

Basic Assessment Report



agriculture & environmental affairs

Department:
Agriculture
& Environmental Affairs
PROVINCE OF KWAZULU-NATAL

(For official use only)

EIA File Reference Number:
NEAS Reference Number:
Waste Management Licence Number:
(if applicable)
Date Received:

DC/
KZN/EIA/

BASIC ASSESSMENT REPORT

**Submitted in terms of the Environmental Impact Assessment Regulations, 2010
promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107
of 1998)**

This template may be used for the following applications:

- **Environmental Authorization** subject to basic assessment for an activity that is listed in Listing Notices 1 or 3, 2010 (Government Notices No. R 544 or No. R 546 dated 18 June 2010); or
- **Waste Management Licence** for an activity that is listed in terms of section 20(b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) for which a basic assessment process as stipulated in the EIA Regulations must be conducted as part of the application (refer to the schedule of waste management activities in Category A of Government Notice No. 718 dated 03 July 2009).

Kindly note that:

1. This **basic assessment report** meets the requirements of the EIA Regulations, 2010 and is meant to streamline applications. This report is the format prescribed by the KZN Department of Agriculture & Environmental Affairs. Please make sure that this is the latest version.
2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with text.
3. Where required, place a cross in the box you select.
4. An incomplete report will be returned to the applicant for revision.
5. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it will result in the rejection of the application as provided for in the regulations.
6. No faxed or e-mailed reports will be accepted.
7. The report must be compiled by an independent environmental assessment practitioner ("EAP").
8. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.

Basic Assessment Report

9. The KZN Department of Agriculture & Environmental Affairs may require that for specified types of activities in defined situations only parts of this report need to be completed.
10. The EAP must submit this basic assessment report for comment to all relevant State departments that administer a law relating to a matter affecting the environment. This provision is in accordance with Section 24 O (2) of the National Environmental Management Act 1998 (Act 107 of 1998) and such comments must be submitted within 40 days of such a request.
11. **Please note that this report must be handed in or posted to the District Office of the KZN Department of Agriculture & Environmental Affairs to which the application has been allocated (please refer to the details provided in the letter of acknowledgement for this application).**

DEPARTMENTAL REFERENCE NUMBER(S)

File reference number (EIA):	DC22/0042/2012
File reference number (Waste Management Licence):	To be provided.

SECTION A: DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER AND SPECIALISTS

1. NAME AND CONTACT DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Name and contact details of the EAP who prepared this report:

Business name of EAP:	Green Door Environmental		
Physical address:	400 Old Howick Road, Hilton		
Postal address:	P.O. Box 11, Hilton		
Postal code:	3245	Cell:	072 181 4236
Telephone:	033 343 4176	Fax:	033 343 4201
E-mail:	rebecca@greendoorgroup.co.za		

2. NAMES AND EXPERTISE OF REPRESENTATIVES OF THE EAP

Names and details of the expertise of each representative of the EAP involved in the preparation of this report:

Name of representative of the EAP	Education qualifications	Professional affiliations	Experience at environmental assessments (yrs)
Jean Baverstock	BA, (Geog & Ind Psych)	IAIA	6 years
Rebecca Bowd	MEnvDev (S.A.)	EAPSA, IAIA, IWMSA, SAIEA	9 years

3. NAMES AND EXPERTISE OF SPECIALISTS

Names and details of the expertise of each specialist that has contributed to this report:

Name of specialist	Education qualifications	Field of expertise	Section/ s contributed to in this basic assessment report	Title of specialist report/ s as attached in Appendix D
Craig Cowden - Ground Truth	B. Sc (Agric) Pr. Sci. Nat -	Wetland Ecology	Appendix D1	Wetland Assessment

Basic Assessment Report

	Ecology			
Peter le Roux	BSc (Hons), MSc Agriculture	Vegetation	Appendix D2	Flora Assessment
Hans Grobler	PhD	Zoology	Appendix D2	Fauna Assessment
Pranesh Moodley	PrEng	Water Resource Analysis	Appendix D3	Water Resource Analysis
Frans Prins	MA (Archaeology)	Archaeologist	Appendix D4	Heritage Impact Assessment
Pranesh Moodley	PrEng	Floodline Assessment	Appendix D5	Floodline Assessment

SECTION B: ACTIVITY INFORMATION

1. PROJECT TITLE

Describe the project title as provided on the application form for environmental authorization:

The proposed expansion of the Bayonne Dairy, on Portions 10 (of 7), 11 (of 8), 12 (of 9), 13 (of 2), 15 (of 14) and Remainder of Portion 3 (of 2) of Farm Ripley No. 2211, and Portion 16 of Farm Niekerks Fontein No. 1031, Mooi River, KwaZulu-Natal.

2. PROJECT DESCRIPTION

Provide a detailed description of the project:

The proposed development will comprise of: the expansion of an existing Dairy to milk 500 cows; two slurry lagoons (the Dairy will produce approximately 14 400m³ of slurry per annum); a new centre pivot of 9ha; and remedial work to the spillways and structures of five existing dams.

Bayonne Dairy Farm is 580ha in size and is located in the Mpofana Municipality (KZ273) within the Umgungundlovu District (DC 27). The property is situated 3.5km away from the Joubertsvele store on the R622 Mooi River-Greytown Road at 29° 10' 29.1" S 30° 10' 42.8" E.

Six members of a family raised private funds to purchase Bayonne Farm in 2007. The members formed the S'dinane Family Trust.

There is an established Dairy of 250 Friesland cows which supplies a local Dairy Processing Facility. The existing Dairy was relocated on the farm during 2010. This Dairy consists of 250 cows, however, has capacity to cater for 500 cows. Thus there will be no additional expansion required to the Dairy facility. The sustainability of the existing Dairy operation at Bayonne Farm is being threatened by rising input costs and competitive market prices. This is a global trend. To avoid closure of the dairies, farmers have to increase the size of their herds to take advantage of economies of scale in order to be price competitive. If the Dairy at Bayonne Farm is unable to make this transition, in order to remain in the market, it will inevitably close. An additional 250 heads of cattle are therefore proposed to be introduced to the Dairy.

Since the collapse of the clothing and textile industry in Mooi River, the area has experienced economic decline, a lack of skilled labour and a rise in unemployment. However, Dairy and stock Farming is still a predominant occupation within the area as high demands on Dairy and equine products have sustained the agricultural sector. The surrounding agricultural areas fall within a Bio-resource Group (Central Midlands) that is classified as having 67% arable land. The local Mpofana Municipality Integrated Development Plan (IDP) 2010/2011 therefore identifies the agricultural sector as an economic opportunity and aims to preserve agriculturally viable land. Bayonne Farm falls within a dedicated agricultural area as identified within the local Municipality Spatial Development Framework (SDF), which is currently under review.

The Black Economic Empowerment (BEE) programme was launched by the South African government to redress the inequalities of Apartheid by giving previously disadvantaged groups economic opportunities previously not available to them. BEE is a socio-economic process that directly contributes to the economic transformation of South Africa through increasing the number of black people that manage, own and control the country's economy, thereby addressing those income inequalities of previously disadvantaged people.

Bayonne Farm and Dairy is owned and run by previously disadvantaged 'emerging' Farmers in the

Basic Assessment Report

S'dinane Family Trust. AgriBusiness Development Agency (ADA) is assisting the Trust to expand the Dairy operation. Assessments of the current operational constraints have concluded that the expansion of the Dairy requires increasing the total dam storage capacity and an additional centre pivot. ADA coordinates a range of services from government and private sectors to assist with distressed farmers (black farmers who are financially distressed), emergent farmers (black farmers facing constraints in expanding horizontally and vertically up and down the value chain) and established farmers (black farmers in established markets who require operational expansion support).

The Dairy site on Bayonne Farm is located at GPS co-ordinates 29° 10' 27.76" S, 30° 10' 43. 59"E. The size of the Dairy is 0.168ha (excluding roads 0.34ha). Effluent generated by the Dairy herd will be deposited in two slurry lagoons (350m³ each) which are proposed to be located a short distance north of the Dairy at GPS Co-ordinates 29° 10' 21.91" S, 30° 10' 39. 64"E. A Waste License has been applied for and is attached in Appendix G.

There are five dams situated on the Farm which constitute a total of 6ha. The majority of the remaining area is dedicated to 11 pastures totalling 50ha which are located throughout the Farm. There is also a homestead on the Farm.

The five dams on the farm total 114 753m³ in potential storage capacity per annum (refer to Table 3 in Section 3B). Mean Annual Run-off (MAR) through these catchments is 613 495m³. Upper dams feed lower dams and there is no regime of water release in operation to fill the lower dams located further north. The Farm dams are able to irrigate, fill and spill in the Summer months, however, in Winter; the northern downstream dams (Dams M and L) are unable to store a sufficient quantity of water for pasture irrigation. The downstream dams are thus empty in Winter. Furthermore, the Farm is highly-developed. Historical agricultural practices and the prevalence of alien vegetation, particularly in the L catchment, have led to soil erosion. Dam L is consequently silted up and the associated irrigated Fields 7, 9 and 11 are dryfield lands. On the southern portion of the Farm, where water is more reliably stored throughout the year, there is a transfer pipe-line from Dam I (located on the south-western portion) to Dam K (located on the south-eastern portion). Dam I supplements water to Dam K to support irrigation requirements for 23.62ha (including the existing 8ha centre pivot). To support the increased herd size, an additional 9ha pasture is required. It is proposed to position the additional 9ha centre pivot in the south-eastern portion of the Farm, and irrigate it from Dam K.

According to the published irrigation quota by the Mooi River Irrigation Board, 6000m³ p/ha is used to determine irrigation requirements. Thus, to irrigate 50.45ha of pasture on the farm at present, 302 700m³ of water yield per annum is ideally required. The catchment has sufficient water to spare for additional yield (299 395m³ spare). At present, only 40% of the Bayonne catchment is stored. The water levels of the dams have been lowered as a consequence of the spillways being breached through disrepair. Refer to Table 2 for an irrigation source summary in Section 3B.

A Water Resource Analysis has been undertaken (Appendix D3) to assess existing water yield on Bayonne Farm and to investigate alternatives for increasing water yield (e.g. raising Dam J). The alternatives are detailed in Section 4. However, the options to increase water yield on the Farm are estimated to cost between R2 – 3million. Furthermore, all water applications in the Mooi River catchment, up to Muden, are on hold as there is a moratorium on new development due to the requirements for the Springgrove Dam and the Umgeni transfer scheme. However, the Mpofana Irrigation Project (MIP) is in the process of applying for a Regional Water Use License Application for 2 new sizeable dams (plus small farm dams) on the Little Mooi and Hlatikulu. This is for a further 3000ha of irrigation as well as for increased surety of supply on existing use. Provision for a 9ha centre pivot for Bayonne Farm has been included in this application. Therefore, with regards to increasing the water yield on the Farm, the Applicant proposes at this stage to only undertake structural improvements to the five existing dams to restore the dams' storage levels to their original capacity. A Biodiversity Assessment was undertaken for the Farm and the Specialists concluded that the repairs to the existing

Basic Assessment Report

dam spillways and dam structures will not be detrimental to any flora or faunal species on site.

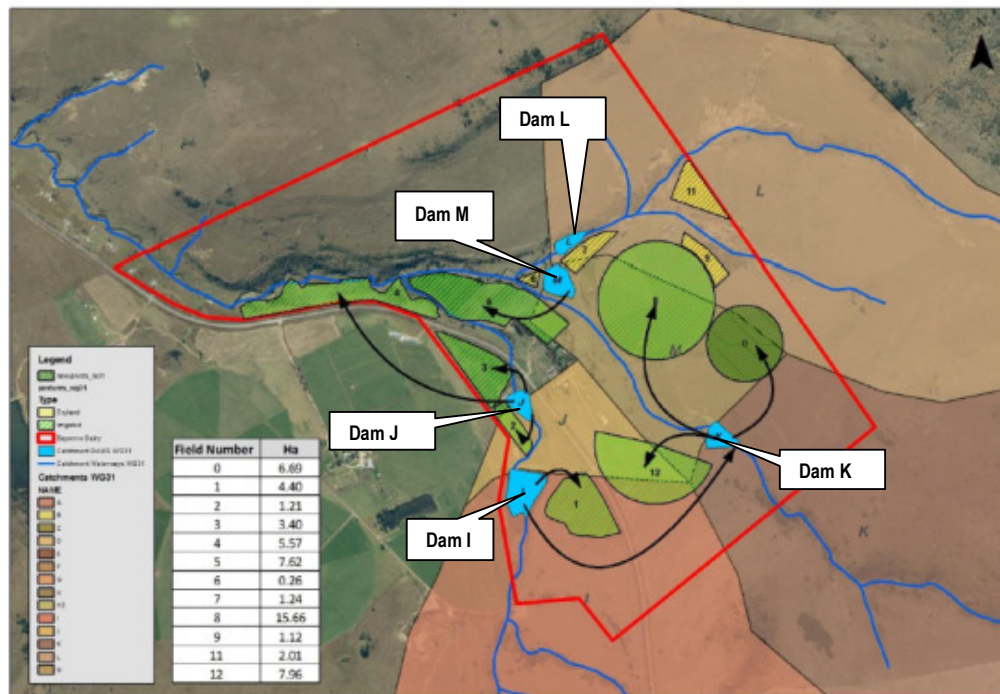


Figure 1: Map showing dam locations and Dam naming convention I, K, J, M, L (note: Field 0 is the proposed new pasture) (Source: Water Resource Analysis Figure 2-2 in Appendix D3)

The following environmental classifications apply to the project area:

- Mucina and Rutherford, 2006: GS 8 Mooi River Highland Grassland classified as vulnerable
- National Database of threatened ecosystems, December 2011: not listed
- Ezemvelo KZN Wildlife (KZN 22): listed as vulnerable
- EKZNW Conservation Plan, 2010: biodiversity priority area 1', available' for transformation.
- National Freshwater Ecosystem Priority Areas, 2011(NFEPA): wetlands not high priority at national scale.
- NFEPA: western boundary river falls within the Present Ecological State class B, "largely natural" (PES, 1999).

The Farm features grassland vegetation on undulating terrain with rocky hills and the land slopes from east to west from 1590 metres above sea level to 1480 metres respectively. Agricultural practices have transformed the entire property, including the wetland habitat on the Farm with the channelled valley bottom systems featuring channel incision, infilling and erosion. The "L" Catchment is most severely affected, with Dam L silted and consequently surrounded by dryland fields.

A Wetland Functionality and Delineation Assessment has been undertaken for the Farm. The Wetland Specialists have delineated a 30m buffer zone for the wetland areas of the Farm and provided recommendations for wetland rehabilitation and dam management, the details of which are included in this Report (refer to Appendix D1 for a map delineating the wetland buffer zone).

Fauna and Flora Specialists have assessed the available area on the south east of the Farm, where a centre pivot could be positioned (refer to Appendix D2). A small wetland, running parallel and south-east to the existing centre pivot was identified (approximately 4ha). This wetland and the surrounding area has the capacity to ensure natural dispersal routes and links to adjacent untransformed areas and as such is recommended to be avoided by the proposed development. A buffer zone of 12.5 ha has been

Basic Assessment Report

delineated to advise the position of the new centre pivot (refer to Figure 2). The position of the 9 ha centre pivot has been proposed by the Specialists. The area is heavily grazed, highly disturbed, with low species diversity and is dominated by alien vegetation.

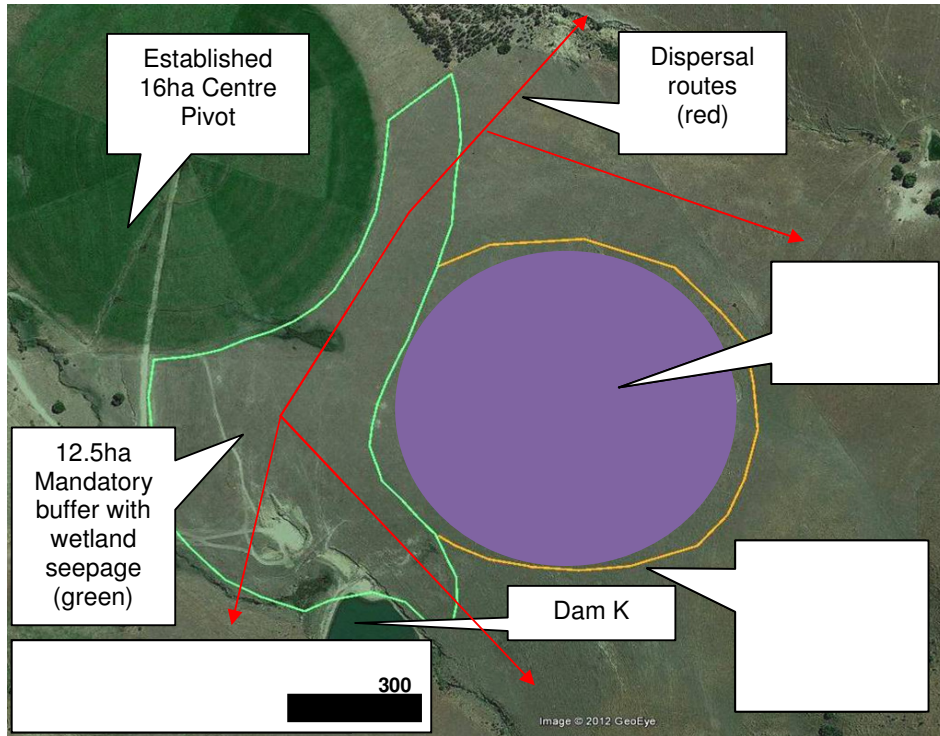


Figure 2: Aerial map showing the position of the existing pivot, position of proposed pivot, delineated ecological corridor and mandatory buffer area

A new access road is planned to be constructed 180m north from the existing access road off the R622. The new access road will be constructed through a cropland and will therefore have no effect on natural fauna or flora. It will provide a more direct access to the Dairy, thereby reducing time and pollution associated with the existing longer access road.

3. ACTIVITY DESCRIPTION

Describe each listed activity in Listing Notice 1 (GNR 544, 18 June 2010), Listing Notice 3 (GNR 546, 18 June 2010) or Category A of GN 718, 3 July 2009 (Waste Management Activities) which is being applied for as per the project description:

GNR 544	Part 11	<p>The construction of:...</p> <ul style="list-style-type: none"> (i) canals; (ii) channels; (iii) bridges; (iv) dams; (x) buildings exceeding 50 square metres in size; or (xi) infrastructure or structures covering 50 square metres or more 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. <p>The proposed developments will be within 32 meter of a water course.</p>
GNR 544	Part 18	<p>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,</p>

Basic Assessment Report

		<p>pebbles or rock or more than 5 cubic metres from: (i) a watercourse;...</p> <p>The improvements to the dams will require the removal and / or movement of soil within a water course.</p>
GNR 546	Part 18	<p>The clearance of an area of 5 hectares 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) purposes of agriculture or afforestation inside areas identified in spatial instruments adopted by the competent authority for agriculture or afforestation purposes; (2) 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; (3) the undertaking of a linear activity falling below the thresholds in Notice 544 of 2010.</p> <p>The Applicant proposes to clear 9 hectares of veld on the property for cultivation purposes.</p>
GNR 718	Category A: 3	<p>The storage, including the temporary storage of general waste in lagoons.</p> <p>The proposed Dairy expansion will include the establishment of a slurry dam.</p>
GNR 718	Category A: 7	<p>The recycling or re-use of general waste of more than 10 tons per month.</p> <p>The proposal includes the establishment of two slurry dams (350m³ each).</p>
GNR 718	Category A: 11	<p>The treatment of effluent, wastewater or sewage with an annual throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres or more.</p> <p>Effluent generated within the dairy and directed into the effluent dam will undergo treatment in the lagoons prior to being released to the environment. The proposed lagoons will have throughput capacity of less than 15 000m³ p/annum.</p>
GNR 718	Category A: 17	<p>The storage, treatment or processing of animal manure at a facility with a capacity to process in excess of one ton per day.</p> <p>The proposal includes the establishment of two slurry dams (350m³ each).</p>
GNR 718	Category A: 18	<p>The construction of facilities for activities listed in Category A of this Schedule.</p> <p>The proposal includes the establishment of two slurry dams (350m³ each).</p>

4. FEASIBLE AND REASONABLE ALTERNATIVES

“**alternatives**”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) The property on which or location where it is proposed to undertake the activity;

The site of the proposed development is located on the property owned by the S'dinane Family Trust. The proposed development entails the upgrading of infrastructure on the existing operational Farm. Thus, there are no other properties being identified as alternative locations to the proposed development.

Bayonne Farm is highly developed with 5 dams, 11 fields, a Dairy and a homestead. There are two areas available on the Farm on which further development can take place, namely, on the south-

Basic Assessment Report

western side of the farm closest to the Dairy and homestead, and on the south-east, across the river and alongside the existing centre pivot.

The proposed slurry lagoons need to be located close enough to the Dairy to receive the daily effluent. The south-eastern location is too far from the dairy as Infrastructure would need to cross over the river and the wetland area. The south-western position is most suitable as it is an area that is already transformed and close to the Dairy.

The position for the proposed centre pivot is most suitable close to Dam K in the south-eastern location, for irrigation purposes. There is also not enough available space for a 9ha centre pivot in the south-western area of the farm. The preferred south-eastern location is highly transformed, dominated by alien vegetation and close enough to extend existing irrigation infrastructure

The chosen locations are preferred in terms of economic viability and environmental impact.



Figure 3: Aerial map showing the position of the current dairy complex, proposed position of the slurry lagoons and centre pivot.

(b) The type of activity to be undertaken;

No alternate types of development have been identified or investigated through this Basic Assessment Process. The proposed development site falls within the middle of an existing agricultural area. The property is completely dedicated to the Dairy operation, the pastures and the irrigation system to maintain the pastures. There is no more land on the property to undergo any other type of activity. It is being proposed to upgrade the property in line with the existing economic activity. The Dairy industry has a strong market and the local authority has expressed support for the local Dairy activities. The S'dinane Family Trust are emerging black Farmers who are being financially supported in their efforts to upgrade the operation and maximise the output of the Farm.

(c) The design or layout of the activity;

The following options in Table 2 below have been investigated to increase the water storage (for irrigation of pastures) on the Farm (refer to the Water Resource Analysis in Appendix D3 for a more thorough explanation):

Basic Assessment Report

Table 2: Options for improving water yield on Bayonne farm

Option	Description	Recommendation
Dam I	Cannot be raised further as it already crosses into the neighbouring Farm.	This option is not recommended.
Raise Dam K	At present, water is transferred from Dam I to Dam K. If the wall of Dam K was raised, this would alleviate the need to pump water from Dam I. However, there is little potential to store much more additional water given the steep topography of the catchment. To raise the dam wall by at least 4m for an additional 40 000m ³ , 42,000m ³ of fill material will be required. The material is not readily available within the area. In addition, the enlarging of this dam will require a dam re-grading to Category II with costly implications for design standards and safety requirements.	This option is not recommended.
Raise Dam J	It would be beneficial to raise Dam J as it is not able to supply sufficient water to its surrounding fields all year round. However, the dam wall height is constrained to 3m by the road reserve to the East, the property boundary to the West and the downstream toe of Dam I to the South. An additional 50 000m ³ water storage capacity will require 17,800m ³ earthworks. There will potentially be re-grading of the dam required as well. This increase is ± 5ha.	This option recommended to be investigated further.
Construct a new dam below Craig at north-western corner of Farm	The position of the main road to the south constrains the raising of the dam wall to 8m. The dam would store 90,000m ³ of water with an earthwork's requirement of ±19,000m ³ . Due to the proximity of the Provincial Road, the spillway will need to be placed on the right hand flank of the proposed dam. Operationally, this dam will be challenging as water will have to be pumped upstream to the required irrigation areas.	This option will require further investigation to confirm feasibility.
Construct a new dam between Dam K and Dam M (Dam Mid)	The proposed location offers proximity to irrigated pastures which currently rely on Dam J. However, the catchment at this location is steep, the dam wall will be long and the dam may not be efficient. The dam wall would be 8m high, storing 16 000m ³ of water and requiring 29 000m ³ of earthworks.	This option recommended to be investigated further.
Connect Dam K and dam L	The dam sites are in steep sections of the catchment and therefore the storage potential once combined is not that high. The success of this option will require the rehabilitation of the catchment which exhibits soil erosion and thus siltation problems. Given that Dam L is currently not operational due to siltation, pursuing this option would. The Flora and Fauna Specialists have proposed a design to join the dams so that there is minimal ecological impact but it would still entail the inundation of a portion of existing croplands and a wetland area dominated by alien trees and habited by fauna with low conservational significance.	This is not recommended at this stage.
Structural repairs and remedial work to existing dams	Structural repairs to the existing dams and remedial work to all spillways will restore the dams to their original capacities.	This is the recommended option.

(d) the technology to be used in the activity;

The new pastures

Conventional tillage is traditionally the most favoured method to cultivate pastures. Methods involve removal of weeds and shaping the soil into rows and furrows for planting and irrigation. The negative effects of this method include soil compaction, soil aggregate degradation, loss of organic matter, loss of soil microbes and soil erosion. The sites form part of upper catchments to wetlands in the area and are therefore vulnerable to soil erosion and resulting sedimentation to water systems downstream of the sites.

Strip-till technology is a method that uses a minimum tillage. It combines the benefits of both conventional tillage (soil drying) and conservation tillage (soil warming). With this method, only the portion of soil required to have the row of seed sown is disturbed. Although this method allows for a better seedbed than the no-till method, the soil crust is still being broken which speeds up the decay of organic matter and allows for soil water contact that could cause erosion. However, the resulting erosion is light in comparison to a conventional tillaged site.

Conservation tillage technology is the preferred option for use on the 9ha of land to create pastures for the increased herd. This method is primarily focused on minimum disturbance to the soil through no tillage. Sowing and fertilising is done with minimum disturbance to the soil. The technique also increases water and organic matter in the soil and decreases soil erosion, as top soil is not washed or blown away. Crop residues decompose on the site and, during winter, there is a cover crop grown. This reduces the carbon loss which eventually is reversed through these methods which keep the carbon in the soil.

(e) the operational aspects of the activity; and

No feasible operational alternatives exist.

(f) the option of not implementing the activity.

If the Dairy was not expanded, then a number of associated environmental benefits would not accrue. They are primarily the benefits associated with the management of erosion and the rehabilitation of the catchments, the social benefits associated with the creation of jobs for previously disadvantaged individuals and the transfer of skills.

Environmental benefits not realised:

- If the Dairy is not able to be economically viable through expansion, then there will be no opportunity for financial assistance to:
 - address the existence of alien plant species in the wetland and the aliens will continue to remain the dominant species in the wetland area.
 - The Catchment 'L' would remain in a severely eroded state
 - The wetland would continue to exist in a degraded state.
- There would be no creation of the following employment opportunities:
 - Direct job security - The Dairy currently employs 50 previously disadvantaged people. For every seven jobs created, two new service jobs emerge through the multiplier effect (7 service jobs). In rural Kwazulu-Natal, one salary supports approximately seven other individuals. Therefore, approximately 400 previously disadvantaged people are currently benefiting from the Dairy operation. These jobs will be able to be retained if the Dairy remains economically viable.
 - Direct job creation (temporary) in planning phase -during the planning phases, employment of engineers and other skilled professionals will be required.

Basic Assessment Report

- Direct job creation (temporary) in preparatory phase -it is estimated that 40 temporary jobs will be created in preparation of the land and structural repair of dams.
- Direct job creation (permanent) in operational phase - The Dairy, pasture cropping and extended irrigation system will create 25 new permanent jobs. The creation of 25 jobs (plus four service jobs) will directly benefit 200 additional previously disadvantaged people.
- If the proposal is not implemented, then there will be a valuable lost opportunity to transfer highly useable skills within an area that suffers from a low skills base and a high unemployment rate. In addition, these skills (e.g. animal husbandry, nursing) are highly transferable in the agricultural sector.
- If the proposal is not implemented, then there will be a valuable lost opportunity to promote the BEE programme and support emerging black Farmers. There is an opportunity to support this project, and in so doing, redress the inequalities of Apartheid and give previously disadvantaged Farmers a valuable economic opportunity, contributing to the economic transformation of South Africa and addressing the income inequalities of previously disadvantaged people.

Environmental dis-benefits not realised:

- Centre Pivot - If the proposal is not implemented, then the 9ha site will remain in a natural state. However, the site is located within a highly utilised Farmland area and is surrounded by agriculture. The site is degraded and will continue to be heavily grazed by cattle.
- There would be no potential for an excessive and prolonged decline in volume of water exiting from the dams which could result in long term damage being caused to biota downstream.

Below is a list of possible scenarios:

- The Applicant could sell the Farm to a conservation body. It is unlikely though that the conservation body would be interested in Bayonne Farm as it has low conservation significance and will require a significant investment to rehabilitate. The most viable route for rehabilitation will be as a financed programme costed in to the expansion of the Dairy in recognition of the dependence of the Dairy on its environment.
- The Applicant could sell the property to another Farmer. This may result in a second environmental application; the nature of this application obviously is currently unknown.

Describe alternatives that are considered in this report. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Sections B 5 – 15 below should be completed for each alternative.

5. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. List alternative sites were applicable.

Alternative:	Latitude (S):			Longitude (E):		
	°	'	"	°	'	"
Preferred site for slurry lagoons	29°	10'	29.01"	30°	10'	42.00"
Preferred site for centre pivot	29°	10'	21.91"	30°	10'	39.64"
Structural repairs to Dam I	29°	10'	40.14"	30°	10'	31.26"
Structural repairs to Dam K	29°	10'	33.42"	30°	10'	58.94"
Structural repairs to Dam J	29°	10'	29.17"	30°	10'	31.27"
Structural repairs to Dam M	29°	10'	14.23"	30°	10'	36.32"
Structural repairs to Dam L	29°	10.09'	72.00"	30°	10'	37.64"

6. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	Size of the activity:
Preferred site for slurry lagoons (350m ² each)	700m ²
Preferred site for centre pivot	90 000m ²
Structural repairs to Dam I	30 000m ²
Structural repairs to Dam K	10 000m ²
Structural repairs to Dam J	10 000m ²
Structural repairs to Dam M	10 000m ²
Structural repairs to Dam L	10 000m ²

7. SITE ACCESS

Does ready access to the site exist?

YES	<input checked="" type="checkbox"/>
120m	

If NO, what is the distance over which a new access road will be built (additional access road)

Describe the type of access road planned:

There is an existing access road off main road R622 travelling from Mooi River towards Greytown at GPS 29° 10' 37.19 S, 30° 10' 41.56" E. However, an additional access road is planned to be constructed 180m north from the existing access road off the R622 at GPS co-ordinates 29°10' 32.4" S, 30°10'37.9 E. The new access road will join onto the old access road at 120m from the main R622 road. The new access road will be constructed through a cropland and will therefore have no effect on natural fauna or flora. The new access road will shorten the length of the existing access road by 250m, resulting in a reduction in dust pollution caused by vehicles.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

8. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this report.

The site or route plans must indicate the following:

- 8.1. the scale of the plan which must be at least a scale of 1:500;
- 8.2. the property boundaries and numbers/ erf/ Farm numbers of all adjoining properties of the site;
- 8.3. the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- 8.4. the exact position of each element of the application as well as any other structures on the site;
- 8.5. the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
- 8.6. walls and fencing including details of the height and construction material;
- 8.7. servitudes indicating the purpose of the servitude;
- 8.8. sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
 - rivers, streams, drainage lines or wetlands;
 - the 1:100 year flood line (where available or where it is required by DWA);
 - ridges;
 - cultural and historical features;
 - areas with indigenous vegetation including protected plant species (even if it is degraded or infested with alien species);
- 8.9. for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- 8.10. the positions from where photographs of the site were taken.

9. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix B to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

10. FACILITY ILLUSTRATION

A detailed illustration of the facility must be provided at a scale of 1:200 and attached to this report as Appendix C. The illustrations must be to scale and must represent a realistic image of the planned activity/ies.

11. ACTIVITY MOTIVATION

11.1. Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R12 million
What is the expected yearly income that will be generated by or as a result of the activity?	Impossible to predict
Will the activity contribute to service infrastructure?	NO
Is the activity a public amenity?	NO
How many new employment opportunities will be created in the development phase of the activity?	20
What is the expected value of the employment opportunities during the development phase?	R75 000
What percentage of this will accrue to previously disadvantaged individuals?	99%
How many permanent new employment opportunities will be created during the operational phase of the activity?	5
What is the expected current value of the employment opportunities during the first 10 years?	R1.2million
What percentage of this will accrue to previously disadvantaged individuals?	100%

11.2. Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

uMgungundlovu is the District Municipality whilst Mpfana is the Local Municipality. The area of Mooi River has experienced an economic decline in recent years due to the collapse of the textile industry that was so predominant in the area. Consequently, unemployment rates have increased for the area. There has been a lack of business investment in the area and a corresponding increase in poverty levels. The population have low literacy levels and a lack of skills development. People from outside of the Municipal area are required to be employed because there is a lack of skilled labour. The rates turnover to basic services is limited because the Municipality is grant dependent.

The predominant occupation in the area is Dairy and stock Farming. The Mpfana Municipality IDP 2010/2011 has noted that the unemployment levels are projected at 16% due to lack of economic activities that provide employment. One of the key strategic issues for the Municipality is the high unemployment rate. Two of the strategic priorities are to strengthen the skills and human resource base and to speed up economic growth to promote sustainable livelihoods. The IDP has identified the agricultural sector as an opportunity to increase economic growth. It has been noted that a vibrant agricultural sector exists which has good links to supply chains. The Agricultural sector has experienced consistent growth. This can be contributed to high demands of Dairy and equine products. Another competitive advantage for the area is that Mooi River town and its surrounding agricultural areas fall within Bio-resource Group (Central Midlands) classified as having 67% arable land. The SDF, currently under review, notes that it will be important to preserve agriculturally viable land to protect the economically active agricultural sector and ultimately to protect food security.

Mpfana Municipality is rich in biodiversity with high species diversity and habitats. Bayonne Farm is a low sensitivity area given that it is completely transformed by agricultural practices. Given the agricultural focus of the Mpfana Municipality area, the Provincial Spatial Economic Development Strategy identifies a need to have a developmental approach to the land reform program so as to prevent the loss of agricultural land and to manage the impact on the agricultural sector. It also requires the municipality to consider the economic realities of the emerging Farmers. Three main routes have been identified as primary development (regional) corridors, one of which is the R622 which link Mooi – River/ Bruntville to Rietvlei and Greytown (east-west axis). Bayonne Farm is located on this route, in an

agriculturally active area and the SDF supports the protection of this land for Farming in this location.

The SDF recognises that there is a serious development constraint for agriculture with a large number of properties which have been acquired by previously disadvantaged Farmers, which are underutilised and lying idle. This is a threat to the viability of the agricultural sector and the area's economy as a whole.

The BEE programme: South Africa's policy of BEE is not simply an initiative which is morally trying to reverse the wrongs of the past. It is a practical economic growth strategy with a goal to realise South Africa's full economic potential. Historically, the apartheid government excluded black people from meaningful participation in the country's economy which caused suffering and a distorted economy. This eventually led to the 1970's economic crisis when gross domestic product growth fell to zero with minimal growth in the 1980s. Following the changes in government in 1994 the policy of Black Economic Empowerment (BEE) was established. This policy, although initially ill-defined, has now become more inclusive and is known as Broad-based Black Economic Empowerment. In 2003 the government's BEE strategy was laid out in a document titled South Africa's Economic Transformation: A Strategy for Broad-Based Black Economic Empowerment. Despite the economic gains of the last decade, it is evident that the racial divide between rich and poor remains and this can contribute to social and political instability. This Broad-Based strategy stresses a BEE process that is associated with growth and enterprise development, and not just with the redistribution of existing wealth. There is an opportunity to join this government programme to redress the inequalities of Apartheid and give a previously disadvantaged Farmer a valuable economic opportunity. By expanding this black owner-Dairy, there will be a direct contribution to the economic transformation of South Africa, directly addressing the income inequalities of previously disadvantaged people.

The Bayonne Dairy is an existing BEE initiative which provides employment for the surrounding community and contributes to the agricultural sector. In order for it to remain a financially viable operation, the current Dairy herd of approximately 250 cows needs to be expanded to 500 cows. This Dairy expansion will be funded by the Agribusiness Development Agency (ADA), and includes the costs for the expansion and upgrade of Farming infrastructure, such as an additional centre pivot for grazing.

This project supports and promotes previously disadvantaged individuals to contribute to the agricultural sector. This project will provide job opportunities, as well as the opportunity to assist in keeping up with consumer demand for food.

The provision of job security and job creation: The increase in herd size, required by Bayonne Farm to sustain the existing Dairy, will result in job security and direct job creation, both temporarily and permanently. The growing out of heifers and subsequent transfer of cows to the BEE enterprise will indirectly result in permanent jobs which will be created for the BEE Dairy. The economic and social benefits will contribute to social upliftment and poverty alleviation in an area that suffers from high unemployment.

Skills transfer:

A significant level of skills transfer will take place for the new Dairy employees. There will be a valuable opportunity to transfer highly useable skills within an area that suffers from a low skills base and a high unemployment rate.

Contribution to the GDP: Agricultural production will increase, further aiding in food and milk production to keep up with current consumer demand, and increase its contribution to GDP, both at a local and national level.

Basic Assessment Report

Indicate any benefits that the activity will have for society in general:

The proposed Dairy expansion will contribute to the ever increasing demand for milk. An increased amount of locally sourced Dairy will help keep prices for Dairy products low. Keeping the milk price low will enable a greater percentage of the population to include Dairy products in their diet. Milk is a good source of calcium which aids towards better bone and overall health. This is very important considering the high prevalence of HIV and Aids in this Country. Agricultural production will increase, further aiding in food production to keep up with current consumer demand.

South Africa has one of the highest levels of unemployment in the world. In the aftermath of conflict (South Africa's armed struggle for political freedom), it is difficult to rebuild food supplies and this has left generations of young people without Farming skills. Thus, the alleviation of poverty, and hence the creation of jobs in South Africa is rated as the highest Government priority. However, where funding is limited and resources scarce, such as in the rural areas of the country, there is a challenge to provide sufficient jobs and meet the cost of social welfare.

Indicate any benefits that the activity will have for the local communities where the activity will be located:

Jobs will be created during the construction and operational phases. The proposed Dairy expansion will create more job opportunities for the local communities and improve skills development and training. The expansion will also increase job security for those who are currently employed on the farm. The development will thus improve the quality of life for the community. The Dairy will potentially increase the availability of food to the surrounding areas.

The following opportunities will accrue to local, previously disadvantaged people:

- Direct job security - The Dairy currently employs 50 previously disadvantaged people. For every seven jobs created, two new service jobs emerge through the multiplier effect (seven service jobs). In rural Kwazulu-Natal, one salary supports approximately seven other individuals. Therefore, approximately 400 previously disadvantaged people are currently benefiting from the Dairy operation. These jobs will be able to be retained if the Dairy remains economically viable.
- Direct job creation (temporary) in planning phase -during the planning phases, employment of engineers and other skilled professionals will be required.
- Direct job creation (temporary) in preparatory phase -it is estimated that 20 temporary jobs will be created in the construction of the Dairy, preparation of the land, structural repair of dams and extension of infrastructure for irrigation.
- Direct job creation (permanent) in operational phase - The operating of the slurry lagoons, pasture cropping and extended irrigation system will create five new permanent jobs. The creation of five jobs will directly benefit 35 additional previously disadvantaged people.

12. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are relevant to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
The Constitution of the Republic of South Africa (Act 108 of 1996) states 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 practicing ecologically sustainable development.	South African Government	1996
National Environmental Management Act (Act 107 of 1998) – for its potential to cause degradation of the	Dept of Environmental Affairs and Tourism	1998

Basic Assessment Report

environment (Section 28).		
National Water Act (Act 36 of 1998) – for potential to cause pollution of water resources defined under the Act (Section 19).	Dept of Water Affairs and Forestry	1998
Conservation of Agricultural Resources Act (Act 43 of 1983) -for control and removal of alien invasive plants (Regulations 14 & 15).	Dept of Agriculture	1983
National Veld and Forest Fire Act (Act 101 of 1998) – for burning of firebreaks along property boundaries.	Dept of Water Affairs and Forestry	1998
National Heritage Resources Act (Act 25 No. of 1999)	AMAFA	1999
EIA Guideline & Information Document Series. Western Cape Department of Environmental Affairs and Development Planning	DEA&DP	2010
National Environmental Management Act (107/1998): Publication of the Companion guideline on the Implementation of the Environmental Impact assessment Regulations, 2010	DAEA	2012

13. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

13.1. Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES	<input type="checkbox"/>
Impossible to Predict	<input type="checkbox"/>

If yes, what estimated quantity will be produced per month?

How will the construction solid waste be disposed of? (describe)

Covered waste receptacles and / or skips will be placed on site to collect waste from construction activities. It is recommended that a number of labelled containers are provided for different waste types (paper, plastic, tins and glass).

Where will the construction solid waste be disposed of? (provide details of landfill site)

Recyclable waste (paper, plastic, tins and glass) will be taken to the recycling depots near Mooi River. Any leftover solid waste will either be disposed of at a registered landfill site (Mooi River Landfill Site) or donated to the local community.

Will the activity produce solid waste during its operational phase?

YES	<input type="checkbox"/>
Impossible to Predict	<input type="checkbox"/>

If yes, what estimated quantity will be produced per month?

How will the solid waste be disposed of? (provide details of landfill site)

Mooi River Landfill Site

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

N/A

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine the further requirements of the application.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

<input type="checkbox"/>	NO
--------------------------	----

If yes, contact the KZN Department of Agriculture & Environmental Affairs to obtain clarity regarding the process requirements for your application.

Is the activity that is being applied for a solid waste handling or treatment facility?

<input type="checkbox"/>	NO
--------------------------	----

If yes, contact the KZN Department of Agriculture & Environmental Affairs to obtain clarity regarding the process requirements for your application.

13.2. Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	<input type="checkbox"/>	NO
If yes, what estimated quantity will be produced per month?	N/A	
Will the activity produce any effluent that will be treated and/or disposed of on site?	<input type="checkbox"/>	YES

If yes, contact the KZN Department of Agriculture & Environmental Affairs to obtain clarity regarding the process requirements for your application.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	<input type="checkbox"/>	NO
---	--------------------------	----

If yes, provide the particulars of the facility:

Facility name:	N/A		
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

Effluent will be collected in two on-site slurry lagoons (14 400m ³ p/annum). This will be used to fertilise grazing pastures.

13.3. Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	<input type="checkbox"/>	NO
If yes, is it controlled by any legislation of any sphere of government?	<input type="checkbox"/>	NO

If yes, contact the KZN Department of Agriculture & Environmental Affairs to obtain clarity regarding the process requirements for your application.

If no, describe the emissions in terms of type and concentration:

<p>Small amounts of dust will be created during the construction phase, as a result of construction vehicles travelling to and from the site, clearing of the site. This will be a short term impact. Vehicle emissions will be released during the construction phase by construction vehicles traversing the site.</p> <p>Fertiliser which will be applied to the land during pasture cropping is likely to be odorous. However, as it is traditionally an agricultural area, and there are few neighbours, odours are unlikely to be problematic. Exhaust emissions from agricultural machinery and windblown dust will be created during Farming activities, however as the area proposed to be pasture cropped is located within an agricultural area, this dust is not expected to be problematic.</p>
--

13.4. Generation of noise

Will the activity generate noise?	<input type="checkbox"/>	NO
If yes, is it controlled by any legislation of any sphere of government?	<input type="checkbox"/>	NO

Basic Assessment Report

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
If no, describe the noise in terms of type and level:

Noise will be generated during the construction phase, though the use of heavy machinery, construction vehicles and the presence of the construction workforce on the site. This will be a short term impact. During the operational phase, sources of noise are likely to include people and Farm vehicles.

14. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

<input type="checkbox"/>	<input checked="" type="checkbox"/>	groundwater	<input type="checkbox"/>	river, stream, dam or lake	<input type="checkbox"/>
--------------------------	-------------------------------------	-------------	--------------------------	----------------------------	--------------------------

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

Irrigation of the new centre pivot is proposed to be undertaken from the existing Dam K

Does the activity require a water use permit from the Department of Water Affairs?

YES NO

If YES, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this report.

15. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

Where artificial lighting is required throughout the development, energy-saving Compact Fluorescent Light-bulbs (CFL) must be used, not incandescent globes.
It is recommended that rain-water storage tanks be installed, and roofs are properly insulated to ensure minimum heat gains or losses.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

None.

SECTION C: SITE/ AREA/ PROPERTY DESCRIPTION

Important notes:

- For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No.
(e.g. A):

- Subsections 1 - 6 below must be completed for each alternative.

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10 X	1:10– 1:7,5	1:7,5 – 1:5	Steeper than 1:5
------	-------------	-------------	------------------	-------------	-------------	---------------------

2. LOCATION IN LANDSCAPE

Indicate the landform(s) that best describes the site (Please cross the appropriate box).

Alternative S1 (preferred site):

Ridgeline	Plateau	Side slope of hill/mountain	Closed valley	Open valley	Plain	Undulating plain/low hills X	Dune	Sea- front
-----------	---------	--------------------------------	------------------	----------------	-------	------------------------------------	------	---------------

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

3A

Has a specialist been consulted for the completion of this section?

YES	
-----	--

If YES, please complete the following:

Name of the specialist:	Craig Cowden		
Qualification(s) of the specialist:	B. Sc (Agric), Pr. Sci. Nat - Ecology		
Postal address:	P O Box 2005, Hilton		
Postal code:	3245		
Telephone:	033 -343 2229	Cell:	
E-mail:	info@groundtruth.co.za	Fax:	086 599 2300
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?			NO
If YES, specify and explain:	N/A		
Are there any special or sensitive habitats or other natural features present on any of the alternative sites?		YES	

Basic Assessment Report

If YES,
specify and
explain:

Centre pivot
The area required for the establishment of an additional centre pivot for cultivation is 9ha. The Specialist study assessed an area of 23ha of available land to the east of the existing centre pivot located at GPS co-ordinates 29° 10' 16.07" S, 30° 10' 50.56" E. The land is predominantly short grassland but there is a small area adjacent to the existing centre pivot at GPS co-ordinates 29° 10' 23.13" S, 30°10' 55.96" E that features shallow, dolerite outcrops and wetland seeps. This area displays a higher diversity of fauna and flora than its surrounds. The grasslands to the south-east of the wetland area, on which the centre pivot is proposed to be located, have low species diversity and have been heavily grazed by cattle. No fauna or flora of conservational significance were observed on this site. The land is dominated by alien grass species. It has been recommended that the centre pivot be located in the degraded grassland area, a sufficient distance away from the small wetland. Although the rocky outcrops and wetland area do not have a high conservational value, a buffer area has been delineated by the Specialists to protect the wetland and to provide for an ecological corridor. The buffer area (approximately 12.5ha) will ensure that the natural dispersal routes and links to the adjacent areas of untransformed land are maintained. Refer to the Fauna and Flora Specialist study, Appendix D2, Section 4.3.2 for the Figures that show the proposed buffer zone delineated area.

Spillways and structural dam repairs
The water levels of the dams have been lowered as a consequence of the spillways being breeched through disrepair. Some peripheral vegetation has become established in the low water level areas during this time. Once the spillways and structural repairs to the dams have been undertaken, the water levels will return to their previous heights, and some of this vegetation will be inundated. This will not be of any conservational concern. The Specialists concluded that the repairs to the existing dam spillways and dam structures will not be detrimental to any flora or faunal species on site.

New access road
A new access road is planned to be constructed 180m north from the existing access road off the R622 at GPS co-ordinates 29°10' 32.4" S, 30°10'37.9 E. The new access road will be constructed through a cropland and will therefore have no effect on natural fauna or flora.

Are any further specialist studies recommended by the specialist?	<input type="checkbox"/>	NO
If YES, specify:	N/A	
If YES, is such a report(s) attached in <u>Appendix D</u> ?	<input type="checkbox"/>	NO

Signature of specialist: Refer to Appendix D1 Date:

3B YES
Has a specialist been consulted for the completion of this section?

If YES, please complete the following:

Name of the specialist:	Pranesh Moodley		
Qualification(s) of the specialist:	PrEng		
Postal address:	P O Box 12051, Dorpspruit		
Postal code:	3206		
Telephone:	(0)33 345 3530	Cell:	
E-mail:	info@mbbpmb.co.za	Fax:	(0)33 342 7728

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites? NO

Basic Assessment Report

If YES,
specify and
explain:

N/A		
Are there any special or sensitive habitats or other natural features present on any of the alternative sites?	YES	

The area falls within the upper reaches of the V20E quaternary catchment, which feeds the Mooi River. The confluences of three streams occur on Bayonne Farm. There are five dams situated upstream of these confluences constituting 6ha (refer to Table 1 below). The majority of the remaining area is dedicated to 11 pastures totalling 50 ha and located throughout the Farm (refer to Table 2).

The five dams on the Farm total 115 000m³ of potential storage capacity. Mean Annual Run-off through these catchments is in excess of irrigation demand. Only 40% of the total catchment running through the Farm is stored. There is no regime of water release in operation to fill the dams located further north. There is a transfer pipe-line between Dam 1 and Dam 2. Dam 1 supplements water to Dam K to support its demand for 17 ha of irrigation. The Farm dams are able to irrigate and spill in the summer months. In Winter, the dams downstream are unable to store a sufficient quantity of water for pasture irrigation. The dams on the northern portion of the Farm empty and the dams on the southern portion only reach between 1% and 30% capacity. In addition, the dams cannot make it through the 1 in 5 year drought. Refer to Table 2 for an irrigation source summary.

The safe yield to draw from the existing dams is calculated to irrigate 34ha of fields. For the 50ha of Farm pastures on the Farm at present, an additional 110,000m³ of additional yield is required. The catchment has sufficient water to spare for additional dam water storage. Additional storage within the existing dams can be partly achieved by repairing the dam structures and spillways to their original state. Alternatives investigated to increase water storage have been detailed in Section 4c.

Table 1: Bayonne Farm dam summary (Source: Water Resource Analysis Table 2-2)

Dam Catchment	Dam (North to South)	Mean Annual Run-off (MAR) from Incremental Catchment (m ³)	Dam Surface Area (ha)	Dam Wall Height (m)	Dam capacity (m ³)	Irrigation Demand (ha)	Annual Demand (m ³)
I	1	171 236	3	5	50 000	19	115 800
K	2	209 239	1	9	28 793	15	91 740
J	3	17 800	1	3	6000	10	60 960
M	4	36 953	1	5	20 000	8	45 600
L	5	178 267	0	6	9 960	0	0

Basic Assessment Report

If YES, specify and explain:

Table 2: Bayonne Farm Irrigation source summary (Source: Water Resource Analysis Figure 2-2)

Dam	Irrigated field	Total ha's irrigated
I	1	4.4
J	2,3,4	10.18
K	8,12	23.62
M	5	7.62
L	7,9,11	4.37
	Total	50

Are any further specialist studies recommended by the specialist? YES NO

If YES, specify:

If YES, is such a report(s) attached in Appendix D? YES NO

Signature of specialist: Refer to Appendix D3 Date:

3C

Has a specialist been consulted for the completion of this section? YES NO

If YES, please complete the following:

Name of the specialist:	Pranesh Moodley		
Qualification(s) of the specialist:	PrEng		
Postal address:	P O Box 12051, Dorpspruit		
Postal code:	3206		
Telephone:	(0)33 345 3530	Cell:	
E-mail:	info@mbbpmb.co.za	Fax:	(0)33 342 7728

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites? YES NO

If YES, specify and explain:

Are there any special or sensitive habitats or other natural features present on any of the alternative sites? YES NO

If YES, specify and explain:

Are any further specialist studies recommended by the specialist? YES NO

If YES, specify:

If YES, is such a report(s) attached in Appendix D? YES NO

Signature of specialist: Refer to Appendix D5 Date:

Basic Assessment Report

Is the site(s) located on any of the following (cross the appropriate boxes)?

Alternative S1:	
Shallow water table (less than 1.5m deep)	NO
Dolomite, sinkhole or doline areas	YES NO
Seasonally wet soils (often close to water bodies)	YES
Unstable rocky slopes or steep slopes with loose soil	NO
Dispersive soils (soils that dissolve in water)	NO
Soils with high clay content (clay fraction more than 40%)	NO
Any other unstable soil or geological feature	NO
An area sensitive to erosion	YES

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

4. GROUNDCOVER

Has a specialist been consulted for the completion of this section?

YES	
-----	--

If YES, please complete the following:

Name of the specialist:	Peter le Roux		
Qualification(s) of the specialist:	BSc (Hons), MSc Agriculture		
Name of the specialist:	Dr Hans Grobler		
Qualification(s) of the specialist:	PhD, Zoology		
Postal address:	Le Roux :10 Montrose Drive, Pietermaritzburg 3201 Grobler: 5 Spearman Road, Pietermaritzburg, 3201		
Telephone:	Le Roux: 033-3863046 Grobler: 033-3471220	Cell:	Le Roux: 082-3315950 Grobler: 084-511 0547
E-mail:	Le Roux: mwpler@mweb.co.za Grobler: hansgrob@absamail.co.za	Fax:	Grobler: 033-3471220

Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?

	NO
--	----

If YES, specify and explain:

N/A

Are there any special or sensitive habitats or other natural features present on any of the alternative sites?

YES	
-----	--

Basic Assessment Report

<p>If YES, specify and explain:</p>	<p>There are three valley bottom systems and a hillslope seep, fed by surface and sub-surface water, which drain into the Joubertstviei se Loop Riparian B channel in the northern portion of the site.</p> <p>The natural extent of the wetland habitat on the Farm has been highly altered by agricultural practices (artificial terraces, drains, ploughing, irrigation, multiple dams) and erosion. Extensive earthworks for agriculture have disturbed the vegetation and soils and there is thus minimal wetland vegetation present. The channelled valley bottom systems feature channel incision, infilling and erosion. The northern tributary has been transformed by a substantial erosion gully. The channel within the central riparian B system has been filled in and is thus deactivated and diverted.</p> <p>A seepage wetland area drains north into the existing centre pivot. The pasture irrigation system is increasing this groundwater level and thus promoting the creation of wetland habitat. Despite the level of transformation, the wetland soils have hydromorphic characteristics and the freshwater ecosystems have the potential to supply a level of ecosystem services. The following recommendations have been provided:</p> <p><u>Wetland buffer zone recommendations:</u> The Specialist study recommends that a 'no-net-loss' approach be adopted for the proposed development. In order to protect the wetland area, development planning should respect a 30m wetland buffer zone (including deactivated wetland areas). Refer to the Map GTW221-011012-02 in Appendix D1 for the wetland delineation.</p> <p><u>Wetland rehabilitation recommendations:</u></p> <ul style="list-style-type: none"> • To promote diffuse flow and improve wetland functionality, erosion channels should be stabilised and areas re-vegetated. • A programme of alien invasive plant species eradication should be undertaken. • To reduce impact of livestock disturbing the wetland areas, fencing should be erected in appropriate areas. <p><u>Dam Management recommendations:</u></p> <ul style="list-style-type: none"> • To reduce flow concentration and risk of erosion, flow through the spillway should be via diffuse flow. • Erosion control measures should be employed (e.g. trickle flow pipes, concrete sills, grassing of spillways)
-------------------------------------	---

Are any further specialist studies recommended by the specialist? YES NO

If YES, specify:

If YES, is such a report(s) attached in Appendix D? YES NO

Signature of specialists: _____ Refer to Appendix D2 Date:

Basic Assessment Report

The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition ^E	Natural veld with scattered aliens ^E	Natural veld with heavy alien infestation ^E	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an “^E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. LAND USE CHARACTER OF SURROUNDING AREA

Cross the land uses and/or prominent features that currently occur within a 500m radius of the site and give a description of how this influences the application or may be impacted upon by the application:

Land use character			Description
Natural area	YES		There are three valley bottom channels that feature on this Farm and a corresponding wetland system. The entire wetland system is in a highly degraded state due to historical agricultural practices. A new centre pivot is proposed on grassland which is already heavily grazed. A buffer zone, ecological corridor and dispersal routes have been recommended by Specialists to mitigate impacts to the natural areas.
Low density residential	YES		Rural people of the Mooi River Community live in close proximity to the proposed development site. It is unlikely that these people will be significantly impacted upon by the proposed development, as they live in an agricultural area and are surrounded by agricultural activities on a day to day basis. The labourers that reside on the Farm may experience some increased dust levels in the area when the site is cleared for construction. The residents will have access to new job opportunities in close proximity to the area in which they reside.
Medium density residential		NO	
High density residential		NO	
Informal residential	YES		Staff residential area is located within 500m radius of the Dairy. There will be no impact to the residents from the Dairy and no impact from the residents to the Dairy.
Retail commercial & warehousing		NO	

Basic Assessment Report

Light industrial		NO	
Medium industrial		NO	
Heavy industrial		NO	
Power station		NO	
Office/consulting room		NO	
Military or police base/station/compound		NO	
Spoil heap or slimes dam		NO	
Quarry, sand or borrow pit		NO	
Dam or reservoir	YES		The Farm features five dams. The proposal includes structural repairs that will be conducted on all the dams on the Farm. Thus there will be a positive impact on the dams by the proposed development. The proposed new centre pivot and the slurry lagoons will not impact on the dams, nor will the dams impact on the centre pivot or lagoons.
Hospital/medical centre		NO	
School/ creche		NO	
Tertiary education facility		NO	
Church		NO	
Old age home		NO	
Sewage treatment plant		NO	
Train station or shunting yard		NO	
Railway line		NO	
Major road (4 lanes or more)		NO	
Airport		NO	
Harbour		NO	
Sport facilities		NO	
Golf course		NO	
Polo fields		NO	
Filling station		NO	
Landfill or waste treatment site		NO	
Plantation		NO	
Agriculture	YES		The site is a fully operational Farm surrounded by other farms. The proposed development will not impact the surrounding farms.
River, stream or wetland	YES		There are three streams that converge on this site. The proposed repairs to the existing dams will store more water from the rivers running through the farm. However, there is sufficient water in the catchment to raise the water levels in the dams to their original capacities. The wetland areas will improve once the recommendations for rehabilitation in this Report have been undertaken.
Nature conservation area		NO	
Mountain, hill or ridge		NO	
Museum		NO	
Historical building		NO	

Basic Assessment Report

Protected Area		NO	
Graveyard		NO	
Archaeological site		NO	
Other land uses (describe)		NO	

6. CULTURAL/ HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or within 20m of the site?

	NO
--	----

If YES, contact a specialist recommended by AMAFA to conduct a heritage impact assessment. The heritage impact assessment must be attached as an appendix to this report.

Briefly explain the recommendations of the specialist:

Should operations expose any archaeological or historical remains, activities should cease immediately, pending evaluation by the provincial heritage agency.

Will any building or structure older than 60 years be affected in any way?

	NO
--	----

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

	NO
--	----

If YES, please submit the necessary application to AMAFA and attach proof thereof to this report.

SECTION D: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

- (a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
 - (i) the site where the activity to which the application relates is or is to be undertaken; and
 - (ii) any alternative site mentioned in the application;
- (b) giving written notice to—
 - (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
 - (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
 - (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
 - (v) the local and district municipality which has jurisdiction in the area;
 - (vi) any organ of state having jurisdiction in respect of any aspect of the activity (as identified in the application form for the environmental authorization of this project); and
 - (vii) any other party as required by the competent authority;
- (c) placing an advertisement in—
 - (i) one local newspaper; or
 - (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
- (d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or district municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
- (e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
 - (i) illiteracy;
 - (ii) disability; or
 - (iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

- (a) indicate the details of the application which is subjected to public participation; and
- (b) state—
 - (i) that an application for environmental authorization has been submitted to the KZN Department of Agriculture & Environmental Affairs in terms of the EIA Regulations, 2010;(ii)
 - (iii) a brief project description that includes the nature and location of the activity to which the application relates;
 - (iv) where further information on the application can be obtained; and
 - (iv) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE PROCESS

The EAP must ensure that the public participation process is according to that prescribed in regulation 54 of the EIA Regulations, 2010, but may deviate from the requirements of subregulation 54(2) in the manner agreed by the KZN Department of Agriculture & Environmental Affairs as appropriate for this application. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate.

Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before this application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations (regulation 57 in the EIA Regulations, 2010) and be attached as Appendix E to this report.

6. PARTICIPATION BY DISTRICT, LOCAL AND TRADITIONAL AUTHORITIES

District, local and traditional authorities (where applicable) are all key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of this application and provided with an opportunity to comment.

Has any comment been received from the district municipality?

YES NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

M. Khomo, Umgungundlovu District Municipality, 22 May 2013:

- The above matter refers and the contents herein are noted.
- In principle there is no objection to the proposed expansion to the existing dairy farm, provided that:
- The proposed activities are sensitive to the environment.
- The possible impacts on aesthetics in relation to natural landscapes are minimized.
- Great care is taken in respect of the use, treatment, and disposal of waste during the construction phase.
- Direct and indirect impacts to the wetland be managed adequately
- Promote effective stormwater treatment practices to protect wetlands

Has any comment been received from the local municipality?

YES NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

Emails were sent to Mario Links on the following dates to request a response to the Draft BAR:

- 22 May 2013
- 14 June 2013
- 3 July 2013
- 26 July 2013
- 12 Aug 2013
- 3 September 2013
- 15 October 2013

Proof of this correspondence is provided in Appendix E.

Has any comment been received from a traditional authority?

YES NO

If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

N/A

7. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the site or property, such as servitude holders and service providers, should be informed of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

YES NO

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

Comments Received in Response to the Background Information Document, Newspaper Adverts, Site Posters and at the Public Meeting:

Penny Rees, DUCT, 22 April 2012:

- DUCT's concern is with the uMngeni and uMsunduzi rivers and their catchments. The water transfer scheme from the Mooi to the uMngeni means that anything upstream of Mearns weir on the Mooi River will fall under our area of concern. As the Bayonne Dairy is well below Mearns, I will not be submitting DUCT comment.
- HOWEVER, please could you still register DUCT as an IAP as I would like to keep up to date with this one as it is interesting – converting of 9ha of grassland and in effect enlarging a dam on the Mooi. I am interested in seeing how the DWA etc respond to this.

Andrew Ferendinos, KZN Crane Foundation, 23 April 2012:

- Please register the KZN Crane Foundation as an Interested and Affected Part in the EIA process being undertaken for the proposed expansion of the Bayonne Dairy near Mooi River.
- As a preliminary comment I would like to suggest that if the new large dam is built it could be designed to be wildlife friendly. Some suggestions would be to make sure that there are areas of shallow water and also an artificial island on the inlet side of the dam.
- There appear from the Google Earth Image to be quite a few wattle trees growing near the dam site. The removal of some of these trees might help offset the dam's environmental impact.

N.W. Purdon, Eskom, 16 July 2012:

- We confirm that an investigation has been carried out with regard to the supply of electricity, as well as encroachment into Eskom Servitudes, in respect of the development as set out above.
- The result of the investigation is that supplies are available on the properties within the standard Eskom tariffs and conditions.
- Building restriction of 12 m on either side of any reticulation line must be considered when building developments are planned.
- Please take note and ensure that the following is carried forward in your documents, that in respect of Eskom's powerlines, no encroachments are permitted within the following in respect of our servitudes:
 - 132kV lines = 18 m on either side of the centre line;
 - 88kV lines = 18 m on either side of the centre line;
 - 33kV lines = 18 m on either side of the centre line;
 - 22kV lines = 18 m on either side of the centre line; and
 - 11kV lines = 18 m on either side of the centre line.
- Please further take note that if any 275kV, 400kV or 765kV lines are involved, you need to send a copy of the application to Eskom's transmission division at Megawatt Park.
- A developer requiring a new supply, an increase of supply or line deviation, from Eskom should make application to Eskom via the Eskom toll free number 0860037566, which will be processed in terms of Eskom's standard customer connection tariffs, conditions and policies, the costs of which will be for the developer's account.

Carol & Craig Houston, Neighbour, 24 July 2012:

- We are concerned about effluent affecting the water supply. There is a Farm nearby whose effluent has affected our dam water. We had tests done and the ecoli levels are 1000 past.
- In which direction will the effluent flow?

Enoch Zuma, Neighbour, 24 July 2012:

- How many jobs will be created?

Comments on the Draft Basic Assessment

Dominic Wieners, Ezemvelo KZN Wildlife, 16 April 2013:

- Thank you for forwarding the above-mentioned application to Ezemvelo KZN Wildlife (Ezemvelo) for review and comment. Whilst Ezemvelo KZN wildlife endeavours to process applications as quickly as possible, there may be delays in responding, due to current resource constraints.
- We sincerely regret any inconvenience caused. Please direct any queries in this regard to the acting co-ordinator IEM on (tel) 0338451425 or (email) thambud@kznwildlife.com.
- Thank you in advance for your support and understanding.

The EAP sent correspondence to EKZNW on the following dates requesting comments on the Draft BAR Report:

- 22 May 2013
- 14 June 2013
- 3 July 2013
- 26 July 2013
- 12 Aug 2013
- 19 Aug 2013

Proof of this chase-up is provided in Appendix E. To date EKZNW has not provided comment.

Michelle Nicol, Eskom, 16 April 2013:

- We refer to the above mentioned application's documents in respect of the above Bayonne dairy expansion.
- Please take note and ensure that the following is carried forward in your documents, that in respect of Eskom's powerlines, no encroachments are permitted within the following in respect of our servitudes:
 - 132kV lines = 18 metres on either side of the centre line
 - 88kV lines = 16 metres on either side of the centre line
 - 33kV lines = 16 metres on either side of the centre line
 - 22kV lines = 12 metres on either side of the centre line
 - 11kV lines = 12 metres on either side of the centre line
- Eskom's underground cables are usually layed 1 metre to 1.5 metres, when excavation is anticipated, ensure you check with our offices for cable positions.
- Prior to the approval of the development, the owner shall lodge with the development Administration, for approval by the Minister, a certificate furnished by Eskom, the local municipality or other supplier of electricity for the benefit of the inhabitants of the development, to the effect that all substation servitudes required by it will be provided and have been depicted on the general plan.
- Trees should not be planted within their horizontal falling distance of the power lines.
- The roads crossing under the power lines may only cross in safe areas where, what is known as "broken conductor conditions" as defined in the Occupational Health & Safety Act 85 of 1993, are met. Generally, roads located within 10 m of wood poles are within legal safety requirements. This will be applicable to all property entrances adjoining existing roads.
- The ground clearance, as prescribed by the law has to be maintained, the natural ground levels within the servitude area are therefore to be retained, and no soil, or any other material, may be stock piled within the servitude area.
- Regarding the use of machinery, the operators are seldom informed as to the extreme danger of using equipment in close proximity to the live overhead conductors. No soil is to be disturbed, by any civil work, within a 3 m radius of any pole or stay wire. Where civil work is done outside of this radius the soil must be suitably sloped and protected so as not to cause erosion in or onto the 3 metre radius of undisturbed soil.
- Please note that the applicable building restrictions either side of any existing powerline must be adhered to when planning new buildings or developments on the property.
- Please further take note that the costs of relocations of any of Eskom's infrastructure, will be for the account of the developer.
- Applications can be lodged via Eskom's call centre on 086 003 7566.

- Please further take note that if any 275kV, 400kV or 765 kV Lines are involved, you need to send a copy of the application to Eskom's transmission division at Megawatt Park to: Lungile Motsisi, Land and Rights, P.O. Box 1091, Johannesburg, 2000.

D.J. Maivha, Department of Agriculture, Forestry and Fisheries, 07 May 2013:

- The Department of Agriculture, Forestry and Fisheries (DAFF) appreciates the opportunity given to comment on the DBAR.
- The DBAR for the proposed activity has been reviewed by DAFF officials. The proposed site shows no presence of natural forest and / or protected trees that could be negatively impacted upon by the proposed activity. Therefore we have no objections to the proposed activity as there is no natural forest and/or protected trees under the NFA No. 84 of 1998 within the proposed site.
- This letter does not exempt you from considering other environmental legislations. Should any further information be required, please do not hesitate to contact this office.

Carolyn Schwegman, WESSA, 14 May 2013:

- WESSA accepts the proposed activities with the adoption of the specialist recommendations. The activities which require environmental authorisation include cultivation of 9 ha of degraded grassland, remedial and structural work on existing dams and joining two smaller dams, and a waste management licence for slurry lagoons.
- An issue which WESSA would like clearly set out is a schedule for remediation of environmental degradation in advance of the proposed activities, this to include addressing the severe erosion and reinstatement/rehabilitation of wetland and buffer/ecological corridor. This would ensure that resilience of the environment will be re-established prior to the implementation of the new activities and operational phase of the expanded dairy.
- An additional issue pertains to the slurry lagoons. It is said that effluent will be released to the environment – the specific management of the waste streams (effluent and slurry) must be described and WESSA would support re-use of these waste components within the farming operations.
- We note that Bayonne Dairy is included in a regional Water Use Licence application

Thabede Bongwiwe, Department of Agriculture and Environmental Affairs – Macro Planning, 22 May 2013:

- The office Land Use Regulatory Unit is in receipt of the above mentioned application.
- PROPOSED EXPANSION COMPRISES OF:
 - Existing dairy to 500 cows
 - Slurry lagoon.
 - Centre pivot
 - New silage pits
 - Re routing entrance roads
 - Remedial spillways
 - Improvements of 4 existing dams.
 - Joining of 2 smaller dams into 1 bigger dam.

AGRICULTURAL COMMENTS:

- Site inspection was conducted on the 15th May 2013 to investigate agricultural resources that will be impacted upon by the proposed expansion and the following was established:-
- Currently the farm of 580 ha is under utilization as it uses half of it, hence the applicant needs to expand to accommodate up to 500 cows carrying capacity.
- The proposal is for pasture cultivation which is on natural vegetation, so it is a virgin land as of observations it is now encroached by mostly alien invasive species.
- There is a wetland that is not well maintained and therefore it is recommended that the farm owner maintains its condition.
- The property has moderate shallow soils which does not limit the proposed expansion hence pasture cultivation does not require deep soils.

Basic Assessment Report

- The proposed property is characterised by flat lands which are less hazardous to soil erosion when land preparation is being done.
- There are existing dams in the proposed property , however requires scooping in order to increase their water carrying capacity as they are now filled with soils.
- RECOMMENDATION:
- Please be advised that the Provincial Department of Agriculture, Environmental Affairs and Rural Development (Agric. Component), has no objection to the proposed expansion on the aforementioned property.

Roy Ryan, Department of Transport, 23 May 2013:

- With reference to your application dated 4 April 2013, in connection with the abovementioned proposed expansion of the Bayonne Dairy, I have to inform you that the Minister as the Controlling Authority as defined in the Kwazulu- Natal Roads Act No. 4 of 2001, has in terms of section 21 of the said Act, been pleased to approve the proposed expansion, subject to the following:
- The following conditions must be adhered to the proposed development:
- In terms of section 13 of the Kwazulu-Natal Provincial Roads Act No. 4 of 2001, no buildings or any structures whatsoever, other than a fence, hedge or a wall which does not rise higher than 2, 1 meters above or below the surface of the land on which it stands, shall be erected on the land within a distance of 15 meters measured from the road reserve boundary of Main Road 14 -2.
- The road reserve boundary shall be determined in consultation with this Departments Road Information Services, (Tel: 033-355 8600).
- The applicant's attention is drawn to the relevant stormwater clause contained in section 12 of the Kwazulu-Natal Provincial Roads Act No. 4 of 2001 and section 5 of the Roads Regulations, wherein it is advised that the disposal of stormwater emanating from the road reserve through the layout, or any stormwater emanating from the layout through the road reserve, shall be undertaken in consultation with and to the satisfaction of this Departments Cost Centre Manager Pietermaritzburg, (Telephone: 033 3872320) during the development of the property concerned.
- In terms of section 10 of the Provincial Roads Act No. 4 of 2001, only the existing accesses points from Main Road 14-2 will be permitted.
- It is noted in the report that it is the intension of the applicant to gain another access to Main Road 14-1 as described on page 8. This Department seeks clarity in this regard as the property is already served with two accesses. Formal application for access or the relocation thereof must be made to this office
- In terms of section 22 of the Kwazulu- Natal Provincial Roads Act No. 4 of 2001 this approval is granted for a period of 18 months. Any amendment, rescission or lapsing of this application the application must be resubmitted to this Department for re-consideration.
- This approval shall not exempt the applicant from the provisions of any other law.

Lindiwe Dladla, Department of Water Affairs, 02 September 2013:

- Reference is made to the above-mentioned documents dated 04 April 2013. The Department has the following comments with regards to the proposed development:
- The Department has reviewed your documents and noted that the activities to be undertaken trigger water uses although it will have minimal impacts on water resources. Water uses with minimal impact are permissible in terms of General Authorisation (GA) issued under Section 39 of the National Water Act (Act 36 of 1998).
- The following are water use activities to be undertaken on the above-mentioned project:
 - Section 21 (a) Taking water from a borehole for dairy operation (under GA)
 - Section 21 (b) Storage of 5 existing dam (exceed GA as it requires 50 000m³)
 - Section 21 (c) and (i) Diversion of a wetland and development within the 500m buffer zone (does not fall under GA)
 - Section 21 (e) Irrigation with waste water (under GA)
 - Section 21 (g) Dairy waste storage (under GA)
- Be advised that although some of the water uses qualifies to be general authorised, you still need to

apply for an authorisation since other water uses does not qualified to be General Authorised. In this case the Department will upon review the submitted application make a decision. If positive the Department will issue an Integrated Water Use License.

- The following information must be prepared and submitted to the Department:
 - An agreement letter with the municipality which permits waste disposal into a permitted landfill site.
 - Demarcation of the floodline for a dam or river against a proposed development.
 - Three monitoring boreholes must be constructed one upstream of the site to give background of water quality and two downstream in a triangular fashion.
 - The long drop toilet facilities of the development must not cause any pollution to water sources as well as pose a health hazard. In addition, these toilets must be situated out of the 1:100 year flood line of any watercourse.
- Please note that no person may use water otherwise as permitted under Section 22 of the National Water Act, 1998. Should you engage in any water use without the necessary water use authorisation it will be regarded as an unlawful water use and are guilty of an offence and liable for a fine or imprisonment as stipulated in Section 151 of the NWA 1998 (Act 36 of 1998).
- For further information, please do not hesitate to contact this office.

Weziwe Shabalala, AMAFA

The EAP sent correspondence to Amafa on the following dates requesting comments on the Draft BAR Report:

- 22 May 2013
- 13 June 2013
- 14 June 2013
- 3 July 2013
- 26 July 2013
- 12 Aug 2013
- 19 Aug 2013

Proof of this chase-up is provided in Appendix E. To date Amafa has not provided comment, however the website shows that there has been a 'draft' letter since 15 October 2013. Unfortunately we cannot access this 'draft' letter.

SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

1. DUCT's concern is with the uMngeni and uMsunduzi Rivers and their catchments. DUCT will therefore not submit any comment.
2. The Crane Foundation would like to suggest that if the new large dam is built it could be designed to be wildlife friendly. Some suggestions would be to make sure that there are areas of shallow water and also an artificial island on the inlet side of the dam.
3. There appear from the Google Earth Image to be quite a few wattle trees growing near the dam site. The removal of some of these trees might help offset the dam's environmental impact.
4. The result of the investigation is that electricity supplies are available on the properties within the standard Eskom tariffs and conditions.
5. Building restriction of 12 m on either side of any Eskom reticulation line must be considered when

Basic Assessment Report

- building developments are planned.
6. No encroachments are permitted within the following in respect of Eskom servitudes:
 - 132kV lines = 18 m on either side of the centre line;
 - 88kV lines = 18 m on either side of the centre line;
 - 33kV lines = 18 m on either side of the centre line;
 - 22kV lines = 18 m on either side of the centre line; and
 - 11kV lines = 18 m on either side of the centre line.
 7. If any 275kV, 400kV or 765kV lines are involved, you need to send a copy of the application to Eskom's transmission division at Megawatt Park.
 8. A developer requiring a new supply, an increase of supply or line deviation, from Eskom should make application to Eskom via the Eskom toll free number 0860037566, which will be processed in terms of Eskom's standard customer connection tariffs, conditions and policies, the costs of which will be for the developer's account.
 9. We are concerned about effluent affecting the water supply. There is a Farm nearby whose effluent has affected our dam water. We had tests done and the ecoli levels are 1000 past.
 10. In which direction will the effluent flow?
 11. How many jobs will be created?
 12. Potential impact of construction activity on existing Eskom infrastructure (if applicable).
 13. The proposed site shows no presence of natural forest and / or protected trees that could be negatively impacted upon by the proposed activity. Therefore we (DAFF) have no objections to the proposed activity as there is no natural forest and/or protected trees under the NFA No. 84 of 1998 within the proposed site.
 14. An issue which WESSA would like clearly set out is a schedule for remediation of environmental degradation in advance of the proposed activities, this to include addressing the severe erosion and reinstatement/rehabilitation of wetland and buffer/ecological corridor. This would ensure that resilience of the environment will be re-established prior to the implementation of the new activities and operational phase of the expanded dairy.
 15. An additional issue pertains to the slurry lagoons. It is said that effluent will be released to the environment – the specific management of the waste streams (effluent and slurry) must be described and WESSA would support re-use of these waste components within the farming operations.
 16. We note that Bayonne Dairy is included in a regional Water Use Licence application.
 17. Please be advised that the Provincial Department of Agriculture, Environmental Affairs and Rural Development (Agric. Component), has no objection to the proposed expansion on the aforementioned property.
 18. I have to inform you that the Minister, as the Controlling Authority as defined in the Kwazulu- Natal Roads Act No. 4 of 2001, has in terms of section 21 of the said Act, been pleased to approve the proposed expansion, subject to the following conditions.
 19. In terms of section 13 of the Kwazulu-Natal Provincial Roads Act No. 4 of 2001, no buildings or any structures whatsoever, other than a fence, hedge or a wall which does not rise higher than 2, 1 meters above or below the surface of the land on which it stands, shall be erected on the land within a distance of 15 meters measured from the road reserve boundary of Main Road 14 -2.
 20. The road reserve boundary shall be determined in consultation with this Departments Road Information Services, (Tel: 033-355 8600).
 21. The applicant's attention is drawn to the relevant stormwater clause contained in section 12 of the Kwazulu-Natal Provincial Roads Act No. 4 of 2001 and section 5 of the Roads Regulations, wherein it is advised that the disposal of stormwater emanating from the road reserve through the layout, or any stormwater emanating from the layout through the road reserve, shall be undertaken in consultation with and to the satisfaction of this Departments Cost Centre Manager Pietermaritzburg, (Telephone: 033 3872320) during the development of the property concerned.
 22. In terms of section 10 of the Provincial Roads Act No. 4 of 2001, only the existing accesses points from Main Road 14-2 will be permitted.
 23. It is noted in the report that it is the intension of the applicant to gain another access to Main Road

Basic Assessment Report

- 14-1 as described on page 8. This Department seeks clarity in this regard as the property is already served with two accesses. Formal application for access or the relocation thereof must be made to this office.
24. In terms of section 22 of the Kwazulu- Natal Provincial Roads Act No. 4 of 2001 this approval is granted for a period of 18 months. Any amendment, rescission or lapsing of this application the application must be resubmitted to this Department for re-consideration.
 25. The need for an application for an Integrated Water Use License from the Department of Water Affairs.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached as Appendix E to this report):

1. Noted.
2. Noted. A new dam will not be built at this stage. Only structural improvements and remedial work to the slipways to existing dams is proposed.
3. Noted. Rehabilitation measures for the Farm are included as recommendations in this Report.
4. Noted.
5. Noted.
6. Noted.
7. Noted.
8. Noted.
9. Noted. There are two slurry dams as part of the Dairy operation. The effluent will be deposited in these dams and used to fertilise the pastures. The Waste Licence that is being applied for will likely provide conditions for acceptable waste standards (refer to Appendix G).
10. Effluent will flow from the dairy to the effluent lagoons. The flow will be contained and controlled to ensure that no environmental pollution occurs prior to effluent processing in the lagoons.
11. Approximately 25 new jobs will be created.
12. The recommendations made with regards to Eskom infrastructure and safety measures during construction activity are included in the EMPr.
13. Noted.
14. Noted, measures to prevent erosion and the rehabilitation of the wetland are included in the EMPr.
15. Noted. The dairy effluent will be processed in effluent lagoons, where the mixture of water and manure will break down and separate. The water will rise to the surface and sludge will sink below the layer of water and break down in the anaerobic conditions to become a nutrient rich fertilizer. The processed waste will be piped out and irrigated onto fields as an organic fertilizer. This is the current standard practice and is unlikely to have any negative impacts on water quality, provided that the effluent is handled in accordance with the stipulations of the Waste License (Appendix G).
16. All water applications in the Mooi River catchment, up to Muden, are currently on hold as there is a moratorium on new developments, due to the requirements for the Springrove Dam and the Umgeni transfer scheme. However, the Mpofana Irrigation Project (MIP) is in the process of applying for a Regional Water Use License Application.
17. Noted.
18. Noted. The conditions below will be implemented.
19. Noted. This is included in the EMPr.
20. Noted. This is included in the EMPr.
21. Noted. The applicant is aware of this and it is included in the EMPr.
22. Noted.
23. It is proposed that a new access road is constructed 180m north of the existing access point, off the R622. The new access road and access point will create a more direct entry. A formal application for the relocation of the existing access point will be lodged accordingly.
24. Noted.
25. As there are a number of triggered water uses that do not fall under the General Authorisation triggers, an Application will be made for an Integrated Water Use License with the Department of

Water Affairs if and when this Application is approved.

2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

2.1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the planning and design phase:

Alternative S1 (preferred alternative)

Direct Impacts

- Direct job creation (temporary) in the planning phase. During the planning phases, employment of engineers, ecologists and other skilled professionals will be required.

Indirect Impacts

- There are no indirect impacts for the environment in the Planning and Design Phase, other than those associated with the employment of appropriate professionals involved in the development and assessment of the proposal.

Cumulative Impacts

- There are no cumulative impacts for the environment associated with the Planning and Design Phase other than those associated with the employment of appropriate professionals involved in the development and assessment of the proposal.

No-go alternative (compulsory)

Direct Impacts

- The Planning and Design Phase will not result in any direct impacts apart from the employment of appropriate professionals involved in the development and assessment of the proposal which would be consistent with any site alternative.

Indirect Impacts

- There are no indirect impacts for the environment in the Planning and Design Phase, other than those associated with the employment of appropriate professionals involved in the development and assessment of the proposal.

Cumulative Impacts

- There are no cumulative impacts for the environment associated with the Planning and Design Phase other than those associated with the employment of appropriate professionals involved in the development and assessment of the proposal.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

Although there are few impacts associated with the Planning and Design Phase, the following considerations will optimise the planning and design of this development, thereby mitigating potential negative impacts that could result from inadequate planning. In response to this, the following mitigation measures/recommendations re provided:

- The Buffer zone and the ecological corridor with links to adjacent areas, between the existing centre pivot and the proposed centre pivot must be respected during the planning phase.
- In order to protect the wetland area, development planning should respect a 30m wetland buffer zone (including deactivated wetland areas).

Basic Assessment Report

b. Process, technology, layout or other alternatives

List the impacts associated with any process, technology, layout or other alternatives that are likely to occur during the planning and design phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative)

Direct Impacts

- Direct job creation (temporary) in the planning phase. During the planning phases, employment of engineers, ecologists and other skilled professionals will be required.

Indirect Impacts

- There are no indirect impacts for the environment in the Planning and Design Phase, other than those associated with the employment of appropriate professionals involved in the development and assessment of the proposal.

Cumulative Impacts

- There are no cumulative impacts for the environment associated with the Planning and Design Phase other than those associated with the employment of appropriate professionals involved in the development and assessment of the proposal.

No-go alternative (compulsory)

Direct Impacts

- The Planning and Design Phase will not result in any direct impacts apart from the employment of appropriate professionals involved in the development and assessment of the proposal which would be consistent with any site alternative.

Indirect Impacts

- There are no indirect impacts for the environment in the Planning and Design Phase, other than those associated with the employment of appropriate professionals involved in the development and assessment of the proposal.

Cumulative Impacts

- There are no cumulative impacts for the environment associated with the Planning and Design Phase other than those associated with the employment of appropriate professionals involved in the development and assessment of the proposal.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1:

- The same as those listed in the site alternatives.

2.2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the construction phase:

Alternative S1 (preferred site)

Direct impacts:

- Increased noise levels due to earth moving activities.
- The clearing of vegetation and soil preparation are likely to create a negative visual impact.
- The clearing of the site will result in exposed soil surfaces which may be prone to erosion and the creation of dust.
- Spillages of oil and lubricants, fuel from construction vehicles and machinery associated with extending the infrastructure required to support the pastures, has the potential to contaminate the soil and groundwater.
- Increased emissions into the air are likely to occur in the form of dust and other emissions resulting from preparatory activities

Basic Assessment Report

- Loss of 9ha natural grassland habitat (low quality habitat).
- Establishment of ecological corridors and wetland buffers.
- Direct job creation (temporary) in preparatory phase - it is estimated that 20 temporary jobs will be created.
- The transfer of skills to previously disadvantaged people will occur during all phases of the project.

Indirect impacts:

- Construction traffic may result in increased traffic congestion on the R622, however, this is highly unlikely.
- Potential for alien vegetation to become established on the sites when cleared.
- Potential for contamination of the drainage lines to the wetland areas.
- Potential for soil erosion as a result of the removal of natural vegetation.

Cumulative impacts:

- Potential for alien vegetation, which may become established on the cleared sites, to spread to other natural areas.
- Stormwater runoff during construction has the potential to erode topsoil and result in sedimentation of water courses if not controlled. Continued soil erosion, as a result of the removal of natural vegetation could eventually degrade the wetland system downstream.

No-go alternative (compulsory)

Direct impacts:

- Industries that provide goods, materials and services will not benefit from the construction.
- No increase in construction traffic volumes.
- No noise pollution from construction activities.
- No atmospheric pollution and odours from construction activities.
- Avoidance of the loss of 9ha natural grassland habitat (low quality habitat).
- Loss of opportunity for job creation (temporary) in preparatory phase - it is estimated that 20 temporary jobs will be created.

Indirect impacts:

- Avoidance of the potential for soil erosion which could result from the removal of natural vegetation on the sites.

Cumulative impacts:

- None.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

- Amafa should be contacted if any graves are identified during construction and the following procedure is to be followed: stop construction; report finding to the local police station; and report to Amafa to investigate

Buffer Zones

- The Buffer zone and the ecological corridor with links to adjacent areas, between the existing centre pivot and the proposed centre pivot must be respected during the construction phase.
- In order to protect the wetland area, construction should respect a 30m wetland buffer zone (including deactivated wetland areas). The wetland area must be pegged before development commences. The development must be restricted to the proposed footprint. No encroachment into the delineated wetland buffer zone will be permitted.

Vegetation

- An alien vegetation control programme must be implemented on the site.

Soil and Water Management

- Appropriate erosion and stormwater management structures must be installed around the construction site. Stormwater should be channelled into existing natural drainage lines. Any stormwater runoff from higher-lying areas should be directed into a stormwater furrow of adequate size, towards a safe collection point where no erosion will take place.

Basic Assessment Report

- All construction vehicles and machinery and equipment must be properly maintained to prevent leaks.
- Mulch bags or silt fences should be used to trap any sediment, which may move following rain.
- Vegetation clearing on the site should take place only immediately prior to construction in order to minimise the time the soil is bare, thus minimising soil erosion, dust and visual impacts.
- Once earthworks are complete, disturbed areas are to be stabilised to prevent erosion.

Waste management

- The site must be managed appropriately and all rubbish and rubble must be collected in appropriate waste receptacles and disposed of at the nearest landfill site.

Environmental Awareness and the EMPr

- An environmental awareness training programme for all staff members must be put in place by the Contractor. Before commencing with any work, all staff members must be appropriately briefed about the EMPr and relevant occupational health and safety issues.
- No burning of refuse or vegetation is permitted on site.
- Disturbance to animals and their habitats should be prevented at all times.
- Care must be taken to avoid the introduction of alien plant species to the site and re-growth must be controlled when it occurs.

Security

- Signs should be erected on all entrance gates indicating that no temporary jobs are available, thereby limiting opportunistic labourers and crime.
- No unauthorized firearms are permitted on site.
- All construction workers shall be issued with ID badges and clearly identifiable uniforms.

Emergency

- Adequate emergency facilities must be provided for the treatment of any emergency on the site.
- The nearest emergency service provider must be identified during all phases of the project as well as its capacity and the magnitude of accidents it will be able to handle. Emergency contact numbers are to be displayed conspicuously at prominent locations around the construction site at all times.
- Emergency procedures must be produced and communicated to all the employees on site. This will ensure that accidents are responded to appropriately and the impacts thereof are minimised. This will also ensure that potential liabilities and damage to life and the environment are avoided.

Health & Safety

- The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) and the National Building Regulations.
- All vehicles and equipment used on site must be operated by appropriately trained and / or licensed.
- Individuals in compliance with all safety measures as laid out in the Occupational Health and Safety Act (Act No. 85 of 1993) (OHSA).
- The Contractor must make available safe drinking water fit for human consumption at the site offices and all other working areas.
- Washing and toilet facilities must be provided on site.
- Adequate numbers of chemical toilets must be maintained to service the staff using this area. At least 1 toilet must be available per 20 workers using the camp. Toilet paper must be provided.
- Necessary Personal Protective Equipment (PPE) and safety gear appropriate to the task being undertaken is to be provided to all site personnel (e.g. hard hats, safety boots, masks etc.).

Odours/ Leakages/Spillages

- The chemical toilets must be emptied on a regular basis.
- The chemical toilets must be sited taking into account the possibility of the prevailing wind unfavourably dispersing unpleasant odours.
- The chemical toilets must be maintained in a good state, and any spills or overflows must be attended to immediately.
- The Construction Manager must have a basic spill control kit available. The spill control kit must

include absorptive material that can handle all forms of hydrocarbon.

- Machinery and vehicles are to be repaired immediately upon developing leaks and drip trays should be supplied for all repair work undertaken onsite.
- Drip trays should be utilized to catch any incidental spills and prevent contamination. These should be regularly monitored for leaks and when rain is experienced so as to prevent overflow.

Noise and Disturbance:

- Noise levels must be kept within acceptable limits set out in the National Noise Laws and local by-laws regarding noise.
- No sound amplification equipment such as sirens, loud hailers or hooters are to be used on site except in emergencies and no amplified music is permitted on site.
- Activities that may disrupt neighbours must be preceded by notice being given to the affected neighbours at least 24 hours in advance.
- Equipment that is fitted with noise reduction facilities (e.g. side flaps, silencers etc) must be used as per operating instructions and maintained properly during site operations.
- Vehicles and machinery must be kept in good working condition so as to prevent unnecessary air emissions and excessive noise pollution.

Environmental Dust:

- Contractors should be advised that dust generation should be prevented and if not possible, kept to a minimum.
- Consideration of Wet Methods to suppress dust.
- Dust generation should be kept to a minimum.
- Dust must be suppressed on access roads and construction areas during dry periods by the regular application of water or a biodegradable soil stabilisation agent.
- Speed limits must be implemented in all areas, including public roads and private property to limit the levels of dust pollution.
- It is recommended that the clearing of vegetation from the site should be selective and done just before construction so as to minimise erosion and dust.
- Sand stockpiles are to be covered with Hessian, shade cloth or DPC plastic.
- Where possible, stockpiles are to be located in sheltered areas and the usable/cut face orientated away from the direction of the prevailing wind for that season.
- Excavating, handling or transporting erodible materials in high wind or when dust plumes are visible must be avoided.

b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the construction phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative)

Direct impacts:

- Increased noise levels due to earth moving activities.
- The clearing of vegetation and soil preparation are likely to create a negative visual impact.
- The clearing of the site will result in exposed soil surfaces which may be prone to erosion and the creation of dust.
- Spillages of oil and lubricants, fuel from construction vehicles and machinery associated with extending the infrastructure required to support the pastures, has the potential to contaminate the soil and groundwater.
- Increased emissions into the air are likely to occur in the form of dust and other emissions resulting from preparatory activities
- Loss of 9ha natural grassland habitat (low quality habitat).
- Establishment of ecological corridors and wetland buffers.
- Direct job creation (temporary) in preparatory phase - it is estimated that 20 temporary jobs will be created.

- The transfer of skills to previously disadvantaged people will occur during all phases of the project.

Indirect impacts:

- Construction traffic may result in increased traffic congestion on the R622, however, this is highly unlikely.
- Potential for alien vegetation to become established on the sites when cleared.
- Potential for contamination of the drainage lines to the wetland areas.
- Potential for soil erosion as a result of the removal of natural vegetation.

Cumulative impacts:

- Potential for alien vegetation, which may become established on the cleared sites, to spread to other natural areas.
- Stormwater runoff during construction has the potential to erode topsoil and result in sedimentation of water courses if not controlled. Continued soil erosion, as a result of the removal of natural vegetation could eventually degrade the wetland system downstream.

No-go alternative (compulsory)

Direct impacts:

- Industries that provide goods, materials and services will not benefit from the construction.
- No increase in construction traffic volumes.
- No noise pollution from construction activities.
- No atmospheric pollution and odours from construction activities.
- Avoidance of the loss of 9ha natural grassland habitat (low quality habitat).
- Loss of opportunity for job creation (temporary) in preparatory phase - it is estimated that 20 temporary jobs will be created.

Indirect impacts:

- Avoidance of the potential for soil erosion which could result from the removal of natural vegetation on the sites.

Cumulative impacts:

- None.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1:

- Same as those listed in the site alternatives.

2.3. IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the operational phase:

Alternative S1 (preferred alternative)

Direct impacts:

- Loss of 9ha natural grassland habitat (low quality habitat).
- Direct job security - The Dairy currently employs 50 previously disadvantaged people. For every seven jobs created, two new service jobs emerge through the multiplier effect (seven service jobs). In rural Kwazulu-Natal, one salary supports approximately seven other individuals. Therefore, approximately 400 previously disadvantaged people are currently benefiting from the Dairy operation. These jobs will be able to be retained if the Dairy remains economically viable.
- Direct job creation (permanent) in operational phase - The operation of the slurry lagoons, pasture cropping and extended irrigation system will create five new permanent jobs. The creation of five jobs will directly benefit 35 additional previously disadvantaged people.
- A significant level of skills transfer will take place for the new Farm employees. There will be a

Basic Assessment Report

valuable opportunity to transfer highly useable skills within an area that suffers from a low skills base and a high unemployment rate.

Indirect impacts:

- The agricultural service sector in the area would be positively impacted by the expansion of the Dairy.
- Potential for contamination of the drainage lines to the wetland areas. If not properly selected and applied, pesticides could negatively impact on downstream water users.
- Potential for soil erosion as a result of the removal of natural vegetation.
- **Cumulative impacts:**
- Avoidance of job losses and the creation of employment will lead to social upliftment of the community, reduce poverty and improve health.
- Potential for continued soil erosion, as a result of the removal of natural vegetation, to eventually degrade the wetland system downstream.
- Contribution to the GDP: Agricultural production will increase, further aiding in food and milk production to keep up with current consumer demand. The Farm's contribution to GDP will increase both at a local and national level.
- A successful emerging black Farmer initiative will be a direct contribution to the economic transformation of South Africa, addressing the income inequalities of previously disadvantaged people.

No-go alternative (compulsory)

Direct impacts:

- Avoidance of job losses - The Dairy currently employs 50 previously disadvantaged people. For every seven jobs created, two new service jobs emerge through the multiplier effect (seven service jobs). In rural Kwazulu-Natal, one salary supports approximately seven other individuals. Therefore, approximately 400 previously disadvantaged people are currently benefiting from the Dairy operation. These jobs will be able to be retained if the Dairy remains economically viable.
- Avoidance of job opportunities (permanent) in operational phase - The Dairy, pasture cropping and extended irrigation system will create five new permanent jobs. The creation of five jobs will directly benefit 35 additional previously disadvantaged people.
- A significant level of skills transfer will take place for the new Farm employees. There will be a valuable opportunity to transfer highly useable skills within an area that suffers from a low skills base and a high unemployment rate.
- If the proposal is not implemented, then there will be a valuable lost opportunity to promote an emerging black Farmers initiative.
- If the proposal is not implemented, then there will be a valuable lost opportunity to transfer highly useable skills within an area that suffers from a low skills base.
- If the Dairy is forced to close then agricultural production will decrease. The existing contribution of the Farm to GDP both at a local and national level will be lost. There will also be a lost opportunity to increase the existing Farms contribution to GDP at a local and national level if the Dairy is not expanded.
- The Applicant could sell the Farm to a conservation body which would have a positive impact on vegetation and fauna conservation. It is unlikely though that the conservation body would purchase the Farm, given its low conservational significance.

Indirect impacts:

- The agricultural service sector in the area would be negatively impacted by the closure of the Dairy.
- Avoidance of potential alien vegetation that could have become established on the sites if they were cleared.
- Avoidance of the potential for soil erosion which could result from the removal of natural vegetation on the sites.
- Loss of job creation (permanent) associated with the Dairy.

Cumulative impacts:

- If the Dairy is unable to expand to adopt leaner economies of scale, then the Applicant would likely

Basic Assessment Report

be forced to retrench the existing staff from their current employment. If these people were not able to find other jobs, then there would be a negative cumulative effect as one job typically supports seven dependents in KZN. Closure of the Dairy would thus negatively affect previously disadvantaged people and thus the community as a whole.

- Unemployment in the area could become exacerbated if there are no opportunities for new employment offered. There is the potential for crime to increase as unemployed people are forced to make choices that they would not normally have made, as a way to obtain money to buy food for their families.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

- The Buffer zone and the ecological corridor with links to adjacent areas, between the existing centre pivot and the proposed centre pivot must be respected during the operational phase.
- In order to protect the wetland area, the 30m wetland buffer zone should continue to be respected during the operational phase.
- An alien vegetation removal programme must be implemented on the Farm especially in catchment L.
- Any areas of erosion which establish should be rehabilitated as soon as possible.
- An adequate crop cover must be used until the soil of the newly pasture cropped areas has stabilised or mulch should be applied to stabilise the soil.
- The conservation tillage method of cultivation (pasture cropping) must be employed.
- To reduce the impacts to the small wetland south of the existing centre pivot, the existing centre pivot infrastructure may ultimately need to be relocated slightly.
- To promote diffuse flow and improve wetland functionality, erosion channels should be stabilised and areas re-vegetated.
- To reduce impact of livestock disturbing the wetland areas, fencing should be erected in appropriate areas.
- To reduce flow concentration and risk of erosion, flow through the spillway should be via diffuse flow.
- Erosion control measures should be employed (e.g. trickle flow pipes, concrete sills, grassing of spillways).
- All herbicides and pesticides should be organic.

b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the operational phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative)

Direct impacts:

- Loss of 9ha natural grassland habitat (low quality habitat).
- Direct job security - The Dairy currently employs 50 previously disadvantaged people. For every seven jobs created, two new service jobs emerge through the multiplier effect (seven service jobs). In rural Kwazulu-Natal, one salary supports approximately seven other individuals. Therefore, approximately 400 previously disadvantaged people are currently benefiting from the Dairy operation. These jobs will be able to be retained if the Dairy remains economically viable.
- Direct job creation (permanent) in operational phase - The operation of the slurry lagoons, pasture cropping and extended irrigation system will create five new permanent jobs. The creation of five jobs will directly benefit 35 additional previously disadvantaged people.
- A significant level of skills transfer will take place for the new Farm employees. There will be a valuable opportunity to transfer highly useable skills within an area that suffers from a low skills base and a high unemployment rate.

Indirect impacts:

Basic Assessment Report

- The agricultural service sector in the area would be positively impacted by the expansion of the Dairy.
- Potential for contamination of the drainage lines to the wetland areas. If not properly selected and applied, pesticides could negatively impact on downstream water users.
- Potential for soil erosion as a result of the removal of natural vegetation.
- **Cumulative impacts:**
- Avoidance of job losses and the creation of employment will lead to social upliftment of the community, reduce poverty and improve health.
- Potential for continued soil erosion, as a result of the removal of natural vegetation, to eventually degrade the wetland system downstream.
- Contribution to the GDP: Agricultural production will increase, further aiding in food and milk production to keep up with current consumer demand. The Farm's contribution to GDP will increase both at a local and national level.
- A successful emerging black Farmer initiative will be a direct contribution to the economic transformation of South Africa, addressing the income inequalities of previously disadvantaged people.

No-go alternative (compulsory)

Direct impacts:

- Avoidance of job losses - The Dairy currently employs 50 previously disadvantaged people. For every seven jobs created, two new service jobs emerge through the multiplier effect (seven service jobs). In rural Kwazulu-Natal, one salary supports approximately seven other individuals. Therefore, approximately 400 previously disadvantaged people are currently benefiting from the Dairy operation. These jobs will be able to be retained if the Dairy remains economically viable.
- Avoidance of job opportunities (permanent) in operational phase - The Dairy, pasture cropping and extended irrigation system will create five new permanent jobs. The creation of five jobs will directly benefit 35 additional previously disadvantaged people.
- A significant level of skills transfer will take place for the new Farm employees. There will be a valuable opportunity to transfer highly useable skills within an area that suffers from a low skills base and a high unemployment rate.
- If the proposal is not implemented, then there will be a valuable lost opportunity to promote an emerging black Farmers initiative.
- If the proposal is not implemented, then there will be a valuable lost opportunity to transfer highly useable skills within an area that suffers from a low skills base.
- If the Dairy is forced to close then agricultural production will decrease. The existing contribution of the Farm to GDP both at a local and national level will be lost. There will also be a lost opportunity to increase the existing Farms contribution to GDP at a local and national level if the Dairy is not expanded.
- The Applicant could sell the Farm to a conservation body which would have a positive impact on vegetation and fauna conservation. It is unlikely though that the conservation body would purchase the Farm, given its low conservational significance.

Indirect impacts:

- The agricultural service sector in the area would be negatively impacted by the closure of the Dairy.
- Avoidance of potential alien vegetation that could have become established on the sites if they were cleared.
- Avoidance of the potential for soil erosion which could result from the removal of natural vegetation on the sites.
- Loss of job creation (permanent) associated with the Dairy.

Cumulative impacts:

- If the Dairy is unable to expand to adopt leaner economies of scale, then the Applicant would likely be forced to retrench the existing staff from their current employment. If these people were not able to find other jobs, then there would be a negative cumulative effect as one job typically supports seven dependents in KZN. Closure of the Dairy would thus negatively affect previously

Basic Assessment Report

disadvantaged people and thus the community as a whole.

- Unemployment in the area could become exacerbated if there are no opportunities for new employment offered. There is the potential for crime to increase as unemployed people are forced to make choices that they would not normally have made, as a way to obtain money to buy food for their families.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1

- Same as those listed in site alternatives.

2.4. IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING OR CLOSURE PHASE

a. Site alternatives

List the potential impacts associated with site alternatives that are likely to occur during the decommissioning or closure phase:

Alternative S1 (preferred alternative)

Direct impacts:

- If the activity is decommissioned, then the Applicant would likely retrench the Farm and Dairy staff from their current employment. If these people were not able to find other jobs, then there would be a negative impact on the community, affecting previously disadvantaged people.
- If the Dairy is closed then agricultural production will decrease. The Dairy's contribution to GDP both at a local and national level will cease.
- Soil erosion could increase on the sites if not properly managed, and cause sedimentation to the downstream water systems. If the programme to abate soil erosion (especially in the Catchment L) has not been completed, then soil erosion would have to be managed long-term in order for this Farm to become rehabilitated naturally.
- Alien vegetation could become more established on the sites if not properly managed long-term.
- If the activity is decommissioned, and the soil erosion is under control, then there is an opportunity to reinstate the natural grassland habitats and wetland area. This would have a positive impact for vegetation and fauna in the area and contribute to restoring ecological corridors on a broader scale, although would be very costly.

Indirect impacts:

- The agricultural service sector in the area would be negatively impacted upon by the decommissioning of the activity.

Cumulative impacts:

- Unemployment in the area could become exacerbated if there are no opportunities for new employment offered. There is the potential for crime to increase as unemployed people are forced to make choices that they would not normally have made, as a way to obtain money to buy food for their families.

No-go alternative (compulsory)

- If the development proposed for the Farm is not undertaken, it is likely that the Farm will become economically unviable and either be sold to another Farmer or lie idle.
- The current environmental issues (soil erosion and alien infestation) would continue unabated.

Basic Assessment Report

Indicate mitigation measures to manage the potential impacts listed above:

Alternative S1

- Should the Farm be decommissioned before the erosion control has become effective, erosion control structures would have to be installed and managed long-term.
- The site should be allowed to rehabilitate naturally. Alien invasive plants should be continually cleared and not allowed to establish. An Alien Vegetation Control Programme would have to be implemented on site.

b. Process, technology, layout or other alternatives

List the impacts associated with process, technology, layout or other alternatives that are likely to occur during the decommissioning or closure phase (please list impacts associated with each alternative separately):

Alternative A1 (preferred alternative)

Direct impacts:

- If the activity is decommissioned, then the Applicant would likely retrench the Farm and Dairy staff from their current employment. If these people were not able to find other jobs, then there would be a negative impact on the community, affecting previously disadvantaged people.
- If the Dairy is closed then agricultural production will decrease. The Dairy's contribution to GDP both at a local and national level will cease.
- Soil erosion could increase on the sites if not properly managed, and cause sedimentation to the downstream water systems. If the programme to abate soil erosion (especially in the Catchment L) has not been completed, then soil erosion would have to be managed long-term in order for this Farm to become rehabilitated naturally.
- Alien vegetation could become more established on the sites if not properly managed long-term.
- If the activity is decommissioned, and the soil erosion is under control, then there is an opportunity to reinstate the natural grassland habitats and wetland area. This would have a positive impact for vegetation and fauna in the area and contribute to restoring ecological corridors on a broader scale, although would be very costly.

Indirect impacts:

- The agricultural service sector in the area would be negatively impacted upon by the decommissioning of the activity.

Cumulative impacts:

- Unemployment in the area could become exacerbated if there are no opportunities for new employment offered. There is the potential for crime to increase as unemployed people are forced to make choices that they would not normally have made, as a way to obtain money to buy food for their families.

No-go alternative (compulsory)

- If the development proposed for the Farm is not undertaken, it is likely that the Farm will become economically unviable and either be sold to another Farmer or lie idle.
- The current environmental issues (soil erosion and alien infestation) would continue unabated.

Indicate mitigation measures to manage the potential impacts listed above:

Alternative A1

- Same as those listed in the site alternatives.

2.5. PROPOSED MONITORING AND AUDITING

For each phase of the project and for each alternative, please indicate how identified impacts and mitigation will be monitored and/or audited.

Alternative S1 (preferred site)

- A site-specific Environmental Management Programme, containing all recommendations made by the various Specialists, Interested and Affected Parties and Environmental Assessment

Practitioner, has been compiled and is proposed to be implemented during the pre-construction, construction, post-construction and rehabilitation, operational and decommissioning (if necessary) Phases, if the development is approved. An Environmental Control Officer must be appointed to conduct regular audits of the Applicants compliance with the stipulations contained in the EMPr.

3. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative S1 (preferred site)

The main environmental impacts of the proposed development are discussed in the headings below:

BIO-PHYSICAL IMPACTS

Loss of 9ha of grassland for a new centre pivot: *(permanent, certainty, low impact)*

The additional pasture is a critical development in support of the Dairy Farm expansion. The proposal to establish the new pasture will constitute the loss of 9ha of degraded grassland. The site has been chosen primarily because there is no other land available on the Farm available. It is already highly developed. The natural grassland has been transformed and is dominated by alien vegetation. The position of the proposed centre pivot within the available area, has been recommended by the Fauna and Flora Specialist Assessment, which excludes a buffer zone which has been delineated by the Specialists to protect the hillslope seep and associated flora and fauna (although of low conservational significance). In addition, the buffer zone has been extended to ensure that the ecological corridor and links to untransformed neighbouring lands are adequate.

Increased dam water storage resulting from structural dam repairs *(permanent, high probability, low negative impact)*

It has been established through the Water Resource Analysis for Bayonne Farm that there is insufficient water storage from the catchments to meet the irrigation demand. The dams are in a state of disrepair and are not storing as much water as they were originally built for. The structural repairs needed to restore their original storage capacity will not be detrimental to any flora or faunal species on site. The structural repairs to the dams will result in increased water storage which is required to irrigate the surrounding pastures. The catchment has sufficient water to spare if the dams are repaired. In order to raise the water storage capacity of Dam L, the costly issue of soil erosion must be addressed first.

Rehabilitation of the wetland *(permanent, high probability, high positive impact)*

The wetland on the Farm is in a degraded state. Soil erosion is severe, especially in catchment L. The wetland vegetation is dominated by alien plants and there is minimal indigenous vegetation on the property. No fauna or flora of any conservational significance was observed. A 30m buffer zone has been delineated by Specialists. No new development will be permitted within the buffer zone. To prevent water pollution, the buffer zone of the wetland must be strictly adhered to and only wetland-friendly herbicides for control of exotic species, at prescribed concentrations, must be applied to the pastures.

SOCIO-ECONOMIC IMPACTS

Job creation: *(permanent, high probability, positive impact)*

The creation of employment opportunities are as follows:

- Direct job security - The Dairy currently employs 50 previously disadvantaged people. For every seven jobs created, two new service jobs emerge through the multiplier effect (seven service jobs). In rural Kwazulu-Natal, one salary supports approximately seven other individuals. Therefore, approximately 400 previously disadvantaged people are currently benefiting from the Dairy operation. These jobs will be able to be retained if the Dairy remains economically viable.
- Direct job creation (permanent) in operational phase - The Dairy, pasture cropping and extended irrigation system will create five new permanent jobs. The creation of five jobs will directly benefit 35 additional previously disadvantaged people.

Economic inequality: *(permanent, high probability, positive impact)*

If the emerging black Farmers succeed in expanding the Dairy and thereby retaining the economic activity, there will be a direct contribution to the economic transformation of South Africa, addressing the income inequalities of previously disadvantaged people.

Skills transfer: *(permanent, high probability, positive impact)*

A significant level of skills transfer will take place for the new employees. There will be a valuable opportunity to transfer highly useable skills within an area that suffers from a low skills base.

Contribution to the GDP: *(permanent, high probability, positive impact)*

Agricultural production will increase GDP.

Sustaining the dairy industry in South-Africa:

The milk producing industry ranks fourth in terms of South Africa's total agricultural production. KZN is the third largest milk producing province (17.5% of SA milk). Prices that are being paid to Farmers have been decreasing, and continue to do so, while input costs (maize, soya, diesel and electricity) are increasing. This combination of factors is resulting in a recognized phenomenon of the continual economic decline of Dairy Farmers. The capital-intensive nature of Dairy Farming makes it difficult to start up/ return to the industry. In order to survive, the remaining milk producers have to increase their herds to benefit from economies of scale. Bayonne Dairy must expand to remain in the market.

Conclusion:

As with typical agricultural practise, the functionality of the Farm is designed around and dependent on the watercourse. Historically the agricultural activities on the Farm have consistently degraded the three valley bottom systems. In order for the Farm operation to succeed, the environmental rehabilitation of the property is critical. If the property continues to degrade and exhibit high prevalence of alien vegetation and soil erosion, then the wetland areas, the dams and irrigation infrastructure will become ineffective and water and soil quality will continue to decline.

The emerging black Farmers of the S'dinane Family Trust are committing to make a significant investment to expand the current Dairy, establish an additional centre pivot and upgrade the farm dams and extend the irrigation system. Without this commitment, the Dairy will be unable to be competitive in the current market and be forced to close. An additional pasture is required to support the expansion of the Dairy. Irrigation for the additional centre pivot is proposed from Dam K. To ensure reliable access to water throughout the year, structural repairs and remedial work to the spillways of the five existing dams is critical to support the dairy expansion.

Supporting agricultural development is a local authority initiative (IDP) and the Dairy Farm is located on one of the primary corridor arms for agricultural activities (SDF). There is an imperative for emerging Farmers to succeed and to build a legacy of skills and thus capacity to sustain the effort to uplift the poor.

Provided that the recommendations within the EMP are adhered to, the risks associated with this proposal will be adequately mitigated.

SECTION F. RECOMMENDATION OF EAP

Is the information contained in this report and the documentation attached hereto in the view of the EAPr sufficient to make a decision in respect of this report?

YES	
N/A	

If "NO", please contact the KZN Department of Agriculture & Environmental Affairs regarding the further requirements for your report.

If "YES", please attach the draft EMPr as Appendix F to this report and list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

<p>Buffer Zones</p> <ul style="list-style-type: none"> The Buffer zone and the ecological corridor with links to adjacent areas, between the existing centre pivot and the proposed centre pivot must be respected during the construction phase. In order to protect the wetland area, construction should respect a 30m wetland buffer zone (including deactivated wetland areas). The wetland area must be pegged before development commences. The development must be restricted to the proposed footprint. No encroachment into the delineated wetland buffer zone must be permitted. <p>Heritage</p> <ul style="list-style-type: none"> Amafa should be contacted if any graves are identified during construction and the following procedure is to be followed: stop construction; report finding to the local police station; and report to Amafa to investigate <p>Vegetation</p> <ul style="list-style-type: none"> An alien vegetation control programme must be implemented on the site. <p>Soil and Water Management</p> <ul style="list-style-type: none"> Appropriate erosion and stormwater management structures must be installed around the construction site. Stormwater should be channelled into existing natural drainage lines. Any stormwater runoff from higher-lying areas should be directed into a stormwater furrow of adequate size, towards a safe collection point where no erosion will take place. All construction vehicles and machinery and equipment must be properly maintained to prevent leaks. Mulch bags or silt fences should be used to trap any sediment, which may move following rain. Vegetation clearing on the site should take place only immediately prior to construction in order to minimise the time the soil is bare, thus minimising soil erosion, dust and visual impacts. Once earthworks are complete, disturbed areas are to be stabilised to prevent erosion. <p>Environmental Awareness and the EMPr</p> <ul style="list-style-type: none"> An environmental awareness training programme for all staff members must be put in place by the Contractor. Before commencing with any work, all staff members must be appropriately briefed about the EMPr and relevant occupational health and safety issues. No burning of refuse or vegetation is permitted on site. Removal of vegetation should be limited to only the area necessary for construction. Indigenous vegetation must be stockpiled for reuse for rehabilitation when construction is complete. Disturbance to animals and their habitats should be prevented at all times. Care must be taken to avoid the introduction of alien plant species to the site and re-growth must be controlled when it occurs. <p>Security</p> <ul style="list-style-type: none"> Signs should be erected on all entrance gates indicating that no temporary jobs are available, thereby limiting opportunistic labourers and crime. No unauthorized firearms are permitted on site. All construction workers shall be issued with ID badges and clearly identifiable uniforms. <p>Emergency</p>

Basic Assessment Report

- Adequate emergency facilities must be provided for the treatment of any emergency on the site.
- The nearest emergency service provider must be identified during all phases of the project as well as its capacity and the magnitude of accidents it will be able to handle. Emergency contact numbers are to be displayed conspicuously at prominent locations around the construction site at all times.
- Emergency procedures must be produced and communicated to all the employees on site. This will ensure that accidents are responded to appropriately and the impacts thereof are minimised. This will also ensure that potential liabilities and damage to life and the environment are avoided.

Health & Safety

- The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) and the National Building Regulations.
- All vehicles and equipment used on site must be operated by appropriately trained and / or licensed
- Individuals in compliance with all safety measures as laid out in the Occupational Health and Safety Act (Act No. 85 of 1993) (OHSA).
- The Contractor must make available safe drinking water fit for human consumption at the site offices and all other working areas.
- Washing and toilet facilities must be provided on site.
- Adequate numbers of chemical toilets must be maintained to service the staff using this area. At least 1 toilet must be available per 20 workers using the camp. Toilet paper must be provided.
- Necessary Personal Protective Equipment (PPE) and safety gear appropriate to the task being undertaken is to be provided to all site personnel (e.g. hard hats, safety boots, masks etc.).

Odours/ Leakages/Spillages

- The chemical toilets must be emptied on a regular basis.
- The chemical toilets must be sited taking into account the possibility of the prevailing wind unfavourably dispersing unpleasant odours.
- The chemical toilets must be maintained in a good state, and any spills or overflows must be attended to immediately.
- The Construction Manager must have a basic spill control kit available. The spill control kit must include absorptive material that can handle all forms of hydrocarbon.
- Machinery and vehicles are to be repaired immediately upon developing leaks and drip trays should be supplied for all repair work undertaken onsite.
- Drip trays should be utilized to catch any incidental spills and prevent contamination. These should be regularly monitored for leaks and when rain is experienced so as to prevent overflow.

Noise and Disturbance:

- Noise levels shall be kept within acceptable limits set out in the National Noise Laws and local by-laws regarding noise.
- No sound amplification equipment such as sirens, loud hailers or hooters are to be used on site except in emergencies and no amplified music is permitted on site.
- Activities that may disrupt neighbours must be preceded by notice being given to the affected neighbours at least 24 hours in advance.
- Equipment that is fitted with noise reduction facilities (e.g. side flaps, silencers etc) must be used as per operating instructions and maintained properly during site operations.
- Vehicles and machinery must be kept in good working condition so as to prevent unnecessary air emissions and excessive noise pollution.

Environmental Dust:

- Contractors should be advised that dust generation should be prevented and if not possible, kept to a minimum.
- Consideration of Wet Methods to suppress dust.
- Dust generation should be kept to a minimum.
- Dust must be suppressed on access roads and construction areas during dry periods by the regular application of water or a biodegradable soil stabilisation agent.
- Speed limits must be implemented in all areas, including public roads and private property to limit

Basic Assessment Report

the levels of dust pollution.

- It is recommended that the clearing of vegetation from the site should be selective and done just before construction so as to minimise erosion and dust.
- Sand stockpiles are to be covered with Hessian, shade cloth or DPC plastic.
- Where possible, stockpiles are to be located in sheltered areas and the usable/cut face orientated away from the direction of the prevailing wind for that season.
- Excavating, handling or transporting erodible materials in high wind or when dust plumes are visible must be avoided.

OPERATIONAL

- Any areas of erosion which establish should be rehabilitated as soon as possible.
- An adequate crop cover must be used until the soil of the newly pasture cropped areas has stabilised or mulch should be applied to stabilise the soil.
- The conservation tillage method of cultivation (pasture cropping) must be employed.

SECTION G: APPENDICES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

- D1: Wetland Assessment
- D2: Fauna and Flora Assessment
- D3: Water Resource Analysis
- D4: Heritage Assessment
- D5: Floodline Assessment

Appendix E: Comments and Responses Report

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Waste License Application