stage

The design concept and sketch plans must be submitted to the Estate Architect for approval before final working drawings/plans are finalised. A scrutiny fee as determined by the Trustees from time to time will be payable when the plans are submitted.

2.2

Second Stage

After the design concept and sketch plans have been approved the detailed design and working drawings must be submitted to the architectural committee for approval.

Payment of a refundable deposit of R20000.00 (twenty thousand rand) is required. The refundable deposit will be returned free of interest subject to the manager being satisfied that all landscaping has been restored, any damage to the Estate's infrastructure has been repaired, all rubble on the site and adjoining sites have been cleared, all levies are up to date and all penalties, that might have been issued, have been settled in full. This deposit is applicable to a single site only and is not transferable to alternate construction sites.

As the Estate is contracted to provide the water connection to each site, a water installation fee is payable to the Association. Maintenance and replacement of water meters remains the responsibility of the [REDACTED] at the cost of the Member. Kindly note that the Madiberg Town Council does not provide this service at [REDACTED]

2.3

Third Stage

After the detailed and working drawings have been approved they must be submitted to the local authority for approval. Certain prescribed fees will be payable at this stage to the local authority.

2.4

General

Should the requirements of the local authority, any other statutory authority or the National Building Regulations conflict with these rules, then such other requirements will take precedence.

The [REDACTED] accepts no responsibility for poor construction, faulty workmanship or the use of sub-standard materials in the construction of any structure erected by an Owner. However, should a potential defect be identified, the [REDACTED] reserves the right to inform the Owner of such defects without accepting any obligation or liability in the matter.

3. **Building Process**
- 3.1 It is the owner's responsibility to obtain a list of the requirements relating to the building process from the Estate Manager. All forms requiring completion will be made available on the Estate website – [REDACTED]
- 3.2 **No building activities whatsoever shall commence until all the relevant requirements have been compiled with and the Building Code of Conduct signed by the owner and builder.**
- 3.3 The manager will be entitled to regulate the activities of all building and other contractors and determine that the contractor(s) and the owner sign the Builders Code of Conduct with the [REDACTED] Homeowners Association for this purpose. No construction shall be allowed to continue within two months of the member's levy being in arrears.
- 3.4 The manager shall inform the building contractor that building activity will be stopped within 7 calendar days from written notice. Should building activity be stopped, the member shall have no right of claim against the Association for denying access to the builder.
- 3.5 When test pits are to be excavated, this will be undertaken on the same day as the inspection/test is to take place. Such pit shall be re-filled immediately after inspection. The digging of pits shall be co-ordinated in such a way as to ensure no pit remains open for more than 12 hours.
4. **House Forms**
- 4.1 The minimum size of the house must be 280 square metres, including the main dwelling, garages and outbuildings.
- 4.2 The maximum permissible height of any building on an erf is 9 metres when measured from the highest point of the roof to the highest point of the natural ground level along the perimeter of the building. Refer to sketch on page XXX
- 4.3 Natural ground level shall be deemed to be the level as determined on a contour plan. Should a dispute arise relating to the determination of any natural ground level, the Building Committee and/or appointed architect will be entitled to rely on the details shown on the contour plan in his possession.
5. **Smart Village**
- 5.1 The developer has recalculated the entire Estate with fibre optic cables for telecommunications, T.V. and broadband IT. Save for those people who have already installed satellite dishes prior to the availability of the Smart Village system, satellite dishes will be allowed on the Estate only if installed in the roof void or is not visible from the street.
- 5.2 You as a member of an erf or unit are specifically requested to ensure that you apply

- for a Smart Village connection when commencing construction of your house, to connect your home to the system.
- 5.3 Your architect/designer is also to be instructed by you, to make provision for the dispersion of the system through your house by means of the necessary ducting etc, when designing your home.
- 5.4 A distribution box MUST be part of the architectural plans to ensure connection of the Smart Village cabling from street to the home. Owners are to ensure adequate reticulation within the home to accommodate the systems.
6. **External Walls**
- 6.1 External walls must be plastered and finished in specified colours in accordance with the samples which are to be obtained from the manager or appointed architect. A sample or specifications must be submitted to the Estate Building Committee for approval prior to commencement of the application thereof.
- 6.2.1 No type or form of face or unplastered brick will be permitted on external walls as the dominant feature but up to a maximum of 30% face brick may be considered for decorative purposes solely at the discretion of the Building Committee. A sample must be submitted to the Building Committee for approval.
7. **Roofs**
- 7.1 Roofs must be dominantly pitched in form. Major plan forms are to be roofed with **symmetrical double pitch** roofs with a pitch of between 17,5 and 35 degrees. Roofs over verandas may have a lesser pitch provided that the same covering is used as on the major elements. Up to 30 percent of the total roof area which includes the main dwelling, garages and outbuildings may have a pitch of less than 5 degrees provided that these sections are concealed behind parapets which are extensions of main walls. Sections, which have a pitch of less than 5 degrees and are constructed in concrete, shall be finished with pebbles or stone chips up to a thickness of no less than 50mm. No galvanised iron or chromadek roof sheeting of any kind will be permitted in the project.
- 7.2 Roof coverings are to be restricted to natural slate (stone), terracotta colour tiles including the Antique range in accordance with the specifications which are to be obtained from the Architect. A sample must be submitted to the Building Committee for approval prior to the commencement of the laying thereof. No variations to these restrictions on roof coverings will be permitted under any circumstances. The manager on behalf of the Association reserves the right to order the removal of any roof coverings in contravention of the submitted approved specification.
- 7.3 Builders may not place tiles on the roofs of the house without the consent of the manager with regard to the profile of tiles and in particular that the colours are acceptable to the Building Committee. Where tiles have been placed contrary to these rules, the builder will be asked to remove such unacceptable tiles, and the association may impose a fine of R2,000,00 per month until the situation is rectified. This fine forms part of the monthly levy.
8. **Windows, French Doors and Sliding doors**

- 8.1 No dormer windows will be permitted.
- 8.2 No lean-to of any type will be permitted.
- 8.3 Skylights and roof windows are permitted provided that they are set in the plane of the roof.
- 8.4 No air conditioners or any obstructions may be built on the roofs and may not be visible from the street.
- 8.5 Windows, French doors and sliding doors must be constructed from natural hardwood (and shall comply with a Klaat-like colour) or from aluminium which may be bronze powder coating or bronze anodised. Colours must be approved by the Building Committee.
- 8.6 Cottage pane windows are not permitted
- 8.7 External shutters are permitted. Shutters must be constructed from natural hardwood, (and shall comply with a Klaat-like colour) or from aluminium which may be bronze powder coated or bronze anodised. Colours must be approved by the Building Committee.
- 8.8 External burglar bars and expanding security grids are not permitted.
- 8.9 No external fixed or mobile awnings are permitted. SEE lean to section
- 8.10 Natural hardwood may not be painted.
- 9. **External Doors**
- 9.1 External doors must be constructed from natural hardwood or from natural hardwood and glass. (and shall comply with a Klaat-like colour) or from aluminium which may be bronze powder coating or bronze anodised. Colours must be approved by the Building Committee.
- 9.2 External expanding security doors are not permitted unless specifically permitted in writing by the Building Committee
- 9.3 Natural hardwood that is painted shall comply with a Klaat-like colour
- 10. **Verandas, Porches and Pergolas**
- Supports shall be masonry columns however they may be constructed from steel sections provided such sections are wood clad or comprised of suitable columns. Verandas, Porches and pergolas may be covered provided that such covering is concealed. Clear polycarbonate or louvre type coverings are permitted. Galvanised sheeting coverings are NOT permitted.
- 11. **Garages and Driveways**
- 11.1 May not be converted or used for any other purpose than a garage. Every house must have the minimum of a double garage. Wooden, or natural wood-textured panel aluminium doors may be installed. In cases of aluminium, the colours must be approved by the Building Committee. Natural hardwood doors may not be painted. Roller shutter doors are NOT permitted

- 11.2 The garages must be built before an occupational certificate will be issued to the owner by the Association.
- 11.3 Garages shall be used for the purpose of parking motor vehicles – conversion of garages to storerooms, offices etc is not permitted
- 11.4 Garages with doors facing the street must be set back at least 5 metres from the erf boundary abutting the street.
- 11.5 Garages with doors perpendicular to or facing away from the street may be set back 3 metres from the erf boundary abutting the street. The doors may be double and may exceed 2.5 metres in width.
- 11.6 The garage and driveway must be arranged so that at least 3 motorcars may be parked on the erf excluding motorcars parked inside the garage(s). Driveways shall not be constructed from asphalt, crushed stone, slastic, broken bricks, gravel or any form of crazy or brick imprint paving. Cobble stones, bricks or interlock paving bricks may be used. A sample or specification must be submitted to the Building Committee for approval prior to commencement with the laying thereof.
- 11.7 A minimum of two 110mm diameter PVC sleeves are to be laid under driveways and paths constructed by owners across sidewalks for the purpose of accommodating any pipes and cables that may be laid in the sidewalks.
- 12. **Boundary Walls**
- 12.1 Street Frontage
- Boundary walls along or relating to street frontages are not mandatory but if constructed they must be constructed from masonry or masonry with steel trellis inserts ('Devil fork' palisade fencing is **not** permitted - see sketches). Colours must be approved by the appointed architect. Face bricks may be used for decorative purposes, but their proportion of overall boundary walling shall not exceed 30%.
- 12.2 Walls along public open spaces
- Boundary walls along or relating to open spaces are mandatory and must be constructed from face bricks, masonry or masonry with steel trellis inserts (see sketches). Colours must be approved by appointed architect
- Where a wall faces onto a street, internal park, or walkway or onto the Eco Park, the wall facing onto such external common property must be predominantly plastered. Columns and pilings may be constructed from face bricks according to specification and not exceeding 30% in proportion.
- 12.3 Lighting on walls along street frontages
- Bright lights shining onto the street or neighbouring properties may not be fitted to the walls along the street frontage.
- The number of exterior lights must be kept to a minimum. Where exterior lights are fitted, low wattage lamps must be used and lights must be shaded to shine downward to provide ambient light only. External lights mounted on walls should be positioned

at least 500mm below the level of the boundary walls. In cases of a mixture of masonry and steel, the lights should not be positioned more than 1m from ground level. No external lights may shine directly into a neighbouring erf or parklands or may be otherwise intrusive or be likely to be intrusive, to other residents.

12.4 Internal Boundary Walls

Internal boundary walls are not mandatory but if constructed they must be constructed from masonry or masonry with steel trellis inserts ('Devil fork' palisade fencing is not permitted - see sketches). Colours must be approved by the appointed architect.

Service yard walls must be constructed for screening washing lines. Under no circumstances may washing lines be seen either from the street or from neighbouring properties.

No form of wire or wooden fencing shall be permitted on an erf or between units in a sectional title or cluster scheme.

13. Building Lines

Street boundary - 3 metres. (5 metres for garage)
Back boundary - 3 metres for single dwelling and 4.5 metres for a double storey

Side boundary - aggregate of 5 metres to both sides subject to a minimum of 2 metres on one side.

14. Coverage

Maximum coverage for single storey houses - 55 percent of the erf size.
Maximum coverage for double storey houses - 45 percent of the erf size.

15. External Pipes, Fittings, Fixtures, Devices and reservoirs

15.1 Only profiled chromadec aluminium gutters and downpipes are allowed. Gutters must be painted to match the colour of the roof or external walls and down pipes must be painted to match the colour(s) of the external walls.

15.2 All plumbing pipes must be concealed.

15.3 Window and/or wall mounted combination air-conditioning units are not permitted. The compressor or split unit air-conditioners must be mounted at ground level and screened from view.

15.4 Any conduits or trunking for post construction installations must be painted to match the colour of the wall. For new construction, concealed ducting must be provided for. Any air-conditioning units NOT complying with this rule will have to be re-fitted after due notice from the Building Committee.

15.5 Visible aerais are not permitted.

15.6 Satellite dishes – see 5.1

15.7 Street numbers must be fitted and be clearly visible from the street. No business

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signage is permitted and all signs shall be no higher than 300mm.

15.8 Balustrades are permitted provided that they are constructed from steel, stainless steel, glass and steel or treated natural hardwood. Colours must be approved by the appointed architect or manager. Any other materials must be approved by the Building Committee.

15.9 Solar panels and geysers are permitted provided that they comply with the latest SABS specifications. Only the concealed tank system is approved for solar heating. Any system used to heat swimming pools must also comply with regulations. It should be noted that the MAT type panel system is not allowed under any circumstances.

15.10 Owners may install water reservoirs on their property, however these may not exceed a 5000 litre capacity and must be discreetly sited within the building lines and out of public view and screened from neighbouring properties.

15.11 Alternative power supplies/generators may only be installed after prior consultations with the member's neighbours and the Estate Manager and must be discreetly sited within the building lines and out of public view and screened from neighbouring properties. Generators must be enclosed in a sound dampening enclosure. Generator sound levels must be between 70 and 75dBA at 7 metres.

16. Erf Use

16.1 A stand may neither be subdivided or re zoned or a sectional title plan be registered under any circumstances.

16.2 Where two residential stands are consolidated to form a larger stand, a double levy will be applicable to the consolidated stand. Should any consolidated stand again be subdivided, the original erf sizes must be honoured.

16.3 Under no circumstances may a house on a Res 1 stand be divided into 2 or more houses.
Communes are not allowed on the Estate.

16.4 Carports may be permitted only if approved by the architectural Committee. The roof of the carport must be tiled and match the roof of the house. The pillars and walls of the carport must match the finishing of the house.

16.5 Boats and caravans must be concealed inside garages. Domestic trailers may be stored on the property provided they are screened from the street.
Wendy houses, huts, tents and other temporary structures are not permitted.

16.6 Dog kennels are permitted provided that they are screened from view at street level.

17. Swimming Pools

17.1 Swimming pools are restricted in size, and are permitted provided that they are constructed below ground level or behind masonry or concrete retaining walls.

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- 17.2 The restriction of the building lines shall apply to the positioning of swimming pools and filtration plants.
- 17.3 Residents must comply with safety regulations in terms of the Local authority by laws as regulated by the Madiberg Council from time to time.
- 17.4 Water being discharge must not run into a neighbour's property and should where possible end up in a storm water catchment and may not be discharged in a sewerage pipe.
18. **Clusters (Group Housing)**
The minimum size of a unit on a full title stand must be 180 m².
19. **Sectional Title**
- 19.1 The minimum size of a sectional title unit may not be less than 75² (excluding garages and carport), provided that there is a minimum of 4 units per block.
- 19.2 For sectional title units, the following must be provided :
- 19.3 Communal refuse areas for rubbish removal, designed to NBR regulations, servants quarters with ablution facilities.
20. **Building Period**
- 20.1 Should owners not have built their homes within the thirty month period from date of transfer, in terms of their agreement with the developer or such further period as the developer may have granted, the owner or his successor in title, will be liable to the Home Owners Association for an additional levy over and above the normal levy, which will be imposed by the trustees from time to time.
- 20.2 Should a resale of a vacant stand have occurred, the trustees reserve the right to allow a period of time within which the new owner must commence with construction. This period will be determined by the trustees from time to time. Should the new owner fail to comply, a penalty may be imposed by the trustees from time to time.
- 20.3 Once construction of a house commences, the house must be completed within a period of 9 months, or such further period as agreed to by the trustees, failing which the Association will impose an additional levy over and above the normal levy on the member. The amount of the additional levy may change from time to time.
21. **Duettes, Bed & Breakfast**
- 21.1 Under no circumstances will duettes be allowed on the Estate.
- 21.2 An owner may not subdivide a house either temporarily or otherwise for any reason whatsoever.
- 21.3 Under no circumstances will the trustees allow a bed & breakfast to operate on the Estate.

22. **Completion and Occupation of Houses**
- 22.1 An owner may not subdivide a house either temporarily or otherwise for any reason whatsoever.
- 22.1 No more than one family may occupy a home or a single residential stand. A family is regarded as the immediate family of the owner or tenant if a house is rented, which includes the owner/tenant, the spouse or partner, the children and / or parents and parents in law of the owner/tenant. The consent of the association must be obtained in writing should any other person reside with the family for more than one month at any given time. No communes are allowed on the Estate.
- 22.2 Despite as occupational certificate being issued by the Madiberg Town Council to an owner, no owners may take occupation of their completed homes, before the Association has issued their occupational certificate, in respect of the house.
- 22.3 In order to obtain an occupational certificate from the Homeowners' Association in future, the following steps will have to be taken:
- 22.4.1 Any person submitting plans in future, must first sign and acknowledge the contents of the completion and occupation of houses letter which will be obtained at the Estate office or from the code of conduct. A builder will not be allowed access onto the Estate without this letter having been signed by the stand owner. The builder is also required to sign this document.
- 22.4.2 On completion (completion is defined as all construction, all outside work and paving, the garden and the pavement must be completed and rubble removed both from site and surrounding stands and the house painted), the manager must be contacted to come and do a final inspection and copies of the electrical, plumbing and glass compliance certificates must be supplied to him. The manager, once satisfied as in 25.3.4 below, will issue an HOA occupational certificate. The HOA certificate must be presented to the Council together with a copy of the electrical, plumbing and glass compliance certificate.
- 22.4.3 The manager will conduct a full inspection of the house, the erf, pavement and surrounding stands, before issuing an occupational certificate. Under no circumstances whatsoever, may an owner take occupational of a house without the necessary occupation certificate being issued by the Association.
- 22.4 The owner's refundable pavement deposit will only be refunded to the owner following the issuing of the occupational certificate by the Association and pending clearance of all penalties.
- 22.5 Should an owner take occupation without the necessary occupational certificate being issued by the Association, and the owner refuses or fail to vacate the Estate until the certificate is issued, the Association reserves the right to impose a fine on the owner, not exceeding R5,000,00 per month. In terms of the constitution of the Association, this fine is due and payable as part of the levy, on the first day of the month, following the date that such fine is imposed.

23 **Additions, Alterations and Maintenance**

Should ANY additions, alterations or maintenance be undertaken (including repainting of a house), these rules will apply and the necessary plans and/or permission shall be acquired prior to the commencement of such work.

24 **General**

24.1 These rules are to be read in conjunction with the Agreement of Sale between the owner and the developer, and the Constitution of the [REDACTED] Homeowners' Association including any amendments thereto.

24.2 Even if an owner may have complied with these rules, the manager, together with the Building Committee, will have the absolute discretion to reject any plans which do not, in their sole discretion, embody the spirit of what is intended for the built environment in [REDACTED]

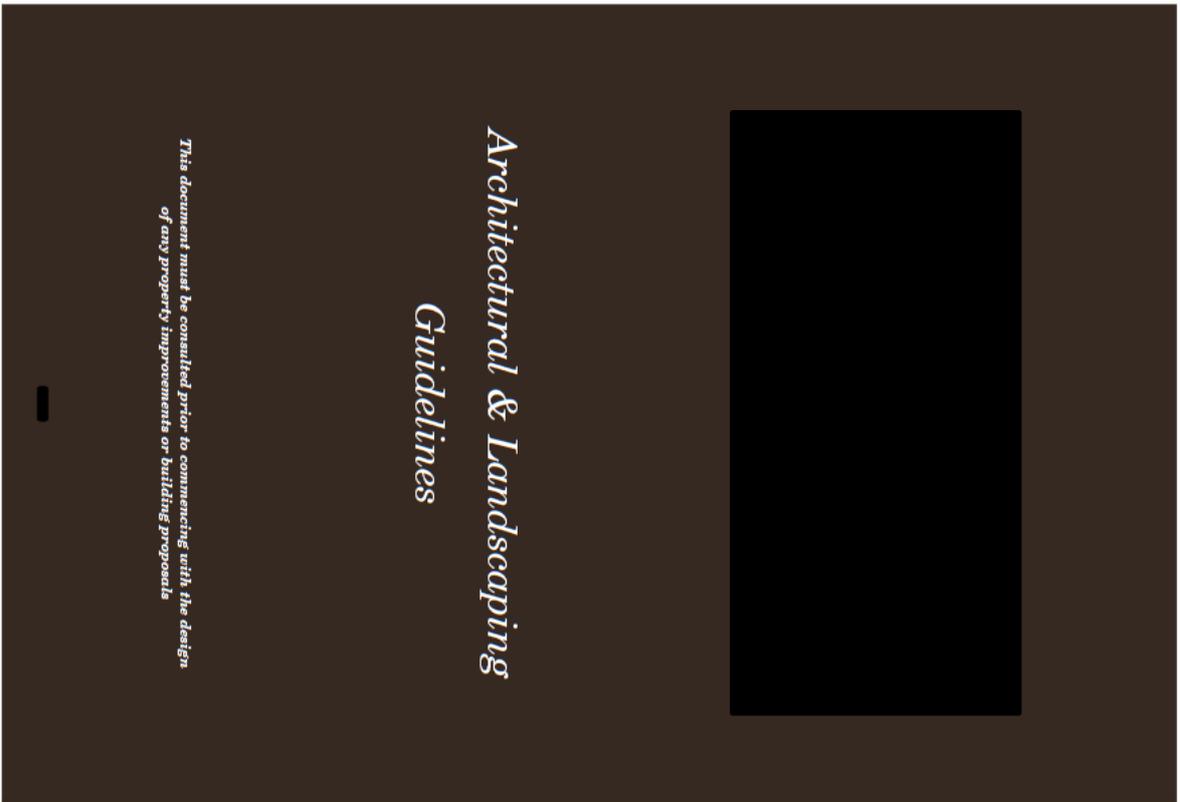
24.3 The manager, together with the Building Committee, will, in their absolute discretion, be entitled but not obliged to waive any of these guidelines but any waiver granted shall not constitute a precedent which shall automatically be applicable to any other owner(s).

24.4 Owners must be members of the [REDACTED] Homeowners' Association.

24.5 During the development period, the developer and thereafter [REDACTED] Homeowners' Association shall be entitled, in their absolute discretion, to amend these rules from time to time.

24.6 Should any disputes arise relating to the application or implementation of these rules the manager's decision shall be final and binding on the parties concerned.

24.7 Owners are to ensure that all building associated documentation is completed and submitted including signed copies of approved plans, NHBRC certificates, title deed and the Builders Code of Conduct and Contractor Activities.



Architectural & Landscaping Guidelines

This document must be consulted prior to commencing with the design of any property improvements or building proposals

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1. **DEFINITIONS**

Please refer to definitions contained in the Memorandum and Articles of Association read in conjunction with the conduct rules. This information can also be found on the CD or at [REDACTED]

2. **INTRODUCTION**

Welcome to another signature lifestyle estate by [REDACTED]

[REDACTED] purpose of these guidelines is to inform homeowners and their architects and builders of the aesthetic, building and landscaping requirements for the estate and to provide information relating to the procedure to be followed in order to obtain the necessary approval from the Aesthetics Committee for all buildings and structures to be erected on each stand and any alterations and additions thereto.

Covering an area of approximately 145 Hectares, the [REDACTED] is divided into two distinct areas, the [REDACTED] Estate (Portions 1-42 of the farm Newlands 757-JR), comprising of 41 generous residential stands of 10 000 m² (1 Hectare) or more, and the [REDACTED] (Stands 690-777 [REDACTED] Ext. 11), which is comprised of 88 generous residential stands all of which are a minimum of 5000m² each. It is, however, envisaged that the estate will be extended with future residential phases.

When designing their houses, or any other structures on their erf, homeowners are required to make use of a registered, practicing, Architect and may not use any technician, draughtsperson, design or drafting bureau for the design of their house.

In terms of new government legislation, SANS 10400 - Section A19, homeowners are required to employ the architect for the full architectural service, which includes full site supervision. Alternatively, the legislation allows for a registered project manager to be retained for the site supervision. A list of preferred architects and builders will also be made available. This will ensure a professional product that is both in keeping with the aesthetic guidelines of the Estate, and of the highest standard.

While it is preferred that the Homeowner use an architect from the approved architectural panel, should the homeowner have a prior relationship with a specific, registered architect or architectural practice they may approach the aesthetics committee and apply for them to be approved. All applications must be accompanied by a company CV. Further information on this process can be found in section 29, Architects, Contractors and Construction Management.

A unique element of this development is that the architectural guidelines have been shaped with the intent to create an estate in which the architecture or the traditional Highveld farmhouse vernacular responds to climate and the environment whilst embracing the use of construction materials in their raw form. The objective of the guidelines is to achieve the following:

- To create an aesthetically appealing built environment whilst preserving the rural ambience and sense of place of the [REDACTED]
- To ensure the integration of [REDACTED] with its immediate environment as well as the larger agricultural area around it.
- Enhance the agricultural sense of place through interpretation of traditional Highveld farmhouse vernacular
- Ensure that homes are energy efficient, thereby ensuring that the overall carbon footprint of the estate is kept to a minimum.
- Ensure harmonious and attractive streetscapes through attention to the exterior detail and architectural language of the houses

- Create an outwardly focused, socially sensitive, built environment, while retaining the residents' sense of privacy where required
 - Mitigate against possible negative impacts of buildings on the adjoining properties
- It is the developer's intention that, as with our previous award winning estates, this estate will be seen as both a landmark and a benchmark for all residential developments in South Africa for years to come. With this in mind we have an opportunity to create an iconic estate with a uniquely South African architecture, in harmony with the environment, embracing natural materials in their true form, and responding effectively to the Highveld climate.

It is intended that these guidelines will allow for a fairly broad range of personal choice in the external appearance of the individual houses, while still embracing the farmhouse vernacular.

The overall character of the development will still be identifiable through the use of certain unifying external elements such as chimneys, boundary walls, roof coverings, external wall finishes and colours etc. The nature of the landscaping will also contribute meaningfully to this objective, thereby ensuring long term property values for homeowners.

The primary function of these guidelines are to ensure that the value of the estate and the houses therein is preserved and enhanced while still allowing individual homeowners to express their personal needs and preferences within the overall aesthetic framework.

3. **TOWN PLANNING CONTROLS**

The Town Planning Controls applicable to all stands in [REDACTED] are contained in the Conditions of Establishment which were issued by the Local Authority on approval of the Township.

3.1 **Land Use Rights**

The Land Use Rights are defined in terms of the Halfway House and Clayville Town Planning Schemes 1976. The primary development right for the 5000m² properties zoned "Residential 1" in [REDACTED] 11 is a single dwelling house at a maximum density of 1 dwelling unit per stand. Stands zoned Residential 1 may only be used for residential purposes. The 10 000m² properties that are zoned "Agricultural" in Newland 757-JR have the rights to apply for a second dwelling with consent from the local authority.

3.2 **Consolidation and Subdivision**

No stand may be subdivided and only the 10 000m² "Agricultural" stands may be used for a sectional title scheme with a maximum of two units.

Even may be consolidated with prior written permission from the developer and the approval of the City of Johannesburg Metropolitan Municipality, in which case the owner will be liable for the combined levy pertaining to each original stand. Levies for the second stand will, however, receive a 30% discount. Therefore, for two consolidated stands a factor of 1.7 would apply to the overall levy.

3.3 **Height**

2 (two) Storeys (May be reckoned to 3 storeys in the case of a cellar or loft on approval from the Aesthetics Committee).

Towers, agricultural features and basements which are not designed for living, working, sleeping, or storage purposes shall not be regarded as storeys for the purposes of the scheme.

3.4 Maximum Coverage

The maximum coverage of all roofed buildings is expressed as a percentage of the total area of the stand and is as follows:

- **One-Storey Residential Dwellings** (Standards 690-777, **One-Storey Residential Dwellings**, 11)
 - Single storey dwellings - 25% of stand area (Can be rezoned to 30% with Local Authority and Aesthetic Committee Approval)
 - Double storey dwelling - 25% of stand area (Can be rezoned to 30% with Local Authority and Aesthetic Committee Approval)
- **Blue Hills Equestrian Estate** (Portion 1.42 of the farm Newlands 757 - JR)

Single storey dwellings - 8% of stand area (Can be increased to 15% with Local Authority and Aesthetic Committee consent)
Double storey dwelling - 8% of stand area (Can be increased to 15% with Local Authority and Aesthetic Committee consent)

The following will be included in the maximum coverage ratio:

- Covered veranda's and patios
- Garages and staff quarters
- Conservatories

The first floor area may not exceed 60% of the ground floor area.

Double volume areas and staircases are to be included in the first floor calculations.

All applications to increase the allowable coverage must be accompanied by a site development plan.

3.5 Floor Area Ratio (FAR)

A maximum FAR of 0.25 applies to each stand in the **One-Storey Residential Dwellings**. This can be rezoned to 0.3 with Local Authority Approval. This is the total area of all roofed buildings divided by the total area of the stand and is often referred to as bulk. A maximum FAR of 0.16 applies to each stand in the **Blue Hills Equestrian Estate**. This can be increased to 0.3 with consent from the Local Authority Approval.

The following will be included in the FAR calculation:

- Garages and outbuildings
- Staff quarters
- All enclosed abutments - Patios, conservatories, verandas and balconies.
- Lofts

All applications to increase the FAR must be accompanied by a site development plan.

3.6 Building Restriction Lines

The building restriction lines are defined in the Conditions of Establishment and are as per the Halfway House and Clayville Town Planning Schemes 1976. They may, with the exception of the street boundary, be relaxed to the following minimum dimensions with consent from the Aesthetics Committee, the affected neighbours and the Local Authority:

The Generic building lines are:

- **One-Storey Residential Dwellings** (Standards 690-777, **One-Storey Residential Dwellings**, 11)
 - Side Boundaries 10m (May be relaxed to 6m)
 - Midblock boundaries 10m (May be relaxed to 6m)
 - Street Boundaries 10m (May not be relaxed)

- **Blue Hills Equestrian Estate** (Portion 1.42 of the farm Newlands 757 - JR)

- Side Boundaries 10m (May be relaxed to 6m)
- Midblock boundaries 10m (May be relaxed to 6m)
- Street Boundaries 15m (May not be relaxed)

(* Portions 3, 4, 5, 19, 20, 21, 22, 23, 24, 25, 31, 32, 33, 34, 36, 38, 39, 40 of the farm Newlands 757 - JR are further subject to flood line and wetland building restriction area, as it moreover appears from Annexure E annexed hereto including the requirements stipulated by the National Environmental Management Act, 1998 (Act No. 107 of 1998))

In line with the principles of privacy and good neighbourliness the Aesthetics committee may, at its discretion, reject the relaxation or FAR application without recourse.

It is important to check the combined services layout scheme as contained on the Estate CD, as well as the S/G Diagram and Title Deeds to ensure that the Homeowner and architect are familiar with any services and servitudes running through the individual stand. Final positions of all manholes, herb inlets, electrical kiosks, etc. must be physically checked on site to ensure that they are as per the service drawings. The developer shall not be held responsible for any deviation in terms of the final position of these services.

3.7 Second Dwellings

No second dwelling is allowed in **One-Storey Residential Dwellings** (Standards 690-777 **One-Storey Residential Dwellings**) in terms of the approved town planning scheme.

A second dwelling is allowed in **Blue Hills Equestrian Estate** (Portion 1.42 of the farm Newlands 757 - JR) with consent from the Aesthetics Committee and the Local Authority. This second dwelling must match the main dwelling in terms of aesthetics and should not be smaller than 150m².

3.8 Staff Quarters

Staff quarters are allowed. If, however, these quarters contains a kitchen it will be viewed by the Local Authority as a separate dwelling.

Stables are allowed in the **Blue Hills Equestrian Estate** portion of the development and may have a separate toilet facility. It may, however, not have a separate kitchen or it will be seen by the Local Authority as a separate dwelling.

Staff quarters will form part of the coverage and the bulk (FAR) calculations.

The Local Authority will not be providing a connection point for wastewater sewerage on the Estate. The Homeowner will be required to install his or her own sewerage disposal system or water treatment plant. These must comply with both the Local Authority and National building regulations (SANS 10400 - P) and must be designed by a competent person sanitation engineer who must certify the final installation. An approved list will be available from the sales office. The final design and position or the sewerage disposal system must be indicated on all drawing submissions.

4. AESTHETIC CONCEPT

The design of houses throughout the estate should be in response to the unique South African climate and lifestyle. Homeowners will have the freedom to create unequalled and diverse homes, which will be in keeping with the proposed theme of the estate, while still achieving energy efficiency and minimizing environmental impact. Within this specified formula the use of various raw materials will be encouraged, with a focus on stone, brick, wood and glass.

It is our hope that this development will create a truly unique and climatically appropriate style that is honestly South African and particularly relevant to the region of Gauteng and our world-renowned climate, where it's warmer outside in winter, the sun shines all year round and the temperature can fluctuate by 20 degrees Celsius in one day. Thus material choice is critical to ensure low running costs through passive heating and cooling of the building.

We also have a unique lifestyle that requires an appropriate architectural response. We envisage both classical and contemporary interpretations of these farmhouses, sheds, barns and manor houses that respond not only to the broader context, but also to the individual site and the estate as a whole. We envisage simple, honest structures, with good indoor-outdoor flow, at home in their surroundings and sympathetic to the climatic conditions of the area.

Emphasis should be placed on excellent proportions, scale and the inter-relationship between architectural and structural elements to the landscape and context. The aesthetic of this estate should be refined through excellence in detailing and execution. Simplicity of form requires excellent detailing and construction quality as well as thoughtful resolution of the interrelation of forms, materials and spaces. Materials should be chosen for their ability to improve with age. The estate and each of its residences should be seen as an example of excellence in Highveld design, exclusivity and desirability, tastefulness and authenticity. The homes on this estate should set a precedent for all future developments in this country, and be unparalleled in both South Africa and the world for many years to come. This estate should be an embodiment of our South African Lifestyle, past, present and future.

The design of the house must take into account its immediate surroundings as well as the greater environment and should, from the outset, endeavour to be sustainable and eco-friendly where possible. This can be achieved by making the house thermally efficient, using solar geyser and panels, energy efficient lighting, and low consumption fittings and appliances. Building a home using good design principles will save energy, water, be more comfortable to live in, and have long term cost benefits for the end user in addition to benefiting the environment as a whole. Please consult the sustainable housing guidelines or our recommended book list (Annexure B) for more information.

5. ARCHITECTURAL CHARACTER AND DESIGN GUIDELINES

5.1 Introduction

It is important that all homeowners embrace the vision for the estate and it is vital that they work together with and support the developer and architect appointed to scrutinise the plans in implementing these guidelines. It should be borne in mind that we should strive to create an environment in the estate where the whole is greater than the sum of the parts and in so doing homeowners may need to make compromises for the benefit of all.

The primary function of these guidelines are to ensure that the value of the estate and the houses therein is preserved and enhanced, while still allowing individual homeowners to express their personal needs and preferences within the overall aesthetic framework.

Typical Elements of the genre include:

- Vertically Proportioned windows
- Pitched roofs
- Extensive use of verandas
- Vertical slatted doors
- Shutters
- Red face brick
- Natural dry packed stone
- Slip lapped cladding

A contemporary architectural interpretation of the guidelines is encouraged, with the emphases on simplicity, scale, proportion, and refined detail.

The design guidelines are primarily concerned with the external appearance and positioning of the estate's buildings and structures. Owners are relatively unrestricted with regard to the interior layout and finishes of their homes.

The design guidelines will be strictly enforced. Any detail deviations or exceptions will have to be thoroughly motivated to the aesthetics committee who will consider any such deviation on its merits and reserve the right to reject the deviation without recourse.

It is the onus of the homeowner and architect to ensure that they are in possession of the latest set of guidelines and to familiarise themselves fully with it. Furthermore, it is the responsibility of the homeowner and architect to specifically identify any proposed non-compliance to the guidelines.

The Aesthetics Committee accepts no liability through the approval of drawings and the approval relates purely to ensuring that the building comply from an aesthetic point of view. If any aspect of the building is in contravention of the guidelines and has not been specifically brought to the attention of the Aesthetics committee and approved as a specific item in the approval letter then that item will still be viewed as being in contravention of the guidelines, notwithstanding the approval of the drawings. In this case the Aesthetics Committee reserves the right to instruct the homeowner owner to rectify such contravention at the homeowner's cost and without recourse.

5.2 Scale and Proportion

The architecture of the estate should be harmonious and of human scale, avoiding unnecessarily large building forms. Large building forms must be broken up into smaller, well defined components. The size, proportion and placement of buildings must take cognisance of site and environmental conditions.

The size of a house must be a minimum of 450m² and a maximum of approximately 1500m² in the equestrian estate and a minimum of 450m² and a maximum of 1500m² in the residential estate. This calculation includes the main dwelling, garage and outbuildings.

The maximum permissible height of any building on an erf is two storeys or 12 meters when measured from the highest point of the roof to the lowest point of the natural ground level along the perimeter of the building. Chimneys are exempt from this height restriction.

Natural ground level is deemed to be the level as determined on a contour plan. Should a dispute arise relating to the determination of any natural ground level, the Aesthetics committee will be entitled to rely on the details shown on the contour plan in their possession.

An additional loft storey will be allowed in the roof void if approved by the Aesthetics Committee and Local Authority and will be subject to a rezoning application. Loft areas will be seen as a storey and must be included in the Maximum Floor area calculation.

5.3 House Forms

Building forms must be simple, rectangular or composite rectangular and frontages facing the street should be parallel to the street along the building line as far as possible. Cylindrical 'silo' forms are permitted providing that are well proportioned, not dominant and integrate well with the other buildings and structures.

No decorative beams, structures or double volume columns will be allowed to protrude from the exterior of the house. Double volume porte-cocheres or entrance columns are specifically excluded.

The maximum permitted building width of a single storey gable, or equivalent, is 8.0 meters and of a double storey gable, or equivalent, is 7 meters. This may be relaxed at the discretion of the Aesthetics Committee.

Maximum permitted width under a lean-to roof with parapets must not be more than 2/3 the width of the adjacent gable. Outbuildings must be of the same form as the house if they are free-standing.

5.4 External walls

External walls must be finished using a combination of approved materials as per 5.4.1 below.

All specifications, including samples where required, must be submitted to the Aesthetics Committee.

No type or form of un-glazed brick will be permitted on external walls as the dominant feature of the house but may be used for decorative purposes at the discretion of the Aesthetics Committee. A maximum of 40% of face brick will be permitted on the exterior of the house. Two-tone face brick work and 'yellow' face brick work is specifically excluded. If face brick is to be used then flush joints are recommended.

Natural stone can be used to add warmth and depth to the design, especially in the form of founding or feature elements e.g. Chimneys, Columns, Bases and retaining walls. "Dry packed" or stacked stonework is preferred to riven walling as it is more in keeping with the rustic aesthetic. NO fake stone or concrete/fibreglass facings will be allowed.

Horizontal string courses and simple plaster or timber surrounds to openings are permitted, but no multiple corbeling, quoins, rustication or decorative mouldings will be permitted on any part of the building, boundary wall or outbuildings.

The developer reserves the right to specify the style, detail, and finish of the boundary wall in certain areas e.g. Main Boullevards. In the event that this becomes necessary, all details and specifications will be issued to the Homeowner's architect by the Aesthetics committee and the building of these walls to the approved detail will be strictly enforced.

6.1.1 Recommended Wall Finishes

- Natural 'Dry Packed' Stone
- Smooth Plaster and paint
- Textured or scratched plaster, painted, or with tinted finish e.g. Marmoran
- Timber Plank or Everite fibre cement building planks - only Horizontal Shiplap style is permissible
- Corrugated metal if combined with the same corrugated metal roof - Maximum 50% Facebrick in red colour e.g. Corobrick Country Classic, Roan Satin or similar approved - sample to be provided (Max 40% of elevations)
- Combination of plaster and planing finish - subject to approval

6.1.2 Wall Colours

All exterior paint colours must be chosen from the approved colour palette for walls, doors and windows. The principal external paint colour may not be white. Any deviation from the approved colour palette will require specific approval from the aesthetics committee who will require a sample for approval. The colour palette will be included in the guideline annexures.

6. ROOFS

All major plan forms must be roofed. Roofs must be dominantly pitched in form and be between 30 to 50 degrees, in traditional styles - simple double pitched, pyramid, hipped and half-hipped. Roof pitches must be consistent. Peaks must be symmetrical. Flat or lean-to roofs with a pitch of 5 to 15 degrees are acceptable provided that they do not exceed a maximum of 30% of the total roofed area. An extra allowance will be made for open lean-to verandas. The same material must be used on all pitched roofs, with the exception of slate and grey Chromodak sheeting, malthoid shingle tiles, or similar, which may be mixed. Sections which have a pitch of less than 5 degrees and are constructed in concrete shall be finished with pebbles or stone chips up to a thickness of no less than 50mm.

Lean-to roofs must abut the wall of a pitched roof and not exceed 6 meters or 2/3 of the gable width, whichever is the lesser. Roofs must coincide with plan elements.

6.1 Approved Roof Coverings are restricted to the following:

- Corrugated Metal Sheeting - Chromodak or similar (Kalahari Red or Dark Dolphin colours)
- Slate tiles - Manzisa or similar (Blue Grey or Matt Black colour)
- Cedar Shingles or similar approved
- Zinc Sheeting
- Broseley Tile or similar flat clay tile

Corrugated sheeting is, however, recommended as this material best fits the architectural style. The sheeting must be colour banded and may not be painted on site.

Concrete roof tiles will not be permitted in the Estate.

A sample or specifications, including the profile, must be submitted to the architect for approval prior to the commencement of the laying thereof. All houses are required to have eaves, both for aesthetic reasons, as well as in response to the climate as an aid to passive design requirements. Eaves may be of the open or closed type but overhangs are not to exceed 500mm.

Chimneys and roof structures must complement the main structure.

Any roof mounted air conditioning units e.g. Breeze Air must be hidden within the roof structure or housed in a roof lantern/ridge ventilator.

If possible solar panels should not be visible from the street and must be integrated into the overall design aesthetic. The panels must be mounted flush on the roof and the gutters are to be housed in the roof void or cupboard and may not be external.

Seamless aluminium or Chromodex gutters and downpipes are recommended. These should be in an ogee pattern and must match the colour of the roof.

No variations to these restrictions on roof coverings will be permitted under any circumstances. The development company reserves the right to demand the removal of any roof covering that is in contravention of the guidelines, or impose fines of up to R10 000,00 per month if not removed. These fines form part of the levy and will be due and payable on the first day of the next month the fine is imposed.

7. WINDOWS

All window openings are to have a vertical form in keeping with the historical proportions of the Highveld farmhouse vernacular.

Window frames and panes are to be rectangular with a dominant vertical proportion of at least 1:1.2, but 1:1.6 is recommended.

Small windows can be square but may not exceed 900x900mm.

The proportion, style, and material of the windows selected should be consistent throughout all the buildings on the erf.

Reflective, coloured or heavily tinted glazing or film will not be allowed.

The use of glass blocks is also strictly prohibited.

7.1 Window Placement

Windows on all elevations must be carefully thought out and proportioned so that no elevation is left blank or with unbalanced openings.

Each elevation must have a minimum of 10% fenestration.

All windows and openings must be taken into account in the overall passive design of the house and excessively large glazed areas are to be avoided.

Windows should generally be:

- Taller on the ground floor and shorter on the first floor.
- The same height at the same level throughout the same storey.

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- Of the same width in vertical succession and line up above one another.
- Should not be placed closer than 690mm from an external corner of the building.

In the creation of large glazed areas, vertically rectangular windows should be joined together.

7.2 Window Types and Materials

Window frames must be constructed from natural hardwood painted or treated, or powder coated aluminium to approved colours.

Steel windows are not permitted.

PVC windows are permitted with the approval of the Aesthetics Committee.

Window types should generally be:

- Side hung casement.
- Vertical sash or mock sash
- Outwardly opening top or bottom hung windows
- Horizontal sliding with dominant vertical proportion

Where bay windows are used these should not exceed and overall width of 2.4 meters and a depth of 0.9 meters. They must be in sections, with dominant vertical proportions. Oddly shaped or proportioned windows e.g. triangular are not allowed.

7.3 Maximum window and Door Areas

Windows and doors should form individual openings in the dominant wall plane and may not exceed a maximum of 70% of the wall area of each elevation.

7.4 Dormers and Skylights

Dormer windows will be subject to approval by the aesthetics committee. They should have dominant vertical proportions and should be no wider than the window width with its trim. Skylights are also subject to approval. They must be traditional in terms of style, size and proportions with flat glass recommended and must be set in the plane of the roof.

7.5 Shutters

Shutters are encouraged, but must be traditional style and must be functional. They may be internal or external and should be constructed of natural, painted hardwood or powder coated aluminium.

For security purposes, roller shutters are permitted but these should be completely built into the wall and not exposed. An internal installation is preferred.

7.6 Burglar Bars

External burglar bars and expanding security grids are not permitted. Internal bars should be of a simple rectangular pattern, however, clear Perspex bars e.g. Multisafe or Yawa Securebars are recommended.

8. EXTERNAL DOORS

All doors must be constructed from natural hardwood painted or treated, or powder coated aluminium to approved colours. Steel and PVC doors are not permitted. All doors are to

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have dominant vertical proportions. No ornate, carved doors, or doors constructed from driftwood, railway sleepers etc. are permitted. Glass door styles are to be consistent with the window styles used.

9. VERANDAS, PERGOLAS AND EXTERNAL STRUCTURES

These will be considered as coverage if less than 70% is perforated or open. Only laminated pine or treated hardwood structures are permissible if timber is used. At least 15% of the floor area of the house must be utilised as a covered veranda.

10. COLUMNS

Columns, piers and supports to verandas or external structures may be constructed from timber or steel sections. Round smooth tapered precast concrete columns may be used but only at ground floor level. Simple caps, bases and brackets will be allowed. No ornate, fluted, or reeded precast concrete columns will be permitted. Brick columns or piers are not to exceed 450 x460mm.

11. BALCONIES

Balconies are to be placed and designed in such a way so as not to compromise the privacy of the adjoining homes. The placement and design of balconies are subject to Aesthetics committee approval.

12. BALUSTRADES

All balustrades are to comply with the National Building Regulations. Balustrade colours are to comply with the prescribed colour samples. Balustrades are to be simple and unadorned. No overly ornate cast iron or wrought iron balustrades will be permitted. Precast concrete balustrades will also not be permitted.

13. CHIMNEYS

Chimney stacks may exceed the roof apex by a maximum of 1 meter. Simple clay or concrete chimney pots may be used. No ornate pots will be allowed.

14. CONSERVATORIES

A glass conservatory will be considered but will be subject to the following:

- It must be a clearly defined add-on component to the side of the building
- All walls and roof to be glass in a timber or powder coated aluminium frame
- In proportion to the building
- Not on the street boundary
- One per site

Conservatories will be included in both the maximum coverage and the bulk calculation.

15. COURTYARDS

All homes are to have a yard. These walls are to be sympathetic with the house design and positioned to conceal wash lines, refuse, storage areas and kennels. The courtyard must make provision for at least 4 wheeled bins to enable waste recycling.

16. CELLARS AND BASEMENTS

A non-habitable, below ground cellar will be considered by the Aesthetics Committee if it has no external entrance. It will, however, be considered as a storey by the Local Authority.

17. GARAGES

Garages must be set back at least to the building line from the stand boundary abutting the street. While it is preferable that to face them into the stand a Maximum of two garages may face the roadway. Additional garages may, however, not face the road. These garages may have a single double door, or two single doors.

Garage doors may be of pre-painted sheet metal, Powder coated aluminium, or timber. Slatted timber doors are preferred in the architectural character of the estate. Glass panelled and excessively decorated doors are not permitted. Carports must not be of the prefabricated type and must form part of the architectural design of the residence.

18. BOATS, TRAILERS, CARAVANS AND HORSEBOXES

Boats, trailers, caravans and horseboxes must be concealed inside garages or screened from the street and neighbours. This is especially important with regards to corner stands and greenbelt stands.

19. WENDY HOUSES, TOOL SHEDS, LAPAS

Temporary or permanent structures including but not limited to tool sheds or laps are not permitted save for site huts during construction and only if approved beforehand by the Aesthetics Committee. No banners, flags, or shade cloth structures may be erected on the stand. Children's Wendy houses are permitted but must be painted to match the colour of the house and the roof must be the same colour as the house.

20. EXTERNAL PIPES, FITTINGS, FIXTURES & DEVICES

Aerials and satellite dishes must not be visible from the street; all residents are to make use of the fibre optic network provided. Please see the information technology section on the proposed services envisioned within the Estate. Solar panels are to be in the same plane as the roof or to be hidden from site. All Plumbing is to be bricked in and made flush against the external wall, with access panels only at the junctions. Access panels must be approximately 300 x 300mm in size and painted to match the house. Stubb stacks are to be used in favour of full height soil vent pipes. Air-conditioning/Heat Pump units or pipes may not be visible from the road or any other resident's property.

21. RETAINING STRUCTURES

No retaining wall higher than 1.2 meters is permitted. While it is recommended that retaining walls be built from natural stone, face brick or plastered brick walls are also permitted. No precast concrete retaining structures or walling systems are permitted. All retaining walls must be designed by a structural engineer and accompanied by a structural certificate of compliance.

22. EXCAVATIONS

As far as possible the natural ground level of each individual site is not to be disturbed or altered. All site works required for the development of the site are, as far as possible, to be confined to the footprint of the building or access to the property.

If, however, it is impossible to keep the natural slope of the landscape and a certain amount of land forming is required, all new land forms should be designed to look as naturally part of the existing topography as possible. Care must be taken to accommodate all storm water runoff.

Cut and fill excavations should not exceed 1.2 meters on either side. Please see the diagrammatic illustrations for more clarity on this aspect.

The manipulation of natural landforms is to be limited and the preservation of the natural landform by retaining the stands is an essential principle to be strictly adhered to. The site and surrounding area shall be shaped to permit the ready drainage of surface water and to prevent ponding.

No excavation or filling of the stands may be undertaken without the permission and written approval of a detailed architectural and site development plan to the aesthetics committee. All proposed foundations or excavations for exterior buildings, patios, swimming pools and retaining walls must be certified by a structural engineer.

23. GREENBELT STANDS

Houses facing onto the greenbelt areas have a much higher visibility within the public realm and, as such, special design consideration is required for the elevations exposed to these public areas and should have a high level of quality and details consistent with the front elevation. Upgraded building materials such as stone are also encouraged.

24. CORNER STANDS

Corner stands, due to their nature, play a significant role in setting the image, character and quality of the street. Both street frontages must be addressed in a consistent manner and should incorporate ground level detailing such as porches, windows and verandas etc. which reinforce the pedestrian scale of the street. Extensive verandas are encouraged while articulated flashing elevations are required to avoid flat, blank, uninteresting facades. Upgraded building materials such as stone are also encouraged.

25. URBAN DESIGN PRINCIPLES AND CONTROLS

The urban design principles cover the interface of the private residence with the public realm and are intended to create an understated yet sophisticated ambience throughout the estate.

The elements contained in this section must be shown on the site development plan and the owner must include perspective and detail design with their submission.

25.1 Boundary Walls, Fences and Hedges

Boundary walls along or relating to street frontages are not mandatory but if constructed are subject to certain criteria. In order to create an outwardly focussed built environment while retaining the residents' sense of privacy the following guidelines apply:

Materials - Only the following materials may be used in the construction of walls and fences:

- Natural Stone
- Post and Rail Fencing (Tanalith treated, unpainted unvarnished timber, with or without galvanised square weld mesh inserts).
- Brick and smooth or bagged plaster painted as per approved colours (See annexures).

- Palisade if custom designed and made from natural timber or steel with a galvanised finish or painted in charcoal grey from the approved colour chart (See annexures)

The following are strictly prohibited:

- Precast walls
- Artificial/concrete rock
- Razor wire/barbed wire/security spikes
- Electric fences
- Presharpened palisade fencing

25.2 Street Boundaries

The street boundary of a property is the most important interface with the public domain.

They following guidelines apply to all street frontages:

- The boundary wall/fence must be shown on the site development plan and be presented to the Aesthetics committee for approval prior to construction.
- Maximum height

Solid wall - 1500mm (not more than 30% of wall length on street boundary)

Solid Low wall - 750mm

Stone pillar and wood railing combination - 1.5m

Post and rail fence - 1.5m

Hedge - 1.5m

The above measurements are to be taken from natural ground level along the perimeter of the wall.

- All Boundary walls must follow the contours and be stepped evenly.
- All brick walls are to receive concrete copings as approved.
- All dogs kept on an erf must be in an adequately contained area.

If an owner wishes to exceed the aforementioned height restrictions of the wall, hedge, or fence then it must be set back onto the house building line and must form part of the design elevation of the house.

25.3 Side and Midblock Boundaries

Internal boundary walls are not mandatory.

The maximum wall height is restricted to 2.1m.

All brick walls are to receive concrete copings as approved.

All boundary walls must be constructed in accordance with SABS 0400. All wall plans must also be accompanied by an engineer's certificate and, on completion, an engineer's completion certificate to be issued for the Aesthetic Committee's records.

All building sites are to be temporarily fenced, with a lockable gate, during construction with an approved barrier of wire mesh fencing with hessian or shade netting attached. These must be neat and well maintained for the length of the construction period.

Only a single wall/fence may be built on these boundaries. Owners are encouraged to cooperate in construction of the common wall between their properties. In the event of a dispute the aesthetics committee will be the sole adjudicator and both owners will agree to abide by the committee's decision.

25.4 Gates

Gates must be in wood or steel in a simple design and may not be higher than the adjoining wall (See Annexures).

Vertical wooden slats in a natural or varnished finish are preferred.

Excessive ornamentation or decorative finishes are prohibited.

Driveway gates may not be higher than the adjoining wall and must be of simple design and match the garden gate.

25.5 Street Numbers

All street and house numbers must be according to approved samples by the aesthetic committee.

The lettering should not exceed 300mm. It should be in natural unfinished material and should be mounted on the wall adjacent to the gate. No other signage may be displayed on the stand.

25.6 Driveways

The design, position and materials used for driveway construction have a major impact on the public spaces. The following are guidelines for the construction of driveways.

Position: The position of driveways must be governed by the following:

- Only 1 driveway will be permitted on the lifestyle estate stands
- 2 driveways are permitted on the equestrian stands providing that they are of the same design and placed at opposite ends of the stand
- The driveway position must be indicated on the site development plan for approval
- Road safety must be considered and should be the primary determinant of the driveway to a site
- The position of underground services, manholes and storm water inlets must be taken into account and physically checked on site to ensure that no clashes occur.
- Whenever possible adjoining stands should have adjoining driveways to ensure the maximum road reserve for the planting of trees and shrubs.
- All driveway entrances must conform to the standard details provided in the annexures and on the CD, especially in regard to the storm water channel crossings.

The aesthetics committee reserves the right to determine the position of all street accesses at its discretion.

25.6.1 Dimensions

The driveways may be a maximum of 5 meters wide and must be perpendicular to the street boundary.

Garages facing onto the street must be set back 10 meters from the stand boundary. This rule is not subject to relaxation.

Materials: Driveways may be constructed from the following materials:

- Brick Paving
- Concrete Paving
- Natural Stone
- Exposed aggregate Paving

Driveways shall not be constructed from asphalt, concrete interlocking, or any form of crazy, brick or stone impregnated paving. Excessively coloured or patterned driveways are not permitted. A sample or specifications must be submitted to the Aesthetics Committee prior to commencement with the laying thereof.

The road paving outside the site boundary line must be done strictly in accordance with the guidelines as per the attached annexure. The only materials to be used in the road reserve are Holcim dump rock laid in concrete to match the road edge and InfraSet blocks to match the existing roadways.

25.6.2 Storm Water Channel Crossings

Driveways which cross storm water channels are subject to a standard bridge design. This design varies according to the channel width. Please see the attached annexures for these details.

A minimum of two 160mm diameter PVC sleeves are to be laid under driveways and paths constructed by homeowners across sidewalks for the purposes of accommodating any future pipes and cables that may be laid in the sidewalks. These sleeves are to be laid 2 meters from the boundary line and at a depth of 800mm below the surface of the driveway.

25.6.3 Sidewalks

Sidewalks will be constructed on one side of certain roads by the developer. The side walk will take precedence over the driveway in that that the sidewalk must remain a continuous surface and level across all driveways.

25.6.4 Panhandle Access Routes

A number of erven have panhandle access where the following will apply:
Single Panhandle

Panhandle driveways may not be intrusive and are governed by the following rules:

- No gates onto street fronts
- The gate must be set back at the end of the panhandle nearest the house
- No structures may be erected in the panhandle

Double panhandle

These driveways are governed by the following rules:

- No gates onto street fronts
- The gate must be set back at the end of the panhandle nearest the house
- No wall or boundary structure may be built down the centre of the driveway
- A single paved surface must be constructed down the middle of the two access routes to a maximum width of 6 meters
- Appropriate planting should be undertaken to ensure harmonious integration with the streetscape
- The cost of constructing and maintaining the driveway will be apportioned equally between the owners of the paved stands.

The Aesthetics committee will be the final adjudicator in the event of dispute between owners regarding the positioning, construction or financing of the common driveway.

All Signage (contractor's boards etc.) must be as per the approved format (See builder's code of conduct) and only one may be mounted in front of the applicable property. All signage must be kept to standard professional boards only, no private marketing or sales boards will be allowed. No signage of any type including for sale boards etc. may be displayed on any part of the common property on the estate, or near the entrance to the estate.

26. MATERIALS

We aim to encourage the use of materials in their natural state, thereby creating a unifying element to all the homes, as diverse as we hope they will be. The quality of design and the application of these raw materials in new and relevant ways are of paramount importance to this concept. The materials that will be expressed in their natural form on the estate are as follows:

Stone: The use of natural stone can be used to give warmth and depth to design, especially in the form of founding or feature elements for example: chimneys, columns, bases and retaining walls. No fake concrete facings will be allowed.

Brick: The use of exposed brickwork in very effective in detailing arches, lintels, and edges, as well as introducing a human scale and earthy feel to larger buildings.

Plaster: Plaster whether plain or pigmented tends to improve over time with a natural patina, as well as being extremely flexible in terms of creating moulded or sculpted details. It is also useful to create contrast with the more heavily textured brick and stone elements. The plaster may be painted in a limited selection of colours chosen from the attached chart (see point 6 under the annexure section).

Wood: Timber in its natural state lends warmth and interest in many applications, from doors and windows, to heavy beams, columns and trusses. The grain of the wood itself gives texture and life to elements and spaces. The wood may also be painted in a limited selection of colours chosen from the attached chart.

Steel: Steel allows spaces to become light and airy, especially when used in conjunction with glass. It makes it possible to span large openings and create spaces that are open and free. Steel is a modern material that can be used to create dramatic effects. It may be galvanized or painted grey.

Glass: Glass can create warmth when it's cold and provide cooling when it's hot. This is done through the use of shading and screening devices in summer and by allowing the low winter sun to penetrate from the north in winter. It can bring the outdoors inside and can create spaces that flow. The use of glass in a home is unlimited in its application, from doors and windows, to screening devices and ventilation.

Green Materials: A full range of green materials are on display in the Waterfall Green Design Centre, together with reference material which will be constantly updated and expanded to ensure homeowners are exposed to the latest technologies available. Please see the Sustainable Housing Guidelines as well as our recommended booklet for more information on incorporating green materials into your house designs.

27. INTERIORS

Although not specifically included in the architectural guidelines, it is our intention that the interiors will be as unique and beautiful as their exteriors, with the application of the raw materials on the inside as well.

Application of such raw materials in the interior of the home extends to the use of timber floors, steel and glass volumes, screeded surfaces and exposed brick or stone walls. This will lead to a natural transition between internal and external spaces, with indigenous gardens further enhancing the houses found throughout the estate.

We aim to encourage a fresh look at our South African climate and lifestyle in the planning and finishing of the interior spaces of the homes on this estate. It is envisioned that this flexibility and diversity of spaces and materials will create a new and lasting South African ideal.

It must be noted that the following electrical appliances are specifically excluded and the gas equivalent must be specified. A list of recommended suppliers is available in the Waterfall Green Design Centre.

<i>Excluded:</i>	<i>Recommended:</i>
<i>Electric under floor heating</i>	<ul style="list-style-type: none"> <i>Piped water under floor heating with a gas/bolar fired boiler and insulation to underside of slab.</i> <i>Gas fired space heaters</i>
<i>Electric Geyser</i>	<ul style="list-style-type: none"> <i>Gas fired instant water heater.</i> <i>Solar water heater.</i>
<i>Electric Hot Hob</i>	<ul style="list-style-type: none"> <i>Gas hob.</i>
<i>Electric space heater</i>	<ul style="list-style-type: none"> <i>Gas space heaters.</i>

28. GARDEN LANDSCAPING AND PLANTING GUIDELINES

28.1 Introduction

The landscaping and planting of gardens is subject to certain guidelines. Landscaping is to be limited, as far as possible to indigenous species and will be done by the homeowners association on most of the common areas. While the private garden is not part of the public domain, it must be acknowledged that the diversity and structure of its flora has a major effect on its surroundings. An important aspect of the vision for this estate is to create a distinct and harmonious landscape in accordance with the architectural vernacular and to extend the framework of planting of the entrance and other sidewalks to the private garden. A recommended plant list is attached to the annexure.

We expect that the Landscaping of the stands will be considered as an integral part of these home designs and that the outdoor spaces will be as well planned and detailed as the homes themselves. The use of indigenous planting will further enhance the concept of natural materials being used to build the Estate into something original and outstanding. Considering the natural beauty of the area some homeowners may wish to retain a portion of their stand in its natural state, however the area between the street boundary and the Dwelling must be landscaped (See attached annexure).

The sidewalk landscaping in the estate itself must conform to the guidelines and developer's existing planting scheme. A Homeowner must submit his plan, together with the building plans, prior to the establishment of any landscaping on the sidewalk adjacent to his or her stand and thereafter planting may be carried out in terms of the conditions of such approval.

The development company is entitled to determine that a Homeowner is required to landscape the sidewalk and islands adjacent to his erf and to irrigate these areas.

A landscaping design of the property must be prepared and submitted to the Aesthetics Committee with the architectural design for approval. The garden landscaping must be completed within 90 days of the issue of the Local Authority's Occupation Certificate. The estate completion certificate will not be issued until all landscaping is complete.

28.2 Landscape strategy

The landscape strategy is to create an environment within the estate that will maximise indigenous bio-diversity of the area and be sustainable into the future.

The strategy is founded on the following principles and practices:

- Highveld indigenous planting material is the most ecologically sustainable flora for the soil and climatic conditions of the estate and its environs.
- The estate is situated in a water deficient area and thus the conservative use of water is fundamentally important to sustainability.
- The natural sense of place is unembellished with little or no ornamentation
- Each garden is a contributor to the conservancy area of the estate in its bid to create an environment where maximum indigenous bio-diversity can exist (birds, insects, animals and plants).

28.3 Mandatory Guidelines

28.3.1 Existing trees

All existing indigenous trees on the estate with a stem diameter of greater than 100mm measured 1 meter above ground are worthy of protection and thus may not be removed without formal consent from the aesthetics committee.

All trees with a stem diameter of greater than 100mm must be clearly shown on the stand's site development plan and any interference with such trees must be minimised. Any removal of trees must be fully motivated and approved by the Aesthetics committee.

The approved removal of any tree with a stem diameter of greater than 100mm must be accompanied by a written commitment to plant two indigenous trees with a minimum size of 100 litres or to relocate the existing tree.

28.3.2 Garden Ornamentation

Artificial ornamentation such as artificial rocks, garden gnomes, overly elaborate sculptures etc. are prohibited.

28.3.3 Garden Lights

All exterior lights, whether attached to a building or free standing, must be diffuse and subdued and in addition the light source must be screened to avoid glare. The lights must be designed to prevent light pollution in such a way that direct light does not leave the property. Coloured light are prohibited. These restrictions also apply to tennis court lighting.

28.3.4 Prohibited plant species

All declared invasive alien plants listed in the Conservation of Agricultural Resources Act of 1983 and subsequent amendments may not be cultivated and the BHEHQA retains the right to remove such plants at the cost of the owner.

28.3.5 Vacant Strands

The owner becomes responsible for his stand on transfer. The owner will keep his stand neat and tidy and free of weeds and ensure that the grass is cut regularly.

28.4 Swimming Pools and Spas

Formal pool shapes such as square, rectangular or round pools are recommended as these harmonise with the architecture.

Materials such as brick, natural stone, slate, timber decking, clay pavers or suitable concrete pavers or flagstones, may be used to surround pools and spas.

Pools and spas, filters and pumps are to be within the building lines. These building lines may, however, be relaxed through application to the Aesthetics Committee and any affected residents.

The top level of the paving or pool may not be raised more than 500mm above natural ground level.

Any fencing of the pool must be sympathetic to the architecture and designed accordingly.

Pumps and filters must be enclosed and screened so as to be not to be visible or audible and positioned so as not to negatively affect the neighbour.

All water emanating from swimming pools shall be discharged as required by the Local Authority and should not discharge water directly onto a street or stand.

28.5 Rainwater tanks

The installation of rainwater tanks is recommended. These tanks should be buried in the ground or, if exposed, must be suitably clad to complement the architecture of the building it serves.

28.6 Storm water Management

All landscaping plans must display what method of storm water disposal will be employed. No concentrated storm water is to be disposed of directly into neighbouring stands and must comply with National Building Regulations. Ideally storm water should be disposed of in a storm water drain, water feature, or soak pit.

28.7 Children's play areas

Children's play areas, jungle gyms, etc. must be adequately screened from streets and public areas and should conform to the use of natural materials. NoCCA treated poles are allowed in the play areas due to the specific health risks associated with the arsenic and chromium preservative used.

28.8 Tennis Courts

Tennis courts are only permitted on stands larger than 10 000m². The position of the tennis court is subject to building line restrictions. No bright colours may be used for the playing surface e.g. blue or red. Tennis court lighting must be suitably screened to avoid glare and light pollution so as not to adversely affect the neighbouring properties.

28.9 Agricultural elements

The use of natural stone structured agricultural elements and garden furniture is encouraged to create a sense of unity and place and to complement the rural ambience.

28.10 Good neighbourliness

This is particularly important along midblock boundaries. When planting trees it is important to consider the effect the full grown tree will eventually have on neighbouring properties and to therefore ensure that appropriate species are selected.

28.11 Recommended plant list and tree policy

A recommended plant list is attached in the annexures.

The landscaping and especially the trees, due to their size, go a long way in determining the overall aesthetic ambience of an estate. With our indigenous landscaping policy we hope to reinforce the uniquely South African nature of this estate, not to mention the numerous additional advantages of planting indigenous trees such as increased bird and insect life, frost and drought resistance and general hardiness.

Bird life is significantly increased through the planting of indigenous trees that have berries for food, or thorns for protection from birds of prey.

Frost resistance is another benefit of indigenous trees as they tend to be very hardy.

29. ESTATE AESTHETICS COMMITTEE

The Developer has established the Estate aesthetics committee to control the design and construction of all buildings on the estate.

Aims and responsibilities

The main aim of the aesthetics committee is to endeavour to:

- Ensure that all buildings are designed strictly in accordance with the architectural guidelines
- Protect the long-term values of the properties within the estate by acting as the aesthetic "watchdog"
- Ensure that all buildings are constructed in accordance with the approved building plans
- Consider any proposed alterations or additions to the architectural guidelines and standard of the estate

All property owners must obtain the written approval of the aesthetics committee prior to the commencement of the following:

- Erection of new buildings
- Alterations/additions to existing buildings
- Construction of external elements such as boundary walls, swimming pools, Jacuzzis, driveways etc.
- Landscaping where the removal of any tree with a trunk diameter of 100mm or more is envisaged
- External repainting of facades to any building

29.1 Aesthetics Committee Proceedings

The aesthetics committee will meet once every week to consider plans submitted for approval.

The committee will issue its findings, recommendations, or approval within 3 working days of the meeting.

29.2 Approval Process

The Homeowner must refer to the below points regarding the requirements for submission to the Aesthetics Committee for approval. All documentation including the Surveyor General's stand diagrams, services connection diagrams and contour plans or surveys, which may be required to facilitate the design process. This information, where possible, will be made available on a CD and will be issued free of charge, from the sales office. Alternatively please visit our website. No building or addition may be erected or altered without the approval of the Aesthetics Committee. This does not apply to minor internal alterations.

It will be the responsibility of the homeowner to ensure that he or she is in possession of the current version of the guidelines.

When designing their houses, or any other structures on their erf, homeowners are required to make use of a registered, practicing, architect and may not use any technician, draughtsperson, design or drafting bureau for the design of their house.

In terms of new government legislation, SANS 10400 - Section A19, homeowners are required to employ the architect for the full architectural service, which includes full site supervision. Alternatively, the legislation allows for a registered project manager to be retained for the site supervision. A list of preferred architects and builders will also be made available. This will ensure a professional product that is both in keeping with the aesthetic guidelines of the Estate, and of the highest standard.

While it is preferred that the Homeowner use an architect from the approved architectural panel, should the homeowner have a prior relationship with a specific, registered architect or architectural practice they may approach the aesthetics committee and apply for them to be approved. All applications must be accompanied by a company CV. Further information on this process can be found in section 29, Architects, Contractors and Construction Management.

The approval process will involve the following stages:

The design concept and sketch plans must be submitted to the property development company, ~~submitting property development~~ for approval. A scrutiny fee of R5000.00 (Five thousand rand) will be payable on submission of the plans. This fee is a once off payment and may be increased from time to time. However, plans which have to be re-submitted more than 3 times will incur an additional fee of R1500.00 per additional submission.

The aesthetics committee has the discretion to determine that a re-lodged plan is a new plan and subject to the original submission fee if it differs so materially from the previous plan lodged as to effectively constitute a different or new plan. Plan submission and scrutiny fees are subject to periodic review by the aesthetics committee.

Architects are to ensure that all gas appliances are noted in the submission drawings. It is noted that electrical under floor heating and conventional electric gasers are not allowed and that gas fired or geothermal under floor heating or gas fired space heaters are to be

specified instead. A list of recommended suppliers can be obtained from the Waterfall Green Design Centre.

Stage 1: Sketch Plans (Scale 1:200) - A3 Booklet which must include the following:

- Position of building on adjacent stands (if applicable)
- All Building lines
- Positions of driveways and access points, including pathways
- Boundary treatment, including the proposed detail of boundary walls
- Landscaping concept, including the position of trees with a trunk diameter of 100mm or more
- Earthworks concept diagram, showing the extent of any proposed cut and fill
- Position of all buildings and structures on site, including pools
- Position and routing of all services onto the site
- Storm and rainwater water management proposal
- Plans and elevations to scale, clearly describing all proposed finishes
- An artist's impression or 3 dimensional CAD model
- Area schedule indicating site, floor, covered patios and outbuilding areas
- Samples of finishes for approval e.g. paint colour swatches, picture of proposed stone etc.

Please submit one CD containing PDF or DXF's of the drawings (to be retained by the Aesthetics Committee for their records) and two A3, coloured sketch plan booklets (one to be retained by the Aesthetics Committee for their records and one to be returned upon approval of the design).

Stage 2: Working Drawings (Scale 1:100) - After the design concept and sketch plans have been approved the detail design and working drawings must be submitted to the Aesthetics Committee for approval. These drawings must include the following:

- Working Drawings, A1 plans ONLY, sections, elevations, roof plan, foundation plan, and schedules (door and window schedules, finishes)
- Area schedule indicating site, floor, covered patios and outbuilding areas
- Coverages and FAR calculations
- Position of building on adjacent stands (if applicable)
- All Building lines
- Positions of driveways, including details of any storm water channel crossing and any additional access points, including pathways
- Boundary treatment, including the proposed detail of boundary walls, finishes and height
- Landscaping plan, specifying all plants and details, including the position of trees with a trunk diameter of 100mm or more
- Earthworks diagram, showing the extent of any proposed cut and fill
- Position of all buildings and structures on site, including pools
- Position and routing of all services onto the site
- Storm and rainwater water management details
- Plans and elevations to scale, clearly describing all proposed finishes
- Samples of finishes for approval e.g. paint colour swatches, picture of proposed stone etc.
- Communication service provider approval.

Please submit one CD containing PDF or DXF's of the drawings (to be retained by the Aesthetics Committee for their records) and at least two paper copies, one coloured and one monochrome. The monochrome set will be retained by the Aesthetic Committee for their records. The coloured set, as well as and further sets, will be returned. The committee will not approve more than 4 sets, including the Committee set. Please bear in mind that the committee will always retain a set of plans from every submission. Should

only one set be submitted this will be kept by the Committee for their records and a further set of drawings will need to be re-submitted and will need to go through the full plan review process again before being stamped and returned for council.

Stage 3: After the detail and working drawings have been approved they must be submitted to the Local Authority for approval. Certain prescribed submission fees will be payable at this stage to the Local Authority.

It is a condition of establishment that Johannesburg will not accept any plans for approval without the prior written approval of the aesthetics committee.

These Aesthetic guidelines are in addition to, and do not supersede, the requirements of the Local Authority, any statutory authority, or the National Building Regulations.

29.3 Dispute Resolution

Should an owner/architect feel aggrieved by the decision of the aesthetics committee he or she must apply to the developer within 7 days for a review of such decision.

The decision of the developer will then be final.

29.4 Special Considerations

The aesthetics committee evaluates only the aesthetics of any submission and does not take any responsibility for any technical, structural, health or safety standards or for compliance with any Municipal or Statutory requirements and no such responsibility shall arise by virtue of a plan being approved by the aesthetics committee.

29.5 Maximum building period

Construction of buildings must commence ("break ground") within 24 months from the date of registration of transfer of ownership. This construction must be completed within 18 months after commencement of building activities. Should the owner be in breach of either of these time limits, then the HIOA may impose a monthly penalty equal to 3 times the monthly levy for the first 12 months, escalating to 6 times the monthly levy thereafter, until such time as the owner has complied with these conditions.

29.6 Deviation from approved plans

If an owner deviates from the approved building plans, the aesthetics committee reserves the right to issue a stop order and thereafter insist that the unapproved building works be demolished or rectified at the owner's cost.

29.7 Commencement of Excavations or Building without plan approval

The aesthetics committee may, at its discretion issue a works stop order and force the owner to re-instate the site or demolish the unapproved structures.

29.8 Building Process

No building shall commence until all the relevant approvals have been obtained and the Building Code of Conduct attached to the Annexures has been read, fully understood and signed by the Homeowner and builder. A signed copy of this document must be then forwarded to the Aesthetics Committee for their records.

A pavement deposit fee will be payable prior to the commencement of construction. This deposit less deductions, if applicable, will be refunded at the end of the building period. This deposit must have been paid prior to the commencement of building operations. Please see the conduct rules for more information on this.

The Developer and/or the Aesthetics Committee will be entitled to regulate the activities of all building and other contractors on and determine that the contractor(s) and the Homeowner sign the Builder's Code of Conduct with the HOA for this purpose.

29.9 Completion Certificate

On completion of the house the Aesthetics Committee is to be notified. The committee will then verify that the house is built as per the approved design and issue a completion certificate. This is to ensure that penalty levies will not be billed for late completion or non-compliance and the pavement deposit will then be refunded to the owner. All owners will need to be in possession of a completion certificate to avoid being billed penalty levies.

29.10 Penalties for non-compliance

The Architectural and Landscaping Guidelines are binding on all owners. Any breaches/deviations will be investigated by the Developer/Aesthetics Committee/HOA who will endeavour to prevent re-occurrence and determine responsibility.

Corrective measures must be taken by, and at the cost of, the responsible party. A penalty levy will be levied on the responsible party for any contravention of the guidelines that is not rectified within 3 months of the homeowner being notified that a contravention has occurred. This levy will be a monthly penalty equal to 3 times the monthly levy for the first 12 months, escalating to 6 times the monthly levy thereafter, until the breach/deviation has been resolved to the satisfaction of the relevant parties.

Repeated non-compliance by professionals or contractors may result in removal from the approved panel of architects and barring of entry onto the estate.

The Developer/ Aesthetics Committee/HOA does not give an undertaking to homeowners that it will enforce compliance for each and every breach and retains a discretion as to which measures, if any, it will implement under the given circumstances. It also does not warrant that similar steps will be taken in respect of all similar instances of breach. It does, however, agree to act responsibly in terms of the exercising of its authority.

30. ARCHITECTS, CONTRACTORS AND CONSTRUCTION MANAGEMENT

In order to ensure the quality and design integrity of the built environment within the estate, the appointment of architects is subject to the following conditions.

The developer will appoint a panel of architects. The home owners are obliged to select their architects from this panel.

The architects on the panel are qualified and registered as professional architects as contemplated in section 18(1) (a) (i) of the Architectural Profession Act no 44 of 2000 read together with section 19 (a) (a) of the act.

The architects in the panel have entered into co-operation agreements with the developer to ensure a uniform and professional application of the Architectural Guidelines.

Should a homeowner insist on using an architect who is not on the panel the following will apply:

The homeowner must arrange for the proposed architect to meet with the aesthetics committee.

The proposed architect must provide proof of the following:

- Appropriate house design experience
- Qualifications and registration in terms of the Architectural Profession Act
- Good standing with the South African Council for the Architectural Profession
- Adequate Professional Indemnity Insurance

The proposed architect, if approved by the developer, must then sign a co-operation agreement with the developer, undertaking to ensure a uniform and professional application of the Architectural Guidelines.

In terms of new government legislation, SANS 10400 - Section A19, homeowners are required to employ the architect for the full architectural service, which includes full site supervision. Alternatively, the legislation allows for a registered project manager to be retained for the site supervision. This will ensure a professional product that is in keeping with the aesthetic guidelines of the Estate and of the highest standard.

30.1 Panel of Approved Building Contractors

In order to ensure that the construction of buildings is completed to a high standard and for better management control in the estate, the developer will select a panel of building contractors from which the purchaser is obliged to select a contractor to erect the buildings on his or her property.

Should a homeowner insist on using a building contractor who is not on the panel the following will apply:

The homeowner must arrange for the proposed building contractor to meet with the aesthetics committee.

The proposed building contractor must provide proof of the following:

- Appropriate house construction experience
- Registration in terms of the National Home Builders Registration Council (NHBRCC)
- Registration in terms of the Master Builders Association (MBA)
- Letters of recommendation from previous clients

The proposed building contractor, if approved by the developer, must then sign a co-operation agreement with the developer, undertaking to ensure that the construction of his or her buildings within the estate is completed to the highest standards.

30.2 Building Contractor Management and Control

In order to ensure that the construction of buildings within the estate is executed in a controlled manner and to ensure that the life-style of existing owners and residents is not unreasonably disrupted, the developer will issue a Building Contractors Code of Conduct.

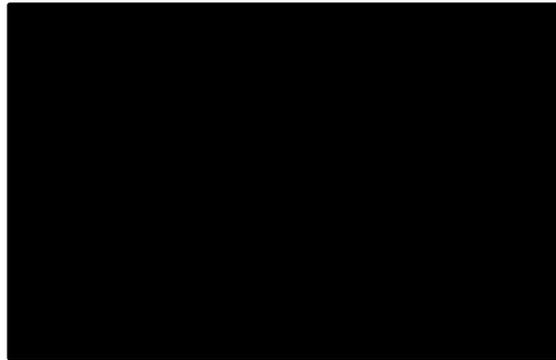
The Code of Conduct must be signed by all contractors and will be strictly enforced by the developer or HOA, with penalties for non-compliance. In this regard the developer is not in a position to warrant that any penalties imposed will have the desired result. Furthermore the developer does not undertake to necessarily impose a penalty in terms of each and every breach of the code, but will use its discretion in this regard, which it undertakes to exercise responsibly. It should be clearly understood that the developer is not in a position

to warrant compliance with the under mentioned aspects of the code of conduct but that the developer will, at all times, use its best endeavours to ensure compliance.

The code of conduct will cover, inter-alia, the following:

- The days and times of the day during which construction may take place
- Receipt and storage of building materials
- Rubbish disposal
- Access for deliveries
- Staff ingress and egress from the estate
- Staff toilet and ablution facilities
- General behaviour of staff
- Contractor's boards
- Fencing and screening of construction sites
- Protection of existing infrastructure
- Damage repair
- Environmental control
- Penalties for breach of rules
- Monitoring of construction activities in accordance with approved building plans
- Such matters as the developer deems to be in the interest of the general body of owners and residents of the estate

Non-Eco-Estate B



**ARCHITECTURAL DESIGN AND BUILDING RULES
AND
BUILDING CONTRACTOR RULES**

2014

For Office use:
Stand:
Owner:
Contractor:

B4 Environmental Management Plan FOR ISSUES during construction at [REDACTED] Estate

ACTIVITY	ASPECT	IMPACT	MITIGATION MEASURE: (objective and target)	PERFORMANCE INDICATOR	RESPONSIBILITY	SCHEDULE
1 Education of contractor staff	Worker conduct	Workers need to be aware of their actions on the environment	Objective: To educate the workers on the correct environmental procedures. Targets: 1) All site personnel should have basic environmental awareness training. 2) Working under the influence of alcohol is strictly forbidden. 3) Excessive noise is not allowed. 4) No birds may be hunted.	There is no damage on the environment caused by workers' behaviour and neighbours	Contractors	Construction phase
2 Security	Security during construction	Increased human traffic and activities on the site can result in increased crime	Objective: To prevent the increase of crime on the site and surrounding areas. Targets: 1) Contractor personnel should wear [REDACTED] access cards 2) No unauthorised personnel will be allowed onto the site. 3) No workers will be allowed to trespass on private properties in the neighbouring areas.	No crime	Contractor and workers	Construction phase

ACTIVITY	ASPECT	IMPACT	MITIGATION MEASURE: (objective and target)	PERFORMANCE INDICATOR	RESPONSIBILITY	SCHEDULE
3 Health and Safety	Prevention of injuries of workers on site	Unsafe working conditions can cause health risks to workers and locals	Objective: Ensure a safe and healthy working environment Targets: 1) The contractor must comply with the standards set out in the OHS Act. 2) Provision of appropriate Personal Protection Equipment (PPE). 3) Respect workers' right to refuse to work in an unsafe and unhealthy environment. 4) Provide first aid component and train workers how to use it. 5) All work to be carried out under supervision and according to best practices. 6) Material stockpiles or stacks must be stable and well secured to prevent collapse of the stockpile and possible injury to workers. 7) All dangerous areas on the site should be clearly marked as such including areas for storing dangerous materials. 8) Employees will be supplied with hearing protection if noise levels exceed 85 decibels. 9) Workers are not allowed to drink	No injuries Workers wear safety gear	Contractor Workers	Construction phase

ACTIVITY	ASPECT	IMPACT	MITIGATION MEASURE: (objective and target)	PERFORMANCE INDICATOR	RESPONSIBILITY	SCHEDULE
	Fire control and prevention	Fire can spread to surrounding property, and injure staff.	<p>Objective: To avoid fires that could spread to surrounding areas.</p> <p>Targets:</p> <ol style="list-style-type: none"> 1) Hold regular fire prevention talks and reminders to the staff on fire prevention. 2) No fires may be made on site. 3) Ensure adequate fire-fighting equipment on site and in all major working areas. 4) Ensure that all workers on site know the proper procedure in case of a fire incident on site. 5) Smoking is not permitted in those areas considered a fire hazard. 	No fires reported during construction	Contractor Workers	Construction phase

ACTIVITY	ASPECT	IMPACT	MITIGATION MEASURE: (objective and target)	PERFORMANCE INDICATOR	RESPONSIBILITY	SCHEDULE
4. Site Preparation	Vehicles	Exhaust fumes and oil spillage from vehicles pollute the environment	<p>Objective: Limit pollution by vehicles.</p> <p>Targets:</p> <ol style="list-style-type: none"> 1) All mechanical equipment should be in good working order and adhere to relevant noise requirements of the Road Traffic Act. 2) All vehicles should be equipped with a silencer to the exhaust system. 3) Security systems that generate noise, including reserve gear alarms, should be adjusted to minimise noise. 4) The vehicles should be in good working order and all faults should be repaired immediately. 	<p>Air pollution and noise do not exceed acceptable limits.</p> <p>No spillages.</p> <p>No complaints from neighbours.</p> <p>No complaints from workforce.</p>	Contractor Construction vehicle drivers	Site preparation phase Construction phase
	Cleaning and grubbing	Removal of vegetation and top soil during site cleaning can promote erosion	<p>Objective: Prevent soil erosion during cleaning of site</p> <p>Targets:</p> <ol style="list-style-type: none"> 1) Locate stockpiles away from waterways and roads. 2) Topsoil should not be removed long in advance of the construction activities since this may result in 	No signs of erosion on the site.	Contractor Workers	Site preparation

ACTIVITY	ASPECT	IMPACT	MITIGATION MEASURE: (objective and target)	PERFORMANCE INDICATOR	RESPONSIBILITY	SCHEDULE
	Storm water management	Serious environmental impacts can be caused by unmanaged storm water	<p>erosion.</p> <p>3) Topsoil approximately 250 mm deep shall be removed from all areas where physical disturbance of the surface shall occur.</p> <p>4) Topsoil should not be stored to a height exceeding 1.5m and should not be compacted.</p> <p>5) Erosion prevention measures should be implemented to prevent the erosion of topsoil.</p>	No evidence of soil erosion No blocked storm water drains	Contractor	Construction phase
			<p>Objective: Prevent storm water damage on the site and surrounding</p> <p>Targets:</p> <p>1) In order to capture storm water and promote infiltration temporary cut-off drains may be required to divert storm water to the existing drainage system.</p> <p>2) Earth, stone, and rubble must be properly disposed of in order to ensure that natural water pathways over the site are not blocked.</p> <p>3) The site drainage system should be checked periodically in order to ensure that the water flow is not obstructed.</p>			

ACTIVITY	ASPECT	IMPACT	MITIGATION MEASURE: (objective and target)	PERFORMANCE INDICATOR	RESPONSIBILITY	SCHEDULE
5. Site support facility	Temporary Services Provision	Provisioning of facilities such as water and sewerage facilities can have negative impact on the environment	<p>Objective: To establish abatement and waste facilities and water supply in a way that will have a minimal impact on the receiving environment.</p> <p>Targets:</p> <p>1) Provide suitable abatement and other facilities to avoid negative impacts on the environment.</p> <p>2) Establish proper hygiene measures.</p> <p>3) Any effluents containing oil, grease or other industrial substances shall be collected in a suitable receptacle and removed from site, either for resale or for appropriate disposal at recognised facility.</p> <p>4) Spillages should be cleaned up immediately and removed, along with polluted soil to a recognised facility.</p> <p>5) Skips shall be placed at each construction site to prevent refuse from spreading from or on the site.</p> <p>6) Remove all temporary structures and re-estate the area on completion of works.</p>	Minimal pollution of soil and water. Minimal erosion impacts. Effluents managed effectively. No complaints from the work force.	Contractor	Throughout the construction phase

ACTIVITY	ASPECT	IMPACT	MITIGATION MEASURE: (objective and target)	PERFORMANCE INDICATOR	RESPONSIBILITY	SCHEDULE
	Temporary Site Storage Facilities	Storage of machinery and material, as well as, vehicle maintenance yard can have a negative influence on the environment and work.	Objective: To store and repair machinery/vehicles and building the environment. Targets: 1) Design storage areas to limit the possibility of pollution, and avoid contamination of soil, ground or surface water through accidental diesel and/or oil spills. 2) The chosen area should be the minimum size reasonably required and cause the least disturbance to the surroundings. 3) Storage areas will be established within the construction site area and the same targets as set out for the assessment of the campus shall be set. 4) No vehicle may be extensively repaired on site.	No pollution through equipment leakages. Site storage facilities have minimal impact on the aesthetic value of the site. No complaints from I&APs. No complaints from the worker force.	Contractor	Throughout the construction phase

ACTIVITY	ASPECT	IMPACT	MITIGATION MEASURE: (objective and target)	PERFORMANCE INDICATOR	RESPONSIBILITY	SCHEDULE
	Disposal and storage of hazardous materials	Hazardous materials can present health risks to workers and community if not disposed responsibly. They can also result in pollution of water resources.	Objective: To ensure that no hazardous substances pose health threats or causes pollution Targets: 1) Storage facilities should be established within the boundaries of the construction site. 2) The chosen area should be the minimum size reasonably required and cause the least disturbance to the surroundings. 3) The area should be securely fenced. 4) Construct walls and floors of the storage areas with impervious material. 5) Suitably covered receptacles shall be available at all times and should be placed conveniently for the disposal of hazardous waste. 6) Dispose hazardous waste (oil, effluent and corrosive materials) off site in approved waste dumps on a regular basis. 7) Follow specific requirements for handling, transportation and disposal of hazardous substances.	No pollution by hazardous substances due to hazardous splashes, etc	Contractor Workforce	Construction phase

ACTIVITY	ASPECT	IMPACT	MITIGATION MEASURE: (objective and target)	PERFORMANCE INDICATION	RESPONSIBILITY	SCHEDULE
6. Construction	Construction activities	Windblown dust from construction activities and air pollution from vehicles can affect human health and the environment	Objective: To minimise impacts of windblown dust on human health and the environment. Targets: 1) The extent of the disturbed areas should be minimised. 2) Appropriate dust suppression measures, e.g. dampening with water, should be used when dust generation is unavoidable, particularly during prolonged periods of dry weather in winter.	No excessive dust on and around the site	Contractor	Construction phase
	Ambient noise levels	Construction activities involving personnel on site, and construction vehicles moving to and from the site shall result in increased ambient noise levels in the area	Objective: To minimise ambient noise levels on the site and the surroundings. Targets: 1) Restricting work to agreed working hours. 2) Employees will be supplied with hearing protection if noise levels exceed 85 decibels. 3) All machines should be equipped with appropriate noise reduction equipment and all vehicles shall be	No excessive noise on the site No complaints from neighbours	Contractor Workforce	Construction phase

ACTIVITY	ASPECT	IMPACT	MITIGATION MEASURE: (objective and target)	PERFORMANCE INDICATION	RESPONSIBILITY	SCHEDULE
	Solid waste management	Solid waste can pollute land and water	Objective: Manage solid waste in such a way that it shall not pollute the land and water. Targets: 1) Refuse bins shall be strategically placed throughout the site for non-hazardous refuse such as glass, bottles, plastic bags, scrap metal, paper, food leftovers, etc. 2) Refuse shall be collected on regular basis for disposal at a recognised disposal facility. 3) Workers shall be informed and warned against littering.	No littering visible on the site No smell from rotting garbage No complaints from neighbours No complaints from the work force	Contractor Workforce	Throughout the construction phase
	Concrete	Water and	Objective: To ensure that concrete	No water polluted	Contractor	Throughout

ACTIVITY	ASPECT	IMPACT	MITIGATION MEASURE: (objective and target)	PERFORMANCE INDICATOR	RESPONSIBILITY	SCHEDULE
	production and related issues	land pollution can occur through concrete production	residue and waste water does not cause pollution Targets: 1) Avoid mixing concrete in areas where excess material could enter drainage systems. 2) When hosing down concreted areas use minimal water and allow sediments to settle in an area made with sandbags. 3) Ensure the concrete batching plant is protected from wind to reduce harmful sand being dispersed during handling.	with cement materials	Workforce	construction phase
7. Finishing	Aesthetics	Reduction in aesthetics if construction site is not rehabilitated	Objective: To rehabilitate the land. Targets: 1) Remove all temporary facilities and waste materials. 2) Correct drainage and rehabilitation to be ensured.	Topsoil replaced and stabilised on areas that are not built on paved, and vegetation stabilised	Contractor	Immediately after completing the construction

Procedure for Environmentally related emergencies and remediation

The environmentally related emergencies and remediation procedure must include:

- A description of the potential accidents and emergencies;
- Identify a person who will take charge during the emergency;
- Responsibility, authority and duties of workers with specific roles during the emergency (fire-wardens, first aid staff, spillage specialists);
- Evaluation of the procedures;
- Identification and location of hazardous materials, and emergency action required;
- Interface requirements with external emergency services;
- Communication with statutory bodies;
- Communication with neighbors and the public;
- Location of necessary information during the emergency (layout drawings, hazardous material storage areas, procedures, contact telephone numbers, etc).

It is essential that all accidents and incidents be reported immediately. Any person who becomes aware of any environmental damage or pollution must report to his supervisor as soon as possible in order to take the necessary corrective action.

Non-Eco-Estate C

RESIDENTIAL DESIGN GUIDELINES

1. INTRODUCTION

- 1.1. The purpose of these design guidelines is to encourage individual creativity while fostering a unity of materials and finish to ensure that the overall development harmonizes to create a balanced lifestyle for all residents. The following guidelines will be implemented to ensure a sensitively constructed environment with a high quality aesthetic with maximum privacy.
- 1.2. The construction and improvements should commence and be completed within two years from the date of registration of transfer of ownership of the particular stand (this pertains to the original purchaser from the developer please refer to conditions of purchase in your Title Deed). In order to reduce inconvenience to neighbours, as well as unsightliness, construction should proceed without lengthy interruptions and should be completed within 12 months from the date of commencement. Phased design should be handled in such a way that the end of each phase should be aesthetically acceptable to the Home Owners' Association.
- 1.3. The design of the dwelling unit and the entire stand should show a special sensitivity to the existing natural features, flora and topography. Permission is required before any existing trees are removed and all existing trees are to be shown on the site plan. Surrounding structures must be taken into account in the design process.
- 1.4. The controlling and preferred architect for the development is Incredible Spaces CC Tel: 012 807 5221 who will also be responsible for the approval of all plans and buildings on behalf of the HOA. It is strongly recommended that if an alternative architect/drafts person is employed by the purchaser, that such architect/drafts person consult with the Aesthetic Controller prior to the design of the proposed house to determine the intent of the design parameters set for the development.
- 1.5. The design of the dwelling should complement the existing style, and be in harmony with the existing theme and character of the existing houses in [REDACTED] and owners and architect/drafts person are required to use [REDACTED] prominent to the or "Tuscan" style, however it is to the discretion of the aesthetics controller that some modern elements will be allowed. This will apply to all renovations and additions to existing dwellings as well. The Aesthetics committee will have the sole discretion to approve/decline a submitted design.
- 1.6. No residential stand may be subdivided or rezoned for any other use than for a single dwelling with outbuildings.
- 1.7. Even if consolidated with prior written permission from the developer in which case the owner will be liable for the combined levy pertaining to each particular stand.
- 1.8. No boreholes may be drilled on any erf.

1.9. Building Contractor:

- The purchaser must ensure that the Building Contractor to be used by the purchaser to erect the buildings on the property, complies with the following criteria, namely:
- 1.9.1. The building contractor has to be registered with the National Home Builders Registration Council;
 - 1.9.2. The building Contractor has to be registered with the HOA Security and sign a code of conduct compiled by the HOA, if the contractor does not comply with this code of conduct the HOA can stop all building work for the relevant contractor as per guideline 9.4.
 - 1.9.3. The purchaser and/or Building Contractor will not be allowed to carry on any building works on the Property unless he is in possession of the two abovementioned Accreditation Certificate by the BVHOA.
 - 1.9.4. The Accreditation Certificate issued by the BVHOA will only be valid for a period of 12 (TWELVE) months after the issuing of such certificate and the purchaser and Building Contractor will therefore have to apply for such registration certificate on a yearly basis. Registration is only valid for a specific stand.
 - 1.9.5. The contractor should register each and every stand that is in progress that is not yet registered and also to all new building work to be done.
 - 1.9.6. The HOA shall be entitled to refuse re-registration of any building contractor, should the standard of work, adherence to the Architectural Guidelines and security rules and/or management and control of the employees of the Contractor or of any of its sub-contractors by the Contractor not be to the satisfaction of the HOA.
 - 1.9.7. A building performance deposit of R10 000 is payable by the building contractor before commencement of construction as more fully set out in clause 9.2 hereof. This amount is not transferable to another stand.
 - 1.10. Owners are to complete their houses, as per the originally approved building plans, within a year from date of registration with the HOA. Failure to comply with the approval may result in penalties being imposed.

2. TOWNPLANNING CONTROLS

2.1. COVERAGE, HEIGHT AND DENSITY OF UNITS

- Maximum dwellings per erf - One dwelling only.
Maximum height - 2 Storey (10m as per City Council Town Scheme)
Provided that the first storey be restricted to 50% of the ground storey,

Coverage (As per Centurion - 60% for single storey dwellings. Town Planning Rules)50% for double storey dwellings provided that the first storey is limited to 50% of the ground storey and **exclude all double volumes and stairways on First floor**

2.2. BUILDING LINES

Street Boundary

Single storey dwellings - 4 m from the boundary, which may be relaxed to a minimum of 3 m from the Street boundary to the discretion and approval of the controlling architect. Approval will be granted only if adjacent stands and the streetscape is not influenced

Double storey dwellings - 4 m from the street boundary.
(a building line relaxation will be required at city council)

Garage - 5 m from street boundary.

Side space: Single storey - 2 m from boundary.

Side space: Double storey - 2 m from boundary.

Even larger than 700sqm - Take note that as per City Council Town Scheme all even larger than 700sqm are subject to a 3m Southern building line

Golf course boundary - 5 m from the site boundary for dwellings but 1,5 m for gazebo's, pool houses etc.

Even next to K27 Road Reserve - 16m Building line from the boundary of the K27 road reserve where 10m can be applied for from Gautrans. Please take note that owners are required to get approval from Gautrans before the BVHQA will approve their plans

All building line relaxations are subject to neighbour's consents and City Council approval

2.3. TREATMENT OF STAND BOUNDARIES

2.3.1. STREET BOUNDARY

2.3.1.1. Owners are encouraged not to build any walls on the street boundary or within 2 m from the street boundary, but rather to use bermed landscaping and/or the structure of the buildings to create privacy and enclosure for children and pet animals.

2.3.1.2. A maximum height of 1,2 m for fencing will be permitted on the street boundary. A painted palisade type fence must be used as per the controlling architects design details (Addendum A – wall type A) Planting to the front of the fence is encouraged. No continuous walls will be allowed but plastered piers may be used at intervals of not less than 3 m intervals.

2.3.1.3. Screen wall elements not exceeding 1,8m in height and 6m in length may be used for screening of pools, patios etc. but must be designed as part of the garden and landscaping design and must be approved in writing by the controlling architect. The use of curved or feature walls will be encouraged for this purpose. (Addendum B – wall type C)

2.3.1.4. Retaining walls are to be coordinated between adjacent owners, certified by a Professional Engineer, and comply with National Building Regulations

2.3.2. SIDE SPACE

2.3.2.1. The side walls between property boundary walls may be provided at a maximum height of 1,8m over the extent of the boundary as may be required to screen off an approved use or area, but no screen wall may be erected within 5 m from the street or golf course boundary unless approved by the controlling architect. Only type A/B/D/E/F screenwalls are allowed to be erected as per the controlling architects details (Addendum A,B&C)

2.3.2.2. Only 1 screen wall between properties may be erected in any position in accordance with A/B/D/E/F type screening. (Addendum A,B&C)

2.3.3. BOUNDARY FENCING TO THE GOLF COURSE

As for street boundary.

2.3.4. GARY PLAYER (ST. ANDREWS) BOULEVARD

As St. Andrews Boulevard is the main route from the entrance to the Estate, the treatment of stand boundaries has a great impact on how the Estate is perceived. Special rules apply to stands bordering the Boulevard - See Addendum E.

2.3.4.1. The use of berms and landscaping is encouraged to create alternative privacy for home owners bordering the Boulevard.

2.3.4.2. A 1.2 m high palisade screen wall (as per Addendum A, wall type A) must be used between building and boundary lines to the Boulevard. Palisade columns to be painted as for the colour scheme of [REDACTED] and all steel work must be painted black, dark brown or dark green.

2.3.4.3. A screen wall (feature wall) of 1.8 m high and 6 m wide may be used on the boundary.

2.3.4.4. Home owners must submit a scale 1:100 drawing of the Boulevard elevation of the house and edge detailing, as well as indicate all plants and walls on the submitted plans.

2.3.5. STORM WATER RETICULATION

2.3.5.1. Boundary wall requirements:

- 2.3.5.2. Boundary wall on the lowest situated position on a property should have surface water drainage outlets of 110mm diameter at 2m centers along the entire length of wall.
- 2.3.5.3. Storm water should be reticulated away from the building, and there should be no obstructions to the natural flow of storm water.
- 2.3.5.4. All retaining walls shall have drainage outlets provided at the lowest possible level. The outlet can be in the form of 110mm pipe at 2m centers.
- 2.3.5.5. Should there be an adjacent vacant stand situated at a higher position than your property you will be required to provide outlets of 110mm diameter at 2m centers for storm water in that boundary wall.
- 2.3.5.6. All existing houses in the estate should also comply with these requirements as listed above.
- 2.3.5.7. For any further information regarding the above mentioned please consult the Estate manager on obtaining a copy of "Annexure B – General principles to storm water drainage between neighbouring properties."
- 2.3.5.8. **SUBSOIL/GROUND WATER RETICULATION** – Each owner will be responsible to reticulate and manage any subsoil/ground water to the nearest and lowest point of the property. Council will then be able to reticulate the subsoil/ground water from outside the property if and where necessary.

2.4. BUILDING DESIGN GUIDELINES

- 2.4.1. All plans must be submitted for approval to the Home Owners Association for approval by the Aesthetic Controller (Incredible Spaces). Only after this approval has been obtained in writing can the plans be submitted to the local authority. It is the owner's responsibility to ensure that all plans are submitted and approved by both authorities prior to construction.
- 2.4.2. **ENERGY EFFICIENCY IN BUILDINGS:** Please note that according to SANS 10400 & 204 all buildings should be orientated to face approximately true north. If buildings cannot be thus orientated, they shall be oriented to achieve the lowest net energy use. Living spaces should be arranged so that the rooms where people spend most of their hours are located on the northern side of the house. Uninhabited rooms such as bathrooms and store rooms can be used to screen unwanted western sun or to prevent heat loss on the south facing façades. Living rooms should ideally be placed on the northern side. Please note that it is each Architects responsibility to ensure that all energy efficiency calculations are provided on the submitted plans (as required by the City Council). The BVHQA will not be held responsible to check if the calculations are correct that is the responsibility of the City Council to approve.
- 2.4.3. The privacy and views of surrounding properties should be considered as a premium. As a general rule no balconies on the upper storey should overlook the living space of the adjacent dwelling without approval from the relevant neighbour. Please note that should you have any balconies overlooking a

- neighbouring property you will be required to obtain your neighbours consent prior to HOA approval.
- 2.4.4. No staff accommodation should be nearer to the street than the main building and must be contained under the same roof or integrated into the overall design. Staff accommodation must be kept to 255mm above the Natural Ground Level in order to provide privacy to adjacent stands.
- 2.4.5. Staff accommodation and kitchen yard and drying yards should open onto screened yards or patios.
- 2.4.6. Outbuildings and additions should match the original building design in style, elevation and material usage. All plans must indicate at least one enclosed garage and this must be built in conjunction with the original dwelling. No flat roofed carports will be permitted unless it matches and blends with the design of the main dwelling.
- 2.4.7. Yard and screen walls should be similar to the basic materials and colours of the building and comply with item 2.2.
- 2.4.8. No garden sheds, Wendy houses, dog kennels and covered facilities for caravans, boats or trailers are to be visible from the road or golf course and may not be placed in the side space (building lines).
- 2.4.9. No shade netting may be used.
- 2.4.10. Solar heating panels and standby generators - please refer to guideline no 5.3
- 2.4.11. Awnings, TV aerials, blinds, satellite dishes and other items must form part of the basic structure and are to be clearly shown and annotated on the approval drawings.
- 2.4.12. All exposed plumbing and washing lines should be fully screened and not be visible from the street or from the Golf Course.
- 2.4.13. No deviations from the approved drawings will be permitted unless the deviation is re-submitted and approved in writing prior to construction.
- 2.4.14. No dwelling may be smaller than 250m² (all building areas included).
- 2.4.15. Only approved smoke free type fireplaces and braai units are allowed.
- 2.4.16. Mechanical equipment and plant such as air-conditioners (and grilles), ducts, pool pumps etc. must be designed into the buildings and / or adequately enclosed or screened off from view.
- 2.4.17. Where air-conditioning units are used, the owner is to ensure that the units and all pipe work are well concealed. Pipe work is preferably to be installed ducts, and as a minimum requirement to be inside painted trunking. All condenser units are to be well screened or from view of the street and Golf Course.
- 2.4.18. The light source to all external lighting (excepting under covered patio or gazebo roofs), wall mounted or otherwise, may not shine onto adjacent properties. The intention is that all site lighting will be subdued and indirect.

All site lighting is subject to neighbours' approval. Should any owner want to make use of any type of coloured lights, a formal application must be submitted to the Aesthetics Controllers for approval by the Aesthetics Committee. Should any coloured lights be installed without pre-approval the owner will be required to remove it.

2.4.19. It is the duty of the owner, owner's architect, contractor and/or sub-contractor to familiarize itself by way of inquiries at the Centurion Town Council with the current and proposed municipal services and their allocation on the whole of the [REDACTED]. These municipal services include, but are not limited to water and electrical services, sewerage removal, storm water pipes and drainage. The Developer and/or the Home Owners Association will not in any way whatsoever be liable for any damage which any owner, owner's architect, contractor or sub-contractor may suffer as a result of the existence, situation or otherwise of any of such municipal services.

2.4.20. It is the duty of the owner, owner's architect, contractor and/or sub-contractor to familiarize them with and ascertain the correct boundaries of any applicable erven to ensure that the pegs indicating the boundaries are in accordance with the General Plan and to adhere to such boundaries and all the other boundaries as set out in this Residential Design Guidelines. The Developer and/or the Home Owners Association shall not be responsible for pointing out or indicating the position of any Surveyor's beacons or pegs in respect of any erf nor shall the Developer and/or Home Owners Association be liable for any costs in determining same.

2.4.21. Swimming pools & Water features: It is the owners responsibility to familiarize themselves with the NBR rules regarding pool safety. No swimming pool or water features should be directly accessible to the public from any public area. As a general rule no water features are allowed to be deeper than 300mm should it be deeper than 300mm you will be required to either install a net over it or install a steel mesh/tynd under the water level

3. APPROVED BUILDING MATERIALS

3.1. ROOF COVERINGS

3.1.1. Concrete or natural terracotta roof tiles:

Marley Monarch, Modern & Double Roman designer range concrete roof tiles on 17,5°(for lean-to roofs) and 22-30° pitch for the main roof.

Colour: Pescara - pre-blend type. (Blend to be approved by the controlling architect), or brown, terracotta, autumn blend, Black M22, Grey & Charcoal colours as per samples to be provided by the aesthetics controller

3.1.2. Natural slate (multicolour autumn blend type only).

3.1.3. Flat roofs - waterproofing to be non-reflective and must be covered with gravel / stone chips or terracotta paving tiles. Flat roofs may not exceed 20% of the ground floor area and 10% of the first floor roof area of the building and must preferably be screened by surrounding sloping roofs.

3.1.4. No galvanized gutters and down pipes will be permitted. All exposed gutters and rainwater goods to be Chromadek pre-painted to match the colour of the buildings.

3.1.5. No thatch, asbestos cement or other tiles, or metal roofs will be permitted.

3.2. WALLS

3.2.1. External masonry walls shall be a minimum 230 mm brick finish receiving plaster.

3.2.2. Wall colours are to be similar to the existing colour scheme in [REDACTED]. Only subtle earthy colours will be allowed and bright intense colours are discouraged. Colour samples of the intended colours are to be presented to the Aesthetic Controller for approval. The HOA will have the right to enforce penalties on owners who, to the discretion of the HOA does not comply with the general colour scheme of [REDACTED]. All owners are required to apply for approval of wall colours when your house reaches 85% completion.

3.2.3. If an owner repaints his house he should submit a colour card to the Aesthetics committee, and failing to do so, the owner will carry the cost of repainting the house if the colour is not correct. If the owner fails to paint his house the correct colour, penalty may be imposed on the monthly basis until the colour of the house is corrected.

3.2.4. The use of textured plaster (i.e. brushed or scratch plaster) is encouraged.

3.2.5. Face brick: Face brick may only be used for feature walls and samples of the intended brick is to be presented to the Aesthetic Controller for approval. As a rule only 10% of an elevation would be allowed to be face brick.

3.2.6. Plinths: Autumn blend colours only, eg. Brown, terracotta, beige etc. as per samples presented to the controlling architect. Plinths to be maximum height of 680 mm. For steep sloped sites, the Aesthetic Controller could, to his discretion, require a drawing with professional surveyed contours and elevations indicating the intended floor levels.

3.2.7. Coloured, textured wall coatings such as Gamma Zenith Plastertech earthenite, etc. may also be used within the approved colour range as for plaster colours. The type of finish is to be approved by the controlling architect.

3.3. WINDOWS, SHUTTERS AND DECKS

3.3.1. Only timber or aluminium (bronze, natural anodized, white or grey powder coated) will be permitted. The use of timber shutters and decks will be encouraged. No standard type steel windows will be permitted.

3.3.2. Should owners wish to install any type of awnings over patio/balcony doors, they need to submit a set of drawings showing positions and type of awnings prior to installation of such awnings. Please refer to pg. 25 for examples

3.4. DRIVEWAYS, PARKING, PAVING AND LANDSCAPING

- 3.4.1. Landscaping on sidewalks must be undertaken within the integrated landscape language of [redacted] to be approved by the Aesthetic Controller with assistance from the appointed landscaping consultant.
- 3.4.2. The landscaping theme of [redacted] is to encourage the use of indigenous trees and plants as per the landscape design. The golf course is to be planted with indigenous species in accordance with a landscape theme. The portion of all properties that border on the golf course and the portion of all properties between the building lines and the street boundary should be landscaped accordingly (no artificial planting will be allowed).
- 3.4.3. All driveways to be fully paved with autumn coloured pre-approved (brick or concrete block) pavers. No painted driveways shall be accepted. No interlocking pavers will be allowed.
- 3.4.4. Materials not permitted are gravel, broken stock bricks, grey interlocking cement pavers & unfinished concrete driveways.
- 3.4.5. Driveway widths are limited to Max. 10m, at the junction with the public road. The width of the driveway will be determined by the amount of garages, however each application will be handled individually, and the breaking-up of paved areas with landscaping pockets takes preference. Should your driveway not correspond with your approved plan you will be required to remove or rectify to comply with the [redacted]. Should you not comply fines may be implemented for non-compliance. Visitors and open parking bays are to be screened with planted berms and / or planting from view of the street.
- 3.4.6. The use of hedgerows is recommended and the planting of indigenous trees and shrubs is encouraged where possible. Trees planted in the road reserve must follow the guidelines set for that street.
- 3.4.7. Planting and hedgerows are also encouraged where palisade fencing is used.
- 3.4.8. Houses erected on the visual slopes of the site will need special attention to reduce the interruption to the horizon line and any other potential visual impact. This will need to be done by, inter alia, additional landscaping and controls to the scale of the buildings. Where possible, cut and fill to be minimized and the buildings rather to be "terraced" down the slope of the site. Note: The maximum height of facebrick plinths above natural ground level will be limited to 680 mm and must therefore step down the slope of the erf where applicable.

3.5. GARAGE DOORS

- 3.5.1. Only timber garage doors and/or coloured Chromadeck (colours: white, dark green or a colour to match the exterior of the house) may be used. Garage openings must preferably not face the street, but should ideally be side boundary facing if at all possible.

4. PROHIBITED BUILDING MATERIAL

4.1. The following building materials to be prohibited:

- 4.1.1. Unpainted plaster, unplastered brick walls or concrete block walls.
- 4.1.2. No precast concrete walls. No swimming pool type mesh fencing will be allowed.
- 4.1.3. Unpainted reflective or painted metal sheeting or shade netting.
- 4.1.4. Thatch roofs for houses and/or lapas.
- 4.1.5. Wood panel fencing.
- 4.1.6. Razor wire, security spikes or similar security features.
- 4.1.7. Standard type steel windows.
- 4.1.8. No externally fitted burglar bars will be permitted (only internally fitted painted black type will be approved).

5. GENERAL

5.1. LIQUEFIED PETROLEUM GAS (LPG)

- If an owner wants to install Liquefied Petroleum Gas (LPG), the following requirements have to be adhered to:
- 5.1.1. A plan of installation must be submitted to the local authority for approval.
- 5.1.2. The installation must be done by a person that is qualified and registered with the LPG association
- 5.1.3. A copy of the registration certificate of the person mentioned in paragraph 4.5.2 above must be submitted with the plans.
- 5.1.4. The test certificate for the installation must be issued to the owner.
- 5.1.5. Upon completion an inspector from the Fire Safety division must conduct an inspection.

5.2. SOLAR WATER HEATERS

- The general shortage in electrical supply in South Africa, as announced by Eskom in January 2008, has necessitated review of the abovementioned HOA's rules and regulations on solar units for the heating of water. The HOA's support the drive towards the installation of solar units, to the following amended rules:
- 5.2.1. Systems preferred by the BVHQA listed from most recommended.
 - UPS – inverter system.
 - Gas stove – to be submitted to the local authorities for approval.
 - Solar heating for geysers.
 - Petrol and diesel generators.

- 5.2.2. The use of solar panels for the heating of water is encouraged. Only the solar panels (either the vacuum tube-type or flat panel-type) may be visible – no external geyser, header tanks or coiled pipes may be visible. The solar panels must be incorporated into the basic structure and may not – where visible – be placed on an elevated structure.
- 5.2.3. All geysers fitted outside on flat roofs are to be enclosed in an aesthetically pleasing enclosure. All solar panels installed and also to be installed should be submitted to the BVHQA for approval.
- 5.2.4. Enquiries for the approved types of solar panels can be made to the Estate manager's office.

5.3. STANDBY GENERATORS

- 5.3.1. Generators must be installed in such a way that it does not create a nuisance to neighbours. Generators that are permanently or semi-permanently installed (semi-permanent shall be a unit being in the same position for more than 30 days), must be visibly screened and indicated on plans approved by the BVHQA. All generators already installed must be submitted for approval by the BVHQA. Generator noise levels should be during the day 50dBA, and during the night it should only be 40dBA, this is according to the metropolitan municipality of Tshwane.
- 5.3.2. Generators installed must comply with the following:
The necessary precautions should be taken to reduce noise.
The generator should have a sufficient and effective exhaust system.
The generator should have the necessary auto cut-in and out unit in case of power failure.
- 5.3.3. Enquiries for the approved types of standby generators can be made to the Estate manager's office.

5.4. TELKOM CONNECTIONS

- 5.4.1. Please note that all properties in the following extensions: 20, 22, 23, 37, 38, 55, 56, 72, 76 and 77; the owners are required to obtain a copy of the application forms from the [redacted] admin office at the [redacted] main gate and submit application as soon as possible to ensure that the lines are installed. Please confirm Telkom point position with the Developer or the Aesthetics office, the Telkom connection and sleeve to house is to be clearly shown and indicated on the building plans to be submitted for approval.

6. EXTENSION OF BUILDING PERIOD

A person contemplating a stand at [redacted] upon which building penalties are being levied or are about to be levied, cannot make it a condition of sale agreement that the [redacted] grant the purchaser a building extension for 12 months.

On application to the [redacted] as soon the purchaser provides the necessary purchase guarantees for the property, the [redacted] will grant the new owner a 3 month building

extension to enable him to get his home development project to the stage that the owner is ready to commence building. This entails:

- 6.1. Plans to be approved by the [redacted] Aesthetic Controller and the City of Tshwane (i.e. a copy of [redacted] and municipal stamped plans needs to be given to the [redacted] Estate Manager), registering a NHBRC registered builder with the [redacted] Estate Manager, and ensuring that the R5000 Residential Design Guideline deposit and R10, 000 Construction Deposit have been paid to Tراتالگار (i.e. he must be ready to start building). Please note that NO building deposits will be released unless your house complies with the [redacted] Design Guidelines and if inspections have been done by [redacted] and the City Council
- 6.2. Giving the [redacted] Aesthetic Controller a reasonable indication of the cost of the building and proof that the owner can finance this cost. I.e. that a building bond has been registered against the property, and/or that the owner has sufficient cash reserves (and/or is able to generate sufficient disposable income over the construction period) to meet the balance of the construction cost. If the owner is selling his existing home and can prove that the purchasers of this property have already issued a bank guarantee (i.e. the sale of her existing home cannot be reversed) this will also be acceptable.
- 6.3. Gives an indication when construction of the new dwelling will commence and when it will be completed within a reasonable time frame. (Generally 1 year should be more than sufficient. If a basement is being built (i.e. additional slab) and/or a large house over 600m², a further 2 to 3 months construction period may also be granted by the Controlling Architect). If construction is stopped on site building penalties will be enforced immediately.
- 6.4. Only after all these conditions have been satisfied will the [redacted] will grant the owner a further EOT to complete the building (12 - 15 months).
- 6.5. All of the above mentioned documentation is to be submitted to the Tراتالگار office and only if all documentation is submitted the application will be forwarded to the Aesthetic Controller for consideration.

7. BUILDING PLAN SUBMISSION AND BUILDING INSPECTIONS

The following must be adhered to before building plans and approval of building operations will be considered for inspection :-

- 7.1. A non-refundable plan approval fee of **R2200** (incl. VAT) **R1300** for additions **R785** for alterations, is **payable to Incredible Spaces**.
The plan approval fees will escalate annually
- 7.2. The approval and inspection fee will not be required in the event of the Aesthetic Controller being appointed as the project architect.
- 7.3. **If the submitted plans are not approved upon the 4th submission or within 6 months from the 1st submission, a re-scrutiny fee of 50% of the current submission fees will be applicable. Plan scrutiny will not proceed unless the re-scrutiny fee has been settled in full.**
- 7.4. Upon submission of building plans, a residential design compliance deposit of **R5000 (payable to Tراتالگار)** will be deposited and held in trust (free of interest) by

the HOA. Proof of payment of the deposit must be faxed through to the controlling architect. A construction building deposit of R 10 000 will be deposited by the building contractor of the owner before commencement of construction on the relevant erf at the HOA office at the Main Entrance Gate, [REDACTED] Centurion and to be held by the same, (free of interest). In case of any Alterations or Additions the residential design compliance will be R2 500 and the Construction Building deposit will be R5 000.

The deposit amounts will be used in event there is a breach on non performance to remove rubble or make good any damage caused by the Contractor or his sub-contractors or suppliers, including kerbing, landscaping, community services, roads, irrigation etc. and for any outstanding spot fines.

The deposits will be forfeited if there is any non-compliance or breach of any or all of the provisions of the [REDACTED] Residential Design Guidelines by the owner, contractor or sub-contractors or suppliers.

The building performance shall be released subject to the HOA issue of the Guideline Compliance Certificate from the Controlling Architect. Please note that NO building deposits will be released unless your house complies with the [REDACTED] Design Guidelines and if inspections have been done by [REDACTED] and the City Council

And shall only be refunded within 14 days once all the above documents are correctly completed and submitted to the Estate Manager

The HOA reserves the right to prevent the occupation of any houses if the above is not fully adhered with. Plans are to be submitted to [REDACTED] at the [REDACTED] Gatehouse with the administrative officer or Incredible Space's office before 12:00 every Wednesday or as per arrangement.

7.5. The HOA plan approval committee will sit every two weeks for inspection of plans. The Aesthetic Controller will inform the relevant architect / designer regarding the feedback from HOA Meeting – Aesthetical committee meeting.

7.6. **For a first submission one full set of drawings, signed copy of these guidelines and submission form will be required.** All plans necessary for City Council approval must be submitted before final approval together with an extra rendered paper copy to be kept for record purposes by the HOA. Plan approval fees from the City Council are for the building owners account.

7.7. The following items must be clearly shown on the plans:

- Ground floor/First floor ratio %
- area of dwelling, including patios and outbuildings,;
- coverage (%) and height above original natural ground level;
- building lines;
- all external finishes, including a colour specification;
- boundary wall / fence details, including elevations;
- drainage and how it is concealed, as well as the sewer connection.
- layout of driveway.
- Telkom connection & sleeve to house to be shown on site plan (if available from Neveliners office)

- Window & Door schedule
- Electrical layout
- Energy efficiency calculations/report (provide on plans/ A4 doc.)
- Intended external paint colours specified, sample/switch to be submitted

7.8. Inspection by the controlling architect. The Aesthetic Controller may carry out site inspections during the following stages of construction:

- Surface bed level.
- Completion of roof structure.
- Practical completion.

The Aesthetic Controller will inspect the works at any stage during construction and may request any reasonable alterations and/or additions to ensure that the general design guidelines as intended for the development are implemented.

The home owner is responsible to notify the developer / HOA as to when the stages of completion as set out above have been resolved in order to arrange for the architect to inspect the works. (At least 5 days' notice is required for this arrangement).

The Aesthetic Controller will do 2(two) final inspections to determine compliance with the Design Guidelines. Thereafter each additional inspection will only be done after an inspection fee has been paid to the Aesthetic Controller to the amount of R500 (Excl. VAT).

7.9. Re – Inspection after occupation inspection will be charged at R500 Excl. VAT.

7.9.1. Occupation of the premises will only be allowed after the homeowner has received the Design Guidelines Compliance Certificate from the HOA, after which the Occupation Certificate from the City Council will be issued by Council. A copy of both certificates is to be submitted at the [REDACTED] gate house with the Operations Manager before occupation of the premises will be allowed.

7.9.2. The HOA Design Guidelines Compliance Certificate will not be issued by the HOA, unless the HOA is satisfied that the new residence complies with the Design Guidelines. Please note that only after the HOA is satisfied that the building fully complies with the [REDACTED] design guidelines will the deposits be released.

7.9.3. The Aesthetic Controller will do two final inspections to assess the status of completion and whether a Design Guidelines Compliance Certificate could be issued. Thereafter any additional inspections requested by the home owner would be charged by the Aesthetic Controller for the account of the home owner for each and every inspection made. The amount will be determined by the HOA.

8. ACKNOWLEDGEMENT

The above document is fully understood and the Contractor and Owner undertake to comply with the above points, in addition to any further controls which may be instituted by the HOA or the Developer from time to time in the form of a written notification and to

ensure compliance by any sub-contractors employed by the Contractor, and any suppliers to either contractors, sub-contractors or owners.

It is hereby placed on record that should the owners, the contractors or any sub-contractors fail to comply with the terms and conditions of this document, the owner as the responsible party would be in breach of agreement, and should the owner fail to remedy such breach within 7 (seven) days from date of delivery of a notice by the Home owners Association to this effect, the Home owners association will have the right inter alia:

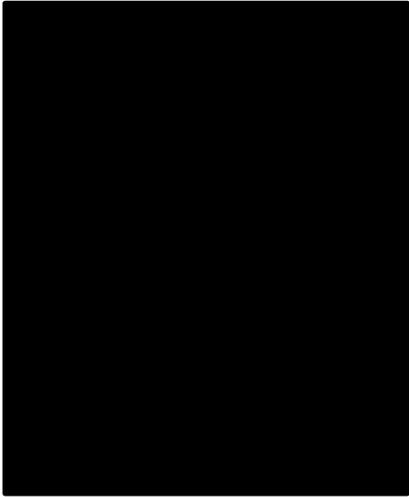
- 8.1. Apply for an interdict on an urgent basis to prohibit any further building works on the premises and/or to rectify any transgressions, the costs whereof will be borne by the owner.
- 8.2. Will be entitled in addition to clause 9.2.1, to calculate any damages that the Home owners Association has suffered on account of the breach of contract by the owner and be entitled to without derogating from any other remedies available to the Home owners association in Law, institute a claim for damages suffered as a result of such breach of contract, which costs will also be borne by the owner.
- 8.3. Will be entitled in addition to clause 9.2.1 and/or 9.2.2 to, in terms of clause 27.2.3 of the Articles of association, impose a system of fines and other penalties as resolved by the Home owners Association from time to time.
- 8.4. Will be entitled in addition to clause 9.2.1 and/or 9.2.2 and/or 9.2.3 to perform the work and/or services which is required to be done or provided, or to rectify the breach, at the expense of the member and shall be entitled to recover all expenditure in connection thereof from the member, together with interest calculated thereon at prime bank rates, for the period date of expenditure to date of payment.
- 8.5. These options will not limit any other remedies that the Home Owners Association and/or the Developer may have in law.

..... Owner's Name Signature
..... Date Signed Witness's Signature
..... Stand Number

Contact Numbers:

Tel: (Work)	Tel: (Home)
Fax. No.	Cell No.
E-Mail	

Non-Eco-Estate D



ASSOCIATION (NPC) ESTATE RULES

Our Vision and Mission Statements are the following:

Vision Statement

To make [REDACTED] the most sought after, distinctive, residential Estate where families can enjoy living in a secure, relaxed and richly varied Environment based on a diverse system of neighbourhoods, parklands, and lakes, for the pleasure of all ages.

Mission Statement

Owning a property at [REDACTED] means enjoying a special lifestyle in an environment shared by few others and rather different to what many people are accustomed to.

Adding Value to the [REDACTED]

- Welcome to [REDACTED]

In order to preserve and enhance the residential amenity and lifestyle within the Estate, all Owners and tenants shall at all times behave in a considerate, reasonable and civilised manner, and shall in particular make every effort to avoid causing inconvenience or nuisance to other Owners or tenants. Owners and tenants shall comply with the rules made by the Directors in order to regulate behaviour in the Estate.

These Estate Rules are primarily to regulate the safety, security and privacy of owners and residents as well as protection of the environment and quality of lifestyle within the estate.

The Rules contained within this document are aimed at assisting you to be aware of your responsibilities as a Resident of this Estate and ensuring that you and members of your family, tenants, visitors, friends, employees, their family and friends and any other invitees, abide by and adhere to the Rules.

The Residents of [REDACTED] take pride in the serene surroundings and appreciate the tranquil settings, secure open spaces, natural beauty with water-scapes seldom found elsewhere. The [REDACTED] trusts that by adhering to the Rules, all these attributes of our Estate will be sustainable for all to enjoy for many years to come.

The Rules contained within this document are aimed at assisting you to be aware of your responsibilities as a Resident of this Estate and ensuring that you and members of your family, tenants, visitors, friends, employees, their family and friends and any other invitees, abide by and adhere to the Rules.

It is the duty of each owner and their tenants to be familiar with the latest Memorandum of Incorporation of the [REDACTED] as well as the Estate Rules which may change from time to time. Copies are available from the Estate Management offices during office hours (subject to availability) and may also be viewed and downloaded online from the official [REDACTED] Website at [REDACTED]

15. PROPERTIES (to be read in conjunction with Appendix 2)

15.1 Building of new Residences / Alterations

- 15.1.1 The Estate Manager and/or Maintenance Supervisor must interview all Owners who are about to build and discuss with them the requirements and rules of the [REDACTED]
- 15.1.2 There is an Architectural committee which inspects and approves all plans submitted.
- 15.1.3 The Estate Manager and/or Maintenance Supervisor only visit the building sites from time to time, to ensure compliance with Estate Rules.
- 15.1.4 When undertaking building on the Estate, the maximum size of the load allowed will be 5000 bricks. No horse and trailer will be allowed.
- 15.1.5 The Estate Management will not supervise or control the quality of any building as this is the responsibility of the Owner.

15.2 Vacant Stands

- As tabled and accepted by resolution at the Extraordinary General Meeting of Members held on Wednesday 17th May 2006, the following applies:
- 15.2.1 Plans drawn and prepared in terms of the reasonable requirements of the Architectural Review Committee must be submitted for approval within 3 months of transfer of ownership of a Stand within the Estate.

- 15.2.2 Building must commence within 6 months of the approval of the plans by the CLHOA Architectural Committee and must be completed within 12 (twelve) months of the approval date of the plans
- 15.2.3 Failure to comply with any of the above will result in the imposition of a penalty in an amount as determined by the Directors from time to time. Refer to Schedule of Penalties set out in Appendix 3 for details of the current penalty in this regard.

15.3 Maintenance of Properties

- 15.3.1 Owners shall at all times maintain the exterior of their houses, their garden, boundary walling or fencing, and the sidewalk between the kerb and the road boundaries of their property to the satisfaction of the [REDACTED]
- 15.3.2 The [REDACTED] may from time to time request the Owner to undertake maintenance to comply with 15.3.1 within a stipulated reasonable time period.
- 15.3.3 In the event that this maintenance is not carried out within the period stipulated, the [REDACTED] shall be entitled to carry out the maintenance and recover the costs from the Owner.
- 15.3.4 Should any Owner wish to repaint their house, they should ensure that the colour selected complies with the Estate guidelines. Prior approval must be obtained from the Estate Manager regarding colour BEFORE painting commences.
- 15.3.5 All vacant stands shall be kept in a clean and tidy state at all times. The Owner shall ensure that regular mowing and clearing of any refuse or rubble thereon shall be done regularly and promptly. Should this not be done the [REDACTED] shall be entitled to carry out the cleaning and recover the costs from the Owner.
- 15.3.6 No seepage, leakage or discharge of any nature, including water (excluding rain water), is to be discharged onto the sidewalk or road surfaces or onto any area outside or adjoining a stand.

15.4 Generators

- The following are the requirements for the installation of Generators.
- 15.4.1 Any installation of a generator, whether purchased or rented and irrespective of output or portability, requires approval from the Estate Manager.
- 15.4.2 All applications will be reviewed against the following criteria:
- 15.4.3 Location:-
- May not be installed on common property (pavements, greenbelts and roads).
 - May not be visible from the road or greenbelts. Planting or other screening may be required.
 - Fire safety: must not be within 1m of boundary.
 - All fuel to be stored in leak proof/airtight containers specifically designed for such storage e.g. Jerry cans.
 - Potential for noise disturbance – whilst it is accepted that generators are noisy, attempts should be made to position them for minimum impact on neighbours.
 - Sufficient ventilation to prevent fumes build-up is required. If the unit is not to be used externally then full details will be required of venting in accordance with National Building Regulations.
- 15.4.4 Operating Times
- Generators may not be operated between 22H00 and 06H00.

- If it can be demonstrated that the generator unit in operation cannot be heard from adjacent properties, then exemption from this rule may be granted.

15.4.5 Requirements for Approval - Portable Generators.

- This applies to small portable generators that are not connected into the existing electrical circuits / distribution board but merely have an extension cord that electrical appliances may be plugged into.
- A site plan showing the location of intended operating position including proximity to boundary walls needs to be submitted for approval prior to use to assess fire safety.
- Surrounding neighbours' signed approval on said site plan is needed. Where in the opinion of the Estate Manager, neighbour approval is being unreasonably withheld, the Estate Manager may approve the application on the basis of an inspection and sufficient motivation.
- Where possible, full details of the generator to be purchased, needs to be included in the application for approval.

Note: The risk of CO poisoning is very real. Portable generators are not intended to be used internally. CO build-up is possible in open sided carports and hence these areas are not considered to be external.

15.4.6 Requirements for Approval – Permanently connected Generators

- Any generator that is intended to be permanently connected into the existing electrical circuits / distribution board **Must be installed by a qualified electrician and the appropriate compliance certificate issued.** A copy of the certificate must be lodged with the HOA who will attach this to the approved site plan, a copy of which is retained at the office for future reference.
- Applications for approval of permanently connected generators will be referred to the Subcommittee specifically set up to deal with such applications. This committee has been housed under the Architectural portfolio, and applications will be reviewed against the National Building Regulations.
- A site plan showing the location of the intended position including proximity to boundary walls needs to be submitted for approval prior to installation.
- Surrounding neighbours' signed approval on said site plan is needed. Where in the opinion of the Estate Manager, neighbour approval is being unreasonably withheld, the Estate Manager may approve the application on the basis of an inspection and sufficient motivation.
- Where possible, full details of the generator to be purchased, needs to be detailed in the application for approval.
- A response to an application will be given within 24 hours in respect of portable generators and 48 hours in respect of permanent generators, **workloads permitting.** Submissions must be lodged at the Estate office before 14:00 on any given day, Monday to Friday.

15.5 Solar Powered Geysers

- 15.5.1 Each request for the installation of Solar Panels and Geysers will be assessed individually.
- 15.5.2 There will be a limit to four panels only and the dimensions of the panels need to be specified.
- 15.5.3 The panels will need to be placed in the least obstructive functional position. This to be individually assessed.
- 15.5.4 Tanks / Geysers are not permitted on sloped roofs.
- 15.5.5 A residence with a flat roof with a parapet will have no restrictions on the type of installation. However, the tank / geyser must be positioned so as not to be visible. Approval of the [REDACTED] will be required prior to installation.
- 15.5.6 Neighbours approval will be required; however, approval will not be unreasonably withheld.

15.6 Solar Pool Heating

- 15.6.1 Each request for the installation of Solar Panels for pool heating will be assessed individually.
- 15.6.2 The number of panels and extent of area covered will be at the discretion of the Architectural Committee.
- 15.6.3 The panels will need to be placed in the least obstructive functional position. This is to be individually assessed.
- 15.6.4 A resident with a flat roof with a parapet which obscures the solar panel will have no restriction on the type of installation.
- 15.6.5 Neighbours' approval will be required however approval should not be unreasonably withheld.
- 15.6.6 Approval of the [REDACTED] will be required prior to installation of any Solar Power Heating system.

16. GENERAL

- 16.1.1 Fauna of any nature may not be chased, trapped or harmed in any manner by residents or their visitors, guests, invitees, tenants, contractors, employees etc.
- 16.1.2 The [REDACTED] or their designated Agents may impose penalties on Owners and tenants for non-compliance with the rules as per Section 8.2.3 of the Memorandum of Incorporation. A schedule of penalties is set out in detail in Appendix 3.
- 16.1.3 The [REDACTED] reserves the right to recover any costs incurred relating to, but not exclusive, sms messages for stray pets and the removal of illegally parked motor vehicles, in addition to recoveries specified in these rules.
- 16.1.4 If any Rule read in its context can be reasonably construed to have more than one meaning, the meaning that best promotes the spirit and purpose of these Rules and best serves the interest of the Estate must be preferred.

APPENDIX 2

ARCHITECTURAL RULES FOR THE DESIGN AND CONSTRUCTION OF NEW BUILDINGS, ALTERATIONS AND ADDITIONS AND MAINTENANCE OF EXISTING STRUCTURES

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Definitions

"m²" shall mean metre or metres

"m²" shall mean square metres

"Coverage" shall mean the ratio of overall (max. projected) area of the house including outbuildings and covered outdoor areas to the stand Area

"FAR" shall mean Total floor area ratio to stand size ("bulk").

"FFR" shall mean the Ratio of First floor area (incl. Double volumes) to Ground floor area

Introduction

It is incumbent upon the Owner, Architect and Builder to ensure that there has not been an update to this version of the rules. No rights are inferred through general adherence to these guidelines. The decision on whether or not a plan for a dwelling, addition or alteration and the ongoing to final construction of the dwelling, complies with the approved architectural style and maintains a high degree of aesthetic integrity and harmony, both within the surrounding environment and with other building elements within the estate, remains at the sole discretion of the [REDACTED]

1. GENERAL

The restrictions set out below are in addition to any restrictions, national regulations or any other building regulations. Notwithstanding that any plans or improvements may comply with any such restrictions imposed by third parties, the approval of any plans or improvements within the estate shall be at the sole discretion of the [REDACTED]. Similarly, compliance with the restrictions imposed by the [REDACTED] shall under no circumstances absolve the Owner of a property within the Estate from the need to comply with restrictions imposed by third parties nor shall the [REDACTED] approval be construed as permitting any contravention of restrictions imposed by any authority having legal jurisdiction

- 1.1 The objective is to achieve an interesting range of mutually compatible house designs within the flexibility afforded by the approved architectural style, whilst avoiding monotonous uniformity.
- 1.2 All houses (including outbuildings) shall be designed to conform to the principle guidelines and rules mentioned previously and those below.
- 1.3 The dwelling should be consistent/compatible in design and style with neighbouring dwellings so as to promote harmony of design.
- 1.4 Privacy and views from surrounding properties must be taken into account.
- 1.5 Each owner will comply with the estate rules and will not be entitled to rely on the non-compliance of an Estate Rule by any other owner as a defence or as a reason for non-compliance of an estate rule by such owner.

2. CONSOLIDATION OF RULES

- 2.1 These rules apply to all Suburbs/Areas.
- 2.2 The different suburbs are as follows:
 - i) Bishop's Field - Stands 521 to 584 incl.
 - ii) The Paddock - Stands 704 to 714 incl.
 - iii) Needwood - Stands 3 to 44 incl. (28 & 30 consolidated in Stand 441)
 - iv) The Ridge - Stands 4228 to 4294 incl.; 1222 to 10222 incl.; 1223 to 16223 incl.; 1224 to 1315/224 incl.; 17 225 to 12225 incl. and 1226 to 18226 incl 4/227. (The 4 in front of these stand numbers have been added by [REDACTED] to avoid confusion with stand numbers of the Village, therefore any drawings to be

submitted to the council must have the true stand number with the [REDACTED] number as a separate endorsement on the title block
 v) St. Georges Hill - Stands 586 to 630 incl.
 w) The Village - Stands 59 to 361 incl. and stands 1/363 to 5/363 & 8/363 incl. (111 & 112 consolidated in Stand 969) (159 & 170 are notarially 'dead') (# 292 & 293 are consolidated under Stand 1686)

3. MAINTENANCE OF EXISTING RESIDENCES

- 3.1 It is important for the good appearance of the estate that individual Owners keep their buildings, boundary walls and fences in a good state of repair.
- 3.2 Non compliance will elicit a penalty to be imposed at a quantum per the Schedule of Penalties and Fines, or as decided upon by the [REDACTED]. In addition the Owner shall be required to immediately rectify the non-compliance at his or her expense.
- 3.3 The exterior of buildings, boundary walling, fencing, sidewalk and access paving are to be kept in good order and maintained to the satisfaction of [REDACTED].
- 3.4 The colours of repainted walls, roofs and fences are to be approved by the [REDACTED].

4. NEW BUILDINGS, ALTERATIONS AND ADDITIONS

- 4.1 In an effort to ensure continuous aesthetic control on the Estate, all Owners wishing to undertake any external alteration to their property in any way, shall submit plans to [REDACTED] and gain written permission prior to commencing any building alteration or addition.
- 4.2 Any alteration or addition must comply with the Estate Architectural guidelines (per Appendix 2) of the Estate Rules, and with National Building Regulations.
- 4.3 Owners shall at all times ensure that any object or structure which could, in the opinion of the [REDACTED] be considered unsightly or to the detriment of the appearance of the Estate, is not visible from the street, common areas, or other properties.
- 4.4 All alterations and additions will require approval from the neighbours in view of the work (including those across the road). The affected neighbour must sign on the submitted drawing together with their name, stand number, phone number and date. Permission cannot be unreasonably withheld.
- 4.5 Written approval from the [REDACTED] is required for the following:
 - a) New buildings.
 - b) Extensions, Alterations, Structural, Aesthetic and external alternations to existing buildings.
 - c) Changing of use of buildings such as converting a garage into a habitable room, etc.
 - d) Carports.
 - e) Swimming pools, ponds.
 - f) Walls and gates.
 - g) Wendy houses, Garden sheds & Storage Tanks
 - h) Playground equipment, dog houses & wash lines
 - i) TV/ antennas, aerials, external lighting & Wind turbines
 - j) Air-conditioning, evaporative cooling, Solar heating & Gas installations.
 - k) Trellises, Awnings, and Extending roofs.
 - l) Demolition of buildings.
 - m) Painting and external work, and repairs.
 - n) Internal structural alterations.

- o) Installation of burglar bars, security gates and grills, and other security devices intended to protect windows and doors.
- p) Landscape Construction.
- q) Planting of trees which may impact upon neighbours.
- r) Cutting down of trees and bushes which may impact upon neighbours.

4.6 Plans must be submitted to the local authority for approval. The drawings submitted to the local authority must first be approved by the [REDACTED] and be stamped "Approved" by the [REDACTED].

4.7 All approvals must be obtained in writing from the [REDACTED] and if required by any other appropriate authority before the work is carried out.

4.8 It is expressly noted that [REDACTED] approval for any building works does not guarantee compliance with local authority by-laws.

BUILDING REQUIREMENTS

(See major works application form # 39)
 The office will allow the borrowing of Plans in their possession for the purposes of copying at a refundable deposit of R1000 per occasion.

5. APPROVAL OF BUILDING PLANS

- 5.1 The decision on whether or not a plan for a house complies with the approved architectural style shall be at the sole discretion of the [REDACTED].
- 5.2 For new developments, owners and their architects are required to attend an introductory meeting with the Estate Management.
- 5.3 Detailed designed drawings shall be prepared so as to comply with the conditions of approval issued by the [REDACTED].
- 5.4 Where alterations additions or amendments are required these shall be shown on revised drawings showing the existing building.
- 5.5 A scrutiny fee for all applications will be charged for each submission in line with the annual schedule approved at the AGM.
 All building plans and other submissions, requiring approval, must be delivered to the Estate Office at least 48 hours prior to the day on which the Architectural Committee are due to meet. E-mailed or faxed submissions will not be accepted for approval.
- 5.6 3 (Three) copies of the drawings shall be submitted to the [REDACTED] for approval. The drawings are to be coloured as per the specifications of the Johannesburg Council. Upon approval of the drawings one copy will be retained by the [REDACTED] for its records and the other returned, stamped approved and / or comments to the applicant for submission to the Local Authority.
- 5.7 Should the drawings not be approved, a letter will be drafted for the submitter detailing any objections and the reasons for such objections. Amended drawings may be resubmitted for the next scrutiny subject to payment of an additional scrutiny fee at the discretion of the Architectural Committee.
- 5.8 Scrutiny of drawings is done by the Architectural Review committee of the [REDACTED] which meets every 14 days. Timings of these meetings may be obtained from the [REDACTED] office.

- 5.9 A copy of the stand's title deed is to accompany the submission. If the stand is a consolidated stand then the consolidated title deed will be required.
- 5.10 After the detailed drawings have been approved by the [REDACTED] where building work is involved, the approved drawings shall be submitted to the Local Authority for its consideration and approval.
- 5.11 No building can commence on site until the drawings have been approved by the Local Authority, or special permission from the Local Authority in writing is obtained and submitted to the [REDACTED]. One copy of each drawing stamped "Approved" by both the [REDACTED] and the Local Authority shall be on site at all times during construction, until final approval of construction is obtained.

6. INFORMATION REQUIRED ON DRAWINGS SUBMITTED TO [REDACTED] FOR APPROVAL.

6.1 Drawings/Prints required

- 6.1.1 All plans to be at 1:50 or 1:100 scales. Small scale site plans shall be to a 1:500 scale. A1 size drawings preferred.
- 6.1.2 All plans are to be to scale and fully dimensioned.

6.2 Site plan, showing:

- a) Stand boundary, north point, boundary dimensions, street position with name, adjacent stand numbers.
- b) Building lines together with servitudes and other restrictions.
- c) Contours of existing ground levels.
- d) Proposed boundary walls, fences and gates, including the height and type of each.
- e) Driveway entrance to stand.
- f) Final site levels with new landscaping structures.
- g) Position of sewer and connection.
- h) Storm water management.
- i) Swimming pool and ponds including backwash management and/or drainage.
- j) Coverage schedule (See 7.9 for details required).
- k) Position of buildings. The site plan can also include the Ground Floor Plan.

6.3 Floor Plans:

Indicate proposed levels and use of rooms.

6.4 Elevations: all sides

Clearly showing the proposed elevations of both main and outbuildings shall be provided. The elevations shall give a clear indication of the exterior treatment of buildings and roofs, the material to be used and the colours of roofs and walls, including all perimeter walling/fencing. All external finishes and colours shall be specified in the drawings, and colour samples are required to be delivered to the Estate Management on request and are to comply with the colour range displayed in the Estate Office and approved by the Estate Management from time to time.

6.5 Sections:

Show and dimension the natural and final ground levels. Include the maximum height of the residence from existing natural ground level. The floor heights, roof dimensions and angles to be dimensioned.

6.6 Natural Ground Level (NGL):

To be shown on all sections and elevations.

6.7 Other fixtures:

Awnings, blinds, air-conditioner units, swimming pool pumps and other items, which do not form part of the basic structure, shall be clearly shown and annotated on all drawings and plans. Air Conditioner units are to be hidden from view.

6.8 Finishes:

All external finishes and colours shall be specified on the drawings. Colour samples are required to be signed and delivered to the CLHOA office and are to comply with the colour range displayed in the Estate Office and approved by the CLHOA from time to time.

6.9 Coverage and FAR schedule to include the following:

- 6.9.1 Area of stand in m².
- 6.9.2 Coverage both as a percentage and area in m².
- 6.9.3 Floor area of each floor as a percentage and area in m².
- 6.9.4 Total Floor area in m².
- 6.9.5 FAR (total floor area ratio to stand size, "bulk").
- 6.9.6 FFR – First floor ratio to ground floor as a %.

6.10 Alteration and additional work:

The type of proposed work will determine what of the above will be required. Discuss the proposed work with the Estate Management.

7. Density (incl Consolidation & Notarial Ties)

- 7.1 Only one dwelling shall be erected on each stand or on consolidated / notarially tied stands. The dwelling cannot be subdivided into more than one unit for rental. In addition, no dwelling may be used as a Guest House, Bed and Breakfast, Boarding House, Commune or the like. Such use is deemed to be a commercial use of a dwelling and is not permitted.
- 7.2 If two adjacent stands are owned, they must be consolidated / notarially tied in order to apply the area of both stands for the calculation of coverage and bulk. The new residence should not be concentrated on one of the previous stands.
- 7.3 Once consolidated the new stand cannot be subdivided.
- 7.4 If two adjacent stands are owned and not consolidated / notarially tied, then the residence cannot be constructed over the building lines of either stand and must abide by the boundary restrictions, coverage and bulk as applicable to the single stand which is being built upon.
- 7.5 Only adjacent stands with a common boundary may be consolidated, notarially tied. The consolidation/notarial being of diagonally opposite stands with a minimal common boundary is not permitted.
- 7.6 Stands consolidated will therefore be considered as a single stand save that they will be subject to a double levy notwithstanding the consolidation as if for both stands.
- 7.7 Stands which are notarially tied will continue to be considered as separate stands and will be subject to the normal levy per stand.

- 7.8 Where an empty stand is notifiably tied to another stand that has been built on the requirements of Clause 15.2 (of the main rules) in respect of vacant stands will be considered fulfilled.
- 7.9 It is recorded that the consolidation of even erodes the levy base of the [REDACTED] in the consequent loss of levy paying even. In order to protect the income base of the Estate, as of 1 July 2012, no member may consolidate multiple even without the prior written consent of [REDACTED]. [REDACTED] will only consent to the consolidation of even (subject to any other requirements of [REDACTED] on condition that post consolidation levies will be raised on the consolidated erf as per the multiple of stands consolidated, and as if the consolidation had not taken place.
- 8. SINGLEDOUBLE STORY STRUCTURES**
- 8.1 Single Storey Only:**
- 8.1.1 The village except for a few stands listed below (refer to 8.2.2) which have been developed with 2 storeys will remain single storey.
- 8.1.2 The Ridge Stands 1/225 to 12/225. All these houses to remain single storey.
- 8.2 Double Storeys:**
- 8.2.1 Permitted in the following suburbs:
Bishops Field, The Ridge (certain areas), Needwood, St. Georges Hill & The Paddock.
- 8.2.2 Village Stands with 2 floors:
Stands 284, 285, 293, 300, 307, 308, 314, 322, 323, 330, 331, 332, and 333 (Stand 234 has 2 mezzanines)
- 8.2.3 Mezzanine floors are not encouraged and will require special approval from the CLHOA.
- 8.3 Basements/Cellars:**
- 8.3.1 Basements are permitted but must be completely within the Ground floor footprint and cannot have any windows or doors in the outside walls.
- 8.3.2 Access must be from within the Ground floor footprint. The basement area will not be included in the floor area ratio (bulk) calculation.
- 9. HEIGHTS OF STRUCTURES**
- The original natural level for measuring the overall house height only. This will be the natural ground level which passes through the centre of the house footprint.
- 9.1 Single Storey**
- 9.1.1 With a flat roof, the height of any part of the structure shall not exceed 4.5m (four comma five metres) above the original natural ground level.
- 9.1.2 With a pitched roof, (minimum pitch is 30 deg.), the height of any part of the structure shall not exceed 6.0m (six comma zero metres) above the original natural ground level.

- 9.2 Double Storey**
- 9.2.1 Not more than two stores shall be erected vertically above each other (excluding basement/cellar – Refer 9.3).
- 9.2.2 The height of any part of the structure shall not exceed 8.5m (eight comma five metres) above the original natural ground level.
- 10. COVERAGE & FLOOR AREA RATIOS (FAR)**
- 10.1 Floor Area Ratio (FAR) Bulk**
- 10.1.1 The maximum Total floor area ratio to stand size ("bulk") is 0.6.
- 10.1.2 Exception for the single storey stands of the Village (those not listed per 8.2.2 above). The FAR of 0.6 excludes a provision for a double garage with dimensions not exceeding 6.5m x 6.5m overall dimensions.
- 10.2 Coverage: Single Storey Dwellings in the Village**
- 10.2.1 Coverage shall not exceed 60% excluding a provision for a double garage.
- 10.2.2 The garage size is not to exceed 6.5m x 6.5m.
- 10.3 Coverage: Single Storey Dwellings in the Ridge on Stands 1/225 to Stands 12/225**
- The coverage here is restricted to 40%.
- 10.4 Coverage: Single Storey Dwellings to remainder of Estate**
- Coverage shall not exceed 50% but in order to enable residents to construct a single storey dwelling with the same maximum floor area (bulk) ratio (0.6) as is permitted for a double storey, the [REDACTED] will generally support applications to amend the town planning scheme to the Local Authority to increase the coverage for a single storey dwelling from 50% to 60%. The objective is to encourage the construction of single storey rather than double storey houses in the Estate. Local Authority approval for 60% coverage must be obtained, however, [REDACTED] may give provisional approval subject to Local Authority approval. Construction cannot commence prior to council approval.
- 10.5 Coverage: Double Storey Dwellings (including the Village)**
- 10.5.1 The ground floor coverage of double storey dwellings shall not exceed 40% of the area of the stand.
- 10.5.2 The area of the upper storey shall not exceed 50% of the area of the ground floor.
- 10.5.3 In order to encourage the construction of a greater bulk at ground level the [REDACTED] will be prepared to consider plans for double storey dwellings with a ground floor coverage up to 50% provided that the area of the upper storey is commensurately reduced in order not to exceed the maximum FAR of 0.6. For example, on a stand of 1000 m² a house with 500 m² on ground level and 100 m² on the upper level is preferred to a house with 400 m² on the ground level and 200m² on the upper level.
- 10.5.4 Any part of the house where the floor to ceiling level exceeds 4.5m high shall for coverage evaluation purposes be included in the first floor area.
- 10.5.5 Double volumes whether used as lofts or unused, are deemed to form part of the first floor areas.

10.5.6 Yarded or screened off areas on the first floor where the screen exceeds 1,0m in height will be included in the first floor coverage area.

11. BUILDING LINES

All Stands except single storey dwellings in the Village:

11.1 Single Storey Dwellings

No structures shall be erected within a distance of 1m (one metre) from the boundary between one stand and another. No structures shall be erected within a distance of 3m (three metres) from the boundary between a stand and a park or a road. These building lines are the minimum allowed. If the building lines required by the Local authority exceed the CLHOA rules, then the larger distance will apply. Title deed needs to be checked for servitudes.

11.2 Double Storey Dwellings

No double storey structure shall be allowed within a distance of 3m (three metres) of the side boundaries and 5m (five metres) from the boundary between a stand and a street. If the upper floor is set back from the boundary, as stipulated above, then the ground floor can extend as per the ground floor set back rules, i.e., on a side boundary where the first floor is a minimum of 3,0m (three metres) from the boundary, then the ground floor can extend up to 1,0m (one metre) from the same boundary.

11.3 Single Storey In The Village

As per the Local Authority allowances, residential 2, traditionally zero between stands.

11.4 Parking

11.4.1 All stands must provide garaging for 2 cars minimum.

11.4.2 Except in the Village 2 visitors parking must be provided within the stand boundary.

12. LINES OF ACCESS

12.1 In order to create a landscaped boulevard along the main roads through the different extensions, no access will be permitted off the boulevard below St. George's Hill and Needwood. The [REDACTED] may grant access to other properties off a main road subject to its discretion.

12.2 Stands 3 and 44 in Needwood and 586 and 630 in St. George's Hill can only access the stands from the North Boundary.

13. MINIMUM HOUSE SIZE

13.1 Generally, no minimum house size is prescribed, the Directors of [REDACTED] shall be entitled not to approve the plans for any house which in their sole opinion would detract from the appearance of or reduce the value of other houses in the Estate. The [REDACTED] shall not incur any liability to any person in doing so.

13.2 Stands in the Paddock are restricted to a minimum house size of 350 m² as per the Title Deed conditions.

14. BOUNDARY WALLS & FENCES

Boundary protection can be achieved by means of planting or by means of brick wall and/or palisade fences integrated into the design of the house and of a design and finish approved by the [REDACTED]. The following are not permitted:

- Concrete or pre-cast concrete in walls or fences
- Stone walls

14.1 Only the following walling and fencing materials are allowed:

14.2 Plastered and painted brick wall. Structural design to be in accordance with Local Authority's bylaws.

14.3 Painted metal palisade (pattern and colour to be approved by the [REDACTED]).

14.4 Timber Fencing (existing fences only)

It is appreciated that there are numerous timber fences in The Village dating back to the original development and these will be allowed to remain. These fences require a large amount of maintenance and owners are encouraged to eventually replace the fence with brick or steel palisade. Such existing timber fencing may be reinstated as part of ongoing maintenance, however must be replaced with walls/palisade fences when maintenance is no longer appropriate. Permission to increase the height of such fences to 1.8m can be requested in writing from the [REDACTED] Architectural Committee. Such approval will be subject to the consent of affected neighbours and may be given at the sole discretion of the [REDACTED] Architectural Committee.

14.5 Boundary walling or fencing shall not exceed 1,8m height at any point above the original natural ground level below the wall or fence. The [REDACTED] will consider up to 20% of the total stand's boundary brick walls being raised to a maximum of 2,4m height. The wall must be structurally safe and certified by a Professional Engineer and a certified copy of the Certificate must be issued by a Professional Engineer.

14.6 Walling must be plastered and painted and if the wall abuts a common area, it must be plastered and painted on both sides (and maintained by the owner).

14.7 Bagged wall finish is not permitted.

14.8 The colour(s) of boundary walls and fences to be painted, or repaired, are to be approved by the [REDACTED] and are to comply with the approved colour range displayed in the Estate Office which may be updated from time to time.

14.9 No security spikes, razor wire or electric fencing or similar devices will be allowed on the boundary of the stand.

14.10 No walling or fencing shall be permitted between the road edges (curb) and the boundary unless approved by the [REDACTED].

14.11 Gates to be metal painted (pattern and colour to be approved by the [REDACTED]).

15. POSITION OF BOUNDARY OR BUILDINGS

If there is a dispute over the position of a building, or a wall or fence on a boundary (or the boundary itself) a diagram from a registered land surveyor showing the true boundary, position with dimensions to the encroaching building, walls or fences is to be submitted with the claim. If the [REDACTED] investigates an inquiry in this regard, then the Owner of the stand that has encroached the boundary or building line will be liable for the Land surveyor's fee.

16. SIDEWALKS

No trees other than those on the approved list, provided by the [REDACTED] from time to time, will be allowed on the sidewalk unless prior written permission has been obtained from the [REDACTED]. Pavement development to be approved by [REDACTED].

17. OVERLOOKING ADJACENT PROPERTIES

Balconies and windows on the first floor overlooking the living areas of adjacent properties must receive the written consent of the Owners of an adjacent property. Care must also be taken in design with placing windows in ground floor walls close to the boundary.

18. ROOFING

18.1 Flat Roofs within The Village

- i) 100% flat roof house with parapet permitted.
- ii) Corrugated or profiled metal roofs in "Chromadek" or other pre-painted finishes can be used.
- iii) In all cases where a flat roof is used, the roof must be surrounded by a parapet wall and its surface must not be visible from neighbouring ground properties.
- iv) The rules for other roofing are the same as for the remaining suburbs / areas noted below.

18.2 Flat Roofs in the remaining suburbs / areas

- i) Solely flat roofs are not permitted.
 - ii) Houses can have a combination of flat and pitched roofs or solely pitched roofs at a minimum of 30 degree pitch.
 - iii) In all cases where a flat roof is used, the roof must be surrounded by a brick, plastered and painted parapet wall.
 - iv) New flat roofs should be constructed in concrete suitably waterproofed.
 - v) Extensions not exceeding 50m² can have the following construction in lieu of concrete:
 - i. The extension is to have brick and plastered parapets on the new elevations.
 - ii. If the roof cannot be overlooked by adjacent properties then profiled metal roofs in "Chromadek" or other pre-painted finishes can be used.
 - iii. Roofs overlooked by adjacent properties must have an appearance of a concrete roof waterproofed in a Bituminous torch on application. A light weight system as the profiled sheet application above can be used but has to be covered with a suitable board and then waterproofed in a Bituminous torch on application.
 - iv. Roofs not listed above must be approved before being used.
- 18.3 Roof tiles should be harmonious with those of neighbouring houses, with particular reference to colour, and the style as approved by the [REDACTED] through the submission of a sample.
- 18.4 The following roof tiles can be used. Due to the changing of manufacturers, a sample must be provided for approval prior to ordering and construction.

- a) Black concrete slate.
- b) Terracotta and earthy coloured concrete tiles.
- c) Terracotta tiles.
- d) Tiles approved by [REDACTED] from time to time.

18.5 Maintenance of tiled roofs. Existing tiles can be repaired the same colour as the existing tile or if a new colour then subject to colour approval from a preapproved list. (see 20.3.3) Samples must be submitted for approval.

19. WALLS & PAINTING

19.1 Walls must be plastered and painted in a colour approved by the [REDACTED]. Should any Owner wish to repaint their house, they should ensure that the colour selected complies with the Estate guidelines. Prior approval must be obtained from the [REDACTED] regarding colour.

19.2 Stone cladding can be used in moderation but must first be approved by the [REDACTED]. Artificial stone is not permitted.

19.3 Walls must be painted / repainted according to the following specifications:

19.3.1 All exterior wall paint to be in an acrylic based paint

19.3.2 Various specialized coatings may be allowed, including but not limited to cementitious and clay based paints. In each instance signed samples will be required and are to be approved by the [REDACTED].

19.3.3 Paint colours are to comply with the approved colour range displayed in the Estate Offices which may be updated from time to time.

19.3.4 Should an owner request to paint his house a colour which is not an approved colour, permission has to be obtained from the Board of Directors. Approval of new colours will be considered on application, with the approval of the neighbours.

20. WINDOWS AND DOORS

20.1 Timber, either natural or painted. Aluminium anodised or epoxy coated may be used. Steel is not permitted.

20.2 Garage doors: Timber and any other finish must first be approved by the [REDACTED].

20.3 All garages must have a full garage door for vehicle access.

21. DRAINAGE PIPES

21.1 Shall be concealed from view.

21.2 Pipe ducts are required from the first floor.

21.3 Ground floor pipes can be surface mounted as long as they are not visible from the street and neighbouring stands.

22. GUTTERS AND DOWNPIPES

22.1 They shall form an integral part of the design and shall be constructed and finished to match the style of the house.

22.2 Down pipes shall preferably be concealed from view but can be exposed and painted to match the walls of the house.

22.3 Any changes or alterations affecting gutters and down pipes must be approved by the [REDACTED].

- 23. GARAGES, STAFF QUARTERS AND OTHER OUTBUILDINGS**
- 23.1 All properties shall have a garage to accommodate at least two vehicles.
- 23.2 Existing garages may not be converted into living space if it means that the property no longer has garaging for two vehicles.
- 23.3 The above structures shall be constructed and finished to match the main house.
- 23.4 Consideration of the neighbour's view should be taken into account when designing the entrance to the kitchen and staff quarters.
- 24. SWIMMING POOLS AND PONDS**
- 24.1 All swimming pool and pond outlets must be shown on the site plan and backwash connected to the sewer and not be allowed to drain onto common property or into the streets.
- 24.2 Swimming pools must be secured and fenced off to comply with Local Authority regulations.
- 24.3 Swimming pools must be approved by the [REDACTED]. A drawing is to be submitted showing the position of the pool on the house site plan and the location of the pool motor which must be positioned so that noise will not be a nuisance to the neighbours. The adjacent neighbour's signatures must be endorsed on the drawings.
- 24.4 Ponds and fountains not fenced off from the Public must be child proofed.
- ANCILLARY STRUCTURES AND EQUIPMENT**
(See minor works application form # 39)
- 25. BURGLAR BARS, SECURITY GATES, ETC.**
- 25.1 An application prior to installation is required for all security devices. Apply in writing to the [REDACTED] in accordance with the requirements of Clauses 4. Any such proposed installation shall be required to comply with the following guidelines:
- 25.2 All burglar bars / security measures may only be installed internally. NO external bars are allowed.
- 25.3 On windows, only the opening panes may be fitted with burglar bars.
- 25.4 Expanding gates and grills may not be used to protect windows. They may only be used to protect door openings and must only be installed internally.
- 25.5 Roller shutters are required to be installed internally. The roller shutter box can easily be installed behind a ceiling bulkhead.
- 25.6 External louvers, either sliding or hinged are the only acceptable external window / door protection.
- 25.7 Burglar bars, expanding gates, roller shutters and external louvers should preferably be the same colour as the window / door frames. Where these are natural timber, the preferred colours are brown or black.
- 25.8 In some instances, decorative metal security gates and screens may be approved at the sole discretion of the [REDACTED]. Any application in this regard will require written neighbour's approval.

- 26. WENDY HOUSES, GARDEN SHEDS, CARPORTS, STORAGE TANKS, GAS BOTTLES, ETC.**
- 26.1 Wendy houses, dog kennels, garden sheds, boat houses, washing lines, gas bottles and playground equipment must not be visible from the street or neighbours gardens.
- 26.2 Approval must be obtained from the [REDACTED] prior to erection.
- 26.3 Gas bottles storage must be in accordance with the requirements of SANS 10087.7. The positioning of this facility must be in the least obstructive site taking accessibility into account.
- 27. AIRCONDITIONING & EVAPORATIVE COOLING**
- 27.1 External air-conditioning units or equipment must be installed in the least obtrusive position given technical considerations and as far as possible concealed from view and noise levels must not be a disturbance to neighbouring stands.
- 27.2 The placement or positioning of an external air conditioner must be cleared prior to installation with [REDACTED]. The units attached to the external walls must not be viewed from the street or green belts and first floor units to be installed below the boundary wall height. In some instances they can be accommodated out of site on roofs or balconies.
- 27.3 A site plan is to be submitted to the [REDACTED] showing the position of external units and noting what equipment and height from ground to the top of the unit. Neighbours approval is required (Due to possible noise pollution). Neighbour to sign plan with Name, stand number, telephone number and signature.
- 28. AWNINGS, PERGOLAS, TRELISES, LOUVERED ROOFS AND SHADE SAILS**
- 28.1 Awnings, pergolas and trellises must be approved by the [REDACTED].
- 28.2 Louvered roof structures fall under the rules for ROOFING (See 18) and are to be surrounded by a brick parapet wall with brick supporting columns. The covered area is to be included in the allowable coverage of the buildings.
- 28.3 Pergolas: All pergolas to be in treated hardwood sawn timber.
- 28.4 On the first floor level they are to be surrounded by a brick parapet wall with brick supporting columns. On ground floor they need not be surrounded by a parapet but must be approved by the [REDACTED].
- Shade Sails**
- a) A site plan is to be submitted showing the positions of the sails, heights, slopes and construction material.
- b) A brochure from the manufacturer is to accompany the submission showing clearly the type and shape to be used.
- c) The sails are not to exceed 15 deg slope.
- d) The approved covering material is KNITEX or equal.
- e) Sails are not permitted over balconys or roofs at first floor level.
- 29. TV ANTENNAS, AERIALS, PV SOLAR PANNELS & EXTERNAL LIGHTING (Wind turbines)**
- 29.1 Positioning of TV dishes and other antennas as well as PV Solar Pannels are to be approved by [REDACTED].
- 29.2 External lighting to be positioned so as not to interfere with the neighbours.

29.3 Wind turbines are not permitted on the estate as the wind regime makes this technology non cost effective (see Lanseria airport wind statistics which indicate annual average wind velocities around 2.5m/s)

30. SOLAR GEYSERS, POOL HEATERS & HEAT PUMP SYSTEMS

30.1 Each request for the installation of Solar Panels and Geysers will be assessed individually.

30.2 There will be a limit of four panels only and the dimensions of the panels need to be specified.

30.3 The panels will need to be placed in the least obtrusive functional position agreed by [REDACTED] This will be individually assessed.

30.4 Tanks/Geysers are not permitted on sloped roofs.

30.5 A residence with a flat roof with a parapet will have no restrictions on the type of installation. However, the tank/geyser must be positioned so as not to be visible or must be appropriately screened. Approval of the [REDACTED] will be required prior to installation.

30.6 Neighbours approval will be required; however, approval will not be unreasonably withheld.

30.7 Each request for the installation of Solar Panels for pool heating will be assessed individually.

30.8 The number of panels and extent of area covered will be at the discretion of the Architectural Committee.

31. LANDSCAPING

31.1 The character of the Estate landscape is primarily indigenous and all visible landscaping undertaken should integrate into the aesthetics of the Estate. Focus has been given to material that attracts birds and other fauna.

31.2 The residential garden is an integral part of the Estate and has great importance in ensuring that the Estate develops into a homogenous whole.

31.3 Should Owners / residents wish to donate and plant material on land which is part of the [REDACTED] owned sidewalks, parks, plots, greenbelt or common areas, the following must be submitted to the Environmental Committee for their consideration via the [REDACTED] Office.

i) A plan indicating, to scale, the proposed location of the plant material / tree(s). Each tree or shrub should be shown on the plan by means of a circle showing its mature size. It's likely height should also be indicated by writing it in the circle for that specific specimen. For plants less than 1000 mm high and ground cover, it is not necessary to represent them in this way.

ii) A list of the tree(s), shrub(s) or plants to be used with a short explanation of the reasons for the proposed landscaping and the choice of these plant materials.

iii) Where the vegetation could obscure a neighbour's view or access to sunlight, the written agreement of the neighbour(s) should be obtained on the proposal prior to submission. Incomplete submissions will not be considered by the Environmental Committee.

iv) Homeowners should check with the Estate Manager that there are no underground services such as water, electricity or sewerage in the vicinity of the proposed plantings before submitting their proposal.

v) Homeowners should also check with the Estate Manager that existing storm water drainage arrangements are not negatively impacted by their proposed planting locations.

vi) The submission should contain brief details of the Homeowners proposals concerning the watering, tree circle retention and maintenance of the proposed landscaping.

vii) A brief statement concerning any other factors the Homeowner believes are material to the submission.

31.4 The application will be considered at the next meeting of the Environmental Committee following the lodgement of the application. A reply in writing, signed by the Chairman of the Environmental Committee and the Estate Manager will be sent thereafter to the Homeowner advising of the Committee's decision.

31.5 Copies of each decision will be retained on file in the Administration Office.

CONSTRUCTION REQUIREMENTS

32. CONSTRUCTION DEPOSITS

32.1 Owners will be held responsible for any loss or damage caused to the common property, their contractors, sub-contractors, workman, etc.

32.2 A construction deposit for a new residence or for an alteration or addition shall be paid by each applicant upon approval of his drawings by the [REDACTED]. The amount of the construction deposit shall be determined by the [REDACTED] on an annual basis. 80% of the construction deposit shall be refundable on completion of the work, less any portion needed to cover the costs of reinstating the Estate's property damaged during operations; e.g. replanting of grass/trees, removal of rubbish, repair of streetlights, signs, kerbs, hydrants, etc.

32.3 The refundable portion or unutilised portion of the deposit will be refunded to the applicant upon request to the [REDACTED] on completion of the building construction and after receipt of a certificate from the architect or person who prepared the plans confirming that the house "as built" is in accordance with the plans approved by the [REDACTED].

33. BUILDING CONTROL

33.1 **Responsibility:** the Owner is responsible for his main contractor, sub-contractors as well as their workman and delivers onsite. The Owner will be liable for the repair of any damage to kerbs, roads, street lights, distribution boxes, plants, irrigation and/or damage to private property on the Estate caused by the Contractor, the Contractor's employees, sub-contractors employed by the Contractor or delivery vehicles delivering materials to the Owner's property.

33.2 **Contractor approval:** Owners are advised to have their contractors sign a copy of the updated rules so as to ensure that they are properly informed of the conditions under which they are permitted to work on the Estate.

33.3 Discipline and Control of Labour:

- 33.3.1 The owner shall ensure that a contractor is responsible at all times for the discipline and control of any supplier, labourer or sub-contractor labourers on the building site. The contractor shall undertake to ensure that any such supplier, sub-contractor or labourer fully appreciates and understands both the provisions of these building Operational guidelines and any further rules and regulations that the [REDACTED] may impose from time to time.
- 33.3.2 The owner and contractor acknowledge and undertake to adhere to the Architectural, building or other Rules as formulated by the [REDACTED] from time to time or incorporated in these Guidelines or any further controls or instructions which may be implemented by the [REDACTED] from time to time.
- 33.3.3 No night watchmen will be permitted in the Estate. Contractors must provide a designated lockup shed or storage area on building sites for any materials or equipment.
- 33.3.4 All contractors and sub contractors are obliged to transport all their employees from the respective entrance gates to construction sites and to the relevant exit gate on completion of shift. Any contractor's employee found on the Estate other than at the relevant construction site will be removed and penalties imposed.
- 33.4 Building Site Requirements:
- Prior to and at all times during the construction of the works, a Owner/Contractor shall:
- 33.4.1 Have a copy of the working drawings and plans of the works stamped with the approval of the [REDACTED] and the Local Authority, in the contractor's possession, which plans must be available at the building site for inspection by an authorized representative of the [REDACTED] during normal working hours.
- 33.4.2 Ensure that a responsible person is appointed on all construction sites.
- 33.4.3 Prior to commencement of the construction of the works, provide written proof to the [REDACTED] that the water connection has been made by the City of Johannesburg.
- 33.4.4 Ensure that the site is neat and free of any litter or other unsightly waste or rubble material at all times. Skips on site are compulsory and minimise rubble accumulation on sidewalks. "Buffer" bags or similar are acceptable.
- 33.4.5 Provide prior to the commencement of construction of the works, a suitable and fully operational approved toilet on site and ensure that the toilet is maintained in a neat, hygienic and working condition at all times.
- 33.4.6 Ensure that the delivery of any material from any supplier takes place during the times prescribed by the [REDACTED] from time to time.
- 33.4.7 Not store any building material, rubble or soil on any adjacent property unless the Contractor has obtained the prior written consent of the Owner or such adjacent property and a copy thereof has been delivered to the [REDACTED]
- 33.4.8 The site and streets are to be kept as clean as possible at all times. Should the street and sidewalk not be clean, to the Estate Manager's standards, the Contractor will be required to comply with the Estate Manager's instructions in that regard before continuing with any further building activities.

33.4.9 Green Shade Cloth shall be erected around the building site to screen such site from view. The Shade Cloth 1.8 m height must be attached to sturdy fencing posts with a minimum of 3 straining wires in order to ensure that it remains neat and tidy at all times.

33.4.10 Where materials offloaded encroach onto the pavement or roadway, these materials must be removed, immediately after delivery to the site. No materials may remain on the roadway or pavement without permission and it is the Owner's responsibility to clean the roadway of all such materials. The same applies to sand or rubble washed or moved onto the road during building operations.

33.4.11 If construction takes place adjacent to existing dwellings, the Owner or Contractor shall respect the privacy of the neighbour(s) and generally reduce inconvenience as far as possible. It is recommended that the Owner discuss with the neighbour(s), the location for example of the toilet / site hut.

33.4.12 Should [REDACTED] suspect any Owner or Contractor of misconduct, the [REDACTED] may rectify such conduct in such manner as it deems necessary and recover the cost thereof from the Owner concerned. Alternatively the [REDACTED] may at any time and without prior notice, require the suspension of building activity until such undesirable conduct is rectified.

33.4.13 No open fires are permitted on the premises.

33.4.14 Erect a contractor's board to the [REDACTED] specification (sample at office) at the owner's cost on the site which board shall display the name and telephone number of the Contractor but no advertising of any kind (e.g., For Sale, To Let).

33.4.15 Only enter the Estate at the following times:
Monday to Friday: 06:30 – 18:00 (building may only commence at 07:00)
Saturday: 08:00 – 13:00 (Noisy operations which could cause noise pollution for the neighbours are not permitted)
Sundays & Public Holidays – NO work permitted.
BIFSA December Break – NO work permitted.

33.4.16 No deliveries of building materials are permitted after the stipulated hours on weekdays, or at any time on Saturdays, Sundays, or Public Holidays without express permission in advance in writing from the [REDACTED]. Such permission will not be unreasonably withheld – particularly on Saturday mornings – provided it is obtained at least 24 hours in advance and will not cause any disturbance to neighbouring properties.

33.5 Variation of approved building Plans:

33.5.1 The parties acknowledge that the [REDACTED] will enforce compliance with the Architectural Guidelines and any other instructions and regulations in respect of the construction of any works on the Estate. Should the contractor receive instructions from the architect or the owner to deviate from the plans approved by the [REDACTED], the Contractor shall be obliged to immediately advise the [REDACTED] Estate Manager in writing and further orally, of the nature and detail of the deviation so as to permit the [REDACTED] the opportunity to consider the deviation or the deviation plan in the light of the [REDACTED]'s requirements. The contractor shall not commence construction of any deviation in the works until the [REDACTED] has consented thereto in writing or until a revised deviation plan is approved by the [REDACTED] in writing.

33.5.2 The owner acknowledges that he shall be liable for the correction of any building work which does not comply with approved drawings. Such correction is to be done within the time period stipulated by the [REDACTED]

- 33.6 **Inspections**
- 33.6.1 The Estate Manager or his appointees are entitled to make such further inspections of the Erf and the works as he may in his sole discretion, elect to do and shall be permitted at all times, to have access to any Erf and the works thereon.
- 33.6.2 In case of contraventions being found, prior to proceeding with any further construction, the Owner shall ensure compliance with every directive issued by the Estate Manager.
34. **ACCESS CONTROL**
- 34.1 The control of access to and from the Estate is critical to the proper functioning of the security arrangements on the Estate. In the event of the Estate Rules in regard to access and security not being adhered to by the Contractor, the [REDACTED] shall be entitled to refuse the Contractor, its sub-contractors, employees or invitees access to the Estate.
- 34.2 The Estate security personnel may subject any vehicle or person entering or leaving the Estate to a search.
- 34.3 All contractors, their employers and sub-contractors have to register daily with the Security and will be required to produce a valid Identity Document and adhere to all instructions issued by security in respect of conduct, access and egress from the Estate and security in general.
- 34.4 Any contravention of security and access protocols of the Estate Rules will be severely dealt with by the [REDACTED] and depending on the nature and the circumstances, could lead to the suspension of building work and barring of access to the Estate.
- 34.5 The speed limit in the Estate is 30 km/h except those areas where this has been reduced to 20 km/h. Due care must be taken by all vehicles not to block the thoroughfare of roads. Contractors are expected to observe all road regulations, pedestrian crossings and stop signs. The cutting of corners at circles is prohibited and a fine will be imposed if caught or reported.
- 34.6 Contractors or sub-contractors and their employers must be in possession of a valid South African ID Document or valid work permit to enter and work in the Estate. This can only be waived under special circumstances and must be first approved by the [REDACTED].
- 34.7 The [REDACTED] shall be entitled to prevent building or access to any contractors who are in breach of these rules or if the owner is in arrears with levies or other amounts due to the [REDACTED].
- 34.8 The building contractor acknowledges that he shall be liable for a financial or other penalty as determined by the [REDACTED] should he be in breach of the Estate Rules.
35. **TIME LIMITS FOR CONSTRUCTION**
- 35.1 **First purchase of an Erf**
The first purchaser of an Erf shall have 6 months from registration of purchase to submit plans for construction and thereafter 6 months after approval of plans by the [REDACTED] to commence construction on site. Building works must be completed within 12 months, ie 18 months from plan approval by the [REDACTED].
- 35.2 **Second or subsequent purchasers of an Erf**
The second or subsequent purchaser of an Erf shall have 3 months from registration of purchase to submit plans for construction and thereafter 6 months after approval of plans by the [REDACTED] to commence construction on site. Building works must be completed within 12 months, ie 18 months from plan approval by the [REDACTED].
- 35.3 **Alteration or additions of existing buildings**
Building works may only commence on approval by the municipality after approval by the [REDACTED]. Building works must be started within 3 months of the approval by the [REDACTED] and completed within 3 months of communication of approval unless otherwise agreed in writing at the time of approval.
- APPLICATION FORMS**
36. **REQUIREMENTS FOR SUBMISSIONS TO [REDACTED]**
- Major works require planning approval from the Municipal authority after acceptance by [REDACTED]. Minor works require only [REDACTED] approval. Each application must comply with the following check lists.
- Major works**
- New building works
 - Alterations and additions to existing structures
 - Boundary walls
 - Swimming pools & ponds
- Minor works**
- Wendy houses, Garden sheds, Carports, Storage Tanks, Gas Bottles, etc.
 - Playground equipment, dog houses
 - Wash Lines, Trellises & Awnings
 - TV antennas & aeriels, external lighting
 - Air-conditioning, evaporative cooling, Solar heating
 - Landscaping constructions
- New building works**
 - Application form (major works)
 - Scrutiny fee
 - Copy of property Title Deeds
 - Full set of architectural plans, 2 copies, size A1, as required for municipal submission
 - Site access will only be granted after plan approval.
 - Alterations and additions to existing structures**
 - Application form (major works)
 - Scrutiny fee
 - Copy of property Title Deeds
 - Full set of architectural plans, 2 copies, size A1, as required for municipal submission, alterations and additions highlighted in red.
 - Site access will only be granted after plan approval.
 - Boundary walls**
 - Application form (major works)
 - Scrutiny fee
 - Copy of property Title Deeds
 - Site plan showing position of existing & proposed new walls highlighted in red.
 - Site access will only be granted after plan approval.

- 4) **Swimming pools & ponds**
- 4.1 Application form (Major works)
 - 4.2 Scritiny fee
 - 4.3 Copy of property Title Deeds
 - 4.4 Site plan showing position of existing & proposed structures.
Min 1 m from boundary walls
- Position of pump house:
Pipe run and termination of backwash/drain piping.
Disposition and description of any pool heating installation.
Position and extent of pool fence (municipal bylaw requirement)
- 4.5 Neighbours (owners) signature, stand No, contact No.
Elevation drawing or marked up photo showing detail of any surface structure, alteration to boundary walls and or ground levels, especially how these may impact on neighbours.
 - 4.6 Disposition of excavation spoil
 - 4.7 Site access will only be granted after plan approval.
- 5) **Wendy houses, Garden sheds, Carports, Storage Tanks & Gas Installations**
- 5.1 Application form (Minor works)
 - 5.2 Scritiny fee
 - 5.3 Site plan showing position of existing & proposed structures.
Min 1 m from boundary walls
 - 5.4 Neighbours (owners) signature, stand No, contact No.
Drawing or marked up photo showing view impact to neighbours, street and/or green belt.
 - 5.5 Brochure/specs giving details of structure and finishes.
Colour match to existing structures
 - 5.6 Site access will only be granted after plan approval
 - 5.7 Gas bottle storage in accordance with SANS 10067.7
- 6) **Playground equipment, dog houses & wash lines**
- 6.1 Application form (Minor works)
 - 6.2 Scritiny fee
 - 6.3 Site plan showing position of existing & proposed structures.
Min 1 m from boundary walls
 - 6.4 Neighbours (owners) signature, stand No, contact No.
Drawing or marked up photo showing view impact to neighbours, street and/or green belt.
 - 6.5 Site access will only be granted after plan approval.
- 7) **TV antennas & aeriats, external lighting, Trellises & awnings**
- 7.1 Application form (Minor works)
 - 7.2 Scritiny fee
 - 7.3 Site plan showing position of existing & proposed structures.
Neighbours (owners) signature, stand No, contact No.
 - 7.4 Drawing or marked up photo showing view impact to neighbours, street and/or green belt.
 - 7.5 Colour match to existing structures
 - 7.6 Site access will only be granted after plan approval.
- 8) **Air-conditioning, evaporative cooling, Solar heating**
- 8.1 Application form (Minor works)
 - 8.2 Scritiny fee
 - 8.3 Site plan showing position of existing & proposed structures.
Min 1 m from boundary walls
- All visible components sited in the least obtrusive functional position.
Neighbours (owners) signature, stand No, contact No.
8.4 Drawing or marked up photo showing view impact to neighbours, street and/or green
- 9) **Landscaping**
- 9.1 Application form (Minor works)
 - 9.2 Site plan showing position of existing & proposed structures, pathways, planting (trees and bunkers) and specifically points and flow of storm water to and from neighbouring properties.
 - 8.5 Any specific plan to screen the installation in order to lessen the visual impact to be described/ sketched in this application.
 - 8.6 Brochure/specs giving details of structure and finishes.
Colour match to existing structures
 - 8.7 Site access will only be granted after plan approval.
 - 8.8 Final installation to be approved by the [redacted] maintenance manager.

Non-Eco-Estate E

The Rules

as approved at a Constitutional General Meeting held on 23 November 2009

(including the Rules pertaining to enrolment of Trusted Individuals)

& as amended at a Constitutional General Meeting held on 18 November 2013

& as amended by the Board of Directors at a meeting held on 23 September 2014

& as amended by the Board of Directors and published on 13 August 2015

ARCHITECTURAL RULES

Building according to approved standards would do away with the need to make costly changes at a later stage.

GENERAL

All building plans (including building plans in respect of any additions and/or alterations to existing structures and dwellings) shall be prepared in accordance with the architectural Rules and shall be furthermore approved by the Association prior to the commencement of any building works.

Building lines may be relaxed only if such relaxation is required in order to improve the appearance, usage and functionality of the dwelling. A formal application for such relaxation, together with the written consent of all the Members who own adjoining Units, shall be submitted to the Association for approval prior to submitting same to the local authority.

The natural contour of any Unit may not be increased in height by more than 500 millimetres measured from the highest point on the said Unit. Where the slope of a development is negatively influenced, permission must be obtained from the local authority and the Association prior to the commencement of any earthworks.

All building plans submitted for approval to the Association must comply with:

Local authority rules and regulations; and

! National Building Regulations ("NBR"); and

! South African Council for the Architectural Profession ("SACAP") requirements; and

! National Home Builders Registration Council ("NHBC") requirements.

Should any Member require clarity on any of the architectural Rules set out herein, such queries may be addressed in writing to the Association.

PLANS

It is recommended that concept plans be submitted to the Association prior to the submission of detailed working drawings.

Five paper copies of proposed building plans, coloured to local authority specifications, together with the prescribed fees/deposits (which fees/deposits may be reviewed by the Directors, at their sole discretion, from time to time), shall be submitted to the Association for approval prior to the submission thereof to the local authority for approval.

The prescribed scrutiny fee, pavement deposit and/or contractors deposit is payable to the Association by the Member upon submission of plans. Contact the Association's offices for details pertaining to retentions.

One coloured copy of the approved plan, with street elevation rendered in colour of the proposed dwelling, shall be held by the Association.

Normal municipal submission plans shall be lodged for aesthetic approval with the Association. Should the Association approve such plans, same shall be stamped to such effect, which stamp of approval will only be valid for twelve months from date thereof.

Building plans approved by the Association must be submitted to and approved by the local authority.

The site plan shall indicate the outline of the ground and first floor plans inclusive of outbuildings, pools, contours (500mm), boundary walls (details: height, foundation, width), position of washing lines, yard walls (details: height, foundation, width), details and position of any outdoor structures, including but not limited to fountains, water features, gazebos and play structures, to appropriate scale.

Site plans, basic construction plans and safety measures are required for all swimming pools. Special attention shall be given to privacy, water drainage and safety fencing. The position of pool heaters, pool pumps and their filters must be indicated on the site plan, and the Association reserves the right to insist that pool pumps, pool heating apparatus and the like must be contained in order to prevent nuisance and/or noise.

As specified in clause 5.8.2.7, outdoor structures including but not limited to fountains, gazebos and play structures shall be indicated on the site plan. Such outdoor structures shall complement the design of the dwelling. When evaluating any plans, the Association shall consider privacy and aesthetics. The consent of all Members of the neighbouring Units to the Unit upon which such outdoor structures are proposed may be required, which consent shall be indicated by the signature of all such Members on both the building plans and the application form.

Design and layout of the entire Unit shall be considered from the outset. Special consideration shall be given to existing natural features on site, i.e. existing flora and topography.

In the event that the Association considers any plans or designs to be contrary to the aesthetic character of the Estate, or considers same to be insensitive towards the environment, the Association may request the Member to make such reasonable alterations to such designs as it deems fit.

In the event that construction in terms of any plans approved by the Association does not commence within twelve months of date of the approval thereof by the Association, such approval shall lapse and the Member shall be required to resubmit such plans for approval to the Association and local authority. In the event of such resubmission, the prescribed plan scrutiny fee shall be payable.

Construction shall be completed within twelve months of the commencement date of the foundations being laid, failing which, penalties may be imposed by the Association in terms of the disciplinary Rules.

Perspective views and photographs may be requested by the Association prior to final approval of any plans.

Nothing in the Rules shall be construed as permitting the contravention of the conditions of title of any Unit or any bylaws or regulations of the local authority. Members and/or their contractors may not commence construction without the prior approval of the plans by both the Association and the local authority. The Association reserves the right to take such action as it may deem fit in order to enforce this provision.

Should any deviation or amendment be contemplated or become necessary to any building plans after such plans have been approved, the Association is to be notified forthwith and amended plans, clearly setting out subsequently the nature of the deviation and/or amendment

shall be submitted for approval to the Association and local authority. An additional plan scrutiny fee shall then be payable.

Upon completion of all construction work, and prior to the release of the pavement and/or contractors deposits), the Member shall complete the prescribed form(s) and arrange for a final inspection of the Unit by the Association. After obtaining an occupation certificate from the Association, the Member shall apply to the local authority for an occupation certificate. The Member shall only be entitled to occupation of the Unit once both the said occupation certificates have been obtained, and a copy of the occupation certificate of the local authority has been lodged with the Association.

ARCHITECTURAL REQUIREMENTS

The main dwelling, excluding garages and outbuildings, shall not be less than 220m².

Dwellings shall conform to acceptable architectural standards and not interfere with or detract from the general aesthetic appearance of the neighbourhood.

No galvanized roofing material shall be permitted. Only "chromadek" or a similar type of roofing (factory pre-coated metal roof sheeting) may be used with the express approval of the Association.

Specific aesthetic consideration shall be given to the design of parapets, fascias, copings, eaves, roof trim, guttering and roofing materials in general as well as the design and layout of paving. No half brick and/or imprint paving permitted on driveways or garden areas visible from any street.

Roofing materials for porches, carports and outbuildings shall be approved by the Association and no shade cloth shall be permitted.

Plumbing shall be ducted and suitably screened. Plumbing shall not be visible from any street, golf course, neighbouring properties and/or the nature reserve area. Ducts shall be integrated into walls.

External finishes and colours shall be shown to and approved by the Association and this shall furthermore apply where any dwelling is repainted (colour samples may be requested by the Association).

Duets shall not be repainted without the consent of the Association and the Members' concerned. The colour scheme of duets shall be uniform.

Approval for any external aesthetic or internal structural changes to duets shall only be granted by the Association if approved by all the Members owning such duets.

No air conditioners, geysers and/or their piping may be visible from any street, golf course and/or the nature reserve area. Any screening shall be professionally effected. Solar panels, satellite dishes and/or antennas should be positioned in an aesthetically pleasing fashion.

Outbuildings and additions shall match the original design and style of the dwelling, in elevation, finish and materials used.

Entrances into kitchens, sculleries and domestic quarters have to lead off a lobby and are to open into a screened yard (See clause 5.8.3.1.4). No domestic accommodation or kitchen yard shall be visible from the golf course.

Storm water may not be discharged into the sewerage system but must be channelled into the storm water system. Members with low lying Units may not refuse to accept storm water from higher lying Units. In particular, see clause 5.9 in this respect.

Yard and screen walls (minimum 2.1 metres high) and street boundary walls (maximum 1.8 metres high) shall match the design of the main building.

Dwellings shall not exceed two storeys, irrespective of height, and such two storeys shall not be interpreted to include basements and/or mezzanine levels. The impact of a second storey on the right to privacy of adjacent Members, and the impact on the views from adjacent residences shall be considered when building plans of dwellings having a second storey are scrutinised by the Association.

Basements shall not protrude above natural ground level (on average shall be 2.1 metres below natural ground level).

The treatment of sidewalks (being the space between the Unit boundary and the road owned by the local authority) is considered to be of paramount importance as this has a direct influence on the aesthetic quality of the neighbourhood.

The diverse nature of neighbourhoods should give rise to a varied treatment of street boundaries. In order to create a degree of visual integrity, street boundary wall design shall be strictly controlled in accordance with the following provisions:

Approved quality steel fencing may be erected on the stand boundary according to specifications obtainable from the Association. Maximum permissible height of steel fencing is 1.2 metres high. Maximum permissible height of columns is 1.5 metres high.

Ball side boundary walls and fences must match the design of the main building and shall be subject to the approval of the Association. Should the height of the aforementioned wall exceed 1.8 metres, NBR's must be complied with.

Fences not allowed include, but are not limited to, wire fences, razor fences, precast walls, picket fences and aesthetically unacceptable wooden fences.

Street boundary walls, constructed of any materials whatsoever, shall not cover more than 30% (thirty percent) of the total street frontage (access frontage) of the Unit. On corner stands, boundary walls, constructed of any materials whatsoever, shall not cover more than 50% (fifty percent) of the total street frontage of the Unit.

Stepped or set back, non-linear (non-straight line) walls are preferred in order to enhance the streetscape. The set back portion of the wall shall be see-through (i.e. not solid).

Lean-tos and temporary carports are not permitted. Carports are to be designed to form an integral part of the house design.

No galvanized elements such as doors, garage doors, lean-tos, patho roofs, etc shall be allowed.

Moveable/immovable temporary habitable structures e.g. wendy houses, shacks etc. may not be erected. Application must be made to the Association for the erection of non-habitable structures e.g. storage sheds etc. and must comply with specific minimum specifications of the Association. The consent of the adjacent Members is required.

In the case of those Members and/or tenants in Phase 1 (SG No A5867/1992), who have written permission for wendy houses or tool sheds, these structures may not be used for any form of accommodation or for business purposes. All existing permissions to have wendy houses or tool sheds on Units will lapse once the Unit is sold. The relevant wendy houses and tool sheds must be removed at the Member's cost prior to the occupation of the Unit by the new Member or tenant.

Application must be made to the Association for the erection of dollhouses which must be adequately screened and may not be visible from any street, golf course and/or the nature reserve area. Such dollhouses may be used solely for the purposes of a dollhouse. Dollhouses must be painted (including the roof of the dollhouse).

SPECIAL DESIGN CRITERIA FOR GOLF COURSE UNITS

When designing homes take note that building lines on the golf course frontage vary from 5 metres to 20 metres, depending on the title deeds and township establishment conditions of the specific Unit.

All building lines are 10 metres except for those stands west of the 8th and 18th holes. Units west of the 18th hole are subject to a 17 metre building line of which the first 7 metres is in favour of the golf course. Units west of the 8th hole are subject to a 15 metre building line of which the first 5 metres is in favour of the golf course. These 7 metre and 5 metre areas may only be used for golf course purposes, and may not be used for any boundary walls, structures or private gardens.

Special aesthetical and design laws are applicable to all golf course Units. All homes and gardens shall be evaluated according to the Rules, and no deviation from the approved building plans shall be allowed without the prior approval of the Association and the golf course owner.

Golf ball safety nets are not permitted.

Only grass and indigenous trees shall be planted in the golf course frontage servitude. No existing trees may be removed from this area. Landscape plans for this area must be submitted to the Association for approval.

No swimming pools shall be permitted, between the Unit boundary and the appropriate building lines nor within the service servitude areas of the local authority, without approval from the Association and local authority. Members are responsible for safety precautions pertaining to swimming pools. Any screening of the swimming pool must be aesthetically pleasing.

Members are requested to preferably refrain from building boundary walls in order to preserve, blend with, complement and enhance an open front with the golf course and surrounding Units.

If a Member wishes to build a boundary wall facing the golf course, only approved palisade or similar boundary walls and/or fencing shall be allowed on the demarcated Unit boundary or building line. The specifications in regard to such boundary walls are as follows:

the maximum total height of the palisade or similar fencing shall be 1.2 metres high. The maximum height of columns is not to exceed 1.5 metres.

the maximum height of the bottom section (solid wall) shall be 500 millimetres.

The position and design of boundary walls shall be determined in consultation with the Association. It is preferable that boundary walls facing the golf course should not create a continuous linear boundary between the Units and golf course.

Side boundary walls shall only be built up to the demarcated golf course building lines applicable to each Unit. Such walls shall be stepped and the last 5 metres up to the golf course building line shall be a maximum of 1.2 metres high for palisade wall fencing or similar with the columns maximum height not exceeding 1.5 metres high.

Regular maintenance and repair of such walls is paramount since this is another frontal area of the Unit.

Rules and Regulations

INTRODUCTION

██████████ Home Owners' Association NPC (the "Association" or "HOA") a company incorporated under the Companies Act, No 71 of 2008. The company's memorandum of incorporation contain provisions, which supplement these rules.

- 1 The broad objectives of the Association are the following:
 - 1.1 To control the character and architectural standards of buildings and other structures to be erected.
 - 1.2 To control the use of roads and open areas in the townships, subject to all local, Provincial and National laws.
 - 1.3 To provide for the maintenance of sidewalks and open areas in the townships.
 - 1.4 To provide controls for keeping of dogs and other animals in the townships.
 - 1.5 To implement and control security procedures for admission to the townships and generally in the townships.
 - 1.6 The HOA has the right to fine transgressors where any of the rules as stipulated by the HOA from time to time have been broken or infringed upon. Such fines will form part of the levy and shall become due and payable on the due date of payment of the levy.
- 2 In the quest of a happy and harmonious community residents of the townships are obliged to use and enjoy the properties they own and /or occupy as well as the public areas and open spaces in accordance with their own rights, but as curtailed by the rights of other members or occupants.
- 3 The abovementioned provisions contained in this introduction are of an operative nature and are therefore binding provision of these rules.

Non-Eco-Estate F

██████████ Home Owners Association

Reg No: 2003/008761/08

RULES AND REGULATIONS

and

ARCHITECTURAL GUIDELINES

as approved at the AGM of 28 January 2015

Architectural Guidelines

The purpose of these guidelines is to encourage individual creativity while fostering a unity of material and finishes, to ensure that the overall development be in unison to create a balance and compatible life style for all residents.

The construction and improvements should commence within two years from the date of registration of transfer of ownership. In order to reduce inconvenience to neighbours as well as unsightliness, construction should proceed without lengthy interruptions and should be completed within 12 months from the date of commencement. Phased design should be handled in such a way that the end of each phase should be aesthetically acceptable to the Home Owners' Association (HOA).

The design of dwelling and the entire stand should show sensitivity to the existing natural features, flora and topography. Permission is to be obtained from the estate manager before any existing trees are removed. All existing trees are to be shown on the site plan submitted with the building plans. Surrounding structures must be taken into account and any buildings on adjacent erven are to be indicated on the site plan.

ELEVATION TREATMENT OF ALL BUILDINGS MUST CONFORM TO GOOD ARCHITECTURE SO AS NOT TO INTERFERE WITH OR DETRACT FROM THE GENERAL APPEARANCE OF THE NEIGHBOURHOOD AND BE TO THE SATISFACTION OF THE H.O.A.

1 TOWNPLANNING CONTROLS

1.1 RESIDENTIAL ERVEN

Single storey dwellings 50 percent maximum

Double storey dwellings 80 percent of the area of the ground floor plan. Group housing in accordance with council regulations

A schedule of areas is to be provided on the plans submitted for approval with the coverage expressed as a percentage of the site area.

1.2 BUILDING LINES (for residential and group housing)

The following building lines shall apply:

Street boundary	5.00 meters single storey 8.00 meters double storey
Side boundaries	3.00 meters single storey

- Back boundary
 - 3.75 meters double storey
 - 4.50 meters thatch to overhang
 - 3.00 meters
- Atterbury
 - 4.00 meters double storey
 - 16.00 meters
- De Villa Bois
 - 16.00 meters

1.3 TREATMENT OF STAND BOUNDARIES

Every effort should be made to avoid the 'hostile canyon like' effect that high solid walls along streets cause in many residential areas. In order to enhance the appearance of sidewalk and the streetscape of the estate, the following guidelines will apply:

Please note: All heights of walls as mentioned hereunder are from the natural ground level of the site.

1.3.1 Street boundary

A maximum height of 1.2m will be permitted on the street boundary, which is to be taken for a distance of 3m down the side boundaries, before height of wall may be increased. Should a palisade type fence be used it should be used in conjunction with brick pillars. Should further enclosure become necessary, this must be set back 3.0m from the boundary and may be to a maximum height of 2.0m. Details of the fencing, indicating materials, finishes and colours to be used are to be submitted to the HOA for approval together with building plans.

1.3.2 Side space – walls

The boundary walls between properties may be a maximum height of 2.0m except for the last 3.0m to the street which are to be reduced to 1.2m in height.

2 BUILDING DESIGN GUIDE LINES

2.1 All drawings submitted for approval to the HOA are to be prepared by a registered architect or alternatively an architectural technician, the standard of whose work is found to be acceptable to the HOA. All the information required as contained in these guidelines is to be included on the plans submitted to the HOA for approval.

2.2 Before submitting plans to the local authority the HOA are to approve the plans, and furthermore it is the responsibility of the owner to obtain approval of both HOA and the local authority before any building work will be permitted. A scrutiny fee will be charged to the home owner which will be payable before the plans are approved, in the discretion of the HOA.

- 2.3 Privacy of surrounding properties, Windows and balconies, especially those of double storey houses, should not overlook the living areas of surrounding properties.
- 2.4 No staff accommodation will be permitted closer to the street than the main house unless contained under the same roof; Kitchen Yards, drying yards and staff facilities are to be screened and should open onto enclosed areas. Washing lines are to be indicated on the drawings. Outbuildings and future additions are to match the main building in all respects. All plans are to indicate a minimum of two enclosed garages, to be built in conjunction with the main house.
- 2.5 No flat roofed, lean-to type carports will be permitted. Carports are to be designed as an integral part of the main house and to match in all respects.
- 2.6 The face of boundary walls visible to adjacent properties are to have a maintenance-free finish, to the approval of the HOA, no stock brick walls or pre-cast concrete will be permitted.
- 2.7 No dog kennels, caravans, boats, trailers, etc are to be visible from the street and will not be permitted in the side spaces.
- 2.8 Awnings, aerais, blinds, satellite dishes, solar heaters and other items which do not form part of the basic structure are to be clearly shown on the drawings and all necessary details are to be provided to the HOA.
- 2.9 All plumbing pipes are to be installed in ducts or concealed in such a manner so as to be acceptable to the HOA. Details are required on the plans.
- 2.10 No deviation from the drawings submitted to, and approved by the HOA will be permitted. Revised drawings will have to be re-submitted and approved of, before any construction work is put in hand. An additional fee would be charged when submitting revised plans.
- 2.11 No dwelling shall be smaller than 250 sq.m including outbuildings and garages. No units in group housing projects shall be smaller than 90 sq.m excluding garages and outbuildings.
- 2.12 Areas of units in group housing projects are as follows, all inclusive of double garages:

a)	20 units per ha.	Min area	200 sq.m
b)	25 units per ha.	Min area	120 sq.m
c)	30 units per ha.	Min area	120 sq.m

3 APPROVED BUILDING MATERIALS

3.1 Roof Coverings

Profiled steel sheeting, having a pre-painted finish, e.g. chromadek or colomet.

Concrete tiles having one of the following colours: terra cotta, antique terra cotta, antique slate or standard slate.

Thatch will be permitted.

Slate tiles/shingles.

Fibre-cement tiles / shingles having one of the following colours: green, dark grey, terra cotta, charcoal.

Flat concrete roofs are to have a non-reflective finish.

Galvanized gutters or down-pipes will be permitted, this is to be stated clearly on the drawings and must be painted to harmonize with the building finishes.

3.2 Walls

External masonry walls to houses shall be 220mm thick, with either a face brick or plastered and painted finish.

Approved face bricks include:

ROSEMA Contessa Satin

Contessa travertine

COROBRIK Roan satin

Roan travertine

Country manor travertine

Corn-gold

Topaz travertine

Blue barley travertine

Agate satin travertine

Samples of any other face bricks to be submitted for approval. The face brick selected is to be specified on the drawings.

Semi-face bricks may be considered after a sample panel of a minimum of 2 sq.m has been erected on site at the owner's expense, for inspection by the HOA. Only autumn colours will be permitted. This sample panel is to be retained for the duration of the works.

Any other materials contemplated for use must be approved by the HOA and if required samples are to be submitted before any work is put in hand.

3.3 All materials with the finish and colours thereof to be used externally are to be indicated on the drawings submitted for approval.

4 PAVING AND LANDSCAPING

Landscaping on sidewalks must be undertaken within the integrated landscape language of [REDACTED]

4.1 The landscaping theme of the estate is to encourage the use of indigenous trees and plants. The portion of all properties that border and the portion of all properties between the building lines and the street boundary should be landscaped accordingly.

4.2 All driveways are to be completely paved, with a maximum width of 5 meters at the site boundary and at the junction of the road. No exposed concrete finish to driveways will be permitted. Finishes to driveways and walkways are to be indicated on the drawings, and the extent of driveways at the street boundary is to be shown. In the event of two driveways being envisaged the maximum width of both may be 7m with a minimum of a landscaped area of 5 m between driveways, details required.

4.3 The use of hedgerows is recommended and the planting of indigenous trees and shrubs is encouraged where possible.

4.4 Trees planted in the road reserve must follow the guidelines as set out for that particular street.

4.5 Planting and hedgerows are also encouraged where palisade fencing is used.

4.6 Houses built on the visual slopes of the estate will require special attention to reduce the interruption to the horizon line and any other visual impact. This will have to be achieved by inter alia, additional landscaping and a sensitive approach to the scale and proportions of the buildings.

4.7 Cut and fill is to be kept to minimum.

4.8 Contours indicating the natural slope of the ground at 5m intervals are to be shown on the site plan with floor levels relative to them.

5 PROHIBITED MATERIALS AND FINISHES

5.1 Unpainted plaster.

5.2 Pre-cast concrete walls. All boundary walls are to have maintenance free finish facing adjacent properties. Face brick, to match the main house will be permitted.

- 5.3 Unpainted reflective steel sheeting. Whether to roofs, gutters, down pipes or any other components of the external finishes.
- 5.4 Wood panel fencing.
- 5.5 Razor wire, security spikes or similar features (The Association deems, under the definition of "similar features", that electric fencing is a prohibited material).
- 5.6 Galvanised garage doors.
- 5.7 Institute cast concrete panels with a brick or any other pattern imprinted into the surface thereof will not be permitted.

6 CONSTRUCTION ACTIVITIES

As the building within the residential estate will be constructed over a considerable time period, the following guidelines have been formulated for the benefit of residents.

- 6.1 All building materials are to be stored within the site boundary, no material is to be off-loaded onto the road or road reserve.
- 6.2 No advertising or sub-contractors boards will be permitted. Only the approved contractors' professional board will be permitted (see Pro-Forma).
- 6.3 No workmen will be permitted on site between the hours of 16h30 and 07h00.
- 6.4 All contractors will be required to provide screened ablution facilities for the workmen and sub-contractors under his control.
- 6.5 Construction hours are restricted to 07h00 and 16h00 Monday to Friday and 7h00 to 13h00 on Saturdays. No construction activity is to take place on Sundays and Public Holidays. No building activities are allowed during the "builder's holiday" (the period when builders cease building activities over the December school holiday). The Association's will define the estate's "builder's holiday" each year as per industry norm.
- 6.6 Delivery routes and hours may be defined from time to time by the HOA and all contractors are to obtain these restrictions from the Estate Manager.
- 6.7 Fines may be levied from time to time by the HOA for contractors and delivery vehicles who spill material enroute, damage roadways and kerbs, stain tarmac and generally create a nuisance within the estate.
- 6.8 Contractors Rules and Regulations to be obtained from the Estate Manager.

Non-Eco-Estate G

Issue 2006

HOA Rules and Regulation

HOME OWNERS ASSOCIATION **RULES AND REGULATIONS**

ENVIRONMENTAL MANAGEMENT

"The degree of environmental care exercised by a community says much for the level of culture and refinement attained by the said community".
(Anon)

1. No rubble or refuse may be dumped or discarded in any public area, including parks, streets, sidewalks, lakes, dams, or vacant stands.
2. Residents and their guests are urged to leave any open space they visit in a cleaner condition than that in which it was found. Residents should also develop the habit of picking up and disposing of any litter encountered in the open spaces.
3. Picnicking is only permitted on specified places.
4. Flora may not be damaged or removed from any public area .
5. Fauna of any nature may not be chased, trapped or harmed in any way, in any area of the Estate.
6. Residents shall maintain trees, plants and shrubs, planted on their pavements by the Developer.
7. Residents shall maintain a high standard of frontage garden and pavement maintenance.
8. Residents should ensure that declared noxious flora are not planted or allowed to grow in their gardens.
9. Vacant stands must be kept clean on a regular basis to the satisfaction of the HOA, failing which, the HOA reserves the right to clean the stand at the owner's expense.
10. The resident's use of any open space areas is entirely at their own risk at all times. The HOA will entertain no claims for damages of whatsoever nature or from whatsoever cause arising.
11. No swimming, playing, boating or fishing in the dams, rivers or fountains is allowed, nor are dogs permitted to swim therein.
12. Garden encroachment onto the pavement is not permitted.
13. Floodlights must be adequately screened so as not to cause discomfort to neighbours.
14. Dogs are to be exercised on a leash only and are to be restricted to streets and walkways. (See also requirements relating to pets).

ARCHITECTURAL RULES & BUILDING DEADLINES

The Architectural Design Guidelines, received separately from the Developer, shall be deemed to be incorporated in and to form part of these rules .

It is the registered owner's responsibility to be in the possession of the latest issue of these rules and to ensure, that a copy is issued to the designing architect or builder to avoid any disagreement between all parties.

1. The purpose of these design guidelines is to encourage individual creativity within a unity of materials and finishes ensuring that the overall development harmonizes and creates a balanced lifestyle for all residents.
2. It is the aim of the professional team that the lifestyle reflected would represent that of the different South African cultural and regional backgrounds. This will start with the Western Cape architecture, then the Victorian/Colonial style of the Eastern Cape and KwaZulu-Natal, and finally with the Highveld/Old Transvaal Farm Style. To achieve this, architectural guidelines have been drawn up as far as the use of materials, the treatment of boundaries and the landscaping is concerned.
3. For the rest it is up to the individual architect to contribute to the successful execution of the developers aim and the supervising architects will also assist in attaining this goal.
4. The construction and improvements must commence within 2 years from the date of the first registration of transfer of ownership. This ruling will come into effect as from the 1st. January 2004. Thus any person/company that bought prior to the said date will have 2 years from 1st. January 2004. i.e. in case of a re-sale this date does not get extended.
5. In order to reduce inconvenience to neighbours as well as unsightliness, construction must proceed without lengthy interruptions and handled in such a way that the end of each phase should be aesthetically acceptable to the Home Owners Association. Once building work has commenced, it must be completed within 12 months.
6. Failing to start with construction within the mentioned two (2) years, penalties will be introduced by doubling up the monthly levies every six months until construction is completed.
7. The design of the dwelling, unit and the entire stand must show sensitivity to the existing natural features, flora and topography. Permission must be obtained from the HOA before existing trees are removed and all existing trees are to be shown on the site plan. Surrounding structures and houses must be taken into account in the design process. The newly planted trees on the sidewalks must be kept in mind as they are not to be removed.
8. The controlling authority for the development is the Architectural Esthetical Sub-Committee, who will be responsible for the approval of all plans and

9. It is strongly recommended that the purchaser engage the services of a qualified architect or designer. Further it is advisable that the chosen architect or designer consult with the HOA architects (SDV Architects) prior to designing the proposed house to determine the intent of the design parameters set for the development.
10. No erf shall be subdivided or rezoned.

ARCHITECTURAL REQUIREMENTS

1. Elevation treatment of all buildings must conform to acceptable architectural standards, so as not to interfere with or detract from the general aesthetic appearance of the neighbourhood.
2. Special aesthetic consideration should be given to the design of parapets, fascias, copings, eaves, roof trim, gutters and roofing materials in general.
3. All plumbing must be ducted and suitably screened.
4. External finishes and colours must be shown, colour-samples may be requested, and same procedure will apply on repainting houses.
5. No solar panels or geysers may be visible from the street. Only panelled solar heating is permitted. (No coiled or exposed piping).
6. The position, size and sighting of TV antennae and satellite dishes must not be unsightly.
7. Outbuildings and additions must match original design and style, both in elevation consideration as well as materials and finish.
8. Yard walls and screen walls should match the basic materials of the buildings.
9. The treatment of sidewalks is considered to be of paramount importance as they have a direct influence on the aesthetic quality of the neighbourhood. The diverse nature of neighbourhoods should give rise to a varied treatment of street boundaries.

GENERAL RULES

Building according to approved standards obviates the necessity of making costly changes at a later stage.

1. All building plans should be in accordance with the Architectural Rules applicable to the Estate, and must be approved by the Architectural Ethical Sub-Committee. This requirement is also applicable to any additions and alterations to existing structures and dwellings.
2. The Architectural Aesthetic Sub-Committee must approve all garden/screen walls with regard to both material and dimensions.
3. Particular attention will be paid to walls on street boundaries. The street boundary must be completely open with no boundary walls or fences within the 5m restricted area. Application may be made for the relaxation of this ruling, but only under the most extreme cases will it be granted.
4. Boundary walls on properties are to be erected in terms of the specifications laid down by the Architectural Rules.

PLANS

1. Detailed working drawings incorporating a site development plan are to be submitted to the HOA Architects for approval, together with a plan approval fee, prior to being submitted to the local authority for approval.
2. The HOA hereby reserves the right to prevent owners and / or their contractors commencing construction without prior approval by both this body and the local authority.
3. Where house designs are found to be insensitive towards the environment

- and the character of the Estate, the owner can be requested to alter such designs or requested to make use of another suitably qualified architect.
4. One copy of the approved plan will be held for record purposes.
 5. The site plan must indicate the outline of the ground and first floor plans inclusive of outbuildings, pools and boundary walls to scale.

PREPARATION OF PLANS

1. Aesthetic approval will be given on the normal municipal submission plans prior to them being lodged with the local authority for building regulations approval.

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2. Design and layout of the entire stand will be considered from the outset. Special consideration should be given to existing natural features on site, i.e. existing flora and topography, the latter to include contour lines on the site plan.
 3. Site plans are required for all swimming pools. Special attention is to be given to privacy, water drainage and safety fencing. Approval is required for pool encroachments over building lines.

CONDITIONS WITH REGARD TO PRIVATE BOREHOLES

1. Under no circumstances will individual owners be permitted to have boreholes on their erf.