



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").

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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.
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).**

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DEPARTMENTAL REFERENCE NUMBER(S)

File reference number (EIA):	
File reference number (Waste Management Licence):	

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:	Henwood and Nxumalo Consulting Engineers		
Physical address:	4 Pastoll Road, Sarnia, Pinetown		
Postal address:	P.O. Box 237, Sarnia, 3615		
Postal code:	3615	Cell:	
Telephone:	031 708 3417		Fax:
E-mail:	jenitha@hn.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)
Poppy Dlamini	MSc Environmental Engineering Science	IAIA SA	27 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
Sustainable development projects cc -Simon Bundy	MSc biological science	Ecology	Section E, and EMPr	Ecological review of portion of ndumo b, no.16638-iv, ndumo kzn proposed rental facilities, ndumo, kwazulu natal

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Sustainable development projects cc -Simon Bundy		Ecology	Section E, and EMPr	Visual impact assessment for portion of ndumo b, no.16638-iv, ndumo kzn proposed rental facilities, ndumo, kwazulu natal
NGT projects		Heritage		

SECTION B: ACTIVITY INFORMATION

1. PROJECT TITLE

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

Proposed "Ndumo Rental Stock Housing project, Northern KZN"

2. PROJECT DESCRIPTION

Provide a detailed description of the project:

The KZN Department of Human Settlements proposes to undertake the development of the Rental Stock housing situated in Ndumo. The project area is located with Umkhanyakude District Municipality and Jozini Local Municipality.

Ndumo Rental Stock Housing Project is a residential development project comprising of 150 No Community Residential units (CRU) spread over an approximately 3ha site. All the CRUs are split into 9 individual blocks of walk-up flats spread across the site.

Each block comprises of either 12 or 18 flats on 2 or 3 floors and all reflecting different housing typologies. The following typologies have been considered in this proposal; bachelor units, 1 bedroom and 2 bedroom units.

The 9 blocks are grouped into 3 with each group positioned on engineering platforms of a vertical height difference of about 1,5m between them.

Parking of almost of 1 unit per parking bay is designed in this proposal.

Play and relaxation areas are located in various areas on the site with ample landscaping and provision for pedestrian movements.

Each building is built of 140mm concrete blocks in framed structure of walk-up flats. Internal walls are 90mm concrete blocks. The roof comprises of 0.8mm chromadek Kliplok roof sheeting fixed on 50mm by 70mm timber purlins with insulation on 150mm by 38mm timber trusses. Ceiling will be 9mm gypsum boards fixed to 38mm by 38mm timber battens fixed to tie beams.

The walls will be plastered and painted both internally and externally. The stairwell will be built of clay face-brick both internally and externally.

The windows will be standard steel-rolled mild steel frames to comply with SANS 727 of the National Building Regulations. The site will be controlled and fenced with steel-palisade fencing. On site management facility is to be considered if necessary.

Rainwater harvesting will also be investigated for use in the gardens.

Energy efficiency will be built into the development, such as solar water heaters.

It is also proposed that a sewage package plant be used for the project, which is the Famsystem FMP, which will comply with the WA and GLs. The plant is an activated sludge system; no pumps are used in the plant itself which flows by gravity and can cope with both high and low flows. Effluent will be used for watering of gardens. Storm water will be properly managed by providing concrete lined v-drains that will drain into two flood attenuation dams.

The attenuation dams will collect up to 100 cubic metres of storm water which will be disposed slowly into the open field. Water saving is also considered by providing storm water storage dams as well as the use of such water for irrigation. During construction, water will be sourced from the river via a water truck for construction purposes.

In terms of water supply, the Jozini municipality will be constructing a water pipeline in the area that will serve the area as a whole as well as a reservoir (outside the scope of this EIA); further, considering all the developments in Ndumo, it is possible that a proper sewage treatment works will be built in the future.

Electricity will be via prepaid meters, service to be provided by Eskom (outside the scope of this EIA).

N.B: All information pertaining to project description (including service provision details) have been sourced from the client and their agents).

3. ACTIVITY DESCRIPTION

Describe each listed activity in Listing Notice 1 (GNR 544, 18 June 2010), or 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:

Listing Notice 1 of June 2010:

(24) The proposed site is 3 ha in extent and will be utilised for the project.

(22) Internal access roads will be constructed.

Listing Notice 3 of June 2010:

(16) The site is located 1km from Ndumo game reserve and may fall within a development/conservation framework.

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;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

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.

a) Site alternatives: **Project site**

Describe site alternative 1 (S1), (selected site) for the activity described above, or for any other activity alternative:

With regard to the preferred site, this site located 1km from the Ndumo game reserve, and is marked by open space used occasionally for agriculture; the site has been disturbed, used as an ad hoc sports and grazing field. The most dominant exotic species noted on site were Sisal plants. The site is generally devoid of larger woody tree species, however occasional woody specimens of Acacia nigrescens and Spirostachys africana are present. The site is otherwise limited to specimen specific species of ecological value, such as F. Politica.

A soccer field lies on the site. The D1851 road borders the site and serves as the main access. The police station and residential developments lie across the road from the site.

The proposed site is owned by the Mathenjwa Traditional Authority and managed by Ingonyama Trust.

Describe site alternative 2 (S2), if any, for the activity described above, or for any other activity alternative:

The alternative site presented for assessment purposes lies near the proposed site, on the road to the Ndumo game reserve. At present, a community member has built two homes on this site. This site lies closer to the Ndumo game reserve and the game proof fence. The site also consists of disturbed vegetation towards the northerly section.

Describe site alternative 3 (S3), if any, for the activity described above, or for any other activity alternative:

N/A

2(b) Layout alternatives:

Various layouts (this is to be considered as also the design alternative) were presented during the course of the planning phase (approximately 10 revisions). The layouts all resent multiple typologies as per project description. The layout revision presented here is most desirable from an environmental perspective as it limits the over spillage of light and is orientated toward the road rather than the game reserve site (the specialist studies have been used in the revision of the layouts as far as is feasible and in the case of the number of floor levels, the mitigation proposed by the specialist will be implemented). Note that minor changes to this layout are still being made relating to location of access point, guard hut etc. but the overall layout of the residential housing structure is expected to remain constant.

Each block comprises of either 12 or 18 flats on 2 or 3 floors and all reflecting different housing typologies. The following typologies have been considered in this proposal; bachelor units, 1bedroom and 2 bedroom units.

The 9 blocks are grouped into 3 with each group positioned on engineering platforms of a vertical height difference of about 1,5m between them.

Parking of almost of 1 unit per parking bay is designed in this proposal.

Play and relaxation areas are located in various areas on the site with ample landscaping and provision for pedestrian movements.

2(c) Process (technology) alternatives:

No process alternatives are proposed however products that are environmentally friendly should be used where possible in the construction phase.

No Go alternative (option of not implementing the activity):

Should the proposed project not be implemented, then the social benefits will not accrue to the residents who are awaiting formal housing and who will be key service providers. Provision of secure housing is a key issue in Ndumo and not constructing this project will deny many professional residents the opportunity of acquiring a good standard of housing. In addition, housing has been set aside for community members who qualify and they will also be denied a chance at receiving decent housing.

Unrest in the community could result due to a lack of housing, along with threats to Ndumo Game reserve and an increase in poaching, could result. Staff employed to serve community members, such as students, will not have access to housing, and community members who do qualify for the housing will not be able to uplift their living standards. This may mean that professionals will be unwilling to remain in Ndumo to serve the community.

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):		
Alternative S1 ¹ (preferred or only site alternative)	26°	55'	16.8''	32°	15'	24.9''
Alternative S2 (if any)	26°	55'	10.88''	32°	15'	36.44''
Alternative S3 (if any)	°	'	''	°	'	''

In the case of linear activities:

Alternative: N/A

Alternative S1 (preferred or only route alternative)

Latitude (S):

Longitude (E):

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 500m along the route for each alternative alignment.

6. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A1² (preferred activity alternative)

Size of the activity:

3 ha

¹ "Alternative S.." refer to site alternatives.

² "Alternative A.." refer to activity, process, technology or other alternatives.

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Alternative A2 (if any)
Alternative A3 (if any)
or, for linear activities:

	3 ha
	m ²

Alternative:

Length of the activity:

Alternative A1 (preferred activity alternative) **N/A**
Alternative A2 (if any)
Alternative A3 (if any)

	m
	m
	m

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:

Size of the site/servitude:

Alternative A1 (preferred activity alternative)
Alternative A2 (if any)
Alternative A3 (if any)

	3ha
	3ha
	m ²

7. SITE ACCESS

Does ready access to the site exist?

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

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

Describe the type of access road planned:

There is an existing gravel access road that will be used to access the site.

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 ATTACHED (*DRAFT ATTACHED AS APPENDIX A*)

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);

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- 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 (ATTACHED AS APPENDIX B)

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 (ATTACHED AS APPENDIX C)

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?	R120m	
What is the expected yearly income that will be generated by or as a result of the activity?	R200 000	
Will the activity contribute to service infrastructure?	YES	NO
Is the activity a public amenity?	<input checked="" type="checkbox"/>	NO
How many new employment opportunities will be created in the development phase of the activity?	50	
What is the expected value of the employment opportunities during the development phase?	R1m	
What percentage of this will accrue to previously disadvantaged individuals?	90%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	6	
What is the expected current value of the employment opportunities during the first 10 years?	R1m	
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):

The proposed project will instil societal pride by way of housing provision to those who are in dire need of services such as housing.

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

The proposed project will provide temporary job opportunities through subcontracting.

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

The proposed project will provide employment opportunities to local residents such as teachers.

The project will provide good quality rental housing for qualifying beneficiaries.

12. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

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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:
-Section 24 of the National Environmental Management Act, (Act No. 107) of 1998.	Department of Environmental Affairs.	21 April 2006
- National Environmental Management Act, 2008 (Act No. 62 of 2008).	Department of Environmental Affairs,	01 May 2009
-National Forest Act (including Act 84 of 1998)	Department of Agriculture, Forestry and Fisheries	30 October 1998
-Section 19 of the National Water Act, (Act No. 36) of 1998.	Department of Water Affairs	1998
National Environmental Management Biodiversity Act	Department of Environmental Affairs	2004
Environmental Impact Assessment Regulations, June 2010	Department of Environmental Affairs,	2010
-Conservation of Agricultural resources Act, (Act no 43) of 1983	Department of Agriculture	1983
National Heritage Resource Act	SAHRA, Amafa KZN	1999

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 checked="" type="checkbox"/>
3m ³	

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

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

Construction solid waste will be stored in skips or drums till removal to an authorized waste disposal site. It is likely that some solid waste will be recycled (re-used) on site. Solid waste will be sorted and there will be an area designated for the temporary storage of solid waste (skips or bins). There may also be a final disposal at a permitted waste disposal facility, as determined by the contractor and RE during construction (disposal slips for all disposals will be retained on file by the contractor).

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

The Resident Engineer or contractor will determine details of all landfill sites or borrow pits to be used during construction. It is likely that borrow pits will be used instead of landfills due to the remoteness of the area. During construction, skips or bins will be available for waste disposal and storage, pending final disposal to the nearest approved landfill site.

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Will the activity produce solid waste during its operational phase? If yes, what estimated quantity will be produced per month? How will the solid waste be disposed of? (provide details of landfill site)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px; background-color: black;"></td> <td style="width: 50px;">NO</td> </tr> <tr> <td colspan="2" style="text-align: center; padding: 2px;">m³</td> </tr> </table>		NO	m ³	
	NO				
m ³					

N/A

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? Note that during construction some diesel, fuel and oil lubricants will be used.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px; background-color: black;"></td> <td style="width: 50px;">NO</td> </tr> </table>		NO
	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?	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px; background-color: black;"></td> <td style="width: 50px;">NO</td> </tr> </table>		NO
	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?	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px; background-color: black;"></td> <td style="width: 50px;">NO</td> </tr> </table>		NO
	NO		

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

Will the activity produce any effluent that will be treated and/or disposed of on site? (a sewage package plant will be built with a capacity of 30 cubic meters per day; should capacities exceed 30 cubic meters, more specifically should the capacity be increased to more than 2000 cubic meters, the Competent Authority must be contacted by the applicant regarding the need for a new EIA, an amendment to existing EIA and waste licence)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="text-align: center; padding: 2px;">m³</td> </tr> <tr> <td style="width: 20px; height: 20px; text-align: center;">Yes</td> <td style="width: 50px; height: 20px; background-color: black;"></td> </tr> </table>	m ³		Yes	
m ³					
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?	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px; background-color: black;"></td> <td style="width: 50px;">NO</td> </tr> </table>		NO
	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:

-Water will be re-used on site where applicable.
-Water use during dust control activities will be minimal.

13.3. Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50px;">YES</td> <td style="width: 20px; height: 20px; background-color: black;"></td> </tr> </table>	YES	
YES			
If yes, is it controlled by any legislation of any sphere of government?	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px; background-color: black;"></td> <td style="width: 50px;">NO</td> </tr> </table>		NO
	NO		

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

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

During construction, CO₂ emissions from construction vehicles will occur. Dust entrainment from construction vehicles and activities is likely. The concentration will be low-moderate, and will be temporary and limited to the construction work area, for the duration of the construction phase.

13.4. Generation of noise

Will the activity generate noise?

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

If yes, is it controlled by any legislation of any sphere of government?

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:

Low level noise will result from construction vehicles and machinery, and is not expected to exceed the occupational health and safety levels. Noise generated at the sites as a result of construction activity will be temporary.

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 type="checkbox"/>	<input type="checkbox"/>	river, stream, dam or lake	<input type="checkbox"/>	<input type="checkbox"/>
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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:

2000litres/pm	
<input type="checkbox"/>	NO

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

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:

-Environmental Education and Awareness will be taught to the construction workers before the commencement of construction. The utilization of energy during construction, in a responsible manner should also be included within this program.

-All recyclable waste products must be gathered and stored separately and sent to an authorised recycling facility.

Where possible, the development should try to:

-Harvest rainwater off all roofs;

-Harvest stormwater off all hard surfaces; (The above can be stored in tanks below the establishment and can be filtered.)

-Collect grey water from the building. The effluent should be used to water the vegetable gardens or recreational gardens. Gully traps should be fitted to the outlets of all toilets

-Where possible the water heating should be via solar flat plate collectors. Washing water should be controlled by a thermostatic blending valve and delivered through self-closing, metered taps to restrain wastage. Toilets will work off 'flushmaster' valves to avoid enduring problems of leaking apparatus. Low flow shower heads can also be used.

-Solar panels and water heaters to be used in development, as well as LED lights; residents should also be encouraged to adopt energy efficient products during operation/occupancy where possible

-The residents of the facility should be encouraged to practise recycling

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

-Construction will be carried out during the day

-Use energy saving bulbs for onsite lighting. Lighting should be low level (site camp)

-Material that can be recycled or re-used should be advocated.

-The use of biodegradable products wherever possible shall be encouraged.

-Reduce the amount of garbage from the proposed project by buying in bulk; buying products with less packaging, using a minimum of throw away products.

-When buying building materials, try to source products made from natural materials or recycled materials.

-When looking for construction materials, buying locally instead of ordering from afar has many advantages for the local community and the environment, this will be contributing to lowering carbon emission levels and saving resources by reducing the carbon km involved in transporting the goods and this should also save on packaging.

-Energy efficiency measures will be built into the design of the development-all buildings are to be energy efficient.

-Solar water heaters and panels will be installed in the units

-Where possible the water heating should be via solar flat plate collectors. Solar panels and water heaters to be used in development, as well as LED lights; residents should also be encouraged to adopt energy efficient products during operation/occupancy where possible

SECTION C: SITE/ AREA/ PROPERTY DESCRIPTION

Important notes:

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- 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. 1
(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:

Preferred site

Flat	1:50 1:20	-				
------	--------------	---	--	--	--	--

Alternative S2 (if any):

Flat						
------	--	--	--	--	--	--

2. LOCATION IN LANDSCAPE

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

Alternative S1 (preferred site):

<input checked="" type="checkbox"/>	Plateau	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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Alternative S2 (if any): N/A

<input checked="" type="checkbox"/>	Plateau	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

N.B: A GEOTECHNICAL REPORT WAS COMPILED, ATTACHED AS APPENDIX D:

Has a specialist been consulted for the completion of this section?	<input checked="" type="checkbox"/>	NO
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?	<input checked="" type="checkbox"/>	NO
If YES, specify and explain: REFER TO ECOLOGICAL/GEOTECH STUDY		
Are there any special or sensitive habitats or other natural features present on any of the alternative sites?	<input checked="" type="checkbox"/>	NO
If YES, specify and explain: N/A		
Are any further specialist studies recommended by the specialist?	<input checked="" type="checkbox"/>	NO
If YES, specify: N/A		

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If YES, is such a report(s) attached in Appendix D?

<input type="checkbox"/> YES	<input type="checkbox"/> NO
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Signature of specialist: _____

Date:

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

	Alternative S1:	Alternative S2 (if any):	Alternative S3 (if any): <i>N/A</i>	
Shallow water table (less than 1.5m deep)	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Dolomite, sinkhole or doline areas	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Seasonally wet soils (often close to water bodies)	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Unstable rocky slopes or steep slopes with loose soil	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Dispersive soils (soils that dissolve in water)	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Soils with high clay content (clay fraction more than 40%)	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Any other unstable soil or geological feature	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES	<input type="checkbox"/> NO
An area sensitive to erosion	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO	<input type="checkbox"/> YES	<input type="checkbox"/> NO

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. GROUND COVER

N.B: AN ECOLOGICAL STUDY AND A VISUAL COMMENTARY IS ATTACHED AS APPENDIX D

Has a specialist been consulted for the completion of this section?	<input checked="" type="checkbox"/>	NO
Are there any rare or endangered flora or fauna species (including red data species) present on any of the alternative sites?	<input checked="" type="checkbox"/>	NO
If YES, specify and explain:	According to the ecological study, the area has been subjected to a high level of disturbance. Refer to ecological study compiled for the preferred (proposed) site, appendix D.	
Are there any special or sensitive habitats or other natural features present on any of the alternative sites?	<input checked="" type="checkbox"/>	NO
If YES, specify and explain:	N/A	
Are any further specialist studies recommended by the specialist?	<input checked="" type="checkbox"/>	NO
If YES, specify:	N/A	
If YES, is such a report(s) attached in <u>Appendix D</u> ?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/>

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Signature of specialist: _____

Date: _____

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

Preferred and alternative sites

		Natural veld with heavy alien infestation ^E		
	Cultivated land		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.

Brief summary of ecological report for proposed site: refer to appendix D for complete report, data and imagery

The site is ostensibly “level”, draining to the north. Soils are primarily clays, which suggest poor percolative responses to rainfall and therefore surface drainage from site is significant under high precipitation events. No water bodies are however evident, within or close to the site in question.

The subject site is generally devoid of larger woody specimens, however occasional woody specimens of *Acacia nigricans* and *Spirostachys africana* are present at points to the west of the site. The perimeter of the cleared area is testimony to the former vegetated state encountered on site, which includes two larger specimens of *Ficus polita*. *S americana* is also present at points and may be considered the dominant species within this area. Where vegetation has been cleared and early seral regeneration has arisen, *Gymnosporia buxifolia* and the herb, *Barleria elegans* is encountered. The dominant graminoid across site is *Urochloa mocambicensis*.

Consideration of the findings of the assessed data indicates that much of the area is dominated by the graminoid, *Urochloa mossambicensis* and the exotic, *S americana*. This is evident from imagery and confirms the above statements that the majority of the site is in an early seral state, following disturbance.

Further interrogation of the collated data, indicates that diversity is limited on site and furthermore improved diversity is evident at the periphery of the site, while centrally, diversity is limited. Such results also indicate that exotic invasive species are prevalent across site, with the exception of those areas which are of an extremely early seral structure.

The data supports the assertion that the site in general is of limited ecological perspective being neither representative of the prevailing natural habitat nor species composition.

Further to the above information, the generally poor habitat structure and proximity to high human presence is likely to infer a low level of faunal presence. As such fauna on site is likely to be limited to invertebrates, with in particular the scorpionid *Opistocanthus validus*, being noted in a scrape on site.

The study area exhibits an early seral state in respect of its habitat structure.

Occasional woody specimens are located within or on the perimeter of the site, that are of specimen specific, ecological value or interest (eg *F polita*) or are associated with lianes and herbs in a variable, structured, association.

*Some exotic invasion is noted, with *Sisal americana*, a planted exotic that dominates within the area, being the most abundant species.*

*Fauna associated with the site is limited on account of the generally cleared nature of the site and the degraded state of remaining vegetation. Some invertebrates, particularly scorpionids of the Genus *Opisthicanthus* are common to this area and are related to the clayey soils of the region.*

Visual impact study (compiled by SDP for proposed site): refer to Appendix E for complete report

The terrain on the site can be described as flat with an average elevation of 75 amsl. The surrounding area, within an 8 km radius, can be described as having mostly gentle gradients with the exception of a slightly elevated landform, in close proximity, NE of the site. The terrain to the North and South of the site shows a gradual decrease in elevation and therefore the site is situated on a slightly elevated location.

Vegetation canopy heights and crown coverage on and surrounding the site can be described as “moderately favourable” from a visual abatement and mitigation perspective, being some 4 – 6 m in maximum height. Coverage and canopy height provide increased absorption and ‘screening’ capacity and decrease the overarching visual impact.

The magnitude of the visual impact relates to the size, extent and duration of the proposed development. Given the above, the development can be described as Category 4 which includes medium-density development of generally 1 to 3 storey structures, including cluster development, usually with at least 25% of the area retained as green open space. Given the extent and size of the development the magnitude can thus be considered ‘HIGH’

According to the Western Cape Visual and Aesthetic Specialist Guidelines (Oberholzer 2005) guidelines, the visual impact is based on a combination of receiving environment sensitivity and the magnitude or intensity of the proposed development. Therefore, a Category 4 development located near protected/wild areas of international, national or regional significance constitutes a ‘VERY HIGH VISUAL IMPACT EXPECTED’.

Based on the above results, the anticipated impacts include the following:

- *Significantly high visual impact imposed on certain receptors located within the Ndumo Game Reserve as represented.*
- *Significant visual impact on viewers travelling along the D1851 toward the main entrance to the Ndumo Game Reserve.*
- *Change in visual character ascribed to the Ndumo townscape based on preliminary architectural renderings produced by Enanela Architects*

Possible mitigation measures can be undertaken to reduce the overall visual impact of the proposed Ndumo development. Special design considerations should be implemented in order to achieve effective mitigation. Design should take cognisance of the general visual character of both town and landscape features found at Ndumo.

*Possible landscaping features can be included in the design which may have potentially favourable results in further mitigation outcomes. Particular indigenous species that may be most effective in ‘screening’ or obstructing the impact of the proposed development include the following: *Ficus polita*, *Ficus burkei*, *Spirostachys africana**

The above species offer favourable crown coverage and height specifications (15 – 18m), are non deciduous and thus can successfully mitigate visual impact if planted at points with consideration.

Given the above, the assessment shows a receiving environment that is highly sensitive to change, especially in respect of the Ndumo Game Reserve. The proposed development at Ndumo will evidently alter the visual character of the area by a significant degree. However, visual impact, in this instance, can be reduced or abated through the use of less intrusive building typologies, design and the use of mitigation measures that are applied effectively.

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:

Preferred (Proposed) site and alternative site

Land use character			Description
Natural area	YES	■	The Ndumo game reserve is located 1km from the preferred site, and the building will be visible at certain points. Mitigation measures are as per specialist study. The area beyond the boundaries of the site, particularly to the north/north east is marked by healthy natural bush.
Low density residential	YES	■	There at some homesteads located close to the site. Disturbances in terms of noise and dust, as well as possible safety issues. Mitigation as per EMPr.
Medium density residential	YES	■	
High density residential	■	NO	
Informal residential	YES	■	There at some traditional homesteads located close to the site. Disturbances in terms of noise and dust, as well as possible safety issues. Mitigation as per EMPr.
Retail commercial & warehousing	■	NO	
Light industrial	■	NO	
Medium industrial	■	NO	
Heavy industrial	■	NO	
Power station	■	NO	
Office/consulting room	■	NO	
Military or police base/station/compound	YES	■	The Ndumo police station lies opposite the road from the site. There will temporary nuisances in terms of noise and dust during construction. Mitigation as per EMPr.
Spoil heap or slimes dam	■	NO	
Quarry, sand or borrow pit	■	NO	
Dam or reservoir	■	NO	
Hospital/medical centre	■	NO	
School/ creche	YES	■	Disturbances in terms of noise and safety impacts are possible, mitigation as per EMPr.
Tertiary education facility	■	NO	
Church	■	NO	
Old age home	■	NO	

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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	YES		The is used as an ad hoc sports field, there is a soccer goal post located on site, however, Sports and Recreation will be moving this post
Golf course		NO	
Polo fields		NO	
Filling station		NO	
Landfill or waste treatment site		NO	
Plantation		NO	
Agriculture	YES		The site is used as an ad hoc grazing field.
River, stream or wetland		NO	
Nature conservation area		NO	
Mountain, hill or ridge		NO	
Museum		NO	
Historical building		NO	
Protected Area	YES		Ndumo Game Reserve is located further than 1km from the site
Graveyard		NO	
Archaeological site		NO	
Other land uses (describe)		NO	

6. CULTURAL/ HISTORICAL FEATURES (A heritage study has been compiled)

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:

SEE HERITAGE STUDY ATTACHED
As per NGT: 'It is recommended that Amafa KwaZulu-Natali (the legislated provincial heritage authority) grant the project a Positive Review Comment and allow the development to proceed as planned'

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

	NO
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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

DETAILS OF PPP:

Public participation process undertaken for proposed project include the following activities: (Copy of BID, correspondence, CR report, advert, pictures from meeting- APPENDIX E)

-An information package (BID) containing a description of the project and planned scope of work was compiled and distributed to all relevant Authorities and Interested Parties that were identified at the project outset. The briefing document contained a description of the project, explained the aims and objectives of the environmental assessment (BAR) and invited comment on the proposed project.

-An advertisement was placed in isiZulu in the Isolezwe newspaper informing the public of the project and inviting them to attend a public meeting for the EIA for the project.

-A public meeting was held on the 11 July for the proposed project, at the Ndumo Telecentre. No onsite notices were placed since it was not deemed necessary, the community has been aware of this project and a social facilitator had disseminated information regarding the project to the community and invited them to attend the EIA meeting held on the 11 July 2014.

-The draft BAR was compiled and circulated to all IAPs for a 40 day comment period. Where IAPs had indicated they would like to review the draft Final BAR, they were provided an electronic copy and asked to submit within 5 days of receipt. The Umkhanyakude district had requested a copy of the draft Final BAR for review and given a total of 7 days to comment.

The IAP's included were:

- Ezemvelo KZN Wildlife;***
- KZN Department of Water Affairs;***
- Jozini Local Municipality***
- Department of Transport***
- Department of Agriculture, forestry and fisheries***
- Umkhanyakude District Municipality***
- Amafa KZN***

-All comments and responses are included in this report and the Comments and Response report.

1. ADVERTISEMENT (ATTACHED AS APPENDIX E)

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

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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

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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 (ATTACHED AS APPENDIX E)

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	<input checked="" type="checkbox"/>
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If "YES", briefly describe the feedback below (also attach any correspondence to and from this authority with regard to this application):

No comment received on BID.

Comments have been received on the draft BAR, attached as appendix E.

-The ‘no-go’ option must at all times include the consideration of the “no-go” option as a baseline against which all other alternatives must be measured. The option of not implementing the activity must always be assessed and to the same level of detail as the other feasible and reasonable alternatives.

-In addition, alternatives identified should not only be limited to site. Alternatives may include design, layout and other alternatives.

-Draft Environmental Management Programme

-The draft EMP does not specify exactly how the area will be rehabilitated after the development. This may include greening using indigenous plants and transplanting critical plant species removed on site. (Page 23)

-The method statement referred to in Page 18 must be specified clearly.

-Mitigation measures suggested for the anticipated impacts must be adhered to and implemented (Pages 18 - 22)

-Public Participation Process

-Final Draft of the Basic Assessment Report must attach a very clear site notice as the one on this draft Basic Assessment Report is not clear and cannot be ascertained, as a result.

-Jozini Local Municipality planning section should provide comments on the proposed development in terms of their town planning guidelines and PDA processes.

-Climate change: Energy efficiency/water saving

-In terms of minimising the consumption of scarce environmental resources such as water, fuel, building materials, mineral resources, electricity and land and as part of the efforts to reduce the effects of climate change, you are encouraged to identify energy efficient technologies (e.g. the use of low voltage or compact fluorescent lights instead of incandescent globes, maximising the use of solar heating, etc.) that could be implemented for the proposed development.

-Considering that South Africa is a water scarce country and that many catchments in the Northern KwaZulu Natal are already water stressed, you are further encouraged to consider implementing the use of water saving devices and technologies (e.g. dual flush toilets, low flow shower heads and taps, etc.) for the proposed development and the management of storm water; the capture and use of rainwater from gutters and roofs; use of locally indigenous vegetation during landscaping.

-Duty of Care

-You are further reminded of your general duty of care and the remediation of environmental damage, Section 28(1) of NEMA specifically states that “Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorized by law or cannot reasonably be avoided or stopped, to minimize and rectify such pollution or degradation of the environment.”

(responses to comments included in section below and Comments report; the municipality was also afforded a chance to comment on the Draft Final BAR-no comments received).

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):

No comment received on BID or draft BAR; reminders for comments have been sent.

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):

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No formal comments have been received, however the Mathenjwa traditional council, represented by Mr. Dan Mathenjwa, has been aware of and involved with the projects in the area as a whole from the outset.

A public meeting has been conducted for the project. Details of meeting included in Comments and Response Report.

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):

N/A: However, Eskom will be the electricity service provider for the project.

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.

Comment on BID

Department of Transport

-DoT has no objection with 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 435 and 25 meters from the centre line of District Road 1851.

-In terms of section 10 of the KwaZulu-Natal Roads Act no. 4 of 2001 the access point shall be positioned in consultation with and to the satisfaction of this Departments Cost Centre Manager, Hluhluwe Tel (033-5620262).

-The formalisation of and positioning of accesses must conform to this Departments legislation and design criteria as described in TRH17 the geometric design of rural roads.

-In regard to the positioning of community facilities such as schools, clinics, welfare pay points etc, this Department is opposed to these being positioned on the Main Roads for safety reasons. There is no objection to these positioned on minor District Roads or Community Access Roads in close proximity to the Main Roads.

-The applicant's attention is drawn to the relevant storm water 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 storm water emanating from the road reserve through the layout through the road reserve, shall be undertaken in consultation with and to the satisfaction of this Departments Cost centre Manager, Hluhluwe (Telephone: 033-5620262) during the development of the property concerned.

-Upon the finalization of the housing project this Department required a detailed to scale layout proposal to be submitted to this Department for assessment and comment.

-This correspondence does not grant authorization or exemption from compliance with any other relevant and applicable legislation.

Department of Forestry and Fisheries (DAFF)

-Request that an ecological report be compiled.

COMMENTS ON DRAFT BAR

Department of Water Affairs (DWA)

-This Department notes that as per the report submitted to this Office there are no wetlands on site. Has a wetland study been conducted? Please note that according to the guideline "A practical field procedure for identification and delineation of wetlands and riparian areas." (DWA, 2005) the wetland must be delineated.

-Page 5 of the Basic Assessment Report mentions that the Jozini Municipality will be constructing a water pipeline in the area that will serve the development as well as a reservoir. Please clarify for this office where will water be sourced from for the construction of the Ndumo Rental Stock Housing. If water is made available from a municipal source for the construction, this office requires proof of a service agreement from the municipality for the supply of water.

-Stormwater on site must be properly managed. This Department requires clarity on the Stormwater system design, where the stormwater will be disposed of, and the quantity and quality of stormwater disposed of.

-Page 21 of the Environmental Management Programme (EMP), in the report submitted to this Department mentions that water will be used for dust suppression. Please clarify for this Department where the water for this activity will be sourced, quantities and the area where dust suppression will take place.

-The conditions and responsibilities contained in the appended (EMP) (Appendix F) and recommendations in the Specialists reports (Ecological Report dated May 2014 and Geotechnical Report dated March 2014) must be adhered to. Compliance to the approved EMP must be audited regularly by the designated Environmental Control Officer.

-It is mentioned that sewage will be disposed to the municipal sewage system. Please provide the Department with the name of the treatment work and a letter from the municipal stating that the works is capable of handling the additional volume and load of sewage that will be generated by the development.

-Page 16 of the EMP mentions that a septic tank may be used. Please note that this Department does not support the use of the septic tank and soakaway system for sewage treatment and disposal for large dense developments

General Comments:

1. **Solid waste**
 - *It is a requirement of this Department that solid waste generated from the activities at the development be disposed of at a permitted waste disposal site. Ms. C. Moonsamy of this Department must be contacted if any other disposal route is to be followed. The Department fully supports recycling of waste generated as a result of day to day activities of the development.*
2. **Erosion control**
 - *Soil erosion on site must be prevented at all times, i.e pre-, during- and post-construction activities.*
 - *Erosion control measures to be implemented in areas sensitive to erosion such as near water supply points, edges of slopes, etc. These measures could include the use of sand bags, hessian sheets, retention or replacement of vegetation.*
3. **Stormwater management**
 - *A stormwater drainage network system must be kept separate from the sewage effluent system.*
 - *These networks must be designed and constructed in such a manner that stormwater will drain to the stormwater attenuation dams before discharge to the Municipal Stormwater System, if supplied in the area.*
 - *After construction, the site should be graded to ensure free flow of runoff and to prevent ponding of water.*
 - *Drainage must be controlled to ensure that runoff from the site will not culminate in off-site pollution or cause water damage to properties further down from the site.*
4. *The storage of oils, materials, chemicals, fuels, etc. to be used during the construction phase must be located out of the 1:100 year floodline of any river and unauthorised*

access to these areas must be constructed around chemical or fuel storage areas to contain possible spillages.

- 5. No forms of secondary pollution should arise from the disposal of sewage and refuse. The contractor must be clearly briefed on the method of disposal of such waste and compliance must be ensured/ monitored. Any pollution problems arising from the above project is to be addressed immediately by the Applicant.*
- 6. This Department notes the content (i.e responsibilities and conditions) as outlined in the EMP. Compliance to the approved EMP must be audited regularly by the designated Environmental Control Officer (ECO).*
- 7. Stockpiling of soil or any other materials used during the operation must not be allowed on or near steep slopes, near a watercourse or water body. This is to prevent pollution or the impediment of surface runoff. The Applicant must control and establish suitable mitigation measures to prevent the erosion of the stockpiles. No sand must be stockpiled within the banks of the said river. Berms must be constructed between the dedicated stockpile area and the river to minimise water pollution of the water resources.*

DAFF:

-The department of Agriculture, Forestry and Fisheries (DAFF) appreciates the opportunity given to comment and review the DBAR for the above mentioned development. DAFF has no objections to the proposed project as (according to the DBAR received on the 8th of July 2014) there are no natural forests and or protected tress under the National Forests Act, 84 of 1998 that will be negatively impacted upon

Amafa KZN

*-Requires a full heritage study.
-If any heritage resources, including graves or human remains, are encountered they must be reported to Amafa immediately*

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):

Response to comments on BID

Department of Transport

- Noted, comments included in EMPr.

Department of Forestry and Fisheries

-Report has been commissioned.

Response to comments on Draft BAR

Umkhanyakude District Municipality

-Alternatives have been considered where these were available, however pertaining to layout/design alternatives, different typologies are proposed as described (i.e single double or triple storey.

EMP:

*-More specific pointers have been provided on page 25 of the EMP. A rehab plan/landscaping plan will be tailored for the site during construction phase and only indigenous species will be used for the gardens/open space. A rehab contractor will compile this plan.
-the method statement requirements for waste management is outlined on page 19 of the EMP.*

Public participation:

*-No onsite notice was placed for this project, an advert was placed in a newspaper and site images are available. Notifying community members of the meeting was done via social facilitation and the advert. Note that this project is part of a greater suite of projects being done in the area and the community is already aware of proposed projects.
-Jozini municipality was included as an IAP from the project outset, they were sent the BID and draft BAR to comment, but no comments were received despite reminders being sent. Apparently the municipality is under administration which is probably why they did not*

comment.

Climate change and energy efficiency:

-See EMP page 26

DWA:

-No delineation required-no wetlands exists on site-see ecological report.

-The water for construction and dust suppression will be sourced from the river

-Storm water design has been provided. Storm water will be properly managed by providing concrete lined v-drains that will drain into two flood attenuation dams. The attenuation dams will collect up to 100 cubic metres of storm water which will be disposed slowly into the gardens/irrigated, or open field.

-Water for construction will be sourced from the river, and will be below 2000l.

-Contained in EMP.

-A package plant will be built for sewage treatment, details in report, effluent will be used to water the gardens or discharged over dense grass cover. Due to the number of projects occurring in Ndumo, it is possible that the municipality might construct a formal sewage works.

-A septic tank was proposed for temporary use during construction, however this aspect has been removed especially since DWA does not support this, and only portable toilets will be used.

-General comments: All items are included in EMP

DWA

-Noted.

Amafa

-heritage study has been done.

-Item included in EMP.

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:

-Camp site

-Visual

-Biophysical

-Heritage

-Contractor awareness training

-Access

Indirect impacts:

N/A

Cumulative impacts:

N/A

Alternative S2 (if any) Alternative site

Basic Assessment Report

Direct impacts:

- Camp site
- Visual
- Biophysical
- Heritage
- Contractor awareness training
- Access
- Socio-economic

Indirect impacts:

N/A

Cumulative impacts:

N/A

No-go alternative (compulsory)

Direct impacts:

Should the proposed project not be implemented, then the social benefits will not accrue to the residents who are awaiting formal housing and who will be key service providers. Provision of secure housing is a key issue in Ndumo and not constructing this project will deny many professional residents the opportunity of acquiring a good standard of housing. In addition, housing has been set aside for community members who qualify.

Unrest in the community could result due to a lack of housing, along with threats to Ndumo Game reserve and an increase in poaching, could result. Staff employed to serve community members, such as students, will not have access to housing, and community members who do qualify for the housing will not be able to uplift their living standards. This may mean that professionals will be unwilling to remain in Ndumo to serve the community

Indirect impacts:

- Unrest due to lack of housing

Cumulative impacts:

- Threats to Ndumo Game reserve and increase in poaching.

Indicate mitigation measures to manage the potential impacts listed above:

REFER TO EMPR FOR FULL MITIGATION

Impacts are almost the same for the Proposed site and alternative site, mitigation is proposed simultaneously for both sites, unless where stated.

IMPACT	SIGNIFICANCE UNMANAGED	MITIGATION	SIGNIFICANCE MANAGED
Awareness training	Medium	- The contractors and staff must be given environmental training by the ECO.	Low
Camp site	Low	- Storage areas must be located within the camp site.	Low

Basic Assessment Report

		<ul style="list-style-type: none"> - The entire camp and construction site should be fenced. - Provisions for removal and safe disposal of spoil to be made prior to contractor occupying site. Proof must be retained on file. 	
Biophysical (study based on preferred site, but mitigation can be used for alternative site)	Low-Medium	<ul style="list-style-type: none"> - Permits must be applied for from Department of Agriculture, Forestry and Fisheries (DAFF) prior to disturbance or removal of a forest, indigenous or protected trees. Should listed/protected plants be removed, a permit from Ezemvelo KZN Wildlife must be applied for and received prior. -The prevention of extended clearance of areas outside of the property, particularly in a north easterly direction is required as per specialist study. -The maintenance of the remaining larger woody specimens on site, in particular Ficus polita found to the north of the site. 	Low
Visual (study based on preferred site, but mitigation can be used for alternative site)	High	<ul style="list-style-type: none"> -Recommendations as per the visual and ecological study must be implemented/adhered to. -Special design considerations should be implemented in order to achieve effective mitigation. Design should take cognisance of the general visual character of both town and landscape features found at Ndumo. -Possible landscaping features can be included in the design which may have potentially favourable results in further mitigation outcomes. -Particular indigenous 	Medium

Basic Assessment Report

		<p>species that may be most effective in 'screening' or obstructing the impact of the proposed development include the following: <i>Ficus polita</i>, <i>Ficus burkei</i>, <i>Spirostachys Africana</i>. The species offer favourable crown coverage and height specifications (15 – 18m), are non deciduous and thus can successfully mitigate visual impact if planted at points with consideration</p>	
Heritage	Low	<p>- If any heritage resources, including graves or human remains, are encountered they must be reported to Amafa immediately</p> <p>-The developers are reminded that archeological / heritage material more than often occurs below surface level. Should any such material (artefacts, pottery, graves etc) be unearthed accidentally during the construction process, all such activities are to be halted immediately and Amafa alerted.</p>	Low
Access	Low	<p>-The access roads must follow natural contours to reduce storm water erosion.</p> <p>-The road must have as little cut and fill as possible, and to allow for the natural flow of water where possible.</p> <p>-Slight deviations of alignment are permitted to avoid any significant natural features.</p> <p>-Ensure that adequate vehicle turning areas are allowed for, and turning areas for haulage vehicles are to be formalized.</p>	Low
Socio-economic (PREFERRED/PROPOSED)	High (+)	-It is suggested that the proposed project be	High (+)

Basic Assessment Report

SITE)		authorised due to the benefits that will accrue to the community.	
Socio-economic (alternative site)	High (-)	-the homes on the site will need to be demolished. -an eviction order will need to be served on the person occupying the site.	High (-)

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:

-Vegetation

Indirect impacts:

-n/a

Cumulative impacts:

-n/a

Alternative A2 (if any)

Direct impacts:

-Vegetation

-Homes on site

Indirect impacts:

-liaison with community member who had built his two houses on site

Cumulative impacts:

-eviction of community member occupying site

No-go alternative (compulsory)

Direct impacts:

Should the proposed project not be implemented, then the social benefits will not accrue to the residents who are awaiting formal housing and who will be key service providers. Provision of secure housing is a key issue in Ndumo and not constructing this project will deny many professional residents the opportunity of acquiring a good standard of housing. In addition, housing has been set aside for community members who qualify.

Unrest in the community could result due to a lack of housing, along with threats to Ndumo Game reserve and an increase in poaching, could result. Staff employed to serve community members, such as students, will not have access to housing, and community members who do qualify for the housing will not be able to uplift their living standards. This may mean that professionals will be unwilling to remain in Ndumo to serve the community

Indirect impacts:

-Unrest due to lack of housing

Cumulative impacts:

- Threats to Ndumo Game reserve and increase in poaching

Basic Assessment Report

Indicate mitigation measures to manage the potential impacts listed above:

IMPACTS	SIGNIFICANCE UNMANAGED	MITIGATION	SIGNIFICANCE MANAGED
Vegetation	Low	<ul style="list-style-type: none"> - A vegetation specialist must be appointed to demarcate all listed vegetation or apply for permits from DAFF for removal. Where unavoidable removal of listed species has to occur, these must be replaced at a ratio of 1:3. - No trees or shrubs will be removed without the prior permission of the ECO, RE or EO. - Construction activities will be restricted to a pre-defined area so as to minimize the ecological footprint of the project. Existing indigenous vegetation must be retained where possible 	Low
Socio-economic (PREFERRED SITE)	High (+)	- It is suggested that the proposed project be authorised due to the benefits that will accrue to the residents.	High (+)
Socio-economic (alternative site)	High (-)	<ul style="list-style-type: none"> -the homes on the site will need to be demolished. -an eviction order will need to be served on the person occupying the site. 	High (-)

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:

- Groundwater impacts
- Erosion
- Heritage

Indirect impacts:

- Waste management

Cumulative impacts:

- Anthropogenic impacts

Alternative S2 (if any) *Impacts are the same as proposed (preferred) site*

Direct impacts:

- Groundwater impacts
- Erosion

Indirect impacts:

- Waste management

Cumulative impacts:

Basic Assessment Report

-Anthropogenic impacts

No-go alternative (compulsory)

Direct impacts:

Should the proposed project not be implemented, then the social benefits will not accrue to the residents who are awaiting formal housing and who will be key service providers. Provision of secure housing is a key issue in Ndumo and not constructing this project will deny many professional residents the opportunity of acquiring a good standard of housing. In addition, housing has been set aside for community members who qualify.

Unrest in the community could result due to a lack of housing, along with threats to Ndumo Game reserve and an increase in poaching, could result. Staff employed to serve community members, such as students, will not have access to housing, and community members who do qualify for the housing will not be able to uplift their living standards. This may mean that professionals will be unwilling to remain in Ndumo to serve the community

Indirect impacts:

-Unrest due to lack of housing

Cumulative impacts:

- Threats to Ndumo Game reserve and increase in poaching

Indicate mitigation measures to manage the potential impacts listed above:

IMPACTS	SIGNIFICANCE UNMANAGED	MITIGATION	SIGNIFICANCE MANAGED
Erosion	Medium	- No unnecessary removal of vegetation will be permitted.	Medium-Low
Heritage	Low	- If any heritage resources, including graves or human remains, are encountered they must be reported to Amafa immediately	Low
Waste Management	Medium	- Bins must be provided for onsite waste disposal. These bins must be scavenger and weather proof. - Waste separation must be practised. - Waste from chemical toilets to be disposed of responsibly in a chemical treatment plant. Proof to be retained on file.	Low

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Surface and groundwater (including hazardous substance and vehicle management)	Medium	<ul style="list-style-type: none"> -Construction vehicles to be kept in good working order to avoid risk of fuel/lubricant leaks. -Surface water draining off contaminated areas containing oil etc would need to be channelled towards a sump, which will separate the oil and water. -Oil residue must be treated with oil absorbent and this material must be removed to a licensed disposal site. -Contaminated oil must be removed at depth and remediated, or disposed at a registered hazardous landfill, proof of this must be retained on file. 	Low
Biodiversity	Low	<ul style="list-style-type: none"> - Staff may not capture, injure or kill any wildlife in the area, or harvest any plant whatsoever. 	Low
Anthropogenic effects and Safety	Medium	<ul style="list-style-type: none"> - Prevent locals from accessing the site, or from being in too close proximity by cordoning off the area can reinforce safety. - Construction vehicles are to adhere to speed limits at all sites. 	Low
Socio-economic (Preferred/Proposed site)	High (+)	<ul style="list-style-type: none"> - It is suggested that the proposed project be authorised due to the benefits that will accrue to the residents. 	High (+)
Socio-economic (alternative site)	High (-)	<ul style="list-style-type: none"> -the homes on the site will need to be demolished. -an eviction order will need to be served on the person occupying the site. 	High (-)

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:

- Vegetation
- Noise
- Dust
- Waste management
- Social
- Materials management

Indirect impacts:

- Pollution of groundwater

Cumulative impacts:

- Visual
- Rehabilitation

Alternative A2 alternative site (impacts are the same as the preferred site)

Direct impacts:

- Vegetation
- Noise
- Dust
- Waste management
- Social
- Materials management

Indirect impacts:

- Pollution of groundwater

Cumulative impacts:

- Visual
- Rehabilitation

No-go alternative (compulsory)

Direct impacts:

Should the proposed project not be implemented, then the social benefits will not accrue to the residents who are awaiting formal housing and who will be key service providers. Provision of secure housing is a key issue in Ndumo and not constructing this project will deny many professional residents the opportunity of acquiring a good standard of housing. In addition, housing has been set aside for community members who qualify.

Unrest in the community could result due to a lack of housing, along with threats to Ndumo Game reserve and an increase in poaching, could result. Staff employed to serve community members, such as students, will not have access to housing, and community members who do qualify for the housing will not be able to uplift their living standards. This may mean that professionals will be unwilling to remain in Ndumo to serve the community

Indirect impacts:

- Unrest due to lack of housing

Cumulative impacts:

- Threats to Ndumo Game reserve and increase in poaching

Indicate mitigation measures to manage the potential impacts listed above:

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IMPACTS	SIGNIFICANCE UNMANAGED	MITIGATION	SIGNIFICANCE MANAGED
Vegetation	Low	<ul style="list-style-type: none"> - Alien plants and weeds must be removed on an ongoing basis. 	Low
Noise	Low	<ul style="list-style-type: none"> - Restriction of noisy activity as per Project Specifications or General Conditions of Contract, and notification of residents of the activities. - Construction vehicles and machinery must be equipped with silencers if required. 	Low
Visual	Medium	<ul style="list-style-type: none"> - Construction site will be cordoned off with shade-cloth or other material. Construction traffic must stick to designated routes. No lighting, unless absolutely necessary will be placed at the construction site. The site will be kept visually and aesthetically pleasing, especially in and around the construction camp. The site must be kept reasonably neat and clean. 	Low
Dust	Low	<ul style="list-style-type: none"> - Use of water or non-toxic chemicals to control dust around stockpiles. - Driving speed of construction vehicles to be limited to normal speed. 	Low
Waste management/ pollution/ groundwater protection	Medium	<ul style="list-style-type: none"> - Bins must be provided for onsite waste disposal. These bins must be scavenger and weather proof. - Waste separation must be practised. - Waste from chemical toilets to be disposed of responsibly in a chemical treatment plant. Proof to be retained on file. 	Low
Materials management	Low-Medium	<ul style="list-style-type: none"> - Protect spoil by retaining them in a berm or by lining their bases with sandbags 	Low

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		<ul style="list-style-type: none"> or rocks. - Store spoil and top soil separately. - Stockpile topsoil and spoil in windrows parallel to the excavation. 	
Social (Anthropogenic)	Low	- Ensure that the site is fenced with no unauthorised access, and no access to livestock	Low
Rehabilitation	Medium	<ul style="list-style-type: none"> - Disassemble and remove all temporary structures - Demolish any structures no longer required (bundling material, impermeable lining, tanks and sumps) and dispose the waste material, including other waste (concrete, litter, domestic waste) at a permitted waste disposal site 	Low
Socio-economic (Preferred/proposed site)	High (+)	- It is suggested that the proposed project be authorised due to the benefits that will accrue to the residents.	High (+)
Socio-economic (alternative site)	High (-)	<ul style="list-style-type: none"> -the homes on the site will need to be demolished. -an eviction order will need to be served on the person occupying the site. 	High (-)

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:

-Visual

Indirect impacts:

-change in visual aesthetics on site

Cumulative impacts:

- change in visual aesthetics in the area

Alternative S2 (if any)

Direct impacts:

-Visual

Indirect impacts:

-change in visual aesthetics on site

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Cumulative impacts:

- change in visual aesthetics in the area

No-go alternative (compulsory)

Direct impacts:

Should the proposed project not be implemented, then the social benefits will not accrue to the residents who are awaiting formal housing and who will be key service providers. Provision of secure housing is a key issue in Ndumo and not constructing this project will deny many professional residents the opportunity of acquiring a good standard of housing. In addition, housing has been set aside for community members who qualify.

Unrest in the community could result due to a lack of housing, along with threats to Ndumo Game reserve and an increase in poaching, could result. Staff employed to serve community members, such as students, will not have access to housing, and community members who do qualify for the housing will not be able to uplift their living standards. This may mean that professionals will be unwilling to remain in Ndumo to serve the community

Indirect impacts:

- Unrest due to lack of housing

Cumulative impacts:

- Threats to Ndumo Game reserve and increase in poaching

Indicate mitigation measures to manage the potential impacts listed above:

IMPACTS	SIGNIFICANCE UNMANAGED	MITIGATION	SIGNIFICANCE MANAGED
Visual	High	- Implement measures as per specialist study, relating to tree species to be used for screening	Medium
Socio-economic (preferred/proposed site)	High (+)	- It is suggested that the proposed project be authorised due to the benefits that will accrue to the residents.	High (+)
Socio-economic (alternative site)	High (-)	-the homes on the site will need to be demolished. -an eviction order will need to be served on the person occupying the site.	High (-)

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) SEE ABOVE

Direct impacts:

N/A

Indirect impacts:

Cumulative impacts:

Alternative A2 see above

Direct impacts:

N/A

Indirect impacts:

Cumulative impacts:

No-go alternative (compulsory)

Direct impacts:

Should the proposed project not be implemented, then the social benefits will not accrue to the residents who are awaiting formal housing and who will be key service providers. Provision of secure housing is a key issue in Ndumo and not constructing this project will deny many professional residents the opportunity of acquiring a good standard of housing. In addition, housing has been set aside for community members who qualify.

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Indirect impacts:

-Unrest due to lack of housing

Cumulative impacts:

- Threats to Ndumo Game reserve and increase in poaching

Indicate mitigation measures to manage the potential impacts listed above: **N/A**

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

(N/A: THIS PHASE IS NOT ANTICIPATED IN THE NEAR FUTURE, THE HOUSING WILL MOST LIKELY BE REFURBISHED OR UPGRADED IN FUTURE, THEREFORE ENSURING A CONSIDERABLE LIFESPAN)

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:

N/A

Indirect impacts:

Cumulative impacts:

Alternative S2

Direct impacts:

N/A

Indirect impacts:

Cumulative impacts:

No-go alternative (compulsory)

Direct impacts:

Should the proposed project not be implemented, then the social benefits will not accrue to the residents who are awaiting formal housing and who will be key service providers. Provision of secure housing is a key issue in Ndumo and not constructing this project will deny many professional residents the opportunity of acquiring a good standard of housing. In addition, housing has been set aside for community members who qualify.

Unrest in the community could result due to a lack of housing, along with threats to Ndumo Game reserve and an increase in poaching, could result. Staff employed to serve community members, such as students, will not have access to housing, and community members who do qualify for the housing will not be able to uplift their living standards. This may mean that professionals will be unwilling to remain in Ndumo to serve the community

Indirect impacts:

-Unrest due to lack of housing

Cumulative impacts:

- Threats to Ndumo Game reserve and increase in poaching

Indicate mitigation measures to manage the potential impacts listed above: **N/A**

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) N/A

Direct impacts:

N/A

Indirect impacts:

Cumulative impacts:

Alternative A2

Direct impacts:

N/A

Indirect impacts:

Cumulative impacts:

No-go alternative (compulsory)

Direct impacts:

Should the proposed project not be implemented, then the social benefits will not accrue to the residents who are awaiting formal housing and who will be key service providers. Provision of secure housing is a key issue in Ndumo and not constructing this project will deny many professional residents the opportunity of acquiring a good standard of housing. In addition, housing has been set aside for community members who qualify.

Unrest in the community could result due to a lack of housing, along with threats to Ndumo Game reserve and an increase in poaching, could result. Staff employed to serve community members, such as students, will not have access to housing, and community members who do qualify for the housing will not be able to uplift their living standards. This may mean that professionals will be unwilling to remain in Ndumo to serve the community

Indirect impacts:

-Unrest due to lack of housing

Cumulative impacts:

- Threats to Ndumo Game reserve and increase in poaching

Indicate mitigation measures to manage the potential impacts listed above: **N/A**

Alternative A1

Alternative A2

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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.

PREFERRED SITE

It is recommended that monthly auditing be conducted for the proposed project. This monitoring will determine impacts and mitigation measures being implemented against the EMPr. Auditing must be conducted by an independent ECO once a month, with reports being sent to KZN DAEA once a month.

Alternative A1

AS ABOVE

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 / proposed site)

IMPACT	DURATION	PROBABILITY	SIGNIFICANCE	SIGNIFICNCE (WITH MITIGATION)
Camp site	Short term	Probable	Low	Low
Erosion	Short term	Probable	Medium	Medium-Low
Socio-economic	Long term	Probable	High (+)	High (+)
Biophysical (includes biodiversity and vegetation)	Short term	Probable	Low-medium	Low
Surface/groundwater impacts (including pollution)	Short term	Probable	Medium	Low
Heritage	Short term	Probable	Low	Low
Waste management	Short term	Probable	Medium	Low
Anthropogenic effects	Short term	Probable	Medium	Low
Materials management	Short term	Probable	Low-Medium	Low
Rehabilitation	Short term	Probable	Medium	Low
Effluent and waste	Short term	Probable	Medium	Low
Noise	Short term	Probable	Low	Low
Dust	Short term	Probable	Low	Low
Visual	Short term	Probable	Medium-High	Medium

It is apparent that the construction of the housing will have negative impacts related to the construction phase. However, these impacts can be mitigated as per the empr and specialist reports based on the preferred (proposed) site. The visual impact can be partly mitigated via vegetation screens.

The proposed project has no fatal flaws that would render the project unacceptable.

Furthermore, the social gains acquired through this proposed project will greatly enhance the lives of the affected community.

The project may therefore proceed as impacts can be mitigated for the preferred/proposed site.

Alternative S2

IMPACT	DURATION	PROBABILITY	SIGNIFICANCE	SIGNIFICNCE (WITH MITIGATION)
Camp site	Short term	Probable	Low	Low
Erosion	Short term	Probable	Medium	Medium-Low
Socio-economic	Long term	Probable	High (-)	High (-)
Biophysical (includes biodiversity and vegetation)	Short term	Probable	Low-medium	Low
Surface/groundwater	Short term	Probable	Medium	Low

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impacts (including pollution)				
Heritage	Short term	Probable	Low	Low
Waste management	Short term	Probable	Medium	Low
Anthropogenic effects	Short term	Probable	Medium	Low
Materials management	Short term	Probable	Low-Medium	Low
Rehabilitation	Short term	Probable	Medium	Low
Effluent and waste	Short term	Probable	Medium	Low
Noise	Short term	Probable	Low	Low
Dust	Short term	Probable	Low	Low
Visual	Short term	Probable	Medium-High	Medium

The impact at the alternative site will be almost the same as the preferred site. However, the presence of the existing two homes on the site will result in negative impacts as the homeowner will need to be evicted and compensated. This is likely to cause an uproar in the community and will not be well received, although the project is supported in general. This action could also significantly lengthen the timeframe for construction. In addition, this site is very close to the game proof fence and closer to the reserve. It is therefore recommended that this site not be used.

Alternative A1 (preferred alternative)

As above

Alternative A2 N/A

No-go alternative (compulsory)

Should the proposed project not be implemented, then the social benefits will not accrue to the residents who are awaiting formal housing and who will be key service providers. Provision of secure housing is a key issue in Ndumo and not constructing this project will deny many professional residents the opportunity of acquiring a good standard of housing. In addition, housing has been set aside for community members who qualify.

Unrest in the community could result due to a lack of housing, along with threats to Ndumo Game reserve and an increase in poaching, could result. Staff employed to serve community members, such as students, will not have access to housing, and community members who do qualify for the housing will not be able to uplift their living standards. This may mean that professionals will be unwilling to remain in Ndumo to serve the community. Threats to Ndumo Game reserve and increase in poaching could then result.

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	<input checked="" type="checkbox"/>
	<input type="checkbox"/>

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:

It is recommended that the proposed project be authorised. Should the proposed

project not be implemented, then the social benefits will not accrue to the qualifying residents who are awaiting formal housing. This may also mean that professionals will be unwilling to remain in Ndumo to serve the community. Provision of secure housing is key issue in Ndumo and not constructing this project will deny qualifying residents and workers the opportunity of acquiring a good standard of housing.

The heritage study concluded that : 'The physical survey of the proposed development area yield was conducted on the 27 of September 2014 and it did not yield any heritage sites (archaeological, built environment & landscape, burial grounds and graves) or places of cultural significance such as places of prayer and worship within the proposed development footprint.

Based on the absence of any heritage or historic resources within the proposed development footprint, it is conclude that there are no heritage or cultural resources within the proposed development area.

It is recommended that Amafa KwaZulu-Natali (the legislated provincial heritage authority) grant the project a Positive Review Comment and allow the development to proceed as planned'

The visual assessment shows 'a receiving environment that is highly sensitive to change, especially in respect of the Ndumo Game Reserve. The proposed development at Ndumo will evidently alter the visual character of the area by a significant degree. However, visual impact, in this instance, can be reduced or abated through the use of less intrusive building typologies, design and the use of mitigation measures that are applied effectively'.

Impacts can be mitigated via the EMPr and specialist reports. It is recommended that a specialist be appointed to oversee vegetation removal or relocation as relevent, and to demarcate all species that are listed or to apply for permits prior to removal of listed species (trees/plants) or forests from DAFF or EKZNW as applicable.

Should measures be implemented as per EMPr and the specialist reports, then the project can be environmentally sound. It is for these reasons that we recommend that an EA be granted for the project.

Basic Assessment Report

SECTION G: APPENDIXES

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

Appendix E: Comments and responses report

Appendix F: Draft Environmental Management Programme (EMPr)

Appendix G: Other information