



# **GREEN DOOR** **environmental**

---

## **DRAFT SCOPING REPORT**

**Proposed Establishment of a New Dairy, 650 000 m<sup>3</sup>  
Dam and the Cultivation of an additional 15 ha of  
Virgin Veld, on The Farm Clovelly No. 16370,  
Underberg, KwaZulu-Natal**

**REF: DC43/0002/2013**

**PREPARED FOR CLOVELLY FARMING TRUST**

**28 June 2013**



---

*Residential  
Commercial  
Industrial  
Agriculture  
Linear  
Service*

**Postal:** PO Box 11 Hilton, 3245  
**Physical:** Block H, Quarry Office Park, 400 Old Howick Road, Hilton, 3245  
**Phone:** 033 343 4176 **Fax:** 033 343 4201  
**Cell:** 072 181 4236  
**Email:** rebecca@greendoorgroup.co.za  
**Website:** www.greendoorgroup.co.za

## CONTACT DETAILS



### **APPLICANT:**

**Company:** The Clovelly Farming Trust  
**Contact Person:** A.P.D. Turner  
**Postal Address:** PO Box 70,  
Underberg  
3257  
**Tel Number:** 033 701 1588  
**Fax Number:** -  
**Cell Number:** 082 537 2208  
**E-mail Address:** apdturner@vodamail.co.za

### **ENVIRONMENTAL ASSESSMENT PRACTITIONER:**

**Name:** Rebecca Bowd  
**Company:** Green Door Environmental  
**Postal Address:** P.O. Box 11  
Hilton  
3245  
**Tel Number:** 033 343 4176  
**Fax Number:** 033 343 4201  
**Cell Number:** 072 181 4236  
**E-mail Address:** rebecca@greendoorgroup.co.za  
Refer to Appendix A for CV.  
**Professional Affiliations:** EAPSA, IAIA, SAIEA, IWMSA

### **INTERNAL REVIEW**

	NAME	DATE	SIGNATURE
REPORT COMPILED BY	Liza Shuttleworth	27 June 2013	
REPORT REVIEWED BY	Rebecca Bowd	28 June 2013	

## EXECUTIVE SUMMARY

Clovelly Farming Trust proposes to establish a new 600 cow dairy, a new 650 000 m<sup>3</sup> dam' and to cultivate an additional 15 ha of virgin veld. Cloverlly Farm is located on The Farm Clovelly, No. 16370, Located near to Underberg, KwaZulu-Natal.

The total property is approximately 807 ha in extent and currently features an operational dairy, various dam systems and a mix of natural grasslands and pastures. The Himeville Nature Reserve is within 5 km of the proposed site to be cultivated.

To date, the main issues which have been raised through the Scoping Phase Public Participation Process include:

- The presence of wetland areas;
- Cultivation of natural grassland – conservation servitude;
- Animal waste – the management and avoidance of water contamination;
- Dam – the loss of vegetation and the impacts on downstream users;
- Cultivation – what opportunities are presented for plant rescue and relocation and/or improvement of other natural areas in the vicinity to offset the loss, a complete loss should be avoided; and
- Studies to be undertaken to determine the ecological value of the property.

The Scoping phase has not identified any 'fatal-flaws' with the proposed development, however, as part of the EIA phase, a number of Specialist Studies are proposed:

- Wetland Assessment;
- Biodiversity Assessment;
- Heritage Impact Assessment;
- Stormwater Management Plan; and
- Geotechnical Assessment.

A number of other additional specialist studies have also been identified in this Report, however the need for these studies will be confirm on review of the responses received on the Draft Scoping Report.

## TABLE OF CONTENTS

<b>CONTACT DETAILS</b> .....	<b>I</b>
<b>1 INTRODUCTION</b> .....	<b>7</b>
<b>2 LEGISLATIVE FRAMEWORK</b> .....	<b>8</b>
2.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA (ACT NO. 108 OF 1996) .....	8
2.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998) .....	8
2.2.1 EIA Regulations .....	8
2.2.2 Sustainable Development .....	11
2.2.3 “Polluter Pays” Principle.....	12
2.3 NATIONAL WATER ACT (ACT 36 OF 1998).....	12
2.4 NATIONAL VELD AND FOREST FIRE ACT (ACT 101 OF 1998).....	13
2.5 CONSERVATION OF AGRICULTURAL RESOURCES ACT (ACT 43 OF 1983).....	14
<b>3 ASSISTING GUIDELINE DOCUMENTS</b> .....	<b>16</b>
3.1 THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS ASSISTING GUIDELINE DOCUMENT SERIES .....	16
3.1.1 Western Cape Department of Environmental Affairs Guideline Documents .....	16
3.1.2 Department of Environmental Affairs Guideline Documents .....	17
<b>4 METHODOLOGY FOR THE SCOPING PHASE</b> .....	<b>19</b>
4.1 SITE VISIT AND BASELINE INFORMATION GATHERING .....	19
4.2 APPLICATION FOR SCOPING AND EIA PROCESS.....	19
4.3 PUBLIC PARTICIPATION.....	19
4.4 REPORTING .....	20
4.4.1 Scoping Report .....	20
4.4.2 Circulation of Documentation.....	20
4.4.3 Consideration of Documentation by the Competent Authority.....	20
<b>5 THE PROPOSED DEVELOPMENT</b> .....	<b>21</b>
5.1 PROPERTY LOCATION AND LAND DESCRIPTION.....	21
5.2 THE PROPOSAL .....	25
5.2.1 Description of Services .....	26
<b>6 ALTERNATIVES</b> .....	<b>28</b>
<b>7 PUBLIC PARTICIPATION PROCESS</b> .....	<b>29</b>

<b>7.1</b>	<b>NOTIFICATION OF THE PROPOSED DEVELOPMENT .....</b>	<b>29</b>
<b>7.2</b>	<b>INTERESTED AND AFFECTED PARTIES.....</b>	<b>29</b>
<b>7.3</b>	<b>BACKGROUND INFORMATION DOCUMENT .....</b>	<b>29</b>
<b>7.4</b>	<b>PUBLIC INFORMATION SESSION .....</b>	<b>33</b>
<b>7.5</b>	<b>SUMMARY OF ISSUES RAISED.....</b>	<b>35</b>
<b>7.6</b>	<b>CIRCULATION OF THE DRAFT SCOPING REPORT .....</b>	<b>35</b>
<b>8</b>	<b>POTENTIAL IMPACTS ON THE SOCIAL AND ECONOMIC ENVIRONMENTS .....</b>	<b>36</b>
<b>8.1</b>	<b>LOCAL ECONOMY AND EMPLOYMENT OPPORTUNITIES .....</b>	<b>36</b>
<b>8.2</b>	<b>NEED AND DESIRABILITY .....</b>	<b>36</b>
<b>8.3</b>	<b>PLANNING INITIATIVES.....</b>	<b>37</b>
<b>8.4</b>	<b>CULTURAL, HISTORICAL AND ARCHAEOLOGICAL RESOURCES .....</b>	<b>40</b>
<b>8.5</b>	<b>SURROUNDING LANDUSE AND AESTHETICS.....</b>	<b>40</b>
<b>8.6</b>	<b>TRAFFIC, ROADS AND ACCESS .....</b>	<b>40</b>
<b>8.7</b>	<b>CONSTRUCTION ACTIVITIES, NOISE AND DUST .....</b>	<b>41</b>
<b>8.8</b>	<b>SECURITY .....</b>	<b>41</b>
<b>9</b>	<b>POTENTIAL IMPACTS ON THE BIOPHYSICAL ENVIRONMENT .....</b>	<b>42</b>
<b>9.1</b>	<b>TOPOGRAPHY.....</b>	<b>42</b>
<b>9.2</b>	<b>CLIMATE .....</b>	<b>42</b>
<b>9.3</b>	<b>GEOLOGY AND SOILS .....</b>	<b>45</b>
<b>9.4</b>	<b>RIVERS AND WETLANDS.....</b>	<b>45</b>
<b>9.5</b>	<b>GROUND AND SURFACE WATER.....</b>	<b>46</b>
<b>9.6</b>	<b>AIR QUALITY AND SURFACE WIND .....</b>	<b>46</b>
<b>9.7</b>	<b>FAUNA.....</b>	<b>47</b>
<b>9.8</b>	<b>VEGETATION .....</b>	<b>47</b>
<b>9.9</b>	<b>FIRE MANAGEMENT .....</b>	<b>47</b>
<b>10</b>	<b>PLAN OF STUDY FOR ENVIRONMENTAL IMPACT ASSESSMENT .....</b>	<b>48</b>
<b>10.1</b>	<b>INTRODUCTION .....</b>	<b>48</b>
<b>10.2</b>	<b>PUBLIC PARTICIPATION .....</b>	<b>48</b>
<b>10.3</b>	<b>SPECIALIST STUDIES.....</b>	<b>48</b>

10.3.1	Wetland Assessment .....	48
10.3.2	Biodiversity Assessment .....	49
10.3.3	Heritage Impact Assessment .....	49
10.3.4	Stormwater Management Plan .....	49
10.3.5	Geotechnical Assessment .....	49
10.3.7	Traffic Impact Assessment.....	49
<b>10.4</b>	<b>ENVIRONMENTAL MANAGEMENT PROGRAMME.....</b>	<b>50</b>
<b>10.5</b>	<b>ENVIRONMENTAL IMPACT ASSESSMENT REPORT .....</b>	<b>51</b>
10.5.1	Assessment of Environmental Issues .....	51
10.5.2	Assessment of Alternatives.....	52
<b>10.6</b>	<b>SUBMISSION TO AND CONSIDERATION OF DOCUMENTATION BY THE COMPETENT AUTHORITY .....</b>	<b>53</b>
<b>11</b>	<b>CONCLUSION.....</b>	<b>54</b>
<b>12</b>	<b>REFERENCES .....</b>	<b>55</b>
<b>13</b>	<b>APPENDICES .....</b>	<b>56</b>

## **LIST OF APPENDICES**

- APPENDIX A: Environmental Assessment Practitioners CV**
- APPENDIX B: Application Form and Acknowledgment of Receipt from DAEA**
- APPENDIX C: Waste License Application Form and Water License Application Form**
- APPENDIX D: Adverts**
- APPENDIX E: Site Notice Boards and Photos of boards**
- APPENDIX F: Background Information Document (BID)**
- APPENDIX G: Public Information Session Handout, Attendance Register and photographs**
- APPENDIX H: List of Interested and Affected Parties (I&APs)**
- APPENDIX I: Comments received following circulation of BID, Site Posters and Adverts**

# 1 INTRODUCTION

The proposed development requires Environmental Authorization from the Department of Agriculture and Environmental Affairs (DAEA) in terms of the Environmental Impact Assessment (EIA) Regulations (2010) promulgated under Section 24 of the National Environmental Management Act (NEMA, Act 107 of 1998). In terms of these regulations, the Applicant is required to appoint an independent Environmental Assessment Practitioner (EAP) to conduct the authorisation process. As such, the Applicant has appointed Green Door Environmental to conduct the Environmental Authorisation Process.

The Applicant proposes to establish:

- A new dairy with the capacity to service 600 cows;
- One (1) 650 000m<sup>3</sup> dam for water storage and irrigation purposes; and
- Cultivation of 15 ha of virgin veld to provide sufficient grazing for the increased dairy herd.

The property on which the dam, dairy and cultivation are proposed to be established is the Farm Clovelly No. 16370, Underberg, KwaZulu-Natal. The property is located near to Underberg, KwaZulu-Natal, and is currently owned by the Applicant. The property is approximately 807 ha in extent and currently features an operational, commercial dairy, various dam systems and a mix of natural grasslands and cultivated pastures.

There are a number of nature reserves in the vicinity, namely Coleford Nature Reserve, iGxalingenwa Nature Reserve, Kwa Yili Nature reserve, The Swamp Nature Reserve, Marwaqa Nature Reserve, and Xalingena Forest Reserve. However the Himeville Nature Reserve is within 5 km of the proposed site to be cultivated.



## 2 LEGISLATIVE FRAMEWORK

### 2.1 THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA (ACT NO. 108 OF 1996)

The Constitution of the Republic of South Africa (Act No. 108 of 1996) is the legal source for all law, including environmental law, in South Africa. The Bill of Rights is fundamental to the Constitution of South Africa and the underlying principle behind Section 24 of the Act is that 'everyone has the right to an environment that is not harmful to their health or well-being'. Furthermore, the environment should be protected for present and future generations by preventing pollution, promoting conservation and practising ecologically sustainable development.

### 2.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998)

#### 2.2.1 EIA Regulations

The National Environmental Management Act (NEMA, Act No. 107 of 1998) came into effect in January 1999. NEMA is South Africa's overarching environmental legislation and its primary objective is to provide for co-operative governance by establishing principles for decision making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state, and to provide for matters connected therewith.

The Act provides the equitable distribution of natural resources, sustainable development, environmental protection, and the duty of care, polluter pays principles of environmental management frameworks (see below).

In terms of the EIA Regulations (2010), which were promulgated under NEMA, certain listed activities are specified for which either a Basic Assessment (GNR 544 and 546) or a Scoping and Environmental Impact Assessment (EIA) (GNR 545) is required.

The listed activities under **GNR 544** (Basic Assessment) which are potentially applicable to the proposed development include:

- **Part 4:** *The construction of facilities or infrastructure for the concentration of animals for the purpose of commercial production in densities that exceed—*
  - (i) *20 square metres per large stock unit and more than 500 units, per facility...*

This Activity is triggered by the proposed establishment of a 600 Cow Dairy.

- **Part 8:** *The construction of... agri-industrial infrastructure outside industrial complexes where the development footprint covers an area of 2 000 square metres or more.*

This Activity is triggered as the Applicant proposes to establish a new dairy facility with a development footprint exceeding 2 000 m<sup>2</sup>. A dairy can be defined as an agricultural activity as it involves the beneficiation of agricultural produce.

**Part 9:** *The construction of facilities or infrastructure exceeding 1 000 meters in length for the bulk transportation of water...*

*(i) with an internal diameter of 0.36 meters or more; or*

*(ii) with a peak throughput of 120 litres per second or more, excluding where:*

*a. such facilities or infrastructure are for bulk transportation of water... inside a road reserve; or*

*b. where such construction will occur within urban areas but further than 32 meters from a watercourse, measured from the edge of the watercourse.*

The Applicant intends to establish infrastructure to move water from the new proposed dams to the areas proposed for cultivation, for irrigation purposes, dairy facility to be used for stock watering and cleaning purposes. This infrastructure will exceed 1 000 meters in length and will have an internal diameter of 0.36 meters or more.

- **Part 11:** *The construction of:*

*(iv) dams;*

*where such construction occurs within a watercourse or within 32 metres of a water course, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.*

This Activity is triggered as the Applicant proposes to establish a new dam within a watercourse on the property.

- **Part 12:** *The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic meters or more, unless such storage falls within the ambit of Activity 19 of notice 545 of 2012.*

This Activity is triggered as the Applicant proposes to establish a dam for the storage of water, with a capacity in excess of 50 000 m<sup>3</sup>. The new dam will have a capacity of 650 000 m<sup>3</sup>.

- **Part 18:** *The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock or more than 5 cubic metres from:*

*(i) a watercourse;*

*But excluding where such infilling, depositing, dredging, excavation, removal or moving*

*(i) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or*

*(ii) occurs behind the development setback line.*

This Activity is triggered as the Applicant intends to establish a dam within a watercourse. This will require the moving and removal of material, exceeding 5 m<sup>3</sup>, out of the watercourse.

- **Part 26:** *Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004);*

This Activity is triggered as the Applicant intends to break and cultivate 15 ha of virgin veld.

The listed activities under **GNR 545** (Scoping and EIA) which are applicable to the proposed development include:

- **Part 19:** *The construction of a dam, where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 metres or higher or where the high-water mark of the dam covers an area of 10 hectares or more.*

This Activity is applicable as the Applicant proposes to establish a 650 000 m<sup>3</sup> dam with a dam wall higher than 5 m.

The listed activities under **GNR 546** (Scoping and EIA) which are potentially applicable to the proposed development include:

- **Part 14:** *The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for:*
  - (1) *the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), in which case the activity is regarded to be excluded from this list;*
  - (2) *the undertaking of a linear activity falling below the thresholds mentioned in Listing Notice 1 in terms of GN 544 of 2010.*
    - (c) *in KwaZulu-Natal:*
      - (ii) *outside urban areas, the following:*
        - (ff) *Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or form the core of a biosphere reserve.*

This Activity is applicable as the Applicant proposes to clear 15 hectares of virgin veld on the property for cultivation purposes. The vegetation on the site has been identified by the Vegetation Specialist as Mooi River Highland Grassland. The proposed development site falls within close proximity to a number of reserve areas which are managed by Ezemvelo KZN Wildlife; most notable Himeville Nature Reserve.

The proposed project is therefore subject to a Scoping and EIA process in terms of the EIA Regulations (2010), for which the Applicant is required to appoint an independent EAP.

Under the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), the proposed development triggers the following Listed Activities published in Government Notice No. R. 718 of 2009:

**Category A:**

- **Part 17:** *The storage, treatment or processing of animal manure at a facility with a capacity to process in excess of one ton per day*

This Activity is triggered by the proposed development will involve the storage, processing and treatment of more than one ton of manure per day.

- **Part 18:** *The construction of facilities for activities listed in Category A of this Schedule (not in isolation to associated activity); and*

This Activity is applicable as the Applicant intends to construct a lagoon system and associated infrastructure for the storage of animal manure and general waste (wash-down).

**Category B:**

- **Part 7:** *The treatment of effluent, wastewater or sewage with an annual throughput capacity of 15 000 cubic metres or more.*

This Activity is applicable as the proposed development will involve the treatment of more than 15 000 cubic meters of effluent, wastewater and sewage.

- **Part 11:** *The construction of facilities for activities listed in Category B of this Schedule.*

This Activity is applicable as a lagoon system is required to be established.

Thus, in terms of both the Waste Act and the EIA Regulations (2010), the proposed development requires a Scoping and EIA process for authorisation and the Waste License Application process will follow the Scoping and EIA Process.

The aim of the EIA Regulations is to assess the possible environmental impacts that may arise from a proposed development, in order to make an informed decision on the future of the proposed development. Scoping is carried out at as Phase 1 of the Scoping and EIA process and aims to identify all potential issues, impacts and project alternatives. The project then proceeds into Phase 2, the EIA Phase, during which the potential impacts and alternatives identified in the Scoping Phase are investigated in further detail. This phase also includes specialist studies to investigate certain potential impacts in more detail.

### **2.2.2 Sustainable Development**

The principle of sustainable development has been established in the Constitution of the Republic of South Africa, and is given effect by NEMA. Section 1(29) of NEMA states that sustainable development means

the integration of social, economic and environmental factors into the planning, implementation and decision-making process so as to ensure that development serves present and future generations.

Thus sustainable development requires that:

- The disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- 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;
- 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;
- A risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and
- Negative impacts on the environment and on people's environmental rights be anticipated; and, prevented and where they cannot altogether be prevented, are minimised and remedied.

### **2.2.3 "Polluter Pays" Principle**

The "Polluter Pays" principle provides that 'the cost of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment'.

Section 28 of NEMA makes provision that anyone who causes pollution or degradation of the environment is responsible for preventing impacts occurring, continuing or recurring, and for the costs of repair of the environment. In terms of the provisions under Section 28:

*(1) Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.*

## **2.3 NATIONAL WATER ACT (ACT 36 OF 1998)**

The project proposal falls within the ambit of the National Water Act (Act 36 of 1998) because of its potential to cause pollution of water resources defined under the Act.

The National Water Act (Act No. 36 of 1998) recognises that water is a natural resource that belongs to all people. The National Water Act regulates the manner in which persons obtain the right to use water and provides for just and equitable utilisation of water resources.

Sustainability and equity are identified as central guiding principles in the protection, use and management of water resources. These guiding principles recognise:

- the basic human needs of present and future generations;
- the need to protect water resources;
- the need to share some water resources with other countries; and
- the need to promote social and economic development through the use of water.

Section 19 of the National Water Act states that the person responsible for land upon which any activity is or was performed and which causes, has caused or is likely to cause, pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.

Part 5 of the National Water Act deals with pollution of water resources following an emergency incident. This could include an accident involving the spill of a harmful substance that finds, or may find, its way into a water resource. In terms of Section 30 of NEMA and Section 20 of the National Water Act, the responsibility for remedying the situation rests with the person responsible for the incident or the substance involved. If there is a failure to act, the relevant Catchment Management Agency may take the necessary steps and recover the costs from the responsible person(s).

### **Water Use Licensing**

Water use requires a licence or other form of regulatory authorisation under the National Water Act. For the purposes of the National Water Act, 'water use' includes, among other things:

- taking water from a water resource;
- storing water;
- stream flow reduction activities;
- diverting the flow of water in a watercourse;
- disposing of waste in a manner that may detrimentally impact on a water resource;
- altering the bed, bank, course or characteristics of a watercourse; and
- Controlled Activities, such as irrigating with waste, power generation with water, atmospheric modification or recharging an aquifer.

## **2.4 NATIONAL VELD AND FOREST FIRE ACT (ACT 101 OF 1998)**

The purpose of the National Veld and Forest Fire Act is to prevent and combat veld, forest and mountain fires throughout South Africa. The Act provides regulations for the establishment, registration, duties and functioning of fire protection associations. In addition it provides for the prevention of veld fires through a fire emergency rating system. Chapter 4 of the Act places a duty on owners to prepare and maintain firebreak, and provides regulations on the role of adjoining land owner. Chapter 5 places a duty on all owners to acquire equipment and have fight fire personnel available to combat fire. Chapter 6 provides regulations on offences and penalties.

## 2.5 CONSERVATION OF AGRICULTURAL RESOURCES ACT (ACT 43 OF 1983)

The Conservation of Agricultural Resources Act (CARA) is an Act of the National Department of Agriculture (NDA) and makes provision for the conservation of the natural agricultural resources of South Africa through:

- Maintaining the production potential of land;
- Combating and prevention erosion;
- Preventing the weakening or destruction of the water sources;
- Protecting the vegetation; and
- Combating weeds and invader plants.

Part 1 of the Act deals with the cultivation control measures. Sections of the Act relevant to the establishment of the plantations are listed below:

- *Section 7 (1) states that 'no land user shall utilise the vegetation in a vlei, marsh or water sponge or within the flood area of a water course or within 10 metres horizontally outside flood area in a manner that causes or may cause the deterioration of or damage to the natural agricultural resources'.*

*Section 9 (1) states that 'every land user shall... protect the veld on his farm unit effectively against deterioration and destruction'.*

Amended Regulations 15 and 16 of CARA were promulgated on 30 March 2001. These changes were necessitated by the accelerating deterioration of South Africa's natural resources due to invasion by alien invasive plants, as well as a heightening public awareness with regard to environmental matters.

With the amendments, the Act now boasts a far more comprehensive list of species that are declared weeds and invader plants and has also divided the species into three categories.

**Category 1 species** (e.g. Triffid Weed, Lantana) are generally the worst offenders. They are declared weeds and may not occur on any land or on any inland water surface throughout South Africa. No person is allowed to sell, advertise, exhibit, transmit, send, deliver for sale, exchange or dispose of any weed. It is also illegal to cause or permit the dispersal of any weed from one place to another.

**Category 2 species** (such as pine and eucalyptus) are also problematic but are commonly grown for commercial purposes or any viable and beneficial function, such as woodlots, fire belts, building material, animal fodder and soil stabilization. These invader plants can only be grown in areas demarcated as sites where such plants may be established, retained and strictly controlled.

The land user also has to ensure that steps are taken to curb the spread of propagating material of the invader plants to land and inland water surfaces outside the demarcated areas. Category 2 species are regarded as weeds outside of these demarcated areas, and landowners are required to take steps to control the species where they occur on their properties.

**Category 3 plants** (such as Jacarandas) are generally ornamental plants, which may be retained, but no new planting or trade or propagating of these plants is permitted.

If weeds or invader plants occur contrary to the provisions of these regulations, the land user must control them by means of any of the control methods that are appropriate for the species concerned. Any action taken to control weeds or invader plants must be executed with caution and in a manner that will have minimal environmental impact. If a landowner fails to comply with these regulations, a criminal case may then be brought against the landowner and the NDA may issue a directive setting a date by when the property must be cleared.



### 3 ASSISTING GUIDELINE DOCUMENTS

#### 3.1 THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS ASSISTING GUIDELINE DOCUMENT SERIES

##### 3.1.1 Western Cape Department of Environmental Affairs Guideline Documents

In order to assist potential Applicants, Environmental Assessment Practitioners (EAPs) and Interested & Affected Parties (I&APs) to understand what is required of them in terms of the EIA Regulations, what their rights are and / or what their role may be, the Department of Environmental Affairs (DEA) has made provision for the Western Cape Department of Environmental Affairs and Development Planning (DEA&DP) to issue an **EIA Guideline & Information Document Series**. These include but are not limited to the following documents, to be read in conjunction with the NEMA, 1998, the EIA Regulations and the relevant specific Environmental Management Acts:

- **Guideline on Alternatives (August 2010)** (DEA&DP 2010a)
- **Guideline on Public Participation (August 2010)** (DEA&DP 2010b)
- **Guideline on Need and Desirability (August 2010)** (DEA&DP 2010c)
- **Information Document on the Interpretation of the Listed Activities (August 2010)** (DEA&DP 2010d)

The following three guideline documents were consulted in the compilation of this scoping report:

##### **Guideline on Alternatives**

The NEMA defines the *“best practicable environmental option”* as *“the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term”*. Alternatives are defined in the NEMA EIA Regulations as *“different means of meeting the general purpose and requirements of the activity”*. The *“feasibility”* and *“reasonability”* of and the need for alternatives must be determined by considering, *inter alia*, (a) the general purpose and requirements of the activity, (b) need and desirability, (c) opportunity costs, (d) the need to avoid negative impact altogether, (e) the need to minimise unavoidable negative impacts, (f) the need to maximise benefits, and (g) the need for equitable distributional consequences.

##### **Guideline on Public Participation**

The general objectives of integrated environmental management laid down in the NEMA include to:

*“ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment”*. The National Environmental Management Principles include the principle that *“The participation of all interested and affected parties in environmental governance must be promoted, and all*

*people must have the opportunity to develop the understanding, skills and capacity necessary to achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured”.*

The guideline provides details on when to facilitate public participation, the methods to apply for notifications to Interested and Affected Parties, the formats required to be used for Notifications, details on requirements for commenting and consultation periods, the process of identifying and responding to stakeholders, and guidelines for compilation of Public Participation Reports for inclusion to the Basic Assessment, Scoping phase and Environmental Impact Assessment phase.

### **Guideline on Need and Desirability**

The guidelines specify that the needs and desirability of a development must be measured within a local strategic context against the Municipalities’ Integrated Development Plan (IDP), Spatial Development Framework (SDF) and Environmental Management Framework (EMF). These local strategies and policies will contain the local community’s needs, interests and objectives in respect of desired land uses and location and nature of development within the Municipality. Of equal importance is the question of whether the development meets the societal needs and interests of the broader public. Fourteen questions provided in the guidelines are intended to provoke adequate consideration of ‘need and desirability’ in order to ensure that the best practicable environmental option is pursued and that the development more equitably serves broader societal needs.

#### **3.1.2 Department of Environmental Affairs’ Guideline Documents**

In order to assist potential applicants, Environmental Assessment Practitioners (EAPs) and Interested & Affected Parties (I&APs) to understand what is required of them in terms of the EIA Regulations, what their rights are and / or what their role may be, the Department of Environmental Affairs (DEA) has recently updated its 2005 Integrated Environmental Management Guideline Series by publishing the following new Guidelines:

- IEM Guideline 5: Companion Guideline on the Implementation of the Environmental Impact Assessments Regulations, 2010
- IEM Guideline 6: Environmental Management Framework Guideline
- IEM Guideline 7: Public Participation Guideline

### **IEM Guideline 5**

IEM Guideline 5 provides a broad introduction to the EIA Regulations, 2010 by explaining the roles and responsibilities of the people involved in environmental authorisation applications, the processes that are involved in applying for environmental authorisation, an interpretation of the Listed EIA Activities, and answering a set of key questions which may arise (DEA, 2010a).

### **IEM Guideline 6**

IEM Guideline 6 provides guidance on the compilation of environmental management frameworks (EMFs) in terms of the EMF Regulations published in GNR 547 of 2010 (DEA, 2010b).

### **IEM Guideline 7**

IEM Guideline 7 provides information and guidance for applicants, authorities and I&APs on the public participation requirements of the Regulations as described in Chapter 6 of the EIA Regulations, 2010. It provides guidance on the benefits of public participation, the minimum legal requirements for public participation processes, the generic steps of a public participation process, guidelines for planning a public participation process, and a description of the roles and responsibilities of the various role-players (DEA, 2010c).

## **4 METHODOLOGY FOR THE SCOPING PHASE**

The methodology for the Scoping and EIA process is based on the procedures detailed in Regulations 26 to 35 of the EIA Regulations (2010), promulgated in terms of Section 24(5) of the NEMA in Government Notice (GNR) 543.

The entire EIA process will be completed in two phases, with the Scoping process as Phase 1 and the EIA process as Phase 2. The Scoping Phase is described below. The proposed scope of work for the EIA phase of this project is described in more detail in Section 10 – Plan of Study for EIA.

### **4.1 SITE VISIT AND BASELINE INFORMATION GATHERING**

The project was initiated by meeting with the Applicant to discuss the proposed activities. Further to this, site visits were undertaken to gather more detailed baseline environmental information and identify the sensitivity of the site. This was supplemented by information gathered through related desktop and field studies, including:

- Soils (type, erosive potential, contaminants);
- Topography (visual aspects, steepness of slope, stability);
- Surface / groundwater (presence of sensitive hydrological features e.g. wetlands and aquatic ecology);
- Biodiversity (presence of sensitive vegetation communities and fauna, specifically Red Data species);
- Air quality and noise (effect of increased levels);
- Socio-economic impacts (effect on neighbouring landowners / surrounding land uses e.g. traffic, employment, tourism, agriculture).

### **4.2 APPLICATION FOR SCOPING AND EIA PROCESS**

The official Application Form, provided by the Competent Authority, was completed with all the necessary details, including contact details of, and signed declarations by, the Applicant and EAP. It also included a description of the proposed activity, property location and applicable listed activities. This was then submitted to the Competent Authority (DAEA) on 25 January 2013. Acknowledgement of the Application was received on 6 February 2013 (refer to Appendix B).

As the proposed development also triggers activities listed in GN 718 under the Waste Act, 2008 (Act No. 59 of 2008), a Waste License Application Form was also completed. This form is contained within Appendix C.

### **4.3 PUBLIC PARTICIPATION**

Following submission of the Application Form to the DAEA, a Public Participation Process, as described in Regulation 54 to 57 of the EIA Regulations (2010), was undertaken. This included:

- Advertisements published in the Witness (English – Thursday, 15 November 2012) and the Echo (isiZulu – Thursday, 15 November 2012) to notify I&APs of the project (Appendix D);

- Site posters in English and Zulu were placed on site and along access routes 14 November 2012 (Appendix E);
- Circulation of Background Information Documents by fax, email, post or hand delivery on 11 December 2012 (Appendix F);
- Public Information Session held on 14 March 2013. All registered I&APs were personally invited by fax, e-mail, phone or post on 27 February 2013 (Appendix G).

## **4.4 REPORTING**

### **4.4.1 Scoping Report**

This Draft Scoping Report summarises the procedure followed during the course of the Scoping Phase. It includes a description of the proposed activity and property, as well as a description of the related geographical, physical, biological, social, economic and cultural environments.

All documentation regarding the Public Participation Process to date is incorporated into this Report, including notification methods, copies of adverts and posters, a list of all I&APs and copies of concerns and objections raised.

All relevant legislation pertaining to the proposed activity is identified and has been considered. The need and desirability of the proposed activity has also been explored and any feasible alternatives are identified and evaluated. The report is supplemented with other relevant and necessary documentation, including maps, photographs, layouts, designs etc.

The purpose of this Draft Scoping Report is to identify the potential impacts and alternatives of the proposed development. It also includes a Plan of Study for EIA (see Section 10). The Plan of Study for EIA identifies the relevant Specialist Studies which will need to be undertaken during Phase 2, the EIA Phase, as well as further Public Participation to be conducted.

### **4.4.2 Circulation of Documentation**

This Draft Scoping Report has been made available to I&APs for review and comment. Comments received in response to this Draft Scoping Report will be attached to, summarised and responded to in a Final Scoping Report, which will then be submitted to the Competent Authority (DAEA) for consideration.

### **4.4.3 Consideration of Documentation by the Competent Authority**

Within 30 days of receipt of the Final Scoping Report, the Competent Authority will acknowledge receipt of the report and state whether it is accepted, rejected or if any further information is required. Should additional information be necessary, the report will need to be amended, re-circulated for comment, finalized and re-submitted to the Competent Authority. When the Scoping Report is acceptable, the process can then advance into the EIA Phase.

## **5 THE PROPOSED DEVELOPMENT**

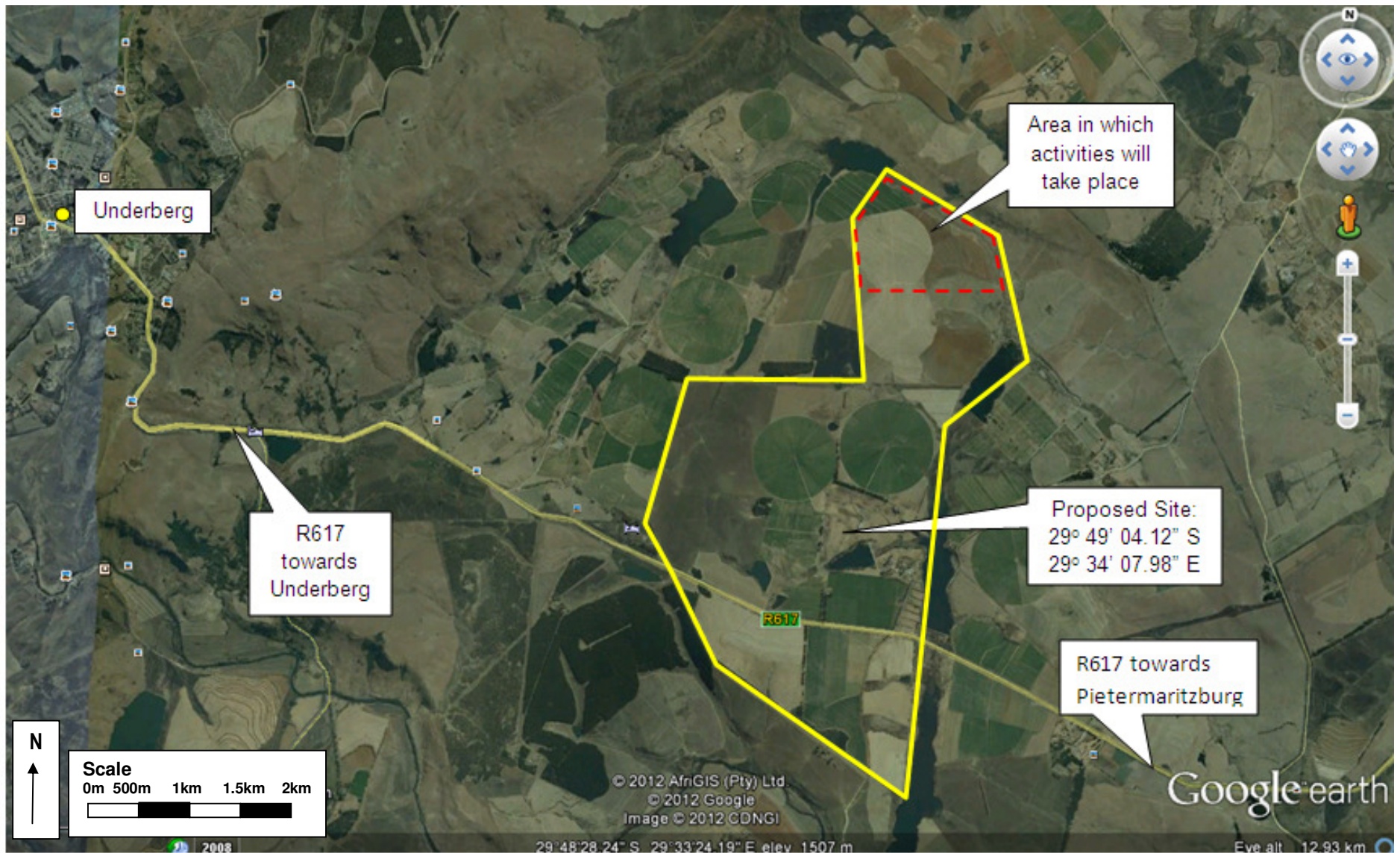
### **5.1 PROPERTY LOCATION AND LAND DESCRIPTION**

The property on which the dam, dairy and cultivation are proposed is the Farm Clovelly No. 1637 located near Underberg, KwaZulu-Natal.

The property is accessed off the R617 road. The location and access route to the property is shown on the aerial photos (see Figures 1 and 2). Geographic co-ordinates for the property are 29<sup>o</sup> 49' 24.92" S and 29<sup>o</sup> 34' 09.62" E. Photos of the proposed development sites are shown in Photos 1 – 4.

In order to access the property from Pietermaritzburg, travel from Pietermaritzburg towards Johannesburg on the N3 Freeway and take the Howick / Merrivale off-ramp. At the top of the ramp, turn left onto the R617 Road. Travel along this road, past Mpophomeni, through Boston, over the Umkomaas River, through Bulwer and across the Pholela River towards Underberg. The farm is located approximately 10km before Underberg, directly opposite turn off to the D 163. The entrance is on the right hand side of the road and clearly sign posted.

The property is approximately 807 ha in extent and currently features an operational dairy, various dam systems and a mix of natural grasslands and pastures (Figure 1). There are a number of nature reserves in the vicinity, namely Coleford Nature Reserve, iGxalingenwa Nature Reserve, Kwa Yili Nature reserve; The Swamp Nature Reserve, Marwaqa Nature Reserve, and Xalingena Forest Reserve. However Himeville Nature Reserve is located within 5 km of the proposed site to be cultivated.



**Figure 1:** Aerial photograph showing the current land cover on the property for the proposed activities, near Underberg, KwaZulu-Natal (Source: Google Earth)

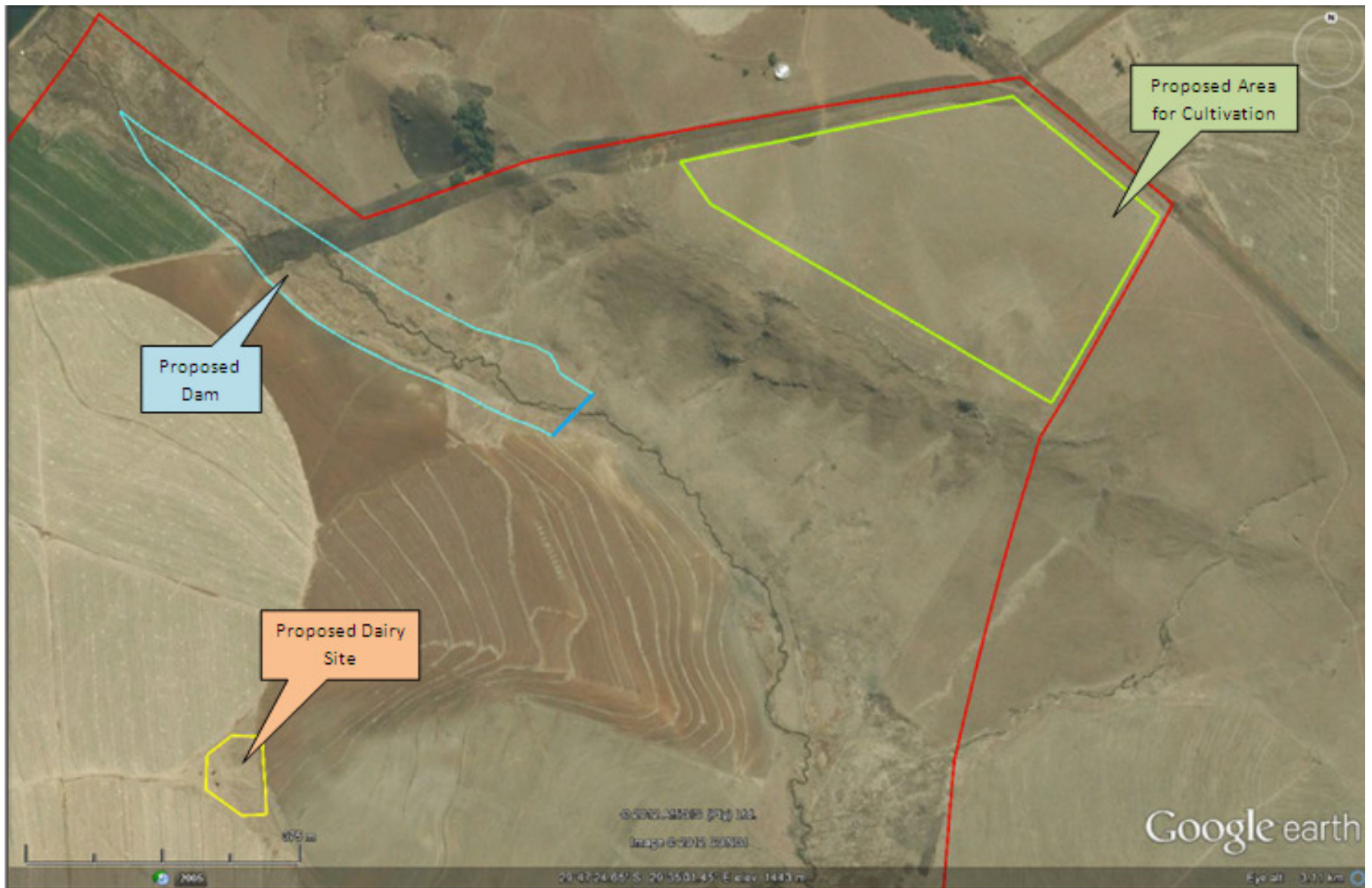


Figure 2: Aerial Photograph showing the proposed development site layout (source: Google Earth)





**Photo 1: View of the proposed Dam Site.**



**Photo 2: View of the site for the proposed Dairy.**



**Photo 3: View of the site for proposed cultivation.**

**Figure 3:** Photos of the proposed dam, dairy and cultivation sites.

## 5.2 THE PROPOSAL

The proposal involves the establishment of a variety of different activities. The land falls outside the town planning scheme, is currently un-zoned and used for agriculture. The proposed development comprises:

- Cultivation of 15 ha of veld;
- Establishment of one new earthen wall dam;
- Establishment of a 600 cow dairy and associated infrastructure (e.g. effluent lagoon system).

The Applicant proposes to increase the size of the existing dairy herd on the property, from 900 cows 1500 cows. This decision has been made for financial reasons stemming from the fact that at present, milk sale volumes are not financially viable. The majority of dairy farmers are having to expand in order to remain economically viable operations.

In order to provide sufficient grazing for the expanded herd, 15 ha of virgin veld will be cultivated as grazing area for the cattle. Water from the proposed dam will be used to irrigate these pasture lands. These pastures will be located within close proximity to the proposed new dairy to facilitate efficient milking.

The proposed new dam to be constructed for water storage consist of:

- Dairy Dam – the wall height will be in excess of 5m, with a storage capacity of 650 000m<sup>3</sup>.

The Catchment has sufficient capacity to allow for further water uses, such as are proposed by the Applicant. Appropriate applications have been made to the DWA (see Appendix C). The application was originally filed a few years ago by MBB Consulting on behalf of the Applicant. However, the application was lost and MBB re-submitted it in 2012. The application is now with the DWA, awaiting consideration. The EAP does not envisage any problems and anticipates approval from the DWA.

The proposed area to be flooded in the establishment of the new dam currently consists of natural veld, maize lands and a watercourse.

In terms of the construction of the dam, it is proposed that all earth moving activities will take place during the drier winter months, when stream flow levels are at their lowest.

The dam site will be cleared of all boulders, tree stumps, vegetation and topsoil. The topsoil will be stockpiled and spread on the open face of the completed dam wall to encourage and facilitate the establishment of naturally occurring grasses.

The foundation of the proposed dam will consist of the standard cut-off trench, which will be excavated and all porous, organic and loose material removed. The trench depth will depend on when solid rock is located. The rock base will be washed clean to facilitate sound sealing. Exposed cracks will be cleaned and grouted to normal standards.

The embankment material will be freed of boulders, vegetation and topsoil, and will be collected from below

the full supply level of the basin. All material with high clay content will be placed in the central zone of the wall profile, whilst sandy soil will be placed on the outer face of the walls. The placement of material will be placed in layers and compacted.

The exposed embankments will be completely covered with a suitable selected grass.

The spillway chute will be free of any obstructions, and the face of the training wall will be lined with stones. The spillway chute and downstream channel will be well grassed before being utilised.

More details regarding the specifications of the proposed dam are contained within Table 1 below.

**Table 1:** Proposed Dam Specifications

Dam	Bank Height	Bank Length	Crest Width	Wall Volume	Surface Area	Spillway Width	Total Freeboard	Outlet Pipe Diameter
Dam 1	To be provided during EIA Phase							

The preferred location of the proposed new 600 cow dairy is indicated in Figure 2. Details of the proposed technology, layout and effluent disposal system for the dairy are currently not available, as the Applicant is in the process of investigating and evaluating the various types of modern technology that are available. Details on the preferred dairy technology will be made available at the second Public Meeting and in the Draft EIA Report.

### 5.2.1 Description of Services

**ELECTRICITY** to the site will be extended from existing supplies. Eskom has confirmed, following an investigation, that supply is available to the property.

The applicant is currently investigating alternative energy supplies and energy efficiency measures (e.g. solar power). More information on alternative power supplies and energy efficiency will be provided in the full EIA Report.

**WATER** will be sourced from the stored natural water source in the existing and proposed farm dam. The proposed establishment of a new dam will facilitate water supply to the proposed dairy and land cultivation.

**SEWAGE** it is proposed that septic tank and soak-away systems will be employed for the disposal of domestic sewage generated by farm workers at the dairy. Effluent created by the dairy facility will be disposed of via an effluent lagoon system and sprayed onto pastures.

**DOMESTIC REFUSE.** The method of refuse disposal will not be altered from current practices as the proposed development will not generate significantly increased amounts of domestic refuse. The current

waste disposal stream is therefore sufficient to cope with wastes generated by the proposed development.

**ACCESS** to the site will be off the R 617 Road. Traffic volumes are not expected to increase significantly and therefore no significant traffic impacts are anticipated. However it is important for a successful dairy enterprise to have suitable, good quality roads for easy access. Therefore road upgrades may be necessary. Should the need to conduct a Traffic Impact Assessment arise, this will be conducted during the EIA phase and the results will be included in the EIA Report. However the EAP is of the opinion that it is highly unlikely that a Traffic Impact Assessment will be required.

**STORMWATER** A Wetland Specialist will be employed during the EIA Phase to identify and delineate all riparian areas. An investigation as to how the streams and rivers are fed from the property will be conducted and measures put in place to ensure that these feeder areas are not altered in any way, whilst ensuring stormwater and other potentially contaminated runoff from the proposed dairy will not impact negatively on the river quality. A copy of the Wetland Delineation and Functionality Assessment will be included in the EIA Report. It is proposed that a Stormwater management Plan will be compiled for the proposed dairy.

## 6 ALTERNATIVES

The EIA Regulations require an identification and investigation of alternatives. These could include alternative layouts, activities, locations, infrastructure, land-uses as well as the “do-nothing” alternative. For the purposes of the Scoping Phase and this Scoping Report, several alternatives have been identified. These alternatives and their feasibilities will be evaluated further in the EIA Phase and reported on in the EIA Report.

For this project, five different types of alternatives have been identified:

1. **Do-nothing** - assessment of environmental impacts if the proposed project, or any of its alternatives, does not proceed.
2. **Agriculture** – assessment of different types of agriculture:
  - Reduction of the existing dairy herd;
  - Introduction of a beef cattle herd to the property;
  - Establishment of Wattle Plantations;
  - Continued establishment of maize farming on the property;
  - Lease arable land from other farmers in the area.
3. **Alternative Dairy locations** – assessment of different locations in which to locate the dairy:
  - Preferred development site;
  - Alternative sites to be investigated in the EIA Phase once technology has been assessed (see below).
4. **Alternative Energy** – assessment of different energy sources:
  - Solar;
  - Biogas from slurry.
5. **Alternative dairy technology** – assessment of different milking methods:
  - Waste water treatment.
  - Others to be provided in the Draft EIA.

The above listed types of alternatives will be assessed in detail during the full EIA (Section 10).

## **7 PUBLIC PARTICIPATION PROCESS**

A Public Participation Process was undertaken according to Regulation 56 to 59 of the EIA Regulations as promulgated under Section 24 of the National Environmental Management Act (NEMA, Act 107 of 1998).

### **7.1 NOTIFICATION OF THE PROPOSED DEVELOPMENT**

An application was submitted and acknowledged by the DAEA on 6 February 2013.

Notification of the Application for the proposed development was conducted through the publication of newspaper adverts and placement of site notice boards. Adverts were published in the Witness and the Echo on 14 February 2013 to notify I&APs of the proposed development (Appendix D).

Notice boards were placed on site to notify the local public of the development. The posters were in English and Zulu and included details of the application, its nature and location, the assessment procedure in terms of the Regulations and details of the EAP. Site Notice Boards (English and isiZulu) were placed on site and on access routes on 14 November 2012 (Appendix E).

### **7.2 INTERESTED AND AFFECTED PARTIES**

A register of I&APs was compiled at the outset of the project. This includes names and contact details of Authorities, Government / Municipal Departments, NGOs, local interest groups and neighbouring landowners (see Appendix H). The list of I&APs has been continually updated to include persons responding to the adverts and site notice boards.

### **7.3 BACKGROUND INFORMATION DOCUMENT**

Written notification in the form of Background Information Documents (BIDs) were circulated on 11 December 2012 by e-mail, post, fax or hand delivery to relevant authorities and via door-to-door drops to neighbouring landowners, including all properties within 100 m of the proposed development site.

A copy of the BID is included in Appendix F. Comments received following circulation of the BID, adverts in the newspapers and the displaying of site posters are included in Appendix I and are summarised and responded to in Table 2, below.

**Table 2:** Comments received following the newspaper adverts, placing of site notice boards and circulation of Background Information Document.

I&AP	COMMENT	RESPONSE
<p>Andrew Ferendinos KZN Crane Foundation 18 December 2012</p>	<ul style="list-style-type: none"> <li>• Please register the KZN Crane Foundation as an Interested and Affected Party.</li> <li>• The area of veld to be transformed is fairly small, although this will be happening on a farm which is already fairly extensively cultivated.</li> <li>• The KZN Crane Foundation is aware that at times fairly large numbers of Crowned Cranes can at times be found on neighbouring properties (not sure of this farm).</li> <li>• Perhaps wrongly I believe that the development proposal is unlikely to alter this situation.</li> <li>• We are however, concerned about the loss of possible nesting sites for Cranes since dams are almost always located in wetlands - which are prime habitat for Cranes.</li> <li>• We are further concerned that the loss of wetland habitat in particular will accelerate climate change. Wetlands are regarded as being amongst the most important natural carbon sinks known. According to an economic evaluation of the ecosystem services of the World's major natural biomes undertaken by the economist Costanza (and others) some wetland types even outperform forests in terms of the value of the ecosystems goods and services they provide free to society.</li> <li>• It is within this context that we recommend to the applicant and his professional team that they provide a thorough evaluation what can be done to mitigate the dams potential environmental impacts, particularly on the natural environment.</li> <li>• We can make any number of suggestions:               <ul style="list-style-type: none"> <li>- Islands for bird roosting,</li> <li>- Earthworks to create shallows where water loving vegetation can thrive,</li> <li>- Not planting so many trees next to the dams edge,</li> <li>- Retaining some natural veld near the dams for wildlife (especially birds) to forage in.</li> </ul> </li> <li>• No doubt you will be able to do a more professional job than I of identifying practical mitigatory measures and we look forward to reviewing the Basic Assessment Report in this regard.</li> <li>• As a matter of interest it would be appreciated if you could advise as to Mr Turner's involvement in conservation matters, is he a member of a local conservancy?</li> <li>• Does he take any steps to protect the natural areas on his farm, etc?</li> </ul>	<ul style="list-style-type: none"> <li>• Noted.</li> <li>• Noted.</li> <li>• Noted.</li> <li>• Noted.</li> <li>• A Biodiversity Assessment will be commissioned as part of the EIA Phase.</li> <li>• Noted. A Wetland Assessment will be commissioned as part of the EIA Phase.</li> <li>• See above responses. Specialist input will be available during the EIA Phase.</li> <li>• Noted.</li> <li>• Noted.</li> <li>• Noted.</li> <li>• Noted.</li> <li>• Noted.</li> <li>• Noted. The EIA Report will provide mitigatory measures. We are not doing a Basic Assessment Process.</li> <li>• This will be established during the EIA.</li> <li>• This will be established during the EIA.</li> </ul>

I&AP	COMMENT	RESPONSE
	<ul style="list-style-type: none"> <li>It may seem nosy but it helps an environmental organisation like our own to determine if it is likely the applicant will implement any measures contained in an Environmental Management Programme.</li> </ul>	<ul style="list-style-type: none"> <li>An EMPr is a legally binding document, thus Mr. Turner will abide by the contents of the EMPr.</li> </ul>
<p>Rosanne Clark Sani Wildlife 26 December 2012</p>	<ul style="list-style-type: none"> <li>We in Sani Wildlife wish to express concerns about the breaking up of any veld. We feel that this is a fast diminishing biome and needs to be kept intact where ever possible. Although we are sympathetic to the needs of farmers and their need to expand we would urge them to look at other areas which could be leased, where veld has been degraded and/or existing arable land not being used.</li> </ul>	<ul style="list-style-type: none"> <li>This will be investigated as part of the EIA Phase.</li> </ul>
<p>Carolyn Schwegman WESSA 11 February 2013</p>	<ul style="list-style-type: none"> <li>The proposed activities require environmental authorization following scoping and an environmental impact assessment – please keep WESSA informed throughout the process.</li> <li>While recognizing the importance of an economically sustainable farming enterprise cumulative impacts of cultivation of virgin veld and loss of wetlands is a concern and the loss of habitat and ecosystem services needs to be offset. With respect to specific requirements for critically endangered species such as Cranes WESSA supports the suggestions put forward by the KZN Crane Foundation in its email dated 18 January 2013 with respect to recreating habitat around the new dam. In addition we offer the following –</li> <li>Wetland offsets must be looked and WESSA supports Ezemvelo KwaZulu-Natal in its 'no net loss' policy;</li> <li>Cultivation. The loss of 15 ha of virgin ground must be looked at not only from species diversity within an altered landscape but also how loss of the area impacts on connectivity and ecological linkages. Again, a no net loss should be the aim;</li> <li>Waste Management. While it is generally acknowledged that harnessing biogas is the way of the future it appears not to have been readily accepted to date, and understandably costs may be high, however the state of the environment indicates a need for change and best practice options must be fully evaluated with a demonstrated intention to implement such options. We trust that re-use of animal waste after treatment is already practiced with monitoring for impacts on water resources undertaken.</li> <li>We look forward to receiving further information.</li> </ul>	<ul style="list-style-type: none"> <li>Noted.</li> <li>Noted.</li> <li>Noted.</li> <li>Noted.</li> <li>Noted. Animal waste is re-used on the property. The lands on which it is applied is not in close proximity to a water course.</li> <li>Noted.</li> </ul>
<p>Judy Reddy Department of Transport 28 February 2013</p>	<ul style="list-style-type: none"> <li>Your letter dated 11 December 2012 refers.</li> <li>The application was received on 18 February 2013.</li> <li>You are advised that the application is in the process of being investigated and that you will be advised accordingly of this Department's comments.</li> <li>When communicating with this office, please supply the abovementioned</li> </ul>	<ul style="list-style-type: none"> <li>Noted.</li> <li>Noted.</li> <li>Noted.</li> <li>Noted.</li> </ul>



I&AP	COMMENT	RESPONSE
	file reference (T10/2/2/538/154).	

## **7.4 PUBLIC INFORMATION SESSION**

A Scoping Phase Public Information Session was held in order to provide information and to give I&APs an opportunity to raise their concerns. The meeting was held on Thursday 14 March 2013, between 14:30 and 16:00, at the farm, Clovelly, in Underberg. All registered I&APs were personally invited by fax, e-mail, phone or post on 27 February 2013. The meeting was attended by 7 Interested and Affected Parties. The EAP documented the issues raised by the I&APs regarding the proposed development during the meeting.

Key people involved in the project were present, as follows:

- Rebecca Bowd – Green Door Environmental (Environmental Assessment Practitioner); and
- Liza Shuttleworth – Green Door Environmental (Scribe & English/Zulu Translator).

The Attendance Register, a copy of the posters presented and photos taken at the Public Information Session are included in Appendix G.

A summary of the comments received and responses given at and after the Public Information Session are contained in Tables 3 & 4 below.

**Table 3:** Comments received at the Public Information Session on 14 March 2013 and responses given by the Project Team Members.

<b>Source</b>	<b>Comment</b>	<b>Response</b>
Wiseman Rozani – DAFF	We would like to see the results of the Biodiversity studies, especially which indigenous trees will be affected, as this is virgin land.	A Biodiversity Assessment will be conducted during the EIA Phase.
Wiseman Rozani – DAFF	Mrs Zanele Linda 033 345 3515 should be invited to the next meeting, as I do not represent the whole department, just Forestry.	Noted. Mrs. Linda will be added to the I&AP list.
Bongani Twala - Sisionke	Where will the dam be located exactly?	The EAP pointed out the exact location of the dam and then took the group to view the site.
Bongani Twala - Sisionke	How big will the dam be?	The Dam will be 650 000 m <sup>3</sup> .
Bongani Twala - Sisionke	What is the process for the Cultural Heritage Assessment if they find graves?	That depends on the number of graves, whether they are marked or unmarked and if they are claimed or unclaimed. They are sometimes relocated or the development is realigned to accommodate them.
Wiseman Rozani – DAFF	What exact vegetation types will be affected?	That will be determined by the Biodiversity specialist in their report, which will be included in the Draft EIA Report.
Nomonde Gebashe - Sisionke	How will downstream water users be affected?	Calculations will be done to determine how much water has to be continually released from the dam.
Slindile Keswa - Sisionke	What will the dam water be used for?	The water will be used for irrigation purposes.
Nomonde Gebashe - Sisionke	Is the water clean?	Yes. There is only grazing higher-up in the catchment.
Slindile Keswa - Sisionke	Who will be constructing the Dam?	Tendering for the dam will only be done once authorization has been granted.
Slindile Keswa - Sisionke	Where will the water come from?	The chosen location for the Dam is a natural catchment area, with a steady stream flowing through it.

**Table 4:** Comments received after the Public Information Session on 14 March 2013 and responses given by the Project Team Members.

<b>Source</b>	<b>Comment</b>	<b>Response</b>
Judy Reddy Department of Transport 22 March 2013	<ul style="list-style-type: none"> <li>Your letter dated 27 February 2013 refers.</li> <li>The application was received on 18 March 2013.</li> <li>You are advised that the application is in the process of being investigated and that you will be advised accordingly of this Department's comments.</li> <li>When communicating with this office, please supply the abovementioned file reference (T10/2/2/538/154).</li> </ul>	<ul style="list-style-type: none"> <li>Noted.</li> <li>Noted.</li> <li>Noted.</li> <li>Noted.</li> </ul>

## **7.5 SUMMARY OF ISSUES RAISED**

To date, the main issues which have been raised through the Scoping Phase Public Participation Process include:

- The presence of wetland areas;
- The occasional presence of Cranes;
- Cultivation of natural grassland – conservation servitude or the possible lease of land from other farmers who are in financial difficulty;
- Animal waste – the management and avoidance of water contamination;
- Dam – the loss of vegetation and the impacts on downstream environmental users;
- Cultivation – what opportunities are presented for plant rescue and relocation and/or improvement of other natural areas in the vicinity to offset the loss, a complete loss should be avoided; and
- Studies to be undertaken to determine the ecological value of the property.

## **7.6 CIRCULATION OF THE DRAFT SCOPING REPORT**

Copies of the Draft Scoping Report have been circulated to the following I&APs for review and comment:

- Dominic Wieners – Ezemvelo KZN Wildlife
- Weziwe Tshabalala – Amafa Heritage KZN
- Renelle Pillay – Department of Water Affairs
- A. Mnyungula – DAFF
- Nonhlanhla Myeni – Department of Agriculture
- Lucky Zondi – Sisonke District Municipality
- Stuart Falconer – KwaSani Local Municipality
- Roy Ryan – Department of Transport
- Rick James – Underberg Farmers Association
- Andrew Ferendinos – KZN Crane Foundation

A copy has also been made available for viewing at the Underberg Farmers Association.

All registered I&APs have been notified of the availability of this report and their opportunity to comment. I&APs have been given 40 days to comment on the Report.

## **8 POTENTIAL IMPACTS ON THE SOCIAL AND ECONOMIC ENVIRONMENTS**

### **8.1 LOCAL ECONOMY AND EMPLOYMENT OPPORTUNITIES**

#### **Description**

The primary source of income for the people in the area is in the agricultural sector and the many nature reserves in the area. Underberg is an administration town in a cattle and dairy farming community. The property in question is located in close proximity to the Shayilanga, Thonsini and Kamlenze rural areas.

The proposed agricultural expansion will utilise the land and expand its current operations to full potential, and will benefit the surrounding local people residing in the abovementioned rural areas through job creation.

The additional storage of water and the increase in the dairy herd will provide much needed employment in the district. There is, at present, a severe unemployment problem.

#### **Implication**

Approximately 30 permanent jobs will be created for the local community, benefiting approximately 375 people (all previously disadvantaged individuals), and would increase the local economy through the provision of these job opportunities and increased agricultural production. The jobs will be created during the operational phase. A number of temporary jobs would also be created during the planning and construction phases, and would include engineers, building contractors and labourers (skilled, semi-skilled and un-skilled workers).

### **8.2 NEED AND DESIRABILITY**

#### **Description**

The agricultural activities being proposed on the said property fit in with the surrounding land uses of the area. The establishment of the dam on the farm will be required to facilitate water supply to the other proposed activities, namely the 600 cow dairy and 15 ha cultivation.

#### **Implications**

The proposed activities will allow greater income generation and job opportunities for the surrounding communities. The Applicant has identified a need for milk production and supply and animal fodder, and therefore proposes to expand his current operations via a new dairy and the cultivation of land. In order for dairy farmers to make decent profit margins, they need to be milking at least 600 head of cow.

## **8.3 PLANNING INITIATIVES**

### **8.3.1 National Spatial Development Perspective (NSDP)**

The Policy Co-ordination and Advisory Services introduced a National Spatial Development Perspective (NSDP), which was then endorsed by the Cabinet in March 2003. The NSDP works in conjunction with different Departmental and Provincial spatial and development strategies. The four principles of the NSDP are as follows:

- Economic growth is a prerequisite for achievement of policy objectives;
- Government spending should concentrate on fixed investment, focusing on localities of economic growth and/or economic potential;
- Efforts to address the past and current inequalities should focus on people not on places; and
- To overcome spatial distortions of apartheid, future settlement and economic development opportunities should be channelled into nodes adjacent to the main growth centres.

In order to distinguish between localities, the NSDP uses two concepts as methodological tools, which are Potential and Poverty Gap. These two concepts will assist the NSDP in providing a coarse-grained analysis from a national perspective, which will be supplemented by a more finely, grained analysis at Provincial and Local Government level.

In defining potential, the NSDP has drawn on recent tradition of “institutional economics” a field that has come to dominate both developmental economics and regional planning. The institutional approach suggests that beyond the usual sources of comparative advantage, the institutional adequacy of a locality will help determine whether development is sustainable or not. The NSDP therefore uses concepts of potential that rely strongly on the presence of institutional capacity to realize the developmental impact of other resources.

In summary, the NSDP will have a role to play as an instrument that informs the respective development plans of the three spheres of government i.e. IDP, PGDS and the Medium Term strategic Framework (MTSF).

### **8.3.2 Accelerated Services on Growth Initiative South Africa (ASGISA)**

The mandate was for government to halve poverty by 2014. To do this the country needs a growth rate of 5% on average. Because of backlogs in infrastructure, investment, inadequate planning, and in some cases, market structures that do not encourage competition, the price of moving goods and conveying services over distance is higher than it should be. In South Africa, which is a large country, with considerable concentration of production inland, and which is some distance from all major industrial markets, deficiencies in logistics are keenly felt. This is the main reason why beneficiation processes need to be encouraged in the development of the local economy and in close proximity to the areas where products are produced.

Those parts of the legacy of apartheid most difficult to unwind are the deliberately inferior system of education and the irrational patterns of population settlement. In a period of growth, it is evident that we lack sufficient skilled professionals, managers and artisans, and that the uneven quality of education remains a contributory factor. In addition the price of Labour for the poor is pushed up by the fact that many live a great distance from their places of work.

Certain weaknesses in the way government is organised, in the capacity of key institutions, including some of those providing economic services, and insufficiently decisive leadership in policy development and implementation all negatively impact on the country's growth potential. Countering these constraints entails a series of decisive interventions. These interventions amount not to a shift in economic policy so much as a set of initiatives designed to achieve our objectives more effectively.

In developing responses to the binding constraints, certain measures to counter the constraints were developed.

- Macroeconomic issues;
- Infrastructure programmes;
- Sector investment strategies (or industrial strategies);
- Skills and education initiatives,
- Second economy interventions; and
- Public administration issues.

### **8.3.3 KZN Growth and Development Strategy (PGDS)**

Inequalities exist in our economy and there is a legacy of inequitable spatial development. This has had a negative impact on public sector investment as highlighted by the National Spatial Development Perspective (NSDP). This is evident in the lopsided economic and social costs for poor communities in locations far from employment and other opportunities. The PGDS is a vehicle to address the legacies of the apartheid space economy, to promote sustainable development and to ensure poverty eradication and employment creation.

Government has a mandate to restructure the process of development and service delivery in the province. This is to be achieved through the three spheres of government, the different government sectors and the various strategic frameworks. The key challenges it faces is to effectively align and harmonise these structures towards this end; and to harness and align fiscal, financial and human resources at its disposal towards eradicating poverty, creating employment and laying the foundations for accelerated economic growth.

The PGDS offers a tool through which provincial government can direct and articulate its strategy and similarly for local government to reflect the necessary human, financial and fiscal support it needs to achieve these outcomes. It facilitates proper coordination between different spheres of government and aims to prevent provincial departments from acting out of concert with local municipalities. It enables

intergovernmental alignment and guides activities of various role players and agencies (provincial sector departments, parastatals, district and local municipalities). The PGDS will enhance service delivery.

It is a framework for public and private sector investment, indicating areas of opportunities and development priorities. It addresses key issues of implementation blockages whilst providing strategic direction. The PGDS implies a developmental approach to government. This implies a pro-active and facilitative approach to development and not one based of formulating and applying regulations and restrictions. The PGDS on the one hand involves preparing policies, strategies and guidelines and on the other hand it involves preparing mechanisms to align and facilitate the implementation, monitoring and evaluation of key growth and development priorities.

#### **8.3.4 Millennium Development Goals**

Looking ahead to 2015 and beyond, the Municipality believes they can achieve the overarching goal: to put an end to poverty.

The MDGs represent a global partnership that has grown from the commitments and targets established at the world summits of the 1990s. Responding to the world's main development challenges and to the calls of civil society, the MDGs promote poverty reduction, education, maternal health, gender equality, and aim at combating child mortality, AIDS and other diseases.

Set for the year 2015, the MDGs are an agreed set of goals that can be achieved if all actors work together and do their part. Poor countries have pledged to govern better, and invest in their people through health care and education. Rich countries have pledged to support them, through aid, debt relief, and fairer trade. Sisonke District Municipality as part of the globalized community is playing its part in ensuring that it provides the necessary infrastructure especially water and sanitation facilities to help reduce diseases, hunger and poverty. Working together with all the relevant stakeholders SDM is committed 2015 target as the rest of the developing countries.

#### **8.8.5 Alignment with Municipal Goals and Objectives**

Sisonke District has thus ensured that all its long term strategic goals and objectives (particularly water, sanitation and poverty alleviation) are aligned to National and Provincial Strategic Perspective which has a direct link with MDGs.

#### **8.8.6 Implications of Planning Initiatives**

The proposed development complies with all of the above Planning Initiatives, most notably job creation.



## **8.4 CULTURAL, HISTORICAL AND ARCHAEOLOGICAL RESOURCES**

### **Description**

Amafa KwaZulu-Natal, the authority responsible for the Province's heritage resources, has been contacted regarding this proposed development and has been sent a BID and a copy of this Draft Scoping Report. Comment is still awaited from this authority.

### **Implications**

A Heritage Impact Assessment will be conducted by an appropriately qualified specialist as part of this application. This assessment will investigate the presence of heritage resources on the property and will make recommendations regarding the protection of these resources in light of the proposed development.

## **8.5 SURROUNDING LANDUSE AND AESTHETICS**

### **Description**

The property is bordered to the south by the R617 Road, and on all remaining boundaries, by agricultural lands. Visually, the expansion will not negatively impact on the surrounding areas or neighbouring farms. The proposed agricultural expansion will generate noise via farm and building machinery; however these will not negatively impact the neighbouring farms.

### **Implications**

The proposed agricultural development will alter the land where cultivation is proposed to take place. As will the other developments, namely the establishment of a new dairy and a new dam. However, it will not negatively impact the surrounding areas as it blends with the agricultural activities that occur there. This would therefore not alter the sense of place of the area, and would create both social and economic upliftment in the region.

## **8.6 TRAFFIC, ROADS AND ACCESS**

### **Description**

The property can be accessed by travelling on the N3 from Durban towards Johannesburg and then taking the Howick / Merrivale off-ramp. At the top of the off-ramp, turn left onto the R 617 Road. Travel along this road, past Mpopomeni, through Boston, over the Umkomaas River, through Bulwer and across the Pholela River, towards Underberg. The farm is located approximately 10km before Underberg, directly opposite the D 163. The entrance is on the right hand side of the road and is clearly sign posted from the R 617 Road.

Traffic volumes will increase during the construction and operational phases of the project. If requested by the Department of Transport, a Traffic Impact Assessment (TIA) will be conducted and will be included in the EIA Report. If required, the TIA will assess the potential impact of the traffic from the proposed development on the existing traffic volumes and road infrastructure in the area. However the EAP is of the opinion that the need for a TIA is unlikely.

### **Implications**

The construction phase will result in additional large, slow-moving construction vehicles accessing the property. This is unlikely to cause traffic delays or accidents as it is a rural road. The proposed development will result in a slight increase in traffic along the R 617 due to delivery vehicles, farm vehicles and milk trucks accessing the property during its operational phase, therefore it is possible that the current roads would need to be upgraded to cater to the increased heavy vehicle traffic.

## **8.7 CONSTRUCTION ACTIVITIES, NOISE AND DUST**

### **Description**

Construction activities on site will require earthworks, heavy machinery and construction vehicles to make use of roads in the local area. Furthermore, there will be an increase in the number of people in the area due to the presence of construction labourers on the site, as well as other potential job seekers. These operations will generate noise and dust. However, these activities are unlikely to negatively impact upon the area, as there are no neighbours in close proximity to the proposed development sites.

### **Implications**

It is unlikely that the production of noise and dust from construction activities will negatively impact upon neighbouring landowners due to their proximity to the site. Construction activities will also be limited to working hours.

Potential exists for construction labourers to trespass onto neighbouring properties during the construction phase. Potential increase in criminal activities is also possible.

## **8.8 SECURITY**

### **Description**

It will be confirmed during the process whether existing farm labour will be used for the construction phase, or whether construction labourers will be transported to the site every day and will not live on the property. It is unlikely that the site will need to be monitored by security.

### **Implications**

Management of construction labourers is often problematic. Potential exists for labourers to trespass onto adjoining properties.

Crime in the area could increase during the construction phase, as a result of criminals posing as construction workers, or people seeking employment on the site.

## **9 POTENTIAL IMPACTS ON THE BIOPHYSICAL ENVIRONMENT**

### **9.1 TOPOGRAPHY**

#### **Description**

The land on which the development is proposed is situated in a series of valleys with undulating slopes. A number of unnamed streams originate in these valley bottoms. The altitude of the site varies from 1 450 meters to 1 535 meters in height.

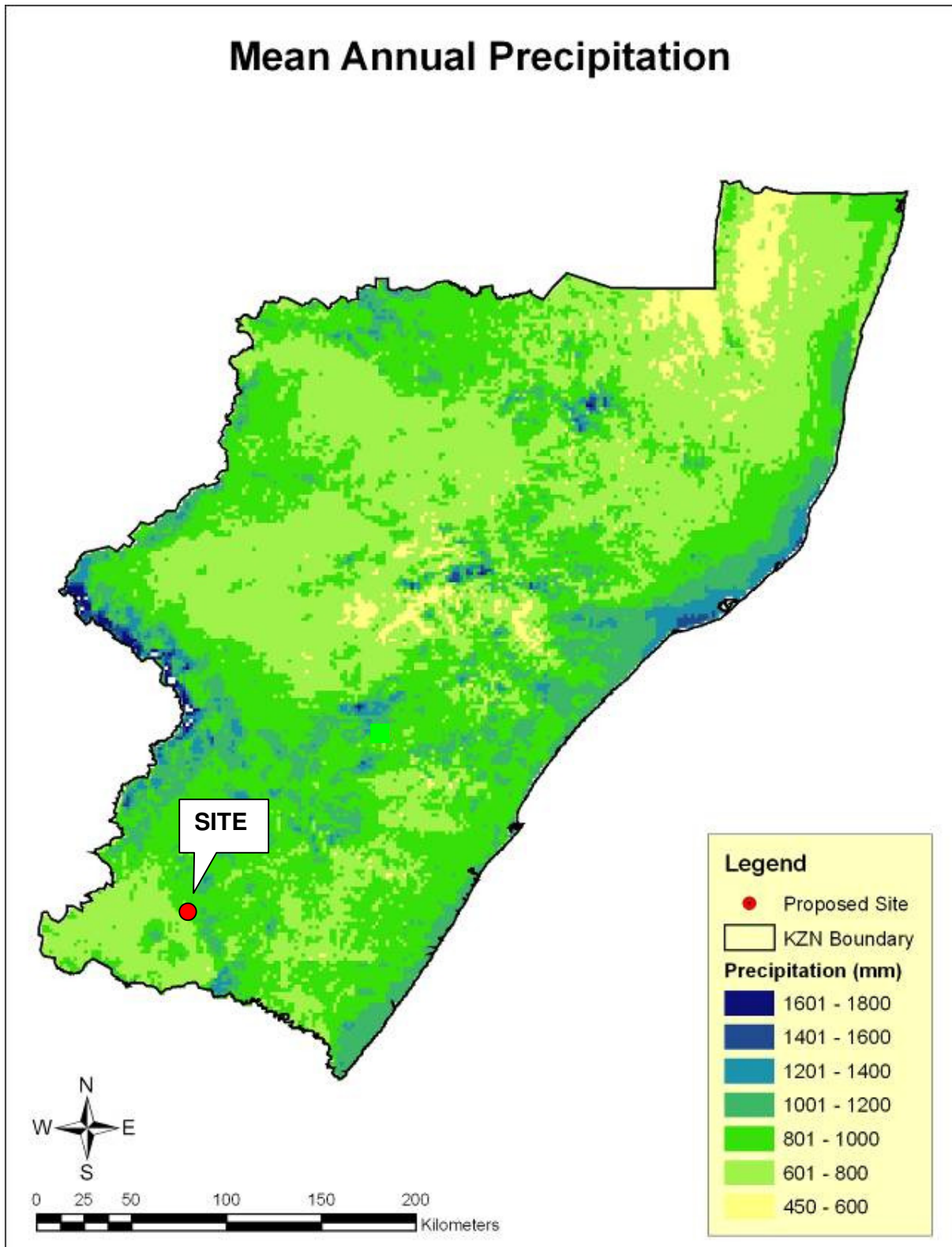
#### **Implications**

The proposed dam site has been chosen due to the proximity within the drainage / catchment area, and the shape of the terrain that will best contain water.

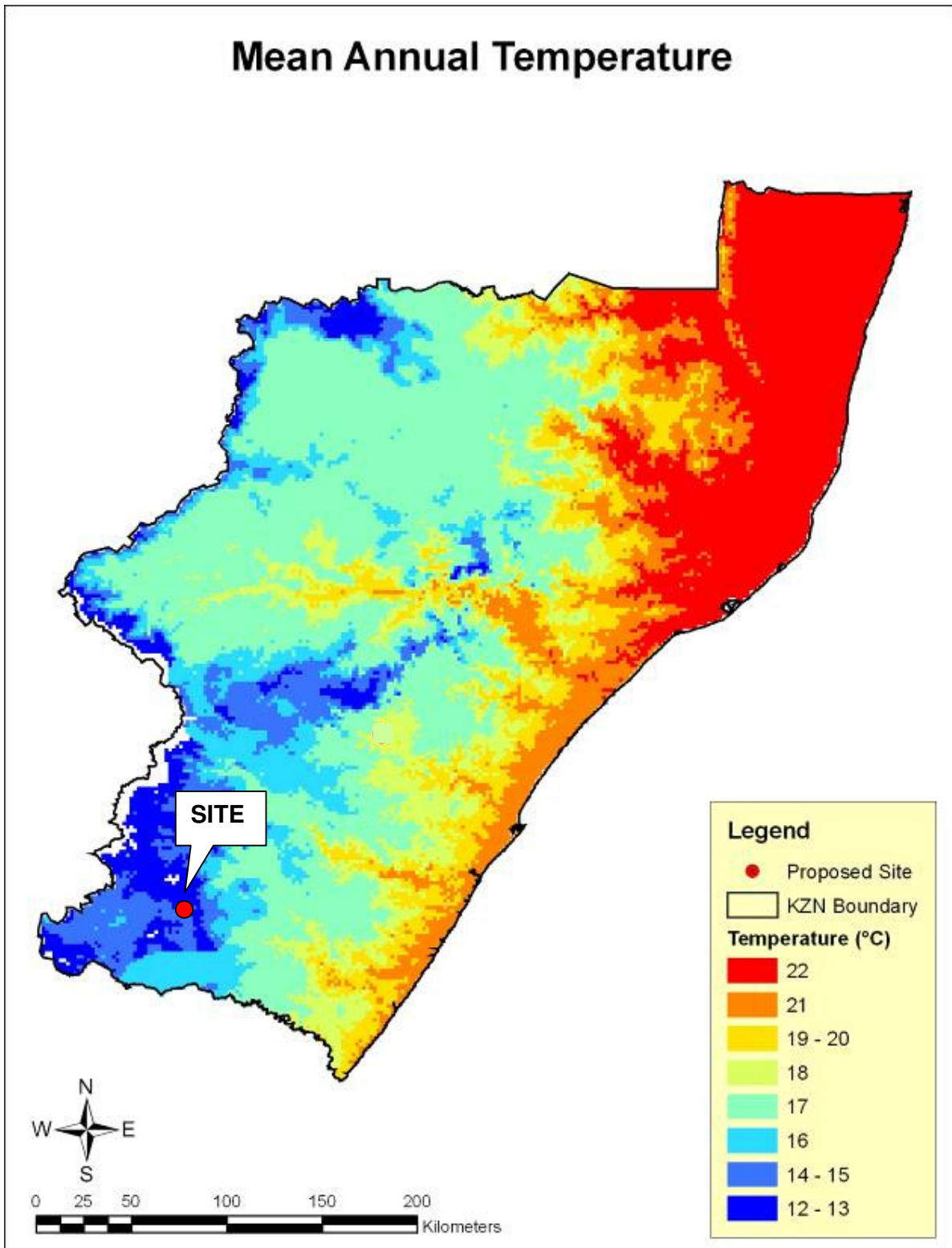
### **9.2 CLIMATE**

#### **Description**

Mean Annual Precipitation and Temperature in KZN are illustrated in Figures 4 and 5.



**Figure 4:** Mean Annual Precipitation for KwaZulu-Natal



**Figure 5:** Mean Annual Temperature for KwaZulu-Natal

The area has a mean annual rainfall range from 900 mm to 960 mm and receives most of its rainfall during the summer months. The mean annual temperature is 13.5°C. Summers are warm to hot and winters are mild to freezing. Mist and frost are common and snow occasionally falls on the higher lying areas during winter (Camp, 1997).

#### **Implications**

Topsoil which is stockpiled during the construction phase has the potential to be wind-blown, causing dust. Potential exists for high intensity rainstorm events to cause severe erosion at the construction sites.

Wind in this area may also aid in the spread of fires, especially during the dry winter season. This would have serious implications for surrounding properties.

### **9.3 GEOLOGY AND SOILS**

#### **Description**

The underlying geology of the property comprises predominantly mudstones and shales of the Karoo Supergroup, Molteno and Elliott Formations, with dolerite intrusions. Soils in the three new dam sites (Dam sites 1, 2 and 3) comprise mostly alluvium, but have no discrete horizons because the topsoil's and subsoils have been mixed as a result of past cultivation.

A Geotechnical Study will be undertaken during the EIA phase. The results of this assessment will be contained in the EIA report.

#### **Implications**

Construction in areas of instability, irresponsible design and construction methods and use of inappropriate materials could result in the cracking and collapse of buildings and dam walls with serious financial consequences. Inappropriate effluent treatment and disposal systems can cause negative impacts to the surrounding environment.

### **9.4 RIVERS AND WETLANDS**

#### **Description**

The proposed dam will all be located within existing wetland systems. These systems will be significantly affected by the proposed development.

#### **Implications**

A Wetland Assessment will be conducted to determine the health functionality of the wetland systems proposed for flooding in order to provide comment on the impact of their loss to the system. A copy of this assessment will be contained within the EIA Report.

## **9.5 GROUND AND SURFACE WATER**

### **Description**

In terms of water quality and soil erosion, it is in the Applicant's best interest to maintain or improve water quality and conserve soils on the property. In general, dams improve downstream water quality. On-stream dams tend to silt up over time; but also slow down water velocity during heavy down pours, minimising bank erosion.

Badly placed roads have the capacity to cause major erosion. However, in the case of dairy farming, all weather and minimum gradient roads are crucial for profitable milk production. The Applicant will therefore ensure roads are constructed to the proper standards, limiting the chances of erosion and sedimentation of watercourses.

A no till system has been practised by the Applicant for the past 10 years on all arable land which is planted on an annual basis to cash crops. The Applicant has thus displayed willingness in the past to implement measures to protect the environment from damage.

### **Implications**

The Catchment has sufficient capacity to allow for further water uses, such as are proposed by the Applicant. Appropriate applications have been made to the DWA (see Appendix C). The application was originally filed a few years ago by MBB Consulting on behalf of the Applicant. However, the application was lost and MBB re-submitted it in 2012. The application is now with the DWA, awaiting consideration. The EAP does not envisage any problems and anticipates approval from the DWA.

## **9.6 AIR QUALITY AND SURFACE WIND**

### **Description**

The site is located in a rural area. The air quality would therefore be high.

### **Implications**

Emissions as a result of dairy operations (manure) will not be a cause for concern as there are no neighbours nearby. In addition, the odours generated by the proposed operation are agricultural in nature and are located within an agricultural area. These are therefore deemed to be acceptable. Should an increase in the fly population be noted by neighbours in the area, it may be necessary to implement a Fly Control Programme.

Potential exists for dust to be created on the site during the construction phase. The impact of wind-blown dust from the construction site during the construction phase is unlikely to impact negatively on surrounding landowners as they are located a great distance from the proposed development site.

## **9.7 FAUNA**

### **Description**

The Strategic Environmental Assessment (SEA) for the area was consulted. The Red Data Species listed in the database as potentially occurring on the proposed development site included amphibians, birds, insects and reptiles.

Much of the property is transformed to a greater or lesser degree by past agricultural activities. The remaining natural habitats are not, in general, in a pristine state. A detailed Biodiversity Assessment will be conducted on the property during the EIA Phase in order to determine which species occur on the property and what impacts the proposed development will have on these animal species. Recommendations for the mitigation of these impacts will be made by the Specialist.

### **Implications**

The Biodiversity Assessment is required to be conducted in order to determine the implications of the proposed development.

## **9.8 VEGETATION**

### **Description**

The proposed Biodiversity Assessment will include assessment of the vegetation on the sites. The results of this assessment will be included in the EIA Report.

### **Implications**

The sites selected for the establishment of the dam and the preferred dairy site contain both undisturbed grassland and areas that have been disturbed in the past and contain predominantly a combination indigenous and alien vegetation. Thus, it is not anticipated that many species of conservation significance will be discovered in these areas; however the Biodiversity Assessment will confirm the ecological importance of the proposed development sites.

## **9.9 FIRE MANAGEMENT**

### **Description**

Vegetation can ignite from lightning, sparks from cigarettes and negligence. As this site is in an area which experiences dry winter months, the threat of fire is of significance.

### **Implications**

Accidental fires could cause severe damage to the property, as well as to neighbouring properties. A fire could potentially have serious environmental and financial implications for the owners of this property and adjacent properties.



## **10 PLAN OF STUDY FOR ENVIRONMENTAL IMPACT ASSESSMENT**

### **10.1 INTRODUCTION**

As required in terms of Section 29 (n) of NEMA, this section provides details of the methodology for the EIA Phase of this application.

### **10.2 PUBLIC PARTICIPATION**

The register of I&APs from the Scoping Phase will be carried over and expanded during the EIA Phase. Registered I&APs will receive notification at the start of the EIA Phase comprising a brief description of the EIA process and their possible involvement.

Focus-group meetings and site visits will be held with Government Authorities, Municipal departments, community leaders and conservation bodies, if and when required. After the completion of the Specialist Studies, an EIA Report (see Section 10.5) and EMP (see Section 10.4) will be compiled and a Public Information Session will be held with registered I&APs. The purpose of this Session will be to present the EIA Report and Specialist Studies, their findings and recommendations. Following this session, the EIA Report and EMP will be made available to all I&APs for review and comment (40 days).

### **10.3 SPECIALIST STUDIES**

Details of the specialist studies which will be undertaken as part of the full EIA are provided below.

#### **10.3.1 Wetland Assessment**

A Wetland Assessment will be conducted on the proposed development site. The potential impact of the proposed development on the bio-physical functioning, dynamics and sustainability of wetlands and riparian corridors including streams, rivers and flood plains will be evaluated in detail.

The wetland habitat within the proposed development area will be delineated in accordance with the DWA guidelines. The boundary of the wetland will be determined at appropriate intervals. If present, the boundaries of the seasonal and permanent wetness zones will be verified and mapped. The subsequent information will be used to inform the production of a GIS spatial coverage of the wetland habitat.

The Wetland Assessment will assess the level of ecosystem service provided by the different habitats, and provide additional information regarding the systems' importance and functioning. The wetland habitat within the site will be divided into hydrogeomorphic units and the level of ecosystem service delivery will be assessed in accordance with WET-EcoServices. This will assist in identifying the importance of the wetland units within a landscape context as well as in relation to each other.

### **10.3.2 Biodiversity Assessment**

A Biodiversity Assessment (of both flora and fauna) will be conducted on the proposed development site. This study will determine the presence of species of conservation significance, red data species, plants of medicinal value and regional/local/site endemics.

The faunal component will give consideration to reptiles and other amphibians, birds, moths, butterflies and other invertebrates such as millipedes, molluscs and earthworms as well as the larger and smaller mammals which may occur in the area such as mice, shrews, hares, genets, mongoose etc. The Biodiversity Assessment will also include an evaluation of plant species richness, identification and mapping of ecological units, vegetation types and veld condition.

The potential impact of the proposed development on ecological processes such as the movement and dispersal of animals and plants within the sites and between adjacent areas will be evaluated in detail. Of particular significance are the riparian corridors, ecotones and nearby conservation areas.

### **10.3.3 Heritage Impact Assessment**

A Heritage Impact Assessment will be undertaken on the property. This investigation will determine the presence of any heritage resources on the property and make recommendations for their protection alongside the proposed development.

### **10.3.4 Stormwater Management Plan**

A Storm Water Management Plan will be compiled to address stormwater control. An assessment will be done on the impact of the proposed dairy development on surface water run-off. As the proposed development will increase the volume of stormwater due to an increase in hardened surfaces, there is potential for the stormwater to cause erosion on site and at downstream locations, particularly in drainage lines on the property and downstream. In addition, there is the potential for stormwater off dairy surfaces to become contaminated with effluent and run into local drainage lines, impacting on water quality.

The impact of this will need to be fully investigated to ensure that stormwater is controlled and directed appropriately to prevent erosion and contamination and to minimise resultant adverse impacts on aquatic fauna and flora.

### **10.3.5 Geotechnical Assessment**

A Geotechnical Assessment will be conducted to assess the suitability of the soils for the construction of the dam walls and proposed dairy. This assessment will make recommendations for earthworks, foundations, groundwater, materials usage and subgrade treatment for dam construction, roads and paved areas.

### **10.3.7 Traffic Impact Assessment**

If deemed necessary by the Department of Transport, a Traffic Impact Assessment will be conducted. A Traffic Impact Assessment (TIA) would determine the impact of the projected traffic from the proposed dairy

development on current traffic volumes. Traffic counts may be undertaken on existing access roads to determine current traffic volumes.

The TIA will also take into consideration the existing type and condition of access roads, speed restrictions and types of vehicles e.g. cars, large delivery trucks etc. The TIA will make recommendations regarding the need for upgrading of roads which may be necessary to accommodate the increased traffic volumes.

#### **10.4 ENVIRONMENTAL MANAGEMENT PROGRAMME**

An Environmental Management Programme (EMPr) will be compiled and will contain guidelines to ensure that all activities associated with the construction and operation of the proposed development are carried out in an environmentally responsible and acceptable manner.

An EMPr is a legally-binding document that contains guidelines with which Contractors must comply, and which must be strictly implemented and regularly monitored. If this is done, it is likely that the majority of the potentially adverse impacts associated with construction activities can be minimised or prevented. An Environmental Control Officer (ECO) should be appointed by the Applicant to ensure compliance with the EMPr during the construction and operational phases. Should non-compliance occur, this must be brought to the attention of the DAEA, who will conduct the required prosecution procedure.

Specific management objectives and mitigation measures will be specified in the EMPr for the entire duration of the development, including the following stages:

- Planning and design;
- Pre-construction and construction activities;
- Operation or undertaking of the activity;
- Rehabilitation of the environment; and
- Closure, where relevant.

The EMPr will include the following:

- Waste Management Plan; and
- Water Quality Monitoring Plan.

The EMP will be based on the principles of the NEMA as well as the recommendations made in the Scoping Report and EIA Report, and will identify roles and responsibilities of management personnel on site. The EMPr will be used as a framework for environmental compliance monitoring and reporting.

## 10.5 ENVIRONMENTAL IMPACT ASSESSMENT REPORT

The EIA Report will contain a summary of the findings of the Specialist Studies and their recommendations for mitigation and management. It will also detail the public participation process undertaken as part of the EIA Phase and will include records of notices, comments and meetings with I&APs.

### 10.5.1 Assessment of Environmental Issues

In order to assess potential environmental issues associated with the proposed development, each aspect addressed in Sections 8 and 9 will be given a qualitative rating in relation to its environmental impact. Each aspect has been divided into a number of different classes, each of which has been assigned various criteria (see Table 5).

**Table 5:** Summary of aspects used for assessing environmental impacts

ASPECT	CLASS	CRITERIA
<b>NATURE OF IMPACT</b>	Positive	The impact on the environment will be positive.
	Negative	The impact on the environment will be negative.
	Direct	The impact is caused directly by the activity and generally occurs at the same time and at the place of the activity.
	Indirect	The impact induces changes that may occur as a result of the activity.
	Cumulative	The impact is a result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities.
<b>OCCURRENCE OF IMPACT</b>	Construction	The impact will happen during construction.
	Operation	The impact will happen during operation.
	Decommissioning	The impact will happen during decommissioning.
	Immediate	The impact will happen immediately
	Delayed	There will be a delay in the impact occurring.
<b>PROBABILITY OF IMPACT OCCURRING (with mitigation)</b>	Definitely	The impact will definitely occur even with mitigation (100%).
	Likely	It is likely that the impact will occur (60%-99%).
	Fair	There is a fair chance that the impact will occur (30% -59%).
	Unlikely	It is unlikely that the impact will occur (0% - 29%)
<b>REVERSIBILITY (with mitigation)</b>	Possible	It is possible to reverse the impact.
	Partly	It is partly possible to reverse the impact.
	Not possible	It is not possible to reverse the impact.
<b>EXTENT OF IMPACT (with mitigation)</b>	Site	The impact will be limited to the site.
	Local	The impact will affect the local area (within a radius of 40km).
	Provincial	The impact will affect areas beyond the site but within the boundaries of KwaZulu-Natal.
	National	The impact will affect areas beyond the Province but within the boundaries of South Africa.
<b>DURATION (with mitigation)</b>	Short-term	0-5 years (construction phase).
	Medium-term	5-40 years (construction and operation).
	Long-term	(>40 years).
	Permanent	Permanent damage to the environment.

<b>SIGNIFICANCE OF IMPACT WITHOUT MITIGATION</b>	Low	Small impact / disturbance.
	Medium	Moderate impact / disturbance expected.
	High	Significant impact / disturbance expected.
<b>SIGNIFICANCE OF IMPACT POST-MITIGATION</b>	Low	Small impact / disturbance.
	Medium	Moderate impact / disturbance expected.
	High	Significant impact / disturbance expected.

Where relevant, the following methods will be used to predict the characteristics of identified impacts:

- Professional judgement;
- Quantitative mathematical models;
- Experiments and physical models;
- Physical or visual simulations or maps (including GIS tools);
- Case studies; and
- Past experience.

### 10.5.2 Assessment of Alternatives

The EIA Regulations require that alternatives to a proposed activity must be considered, including the no-go alternative. The no-go alternative is the option of not undertaking the proposed activity or any of its alternatives. The no-go alternative also provides the baseline against which the impacts of other alternatives should be compared.

For this project, the following different types of alternatives have been identified:

6. **Do-nothing** - assessment of environmental impacts if the proposed project, or any of its alternatives, does not proceed.
7. **Agriculture** – assessment of different types of agriculture:
  - Reduction of the existing dairy herd;
  - Introduction of a beef cattle herd to the property;
  - Establishment of Wattle Plantations;
  - Continued establishment of maize farming on the property;
  - Lease arable land from other farmers in the area.
8. **Alternative Dairy locations** – assessment of different locations in which to locate the dairy:
  - Preferred development site;
  - Alternative sites to be investigated in the EIA Phase once technology has been assessed (see below).
9. **Alternative Energy** – assessment of different energy sources:
  - Solar;
  - Biogas from slurry.

**10. Alternative dairy technology** – assessment of different milking methods:

- Waste water treatment.
- Others to be provided in the Draft EIA.

As part of the full EIA report, each of the different identified alternatives will be investigated and assessed, and reasons for the elimination of alternatives will be provided. Where relevant, assessment will be based on:

- Capital investment and establishment costs;
- Direct, indirect and cumulative ecological impacts;
- Mitigation measures;
- Physical, legal or institutional constraints; and
- Compliance with policy and legal requirements.

If, through public participation, additional reasonable and feasible alternatives are identified by I&APs, these new alternatives will be assessed as part of the full EIA Report.

## **10.6 SUBMISSION TO AND CONSIDERATION OF DOCUMENTATION BY THE COMPETENT AUTHORITY**

Comments received in response to the EIA Report will be attached to, summarised and responded to in a final version of the EIA Report, which will be submitted to the Competent Authority for consideration.

## **11 CONCLUSION**

To date no fatal flaws have been identified with the proposed development, however it is imperative that the Specialist Studies listed in Section 10 are conducted and their results analysed before a decision can be made by the DAEA.

## 12 REFERENCES

CAMP, K. G (1997) The Bioresource Groups of KwaZulu-Natal – Condensed Report. Cedara Report No N/A 97/6.

DEA (2010a), Companion to the EIA Regulations 2010, Integrated Environmental Management Guideline Series 5, Department of Environmental Affairs (DEA), Pretoria, South Africa.

DEA (2010b), Environmental Management Frameworks in terms of the EMF Regulations of 2010, Integrated Environmental Management Guideline Series 6, Department of Environmental Affairs (DEA), Pretoria, South Africa.

DEA (2010c), Public Participation 2010, Integrated Environmental Management Guideline Series 7, Department of Environmental Affairs (DEA), Pretoria, South Africa.

DEA&DP (2010a) Guideline on Alternatives, EIA Guideline and Information Document Series. Western Cape Department of Environmental Affairs & Development Planning (DEA&DP).

DEA&DP (2010b) Guideline on Public Participation, EIA Guideline and Information Document Series. Western Cape Department of Environmental Affairs & Development Planning (DEA&DP).

DEA&DP (2010c) Guideline on Needs and Desirability, EIA Guideline and Information Document Series. Western Cape Department of Environmental Affairs & Development Planning (DEA&DP).

Mpofana Municipality 2010/2011 Integrated Development Plan and Spatial Development Plan.

MUCINA, LADISLAV & RUTHERFORD, M. (2006) The vegetation of South Africa, Lesotho and Swaziland. South African National Biodiversity Institute, Pretoria.

SCOTT-SHAW, R. (1999) Rare and threatened plants of KwaZulu-Natal and neighbouring regions. KwaZulu-Natal Conservation Service, Pietermaritzburg.



## **13 APPENDICES**

**APPENDIX A: Environmental Assessment Practitioners CV**

**APPENDIX B: Application Form and Acknowledgment of Receipt from DAEA**

**APPENDIX C: Waste License Application Form and Water License Application Form**

**APPENDIX D: Adverts**

**APPENDIX E: Site Notice Boards and Photos of Boards**

**APPENDIX F: Background Information Document (BID)**

**APPENDIX G: Public Information Session Handout, Attendance Register and Photographs**



**APPENDIX H: List of Interested and Affected Parties (I&APs)**

**APPENDIX I: Comments Received Following Circulation of BID, Site Posters and Adverts**