2.5 ENVIRONMENTAL CONTEXT & IMPACT

2.5.1 Statutory Requirements & Botanical Assessment

Due to the extent of the application site, as well as the impact on natural vegetation, a Basic Assessment has been undertaken in terms of the National Environmental Management Act (1998). The Basic Assessment process included botanical assessment by Dr David J. McDonald (refer **Annexure G**).

Following the botanical assessment and comments by Cape Nature, the initial layout plan was amended to accommodate the issues and concerns and to lower the impact on the natural environment, as it:

- Now avoids most of the milkwood habitat at the north-eastern portion that would have been lost in the previous layout plan;
- It would allow for survival of the core area of milkwoods and thicket within the revised layout;
- It is far more desirable in terms of maintaining an ecological corridor in the undeveloped areas on the northern sides (outside the site boundary). Ecological processes would be less impeded; and
- In summary, the revised layout plan is more desirable from a botanical point of view when compared with the previous layout.

Following the above-mentioned layout revision, the Cape Nature and the Botanist has now provided updated comments (refer **Annexure H & I**) in support of the proposed development.

On this basis, the final Basic Assessment Report has been submitted to the Department of Environmental Affairs and Development Planning (DEADP) for evaluation, and the decision for Environmental Authorisation is pending.

PLANNING IMPLICATIONS

Following the initial comments by the botanist and by Cape Nature, the layout was revised to address and incorporate the issues raised. The comments by the botanist and by Cape Nature on the revised layout are positive. The outcome of the Basic Assessment is now awaited from DEA&DP.

2.5.2 Gansbaai Waste Water Treatment Works (WWTW)

During the environmental assessment process, the proximity of the application site to the Gansbaai WWTW was considered and assessed as a key informant to the development. In this regard, an air pathway study was undertaken by an expert (Dr. Demos Dracoulidous) to determine what the appropriate development buffer from the WWTW would be. The Air Quality Study is attached as Annexure J.

The findings of the Air Quality Study is summarised by the determination of a development buffer that includes consideration of all relevant odour/chemical and related considerations, wind directions, etc., which is indicated in Figure 2.6, showing the proposed development buffer around the Gansbaai WWTW, based on the detailed assessment by Messrs Demos Dracoulidous.

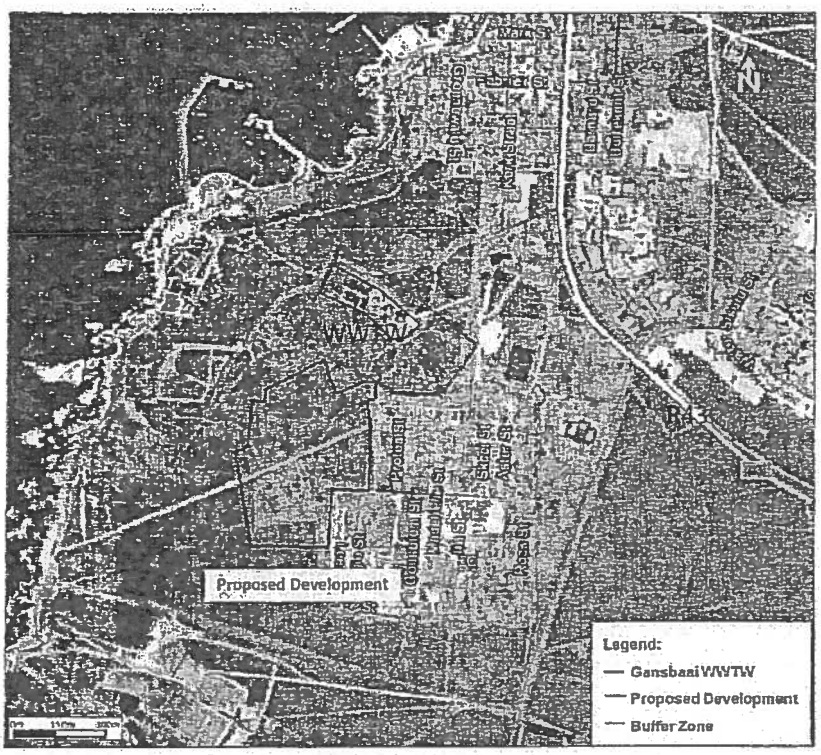

Figure 2.6 WWTW Development Buffer (Demos, 2015)

PLANNING IMPLICATIONS

The findings of the air pathway study, specifically the buffer area, has been incorporated into the final layout plan to ensure the proposed residential development is not unduly/negatively affected by the proximity to the WWTW.

2.6 SITE ASSESSMENT

2.6.1 Topography & Slope

A detailed topographical survey of the application area was undertaken, which identified all onsite features and provided detailed contours of the application site. The slope of the application site was digitally analysed to determine whether any portions of the site has steep and challenging slopes in terms of construction cost and storm water management.

The different slope categories used to analyse the site are as follows (*refer to Figure 2.7*):

- Flatter than 1:10 - Most preferred
- Between 1:10 and 1:4 - Developable
- Steeper than 1:4 - Undevelopable i.t.o. subsidy housing

The slope analysis indicates that almost the entire application site is flatter than 1:10, which is most beneficial for the proposed development and poses no series construction or storm water challenges. The areas indicated as steeper than 1:4 have been allocated into an open space in the layout plan.

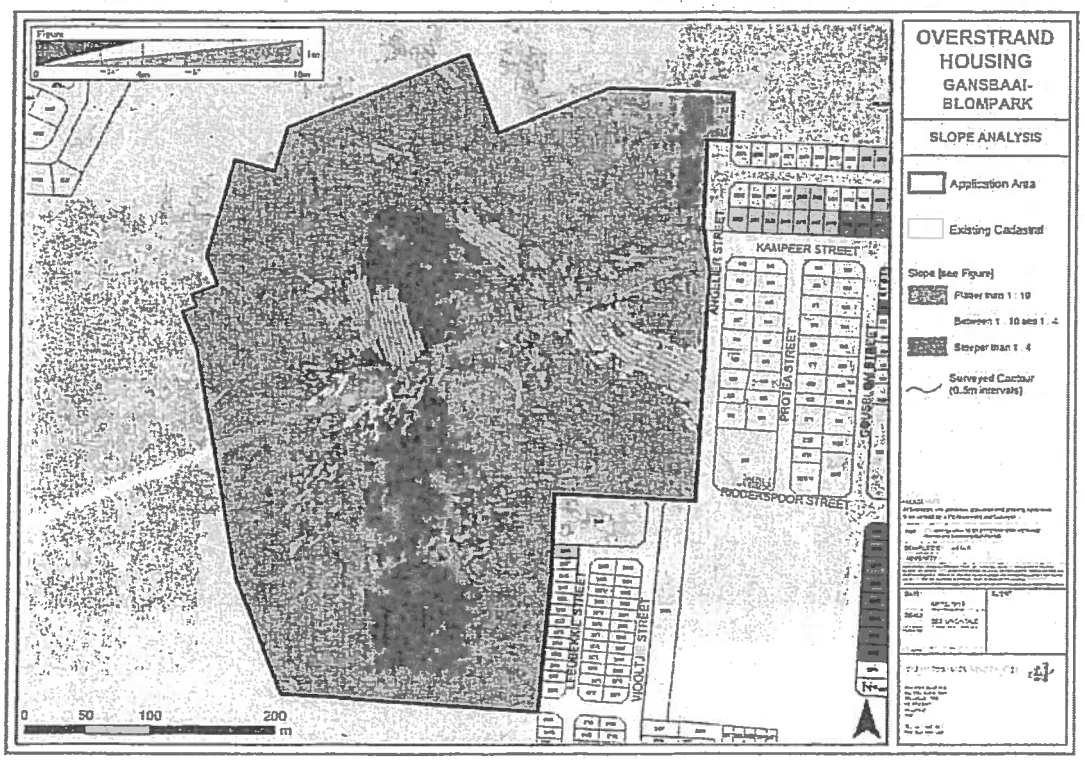

Figure 2.7 Slope Analysis

2.6.2 Milkwood Trees

The application site includes some milkwood trees, which are spread over the site. The final layout plan incorporates open spaces to accommodate the dominant patches of milkwood trees, while only a few milkwood trees will have to be removed as the layout affects their positions.

Figure 2.8 shows the milkwood trees on the application site, as surveyed by the land surveyor and Overstrand environmental official respectively. Furthermore, re the milkwood trees are marked on the layout plan (refer Section 3.3), showing that the layout accommodates most of the milk wood trees within proposed open space areas.

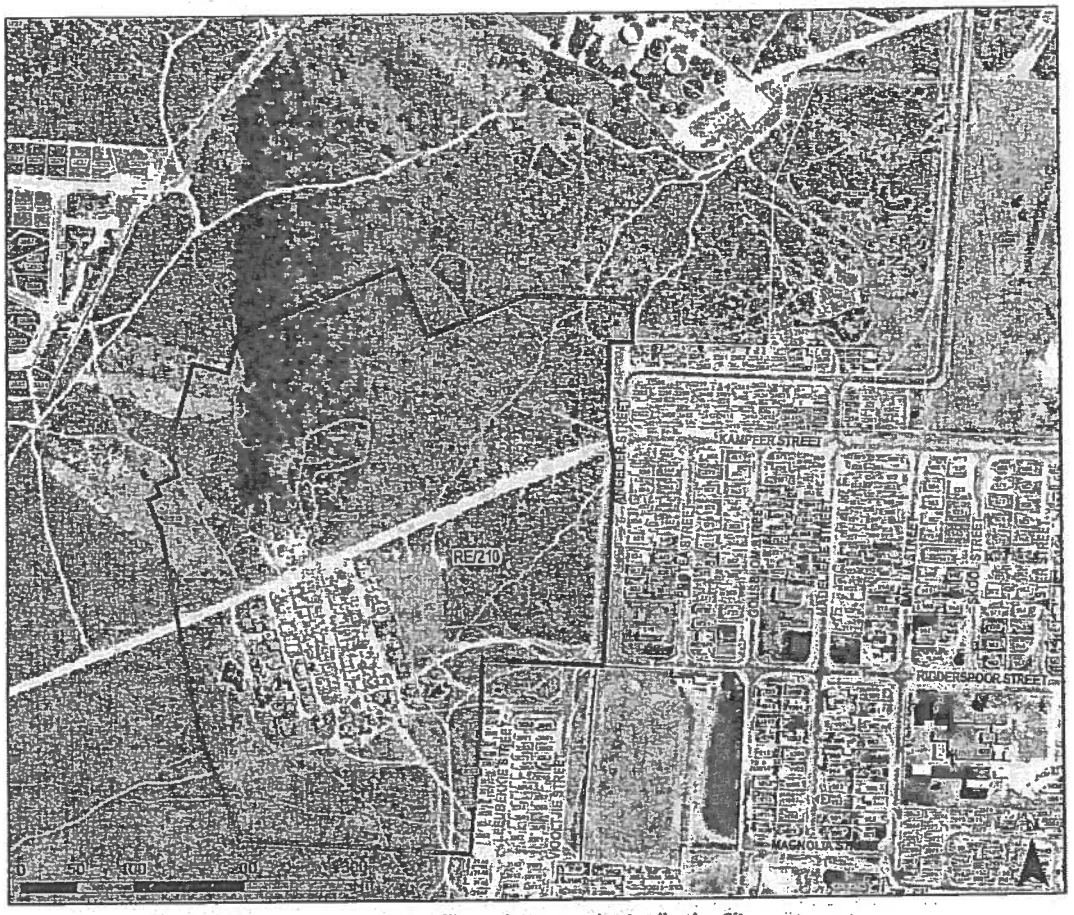

Figure 2.8: Milkwood Trees on the Application Site

2.7 SYNTHESIS: KEY CONTEXTUAL INFORMANTS

Following the above-mentioned analysis of the contextual informants, the following key opportunities and constraints were identified, directing and informing the layout planning for the proposed development:

2.7.1 Opportunities

- Located within the existing urban edge of the Greater Gansbaai (SDF, 2006);
- Designated for urban extension purposes (SDF, 2006);
- Directly abutting an existing residential development of Gansbaai;
- Access linkage opportunities into the existing residential area of Gansbaai;
- Proximity to existing facilities in the abutting neighbourhood and in the Greater Gansbaai;
- Opportunity to connect directly into the existing services infrastructure network of the Overstrand Municipality;
- The site has a gentle slope that is suitable for subsidy housing development
- Area can promote densification as it is designated as a high densification zone (GMS, 2010);
- Located close to potential employment opportunities.

2.7.2 Constraints

- Milkwood trees on the site. The preferred layout had to be changed to accommodate the trees;
- WWTW to the north of the site which has a buffer zone of 180m towards the application area which limits development;
- Existing informal housing on the site.

2.7.3 Synthesis of Opportunities & Constraints

The above-mentioned analysis of the physical and contextual opportunities and constraints provide a detailed overview of the local and micro informants that have a direct bearing on the proposed housing development. It can be concluded that the positive attributes and opportunities are most beneficial to the proposed development, while the constraints can be adequately addressed and mitigated to ensure minimal impact on the development. See *Figure 2.9* below for an opportunities and constraints map.

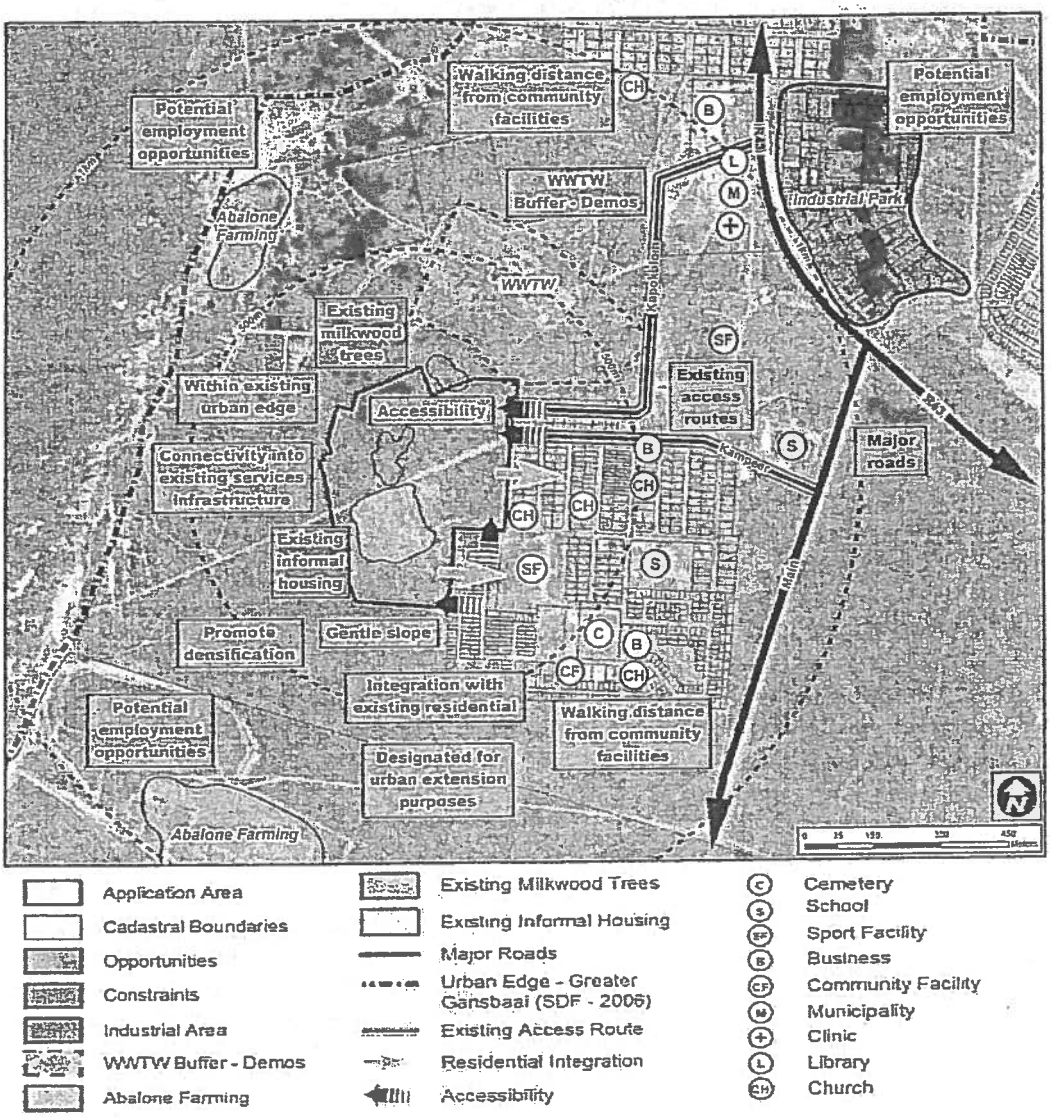

Figure 2.9: Opportunities & Constraints

PLANNING IMPLICATIONS

The above-mentioned assessment of site conditions and surrounding contextual informants points out a series of opportunities, which includes good locality in terms of accessibility, proximity to employment opportunities, existing schools and community facilities, while also facilitating integration with the existing town and connectivity to existing services infrastructure. The constraints relate to milkwood trees, the WWTW development buffer and resolving of the informal township of Beverley Hills, which are all adequately addressed/mitigated in the proposed layout.

SECTION 3 PROPOSED HUMAN SETTLEMENT DEVELOPMENT

3.1 DEVELOPMENT CONCEPT – INFORMANTS

Following the identification and spatial presentation of the site informants, the development concept for the proposed human settlement development was compiled, incorporating the above-mentioned spatial informants, while also addressing the land use mix and requirements of the Overstrand Municipality, namely:

- Subsidy housing development to accommodate people on the housing waiting list;
- Formalization of an existing informal area, namely Beverley Hills;
- Community facilities; and
- Local business opportunities.

The proposed development should respond positively to its surrounding context, connect to existing infrastructure and access roads and provide an integrated human settlement development that will accommodate a mix of housing/residential uses, as well as community facilities, business opportunities and open spaces.

Further to the above-mentioned, the following design and planning principles are also incorporated within the development framework and in the detail layout plan, namely:

- Integration of new development with existing developed areas;
- Ensure that community facilities are accessible and within convenient walking distance to the community;
- Provide a cost effective design, which optimises the use of available land and resources and avoids development of steep slopes;
- Locate development in low to moderate sensitivity areas and areas with least development constraints;
- Create safe environments with good access for private vehicles as well as emergency vehicles (police, ambulances and fire trucks);
- Connect with existing roads and engineering services where possible to ensure the most effective and logical implementation of development.

3.2 DEVELOPMENT PARAMETERS

The proposed human settlement development will be based on Single Residential (SR1) erven, as specified in the Overstrand Zoning Scheme (2013). The proposed zoning parameters for the SR1 erven are summarised as follows:

Residential Zone I	Parameters	Proposed
Primary Use	Day care centre, dwelling house, guest rooms, home occupation, second dwelling unit	Comply
Consent Uses	Crèche, green house, guest house, house shop, institution, place of instruction, place of worship, residential building, tourist accommodation.	None
Coverage	65% (erven less than 400 m²)	Comply
Height	8.0 m	Comply
Street building line	2m	Comply
Side building line	1m side building lines (erven less than 400 m²)	Departure – 0m to establish semi-detached units
Parking	1 bay per unit	Comply

Table 3.1: Zoning Scheme Parameters

Table 3.1 indicates that the proposed housing development generally complies with all the zoning parameters determined in the Overstrand Zoning Scheme for Single Residential Zone SRI, except for the lateral/side building line departures. The proposed lateral building line departures of 0m in lieu of 1m would facilitate the provision of semi-detached units, which is an acceptable and effective build form. Every second common boundary would still comply with the zoning scheme parameters, as units will only be linked two-two, rather than establishing multi-unit row houses. In this regard, a detailed Site Development Plan will be submitted at building plan stage to indicate exactly where houses will be positioned and subsequently identify which lateral building lines will be relaxed.

Note: The formalisation of the Beverley Hills township, which is currently an informal area with no formally subdivided erven, requires certain existing structures to be moved on the site to comply with building lines, once the cadastral subdivision is confirmed.

3.3 LAYOUT PLAN

The proposed layout (refer ***Figure 3.1)*** is a direct response to the site and contextual informants, while also addressing the land use requirements specified by the Overstrand Municipality, in order to address the demand of local and surrounding communities.

The layout optimises the number of residential opportunities on the application area, while ensuring good access and safe environments. The layout provides 639 residential erven, which includes 539 formal new residential erven and 100 formalised UISP erven to accommodate the upgrading/formalisation of the Beverley Hills community.

The land uses and zonings reflected on the layout plan (**Figure 3.1**) are summarised in **Table 3.2.**

Land Use Table					
Land Use	Zoning	Notation	No. of Erven	Extent(ha)	% of Total
Residential (formal)	Residential Zone I		539	±6.98	42.05
Residential (Informal)	Residential Zone I		100	±1.36	8.19
Business	Business Zone III (LB)		2	±0.29	1.75
Open Space	Open Space Zone II		15	±2.13	12.83
Community Facilities	Community Zone I		3	±0.13	0.78
Road	Transport Zone II		1	±5.71	34.40
TOTAL			660	±16.60ha	100

Table 3.2: Proposed Land Uses & Zonings

The development is considered an integrated human settlement development as the layout plan incorporates adequate open spaces (more than 10%), includes community facility erven, provides a mix of formal and informal residential erven and there are two erven for business uses included in the layout.

The development buffer around the WWTW, determined by Messrs Demos Dracoulidous, is also indicated on the layout plan.

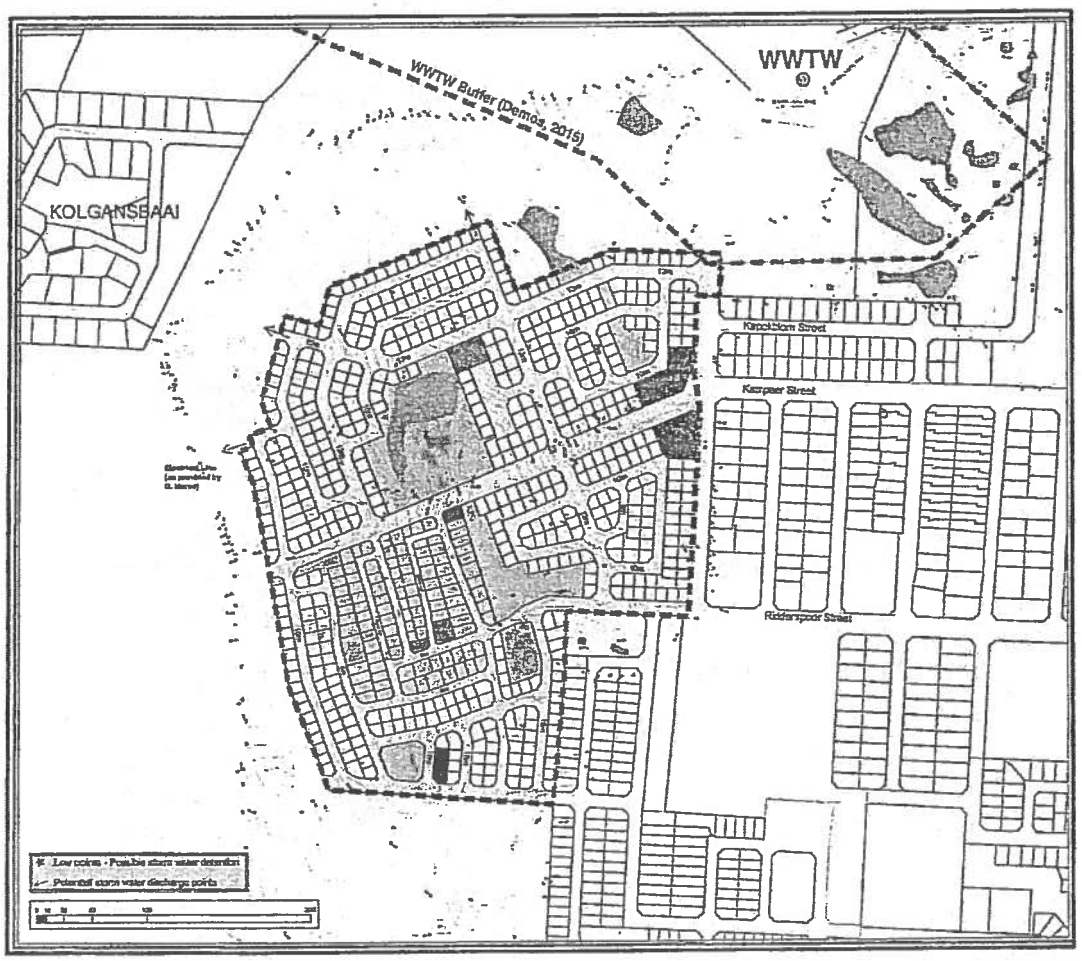

Figure 3.1: Layout Plan

In conclusion, the above-mentioned layout plan is the final preferred layout, following an extensive iterative review process with relevant stakeholders, i.e. the Municipality, the Beverley Hills community, Cape Nature and DEA&DP. In our opinion, the layout now addresses all concerns raised by the above-mentioned stake holders and is now a good response to micro and local informants affecting the application site and surroundings. The implications for provision of engineering services and motivation for the development are provided in Sections 4 & 5 respectively of this report.