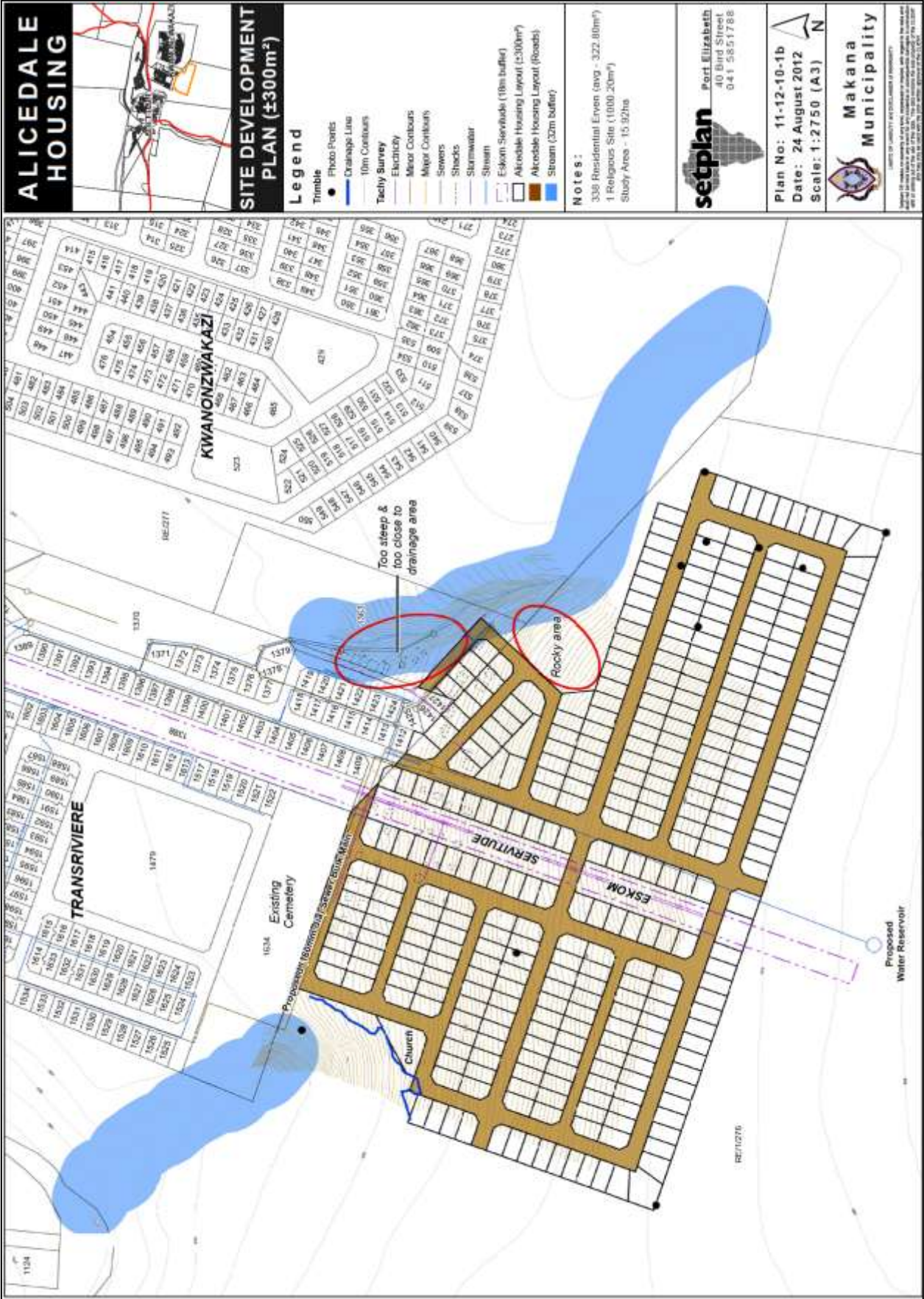
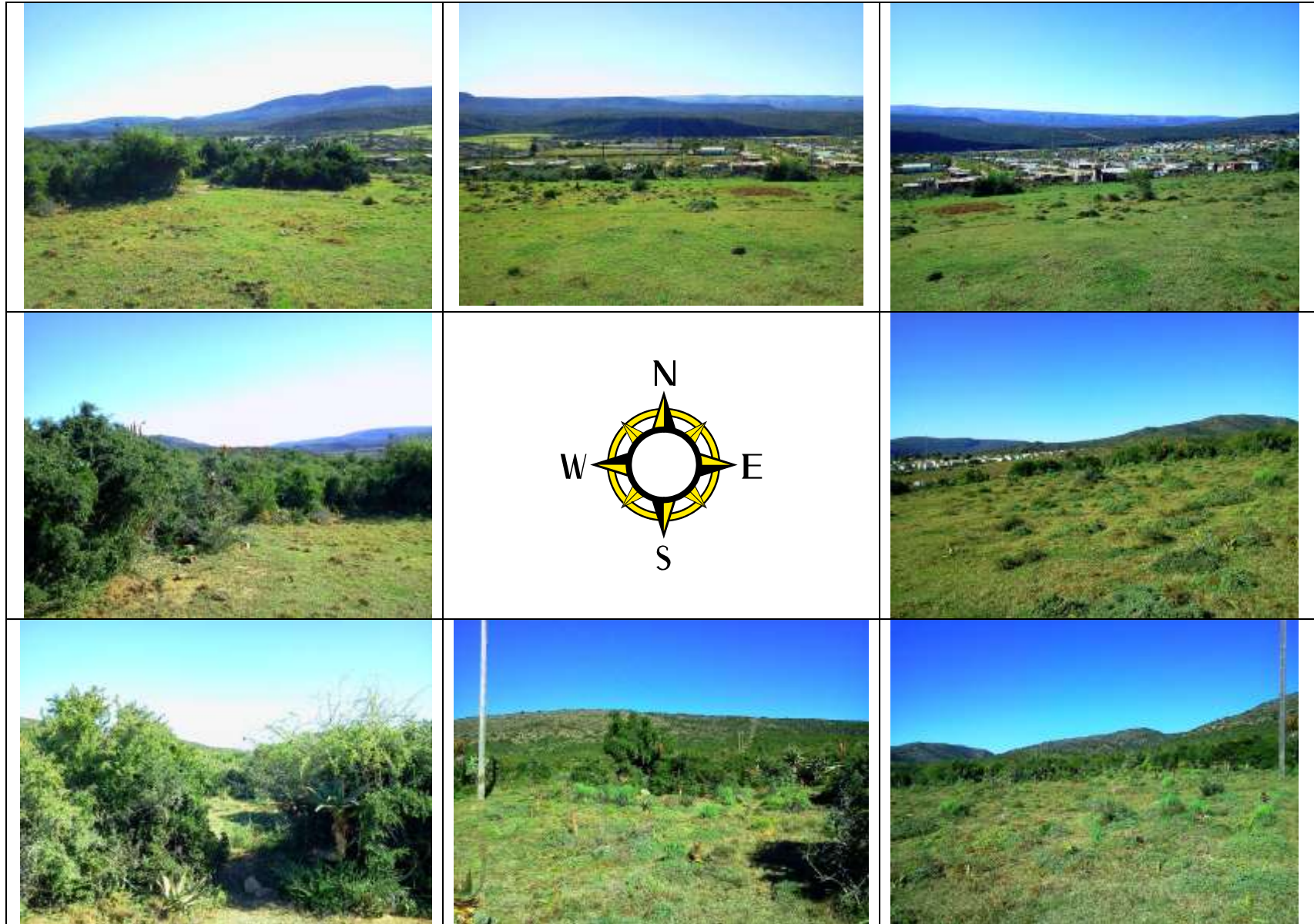


SECTION F: APPENDICES

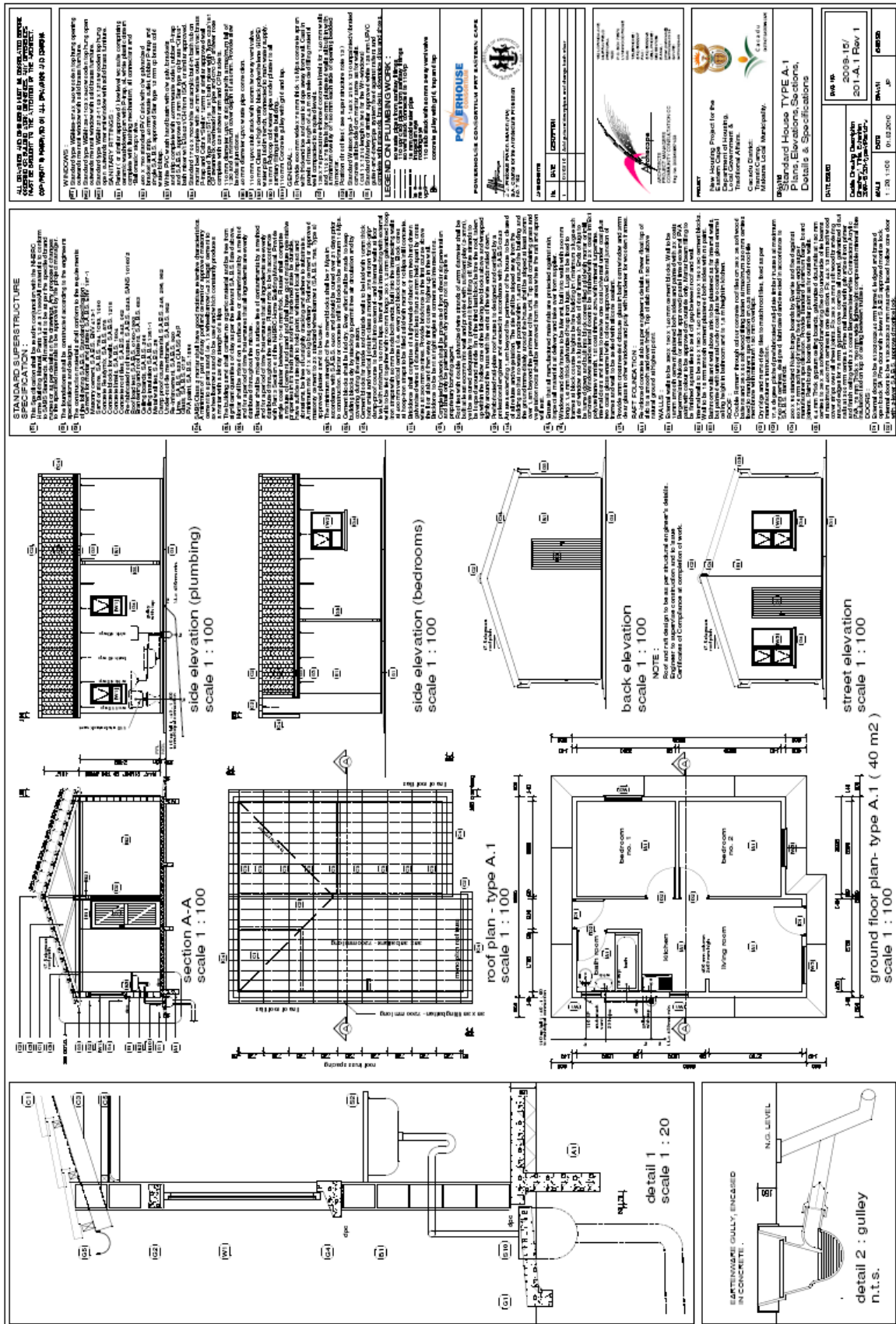
APPENDIX A: SITE PLAN(S)



APPENDIX B: PHOTOGRAPHS TAKEN FROM THE CENTRE OF THE SITE



APPENDIX C: FACILITY ILLUSTRATION(S) **Design drawing for a standard house.**



APPENDIX D: SPECIALIST REPORTS
Archaeological Assessment

**A LETTER OF RECOMMENDATION (WITH CONDITIONS) FOR THE EXEMPTION OF
A FULL PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED
MAKANA HUMAN SETTLEMENT PROJECT, ALICEDALE, MAKANA LOCAL
MUNICIPALITY, EASTERN CAPE PROVINCE**

Prepared for: Public Process Consultants
P.O. Box 27688
Greenacres, 6057
Tel.: 041-374 8426
Fax.: 041-373 2002
Cell.: 0824909828
Contact person: Ms Sandy Wren
Email sandy@publicprocess.co.za

Compiled by: Dr. Johan Binneman
On behalf of: Eastern Cape Heritage Consultants
P.O. Box 689
Jeffreys Bay
6330
Tel: 042 2960399
Cell: 0728006322
email: kobusreichert@yahoo.com

Date: July 2012
Revised Date: 21 August 2012

A LETTER OF RECOMMENDATION (WITH CONDITIONS) FOR THE EXEMPTION OF A FULL PHASE 1 ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED MAKANA HUMAN SETTLEMENT PROJECT, ALICEDALE, MAKANA LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE

PROJECT INFORMATION

The type of development

The proposed human settlement project will include the construction of approximately 385 single detached residential dwellings and associated services infrastructure, on approximately 20 ha.

The Developer

Makana Municipality, Grahamstown

The Consultant

Public Process Consultants
P.O. Box 27688
Greenacres, 6057
Tel.: 041-374 8426
Fax.: 041-373 2002
Cell.: 0824909828
Contact person: Ms Sandy Wren
Email sandy@publicprocess.co.za

TERMS OF REFERENCE

The original proposal was to conduct a Phase 1 Archaeological Impact Assessment of the proposed human settlement project in Alicedale, Makana Local Municipality, Eastern Cape Province, to describe and evaluate;

- the importance of possible archaeological sites, features and materials,
- the potential impact of the development on these resources and,
- to propose recommendations to minimize possible damage to these resources.

DESCRIPTION OF THE PROPERTY

Map: 1:50 000 – 3326 AC Alicedale

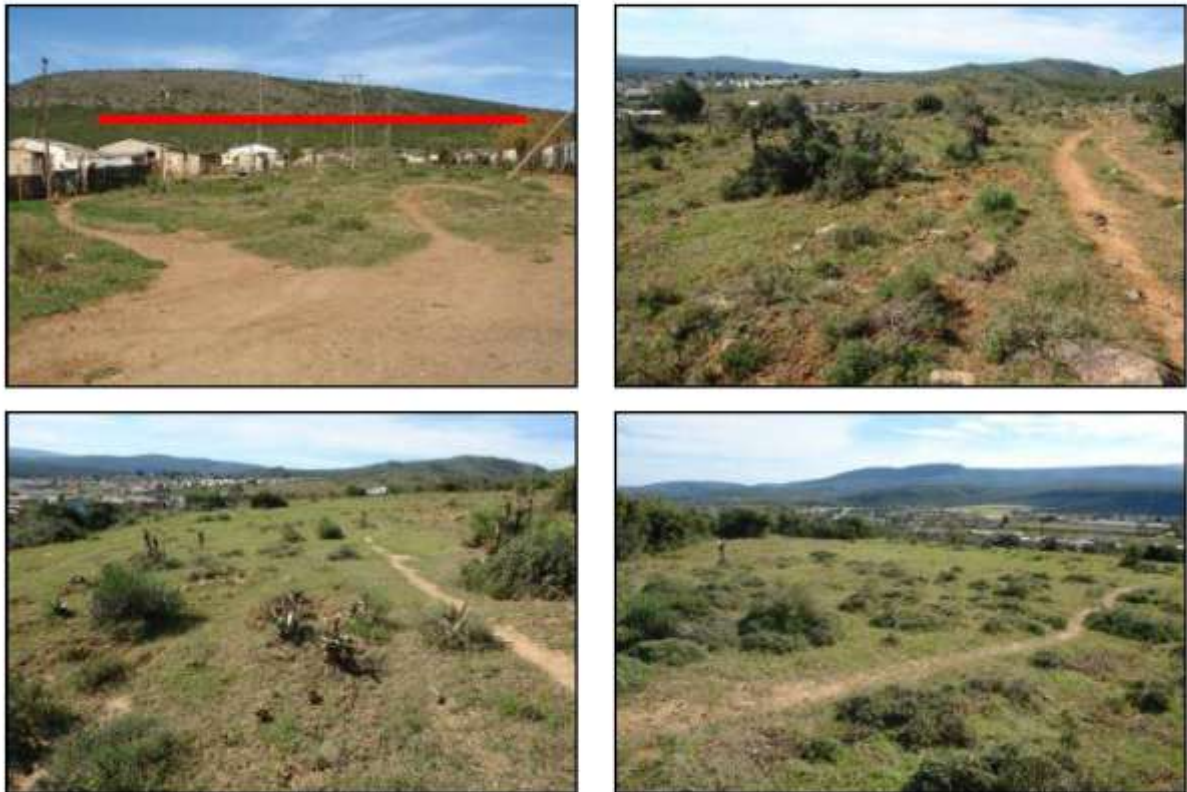
Location data

The proposed human settlement project is situated in Alicedale (approximately 50 kilometres west of Grahamstown), Makana Local Municipality, Eastern Cape Province Municipality. The development is located adjacent to Mandela Park settlement (south), 500 metres southeast of Alicedale and approximately 200 metres southwest of Kwanonzwakazi township (Maps 1-2). A general GPS reading was taken at 33.19.30,18S; 26.5.20,280E.

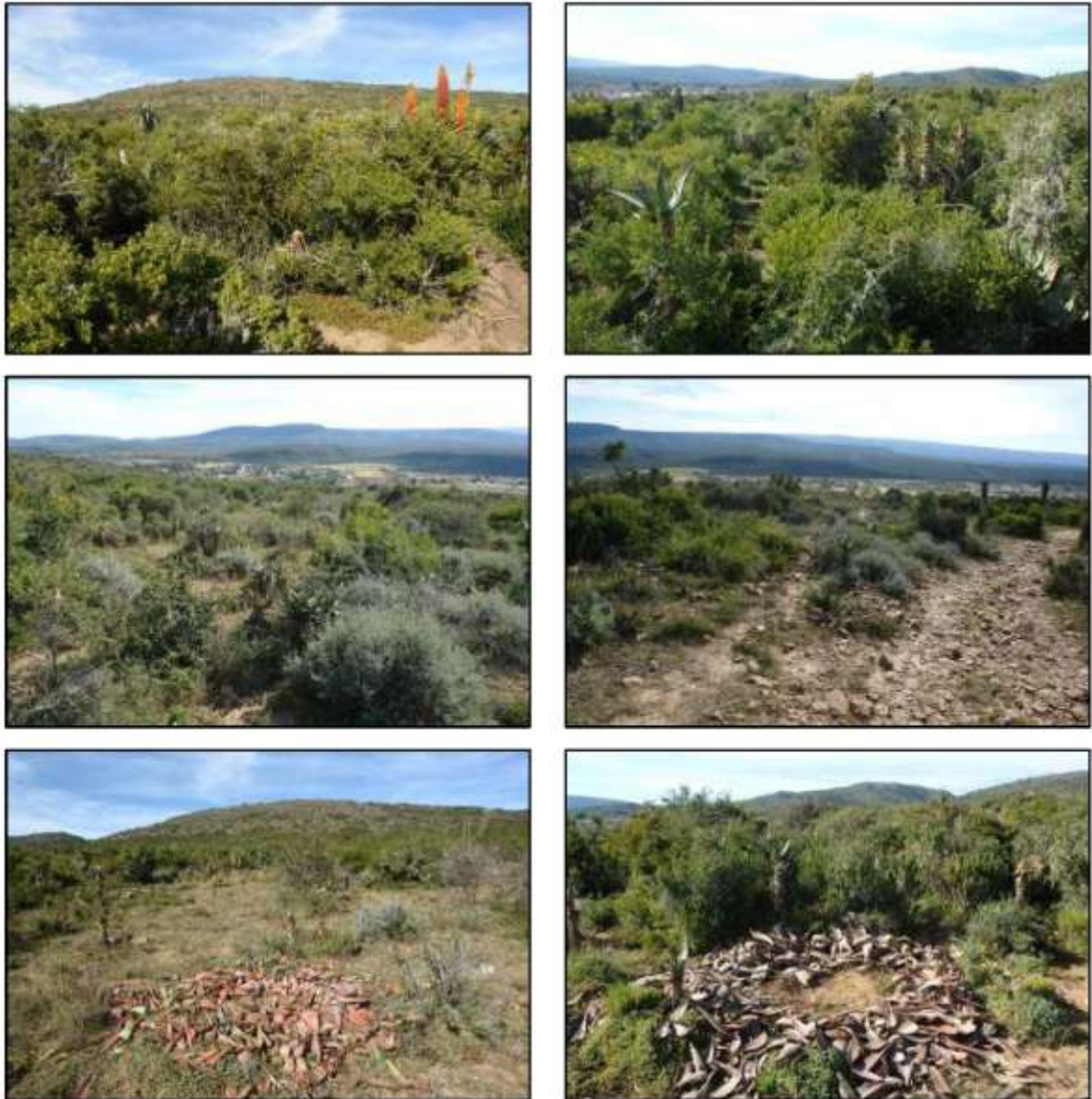
ARCHAEOLOGICAL INVESTIGATION

Methodology and results

The investigation was conducted on foot. GPS readings were taken and all important features were digitally recorded. The proposed site for development is situated against a relative steep slope well covered by dense thicket vegetation. Open spaces between the thicket vegetation are covered by dense grass and low bushes. Disturbed land adjacent to the current settlements is also covered by dense surface grass. The area is still used by local communities for the extracting of Aloe juice and several sites were observed in the open space in the thicket. The dense vegetation made it difficult to find archaeological sites/material. Narrow paths in the thicket vegetation were followed and surface erosion caused by vehicle tracks along the power line, was investigated. No archaeological sites/materials of any significance were found during the survey on the steep hillside or areas adjacent to the settlements. In general it would appear that it is highly unlikely that any archaeological remains of any value will be found *in situ* or exposed during the development. There are no known graves or buildings older than 60 years.



Figs 1-4. General views of the location of the proposed development against the hill slope (top left, indicated by the red line) and the areas adjacent to the settlements.



Figs 5-10. General views of the dense vegetation, surface erosion caused by vehicle tracks and Aloe extraction sites (bottom row).

DISCUSSION AND CONDITIONS

The surrounding area of Alicedale is rich in archaeological sites and rock art, but the relatively steep slope south of the town would appear not to have been a preferred occupation area. Although no archaeological sites/materials were found, and that it is unlikely that any archaeological heritage remains of any value will be found *in situ* or of any contextual value, there is always a possibility that human remains and/or other archaeological and historical material may be uncovered during the development. Such material must be reported to the nearest museum,

archaeologist or to the South African Heritage Resources Agency (SAHRA) if exposed, so that a systematic and professional investigation can be undertaken. Sufficient time should be allowed to remove/collect such material (See Appendix B for a list of possible archaeological sites that maybe found in the area).

LETTER OF RECOMMENDATION

It is recommended that the proposed human settlement project which is situated in Alicedale (approximately 50 kilometres west of Grahamstown), Makana Local Municipality, Eastern Cape Province, is exempted from a full Phase 1 Archaeological Heritage Impact Assessment. The proposed area for development is of low cultural sensitivity and it is believed that it is unlikely that any archaeological heritage remains will be found on the property. The proposed development may proceed as planned.

Note: This letter of recommendation only exempts the proposed development from a full Phase 1 Archaeological Heritage Impact Assessment, but not for other heritage impact assessments.

It must also be clear that this letter of recommendation for exemption of a full Phase 1 archaeological heritage impact assessment will be assessed by the relevant heritage resources authority. The final decision rests with the heritage resources authority, which should give a permit or a formal letter of permission for the destruction of any cultural sites.

The National Heritage Resources Act (Act No. 25 of 1999, section 35) (see Appendix A) requires a full Heritage Impact Assessment (HIA) in order that all heritage resources, that is, all places or objects of aesthetics, architectural, historic, scientific, social, spiritual linguistic or technological value or significance are protected. Thus any assessment should make provision for the protection of all these heritage components, including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects.

GENERAL REMARKS AND CONDITIONS

It must be emphasised that this letter of recommendation for exemption of a full Phase 1 archaeological heritage impact assessment is based on the visibility of archaeological sites/material and may not therefore, reflect the true state of affairs. Sites and material may be covered by soil and vegetation and will only be located once this has been removed. In the unlikely event of such finds being uncovered, (during any phase of construction work), archaeologists must be informed immediately so that they can investigate the importance of the sites and excavate or collect material before it is destroyed (see attached list of possible archaeological sites and material). The *onus* is on the developer to ensure that this agreement is honoured in accordance with the National Heritage Act No. 25 of 1999.

APPENDIX A: brief legislative requirements

Parts of sections 35(4), 36(3) and 38(1) (8) of the National Heritage Resources Act 25 of 1999 apply:

Archaeology, palaeontology and meteorites

35 (4) *No person may, without a permit issued by the responsible heritage resources authority—*

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.*

Burial grounds and graves

36. (3) *(a) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—*

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or*
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.*

Heritage resources management

38. (1) *Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorized as –*

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) the construction of a bridge or similar structure exceeding 50m in length;*
- (c) any development or other activity which will change the character of the site –*
 - (i) exceeding 5000m² in extent, or*
 - (ii) involving three or more erven or subdivisions thereof; or*
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA, or a provincial resources authority;*
- (d) the re-zoning of a site exceeding 10 000m² in extent; or*
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must as the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.*

APPENDIX A: IDENTIFICATION OF ARCHAEOLOGICAL FEATURES AND MATERIAL FROM INLAND AREAS: guidelines and procedures for developers

Human skeletal material

Human remains, whether the complete remains of an individual buried during the past, or scattered human remains resulting from disturbance of the grave, should be reported. In general the remains are buried in a flexed position on their sides, but are also found buried in a sitting position with a flat stone capping or in ceramic pots. Developers are requested to be on alert for these features and remains.

Freshwater mussel middens

Freshwater mussels are found in the muddy banks of rivers and streams and were collected by people in the past as a food resource. Freshwater mussel shell middens are accumulations of mussel shell and are usually found close to rivers and streams. These shell middens frequently contain stone tools, pottery, bone, and occasionally human remains. Shell middens may be of various sizes and depths, but an accumulation which exceeds 1 m² in extent, should be reported to an archaeologist.

Fossil bone

Fossil bones may be found embedded in deposits at the sites. Any concentrations of bones, whether fossilized or not, should be reported.

Stone artefacts

These are difficult for the layman to identify. However, large accumulations of flaked stones which do not appear to have been disturbed naturally should be reported. If the stone tools are associated with bone remains, development should be halted immediately and archaeologist notified.

Stone features and platforms

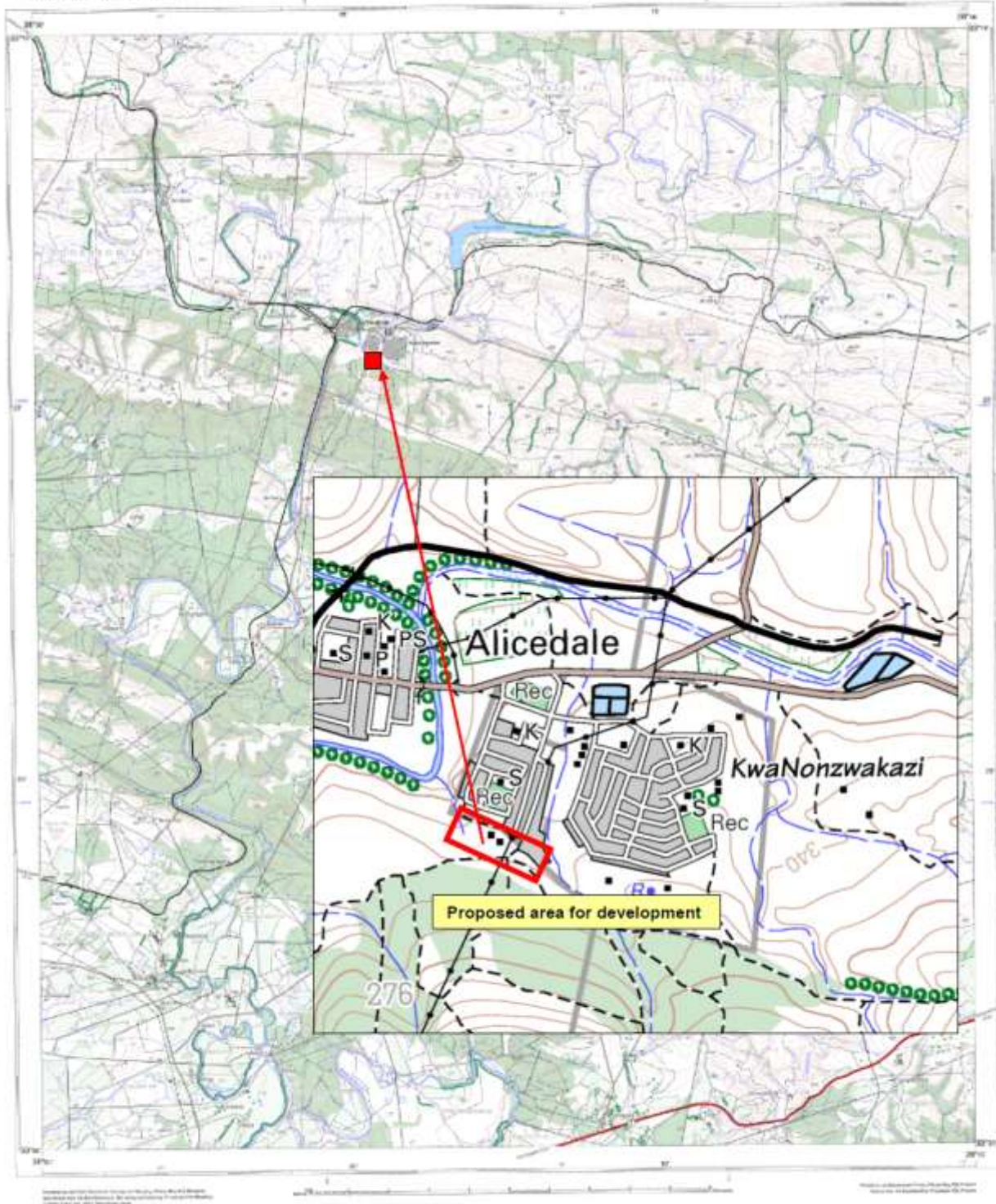
These occur in different forms and sizes, but easily identifiable. The most common are an accumulation of roughly circular fire cracked stones tightly spaced and filled in with charcoal. They are usually 1-2metres in diameter and may represent cooking platforms. Others may resemble circular single row cobble stone markers. These occur in different sizes and may be the remains of wind breaks or cooking shelters.

Large stone cairns

The most common cairns consist of large piles of stones of different sizes and heights are known as *isisivane*. They are usually near river and mountain crossings. Their purpose and meaning is not fully understood, however, some are thought to represent burial cairns while others may have symbolic value.

Historical artefacts or features

These are easy to identify and include foundations of buildings or other construction features and items from domestic and military activities.



Map 1. 1:50 000 Maps indicating the location for the proposed human settlement development.



Map 2. Aerial views of the location for the proposed human settlement development. The red lines mark the approximate size of the development.

SOCIO-ECONOMIC CONSEQUENCES OF MUNICIPAL HOUSING IN ALICEDALE



2012



URBAN-ECON
Development Economists

URBAN –ECON – 49 PARLIAMENT STREET – CENTRAL – PORT
ELIZABETH – 6000

4.POTENTIAL CONSEQUENCE ANALYSIS		
4.1	Potential Economic Impacts	27
4.2	Economic Impacts Considered	27
4.3	The Input-Output Model	28
4.3.1	Construction Impacts	28
4.3.2	Water Project Impacts	29
4.3.3	Electrification Impacts	30
4.4	Summary of Economic Impacts	30
4.5	Potential Social Consequences	30
4.5.1	Population	31
4.5.1.1	Population Change	31
4.5.1.2	Influx of Employment Seekers	31
4.5.2	Employment Opportunities	31
4.5.3	Skills Inequities and Development	32
4.5.4	Local Procurement Opportunities	32
4.5.5	Individual and Family Level	33
4.5.5.1	Consequences on Daily Living and Movement Patterns	33
4.5.5.2	Relocation of Individuals and Families	33
4.5.5.3	Relocation of Grazing Land	34
4.5.6	Public Health and Safety Consequences	34
4.5.6.1	Health Issues	34
4.5.6.2	Safety	34
4.5.7	Intrusion	34
4.5.7.1	Noise Pollution	34
4.5.7.2	Visual Pollution	35
4.5.7.3	Air Pollution	35

5. CONCLUSIONS AND RECOMMENDATIONS		
5.1	Summary	36
5.1.1	Social and Economic Consequences	36
5.1.2	Positive Consequences	36
5.2	Critical Factors	36
5.3	Recommendations	34
5.3.1	Maximisation of Positive Consequences	34
	List of Sources	35

TABLES		
Table 1	Social Characteristics: Alicedale (Ward 3)	11
Table 2	Social Characteristics: Makana LM	11
Table 3	Economic Characteristics	18
Table 4	Development Area and Details of Makana LED	21
Table 5	List of National Housing Programmes	23
Table 6	Construction Impacts, 2012	29
Table 7	Water Project Impacts, 2012	29
Table 8	Electrification Impacts, 2012	30
Table 9	Summary of Total Economic Impacts	30
Table 10	Potential Employment Opportunities	31

FIGURES		
Figure 1	Locality Map: Alicedale	5
Figure 2	Locality Map of Makana	8
Figure 3	Locality Map of Ward 3	9

Figure 4	Locality Map of Project Area	10
Figure 5	Locality of Transriviere, Kwanonzwakazi and Mandela Park	11
Figure 6	Hendrik Kanise Combined School	14
Figure 7	George Jacques Primary School	14
Figure 8	Clinic in Transriviere, Alicedale	14
Figure 9	Crèche in Alicedale	17
Figure 10	Alicedale Library in Transriviere	17
Figure 11	Map of Services in Alicedale	18
Figure 12	Proposed Structure of House	28
Figure 13	Condition of Road at Project Site	34

LIST OF ABBREVIATIONS	
CDM	Cacadu District Municipality
GGP	Gross Geographic Product
IDP	Integrated Development Plan
LED	Local Economic Development Strategy
LM	Local Municipality
MLM	Makana Local Municipality
NMBM	Nelson Mandela Bay Municipality
SDF	Spatial Development Framework
SMME	Small, Medium or Micro-Enterprise

CHAPTER 1: INTRODUCTION

1.1 SCOPE OF THE PROJECT

It should be noted that this report does not seek to provide a thorough Socio-economic Impact Assessment (SIA), rather it seeks to provide a contextual overview of the potential social and economic consequences that the town of Alicedale and its residents are to confront as a result of the proposed social housing development.

1.2 PROJECT BACKGROUND

The Makana Local Municipality has proposed the construction of approximately 338 single detached residential dwellings as well as a church and the provision of associated services infrastructure in Alicedale. It is anticipated that the development will provide formal housing for approximately 1, 900 individuals from the local area.

1.3 STUDY AREA LOCALITY

Figure 1: Locality - Alicedale



(Source: Urban-Econ, GIS Unit)

The project site is approximately 15.92 hectares in extent and is located to the south of the Transriviere, Kwanonzwakazi and Mandela Park settlements in Alicedale.

It is proposed that the housing development be extended to the foot of a hill, as indicated above. A portion of the project site is currently vacant, although approximately 15 hectares of vegetation will need to be cleared prior to the construction of the development. The other portion of the land is occupied by illegal, informal housing, with some residents who practice small scale, subsistence livestock farming.

1.4 METHODOLOGY



1.4.1 DEFINITION OF THE STUDY

This study involves an assessment of the related intended and unintended, social and economic consequences of the proposed housing project.

This study is conducted as part of the planning process at the initial stages of the proposed development. The process takes into account the various social and economic dynamics of the project area.

This assessment will provide a realistic consideration of potential social and economic consequences, suggestions for project alternatives and possible measures of intervention.

1.4.2 ECONOMIC AND DEMOGRAPHIC PROFILING

The purpose of this step is to develop an understanding of the trends, issues and dynamics of the market area in terms of its macro-economic indicators, local development situation as well as an overview of relevant market indicators. These will include, but not be limited to, population demographics, employment, economic sectoral structure and trends.

1.4.3 PROJECT CONCEPT AND INFORMATION COLLECTION

The purpose of this step is to collect and review all information regarding the proposed housing development, such as the nature, scale and costs etc. of the development.

One site visit has been proposed and was conducted on 17 July, in which a meeting with the local Ward councillor took place and the consultants were taken to various locations within Alicedale.

1.4.4 THEORETICAL CONTEXTUAL ANALYSIS

This assessment will allow the project to be placed in the context of both Makana Municipality's commitments and responsibilities as a public entity.

To this effect the following documents have been reviewed and used as a framework under which the project concepts are evaluated:

- Makana Spatial Development Framework (SDF), 2008
- Makana Local Economic Development Strategy (LED), 2009
- Makana Integrated Development Plan (IDP), 2011

- Makana Indigent Policy, 2009
- Department of Human Settlements National Housing Code
- Social Housing Act 16 of 2008

1.4.5 CONSEQUENCE VARIABLES

The purpose of this step is to identify appropriate quantitative and qualitative indicators with which to assess the potential influence of the proposed housing development.

The following variables will be assessed as a means to provide an understanding of the socio-economic consequences related to the project:

- Population consequences
- Socio-economic consequences
- Individual and family level consequences
- Public health, safety and security consequences.
- Intrusion consequences, including noise pollution, water pollution, etc.
- Direct, indirect and induced economic impacts.

It must be noted however, that although there are a large number of potential variables that could be reviewed, for the purpose of this report, the above variables were selected to guide the assessment of the consequences relevant to the specific project. The selection of these variables was also influenced by the capacity and scale of this report.

1.4.6 CONSEQUENCE EVALUATION AND REPORTING

Based on the selection of indicators listed above as well as the assessment of the theoretical context of the project, this step will provide an evaluation of potential resultant social consequences and economic impacts that will be derived from the construction and establishment of the new housing development.

CHAPTER 2: SOCIO-ECONOMIC PROFILING

The purpose of this chapter is to provide an overview of the social and economic characteristics of Alicedale. Data for this analysis has been sourced from StatsSA and Quantec. Where necessary, data has been forecasted using acceptable methodologies and stated assumptions.

Although this data is not unquestionably accurate, it does provide insight into understanding the relevant trends and socio-economic conditions of the study area.

This profile is intended to inform the Basic Assessment in respect of the consequences, influences and development potential of the proposed housing project.

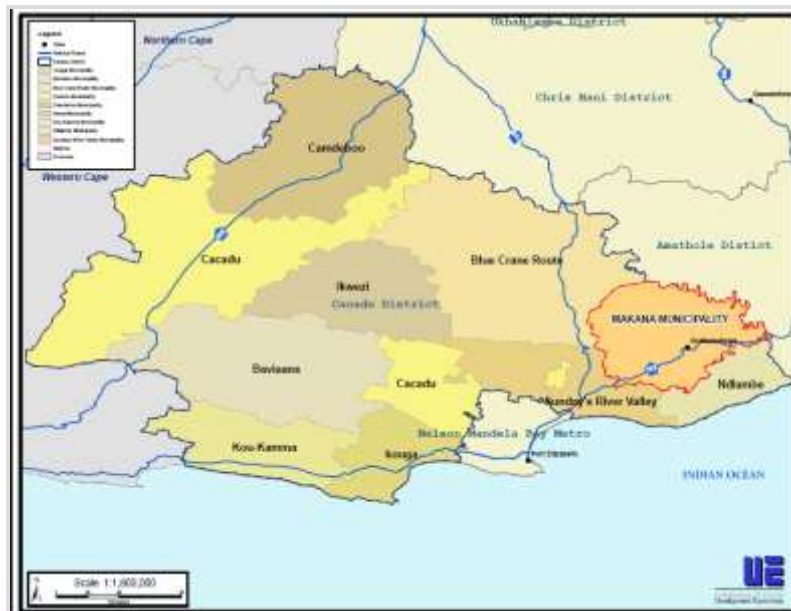
2.1 INSTITUTIONAL GOVERNANCE

The project falls under the jurisdiction of the Makana Local Municipality and is located in Ward 14. Due to new Ward boundary delineations, data for the old Ward 3 boundary has been extracted. This includes the boundary of the new Ward 14, which includes the specific study area. Further justification for using Ward 3 is that it reflects the projected population size, estimated in the Makana Local Municipality SDF, 2008, it is also referred to as the location for a proposed social housing project in the Local Municipality's SDF.

2.2 MAKANA LOCAL MUNICIPALITY

Makana is a relatively large municipality located in the Cacadu district in the Eastern Cape. It has a partly urbanised population that encompasses Grahamstown, Alicedale, Fort Brown, Sidbury, Riebeeck East, Salem and Seven Fountains. Makana has a developed economy characterised by tourist activity and large service as well as trade sectors in the urban node of Grahamstown. In addition to this, agriculture, game farming and conservancy reserves can be found throughout the municipality's less developed areas. The municipality is also positively influenced by the presence of Rhodes University, an internationally renowned institute of higher learning¹.

Figure 2: Locality of Makana LM



(Source: Urban-Econ, GIS Unit)

The Municipal area consists of three nodal points, namely Grahamstown, Riebeeck East and Alicedale. Grahamstown serves as the municipality's administrative centre as it is the largest of the

¹ Makana Local Municipality Spatial Development Framework, 2008.

nodes. It is the largest of the nodes in terms of population size and economic activity. The smaller nodes of the Makana Local Municipality are characterised by general dealers, liquor stores and mini-marts that serve the basic consumer needs of local residents. Provision of business and financial services are mainly centred in the Grahamstown area.

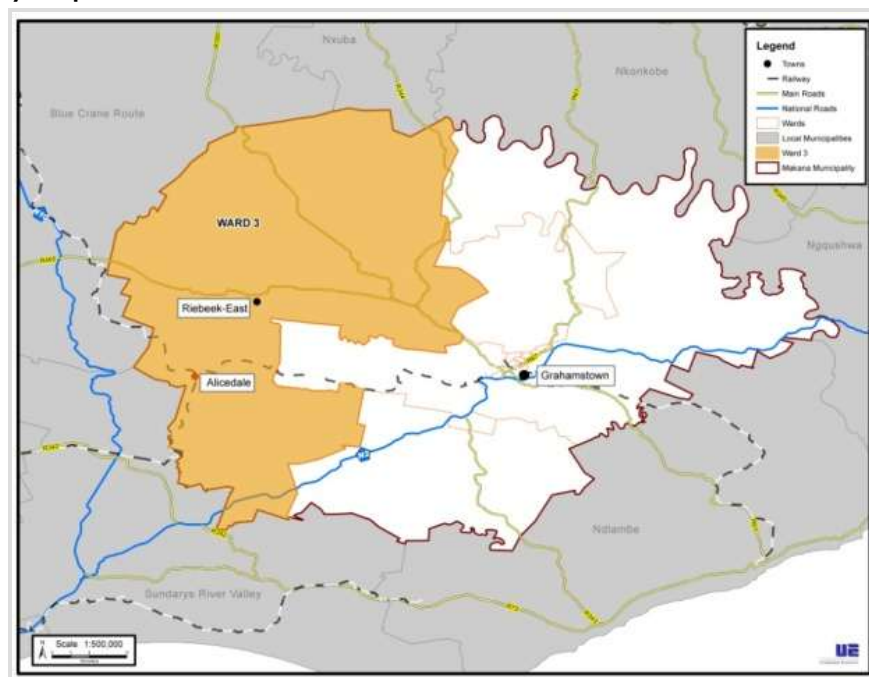
2.3 ALICEDALE

Alicedale is a small town within the Makana Local Municipality located at about 350m above sea-level at the northern end of a narrow poort through the Suurberg pass that provides the only natural passageway for a railway route to the NMBM from the North. The town has been developed on the southern edge of the Bushman's River.

In the past, Alicedale served as an important national railway juncture. With its large reservoir, Alicedale used to provide a watering-stop for steam trains owned by Spoornet (now Transnet), the national rail firm. Spoornet ran labour-intensive steam trains as recently as the 1990's, but closed its operations completely in Alicedale in 1996. This was due to rising operational costs and declining profitability. Since the closing of the railways, many small businesses were closed in Alicedale, and all the railway workers were retrenched, leaving a mass of unemployment in the town.

In this report Alicedale refers to the entire study area, which has been identified as the old Ward 3 within the Makana Local Municipality. The map below indicates the delineation of the old Ward 3 boundary for the Makana LM.

Figure 3: Locality Map of Ward

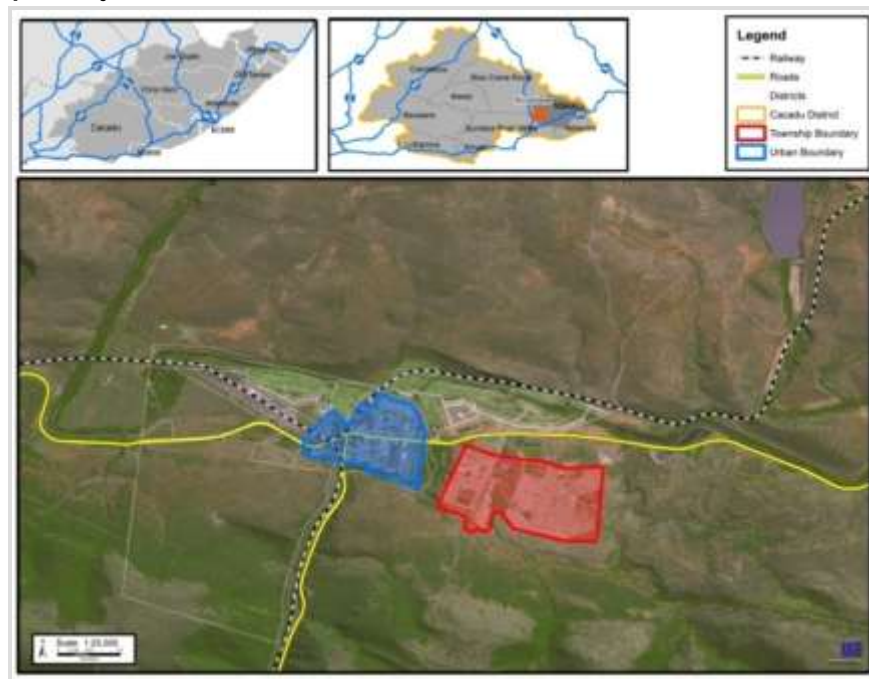


(Source: Urban-Econ, GIS 2012)

The area of Alicedale consists of four settlements. The first settlement of Alicedale is one that reflects higher income housing, situated in close proximity to the Bushman Sands Golf Estate. The second settlement is Transriviere which constitutes lower income formal and informal housing and the third settlement is Kwanonzwakazi which is similar to Transriviere in that it too constitutes lower income formal and informal housing. The final settlement is Mandela Park, which constitutes informal housing only.

The first settlement, known only as Alicedale is indicated in the map below as the blue area.

Figure 4: Locality of Project Area



(Source: Urban-Econ, GIS 2012)

The last three settlements which are envisaged to be most notably affected by the proposed housing development are indicated as the red area in the map above.

2.3.1 LOCATION ANALYSIS

The main access to Alicedale is via the N2, national road linking Grahamstown to Port Elizabeth. The railway junction that was once the crux of the town's economy, presently only fulfils a minor role.

The road linkage between Grahamstown and Alicedale is currently heavily trafficked, requiring restoration and upgrade, in order to enable efficient movement along this important route. Alicedale relies on Grahamstown for emergency medical services as well as fire and rescue services. Therefore, ease of transport is imperative along this route.

2.3.2 LAND USE PATTERN

Historically, the development of land uses in Alicedale was influenced by the original settlement centred on the railway junction. The topography and drainage patterns are major features that have also had a distinct effect on the land use pattern, especially in the vicinity of the Bushman's River. An elaborate mix of land uses are found in the central areas of Alicedale with predominantly residential uses found in the outlying areas.

The overall linear land use pattern has to a large extent been determined by the pre-democratic political period, in which little regard to needs, physical requirements and principles of economic development were considered.

The higher income residential areas in Alicedale are located around the town centre. The Bushman Sands Golf Estate provides exclusive residential property to the north of this centre².

There are two townships in Alicedale. Transriviere is the township, situated across the river and Kwanonzwakazi which is situated on a hill to the east of Transriviere. These townships are geographically separated by a road which runs between these locations. Both Transriviere and Kwanonzwakazi consist of formal and informal housing. There is also an informal settlement, Mandela

² Makana Local Municipality SDF, 2008

Park which is nestled between these townships, alongside the road that separates the locations, as indicated in the figure below.

Figure 5: Locality Transriviere, KwaNonzwakazi and Mandela Park



(Source: Urban-Econ, GIS 2012)

It is deemed that the integration of these previously segregated residential areas will be achieved by the infill and redevelopment of currently unutilised land. This is essentially what the proposed housing project will be based on.

The following features were revealed upon a site visit to Alicedale:

- The CBD of Alicedale dominates the retail sector with facilities such as a general dealer, liquor store, supermarket and bakery.
- There are limited formal retail activities centred in Kwanonzwakazi and Transriviere.
- Community halls are available in Alicedale (CBD), Kwanonzwakazi and Transriviere.
- Two libraries are available, one in Alicedale, the other in Transriviere.
- Two crèches serve Kwanonzwakazi and Transriviere.
- One clinic serves the entire community of Alicedale.
- Limited provision for small parks has been made, small playgrounds are provided in Alicedale, Transriviere and Kwanonzwakazi.
- The sports field in Transriviere provides facilities for rugby, tennis, volleyball and cloakrooms.
- A single police station serves the town and its surrounds.
- Fire and rescue services are provided from Grahamstown which is approximately 50km away.

2.4 SOCIAL CHARACTERISTICS

Table 1: Social Characteristics for Alicedale

VARIABLE	ALICEDALE (WARD 3)	
Population Size	7,159	
Population Growth Rate	0%	
Density (people per km ²)	4	
Average Household Size	4	
Age Profile (years)	0-4	8%
	5-14	14%
	15-34	39%
	35-64	31%
	65+	8%

Level of Education	No schooling	13%
	Matric	11%
	Higher	7%
Occupation Profile	Skilled	5%
	Semi-skilled	38%
	Unskilled	57%

(Source: Quantec, Urban-Econ calculations, 2012)

Table 2: Social Characteristics for Makana LM

VARIABLE	MAKANA LM	
Population Size	73,760	
Population Growth Rate	0.0%	
Density (people per km²)	17	
Average Household Size	4	
Age Profile (years)	0-4	8%
	5-14	13%
	15-34	44%
	35-64	29%
	65+	6%
Level of Education	No schooling	6%
	Matric	11%
	Higher	22%
Occupation Profile	Skilled	12%
	Semi-skilled	49%
	Unskilled	39%
Employment	Employed	39%
	Unemployed	18%
	Not Economically Active	43%
Access to Basic Services	Electricity	85%
	Water	46%
	Refuse Removal	87%
	Sanitation	77%
Household income	Living in Poverty	51%

(Source: Quantec, Urban-Econ calculations, 2012)

The development implication of the above can be summarised as follows:

Static population growth rate

Although generally uncommon, a static population growth rate as reflected for the study area (Alicedale W3) as well as the Local Municipality can be a result of a variety of influences. The most immediate, is that the death rate exceeds the birth rate. The situation in the Municipality and can be assumed for the study area, to be a result of the prevalence of HIV infection and Aids related deaths. The local municipality has a prevalence rate of 13% and almost half of the total deaths occurring within the municipality are Aids related.

This indicates that health care and mechanisms of HIV/Aids prevention is a key developmental need. Another factor for a static population growth rate is outmigration. The lack of employment opportunity in Alicedale and the Municipality suggests that there is a populace in search of employment outside the borders of the Makana LM.

Vast disparity in population density

The vast disparity in the population density revealed between the study area, 4, and the Local Municipality, 17, is attributed to the spatial dynamics of the area, as demonstrated in the location analysis and land use diagram above. Factors that tend to produce low population densities in an area are ultimately attributed to:

- Extreme climates
- Extreme relief
- Extreme remoteness
- Unfertile land

Alicedale is subject to all of the above, which justifies its low population density. Rainfall in Alicedale averages at approximately 550mm per annum with the highest falls occurring in summer.

Temperatures in Alicedale usually vary from a maximum average of 40°C to a minimum average of 15°C in summer, whilst winter temperatures vary between a maximum and minimum of 18°C to minus 8°C respectively. The Alicedale area can be classified as summer rainfall grassland, which is invaded by Sweet Thorn Acacia.

The grass layer remains mostly intact, except where severely overgrazed. This Thorn Bushveld is typical of the low lying valleys in the drainage basins of the rivers such as the Bushman's and the undulating country at the foot of the mountains³.

These conditions justify the low population density revealed in Alicedale in comparison to the Municipality.

Large working age population

The area of Alicedale reflects the age profile trends of the greater Municipal area, which has as its smallest proportions the non-working population between the ages of 0-14 and older than 65. The municipality and study area are characterised by a large working age population, which results in a low dependency ratio. The dependency ratio⁴ relates the number of children (0-14 years old) and older persons (65 years or over) to the working-age population (15-64 years old). The dependency ratio for Alicedale is 41.8%.

The lower the dependency ratio, the less people need looking after, the lower the need for social welfare. However, this is based strictly on the assumption that the working age population are employed. When juxtaposed with employment figures, a true reflection of the situation in Alicedale is revealed.

Alicedale lags behind Makana LM in terms of educational attainment of its adult population.

The education levels achieved by a group of individuals are indicative of the level of human development within a population group. Furthermore, it serves as a proxy for the potential of the population to be absorbed into the broader economy and generate income, thereby increasing the capital circulating in the micro-economy. The proportion of no education is twofold in the study area when compared to the Municipality. Only 7% of the population in the study area, as opposed to 22% in the Municipality, achieved tertiary education in 2011.

There are no institutions for higher education available in Alicedale. There are only two schools. One of which is George Jacques primary school and the other Hendrik Kanise which is a combined school, i.e. it accommodates both primary and secondary scholars. The student population of the combined school lessens towards the senior grades.

³ Makana LM LED Strategy, Environmental Profile

⁴ Dependency ratios indicate the potential effects of changes in population age structures for social and economic development, pointing out broad trends in social support needs. (Indicators of Sustainable Development Guidelines and Methodologies, Third Edition)

There is no official reason for this occurrence, but it suggests that either, students may be dropping out at the most senior grades, or as suggested by the ward councilor of the area, the low student populations in senior grades are due to the preference of attending schools in more urban areas such as Port Elizabeth, East London or Grahamstown.

Figure 6 and 7 below are images of both these schools, taken when the project team attended a site visit.

Figure 6: Hendrik Kanise Combined School



(Source: Photograph taken upon site visit, 2012)

Figure 7: George Jacques Primary School



(Source: Photograph taken upon site visit, 2012)

The lower educational attainment of the typical Alicedale resident has perceptible implications on their employability in highly-skilled jobs.

The poor educational levels may impede the ability of local residents to become **fully active** in secondary and tertiary sector economic activity. The full implication of this is realised when due consideration is made of the nature of employment opportunities that will be linked with the proposed housing development (mostly semi and unskilled). The lack of highly-skilled jobs in Alicedale is also evident in the fact that the community needs to travel to Grahamstown for certain medical

and business services. More than half of the Alicedale population do not possess employable skills, as opposed to the municipality's proportion of 39%.

Alicedale is characterised by a populace of discouraged workers

In a comparison of the study area to the Local Municipality, it is evident that employment is much lower, with a significantly larger population who are not economically active⁵. More than half of the population in the study area falls within this latter category. The populace classified as **discouraged workers** are those who have given up searching for gainful permanent or temporary employment because of perceived futility of the search endeavor. This could be a result of the collapse of the railway junction that once drove economic activity in Alicedale.

Alicedale lags behind the Makana LM in basic service provision.

The study area lags behind the Local Municipality in terms of access to basic services which includes water, electricity, sanitation and refuse removal. However, the greatest disparity in service provision is evident for refuse removal. Where a difference of 39% between the study area and the Local Municipality is evidenced. The true implication of this is reflected when measured against the potential housing development approximating a greater population, envisaged as jobseekers, which could potentially result in an increase of waste. Service delivery in terms of refuse removal will need to be attended to for the study area.

Income inequality in the Alicedale and Makana LM

All the above factors when combined mean that households in Alicedale have a diminished **income earning propensity**. The ramifications are seen in the area being poorer, with more individuals expected to be experiencing income poverty and associated social challenges. It is in the context of lower household incomes that any proposed or potential investment into the micro-economy should be considered.

For both the study area and the LM, more than half the population is revealed to be living below the poverty line. The income inequalities in these localities are evident in there being a very small proportion of the population that holds the majority of the wealth. These are characterized by the minority of crop and stock farmers. There are also game farm owners who own properties in and around the study area.

2.4.1 OTHER SOCIAL COMPONENTS

2.4.1.1 HIV/AIDS

The Municipality is faced with a high HIV/AIDS prevalence and related deaths that should raise concerns for the delivery of primary health care. According to statistics, in 2011, 13% of the population in the Local Municipality was infected with HIV/AIDs and more than 45% of all deaths were AIDS related.

2.4.1.2 HEALTH AND EMERGENCY SERVICES

Only one clinic is located in Alicedale, it is situated in Transriviere. Overcrowding and understaffing are primary concerns. There are only two permanently employed nursing sisters at the clinic. There

⁵ **Employed:** individuals who have within the last seven days performed work for pay.

Unemployed: individuals within the economically active population who have not worked during the seven days prior to the interview, want to work and are available to start work within two weeks of the interview; and have taken active steps to look for work or to start some form of self-employment in the four weeks prior to the interview.

Not Economically Active: individuals who are not working, not seeking work or available to work

are community health workers that have been commissioned for door-to-door daily visits within the community. The working hours of the community health workers were recently extended in order to keep up with the medical requirements of the community.

The clinic also provides an ambulance facility which transports patients to the Settlers Hospital⁶ in Grahamstown. This is the closest hospital to the site and is situated approximately 50km from Alicedale. There is a medical doctor that visits the clinic once a week. A dental surgeon also visits the clinic every Thursday.

The clinic receives medical supplies once a week and emergency deliveries are accommodated. If something is desperately needed, it can be ordered and delivered the next day. The clinic receives ARVs on a monthly basis.

Figure 8: Clinic in Transriviere, Alicedale



(Source: Photograph taken upon site visit, 2012)

2.4.1.3 TRANSPORT

Railway transport was once the primary mode of transport for passengers in Alicedale. Transport via rail used to be provided from Alicedale to Grahamstown on a daily basis, but the train no longer transports passengers along this route.

Mini buses are now the predominant public transport service providers in the area. There is now a daily taxi service to and from Grahamstown. Residents of Alicedale go to Grahamstown for a variety of retail and other services which are not available in Alicedale.

2.4.1.4 CRIME AND SAFETY

There is one police station in Alicedale, situated at the entrance of the town.

Contact crimes such as murder, assault and robbery have declined by 3% since 2004, whereas the provincial trend demonstrates an increase in contact crimes. The most common occurrence of crime in the study area is theft, with 26% of all crimes being associated with some kind of theft.

Although crime levels in Alicedale are relatively low and stabilised, the site of the proposed project falls within an area not currently easily accessible by police authorities.

⁶ Settlers Hospital is a Public Private Partnership. The private wing of the hospital is run by Netcare.

The construction of new roads, proposed as part of the housing development would make this area more accessible.

2.4.1.5 CRÈCHES

There is one crèche in Transriviere. The crèche receives a social stipend per child from the Department of Social Development. This stipend is based on the attendance of each child. It amounts to R15 per child per day and has to account for the child's stimulation, nutrition and education.

There are currently 68 children at the crèche. The crèche is well maintained and has extended its services throughout the school term vacations. Figure 8 below presents an image taken of the inside of the crèche.

Figure 9: Crèche in Alicedale



(Source: Photograph taken upon site visit, 2012)

2.4.1.6 LIBRARY FACILITIES

There is a library available in the study area that is funded by the Makana Local Municipality. It has linkages to the public library in Grahamstown. It provides the community with assistance when it comes to photocopies and other documentation. The library currently has a supply of computers but these have not yet been installed.

The library staff is currently awaiting installation of ADSL in order to provide the community with internet facilities. The library is very well maintained and accommodates both adults and children.

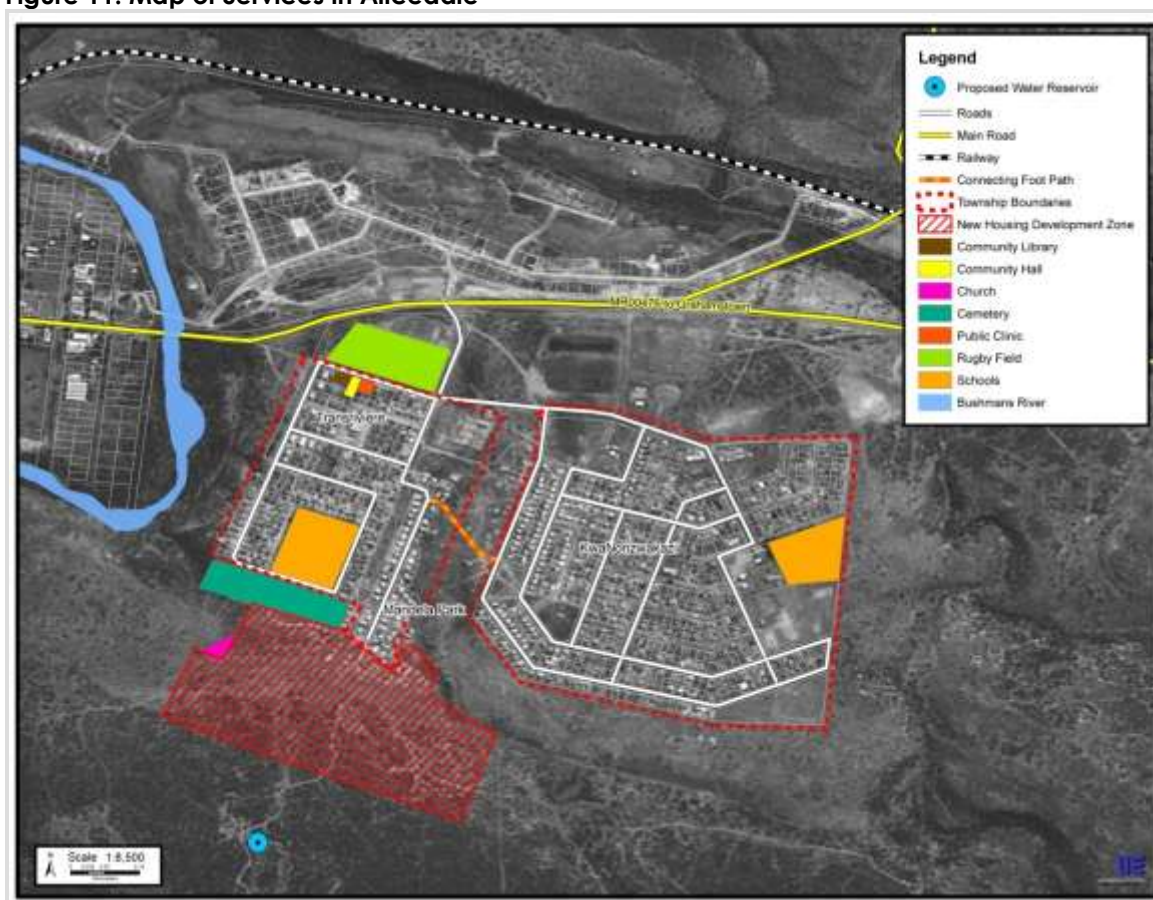
Figure 10: Alicedale Library in Transriviere



(Source: Photograph taken upon site visit, 2012)

The following map in figure 11 below, provides an indication of all the available social facilities in the project area, as well as the location of the proposed church.

Figure 11: Map of Services in Alicedale



(Source: Urban-Econ, GIS unit, 2012)

2.5 ECONOMIC CHARACTERISTICS OF MAKANA LM

The analysis of the economic profile and trends in the Makana Local Municipality is for the purposes of identifying potential economic opportunities and resources that may be exploited in collaboration with the proposed housing development in a way that maximizes benefits to the community. The table below provides an overview of the economic characteristics of the Local Municipality.

Table 3: Economic Characteristics

GDP	<ul style="list-style-type: none"> ➤ Contribution to CDM GDP was 21% ➤ GDP per capita was R28, 891 in 2011
GDP GROWTH RATE	<ul style="list-style-type: none"> ➤ Average economic growth rate between 2001-2011 was 2% ➤ This is below the District growth rate of 3.6% for the same period.
STRUCTURE OF THE ECONOMY	<ul style="list-style-type: none"> ➤ The largest sectors of the economy in terms of GDP are: <ul style="list-style-type: none"> • General Government (40%)

	<ul style="list-style-type: none"> • Community, Social and Personal Services (19%) <ul style="list-style-type: none"> ➤ Tress index⁷ has changed from 57 in 2001 to 66 in 2011.
EMPLOYMENT PROFILE	<ul style="list-style-type: none"> ➤ Government is the largest employer in the Local Municipality (31%)

(Source: Quantec, Urban-Econ calculations, 2012)

The development implication of the above can be summarized as follows:

The Makana LM Economy was growing at a slower pace than the CDM

The implication of this is that a gap in terms of growth paths may have been forged between the Makana LM and the rest of the CDM area, which would be best remedied by increased investment into the area.

Makana LM's contribution to the economy is declining

The Local Municipality's GGP contribution to the District economy has also been gradually declining since 1995. In 1995, the Makana LM contributed 29% to the GGP of the District. This figure has declined to 21% in 2011. This is indicative of the impact the railway closure has had on the economy of the LM, which occurred in 1996.

Government and Social Services as the largest contributors to GGP

The government services sector is the largest contributor to District GGP in the Local Municipality. This sector is essentially a non productive sector of the economy, which is undesirable from an economic point of view as the private sector (and not the public sector) should be the driver of the economy.

The second largest contributor to the District GGP is community and social services, with a total contribution of 19% in 2011. However, this sector intersects with the government services sector, in terms of being public services. Therefore, government and public services dominate district contribution to GGP in the Local Municipality.


2.6 SUMMARY OF SOCIAL AND ECONOMIC PROFILE:

- There is a large proportion of working age population available in the study area, yet there is high unemployment. This indicates that there are no opportunities available for the available potential work force.
- There is a lack of tertiary education and skills development opportunities for the population of the study area.
- The study area constitutes a large populace of discouraged workers which indicates the need for job creation.
- The study area shows that there is a large constituency that requires social welfare, with more than half of the population living below the poverty line.
- There is a high demand for healthcare provision in the study area. With a large HIV/AIDS prevalence and an understaffed, overburdened healthcare facility, increasing the availability of this resource is essential.

⁷ The Tress Index is an economic tool used to measure the level of diversification or concentration of a region's economy. A Tress Index of 0 represents a totally diversified economy, while a number closer to 100 indicates a high level of concentration in a given sector(s). A higher Tress Index value also indicates that an economy is more vulnerable to exogenous variables, such as adverse climatic conditions, commodity price fluctuations, etc.

- Services of transport, daycare and crime prevention are available in the study area, but could do with more investment and support structures to optimize their management and operation.
- The economy of the local municipality requires investment and diversification. There is a concentration of employment and growth in the Government and Social Services sector. When reviewed in the context of unemployment, the need for industry investment is evident.

This chapter has highlighted key socio-economic and economic attributes that relate to the Alicedale study area and the Makana Local Municipality. It has provided a status quo of the current developmental situation in Alicedale. The conclusions reached are that economic investment and improvement of social resources are needed in the area.



CHAPTER 3: THEORETICAL ANALYSIS

The previous chapter provided a brief status quo of economic and social conditions within the study area and Local Municipality. For a meaningful assessment to be made, however, an element of dynamism is needed. The assessment of planning and policy documents is an effective way to narrow the focus of a consequence assessment. No development can occur in isolation of such considerations and it is recognised that such documentation defines a specific region or municipality. The purpose of this chapter is to provide a theoretical analysis of the proposed social housing development within the framework of pertinent documents. This will be done, both in respect of social housing and the Local Municipality. This chapter is to theoretically inform the subsequent chapter which will provide a potential consequence analysis of the proposed housing project.

In order to provide a thorough theoretical analysis, the following documentation will be reviewed and used to assess the project:

- **Makana Spatial Development Framework (SDF), 2008**
- **Makana Local Economic Development Strategy (LED), 2009**
- **Makana Integrated Development Plan (IDP), 2011**
- **Makana Indigent Policy, 2009**
- **Department of Human Settlements National Housing Code**
- **Social Housing Act 16 of 2008**

3.1 Makana SDF, 2008

A Spatial Development Framework (SDF) is a coordinating document that aims to set out a broad framework for public funding investment. It is also aimed at coordinating the management of development in the Municipality, towards achieving a common vision and objective.

The following areas for developmental investment, relevant to the study area and project were mentioned in the SDF:

- Eradication of housing backlog in the Municipality by 2015.
- Availability of various land tenure options and access by residents to the appropriate level of social, recreational, educational and institutional services.
- Need for the upgrading of the road between Grahamstown and Alicedale.
- The social housing proposed development is mentioned in the Alicedale SDF. At the time of its completion, the SDF had only identified land. The plot in the SDF is identified as not having ideal soil and geotechnical conditions.

Implications for the Proposed Housing Project:

Were the Housing Project to be successfully implemented, the Makana Local Municipality would need to ensure that it provides appropriate access to services for residents. For this reason, a potential increase in population due to the provision of housing will need to be considered as this will increase the demand on such services. Although the project will house existing residents, there is a potential population increase foreseen with an influx of jobseekers, as well as potential backward dwellers.

3.2 Makana LED, 2009

The LED is one of the most important Key Performance Areas of the Municipality's Integrated Development Plan (IDP), making it an integral part of the operations of a Municipality.

The following areas of development opportunity were identified in the Makana LED that is potentially relevant to the project:

Table 4: Development Area and Details of Makana LED

DEVELOPMENT AREA	DETAILS
Private Public Partnerships	With the high level of government activity in the area, PPPs may provide opportunities for private sector growth.
Academics	Up-scaling of academic facilities in the region. Diversification of the focus of educational facilities (to technical skills and vocational and improved township high schools) so as to appeal to a broader spectrum of needs and the establishment of various partnerships make up ways in which this opportunity may be exploited.
Improving links between current economic activity and presence of Rhodes University	This could be in the form of research institutes, enterprise and businesses that can leverage off the resource base and intellectual capital provided by Rhodes university through practical applications of research activity. Service sector activities such as business consulting could be explored in this regard.
Local Procurement	Local procurement entails obtaining personnel, services, supplies, and equipment from local or indigenous sources. Local procurement could raise local skills levels, reduce the amount of income leakage from the area and increase growth of local enterprise.
Cultural products	Cultural products in the form of arts and craft activities are linked with income generation, employment creation, tourism attraction, experiential education and improvements in the general quality of life of local residents.
Public works programs	Given the high level of unemployment and poverty, and the need for basic infrastructure upgrading public works could provide periodic respite for local residents.
Linkages with private game reserves	Private game reserves present opportunities that transcend economic sectors (not just tourism) and could play a central role in the municipality's spatial development. Private game reserves have links with the trade, agriculture and service sectors and promote expenditure in smaller settlements.
Formalisation of residents' forum	Due to its socio-economic characteristics, Makana has a high resident participation level. Through a residents' forum, this civic pride and involvement may be harnessed and channelled into pro-development community based activity.
Business growth through shift in focus to townships	There exist vast opportunities for big businesses and SMMEs alike that will lead to economic and social upliftment and a realisation of township potential.

Implications for the Proposed Housing Project:

The above mentioned areas that will have the most relevance to the study area population, based on the outcomes of the preceding chapter are PPP, due to the government sector concentration, academics, due to lack of education, especially tertiary education, local procurement and business growth due to the large proportion of discouraged workers.

An Integrated Development Plan (IDP) is a strategic development plan which sets out the strategic and budgetary priorities of a municipality. It guides and informs all planning and development, and all decisions with regards to planning, management and development in the municipality⁸.

The following key developmental strategies were identified in the IDP, applicable to the study area and project:

- Improve employment opportunity in the Municipality
- Establish functional clinic committees in all clinics
- Establish a health education programme
- Establish a functional fire station in Alicedale.
- Upgrade of waste removal facilities.
- Upgrade of sports grounds in Transriviere and KwaNonzwakazi.
- Provision of bulk water and reservoir at KwaNonzwakazi and Transriviere, pending successful transfer of land.
- Upgrade of Alicedale Water Treatment Plant.
- Construction of sanitation facilities in KwaNonzwakazi
- Construction of new road from N2 to Alicedale.
- Housing project in Alicedale (unfunded)

Implications for the Proposed Housing Project:

Were the Housing Project to be successfully implemented, the Makana Local Municipality would need to ensure that it follows through on these listed developmental strategies as the necessity of these strategies are emphasised in the preceding chapter. Without such implementation the affected communities could be overwhelmed by an insufficiency of resources.

3.3 MAKANA IDP, 2011

An Integrated Development Plan (IDP) is a strategic development plan which sets out the strategic and budgetary priorities of a municipality. It guides and informs all planning and development, and all decisions with regards to planning, management and development in the municipality⁹.

The following key developmental strategies were identified in the Makana 2011 IDP, applicable to the study area and project:

- Improve employment opportunity in the Municipality
- Establish functional clinic committees in all clinics
- Establish a health education programme
- Establish a functional fire station in Alicedale.
- Upgrade of waste removal facilities.

⁸ Municipal Systems Act 32 of 2000

⁹ Municipal Systems Act 32 of 2000

- Upgrade of sports grounds in Transriviere and KwaNonzwakazi.
- Provision of bulk water and reservoir at KwaNonzwakazi and Transriviere, pending successful transfer of land.
- Upgrade of Alicedale Water Treatment Plant.
- Construction of sanitation facilities in KwaNonzwakazi
- Construction of new road from N2 to Alicedale.
- Housing project in Alicedale (unfunded)

Implications for the Proposed Housing Project:

Were the Housing Project to be successfully implemented, the Makana Local Municipality would need to ensure that it follows through on these listed developmental strategies as the necessity of these strategies are emphasised in the preceding chapter. Without such implementation the affected communities could be overwhelmed by an insufficiency of resources.

3.4 Makana Indigent Policy, 2009

The Makana Indigent Policy was formed as an attempt to ensure that the indigent communities residing within the Makana Municipal area of jurisdiction are assisted with access to basic municipal services.

The objectives of the policy are to:

1. Ensure that poor or indigent households are not denied their constitutional right of access to basic services,
2. Provide poor or indigent households ongoing access to a minimum, nationally specified level of service, and to do so in a way that does not compromise the quality of these services.

The following restrictions have been identified in determining the qualifying criteria of the policy:

- Households with an income of up to R300 per month pay no charges to Council and be fully subsidised by the inter-government grant.
- Households with an income of between R301 and R750 pay a minimum of R50 per month and 75% of the current account owed to Council be subsidised by the inter-government grant and that
- Households earning between R751 and the equivalent of two monthly government pensions pay a minimum of R80 per month and that 45% of the current account owed to Council be subsidised by the inter-government grant with the following provisos:-
 - 10 kl of water per household be subsidised where after the full cost of water becomes payable.
 - Where a household fails to pay for consumption of water in excess of 10 kl, the water is disconnected.

Implications for the Proposed Housing Project:

This policy implies that the Local Municipality not only needs to provide basic services, but ensure a continuation of access to these services. According to the outcomes of the social and economic profile, approximately 25% of the population of the study area qualify for indigent assistance.

3.5 Department of Human Settlements National Housing Code, 2009

The National Housing Code, 2009 sets the underlying policy principles, guidelines, norms and standards which apply to Government's various housing assistance programmes.

There are currently 16 different national housing programmes, within the National Housing Code, these are:

Table 5: List of National Housing Programmes

Integrated Residential Development	Upgrading of Informal Settlements
Provision of Social and Economic Facilities	Housing Assistance in Emergency Circumstances
Social Housing	Institutional Subsidies
Community Residential Units	Individual Subsidy
Rural Subsidy: Communal Land Rights	Consolidation Subsidy
Enhanced Extended Discount Benefit Scheme	Rectification of Certain Residential Properties Created Under the Pre-1994 Housing Dispensation
Housing Chapters of an IDP	Operational Capital Budget
Enhanced People's Housing Process	Farm Residents Housing Assistance

For the purposes of this analysis, only the programme of Social Housing, in the National Housing Code will be reviewed.

The Housing Programme has two primary objectives:

- Firstly, to contribute to the national priority of restructuring South African society in order to address structural, economic, social and spatial dysfunctionalities thereby contributing to Government's vision of an economically empowered, non-racial, and integrated society living in sustainable human settlements.
- Secondly, to improve and contribute to the overall functioning of the housing sector and in particular the rental sub-component thereof, especially insofar as social housing is able to contribute to widening the range of housing options available to the poor.

The Programme defines Social Housing as:

'A rental or co-operative housing option for low income persons at a level of scale and built form which requires institutionalised management and which is provided by accredited social housing institutions or in accredited social housing projects in designated restructuring zones'¹⁰

The following guiding principles have been set out in the Social Housing Programme and require all such programmes to strictly adhere to. It is necessary that all social housing programmes:

- Promote urban restructuring through the social, physical, and economic integration of housing development into existing areas.
- Promote the establishment of well-managed, quality rental housing options for the poor.
- Respond to local housing demand.
- Deliver housing for a range of income groups (including, inter alia, middle income, emerging middle class, working class and the poor) in such a way as to allow social integration and financial cross subsidisation.
- Support the economic development of low income communities in various ways.
- Foster the creation of quality living environments for low-income persons.
- Promote a safe, harmonious, and socially responsible environment both internal to the project and surrounds.
- Promote the creation of sustainable and viable projects.

¹⁰ Department of Human Settlements National Housing Code part 3 pg 18.

- Encourage the involvement of the private sector where possible.
- Facilitate the involvement of residents in the project and/or key stakeholders in the broader environment.
- Ensure secure tenure for the residents of projects, on the basis of the general provisions for the relationship between residents and landlords.
- Support mutual acceptance of roles and responsibilities of tenants and social landlords.
- Be facilitated, supported and/or driven by all spheres of government.
- Ensure transparency, accountability and efficiency in the administration and management of social housing stock.
- Promote the use of public funds in such a manner that stimulates and/or facilitates private sector investment and participation in the social housing.

Implications for the Proposed Housing Project:

Compliance with the principles of the Social Housing Programme in the National Housing Code means that the Municipality will need to ensure that the new housing development is adequately integrated into existing areas, as well as to encourage public participation in the project. Ideally, it needs to accommodate different options for varying income groups in order to respond to the housing demand and could possibly be the first of many housing initiatives in the LM.

3.6 Social Housing Act 16 of 2008

The Social Housing Act was created as a means to:

- Establish and promote a sustainable social housing environment.
- Define the functions of national, provincial and local governments.
- Regulate all social housing institutions
- Permit the undertaking of approved projects

This Act describes the roles of all major stakeholders in the social housing sector. For municipalities the most important tasks are to **create** an enabling environment for the delivery of social housing, to **facilitate** the delivery of social housing and **assist** delivery agents in getting access to land and building as well as infrastructure and services.

Implications for the Proposed Housing Project:

Were the proposed housing project to be successfully implemented, the Makana Local Municipality would be liable to ensure a suitable environment for the project as well as provide any facilitatory role required by the social housing institution.

3.7 SYNTHESIS

According to the above listed policy and planning documents, the responsibilities of the Makana Local Municipality are as follows:

- The Makana LM would need to ensure that it not only provides access to basic services for residents, but also ensure a continuation of such access.
- The Makana LM will need to ensure that the new development is adequately integrated into the existing communities of Alicedale.
- The Makana LM will need to ensure that public participation takes place throughout the duration of the project.
- Ideally the Local Municipality would establish a housing development that accommodates varying options for varying income groups.
- Overall, the Makana Local Municipality needs to provide a suitable environment for the project and support any required facilitatory role throughout implementation of the project.

The previous chapter provided a theoretical assessment of the proposed housing project within the framework of policy, planning documents and legislation. The purpose of this chapter is to provide a more tangible analysis of the potential consequences associated with the proposed housing development. These potential consequences have been split between economic impacts and social consequences.

4.1 POTENTIAL ECONOMIC IMPACTS

Before an analysis of the potential economic impacts can be overviewed, it is necessary that the following three terms be clarified and defined:

Direct Economic Impacts

Direct consequences are the changes in local business activity occurring as a direct influence of the investment in the local municipality. For example, following this investment (an economic shock) the construction company has to employ (hypothetically) twenty new staff in various positions. An example of the direct consequence would be the twenty new employment opportunities and the subsequent income earned by these employees.

Indirect Economic Impacts

Following this investment, a new material manufacturer motivated by the construction investment, opens up a distribution outlet in the project area. This distribution outlet then employs five people to work at and manage the daily operations of the outlet. The in-direct consequence would be the five new employment opportunities and the subsequent income earned by these employees.

Induced Economic Impacts

Induced economic consequences are the results of both direct and indirect economic consequences. The additional income generated by the construction material distribution outlet and other associated suppliers causes an increase in the demand for final consumer commodities. For example, the new employees of the distributor and/or their suppliers will have additional disposable income available to spend on household goods and services in the local economy. This increase in demand generates an increase in business sales for these given commodities (e.g. grocery and clothing stores). This is the induced economic consequence of increased investment in the construction of the proposed housing development.

4.2 ECONOMIC IMPACTS CONSIDERED

The direct and indirect economic impacts are measured according to the following broad economic variable categories:

- **Production:** refers to the value of all inter- and intra-sectoral business sales generated in the economy as a consequence of the introduction of an exogenous change in the economy.
- **Contribution to GGP:** this is a broader measure of the full income effect. This measure essentially reflects the sum of wage income and corporate profit generated in the study area as a result of exogenous change in the economy. Where GGP is mentioned in this report, it refers to the GGP of the Makana Local Municipality.
- **Employment:** refers to the employment resulting from the construction or operation of the project, calculated in man-years¹¹.

¹¹ Man-years is a method of describing the amount of work done by an individual throughout the entire year. The man-year takes the amount of hours worked by an individual during the week and multiplies it by 52 (or the number of weeks worked in a year). The man-year calculated will be different for various industries depending on the average number of hours worked each week and the number of weeks worked per year.

Using the input/output model methodology, various anticipated direct and indirect economic impacts of the projects identified have been quantified. These economic impacts have been derived using an understanding of economic cause-effect relationships. The principle cause-effect is that for any economic **action**, there can be a multitude of different economic **reactions**.

4.3 THE INPUT-OUTPUT MODEL

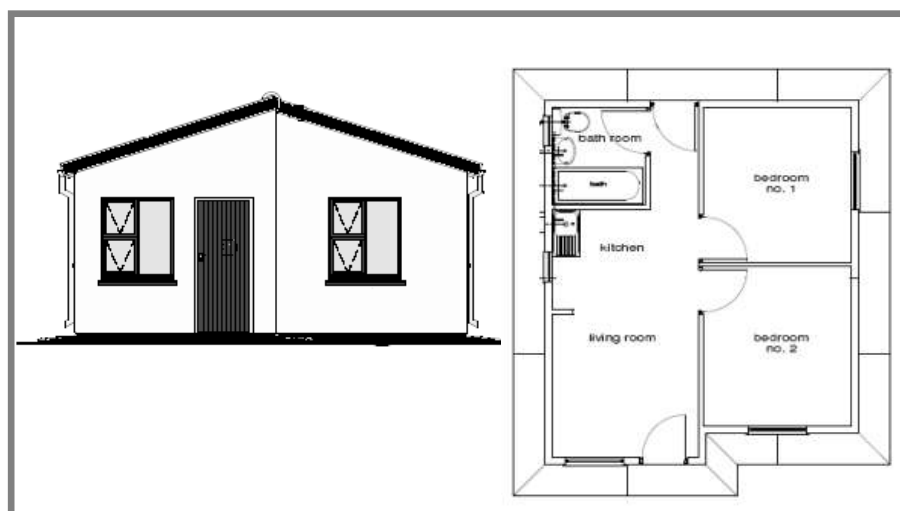
The input-output table forms the crux of this model. The table is a quantified and summarised version of all transactions that took place between the main economic stakeholders in a particular year. For this reason, Input-Output Tables are compiled and published by Statistics South Africa (StatsSA), using primary South African Reserve Bank Accounts data. These figures are therefore strictly compatible with the macro national accounting data published by the South African Reserve Bank and StatsSA on a regular basis.

The following aspects of the proposed housing development are necessary to note before such consequence analysis takes place:

- The estimated total cost per dwelling has been calculated at R80, 000 excluding formalisation.
- The estimated construction period will be two to three years¹².
- 338 dwellings are proposed to be built.
- A church is also proposed to be built in the vicinity of the project area.

The proposed structure of the house for the social housing development is as follows¹³:

Figure 13: Proposed Structure of House



4.3.1 CONSTRUCTION

The construction phase refers to the potential impacts that the construction of houses for the proposed housing development will have on the economy for the estimated duration of the project. The direct and indirect impacts are once off economic impacts that are anticipated to occur for the duration of the development only.

The table below represents these impacts on a direct, indirect and induced basis.

¹² Estimated average building period for social housing developments at an approximate 100 per annum available in the article: "Towards sustainable social housing in South Africa". Period excludes church construction.

¹³ As drawn by the architects for the study, which does not include infrastructure

Table 6: Construction Impacts, 2012

2012	DIRECT	INDIRECT	INDUCED	TOTAL
CHANGE IN PRODUCTION	R27.0	R29.1	R10.1	R66.2
CHANGE IN GGP	R16.9	R9.2	R3.8	R29.9
CHANGE IN EMPLOYMENT	103	69	25	197

(Rands per Million)

Table 6 above displays the anticipated impacts on production, GGP and employment for the construction of the proposed housing development for the year 2012. What follows below is a discussion of these findings.

The potential increase in production as indicated in the table totals R 66.2 million and consists of a direct impact, approximated at R27 million. The indirect impact, which is the portion of new business sales generated by firms involved, at some level in the value chain of the proposed housing development, is approximated at R29.1 million.

The direct impact of the proposed housing development is measured as an additional R16.9 million to the Makana economy. The total increase in the local GGP for the end of the development period is approximated at R30 million.

It has been calculated that the construction phase of the proposed housing development could create 103 opportunities for direct employment on site, for the period of construction. In total, the construction of the proposed project could potentially create employment for 197 people throughout the national economy, as a result of increased economic activity.

4.3.2 WATER PROJECTS

This refers to the impacts that the estimated development costs for roads and stormwater, water as well as sewerage may have on the economy for the estimated period of construction.

Table 7: Water Project Impacts, 2012.

2012	DIRECT	INDIRECT	INDUCED	TOTAL
CHANGE IN PRODUCTION	R4.6	R4.5	R1.7	R10.8
CHANGE IN GGP	R2.9	R1.6	R0.6	R5.1
CHANGE IN EMPLOYMENT	17	4	4	26

(Rands per Million)

Table 6 above displays the potential measured impacts on production, GGP and employment for the supply of supporting water projects for the proposed housing development.

The potential increase in production as indicated in table 5 totals R 10.8 million and consists of a direct impact of R4.6 million. The indirect impact for the provision of water projects for the proposed housing development is approximated at R4.5 million.

The direct impact for the development of water projects for the proposed housing development is measured as an additional R2.9 million to the Makana economy. The total increase in the local GGP for the end of the development period approximated at R5.1 million.

It has been calculated that the establishment of water projects for the proposed housing development could create 17 direct employment opportunities. In total, the provision of these water projects for the proposed development could create employment for 26 people throughout the economy, either directly on site or as a result of increased economic activity.

4.3.3 ELECTRIFICATION

This refers to the impacts that the estimated costs for electrification of the project site would have on the economy upon implementation.

Table 8: Electrification Impacts, 2012

2012	DIRECT	INDIRECT	INDUCED	TOTAL
CHANGE IN PRODUCTION	R1.5	R1.5	R0.6	R3.5
CHANGE IN GGP	R0.4	R0.5	R0.2	R1.2
CHANGE IN EMPLOYMENT	6	4	1	11

(Rands per Million)

Table 8 above displays the potential measured impacts on production, GGP and employment that would result in the provision of electrification to the proposed housing development site for the year 2012.)

The potential increase in production totals R 3.5 million and consists of a direct impact, approximated at R1.5 million. The induced impact for electrification for the proposed housing development, is approximated at R600 000 for the year 2012.

The direct impact for electrification of the project site is measured as an additional R300 000 to the Makana economy. The total increase in the local GGP for the end of the development period is approximated at R1.2 million.

For the provision of electrification to the site of the proposed housing development, the creation of a total of 11 employment opportunities could be derived from implementation.

4.4 SUMMARY OF ECONOMIC IMPACTS

Table 9: Summary of Total Economic Impacts

CALCULATED IMPACT	HOUSING CONSTRUCTION	WATER PROJECTS	ELECTRIFICATION	TOTALS
PRODUCTION	R 66.2	R 10.8	R 3.5	R 80.5
GGP	R 229.9	R 5.1	R 1.2	R 36.2
EMPLOYMENT	197	26	11	234

(Rands per Million)

Upon implementation of the proposed housing development which includes construction as well as the provision of supporting infrastructure, a total of R80.5 million is calculated as an increase in production. A total value of R36.2 million is estimated as an additional contribution to the economy as a result of implementation, and a total of 234 employment opportunities have been calculated.

4.5 POTENTIAL SOCIAL CONSEQUENCES

The following consequences will be reviewed as part of the social consequence analysis:

- Population
- Employment opportunities
- Skills inequities and development
- Local procurement opportunities
- Individual and family level
- Public health and safety
- Intrusion

4.5.1 POPULATION

4.5.1.1 Population Change

Population change refers to the change in the size, structure, density, as well as demographic (age, gender, racial or ethnic) profile of the local community. The population change for the proposed project is associated with the influx of construction workers to the area.

If all the construction workers (worst case scenario) were to be sourced from elsewhere, it would result in a notable population increase, placing pressure on existing services, resources and social networks. Another consequence of an outside labour force is that they often remain in the area after completion of the project, followed by their family members, thereby posing a negative long-term strain on services and infrastructure.

4.5.1.2 Influx of Jobseekers

Jobseekers are usually seen as 'outsiders' coming from outlying areas in search of employment, especially with the onset of new developments. Social housing projects case studies¹⁴ reveal that high unemployment rates and expectations of job creation is already a potential source of competition amongst locals and could be exacerbated through the introduction of outsiders.

A local labour force would mostly make use of their existing accommodation and the consequence on infrastructure and services as well as the consequence on existing social networks would be minimal. A further negative consequence could result due to an influx of jobseekers, is that local unemployment levels could rise due to an over-supply of an available workforce.

How to address this:
Tender documents should stipulate the use of local labour. A recruitment office with a community liaison officer should be established in close proximity to the construction site to deal with jobseekers. The extent and actual number of employment opportunities required during the construction phase should be narrowed and addressed, to ensure that unrealistic expectations are not created.

4.5.2 EMPLOYMENT OPPORTUNITIES

Construction is a labour intensive process and will take place over an approximate two to three year period¹⁵. This will bear a positive impact on the local community whose current unemployment rate is 74%, of which 54% is not economically active. Job opportunities would typically include the following, as listed in table 9 below:

Table 10: Potential Employment Opportunities

SKILL LEVEL	JOB OPPORTUNITY
Lower skilled	Labourers such as brick layers, manual labour for clearance of land, digging of trenches, erection of fences, land stabilisation, restoration of top soil.
Semi-skilled and highly skilled	Workers such as machine operators, pipe layers, concrete specialists. Contractors including plumbers, welders, carpenters.
Highly skilled	Site agents such as office management, land surveyors, quantity surveyors, architects, engineers, electricians. Contract managers General and project managers Marketing agents

¹⁴ Towards sustainable social housing in South Africa: Lessons from the Newtown, Carr Gardens and Stock Road social housing projects.
¹⁵ Based on estimations from other social housing projects' construction time.

How to address this:

An employment strategy be implemented that stipulates the use of a local labour forces, with preference to workers from precincts nearest to the site. Transfer of skills where possible.

4.5.3 SKILLS INEQUITIES AND DEVELOPMENT

Skills inequities measures the extent to which the skills available in the area matches the skills requirements for employment opportunities during the construction phase, as well as the creation of new job opportunities and employment equity of minority groups.

According to the economic profile of the Municipality, Construction contributes 3% to the local economy's GGP and 6% towards employment. It could therefore be expected that the majority of the required lower and semi-skilled workers could be sourced locally.

Given the low education levels of the Alicedale community (7% tertiary education), it is more likely that the highly skilled positions would be sourced from the broader Municipal area.

How to address this:

Collaboration with local councillors and institutions that specialise in skills development and training to create a database of available skills of individuals and SMME's in the Municipal area that could be utilised for the project. Members of the local community can be identified that would assist with mass meetings and community related issues.

A skills audit of the local workers should be done to determine what skills are available locally, to reduce the number of workers brought from other areas. Skills training and capacity building during the construction phase will equip workers to obtain other employment once their contract has expired.

The procurement of local goods and services will make a positive contribution to the local economy of Alicedale. It is anticipated that construction goods, such as the bricks, and services will be sourced from Alicedale and surrounds. Job creation and the use of local materials would stimulate local income generation, thereby having a positive influence and spin-off for the local economy. Such as from the Masakhane Brick Making project in the locality of the site from which building materials could be sourced. There is also Makana Brick, which is one of the largest brick suppliers in the region.

How to address this:

Formulation of a local procurement process and possible strategy to benefit local businesses, enterprises and SMME's to allow them to become part of the project from the start of the tender process.

4.5.5 INDIVIDUAL AND FAMILY LEVEL

4.5.5.1 Consequences on Daily Living and Movement Patterns

An increase in traffic due to heavy vehicles could cause short-term disruptions and safety hazards for current road users. There is also construction taking place on the access road into the study area, which might inhibit or constrain movement into and out of the town. Noise, vibrations, dust and visual pollution due to construction related activities could cause temporary disruption in daily living and movement patterns and quality of life for local residents.

How to address this:

Heavy vehicles should be inspected regularly to ensure their road safety worthiness. Avoid heavy vehicle activity during 'peak' traffic hours (when children are taken to school). Limit heavy vehicle movement through residential areas. Erection of signboards to warn motorists of construction activities. Allocate a safe area for informal traders, ensuring that the view, traffic flow and safety of road users are not affected negatively.

Figure 13: Condition of Road at the Project Site



(Source: Photograph taken upon site visit, 2012)

4.5.5.2 Relocation of individuals and families

Although illegal, a number of informal occupants currently reside on the site and alternative accommodation would have to be provided for them during the construction phase. This could lead to a negative consequence on social networks or informal business activity.

How to address this:

Relocation of illegal occupants has to be done in consultation with the affected families, Ward Councillor and other representatives.

4.5.5.3 Relocation of Grazing Land

A portion of the proposed project site is currently used as grazing land for local livestock owners. An alternative portion of land would have to be provided for grazing purposes.

How to address this:

Relocation and demarcation of a new site for grazing has to be done in consultation with the affected families, Ward Councillor and other representatives.

4.5.6 PUBLIC HEALTH AND SAFETY CONSEQUENCES

4.5.6.1 Health Issues

An influx of workers and jobseekers to an area often results in an increase in communicable diseases such as Tuberculosis and HIV/AIDS.

Health issues could also arise due to airborne pollution and dust during the construction phase. Poor management of the construction process could contribute to water and other pollution problems, such as improper sanitation facilities, waste water and littering, as well as flies, rodents and pests, which would also result in health issues for the workforce and the surrounding communities.

How to address this:

Appointment of a Health and Safety Officer. Provide adequate drinking water and appropriate sanitation facilities to the workers. Sanitation facilities should be cleaned and serviced on a regular basis.

4.5.6.2 Safety

The project will take place over an approximate two-year period and occupation of houses is likely to coincide with construction phases. General safety measures to increase safety and prohibit unauthorised trespassing will need to be addressed.

The influx of construction workers, especially from other areas tends to result in an increase in security issues in the vicinity of the construction site.

How to address this:

Appointment of a Health and Safety Officer. Enforce the use of protective clothing and equipment for construction workers.

Keep the local police station informed about the construction progress and time-lines to ensure that they would be able to adequately deal with any disruptive behaviour. The upgrading of access roads to accommodate an increase in traffic flow and improve vehicle and pedestrian safety should be coordinated with the completion of the project.

4.5.7 INTRUSION

4.5.7.1 Noise pollution

Heavy vehicles and machinery such as excavators, concrete trucks, and compactor rollers and graders are expected to be the main causes of noise pollution during the construction phase.

4.5.7.2 Visual pollution

Construction activities at the site would be exposed to surrounding residents, landowners and motorists, as it is not anticipated that the environment would be able to fully contain the visual exposure. This consequence would not have a severe consequence on the community or commuters, as stockpiling of soil, construction debris and the visual intrusive aspects of construction sites are only temporary.

4.5.7.3 Air pollution

The increased vehicle activity to and from the site and the construction related activities on the site would impact on the quality of air in the area, especially with the already poor condition of the road leading to the project site.

How to address this:

Store and dispose of rubble and waste appropriately on a regular basis.

Spray gravel surfaces with water to suppress dust.

Limit noise producing activities to normal working hours and not on Sundays and public holidays.

Security lights should be directed away from residences and the surrounding roads to limit nuisances and safety hazards for motorists.

The purpose of this chapter was to firstly outline the economic impacts and secondly the social consequences that could potentially occur as a result of implementation of the proposed housing development.

The following chapter presents a summary of the findings identified in this report and provides recommendations to optimise positive outcomes of the proposed housing development. It also identifies crucial factors that need to be attended to in response to the development of the proposed project.

This chapter summarises the results of the assessment of economic and social consequences and provides recommendations on how to increase the benefits of the development to the economy and the local community.

5.1 SUMMARY

5.1.1 SOCIAL AND ECONOMIC CHARACTERISTICS

The social and economic characteristics can be summarised as follows:

- Lack of employment opportunities available for the large working age population.
- Lack of skills and skills development opportunities.
- The above two findings are mirrored in the large populace of discouraged workers.
- Large indigent population
- Need for more healthcare resources
- Lack of diversification in the economy, with an overconcentration in the public sector.

5.1.2 POSITIVE CONSEQUENCES

The positive consequences identified for the proposed development were identified as:

- Employment opportunities
- Local procurement opportunities
- Skills development opportunities
- Potential infrastructural development as a result of the housing development.

5.2 CRITICAL FACTORS

The following critical factors have been identified as outcomes of this study. It is recommended that these factors are provided with the necessary support and investments in order to ensure that adherence to particular social needs are met upon implementation of the project.

The identified critical factors are:

- The crèches in the area is supported by social stipends per child. Taking into consideration the potential increase in population as a result of the proposed housing development, proper communication of these additional requirements will need to be made with the appropriate authorities to ensure that there is no shortage of resources. This is especially of concern in the case of nutrition, where resources are already stretched to provide sufficient nutrition for children.
- The schools within Alicedale are in need of urgent construction for maintenance and repair of buildings. With a potential population increase as a result of an influx of jobseekers, investment is needed in order to equip the schools to accommodate the potential increase in student population.
- The clinic in Alicedale is under strain in currently meeting the healthcare requirements of the community. A potential increase¹⁶ in the population as well as increased health and safety risks as a result of construction means that the clinic is not equipped to manage these additional requirements. It should be noted that investment to provide adequate

¹⁶ Although this establishment will house existing residents, a potential increase in population should be considered as a short term result of influx of jobseekers, construction workers, as well as the potential of residents sub-renting parts of their property, such as the case of backyard dwellers. Preparations anticipating such potential increases can be done in order to avoid the issues identified.

healthcare correspond with the implementation of the proposed development, in order to accommodate these additional risks and healthcare needs.

5.3 RECOMMENDATIONS

5.3.1 MAXIMISATION OF POSITIVE CONSEQUENCES

In order to ensure that the positive consequences are enhanced, specific management strategies and mechanisms should ideally be incorporated. The following measures are thus recommended:

- An employment strategy could be implemented that the use of a local labour force, with preference to workers from the precincts nearest to the site be stipulated in tender documents.
- That the transfer of skills to locals where possible takes place, so that those locals employed during construction would be able to use the skills acquired to ascertain future employment.
- Formulation of a local procurement process and strategy to benefit local businesses, enterprises and SMME's to allow them to become part of the project from the initiation of the tender process. Lobby for supporting infrastructural development to accompany the proposed housing development, especially of roads within the project area. This could potentially create even more employment opportunity and local procurement, as well as create ease of access between the project area and the Grahamstown node.

DOCUMENTS

- *Basic Assessment: Makana Human Settlement Project, Alicedale, Makana Municipality. Background Information Document, 2012.*
- *Civil Services Feasibility Report, 2012 for Makana Municipality: Alicedale 216 Housing Project.*
- *Department of Human Settlements National Housing Code*
- *Indicators of Sustainable Development Guidelines and Methodologies, Third Edition*
- *Makana Indigent Policy, 2009*
- *Makana Integrated Development Plan (IDP), 2011*
- *Makana Local Economic Development Strategy (LED), 2009*
- *Makana Spatial Development Framework (SDF), 2008*
- *Social Housing Act 16 of 2008*

ARTICLES

- *Towards sustainable social housing in South Africa: Lessons from the Newtown, Carr Gardens and Stock Road social housing projects.*

INTERNET SITES

www.quantec.com

www.saps.org.za

www.socialimpactassessment.net

www.makana.gov.za

APPENDIX E: COMMENTS AND RESPONSES REPORT

ISSUES RAISED PRIOR TO THE DBAR REVIEW PERIOD

Traffic Issues

	Issue	Commentator	Date	Response
1.1	Access to the proposed development from Provincial Roads.	Mr Marius Keyser, District Roads Engineer	29 June 2012, Faxed Comment Form	<p>It is not anticipated that the proposed development will result in an increase in vehicular traffic during the operational phase as many of the people who will live there make use of public transportation.</p> <p>However, there will likely be an increase in construction vehicle traffic during the construction phase. Appropriate mitigation measures for the impacts thereof on the Provincial Road have been included in the Basic Assessment Report and the EMP.</p>

Biophysical Environment

	Issue	Commentator	Date	Response
2.1	<p>I would like to <u>visit</u> the site from an environmental point of view, we encourage consideration of natural features occurring in a site and not a wholesale vegetation removal or artificial alterations of these features.</p> <p><i>The Commentator was contacted telephonically so as gain clarity on the comment provided. The following summarises the content of that conversation:</i></p> <p>The commentator has no objections to the project and notes that it is a municipal project and part of the municipality's planning.</p> <p>He also wants to ensure that our assessment will take into account vegetation on the site.</p> <p>The commentator will discuss the outcome of the Draft Basic Assessment Report with the Makana Municipality's Environmental Forum.</p>	Mr Ndumiso Nongwe, Environmental Manager for Makana Municipality	8 July 2012, Faxed Comment Form	<p>The concerns of the commentator have been noted and he has been assured that the assessment has taken the vegetation as well as other sensitive biophysical features on the site into consideration. Upon release of the Draft Basic Assessment Report the commentator's comments on the vegetation assessment and biophysical implications of the proposed development will be sought.</p>
2.2	<p>This office has the following concerns and comments:</p> <ul style="list-style-type: none"> • Watercourses in the vicinity of the proposed development must be delineated to indicate the 1:100 	Ms Marisa Bloem, Provincial Department of Water Affairs	6 August 2012, Comment per Email	<p>Should environmental authorisation be granted for the project the 1:100 year floodline must be delineated by the engineers during the detailed planning and design phase of the project. Should the installation of stormwater</p>

<p>year floodline or riparian zone, whichever is the greatest; and</p> <ul style="list-style-type: none"> • Location of the associated infrastructure to the extent of the watercourse. <p>Please note that any proposed development which may take place within the extent of a watercourse, as described above, constitutes a Section 21 water use in terms of Chapter 4 of the National Water Act, 1998 (Act No 36 of 1998) and requires authorization obtained from this Department.</p> <p>The following activities may require water use authorization in terms of Section 21 (c) and/or (i) of the Act:</p> <ul style="list-style-type: none"> • Construction of stormwater infrastructure/outlets within the extent of a watercourse; • Watercourse crossings such as access roads, pipelines etc; and please note that sewer lines across a watercourse trigger a water use license. • Removal of riparian vegetation to accommodate project activities. • The proposed development should not affect and wetlands. If wetlands are present and will be affected, wetland delineation must be conducted and a technical report reflecting wetland studies should be submitted to this department. <p>Please note that any activities that fall within 500 meter radius from the boundary of any wetland constitute a water use license in terms of sec 21 (c) and (i) of the Act.</p> <ul style="list-style-type: none"> • Clear and detailed layout plan indicating the location of all proposed development activities and associated infrastructure in relation to the 1:100 year floodline of a watercourse and boundaries of all wetlands with 500m radius mapped around (if present). • Details regarding the proposed development's impact on the watercourse/s in the vicinity including mitigation measures thereof. <p>In order to make an informative decision more details on the proposed development is required with special</p>			<p>infrastructure or any other bulk service infrastructure (including sewerage reticulation and water supply) fall within the extent of the watercourses as described, the applicant will be required to make application for a Water Use Licence in terms of section 21 of the National Water Act to the Department.</p> <p>No wetlands have been identified on the site or within 500 metres of the site boundary of the site.</p> <p>Section A of the Basic Assessment Report contains a detailed description of the proposed development, including the proposed sewage treatment and disposal method and proposed stormwater management infrastructure.</p> <p>Section D of the Basic Assessment Report contains a detailed assessment of the impacts that the proposed development is anticipated to have on the surrounding environment.</p> <p>A Spill Contingency Plan has been included in the Environmental Management Programme for the proposed development which is attached as Appendix F of the Report.</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<p>emphasis on the following:</p> <ul style="list-style-type: none"> • A detailed description of the development. • A detailed description of the sewage treatment and disposal method, • A detailed description of the stormwater management eplan/system. • Erosion control measures. • The impact of the proposed development on the receiving environment. • Spill contingency plan • Environmental Management Plan 			
--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--

Eskom Services and Structures

	Issue	Commentator	Date	Response
3.1	<p>1. The proposed development will take place within the vicinity of the following Eskom powerline:</p> <p>-Mimosa/Paterson 22kV Overhead Powerline</p> <p>There is a 9m building and tree restriction on either side of the centre line of the 22kV power line which must be observed in all future developments.</p> <p>2. Eskom has no objection to the abovementioned development, provided the following conditions are adhered to:</p> <p>In the following conditions the words Eskom services and structures shall include but not limited to the following: structures, pylons, works, appliances, conductors or cables.</p> <p>STANDARD CONDITIONS:</p> <p>a) Eskom services and equipment must be acknowledged at all times and may not be tampered or interfered with.</p> <p>b) The proposed development must be registered subject to Eskom existing powerlines.</p> <p>c) No construction work may be executed closer than 9m of the Eskom Distribution structure or 6 meters from the structure supporting mechanism.</p> <p>d) Natural ground level must be maintained within Eskom servitude area.</p>	TV Smith, Land Development Manager for Eskom Distribution-Eastern Cape Operating Unit	16 July 2012, Faxed Letter	<p>The servitude buffer requirements (9 metres either side of the centre line of the servitude and 6 metres from the structure supporting mechanisms) have been taken into consideration in the proposed layout of the development. No houses or other structures are proposed for this area and it is proposed to be rezoned as Public Open Space.</p> <p>The applicant has been informed of the conditions outlined in the correspondence. Applicable conditions will be included in the mitigation measures of the relevant impacts in the Basic Assessment Report as well as in the EMPr.</p>

	<p>e) All work within Eskom servitude area must be carried out in accordance with the requirements of the Occupational Health and Safety Act, 85 of 1993. Special attention must be given to clearances between Eskom's conductors, structures, cables, electrical apparatus and proposed work as stipulated in Government notice GN R1593 of 12 August 1998 amended to GN R1185 of 1 June 1990 promulgated under the aforementioned act.</p> <p>f) Eskom shall not be liable for the death or injury of any person, or for loss of or damage to any property, whether as a result of encroachment or use of the area where Eskom has its services, by applicant, his/her agents, contractors, employees or successors in title.</p> <p>g) The applicant indemnifies Eskom against loss, claims or damages, including claims pertaining to interference with Eskom services, apparatus, or otherwise.</p> <p>h) Eskom shall at all times have unobstructed access to and egress from its services.</p> <p>i) No dumping shall be allowed with Eskom servitude area.</p> <p>j) Any developments which necessitate the relocation of Eskom service will be to the account of the developer. Quote for relocations can be lodged with Eskom contact centre at number 086 0037566.</p> <p>k) Should the applicant or his/her contractor damage any of Eskom service during commencement of any work whatsoever, the incident must be reported to Eskom 24 hour Contact Centre (086 0037566) immediately.</p> <p>The above conditions should be accepted in writing before any work within the Eskom service commences.</p>			
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--

Heritage Issues

	Issue	Commentator	Date	Response
4.1	We appreciate and welcome the housing development. What will be the impact on graves as a result of the development, will they be impacted upon?	Mr Mongezi Kaspile, Alicedale Farmers Association	27 June 2012, Focus Group Meeting Notes	<p>The proposed development will be separated from the cemetery by a road. It is therefore not anticipated that the development will have any impact on the cemetery located to the south of Transriviere.</p> <p>The Archaeological Specialist Assessment did not identify</p>

				any grave/burial sites within the footprint of the proposed development.
4.2	<p>I've looked at the geotechnical report and I agree with the desktop study if you have already commissioned it. From the information provided though, the type of development should not impact on fossil-bearing formations.</p> <p><i>Note: A copy of the full correspondence between SAHRA and Public Process Consultants with regards to the Palaeontology of the site has been included in Appendix G (iv).</i></p>	Mariagrazia Galimberti, SAHRA	20 August 2012, Comment per Email	<p>It was confirmed with the commentator that, in SAHRA's opinion, the proposed development should not have an impact on fossil-bearing formations and that it would be unnecessary to conduct a desktop palaeontological assessment for the proposed development.</p> <p>At SAHRA's request, however, recommendations have been included in the EMPr for the preservation of fossilised material, should it be uncovered during site clearing and excavations.</p>

Land Tenure Issues

	Issue	Commentator	Date	Response
5.1	We will appreciate the involvement of Public Works department on this development, as they will have to communicate directly with us on the handing over of this land for housing development as this land has been given to us by mutual understanding between the two parties.	Phindile Ndzandzi, Crop Farmers Association	27 June 2012, Focus Group Meeting Notes	The Department of Public Works must liaise with the local farmers association with regards to making an alternative piece of land available.

ISSUES RAISED DURING THE DBAR REVIEW PERIOD

Traffic Issues

	Issue	Commentator	Date	Response
1.1	Access to Main Road 476.	Mr Marius Keyser, District Roads Engineer	16 October 2012, Faxed Comment Form	<p>The response to this query that has been provided by the project Engineers, MBB Consulting Services (EC) Inc. is as follows:</p> <p><i>"The settlement will utilize the existing access onto Main Road 476. Given the extent of the proposed development and the low anticipated vehicular ownership we are of the opinion that no upgrading of the current intersection with the MR476 will be required."</i></p> <p>A copy of the correspondence sent to Mr Marius Keyser by the project engineers has been included in Appendix G(iii).</p> <p>An increase in construction vehicle traffic is anticipated during the construction phase. Appropriate mitigation measures for the impacts thereof on the Main Road have been included in the Basic Assessment Report and the EMPr.</p>

Land Tenure Issues

	Issue	Commentator	Date	Response
2.1	When the area is used what are we going to get in return?	Vuyisile Nonyati	12 November 2012, Faxed Comment Form; 14 November 2012. Telephonic Discussion	<p>The commentator was contacted telephonically on 14 November 2012 so as to confirm the input. She indicated that they will require grazing land that is fenced off for cattle as well as an area to be set aside for the growing of crops and grass as feed for livestock.</p> <p>The Department of Public Works must liaise with the local farmers association with regards to making an alternative piece of land available to serve this purpose.</p>

Heritage Issues

	Issue	Commentator	Date	Response
3.1	The development should include a sports field and future burial site as the current site is about to close. Also, old graves on the site must be fenced.	Vuyisile Nonyati	12 November 2012, Faxed Comment Form;	The request for inclusion of a sports field and graveyard in the proposed development has been noted, however this extends beyond the scope of this assessment process.

			14 November 2012. Telephonic Discussion	<p>The proposed development will be separated from the cemetery by a road. It is therefore not anticipated that the development will have any impact on the cemetery located to the south of Transriviere.</p> <p>The Archaeological Specialist Assessment did not identify any grave/burial sites within the footprint of the proposed development.</p>
--	--	--	-----------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Public Consultation

	Issue	Commentator	Date	Response
4.1	We would like to see the layout before construction starts.	Vuyisile Nonyati	12 November 2012, Faxed Comment Form; 14 November 2012. Telephonic Discussion	The proposed layout for the development is attached as Appendix A of the Final Basic Assessment Report.

APPENDIX F: ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

**DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME
FOR THE MAKANA HUMAN SETTLEMENT PROJECT,
ALICEDALE, MAKANA MUNICIPALITY**

December 2012

Prepared for:

Makana Municipality
c/o Mr Renier van der Merwe
P.O. Box 176
Grahamstown
6140

Prepared by:

Public Process Consultants
PO Box 27688
Greenacres
Port Elizabeth
6057
Tel 041 – 374 8426
Fax 041 – 373 2002
E-mail: sandy@publicprocess.co.za
www.publicprocess.co.za



TABLE OF CONTENTS

1	INTRODUCTION AND BACKGROUND.....	106
1.2	<i>Duration of Authorisation</i>	110
1.3	<i>Legal Requirements</i>	110
2	ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr).....	111
2.1	<i>Construction Phase EMPr (CEMPr)</i>	111
2.2	<i>Operational Phase EMPr (OEMPr)</i>	115
2.3	<i>Decommissioning Phase</i>	115
3.	ROLES AND RESPONSIBILITIES	115
4	ENVIRONMENTAL PERFORMANCE MONITORING.....	117
4.1	<i>Baseline data</i>	117
4.2	<i>Affected parties</i>	118
4.3	<i>Monitoring</i>	118
5	LEGAL ENFORCEABILITY	118
6	IMPLEMENTATION SCHEDULE AND REPORTING	119
7	CODE OF CONDUCT FOR CONTRACTORS.....	119
8	AUDIT PROCEDURE & EMPr REVIEW SCHEDULE	119
8.1	<i>Construction Phase</i>	119
8.2	<i>Operational Phase</i>	119
9.	ENVIRONMENTAL EDUCATION	119
10.	REFERENCES.....	120

BAR	Basic Assessment Report
CARA	Conservation of Agricultural Resources Act 43 of 1983
CEMPr	Construction Phase Environmental Management Programme
CNECO	Cape Nature and Environmental Conservation Ordinance 19 of 1974
DAFF	Department of Agriculture, Forestry and Fisheries
DEAT	Department of Environmental Affairs and Tourism
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DWA	Department of Water Affairs
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
EA	Environmental Authorisation
OEMPr	Operational Phase Environmental Management Programme
SAHRA	South African Heritage Resources Agency

"EIA Regulations" - these are the Environmental Impact Assessment Regulations published in Government Notice R. 543 of 18 June 2010 in terms of Chapter 5 of the National Environmental Management Act, Act 107 of 1998.

"The Department" - The Provincial Department of Economic Development, Environmental Affairs and Tourism.

"Commencement" - Any physical activity on site that can be viewed as associated with the construction, inclusive of initial site preparation.

1 INTRODUCTION AND BACKGROUND

The Makana Municipality (the Applicant) is proposing the construction of approximately 338 single detached residential dwellings (The standard house approved by Makana Municipality for subsidy housing provision), a church (religious) site, as well as the provision of associated bulk services infrastructure, on approximately 15.92 hectares of the Remainder of Portion 1 of the Farm 276, Alicedale. It is anticipated that the development will provide formal housing for approximately 1900 individuals from the local area.

In order to provide water to the proposed housing development it is proposed that a water reservoir with a storage capacity of approximately 750kL is constructed to the south of the proposed development footprint, from where water will be reticulated into the residential area. Sewage from the development will be gravity fed via a new 160 mm underground sewer main to the existing sewage pump station located immediately to the north of Transriviere township, from where it will be pumped through an existing 160mm sewer main to the town's sewage treatment works located to the east of the Kwanonzwakazi township.

Residential Dwellings

It is proposed that approximately 338 single detached residential dwellings will be constructed on the proposed site; providing housing for approximately 1900 individuals from the local communities of Transriviere and Kwanonzwakazi. The proposed average erf size is approximately 322.2 m².

Religious Site

One religious site of approximately 1000m², is provided for in the north eastern corner of the development footprint.

Open Space

The portion of the site that accommodates the Eskom powerline servitude will not be developed but will be retained as Public Open Space.

Service Infrastructure

Proposed Access and Internal Roads

Access to the new housing scheme will be an extension of the existing bitumen surfaced 5m wide road linking the Mandela Park and Transriviere townships to the R346 (MR0476) road. The existing road will be adequate to service the expected vehicular traffic to the new housing scheme.

The preferred width of the internal roads is 4.5m wide. These roads will be bitumen surfaced on designed and constructed layerworks.

Stormwater

The stormwater emanating from the scheme will collect in stormwater channels constructed along the roads and will be piped and discharged at four separate points, into watercourses northwest and northeast of the site, which eventuate into the Bushmans River. The discharge pipes will be 450mm in diameter, with associated headwalls, two of which are proposed northeast of the site and two to the northwest of the site.

Should the installation of the stormwater discharge outfalls and their headwalls fall within the 1:100 year floodline of the watercourses northeast and northwest of the site, this component of

the project will require a water use authorisation in terms of the National Water Act from the Department of Water Affairs.

The estimated costs for the installation of roads and stormwater is approximately R2.74 million.

Water

The average annual daily water demand for the proposed development is anticipated to be 110m³/day for approximately 1200 individuals. The Department of Water Affairs has confirmed that the raw water source is adequate to meet the water demand required by the new housing project.

The Makana Municipality has confirmed that the existing water treatment plant with a design capacity of 2Ml/day and has a current throughput of 1Ml/day has enough capacity to meet the water demand expected to be generated by the new housing scheme without any upgrading being required.

Due to the elevation of the new housing site in relation to the existing water storage reservoirs it will be necessary to construct a new water storage reservoir at an elevation that is high enough to gravity feed the new housing sites. Water will be pumped from the existing pumping station on the banks of the Bushman's River adjacent to the road MR0476 to a new reservoir south of the site.

A site for the new reservoir was identified in 2008 but is located on state land that needs to be transferred to the Makana Municipality prior to the construction of the reservoir. The capacity of the reservoir will be 750kL to allow for current water demand, growth in water demand as well as for fire fighting. The cost of the new reservoir, pumping plant and pumping mains is estimated at R1.2m. This proposed upgrade is not yet on the Municipality's IDP.

Sanitation

The average dry weather sewage expected to be generated by the new housing scheme is estimated at 110 cubic metres per day 205 m³ per day (or 1.32.4 litres per second). The sSewage from the new housing site will collect from the erven into a new underground 160mm diameter sewer main and will be gravity fed to the existing sewage pump station located immediately to the north of Transriviere township where from it will be pumped through an existing 160mm diameter sewage pumping main to the town's sewage treatment works located to the east of the Kwanonzwakazi township.

The ponding system currently used to treat the sewage is presently being upgraded to an extended aeration system. The upgraded works were designed and built to accommodate the sewage from the new housing scheme, Refer to Worley Parsons Technical Report, Annexure B of the Civil Services Feasibility Report. It is expected that the upgrading of the sewage treatment works will be completed and commissioned by the end of August 2012. The costs associated with the installation of the sanitation for the site is estimated to be approximately R700 000.

Electricity

The electricity demand for the new housing scheme is estimated at 600kVA. Eskom, who currently supply electricity to Alicedale, were approached for information regarding the adequacy of the existing electricity network to meet the electricity demand generated by the

new housing scheme and have confirmed that there is enough electricity to supply the new 338 houses. there is a 9m building and tree restriction on either side on the centre line of the 22kV powerline. The project layout has taken this restriction into account. The costs associated with the installation of the electrical infrastructure for the project is estimated to be approximately R1.5 million.

Solid Waste Disposal

The domestic solid waste generated from the new housing scheme is estimated at 7m³ per day. Currently the domestic solid waste from Alicedale is collected by the Makana Municipality for disposal at the solid waste facility located at an old disused quarry situated about 1km to the west of Alicedale. The waste disposal site is licensed as a Class G:C:B and has an estimated remaining operational lifespan of 30 years. It is anticipated the domestic waste generated by the new housing scheme can therefore be accommodated at the existing waste disposal facility.

The proposed development requires the preparation and submission of a Basic Assessment in terms of the 2010 NEMA EIA Regulations: GN R543, 544 and 546; promulgated under Chapter 5 of the National Environmental Management Act (Act 107 of 1998) ("NEMA"), and published in Government Gazette 33306 on 18 June 2010, to the relevant authority (DEDEAT). In compliance with the said regulations an Environmental Management Programme (EMPr) based on the potential environmental impacts identified in the Basic Assessment Report was prepared simultaneously.

Environmental Management Programmes (EMPr), or Environmental Management Frameworks (EMF), serve to ensure that environmental impacts associated with particular activities are monitored, minimised and mitigated for the duration of the project. The practical management measures that should be employed to achieve monitoring and mitigation targets are detailed in the EMPr (DEAT 2004). The EMPr is a dynamic document which should be updated and reviewed on a regular basis so that it may be adapted to changing management styles, and to include improved impact mitigation technology as well as unforeseen environmental impacts. The EMPr should also be adapted if any changes are made to the project. If such changes will result in significant environmental impacts, which differ from those for which DEDEAT has granted authorisation, such changes must be submitted to the DEDEAT for approval before they are implemented. This EMPr includes, but is not limited to, the environmental impacts identified in the Basic Assessment Report and the proposed mitigation measures that must be employed to minimise the harmful effects that those impacts may have on the environment.

The EMPr report should be read in conjunction with the Basic Assessment Report as this document may contain additional, detailed information not included in this report.

1.1 Activities and Regulations for which Application has been made:

Authorisation Notice Register Number (DEDEAT Ref: EC04/LN1&3/M/12-38)
Applicant Makana Municipality, c/o Renier van der Merwe
Location of Activity Remainder of Portion 1 of the Farm 276, Alicedale. . Other properties that may be affected by the proposed development include erf 1410, 1411 and 1370 as well as the Remainder of Farm 277 and erf 1363. Stormwater infrastructure associated with the development will be constructed on the latter two properties, while the housing development and infrastructure may traverse the other erven.
Activity Description The Makana Municipality (the Applicant) is proposing the construction of approximately 338 single detached residential dwellings (The standard house approved by Makana Municipality for subsidy housing provision), a church (religious) site, as well as the provision of associated bulk services infrastructure, on approximately 15.92 hectares of the Remainder of Portion 1 of the Farm 276, Alicedale. It is anticipated that the development will provide formal housing for approximately 1900 individuals from the local area. In order to provide water to the proposed housing development it is proposed that a water reservoir with a storage capacity of approximately 750kL is constructed to the south of the proposed development footprint, from where water will be reticulated into the residential area.
Listed Activities <u>GN R544</u> <i>9. "The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water – (i) with an internal diameter of 0,36 metres or more;..."</i> <i>11. "The construction of: (xi) infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse..."</i> <i>18. "The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from: (i) a watercourse;"</i> <i>23. "The transformation of undeveloped, vacant or derelict land to – (ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares;"</i> <u>GN R546</u> <i>2. "The construction of reservoirs for bulk water supply with a capacity of more than 250 cubic metres. (a) In Eastern Cape... lii Outside urban areas, in: (dd) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;"</i> <i>4. "The construction of a road wider than 4 metres with a reserve less than 13,5 metres. (a) In Eastern Cape... ii Outside urban areas, in: (ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;"</i> <i>13. "The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, (a) Critical biodiversity areas and ecological support areas as identified in systematic biodiversity plans</i>

adopted by the competent authority.”

14. *“The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover*

constitutes indigenous vegetation,

(a) In Eastern Cape...

i. All areas outside urban areas.”

16. *“The construction of:*

(iv) infrastructure covering 10 square metres or more

where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse,

(a) In Eastern Cape...

ii Outside urban areas, in:

(ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;”

1.2 Duration of Authorisation

Should an Environmental Authorisation be issued in respect of the project, the duration of the authorisation will be indicated in said document.

1.3 Legal Requirements

This Environmental Management Programme does not include all the legislative and regulatory requirements applicable to the development. The representative appointed by the applicant to manage the operation, and the persons responsible for the implementation of the EMP, should also familiarise themselves with the specific legal requirements applicable to the described activities on site. These may include, but are not limited to:

- Applicable Environmental Law
- Atmospheric Pollution Prevention Act 45 of 1965
- Conditions of Employment Act, 75 of 1997
- Conservation of Agricultural Resources Act 43 of 1983
- Constitution of South Africa No 108 of 1996
- Environment Conservation Act 73 of 1989
- Extension of Security of Tenure Act 62 of 1997
- Hazardous Substances Act 15 of 1973
- Health Act No 63 of 1977
- Labour Relations Act 66 of 1995
- Land Reform (Labour Tenants) Act 3 of 1996
- National Building Regulations and Building Standards Act 103 of 1977
- National Environmental Management : Biodiversity Act 10 of 2004
- National Environmental Management Act 107 of 1998
- National Environmental Management: Air Quality Act 39 of 2004
- National Heritage Resources Act 25 of 1999
- National Road Traffic Act 93 of 1996 – GNR 225 of 17 May 2000
- National Veld and Forest Fire Act 101 of 1998
- National Water Act 36 of 1998
- Nature Conservation Ordinance Act 19 of 1974
- Noise Control Regulations GN R 154 in Government Gazette No. 13717 of 10 January 1992
- Occupational Health and Safety Act of 1994
- The Hazardous Substances Act 115 of 1973
- Local bylaws
- Provincial legislation

2 ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPr)

The life of the residential and mixed use development can be broadly divided into three phases:

A **construction phase** - which includes all the construction activities associated with the establishment of the infrastructure before the facility becomes operational.

An **operational phase** - which constitutes the day to day operation of the facility for the duration of its lifetime until the facility is discontinued / decommissioned.

A **decommissioning phase** - which includes all the activities associated with the cessation of the described activity at the site. It is not anticipated that the housing development will be decommissioned.

Environmental impacts, management practices and mitigation measures may differ for different phases of the development; however some impacts will be present in all phases of the development, resulting in some repetition in the EMPr.

2.1 Construction Phase EMPr (CEMPr)

During the construction phase land will be cleared of vegetation and topsoil for the installation of infrastructure and the construction of the houses and associated structures. Construction will take place with the aid of a labour force on site, and with the aid of heavy earth moving machinery. Construction material will be delivered to the site as required, some of which will be stored on site.

Environmental impacts associated with the construction phase of the development, as well as the appropriate mitigation actions, have been identified using specialist input for the various components of the affected environment provided in the Basic Assessment Report.

The management actions outlined below indicate the actions to be taken to minimise the potential negative impacts the construction phase may have on the environment, as well as measures to enhance the potential benefits.

Destruction of indigenous vegetation and plant species of special concern.

- The construction footprints should be demarcated with chevron tape.
- Disturbance to intact vegetation surrounding the site during construction should be prohibited.
- Permits for the removal or destruction of these plants need to be obtained from the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) or the Department of Agriculture, Forestry and Fisheries (DAFF) (in the case of protected trees).
- Prior to commencement of construction a qualified botanist should survey the development footprint for Species of Special Concern. These should be translocated into the indigenous vegetation that will remain adjacent to the site.

Destruction and removal of exotic plants.

- Cleared and disturbed areas must be re-vegetated (grassed) as soon as possible to prevent the future colonisation by weeds and invasive exotic species.
- The construction footprint area should be monitored regularly and follow-up clearing done before problem plants can become established.

Disturbance and injury to fauna during construction.

- The site should be fenced off for the duration of the construction process to prevent domestic animals from entering the site and being injured.
- No fauna encountered at the site may intentionally be harmed or killed.
- All personnel should be made aware of the need to prevent harm to fauna on site.
- All open excavations must be securely fenced or barricaded.
- Speeds travelled by vehicles must be kept to a minimum.

- Excavations must be checked daily for trapped fauna; and trapped animals rescued and released.
- Injured fauna should be referred to an appropriate faunal rehabilitation or care centre (e.g. SPCA).

Dust generation during the excavation.

- Limit vegetation disturbance outside the construction footprints.
- Topsoil should be cleared in a phased manner to avoid large areas of unconsolidated soils.
- Topsoil and soil stockpiles should be covered, wetted or otherwise stabilised to prevent wind erosion and dust generation.
- Topsoil should be replaced on undeveloped portions of the site and the footprints re-vegetated immediately after construction.
- A water cart or sufficient watering equipment should be available to wet soils during windy days if wind-blown sand and dust becomes problem.

Noise and disturbance during construction activities.

- Limit construction activities as far as possible to working hours, i.e. 7am - 5pm weekdays, excluding public holidays.
- Should after hours work take place nearby residents should be notified.
- Signage with the contact details of the responsible person should be provided at the site.
- A complaints register should be kept to document complaints and the corrective action taken.
- No loud music to be allowed on site.
- Security lights should be directed away from residences and the surrounding roads to limit nuisances and safety hazards for motorists.

Soil erosion of disturbed and unconsolidated soil in construction footprints and stockpiles.

- Site offices and storage area, construction areas, material lay-down areas, access routes, infrastructure footprints and No-Go areas should be clearly demarcated.
- Limit all access and construction related activities to the demarcated area.
- Limit vegetation disturbance outside the construction footprints.
- Stormwater on the site must be controlled for the duration of construction by employing appropriate temporary stormwater control structures e.g. cut-off berms.
- Topsoil should be cleared in a phased manner to avoid large areas of unconsolidated soils.
- Topsoil should be removed and stockpiled in an appropriate manner:
 - Stockpiled separately from subsoil, monitored for- and protected from erosion, kept free of exotic vegetation
- Topsoil should be replaced on undeveloped portions of the site and the footprints re-vegetated immediately after construction.
- Re-vegetated areas should be watered until vegetation has become established.
- Should erosion scars begin to form on the landscape, erosion counter measures should be implemented immediately.
- Erosion control and construction disturbance should be an important monitoring facet falling under the control of an Environmental Control Officer (ECO), who should be appointed to implement the environmental management plans (EMP's) during the construction and site rehabilitation phases of this project.

Generation of waste during construction.

- Excavated material should be used at other sites where fill is required or disposed of at an appropriately licensed waste disposal facility.
- Construction waste (e.g. packaging material, unused concrete) must be disposed of at an appropriately licensed waste disposal facility.
- No construction phase waste to be stockpiled on site.
- Adequate litter bins should be provided at the site for waste generated by construction personnel.
- Litter bins should be emptied on a regular basis and waste disposed of at an appropriately licensed waste disposal facility.
- Sufficient portable chemical toilets or similar sanitation facilities should be provided and suitably maintained at the site for the duration of construction.

Pollution of surface and groundwater due to chemical, oil and fuel spills.

- Generators and fuel supply needed during construction must be placed on trays, which rest on clean sand. Once construction is complete this must be removed from the site and disposed of at an appropriately registered waste disposal facility.

- No cement / concrete mixing are to take place on the soil surface. Cement mixers are to be placed on large trays to prevent accidental spills from coming into contact with the soil surface;
- Vehicles and construction equipment should not be serviced at the site to prevent pollution of the soils by hydrocarbons or oil.
- Ensure secure storage of materials on site particularly hazardous materials e.g chemicals and fuels.
- Sufficient portable chemical toilets or similar sanitation facilities should be provided and suitably maintained at the site for the duration of construction.

Construction related impacts on potential undiscovered archaeological material or artefacts on site.

- It is recommended that in the unlikely event if any archaeological materials are exposed during the development, it should be reported immediately to the nearest museum/archaeologist or to the South African Heritage Resources Agency so that a systematic and professional investigation can be undertaken.
- If any evidence of archaeological sites or artefact, palaeontological fossils, graves or other heritage resources are found during development, construction or mining, SAHRA and an accredited professional archaeologist or palaeontologist must be alerted immediately. (SAHRA APM Unit (Mariagrazia Galimberti / Nonoflo Ndobochani, tel. 021 462 4502).
- If the newly discovered heritage resources prove to be of archaeological significance a phase 2 rescue operation might be necessary at the cost of the developer. Sufficient time must be allowed to remove/collect such material.
- Construction managers/foremen should be informed before construction starts on the possible types of heritage sites and cultural material they may encounter and the procedures to follow when they find sites: i.e. human skeletal material, mussel middens, stone artefacts, fossil bone, stone features and historical artefacts or features.

Fossilised material may be uncovered during excavations for the proposed development.

- Educate ECO, foremen and personnel about potential fossil heritage on site.
- The construction phase of the project should be monitored by an independent Environmental Control Officer (ECO), who should monitor excavations for potential fossilised material on an on-going basis while construction / excavation is commencing.
- Should substantial fossil remains be exposed during development, the responsible ECO should alert SAHRA so that appropriate mitigation measures may be considered.
- In the event that fossilised material is uncovered, construction on the affected excavation should cease until a palaeontologist has assessed the material.
- Fossilised material encountered at the site may only be removed or destroyed upon authorisation from the relevant Heritage Resources Authority by the issuing of an appropriate permit.

Influx of jobseekers from outside the Alicedale area.

- An employment strategy should be implemented that stipulates the use of local labour as far as possible, with preference to workers from precincts nearest to the site.
- Tender documents should stipulate the use of local labour for unskilled and, as far as possible, semi-skilled labour.
- A recruitment office with a community liaison officer should be established in close proximity to the construction site to deal with jobseekers.
- The extent and actual number of employment opportunities should be narrowed and addressed to ensure that unrealistic expectations are not created.
- Keep the local police station informed about the construction progress and timelines to ensure that they would be able to adequately deal with any disruptive behaviour.
- Upgrade the access roads to enable efficient police response.

A number of temporary employment and skills development opportunities will be created during construction.

- Collaborate with local councillors and institutions that specialise in skills development and training to create a database of available skills of individuals and SMME's in the Municipal area that could be utilised for the project.
- Members of the local community could be identified that would assist with mass meetings and community related issues.

- A skills audit of the local workers should be done to determine what skills are available locally so as to use local labour (particularly skilled and semiskilled) as far as possible.
- Skills training and capacity building during the construction phase will equip workers to obtain other employment once their contract has expired.

Risk to human health and safety issues.

- A Health and Safety Officer should be appointed to ensure that the construction of the proposed development does not negatively impact on the health of the local community.
- Adequate drinking water should be provided for the construction personnel.
- Sufficient portable chemical toilets or similar sanitation facilities should be provided and suitably maintained at the site for the duration of the construction phase.
- Construction footprints, including site offices, excavations, storage areas, materials lay-down areas, stockpile area, and workers rest areas should be clearly demarcated and fenced off before construction commences.
- Open excavations must be kept free of water and should be securely fenced in.
- All construction activities should be limited to the demarcated area.
- Access to the demarcated construction area must be strictly controlled.
- Entry points and access routes to the site must be clearly marked and traffic limited to those areas as far as possible.
- Suitable warning and information signage should be erected before construction commences.
- Speed travelled by vehicles must be kept to a minimum and speed limits enforced.
- All construction vehicles and machinery should be checked regularly to ensure that they are safe and roadworthy.
- Residents of affected area must be notified timeously (two weeks minimum) prior to construction commencing.
- Ensure that there is a first aid facility and trained first aiders at the site.
- A Traffic Management Plan must be implemented during construction, to include the following: Warning signage, access control, flagmen, and monitoring road surface condition
- If construction machinery is to be used in high foot traffic areas (ie. outside schools and shops) it must only be done outside of peak traffic periods for these areas (ie. not when the learners are arriving or leaving school).
- Limit heavy vehicle movement through the populated residential areas.

Loss of grazing for livestock of the local community.

- The Department of Public Works must liaise with the local farmers association and ward councillors with regards to making an alternative piece of land available.

Damage to Eskom Structures and Services.

- All work within Eskom servitude area must be carried out in accordance with the requirements of the Occupational Health and Safety Act, 85 of 1993.
- Special attention must be given to clearances between Eskom's conductors, structures, cables, electrical apparatus and proposed work as stipulated in Government notice GN R1593 of 12 August 1998 amended to GN R1185 of 1 June 1990 promulgated under the aforementioned act.
- Should any damage be done to any of the Eskom services or structures during construction the incident must be reported to Eskom 24 hour Contact Centre (086 0037566) immediately.

Relocation of informal occupants.

- Relocation of illegal occupants during the construction phase must be done in consultation with the affected families, Ward Councillor and other relevant community representatives.
- Where practically possible these families could be allowed to remain on the portion of the erf which will not be developed during the construction of the dwellings.

Increased opportunities for local businesses.

- A local procurement process and strategy should be formulated to benefit local businesses, enterprises and SMME's to allow them to become part of the project from the start of the tender process.

Potential loss of income for the local community due to the removal of Aloes from the site.

- Disturbance to intact vegetation surrounding the site during construction should be prohibited.

2.2 Operational Phase EMPr (OEMPr)

Potential negative impacts associated with the operational phase are limited mainly to impacts on the local resources and infrastructure associated therewith (ie. water, electricity and sewage) as well as the surrounding biophysical environment.

The management actions outlined below indicate the actions to be taken to minimise the potential negative impacts that the operation of the facility may have on the environment, as well as measures to enhance the potential benefits.

Increased stormwater runoff from the site due to increased sealed surfaces.

- Design adequate stormwater management infrastructure to convey stormwater from the site to outfall points associated with the natural drainage patterns in the landscape.
- Provide scour protection and flow dissipation structures at stormwater outfall / discharge points.
- Keep stormwater management structures free of litter and debris.

Alien plant invasion of undeveloped portions.

- The area should be monitored regularly and follow-up clearing done before problem plants can become established.

Increase in electricity consumption and greater pressure on the local power grid.

- Ensure that sufficient electricity supply is available from the local service provider.
- Encourage the use of energy efficient equipment (E.g. geyser switches, CFL lighting) in homes and residential complexes.
- Ensure that street lighting is kept to the minimum required, and switched off when not required.

Increased waste generation and littering.

- Makana Municipality to provide waste collection and disposal service to the site
- Provide and maintain communal waste skips on site.
- Provide informative signage to educate the public regarding proper waste disposal practices.

Pressure on water resources and water supply infrastructure as a result of increased water use.

- Use vegetation (lawn grass, trees) with low water requirements on sidewalks / road verges.
- Capture water from roof surfaces in water tanks for use to water gardens.
- Monitor and correct infrastructure leaks and malfunctions.

2.3 Decommissioning Phase

Due to the nature of the development (housing development) it is not anticipated that the site will be decommissioned in the foreseeable future. Should the development be decommissioned in future, the Environmental procedures and statutory requirements applicable at the time should be complied with, and the area restored to its original conditions.

3. ROLES AND RESPONSIBILITIES

The ultimate responsibility for the effective implementation of the EMPr lies with the proponent (holder of Authorisation / applicant), in this case the Makana Municipality. Responsibility may be delegated to project managers, construction managers, or environmental officers appointed by the proponent during any stage of the development. The delegation of environmental responsibility will be determined by the institutional hierarchy of the organisation.

The proponent will appoint a project manager for the construction phase of the proposed development. The project manager will be responsible for the *implementation of the EMPr* during the construction phase of the development.

An Environmental Control Officer (ECO) should be appointed to monitor the implementation of the EMPr during the construction phase of the project. The ECO will be responsible for the monitoring of compliance with the conditions set out in the Environmental Authorisation, as well as ensuring that sub-contractors adhere to the conditions in the CEMPr. This may be supplemented by an internal Environmental Officer or Site Officer that will remain on site during the construction phase.

It is anticipated that following the construction phase, the person responsible for the implementation of the OEMPr (The Makana Municipality) will be responsible for environmental monitoring and record keeping for the duration of the project lifetime.

Table 1. Hierarchy of responsibility in the implementation of the EMP.

Project manager Name: Contact number:	<ul style="list-style-type: none"> • Overall responsibility for management of the development. • Is familiar with the contents of the Environmental Impact Assessment (EIA), Environmental Management Programme (EMPr) and the conditions of the Environmental Authorisation (EA). • Ensures that policy, legislative and relevant environmental documentation is available to the construction manager. • Liaises with construction / site manager on a regular basis to address any environmental issues (compliance, mitigation, disciplinary action) that may arise.
Construction / Site Manager Name: Contact number:	<ul style="list-style-type: none"> • Selects and appoints contractors. • Is familiar with the institutional environmental policies and Codes of Practice. • Is familiar with the EIA, EMP, EA, and relevant legislation. • Ensures that the information in the EIA, EMP, EA, and relevant legislation is communicated to contractors. • Ensures that contractors are familiar with institutional Codes of Conduct for contractors. • Ensure that environmental policies, legislation and guidelines are adhered to. • Monitor implementation of the EMP by conducting regular site visits and meetings.
Environmental Control Officer Name: Contact number:	<ul style="list-style-type: none"> • Responsible for <u>overseeing and monitoring</u> the <i>implementation of the EMPr</i> during the construction phase. • Is familiar with the EIA, EMP, EA, and relevant legislation. • Monitors compliance with the EMP during the operational phase through annual environmental audits. • Report non-compliance or appropriate remedial action.
Site Manager / Environmental Officer Name: Contact number:	<ul style="list-style-type: none"> • Is familiar with the EIA, EMP, EA, and relevant legislative requirements. • Ensures compliance with the EMP and EA conditions. • Is familiar with and ensure compliance with the relevant internal institutional policy, and procedural guidelines • Ensures compliance with the relevant institutional policy, and procedural guidelines • Ensures compliance with the legislative requirements. • Implements the EMP during the operational phase of the development by employing prescribed mitigation and management measures. • Conducts environmental monitoring protocols at the facility. • Conducts regular inspections of the facility in order to monitor compliance with the EMP. • Takes remedial or disciplinary action where required.

Should ownership of the project change, any Environmental Authorisation granted in respect of the development should be transferred to the new owner, upon notification of the Department (DEDEAT). The EMPr, EA and Conditions of Approval remain binding on the new owner / operator of the development.

Spill Contingency Plan

Sources of Spill Risk

- Spillages associated with blockages on sewer pipelines

The above risks can be minimised by implementing best practice, ensuring good maintenance of facilities and equipment, and adhering to the mitigation measures outlined above.

Environmental Risks Associated with Spills

Sewage contains disease causing pathogens e.g. bacteria, fungi / parasites), as well as elevated nutrient concentrations (i.e. urea, ammonia, nitrates, phosphates) from the breakdown of organic material in the sewage, all of which may be released into the environment when a sewage spill occurs. Apart from these direct impacts at the spill site, potential spills can also have nuisance impacts associated with odours and the attraction of flies to the spill area.

Spill Response

- Ensure that appropriate equipment and Personal Protective Equipment (PPE) is available on site to equip personnel for response to spills.
- Ensure that personnel on site (maintenance staff) are trained to respond to accidental leaks or spills.
- Respond to sewage spills immediately.
- Close off and halt all system inputs, i.e. prevent the use of toilets, or basins flowing into the system, stop pumps on vacuum tanker.
- Notify the Department of Water Affairs, and the local Municipality Health Department of the spill.
- Barricade the spill area to prevent humans or animals from gaining access to the spill site.
- If necessary create berms or sandbag the spill area to contain the spill.
- All response personnel must wear suitable PPE before coming into contact with the spilled material which must include:
 - Face shield
 - Water proof gloves
 - Impervious overalls
 - Impervious gum boots
- Collect spilled sewage for disposal by vacuum tanker or other suitable means, and dispose of at a licensed Wastewater Treatment Works.
- Remove contaminated soils and material from the site and dispose of at a suitably licensed Hazardous Waste Disposal site.

OR

- If the contaminated soils cover a very large area, spread agricultural lime over the affected area, to help break down the harmful components of the sewage.
- Wash and disinfect all equipment contaminated during spill clean-up.

4 ENVIRONMENTAL PERFORMANCE MONITORING

Environmental Performance Monitoring has been defined as the activities implemented to measure environmental changes resulting from a particular development or activity (Davy & Paradine 1996). These include anticipated and unexpected changes in the environment. Any change from baseline conditions should initiate remedial action, or a change in mitigation or management approach. Performance monitoring could include both the collection of physical data, as well as input from potentially affected neighbours or affected parties.

4.1 Baseline data

Environmental Performance Monitoring includes the gathering of baseline data with which the future environmental conditions can be compared. For the purposes of this EMP, much of the

baseline data relating to environmental conditions at the site prior to development is provided in the Basic Assessment Report. This information can be used to assign accountability for environmental degradation. The monitoring programme will have to be in place before construction starts so that realistic baseline conditions can be determined before the development results in any potential impacts on the environment.

The following baseline information, where currently not available, should be obtained before construction commences:

- Extent and location of erosion features on site – in particular those associated with the drainage lines..

4.2 Affected parties

Neighbours and parties affected by the development should be afforded opportunity to comment on problems and impacts that they may experience as a result of the development during the construction phase of the project. A complaints register should be kept of such comments, as well as the intervention initiated to address the comment or complaint, where appropriate. Such a register should thus be available on site and preferably be the responsibility of the contractor. In addition, it should be available to the ECO at his request. These comments will be used to adapt and improve existing mitigation measures.

4.3 Monitoring

During the construction phase the following should be monitored:

- The compliance with the conditions of approval as given in the environmental authorisation from the relevant departments, at least once every month.
- The extent and location of alien invasive plants on the site, at least once every month.
- The extent and location of erosion on the site, at least once every month.
- The compliance of construction personnel with the recommendations as set out herein, at least once every month.
- The conducting of environmental awareness training sessions with the construction personnel, at the initiation of the construction phase as well as during toolbox talk sessions as and when these occur.

Monitoring should take the form of conducting a site visit as well as compiling a written audit report on the findings of the ECO at the time of the visit.

Once the houses become occupied (operational phase) the following should be monitored:

- Occasional monitoring of the extent and location of alien invasive plants on site.
- Regular monitoring of the extent and location of erosion features on site.

5 LEGAL ENFORCEABILITY

This EMPr is required by law in terms of the new Environmental Impact Assessment Regulations, 2010, (GN R543 33) and as such it is a legally binding agreement between the applicant, as well as all his / her sub-contractors, and the Provincial Department of Economic Development, Environmental Affairs and Tourism. Should the property be sold by the applicant, the responsibility to comply with the requirements of this document will then fall on the new owner of the property. The EMPr should be included in the contracts (tender documents or otherwise) entered into by the owner / developer and any subcontractors. This will ensure that sub-contractors have a legal obligation to abide by the conditions set out in the EMPr.

6 IMPLEMENTATION SCHEDULE AND REPORTING

The management measures outlined for the Construction Phase of the development will take effect as soon as construction on the site is initiated, while the collection of baseline monitoring information should start prior to construction commencing.

The management measures outlined for the Operational Phase of the development will take effect as soon as the houses become occupied.

Compliance monitoring reports will be kept as outlined in Section 4.3 above, and be made available at the request of the Department of Economic Development, Environmental Affairs and Tourism.

Environmental audit reports as well as reviewed amended EMPr reports will be kept up to date so that they can be made available at the request of the Department.

7 CODE OF CONDUCT FOR CONTRACTORS

Contractors performing work on the property should adhere to the conditions and codes of conduct set out in this EMPr as well as the Health and Safety Requirements and Environmental Policies as required by law. Should it be found that additional codes of conduct for contractors need to be included in this EMPr, this should be done at the first review opportunity.

8 AUDIT PROCEDURE & EMPr REVIEW SCHEDULE

The environmental audit is a systematic, objective investigation of the environmental information of a development to determine to what extent they conform to the environmental standards set out in the EMPr and Environmental Authorisation.

8.1 Construction Phase

During the construction phase the audit reports as produced by the Environmental Control Officer (ECO) after periodic (monthly) site visits will serve as the auditing mechanism. A schedule for site audits in the construction phase should be agreed upon during the appointment of the ECO. The ECO should comment on environmental impacts that are not adequately mitigated, as well as mitigation measures that are not effective, and suggest appropriate further management actions. These comments should be included in an amended CEMPr that must be made available to the Department on request.

8.2 Operational Phase

Once the facility is operational it should comply with all statutory requirements (municipal bylaws etc.) as well as any additional recommendations as set out in the Basic Assessment Report.

9. ENVIRONMENTAL EDUCATION

Environmental education should be provided as part of the environmental induction process for construction personnel prior to the commencement of construction activities at the site.

Environmental induction training should include the relevant requirements of the Basic Assessment Report, EMPr and Environmental Authorisation, and should include at a minimum:

- Designation of No-Go areas, workers rest areas, and sanitation facilities.
- Clarification of the meanings of warning signage used at the site.
- Appropriate sanitation and waste disposal practices.
- Use of Personal Protective Equipment.

- Reporting procedures and communication channels.
- Staff conduct.

Weekly toolbox talks should comment on environmental issues on which non-compliance has been noted during periodic audits.

During the operational phase the municipality should ensure that all residents are made aware of the need to refrain from disturbing the sensitive biophysical features around the site, in particular the drainage lines and intact vegetation adjacent to the site.

10. REFERENCES

DEAT (2004) Environmental Management Plans, Integrated Environmental Management, Information Series 12, Department of Environmental Affairs and Tourism (DEAT), Pretoria.

A. Davy & Paradine, P. 1996. Environmental Performance Monitoring and Supervision. Environmental Assessment Source Book – Update. World Bank Environment Department. Pp. 8.

APPENDIX G: OTHER INFORMATION

APPENDIX G (i): SITE NOTICE BOARD AND NEWSPAPER ADVERTISEMENT



The site notice board placed at the entrance to the site.
(33° 19.386'S; 26° 5.410'E)



Close-up of the site notice board placed at the entrance to the site.
(33° 19.386'S; 26° 5.410'E)

NOTICE OF BASIC ASSESSMENT

This serves as notification that a Basic Assessment process is being conducted on behalf of Makana Municipality (the applicant) for the proposed construction of approximately 240 single detached residential dwellings on the Remainder of Portion 1 of the Farm 276, Alcedale, as well as the provision of associated services infrastructure, including a 500kL bulk water storage reservoir. An application to this effect has been submitted to the Provincial Department of Economic Development, Environmental Affairs and Tourism (Cape Province).

In terms of the NEMA EIA Regulations, 2010: GN R543, 544 & 546, published on the 18 June 2010 in Government Gazette 33305 in terms of the National Environmental Management Act (Act no 107 of 1998) as amended (NEMA), the need for a Basic Assessment is triggered by the inclusion of, among others, the following listed activity in GN R 544:

"23. The transformation of undeveloped, vacant or derelict land to-
(i) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares; -"

Other listed activities requiring environmental authorisation are GN R544 Activities: 9(i), 11(ii), 18(i), 23(ii) and GN R 546 Activities: 2 (a) ii (dd); 4 (a) ii (ee); 13 (a); 14 (a); 16 (iv) (a) ii (f).

Public Process Consultants has been appointed by the applicant as the independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment including Public Participation. Information on the project can be downloaded from

www.publicprocess.co.za. Interested and affected parties are to request in writing, within 30 days of this notification (by 30 July 2012), that their names be placed on the project database. Please provide your full name, full postal address, phone numbers, email address and state your area of interest and/or concern and submit to: Sandy Wren, Public Process Consultants, PO Box 27888, Greenacres, 6057, Phone (041) 374-8426, Fax (041) 373-2002, Email sandy@publicprocess.co.za

Newspaper advertisement placed in "The Herald" of 29 June 2012

APPENDIX G (ii): DATABASE OF I&APs

First Name	Last Name	Organisation	Capacity	Interest	Let 1: notice of BAR	Req to Reg	Comm Pre BAR	Focus Gropu Mtg	Let 2: Notice DBAR	Comm DBAR
Mlondolozu	Bavuma	Alicedale Farmers Association		Farmers Association				x	x	
Matthew	Beach	Bushman's Sands Golf Lodge and Estate	Director of Golf	Affected Landowner	x				x	
Marisa	Bloem	Dept of Water Affairs: PE	Water Use Authorisation Sector	Water Authority	x		x		x	
Moses	Cele	National Department of Public Works	Deputy Director: Disposals	Affected landowner: Re/1/276 Alicedale	x				x	
Gcinile	Dumse	Resource Auditor	Dept of Agriculture, Forestry & Fisheries: LUSM	Provincial Authority	x				x	
Lizna	Fourie	Dept of Water Affairs: East London	Permit Officer	Water Authority	x				x	
Mariagrazia	Galimberti	SA Heritage Resources Agency	CEO Archaeology, Palaeontology & Meteorite Unit	Heritage Authority	x		x		x	
Brendan	Hindes	Setplan		Project Manager	x				x	
Mongezi	Kaspile	Alicedale Farmers Association		Farmers Association			x	x	x	
Marius	Keyser	EC Dept. of Roads and Transport	District Roads Engineer	Provincial Authority	x		x		x	x
Ernest	Louw	Makana Local Municipality	Ward 14 Councillor		x			x	x	
Dali	Lukhozi	Eskom	Land and Rights	Servitude/Adjacent Landowner	x				x	
Rufus	Maloma	Provincial Dept of Agriculture	Soil Scientist	Provincial Authority	x				x	
Mcebisi	Matyumza	Alicedale Farmers Association		Farmers Association				x	x	
Stephans	Mbewu	Alicedale Farmers Association		Farmers Association				x	x	
Phindile	Ndzandzi	Crop Farmers		Farmers Association			x	x	x	
Christal	Nel	Ward Committee		Civil Society				x	x	
Nzimeni	Nesi	Alicedale Farmers Association		Farmers Association				x	x	
Vuyani	Nesi	Ward Committee		Civil Society				x	x	

Lusanda	Ngesi	Eskom	Environmental Officer	Servitude/Adjacent Landowner	x				x	
Ndumiso	Nongwe	Makana Local Municipality	Environmental Manager	Local Authority	x		x		x	
Vuyisile	Nonyati	Alicedale Farmers Association		Farmers Association				x	x	x
Sonette	Nortier	Eastern Cape Department of Roads & Public Works		Affected Landowner: Re/277 Alicedale & Erf 1363 Alicedale	x				x	
Mfundisi	Peni	Alicedale Farmers Association		Farmers Association				x	x	
Mandisi	Planga	Makana Local Municipality	Acting Municipal Manager	Owner Erf 1634, RE/1370, RE/1388	x				x	
Christian	Sias	Ward Committee		Civil Society				x	x	
TV	Smith	Eskom	Land Development Manager	Farmers Association			x		x	
Andries	Struwig	Dept of Economic Development, Environment Affairs and Tourism	Deputy Director	Decision Making Authority	x				x	
Renier	V/d Merwe	Makana Municipality	Deputy Director: Planning and Land Use	Applicant & Affected Landowner: Erf 1410, 1411 & 1370 Alicedale	x				x	

APPENDIX G (iii): CORRESPONDENCE SENT TO I&APs AND AUTHORITIES

Correspondence sent prior to DBAR Review Period

BAR Notification Letter to DEDEAT

PO Box 27688 Greenacres 6057
120 Diaz Road Adcockvale, PE 6001
Phone 041-3748426 Fax 041-3732002
Email sandy@publicprocess.co.za
www.publicprocess.co.za
CK 97/32984/23 VAT 44601 68273



25 June 2012

Attention: Mr Andries Struwig

Department of Economic Development and Environmental Affairs
Collegiate House, cnr Belmont Terrace & Castle Hill, Central, Port Elizabeth
Private Bag X 5001, Greenacres 6057
Fax: 041-585 1958

Dear Sir,

RE: NOTICE OF BASIC ASSESSMENT PROCESS & APPLICATION FOR AUTHORISATION: MAKANA HUMAN SETTLEMENT PROJECT, ALICEDALE, MAKANA MUNICIPALITY

In terms of the NEMA EIA Regulations, 2010: GN R543, 544 and 546 promulgated under Chapter 5 of the National Environmental Management Act (as amended), and published in Government Gazette 33306 on 18 June 2010, this serves as notification to the competent authority, in this case the Provincial Department of Economic Development, Environmental Affairs and Tourism, that a Basic Assessment is being conducted for the proposed construction of approximately 240 single detached residential dwellings, as well as the provision of associated services infrastructure, on the Remainder of Portion 1 of the Farm 276, Alicedale, Makana Municipality. Other properties which will be affected by the installation of stormwater infrastructure for this project are the Remainder of 277 and erf 1363. In addition, erf 1410, 1411 and 1370 will also be affected by the proposed development.

PROJECT APPLICANT

Makana Municipality

PROJECT NAME

Alicedale Human Settlement Project, Alicedale, Makana Municipality.

PROJECT LOCALITY

The property is located to the south of the Transriviere, Kwanonzwakazi and Mandela Park settlements in Alicedale in the Makana Municipal Area (see attached map). The site can be accessed via the Mandela Park settlement, the entrance to which is off the MR00476 between Alicedale and Grahamstown, approximately 50 kilometres to the west of Grahamstown. The attached locality map provides an overview of the location of the property under assessment.

BRIEF PROJECT DESCRIPTION

Subject to specialist and technical input, the proposed development will include the following project components:

- Approximately 240 single detached residential dwellings
- Internal roads
- Open Space
- Stormwater management infrastructure
- Bulk water storage reservoir (storage capacity of approximately 500kL)

- Provision of water, electricity and sanitation infrastructure (sewerage reticulation)

The project will require approximately 15 hectares of vegetation to be cleared prior to the installation of the infrastructure and construction of the development. Water is proposed to be provided to the development by means of a pipeline from an existing pump station to a reservoir proposed to be constructed south of the development. Water will be reticulated by means of a 160Ømm pipeline. A full waterborne sewerage system will be provided for the development and will tie into the existing sanitation infrastructure for Transriviere. Stormwater infrastructure will be provided for the development, with discharge proposed into two drainage lines (one to the northwest and one to the northeast of the site).

The final design and layout of the development and associated infrastructure will be informed by technical and environmental specialist input during the Basic Assessment process.

APPLICABLE LEGISLATION

The Basic Assessment is being undertaken in line with the NEMA EIA Regulations, 2010 (as Amended): GN R543, 544 and 546 promulgated under Chapter 5 of the National Environmental Management Act (as amended), and published in Government Gazette 33306 on 18 June 2010. The need for a Basic Assessment is triggered by the inclusion of activities listed in GN R 544, in particular:

23. *The transformation of undeveloped, vacant or derelict land to –*
 (ii) *residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares; -"*

Public Process Consultants has been appointed by the project managers, Setplan, on behalf of the Makana Municipality (the applicant); as the Environmental Assessment Practitioner to undertake the Basic Assessment including Public Participation. The purpose of this letter is to notify the competent authority and other relevant organs of state that have jurisdiction over any aspect of the proposed project, of the submission of an application for Environmental Authorisation in respect of the above project. The other organs of state to which notification is being sent are indicated below.

Please find attached with this correspondence the following documentation:

- Application Form for Environmental Authorisation
- Details of EAP and Declaration of Interest
- Locality Map

We trust that you will find the above in order. Please do not hesitate to contact Sandy or Paul at the contact details above should you have any comments or queries with regards to this submission.

Regards,



Sandy Wren
Environmental Assessment Project Leader

cc.

Dr Mariagrazia Galimberti, SA Heritage Resources Agency
 Ms Marisa Bloem, Department of Water Affairs
 Ms Lizna Fourie, Department of Water Affairs
 Mr Mandisi Planga, Makana Local Municipality
 Mr Marius Keyser, EC Dept. of Roads and Transport
 Mr Gcinile Dumse, Dept of Agriculture, Forestry & Fisheries: LUSM
 Mr Rufus Maloma, Provincial Dept of Agriculture

Appendix 1: Locality Map



Notification Letter to I&APs

PO Box 27688 Greenacres 6057
120 Diaz Road Adcockvale, PE 6001
Phone 041 374 8426 Fax 041 373 2002
Email sandy@publicprocess.co.za
www.publicprocess.co.za
Ck 97/32984/23 VAT 44601 68273



28 June 2012

«Title» «First_Name» «Last_Name»
«Organisation»
«Address_1»
«Address_2»
«Town»
«Code»

Dear «Title» «Last_Name»

RE: NOTICE OF BASIC ASSESSMENT PROCESS: MAKANA HUMAN SETTLEMENT PROJECT, ALICEDALE, MAKANA MUNICIPALITY.

In terms of the NEMA EIA Regulations, 2010: GN R543, 544, and 546 promulgated under Chapter 5 of the National Environmental Management Act (as amended), you have been identified as an interested and/or affected party (I&AP) for the above project. This serves as notification that a Basic Assessment process is being conducted on behalf of the Makana Municipality (the project applicant) for the proposed construction of approximately 240 single detached residential dwellings as well as the provision of associated services infrastructure in Alicedale on a portion of the Remainder of Portion 1 of the Farm 276. So as to provide water to the proposed housing development it is proposed that a water reservoir with a storage capacity of approximately 500kL also be constructed to the south of the development from where water will be reticulated into the development. The site under assessment is currently zoned Agriculture Zone 1 and will have to be rezoned to Residential Zone 1, Open Space Zone 1, Public Street and other appropriate zonings. Other properties that will be affected by the proposed development include erf 1410, 1411 and 1370 as well as the Remainder of Farm 277 and erf 1363. Stormwater infrastructure associated with the development will be constructed on the latter two properties, while the housing development and infrastructure may traverse the other erven.

The need for a Basic Assessment is triggered by the inclusion of, but not limited to, the following activity listed in GN R 544:

**23. The transformation of undeveloped, vacant or derelict land to –
(ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares;"**

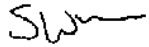
Other listed activities triggered by the project, and which require authorisation from the Department of Economic Development, Environmental Affairs and Tourism, are included in the attached Background Information Document.

Public Process Consultants has been appointed by the applicant as the independent Environmental Assessment Practitioners (EAP) to undertake the Basic Assessment including Public Participation for the project. In order to be placed on the project database and receive further information on the project, you are required to register your interest in writing. Kindly notify us of your request to register, and state your area of interest / concern in this matter, within **32 days** of this notification, by **30 July 2012**. Additional issues and concerns may be raised once the Draft Basic Assessment Report (BAR) is released for public review, anticipated to be in August 2012.

To assist you in the submission of issues and concerns we have included with this correspondence a Background Information Document, Locality Map and a Comment Form. Project information can be accessed through the website www.publicprocess.co.za

Should you have any queries or require additional information please contact Wandile Junundu, Sandy Wren, or Marisa Jacoby using the contact details provided above.

Yours sincerely

A handwritten signature in black ink, appearing to be 'SW' followed by a flourish.

SANDY WREN

Comment Form

PUBLIC INVOLVEMENT PROCESS REPLY FORM **BASIC ASSESSMENT REGISTRATION AND COMMENT FORM**

Makana Human Settlement Project, Alicedale, Makana Municipality

Applicant: Makana Municipality

Listed Activity: GN R544 Activity 23 (ii).

Return Completed Reply Form by **30 July 2012**, to:

Public Process Consultants, PO Box 27688, Greenacres 6057
Phone: 041 – 374 8426 or Fax 041-373 2002 or Email sandy@publicprocess.co.za

Please Complete all Relevant Sections Below

Please provide your full contact details:

FIRST NAME:	SURNAME:
ORGANISATION:	POSITION:
POSTAL ADDRESS:	
CODE:	
PHONE:	FAX:
CELL:	EMAIL:

Would you like to register as an interested and affected party? (please tick the appropriate box)

NOTE: You are required to register as an I&AP in order to receive further correspondence regarding the Basic Assessment.

YES

NO

Please clearly list your issues, concerns, views and/or questions you may have regarding the project (use additional pages if required)

Background Information Document

BASIC ASSESSMENT: MAKANA HUMAN SETTLEMENT PROJECT, ALICEDALE, MAKANA MUNICIPALITY.

BACKGROUND INFORMATION DOCUMENT, JUNE 2012



INTRODUCTION

The Makana Municipality (the Applicant) is proposing the construction of approximately 240 single detached residential dwellings, as well as the provision of associated services infrastructure, on approximately 12 hectares of the Remainder of Portion 1 of the Farm 276, Alicedale. It is anticipated that the development will provide formal housing for approximately 1200 individuals from the local area. In order to provide water to the proposed housing development it is proposed that a water reservoir with a storage capacity of approximately 500kL is constructed to the south of the proposed development footprint, from where water will be reticulated into the residential area. The site under assessment is currently zoned Agriculture Zone 1 and will have to be rezoned to Residential Zone 1, Open Space Zone 1, Public Street, and other appropriate zonings. Other properties that will be affected by the proposed development include erf 1410, 1411 and 1370 as well as the Remainder of Farm 277 and erf 1363. Stormwater infrastructure associated with the development will be constructed on the latter two properties, while the housing development and infrastructure may traverse the other erven.

In terms of the NEMA EIA Regulations, 2010, GN R543, 544 and 546; promulgated under Chapter 5 of the National Environmental Management Act (Act 107 of 1998) ("NEMA"), and published in Government Gazette 33306 on 18 June 2010; a Basic Assessment is required for this project. The applicant, through their consultants, Setplan, has appointed Public Process Consultants as the independent Environmental Assessment Practitioner to undertake the Basic Assessment and Public Participation for this project.

PROJECT LOCALITY

The properties that will be affected by the development are located to the south of the Transriviere, Kwanonzwakazi and Mandela Park settlements in Alicedale in the Makana Municipal Area (see attached map). The site can be accessed via Mandela Park settlement, the entrance to which is off the MR00476 between Alicedale and Grahamstown, approximately 50 kilometres to the west of Grahamstown. The attached locality map provides an overview of the location of the site under assessment.

HOW CAN I PARTICIPATE IN THIS PROCESS?

In terms of regulation 55 (1) (b) of Government Notice R 543 interested and affected parties are to request in writing that their names be placed on the register of interested and affected parties (I&APs). In order to register on the database complete the comment and registration form attached to this correspondence or submit your contact details (via fax or email), stating your full name, address and contact numbers to the consultant indicated in this documentation.

WHAT DOES THIS DOCUMENT TELL YOU

This document provides you, as an interested and or affected party (I&AP) with background information on the proposed project, the Basic Assessment as well as Public Participation process. It indicates how you can become involved in the project, receive information and raise issues that may interest and/or concern you. The sharing of information forms an important component of the public participation process and provides you with the opportunity to become actively involved in the environmental assessment process from the outset. The input received from I&APs together with scientific and technical investigations assists the responsible authority, in this instance the Provincial Department of Economic Development, Environmental Affairs and Tourism (DEDEAT), Cacadu Region, with their decision-making.

WHAT DOES THE PROJECT ENTAIL

The proposed development will include the following project components:

- Approximately 240 single detached residential dwellings
- Internal roads
- Open Space
- Stormwater management infrastructure
- Bulk water storage reservoir (storage capacity of approximately 500kL)
- Provision of water, electricity and sanitation infrastructure (sewerage reticulation)

The project will require approximately 15 hectares of vegetation be cleared prior to the installation of the infrastructure and construction of the development. Water will be provided to the development by means of a pipeline from the water pumping station to the reservoir that is to be constructed to the south of the development. Water will be reticulated into the development by means of a 1600mm pipeline. A full waterborne sewerage system will be provided for the development and will tie into the existing sanitation infrastructure for Transriviere. Stormwater infrastructure will be provided for the development, with stormwater discharge proposed to be into two drainage lines (one to the northwest and the other to the northeast of the site) that currently drain the site.

The final design and layout of the development and associated infrastructure will be informed by technical and environmental specialist input during the Basic Assessment process.

OVERVIEW OF THE ENVIRONMENTAL BASIC ASSESSMENT (BAR) PROCESS

In terms of Regulations 543, 544 and 546 promulgated under Chapter 5 of the NEMA in Government Gazette 33306 on 18 June 2010, the project requires Basic Assessment because it includes, amongst others, the following activity listed in GN R 544:

*23. The transformation of undeveloped, vacant or derelict land to –
(ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area
and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares; -"*

This listed activity requires authorisation from the DEDEAT. Other listed activities requiring environmental authorisation are GN R544 Activities: 9(i), 11(xi), 18(i), 23 (ii) and GN R 546 Activities: 2 (a) iii (dd), 4 (a) ii (ee), 13 (a), 14 (a) i, 16 (iv) (a) ii (ff).

The environmental assessment needs to show the responsible authority, DEDEAT, and the project proponent what the consequences of their choices will be in biophysical, social and economic terms. The steps in the Environmental Assessment Process are outlined below.

The Basic Assessment Process including Public Participation can be summarised into the following stages:

Step 1: Notification to Authorities and I&APs

The first stage in the process entails notification to the DEDEAT as well as interested and affected parties (I&APs) of the intention to proceed with the BAR. I&APs are required to register their interest on the project database and raise issues of concern.

Step 2: Draft Basic Assessment (BAR) for Public Comment

The Basic Assessment is undertaken in order to identify and assess potential environmental impacts, both positive and negative, that may be associated with the project activity. This includes mitigatory measures to reduce potential negative impacts and maximise positive benefits as well as the consideration of alternatives. The Basic Assessment will include an overview of the affected environment on which the activity is to take place. Specialist information for inclusion in the Draft Basic Assessment Report has been identified as follows:

- Biophysical Site Assessment (to include vegetation and ecology)
- Socio-Economic Assessment
- Heritage Assessment
- Visual Assessment
- Engineering Services Report

The Draft Basic Assessment, together with comments received from I&APs will be made available for a 30 day review period. Reasonable and feasible alternatives identified to date and to be included in the draft BAR are:

- No-go: to leave the land as is and not commence with the activity
- Go: the project alternative as proposed, including alternative layouts considered on site.
- Reasonable and feasible alternatives as raised by I&APs

All I&APs on the project database will be notified in writing of the 30 day comment period for the Draft Basic Assessment, copies of the Draft Report and project information can be downloaded from the following project website www.publicprocess.co.za. It is not proposed that public meetings are held during this period but telephonic consultations and one on one meetings with key I&APs will take place where required.

Step 3: Submit Final Basic Assessment Report and Application

The comments received from I&APs will be included in the Final BAR before it is submitted to the DEDEAT for their decision making.

Step 4: Notification of Environmental Authorisation and Appeals Period

The final step in the process entails providing written notification to all I&APs on the project database of the decision made by DEDEAT regarding the application and appeal period, including the manner of appeal. Project construction may only commence once approval has been received from the DEDEAT.

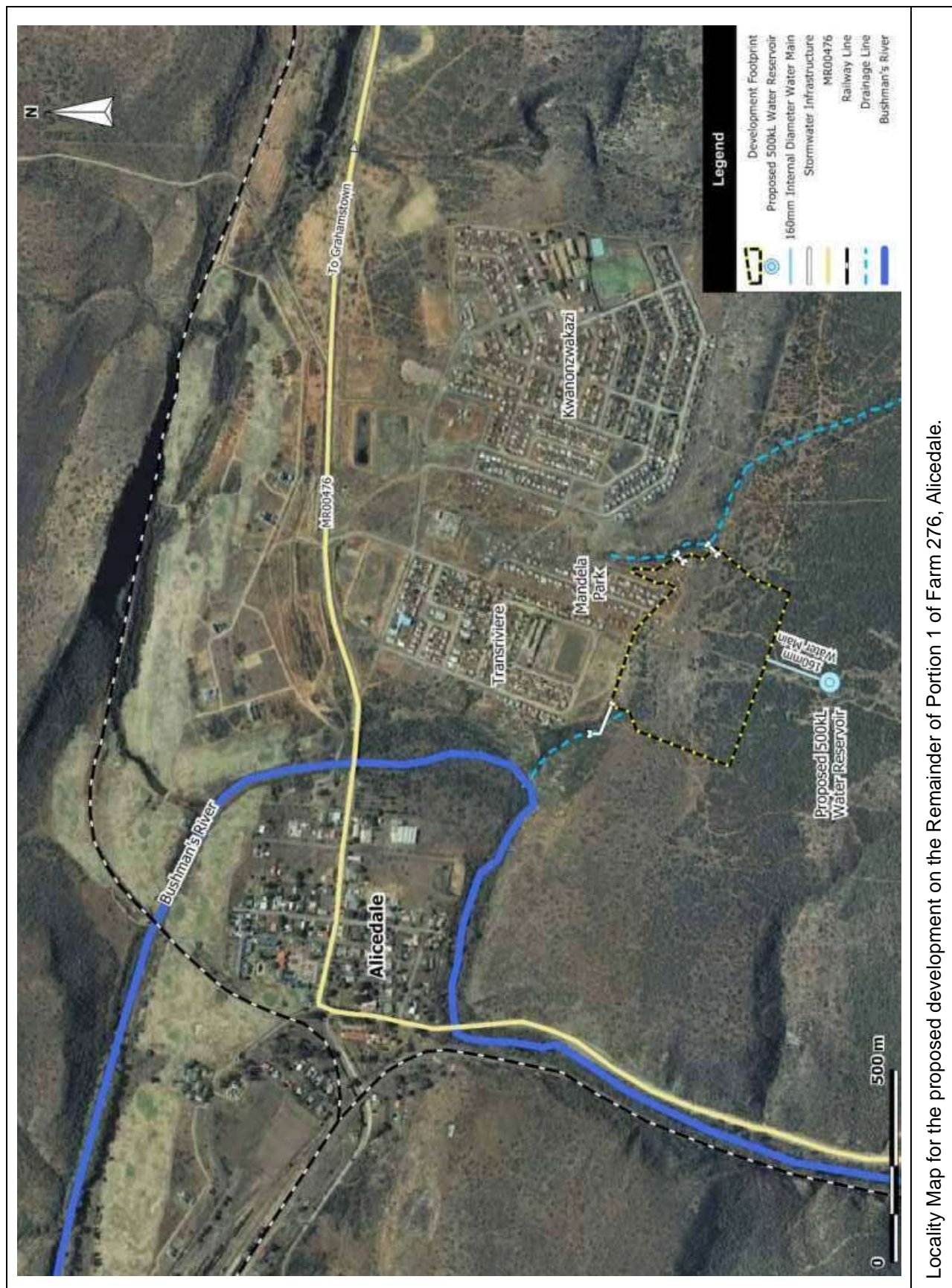
WHAT IS YOUR ROLE AS AN I&AP?

1. I&APs are required to respond to the letters of notification and/or newspaper advertisements and register their interest on the project database
 - By emailing, faxing or mailing a comment form to the participation consultant indicated below.
 - By registering your interest in the project you will be kept informed of the process and notified of any opportunities to comment
2. I&APs are required to state their area of interest and/or concern in the matter
 - By emailing, faxing or mailing a comment form to the public participation consultant indicated below.
3. By telephonically contacting the public participation consultant if you have a query, comment, or require further project information.
4. By reviewing the Draft BAR and submitting any comments within the 30-day comment period.

WHO SHOULD YOU CONTACT?

Sandy Wren, Public Process Consultants, PO Box 27688, Greenacres, 6057, Phone 041-374 8426 Fax 041-373 2002 Email sandy@publicprocess.co.za

Information on the project can be downloaded from the following website: www.publicprocess.co.za



Locality Map for the proposed development on the Remainder of Portion 1 of Farm 276, Alicedale.

Correspondence sent to I&APs for the Review of the Draft DBAR

CORRESPONDENCE SENT TO I&APs

Comment Form

PUBLIC INVOLVEMENT PROCESS REPLY FORM

DRAFT BASIC ASSESSMENT REPORT COMMENT FORM

Makana Human Settlement Project, Alicedale, Makana Municipality

Applicant: Makana Municipality

Listed Activity: GN R544 Activity 23 (ii).

Return Completed Reply Form by **13 November 2012**, to:

Public Process Consultants, PO Box 27688, Greenacres 6057
Phone: 041 – 374 8426 or Fax 041-373 2002 or Email sandy@publicprocess.co.za

Please Complete all Relevant Sections Below

Please provide your full contact details:

FIRST NAME:	SURNAME:
ORGANISATION:	POSITION:
POSTAL ADDRESS:	
CODE:	
PHONE:	FAX:
CELL:	EMAIL:

Please clearly state any interest that you may have in this matter.

Please clearly outline comments you may have in response to the Draft Basic Assessment Report (use additional pages if required).

Notification to I&APs of Draft BAR Review Period

PO Box 27688 Greenacres 6057
120 Diaz Road Adcockvale, PE 6001
Phone 041 374 8426 Fax 041 373 2002
Email sandy@publicprocess.co.za
www.publicprocess.co.za
Ck 97/32984/23 VAT 44601 68273



15 October 2012

«Title» «First_Name» «Last_Name»
«Organisation»
«Address_1»
«Address_2»
«Town»
«Code»

Dear «Title» «Last_Name»

RE: NOTIFICATION OF DRAFT BASIC ASSESSMENT REPORT COMMENT PERIOD: MAKANA HUMAN SETTLEMENT PROJECT, ALICEDALE, MAKANA MUNICIPALITY.

As a registered interested and affected party on the database for the above project you are hereby notified of the **30 day** review period for the Draft Basic Assessment Report for the proposed construction of approximately 338 single detached residential dwellings as well as the provision of associated services infrastructure on a portion of the Remainder of Portion 1 of the Farm 276, Alicedale, Makana Local Municipality.

Comments on the Draft Basic Assessment Report should be submitted to Public Process Consultants (contact details above) by no later than **13 November 2012**.

In order to assist you in making your comments please find attached an Executive Summary of the Draft Basic Assessment Report as well as a comment form.

A hard copy of the report is available for viewing at the **Alicedale Public Library**. Alternatively, the full report may be downloaded from the following project website www.publicprocess.co.za

The next stage in the Basic Assessment Process entails considering the comments received in the finalising of the Basic Assessment Report for submission to the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) for their decision making. You will be notified in writing of the submission of the Final Report and any additional comment period.

Should you have any queries or require additional information please contact Wandile Junundu, Sandy Wren, or Marisa Jacoby using the contact details provided above.

Yours sincerely


SANDY WREN

Executive Summary of the Draft BAR sent to I&APs with Letter 2

EXECUTIVE SUMMARY

Introduction

The Makana Municipality (the Applicant) is proposing the construction of approximately 338 single detached residential dwellings (The standard house approved by Makana Municipality for subsidy housing provision), a church (religious) site, as well as the provision of associated bulk services infrastructure, on approximately 15.92 hectares of the Remainder of Portion 1 of the Farm 276, Alicedale. It is anticipated that the development will provide formal housing for approximately 1900 individuals from the local area.

In order to provide water to the proposed housing development it is proposed that a water reservoir with a storage capacity of approximately 750kL is constructed to the south of the proposed development footprint, from where water will be reticulated into the residential area. Sewage from the development will be gravity fed via a new 160 mm underground sewer main to the existing sewage pump station located immediately to the north of Transriviere township, from where it will be pumped through an existing 160mm sewer main to the town's sewage treatment works located to the east of the Kwanonzwakazi township.

The site under assessment is currently zoned Agriculture Zone 1 and will have to be rezoned to Residential, Open Space, Community and Transport. Other properties affected by the proposed development include:

- Erf 1410, 1411 and 1370 (existing residential dwellings), and
- the Remainder of Farm 277 and erf 1363 for stormwater infrastructure

In terms of NEMA EIA Regulations, 2010 GN R 543, 544 and 546 promulgated under Chapter 5 of the NEMA in Government Gazette 33306 on 18 June 2010 (as amended), the project requires Basic Assessment because it includes, amongst others, the following listed activity in GN R 544:

*“23. The transformation of undeveloped, vacant or derelict land to –
(ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares;”*

The applicant has appointed Public Process Consultants as independent Environmental Assessment Practitioners to undertake the Basic Assessment and public participation for this project.

Project Detail

The project entails the provision of approximately 338 residential erven, the standard house approved by Makana Municipality for subsidy, 1 religious site and associated bulk infrastructure (stormwater, roads, electricity, sewer reticulation and water).

Residential Dwellings

It is proposed that approximately 338 single detached residential dwellings will be constructed on the proposed site; providing housing for approximately 1900 individuals from the local communities of Transriviere and Kwanonzwakazi. The proposed average erf size is approximately 322.2 m². A design drawing for a standard house built in the Makana Municipal area as part of human settlement projects has been included in Appendix C of the Draft Basic Assessment Report (DBAR).

Religious Site

One religious site of approximately 1000m², is provided in the north eastern corner of the development footprint.

Open Space

A portion of the site includes and Eskom powerline servitude, which will be retained as Public Open Space.

Service Infrastructure

Information regarding the provision of services to the proposed development has been obtained from the Civil Services Feasibility Report prepared by MBB Consulting Services (EC) Inc. All the preliminary design drawings for the proposed services for the development have been included in the Civil Services Feasibility Report. A copy of the full report is included in Appendix G(x) of the DBAR.

Proposed Access and Internal Roads

Access to the new housing scheme will be an extension of the existing bitumen surfaced 5m wide road linking the Mandela Park and Transriviere townships to the R346 (MR0476) road. The existing road will be adequate to service the expected vehicular traffic to the new housing scheme. The preferred width of the internal roads is 4.5m wide. These roads will be bitumen surfaced on designed and constructed layerworks.

Stormwater

The stormwater emanating from the scheme will collect in stormwater channels constructed along the roads and will be piped and discharged at four separate points, into watercourses northwest and northeast of the site, which eventuate into the Bushmans River. The discharge pipes will be 450mm in diameter, with associated headwalls, two of which are proposed northeast of the site and two to the northwest of the site.

Should the installation of the stormwater discharge outfalls and their headwalls fall within the 1:100 year floodline of the watercourses northeast and northwest of the site, this component of the project will require a water use authorisation in terms of Section 21 of the National Water Act from the Department of Water Affairs.

Water

The source of raw water supply to Alicedale is the New Years Dam built on the New Yearsday River. The raw water is gravity fed from the dam to the water treatment plant located to the west of the town where it is treated and pumped to various storage reservoirs located at various sites within the town from where it is then reticulated to the different supply zones.

The average annual daily water demand for the new 338 houses is anticipated to be 205 m³ per day of water. The Department of Water Affairs has confirmed that the raw water source is adequate to meet the water demand required by the new housing project. Written confirmation is included as Annexure A of the *Civil Services Feasibility Report*.

The Makana Municipality has confirmed that the existing water treatment plant with a design capacity of 2Ml/day and has a current throughput of 1Ml/day has enough capacity to meet the water demand expected to be generated by the new housing scheme without any upgrading required to the existing water treatment plant.

Due to the elevation of the new housing site in relation to the existing water storage reservoirs it will be necessary to construct a new water storage reservoir at an elevation that is high enough to gravity feed the new housing site. Water will be pumped from the existing pumping station on the banks of the Bushman's River adjacent to the road MR0476 to a new reservoir south of the site. A site for the new reservoir was identified in 2008 but is located on state land that needs to be transferred to the Makana Municipality prior to the construction of the reservoir. The capacity of the reservoir will be 750Kl to allow for current water demand, growth in water demand as well as for fire fighting. The cost of the new reservoir, pumping plant and pumping mains is estimated at R1.2m. This proposed upgrade is not yet on the Municipality's IDP.

Sanitation

The average dry weather sewage expected to be generated by the new housing scheme is estimated at 205 m³ per day (or 2.4 litres per second). The sewage from the new housing site will collect from the erven into a new underground 160mm diameter sewer main and will be gravity fed to the existing sewage

pump station located immediately to the north of Transriviere township where from it will be pumped through an existing 160mm diameter sewage pumping main to the town's sewage treatment works located to the east of the Kwanonzwakazi township.

The ponding system currently used to treat the sewage is presently being upgraded to an extended aeration system. The upgraded works were designed and built to accommodate the sewage from the new housing scheme, Refer to Worley Parsons Technical Report, Annexure B of the Civil Services Feasibility Report. It is expected that the upgrading of the sewage treatment works will be completed and commissioned by the end of August 2012. The costs associated with the installation of the sanitation for the site is estimated to be approximately R700 000.

Electricity

The electricity demand for the new housing scheme is estimated at 600kVA. Eskom, who currently supply electricity to Alicedale, were approached for information regarding the adequacy of the existing electricity network to meet the electricity demand generated by the new housing scheme and have confirmed that there is enough electricity to supply the new 338 houses. Refer to **Annexure C** of the Civil Feasibility Report. As noted by Eskom, there is a 9m building and tree restriction on either side on the centre line of the 22kV powerline. The project layout has taken this restriction into account. The costs associated with the installation of the electrical infrastructure for the project is estimated to be approximately R1.5 million.

Solid Waste Disposal

The domestic solid waste generated from the new housing scheme is estimated at 7m³ per day. Currently the domestic solid waste from Alicedale is collected by the Makana Municipality for disposal at the solid waste facility located at an old disused quarry situated about 1km to the west of Alicedale. The waste disposal site is licensed as a Class G:C:B and has an estimated remaining operational lifespan of 30 years. The domestic waste generated by the new housing scheme can therefore be accommodated at the existing waste disposal facility.

Basic Assessment Process

In terms of Regulations 543, 544 and 546 promulgated under Chapter 5 of the NEMA in Government Gazette 33306 on 18 June 2010, the project requires Basic Assessment because it includes, amongst others, the following listed activity in GN R 544:

23. The transformation of undeveloped, vacant or derelict land to –

(ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares; -"

The applicant has appointed Public Process Consultants as independent Environmental Assessment Practitioners to undertake the Basic Assessment and public participation for this project.

The listed activities requires authorisation from the Department of Economic Development Environmental Affairs and Tourism (DEDEAT). The Basic Assessment needs to show the responsible authority, DEDEAT, and the project proponent, Makana Municipality, what the consequences of their choices will be in biophysical, social and economic terms. Public involvement forms an important component of this process, by assisting in the identification of issues and alternatives to be evaluated

Public Participation forms an important component of the Environmental Assessment Process and together with specialist input assists the decision making authority, in this instance the Provincial Department of Economic Development, Environmental Affairs and Tourism (DEDEAT), with their decision making. The Basic Assessment is currently at the stage where interested and affected parties are being provided with a 30 day comment period within which to provide their input on the Draft Basic Assessment Report. Comments should reach the consultant indicated below by no later than **13 November 2012**.

Specialist Studies

The specialist studies conducted as part of the Basic Assessment process include:

- Biophysical Site Assessment
- A Civil Services Feasibility Report
- Socio –economic Impact Assessment

- Phase 1 Archaeological Assessment

The results and recommendations of these studies are included in the Draft Basic Assessment Report.

Environmental Impact Statement

The initial proposed layout contained 229 Residential erven arranged as shown in layout 1 below. Subsequent to the initiation of the Basic Assessment Process the Makana Municipality requested that the scope of the assessment be expanded, in order to maximise the project and the available space to meet the housing demand needs of the Alicedale community. An additional 99 residential units were required. The preferred alternative and the No Go alternative were assessed in full. The impacts associated with these alternatives are summarised below:

Construction Phase

- The Destruction of indigenous vegetation and plant species of special concern is viewed as a high negative impact and with mitigation can be reduced to **low negative**.
- The destruction and removal of exotic plants is viewed as a **high positive** impact with mitigation.
- Construction phase activities associated with dust generation, soil erosion and noise can be reduced from a medium negative impact to a **low and very low negative** impact by applying the mitigatory measures proposed.
- Disturbance and injury to fauna during construction can be mitigated from a medium negative impact to a **low negative impact**.
- The generation of waste during construction is assessed a low negative impact and by applying the mitigatory measures proposed can be reduced to a **very low negative** impact
- Pollution of surface and groundwater due to chemical, oil and fuel spills can by applying the mitigatory measures proposed can be reduced to a **very low negative** impact
- Construction phase impacts on undiscovered archaeological material or artefacts on site is rated as a low negative impact and can be reduced to a **neutral to very low negative** impact.
- Fossilised material may be uncovered during excavations for the proposed development; this is rated as a low negative impact and can be reduced to a **neutral to very low negative** impact.
- A number of temporary employment and skills development opportunities will be created during construction, this is viewed a **high positive impact**.
- The construction phase may result in an influx of jobseekers from outside the Alicedale area, which is a high negative impact but by applying the mitigatory measures proposed can be reduced to a **medium positive impact**.
- The construction phase may result in increased opportunities for local businesses, which is a medium positive impact but by applying the mitigatory measures proposed can be improved to a **high positive impact**.
- The development will result in the loss of grazing area for livestock from the local community, which can be mitigated to a **neutral or very low negative** impact.
- Construction activities may result in the damage to Eskom Structures and Services, but with mitigation this can be mitigated to a **neutral or very low negative** impact.
- The potential temporary relocation of occupants on the site during the construction phase is rated as a **very low negative** impact with mitigation.

Operational Phase

- The operational phase of the development will result in improved access to housing and community infrastructure and this is rated as a **very high positive** impact.
- Increased stormwater runoff from the site due to increased sealed surfaces is rated as a medium negative impact and with mitigation can be reduced to a **low negative** impact.
- The operation phase may result in alien plant invasion of undeveloped portions of the site which is rated as a medium negative impact and can be mitigated to a **low negative** impact.

No-go alternative

- Impacts of the No Go option include the non-realisation of a number of construction and operational phase employment opportunities. This is considered a **High negative** impact to which no mitigation will apply.
- Should the project not proceed there will not be an improvement in the housing provision in the area, which is seen as a **High negative** impact.
- Should the project not proceed there will be no increased demand on services infrastructure which is viewed as a **medium positive** impact with no mitigation proposed.

CORRESPONDENCE SENT TO MARIUS KEYSER, DISTRICT ROADS ENGINEER



P O Box 509, Grahamstown, 6140
Tel: +27 (0)46 622 7223, Fax: +27 (0)46 622 9761
Email to Fax: +27 (0) 86 570 7844
E-mail: mbbgst@imaginet.co.za
51 Hill Street, Grahamstown, 6139
Website: www.mbb.co.za

Civil, Agricultural, Structural, Environmental, Project Management

Consulting Services (EC) Inc.

t/a MBB Consulting Engineers (EC)

Our Ref: G2043/2012/11/26/lm

26 November 2012

Department Of Roads and Transport
P.O. Box 11100
Algoa Park
6005

Attention: Mr M Keyser

Dear Sir,

ALICEDALE HOUSING: PROVINCIAL ROADS

I refer to your email addressed to Public Process Consultants (Sandy Wren). A copy of which is attached for ease of reference.

Setplan have been appointed by the Makana Municipality to establish a human settlement in Alicedale, to the south of Transriviere and Kwanonzwakazi. Kindly refer to the attached plans. The settlement will utilize the existing access onto Main Road 476.

Given the extent of the proposed development and the low anticipated vehicular ownership we are of the opinion that no upgrading of the current intersection with the MR476 will be required.

Could you please provide your comment on the proposed township establishment?

Yours faithfully,

Yours faithfully,

MBB CONSULTING SERVICES (EC) Inc.

L Mafuma



Directors

P J Ellis, P K Nosi, M Zartmann, D. R Schnetler
L Mafuma - Shareholder

Registered Firm: MBB Consulting Services (Eastern Cape) Inc. Reg. No. 1996/016249/21

MBB SERVICES INTERNATIONAL (PTY) LTD
Incorporating • ACER (Africa) • MBB Consulting Services (South) • MBB Consulting Services (PMB) •
MBB Consulting Services (Nelspruit)

Member of Consulting Engineers South Africa



Legend

- Road Class**
- Main
 - District
 - 10m Contours
 - Sewer
 - Water
- Electrical Servitude**
- Alicedale Housing Layout
 - Alicedale Cemetery
 - Remove_Erven_poly

Notes



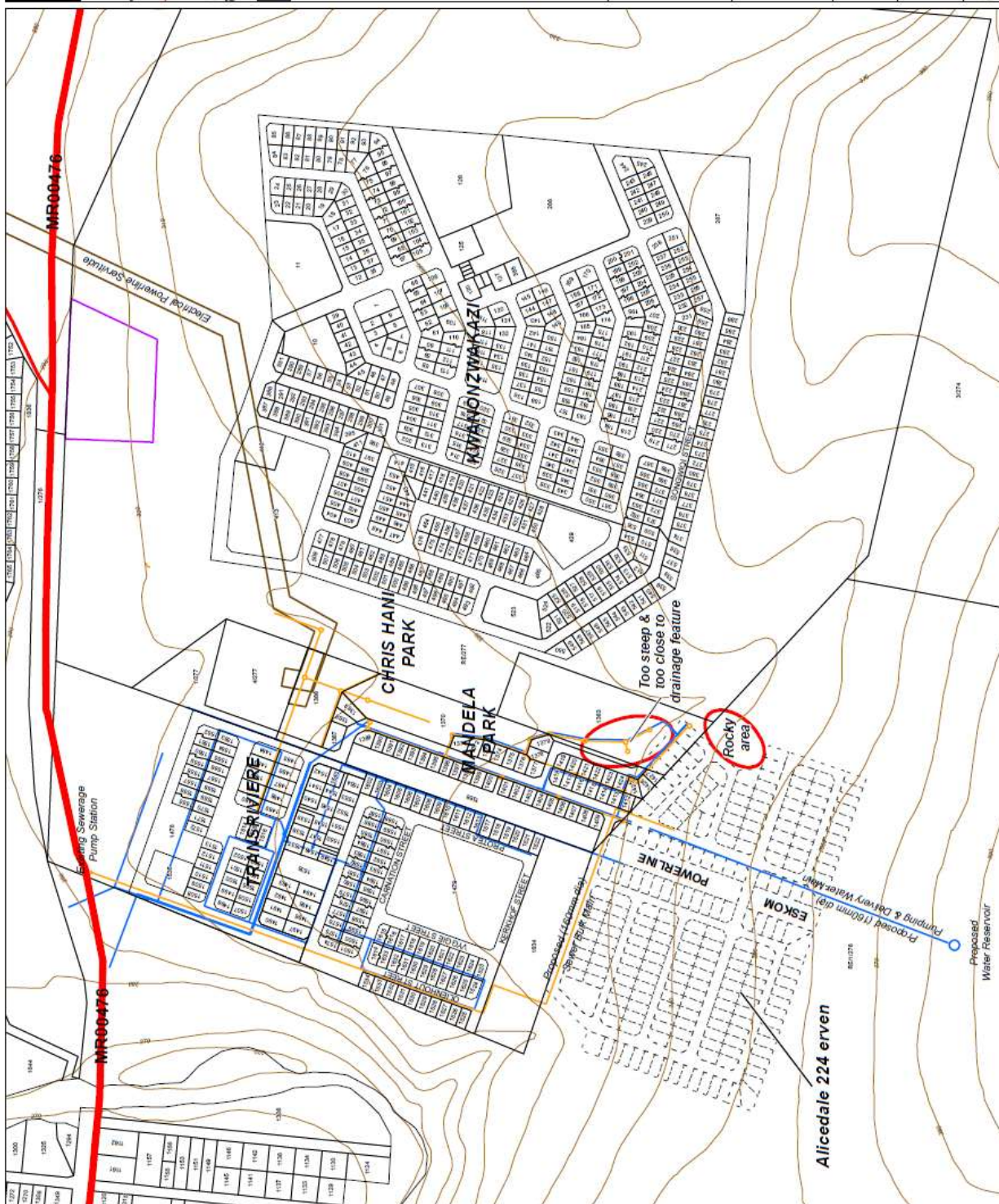
Port Elizabeth
40 Bird Street
041 5851788

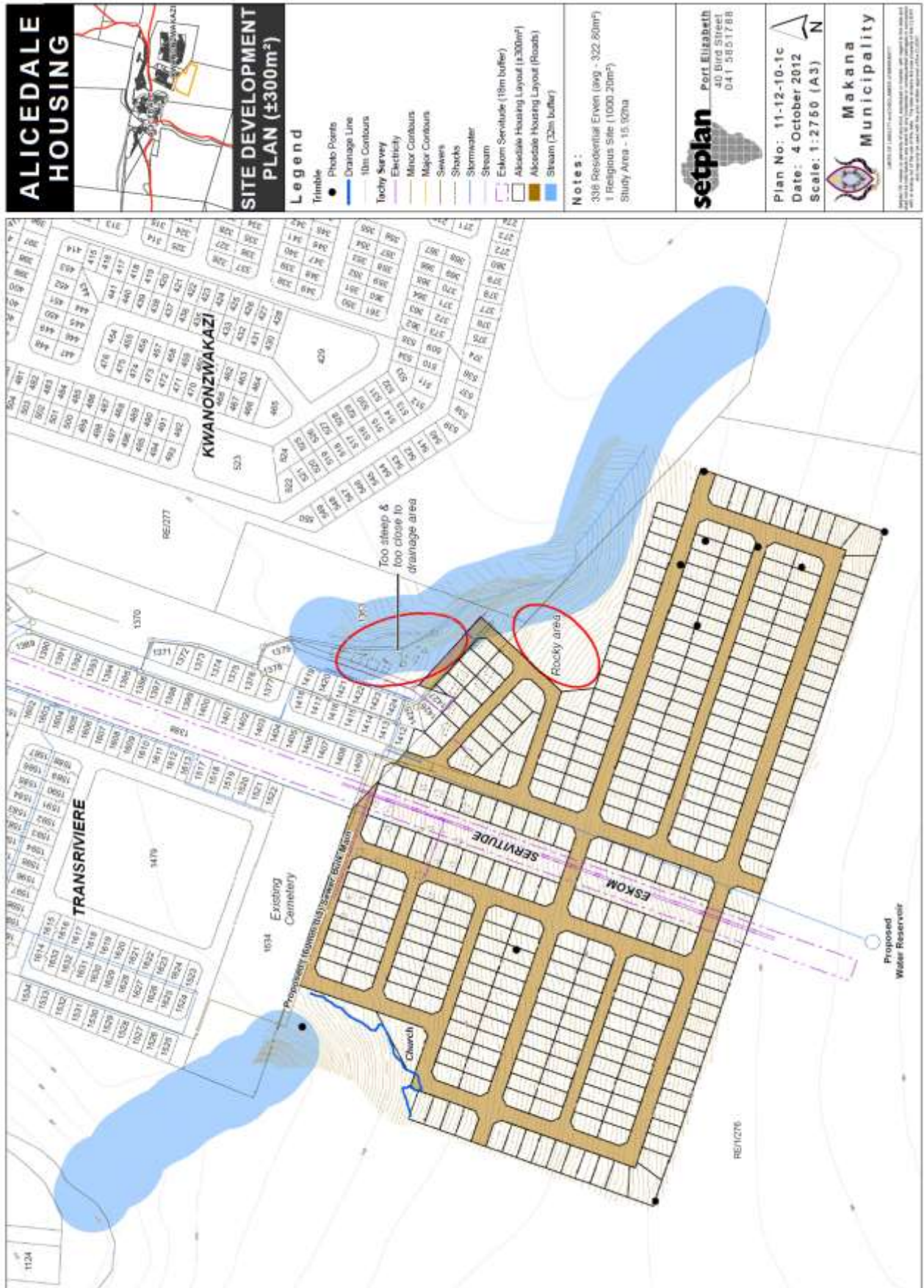
Plan No: 11-12-5b
Date: 30 July 2012
Scale: 1:6000 (A4)



Makana Municipality

THESE RESULTS ARE BASED ON THE ASSUMPTION THAT THE DATA ARE FROM A RANDOM SAMPLE OF THE POPULATION. IF THERE IS A SYSTEMATIC BIAS IN THE DATA, THE RESULTS MAY BE DIFFERENT.





APPENDIX G (iv): CORRESPONDENCE FROM I&APs AND AUTHORITIES
Correspondence received prior to the Review of the Draft BAR

CORRESPONDENCE FROM DEDEAT



Province of the
EASTERN CAPE
ECONOMIC DEVELOPMENT, ENVIRONMENTAL
AFFAIRS AND TOURISM
CACADU REGION

P/Bag X5001 Greenacres,
Port Elizabeth, South Africa, 6057
Phone: +27 (041) 508 5800
Fax: +27 (041) 508 5865
Web: www.dedea.gov.za
E-mail: Nicole.Gerber@deae.ecape.gov.za

Public Process Consultants
P.O. Box 27688
Greenacres
Port Elizabeth
6057
Fax: 041 373 2002

Reference: EC04/LN1&3/M/12-38
Enquiries: N. Gerber

Attention: Ms Sandy Wren

ACKNOWLEDGEMENT OF RECEIPT – APPLICATION FOR AUTHORISATION IN TERMS OF SECTION 24 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, ACT 107 OF 1998 TO UNDERTAKE A LISTED ACTIVITY AS SCHEDULED IN THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS, 2010: PROPOSED MAKANA HUMAN SETTLEMENT PROJECT, ALICEDALE, WITHIN THE MAKANA MUNICIPAL AREA.

Receipt of the application by Public Process Consultants on behalf of the Makana Municipality, dated 22 June 2012 and received on 25 June 2012 to undertake a listed activity as scheduled in Government Notice R. 544, R. 546 of 18 June 2010 is hereby acknowledged.

The reference number assigned to your application is EC04/LN1&3/M/12-38. Please quote the reference number provided in the event of any correspondence/queries in this regard.

The applicant's attention must be drawn to the fact that the activity may not commence prior to an environmental authorisation being granted by DEDEAT.

NICOLE GERBER
ENVIRONMENTAL OFFICER: EIM
CACADU REGION

DATE: 18/07/2012



CORRESPONDENCE FROM I&APs

29/06 2012 12:07 0414581666

Canon

Department o #5576 P.001/001

PUBLIC INVOLVEMENT PROCESS REPLY FORM**BASIC ASSESSMENT REGISTRATION AND COMMENT FORM****Makana Human Settlement Project, Alicedale, Makana Municipality****Applicant: Makana Municipality****Listed Activity:** GN R544 Activity 23 (ii).**Return Completed Reply Form by 30 July 2012 to**Public Process Consultants, PO Box 27688, Greenacres 6057
Phone: 041 - 374 8426 or Fax 041-373 2002 or Email sandy@publicprocess.co.za**Please Complete all Relevant Sections Below****Please provide your full contact details:**

FIRST NAME: <u>Marius</u>	SURNAME: <u>Keyser</u>
ORGANISATION: <u>Dept Roads & Public Works</u>	POSITION: <u>District Roads Engineer</u>
POSTAL ADDRESS: <u>PO Box 11100 Alga Park</u>	
CODE: <u>6005</u>	
PHONE: <u>041 403 6041</u>	FAX: <u>041 456 1666</u>
CELL: <u>0836661598</u>	EMAIL: <u>marinus.keyser@dpu.ecape.gov.za</u>

Would you like to register as an interested and affected party? (please tick the appropriate box)**NOTE:** You are required to register as an I&AP in order to receive further correspondence regarding the Basic Assessment.

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

Please clearly list your issues, concerns, views and/or questions you may have regarding the project (use additional pages if required)

Access to the proposed development
from Provincial Roads.



PUBLIC INVOLVEMENT PROCESS REPLY FORM
BASIC ASSESSMENT REGISTRATION AND COMMENT FORM

Makana Human Settlement Project, Alicedale, Makana Municipality

Applicant: Makana Municipality

Listed Activity: GN R544 Activity 23 (ii).

Return Completed Reply Form by **30 July 2012**, to:

Public Process Consultants, PO Box 27688, Greenacres 6057
 Phone: 041 - 374 8426 or Fax 041-373 2002 or Email sandy@publicprocess.co.za

Please Complete all Relevant Sections Below

Please provide your full contact details:

FIRST NAME: <u>NDUMISO</u>	SURNAME: <u>NONGWE</u>
ORGANISATION: <u>MAKANA MUNICIPALITY</u>	POSITION: <u>ENVIRONMENTAL MANAGER</u>
POSTAL ADDRESS: <u>P.O. BOX 176 GRAHAMSTOWN</u>	
CODE: <u>6140</u>	
PHONE: <u>046-6036086</u>	FAX: <u>046-6362871</u>
CELL:	EMAIL: <u>NdumisoNongwe@makana.gov.za</u>

Would you like to register as an interested and affected party? (please tick the appropriate box)

NOTE You are required to register as an I&AP in order to receive further correspondence regarding the Basic Assessment.

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

Please clearly list your issues, concerns, views and/or questions you may have regarding the project (use additional pages if required)

I would like to visit the site from an environmental point of view, we encourage consideration of natural features occurring in a site and not a wholesale vegetation removal or artificial alterations of these features.

PO Box 27688
GREENACRES
6057

Date:
16 July 2012

Enquiries:
Tel +27 43 703 2586
Ms. N Makonza

Dear Sir/ Madam

**NOTICE OF BASIC ASSESSMENT PROCESS: MAKANA HUMAN SETTLEMENT PROJECT,
ALICEDALE, MAKANA MUNICIPALITY**

We refer to your application and wish to comment as follows:-

1. The proposed development will take place within the vicinity of the following Eskom powerline:-

• **MIMOSA/ PATERSON 22kV OVERHEAD POWERLINE**

There is a 9m building and tree restriction on either side of the centre line of the 22kV power line which must be observed in all future developments.

2. Eskom has no objection to the abovementioned development, provided the following conditions are adhered to:-

In the following conditions, the words Eskom services and structures shall include but not limited to the following: structures, pylons, works, appliances, conductors or cables.

STANDARD CONDITIONS:-

- a) Eskom services and equipment must be acknowledged at all times and may not be tampered or interfered with.
- b) The proposed development must be registered subject to Eskom existing powerlines.
- c) No construction work may be executed closer than 9m of the Eskom Distribution structure or 6 meters from structure supporting mechanism.
- d) Natural ground level must be maintained within Eskom servitude area.

Eskom Distribution – Southern Region
Land Development
Cnr. Quenera and Bonza Bay Road, Beacon Bay 5241
Private Bag X1, Beacon Bay 5205
Tel +27 43 703 2336 Fax +27 43 703 2392 www.eskom.co.za
Eskom Holdings SOC Limited Reg No 2002/015527/08

e) All work within Eskom servitude area must be carried out in accordance with the requirements of the Occupational Health and Safety Act, 85 of 1993. Special attention must be given to clearances between Eskom's conductors, structures, cables, electrical apparatus and proposed work as stipulated in Government notice GN R1593 of 12 August 1998 amended to GN R1185 of 1 June 1990 promulgated under the aforementioned act.

f) Eskom shall not be liable for the death or injury of any person, or for loss of or damage to any property, whether as a result of encroachment or use of the area where Eskom has its services, by applicant, his/her agents, contractors, employees or successors in title.

g) The applicant indemnifies Eskom against loss, claims or damages, including claims pertaining to interference with Eskom services, apparatus, or otherwise.

h) Eskom shall at all times have unobstructed access to and egress from its services.

i) No dumping shall be allowed within Eskom servitude area.

j) Any developments which necessitate the relocation of Eskom service will be to the account of the developer. Quote for relocations can be lodged with Eskom contact centre at number 086 0037566.

k) Should the applicant or his/ her contractor damage any of Eskom service during commencement of any work whatsoever, the incident must be reported to Eskom 24 hour Contact Centre (086 0037566) immediately.

The above conditions should be accepted in writing before any work within Eskom service commences.

We hope that you will find the above in order.

Yours faithfully

 T. Smith
Land Development Manager
Eskom Distribution - EASTERN CAPE OPERATING UNIT

From: Marisa Jacoby

Sent: 21 August 2012 09:12 AM

To: MARIAGRAZIA GALIMBERTI

Cc: Sandy Wren

Subject: RE: Palaeontological Study - Alicedale Human SettlementProject

Hi Mariagrazia

With reference to our earlier telephonic conversation I would like to confirm that, in SAHRA's opinion, the information that has been provided to your offices has been sufficient to deduce that the proposed development should not have an impact on fossil-bearing formations. In addition, SAHRA has sufficient literature on the palaeontology of the area under discussion. For these reasons it would be unnecessary to conduct a desktop palaeontological assessment for the proposed development.

We will however include the recommendations proposed by Paul in his earlier email with regards to the preservation of any fossilised material, in the Basic Assessment Report and accompanying EMP for the proposed development.

Thank you for your assistance in this regard.

Regards

Marisa Jacoby (BSc Hons)

Environmental Assessment Practitioner

Public Process Consultants

120 Diaz Road

Adcockvale

Port Elizabeth

Phone: 041 374 8426

Fax: 041 373 2002

Cell: 083 233 5612

Website: www.publicprocess.co.za

From: MARIAGRAZIA GALIMBERTI [mailto:MGALIMBERTI@sahra.org.za]

Sent: 20 August 2012 03:12 PM

To: Marisa Jacoby

Subject: RE: Palaeontological Study - Alicedale Human SettlementProject

Dear Marisa,

I'm sorry it took so long to get back to you, I've looked at the geotechnical report and I agree with the desktop study if you have already commissioned it. From the information provided though, the type of development should not impact on fossil-bearing formations.

Apologies for the delay

Kind regards

Mariagrazia

Mariagrazia Galimberti (PhD)
Heritage Officer: Archaeology
South African Heritage Resources Agency
111 Harrington Street
PO Box 4637, Cape Town 8000,
South Africa
E-mail: mgalimberti@sahra.org.za
Phone : +27 (0)21 462 4502
Fax : +27 (0)21 462 4509
Web : www.sahra.org.za

From: Marisa Jacoby

Sent: 07 August 2012 10:08 AM

To: 'MARIAGRAZIA GALIMBERTI'

Subject: RE: Palaeontological Study - Alicedale Human SettlementProject

Hi Mariagrazia

I would like to follow up on the correspondence received from you in response to Paul's queries regarding the Alicedale Human Settlement Project.

The geotechnical report compiled by Terratest has revealed the following:

Mudrock of the Witpoort Formation was encountered between approximately 2 metres and 2.7 metres depth in one of the trial pits (TP2).

I have attached the Geotechnical Report for your perusal.

The excavations for the foundations of the proposed development are anticipated to be at approximately 1.5 metres depth. While the excavations required for the installation of sewerage infrastructure will be at a maximum depth of 2 metres.

We provided Dr John Almond with the above information so that he could advise us as to whether a Phase 1 or 2 Palaeontological Assessment should be conducted. Dr Almond suggested that a Desktop Palaeontological Impact Assessment be conducted as part of the Basic Assessment process. It would seem that the motivating factor for this would be the fact that there are no open excavations or cross sections at the site (Terratest re-instated the excavated material from their trial pits). We have subsequently requested that he initiate such a study; the results of which will be included in the Basic Assessment Report.

We trust that this will be sufficient to address the Palaeontological concerns of SAHRA for the proposed development.

Please feel free to contact us if you have any concerns or queries in this regard.

Regards

Marisa Jacoby (BSc Hons)
Environmental Assessment Practitioner
Public Process Consultants
120 Diaz Road
Adcockvale
Port Elizabeth
Phone: 041 374 8426
Fax: 041 373 2002
Cell: 083 233 5612
Website: www.publicprocess.co.za

From: MARIAGRAZIA GALIMBERTI [<mailto:MGALIMBERTI@sahra.org.za>]

Sent: 23 July 2012 03:25 PM

To: Paul Steyn

Cc: marisa@publicprocess.co.za; sandy@publicprocess.co.za

Subject: Re: Palaeontological Study - Alicedale Human SettlementProject

Dear Paul,

I've looked at the geology of this project and compared it to our palaeotechnical report for the Eastern Cape. According to our research, the Witteberg group is of high palaeontological significance and recommendations are normally for a desk top and scoping study. However, the Lake Mentz Subgroup (DI) and the Witpoort Formation (Dw) are considered of very high palaeontological significance and they would require a field assessment. What we know is that the Lake Mentz and Witpoort Formation are composed by thick sandstone units (eg most of Witpoort Fm.) which are poorly fossiliferous, whereas mudrocks are of high palaeontological significance.

I see that you mention sandstone, but not mudrock, so before giving an exemption, I'd like to know, if possible:

- is there any mudrock outcrops in the proposed area of the development?
- how deep is the red soil?
- how deep are the proposed excavations?

Many thanks

Kind regards

Mariagrazia

Mariagrazia Galimberti (PhD)

Heritage Officer: Archaeology

South African Heritage Resources Agency

111 Harrington Street

PO Box 4637, Cape Town 8000,

South Africa

E-mail: mgalimberti@sahra.org.za

Phone : +27 (0)21 462 4502

Fax : +27 (0)21 462 4509

Web : www.sahra.org.za

From: Paul Steyn [<mailto:paul@publicprocess.co.za>]

Sent: 23 July 2012 09:15 AM

To: MARIAGRAZIA GALIMBERTI

Cc: sandy@publicprocess.co.za; marisa@publicprocess.co.za

Subject: Palaeontological Study – Alicedale Human Settlement Project

Hi Mariagrazia

Re.: Palaeontological Study: Basic Assessment - Alicedale Human Settlement Project

Our previous correspondence to your offices, dated 28 June 2012, regarding the above project has reference. As indicated in the aforementioned correspondence, Public Process Consultants are undertaking a Basic Assessment for the construction of houses (human settlement housing) in Alicedale (near Grahamstown) in the Eastern Cape (BID attached). The

development will entail the clearing of vegetation, and the construction of dwellings; as well as the installation of sewerage infrastructure, water supply, and roads with stormwater infrastructure. Since a large portion of the site has not been previously disturbed, an archaeological assessment will be undertaken by Dr Johan Binneman, as part of the assessment in order to determine whether there are any sensitive sites or material on the development footprint. However, we are generally guided by the geology and the characteristics of the infrastructure installation, as to whether a paleontological investigation is required. We are currently of the opinion that a paleontological study is not required for this project; however feedback on this matter from SAHRA would be greatly appreciated.

Geology & Soils

The northern portion of the proposed site is covered by red soils with angular to sub-angular sandstone fragments with no bedrock outcrops encountered in the area surveyed (photo attached). The southern portion of the site is dominated by shallow quartzitic sandstone bedrock (photo attached).

The geological map of the area 3326 (1:250 000) by SA Geological Survey (attached) (read with Johnson & Le Roux 1994) indicates two rock types in the area:

- . Quartzitic sandstone (Dwi) of the Witpoort Formation (Witteberg Group).
- . Mudrocks and sandstones of the Lake Mentz Sub-group (Wittberg Group).

Raath, et al. (1998) in the Field Guide to the Eastern and Southern Cape Coasts indicate (Table 3.1) that fossils are uncommon in the Witteberg Group; and appear to be limited to trace fossils of various marine organisms.

Recommendation

In view of the above, as well as the fact that no excessively deep foundations or excavations are proposed as part of the project, we recommend that the project is exempt from a Phase 1 Palaeontological Assessment.

However since the presence of fossilised material cannot be confirmed or disproven at this stage of the project, the following mitigation measures are recommended for inclusion Final Basic Assessment Report and Environmental Management Programme, to form part of the Environmental Authorisation for the project, should it be granted:

- . The construction phase of the project should monitored by an independent Environmental Control Officer (ECO), who should monitor excavations for potential fossilised material on an on-going basis while construction / excavation is commencing.
- . Should substantial fossil remains be exposed during development, the responsible ECO should alert SAHRA so that appropriate mitigation measures may be considered.
- . In the event that fossilised material is uncovered, construction on the affected excavation should cease until a palaeontologist has assessed the material.
- . Fossilised material encountered at the site may only be removed or destroyed upon authorisation from the relevant Heritage Resources Authority by the issuing of an appropriate permit.

Your feedback regarding the above would be greatly appreciated.

Kind regards

Dr Paul-Pierre Steyn (PhD)

Environmental Scientist

Public Process Consultants

PO Box 27688, Greenacres, 6057

120 Diaz Road, Adcockvale, PE, 6001
Phone: 041 374 8426
Fax: 041 373 2002
Cell: 084 302 8364

References:

- . Raath, M., Hiller, N. & Bamford, M. 1998. Palaeontology; in Lubke, R.A. & De Moor, I. (Eds.). 1998. Field Guide to the Eastern and Southern Cape Coasts. University of Cape Town Press. Pp.27 - 40.
- . Johnson, M.R. & Le Roux, F.G. 1994. The Geology of the Grahamstown Area; Explanation: Sheet 3326 (1: 250 000) Grahamstown. Council for Geoscience. Pp.8-10.
- . Council for Geoscience. 1995. Sheet 1:250 000 Geological Series. 3326 Grahamstown.



water affairs

Department:
Water Affairs
REPUBLIC OF SOUTH AFRICA

Water Use Authorization, Private Bag X6041, **Port Elizabeth**, 6000

Tel: 041 501 0717

Fax: 086 560 5042

E-mail: bloemm@dwa.gov.za

Enquiries: M. Bloem

Ref: Makana Human Settlement, Alicedale

120 Diaz Road
Adcockvale
PORT ELIZABETH
6001

Attention Ms. S Wren

BACKGROUND INFORMATION DOCUMENT (BID) FOR THE PROPOSED MAKANA HUMAN SETTLEMENT PROJECT, ALICEDALE, MAKANA MUNICIPALITY.

This office acknowledges receipt of the BID for the above-mentioned development from Public Process Consultants.

After the evaluation of this document this office has the following concerns and comments:

- Watercourses in the vicinity of the proposed development must be delineated to indicate the 1:100 year floodline or riparian zone, whichever is greatest; and
- Location of the associated infrastructure to the extent of a watercourse.

Please note that any proposed development which may take place within the extent of a watercourse, as described above, constitutes a Section 21 water use in terms of Chapter 4 of the National Water Act, 1998 (Act No 36 of 1998) (herein after referred to as the Act) and requires authorization obtained from this Department.

The following activities may require water use authorization in terms of Section 21 (c) and/or (i) of the Act:

- Construction of stormwater infrastructure/outlets within the extent of a watercourse;
- Watercourse crossings such as access roads, pipelines etc; and please note that sewer lines across a watercourse trigger a water use license.
- Removal of riparian vegetation to accommodate project activities.
- The proposed development should not affect any wetlands. If wetlands are present and will be affected, wetland delineation must be conducted and a

technical report reflecting wetland studies should be submitted to this department.

Please note that any activities that fall within 500 meter radius from the boundary of any wetland constitute a water use license in terms of sec 21 (c) and (i) of the Act.

- Clear and detailed layout plan indicating the location of all proposed development activities and associated infrastructure in relation to the 1:100 year floodline of a watercourse, and boundaries of all wetlands with 500m radius mapped around (if present).
- Details regarding the proposed development's impact on the watercourse/s in the vicinity including mitigation measures thereof.

In order to make an informative decision more details on the proposed development is required with special emphasis on the following:

- A detailed description of the development.
- A detailed description of the sewage treatment and disposal method.
- A detailed description of the storm water management plan/system
- Erosion control measures.
- The impact of the proposed development on the receiving environment.
- Spill contingency plan
- Environmental Management Plan

Please do not hesitate to contact this office should you have any enquiries.

Yours Faithfully


Acting CHIEF DIRECTOR: EASTERN CAPE

Date: 06/09/2012

NOTES FROM MEETING HELD ON THE PRE DRAFT BASIC ASSESMENT REPORT ON THE PROPOSED ALICEDALE HOUSING

Meeting with Cllr. Louw, Ward Committee & Farmers Associations

27 June 2012

Mongezi Kaspile, Alicedale Farmers Association

Appreciate and welcome the housing development. What will be the impact on graves as a result of the development, will they be impacted upon.

Phindile Ndzandzi, Crop Farmers Association

We will appreciate the involvement of Public Works department on this development, as they will have to communicate directly with us on the handing over of this land for housing development as this land has been given to us by mutual understanding between the two parties.

REGISTRATION FORM FROM THE FOCUS GROUP MEETING HELD

Alicedale Cllr. Louw &
MEETING: Farmers Associations.
DATE: 27.06.2012

PROJECT: Alicedale Housing

KINDLY PRINT YOUR NAME IN FULL AND WRITE CLEARLY.

FIRST NAME	SURNAME	ORGANISATION	FULL POSTAL ADDRESS	CODE	PHONE	FAX	EMAIL
NBIMENI	NES	235 GORDON ST ALICEDALE A.S.F.A	235 GORDON ST ALICEDALE 6135	6135	04231134	N/A	N/A
Mcebisi	Matyema	A.S.F.A.	378 Songwigi St ALICEDALE 6135	6135	076836 5844	N/A	N/A
Phindile	NDZANDZI	CROP FARMERS	183 PLATTJES	6135	04231134	N/A	N/A
CHRISTIAN	SIRAS	WARD COMMITTEE	3 PLATTJES STR	6135	0738888	N/A	N/A
CHRISTAL	NEL	WARD COMMITTEE	63 CREATION ST	6135	08353716	N/A	N/A

MEETING: Alice Dale Cllr. Louw &
Farmers Associations.
DATE: 27.06.2012

PROJECT: Alice Dale Housing

KINDLY PRINT YOUR NAME IN FULL AND WRITE CLEARLY.

FIRST NAME	SURNAME	ORGANISATION	FULL POSTAL ADDRESS	CODE	PHONE	FAX	EMAIL
ERNEST LOUW	LOUW	MAMA ALICE DALE	17 CHURCH STREET ALICE DALE	6135	013613 1251	012331125	LOUW.CAROL@GMAIL.COM
VUYANI	NEI	MAMA ALICE DALE COMMUNITY MEMBER	215 GATEWAY STREET ALICE DALE	6135	013613 1251	N/A	N/A
N MFUNDISI	POW	ALICE DALE FARMERS ASSOCIATION	339 MARI STREET ALICE DALE	6135	073652526	N/A	N/A
Amph MLOKODZI	SAMMA	ALICE DALE FARMERS ASSOCIATION	58 TABOSHE ST ALICE DALE	6135	0714761 015	N/A	N/A
Vuyisile	Nonyati	ASFA	511 Sengweni St	6135	07875751	N/A	N/A
Stephans	ABEWU	ASFA	505 Sengweni St	6135	N/A	N/A	N/A
MINGEZI	KHSPILE	ASFA	302 TABOSHE ST ALICE DALE	6135	N/A	N/A	N/A

Correspondence received during the Review of the Draft BAR

16/10/2012 14:08 0414561666

Canon

Department o #6203 P.001/001

PUBLIC INVOLVEMENT PROCESS REPLY FORM

DRAFT BASIC ASSESSMENT REPORT COMMENT FORM

Makana Human Settlement Project, Alcedale, Makana Municipality

Applicant: Makana Municipality

Listed Activity: GN R544 Activity 23 (ii).

Return Completed Reply Form by 13 November 2012, to

Public Process Consultants, PO Box 27688, Greenacres 6057
Phone: 041 - 374 8426 or Fax 041-373 2002 or Email sandy@publicprocess.co.za

Please Complete all Relevant Sections Below

Please provide your full contact details:

FIRST NAME: <u>Marinus</u>	SURNAME: <u>Keyser</u>
ORGANISATION: <u>Provincial Roads</u>	POSITION: <u>District Roads Engineer</u>
POSTAL ADDRESS: <u>PO Box 11100 Algora Park 6005</u>	
CODE: <u>6005</u>	
PHONE: <u>041 403 6041</u>	FAX: <u>041 456 1666</u>
CELL: <u>083 666 1598</u>	EMAIL: <u>marinus.keyser@dfwccap.gov.za</u>

Please clearly state any interest that you may have in this matter.

Please clearly outline comments you may have in response to the Draft Basic Assessment Report (use additional pages if required).

Access to Main Road 476

Comments form for Issues & Concerns

PUBLIC INVOLVEMENT PROCESS REPLY FORM

DRAFT BASIC ASSESSMENT REPORT COMMENT FORM

Makana Human Settlement Project, Alicedale, Makana Municipality

Applicant: Makana Municipality

Listed Activity: GN R544 Activity 23 (ii).

Return Completed Reply Form by 13 November 2012

Public Process Consultants, PO Box 27688, Greenacres 6057
Phone: 041 - 374 8426 or Fax 041-373 2002 or Email sandy@publicprocess.co.za

Please Complete all Relevant Sections Below

Please provide your full contact details:

FIRST NAME: VUYISILE GYRIAN	SURNAME: NONYATI
ORGANISATION: ALICEDALE SMALL FARMERS ASS	POSITION: SECRETARY
POSTAL ADDRESS: 511 SONGWIS STREET ALICEDALE	
CODE: 6135	
PHONE:	FAX:
CELL: 078 7575 902	EMAIL:

Please clearly state any interest that you may have in this matter.

- ① SPORT FIELDS
- ② GRAVE YARD

Please clearly outline comments you may have in response to the Draft Basic Assessment Report (use additional pages if required)

- ① We would like to be the part on looking the area before construction
- ② When the area is used what are we going get, in return.
Telephonically confirmed input on 14 Nov 2012.
The development should include a sports field, future burial site as the current site is about to close, fencing of old graves on the site.
Wants to see the layout before construction starts.
Need grazing land fenced off for cattle.
An area to be set aside for growing crops and grass as feed for livestock.

Comments form for Issues & Concerns

NO. 521 P. 1

12. NOV. 2012 14:42

Curriculum Vitae**Marisa Jacoby**

120 Diaz Road
Adcockvale
Port Elizabeth
6001

Phone: 041 374 8426
Fax: 041 373 2002
E-mail: marisa@publicprocess.co.za

PERSONAL INFORMATION	
Nationality	South African
Language Proficiency	English (fluent) Afrikaans (proficient) Xhosa (limited)
Gender	Female
Marisa has a BSc Honours degree (<i>cum laude</i>), majoring in Botany and specialising in Environmental Management from the Nelson Mandela Metropolitan University. In partial fulfilment of the requirements for this degree she completed two treatises entitled: "Germination inhibition in <i>Syncarpha recurvata</i> " and "A GIS approach to designation of a nature reserve for the PPC mine at Grassridge".	
EDUCATION	
Nelson Mandela Metropolitan University (formerly University of Port Elizabeth)	
2009	BSc Hons -Botany
2006 -2008	BSc – Botany and Geography
WORK EXPERIENCE	
March 2011 - Present	Public Process Consultants ➤ <i>Environmental Assessment Practitioner</i> <u>Tasks and Responsibilities:</u> Conduct Biophysical, Botanical and Ecological Assessments. Prepare Specialist Reports and Chapters in capacity as Botanical and Ecological Specialist. Preparation of Environmental Assessment Reports (Basic Assessment & Scoping and EIA) and Environmental Management Programmes. Liaison and communication with clients, authorities (local, provincial and national authorities as required by the project) as well as interested and affected parties. Basic GIS based mapping and spatial data analysis. Content management for resources and public review documents on the company website.
March 2010 - February 2011	Enspec – Consulting Structural Engineers ➤ <i>Secretarial Assistant</i> <u>Tasks and Responsibilities:</u> Data capture and document management Client invoicing and liaison Answering calls and handling queries Taking dictation
February 2009 – November 2009	Nelson Mandela Metropolitan University ➤ <i>Practical Demonstrator: Botany Department</i> <u>Tasks and Responsibilities:</u> Assisting undergraduate students during practical exercises

FIELDS OF INTEREST

Environmental Management, Terrestrial Ecology, Geographic Information Systems

BASIC ASSESSMENT EXPERIENCE

The following provides an overview of the Basic Assessment Processes that Marisa has been involved in.

- Theesecombe erf 722, new residential development
- Theesecombe erf 2377, new residential development
- Photovoltaic Solar Energy Project, Graff Reiniet
- New Agricultural Development for Habata Boerdery,
 - Oliphantskop
 - Logan Braes
 - Falcon Ridge
- Agrivillage Nomathamsanqa, Addo
- Sewerage Reticulation for Weston, Hankey
- Establishment of a Technical High School, Jeffreys Bay, Kouga Municipality

SCOPING AND EIA EXPERIENCE

The following provides an overview of the Scoping and EIA Processes that Marisa has been involved in.

- EIA for the Weston Waste Water Treatment Works, Weston, Hankey
- EIA for Portion 62 of 10, Little Chelsea, residential development
- EIA for Riverbend Citrus, clearing of agricultural land
- EIA for Venter Fert, Composting and Fertiliser Processing Plant

REFERENCES

Prof E.E. Campbell, Head of Department - Department of Botany, Nelson Mandela Metropolitan University, Tel.: +27 41 504 2329, e-mail: Eileen.Campbell@nmmu.ac.za
(*Treatise Supervisor*)

Dr D.R. Du Preez, Director – School of Environmental Sciences, Nelson Mandela Metropolitan University, Tel.: +27 41 504 2721, e-mail: Derek.DuPreez@nmmu.ac.za (*Treatise Supervisor*)

Mr A. Malherbe, Owner – Enspeg Consulting Structural Engineers, Tel.: +27 41 581 4685, e-mail: enspeg@telkomsa.net (*Former Employer*)

APPENDIX G (vi): AUTHORITY CONTACT DETAILS

Department of Economic Development, Environmental Affairs and Tourism (DEDEAT) – Cacadu Region, Eastern Cape

Mr Andries Struwig
Private Bag X 5001
Greenacres
Port Elizabeth
6057
Tel: 041 508 5815
Fax: 041 585 1958

andries.struwig@deaet.ecape.gov.za

National Department of Agriculture - Directorate Land Use and Soil Management

Mr Gcinile Dumse
Private Bag X4
Tecoma
East London
5214
Tel: 043 704 6800/10
Fax: 043 704 6812

GcinileD@daff.gov.za

Provincial Department of Agriculture

Mr Rufus Maloma
Agriland Building
9 Somers Rd
Sydenham
Port Elizabeth
6000
Tel: 041 402 6311
Fax: 041 402 6310

malomar@webmail.co.za

South African Heritage Resources Agency

Dr Mariagrazia Galimberti
PO Box 4637
Cape Town
8000
Tel: 021 462 4502
Fax: 021 462 4509

mgalimberti@sahra.org.za

Eastern Cape Department of Roads and Transport

Mr Marius Keyser
P O Box 11100
Algoa Park
6005
Tel: 041 452 2073
Fax: 041 456 1666

marius.keyser@dot.ecprov.gov.za

Makana Municipality: Acting Municipal Manager

Mr Mandisi Planga
PO Box 176
Grahamstown
6140
Tel: 046 603 6131
Fax: 046 622 9700

ntombi.baart@makana.gov.za

Makana Municipality: Deputy Director: Planning and Land Use

Mr Renier van der Merwe
P.O. Box 176
Grahamstown
6140
Tel: 046 603 6069
Fax: 046 622 9700

RenierVanDerMerwe@makana.gov.za

Makana Municipality: Environmental Manager

Mr Ndumiso Nongwe
P.O. Box 176
Grahamstown
6140
Tel: 046 603 6056
Fax: 046 636 2871

Department of Water Affairs: Port Elizabeth

Ms Marisa Bloem
Private Bag X6041
Port Elizabeth
6000
Tel: 041 586 4884
Fax: 086 560 5042

bloemm@dwa.gov.za

Department of Water Affairs: WARMS

Ms Lizna Fourie
PO Box 7019
East London
5200
043 748 5352
FourieL4@dwa.gov.za

National Department of Public Works

Mr Moses Cele
Private Bag X3913
Port Elizabeth
6056
Tel: 041 4082079
Fax: 041 4841385
Moses.cele@dpw.gov.za

Eastern Cape Department of Roads & Public Works

Ms Sunette Nortier
Private Bag X0004
Port Elizabeth
6000
Tel: 041 3902204
Sonette.Nortier@dpw.ecape.gov.za

APPENDIX G (vii): PROOF OF NOTIFICATION TO LANDOWNER

Erven 1410, 1411, and 1370 Alicedale are owned by the Makana Municipality, who is also the applicant. Therefore proof of notification of the assessment was not required. The Provincial and National Departments of Public Works are also landowners of properties that will be affected by the proposed development. Proof of Notification of these Departments is included herewith.

National Department of Public Works

PO Box 27688 Greenacres 6057
120 Diaz Road Adcockvale, PE 6001
Phone 041 374 8426 Fax 041 373 2002
Email sandy@publicprocess.co.za
Ck 97/32984/23 VAT 44601 68273

19 June 2012

Mr Moses Cele
Department of Public Works - National
Private Bag X3913
Port Elizabeth
6056

Dear Mr Cele



RE: Notice of Basic Assessment Process in terms of the National Environmental Management Amendment Act 2008 (Act 62 of 2008) ("NEMAA"), and the amended EIA Regulations 2010 in terms of Chapter 5 of NEMA Government Notice No. R. 543, R. 544, R. and 545 in Government Gazette No. 33306 of 18 June 2010

As the landowner of the Remainder of Portion 1 of Farm 276 (Alicedale), Makana Municipality, you are hereby notified that a Basic Assessment process is being undertaken on the affected property. The project applicant, Makana Municipality, is proposing the construction of approximately 240 single detached residential dwellings, as well as the provision of associated services infrastructure in Alicedale, Makana Municipality. The proposed development will affect the abovementioned property/ies. It is anticipated that the development will provide formal housing for approximately 1200 individuals from the local area. In order to provide water to the proposed housing development it is proposed that a water reservoir with a storage capacity of approximately 500kL is also constructed to the south of the development, from where water will be reticulated into the development.

Public Process Consultants has been appointed by the project applicant as the Environmental Assessment Practitioner to undertake the Basic Assessment including public participation for the proposed project as described hereunder.

PROJECT LOCALITY:

The property is located to the south of the Transriviere, Kwanonzwakazi and Mandela Park settlements in Alicedale in the Makana Municipal Area. The site can be accessed via Mandela Park settlement, the entrance to which is off the MR00476 between Alicedale and Grahamstown, approximately 50 kilometres to the west of Grahamstown.

BRIEF PROJECT DESCRIPTION:

The proposed development will include the following project components:

- Approximately 240 single detached residential dwellings
- Internal roads
- Open Space
- Stormwater management infrastructure
- Bulk water storage reservoir (storage capacity of approximately 500kL)
- Provision of water, electricity and sanitation infrastructure (sewerage reticulation)

The project will require approximately 15 hectares of vegetation be cleared prior to the installation of the infrastructure and construction of the development. Water will be provided to the development by means of a pipeline from the water pumping station to the reservoir that is to be constructed to the south of the development, where from water will be reticulated into the development by means of a 160mm diameter pipeline. A full waterborne sewerage system will be provided for the development and will tie into the existing sanitation infrastructure for Transriviere. Stormwater infrastructure will be provided for the development with stormwater

discharge proposed to be into one of two drainage lines (one to the northwest and the other to the north east of the site) that currently drain the site

The final design and layout of the development and associated infrastructure will be informed by technical and environmental specialist input during the Basic Assessment process.

LEGISLATIVE CONTEXT AND OPPORTUNITY FOR COMMENT:

In terms of Regulations 543, 544 and 546 promulgated under Chapter 5 of the NEMA in Government Gazette 33306 on 18 June 2010, the project requires Basic Assessment because it includes the following activity listed activities in GN R544:

**23. The transformation of undeveloped, vacant or derelict land to –
(ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares; -"**

In addition to the above, the project also triggers the following listed activities which will be assessed as part of the Basic Assessment process:

- GN R544 Activity 9. (i); 11. (xi); and 18. (i)
- GN R546 Activity 2. (a) iii (dd); 4. (a) ii (ee); 13. (a) ; 14. (a) (i); and 16. (iv) (a) (ii) (ff).

The listed activities require authorisation from the Provincial Department of Economic Development, Environmental Affairs and Tourism. The Basic Assessment needs to show the responsible authority, DEDEAT, and the project proponent what the consequences of their choices will be in biophysical, social and economic terms.

As the landowner of the affected site you will be registered on the project database and be notified in writing of the various opportunities for comment and review of documentation.

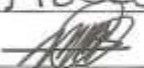
Should you have any queries with regards to the above please contact Sandy Wren or Dr Paul-Pierre Steyn using the contact details provided above.

Regards,



Sandy Wren
Environmental Assessment Project Leader

ACKNOWLEDGEMENT OF RECEIPT

Company / Organisation	PUBLIC WORKS
Capacity	DEPUTY DIRECTOR: DISPOSALS
Name & Surname	MOSES CELE
Signature	
Date	21 JUNE 2012

PLEASE SIGN AND FAX BACK TO PAUL STEYN / SANDY WREN 041 – 373 2002

Provincial Department of Roads and Public Works

PO Box 27688 Greenacres 6057
120 Diaz Road Adcockvale, PE 6001
Phone 041 374 8426 Fax 041 373 2002
Email sandy@publicprocess.co.za
Ck 97/32984/23 VAT 44601 68273

19 June 2012

Sunette Nortier
Department of Public Works - Provincial
Private Bag X0004
Port Elizabeth
6000



Dear Ms Nortier

RE: Notice of Basic Assessment Process in terms of the National Environmental Management Amendment Act 2008 (Act 62 of 2008) ("NEMAA"), and the amended EIA Regulations 2010 in terms of Chapter 5 of NEMA Government Notice No. R. 543, R. 544, R. and 545 in Government Gazette No. 33306 of 18 June 2010

As the landowner of the Remainder of Farm 277 Alicedale, and Erf 1363 Alicedale, Makana Municipality, you are hereby notified that a Basic Assessment process is being undertaken on the above properties. The project applicant, Makana Municipality, is proposing the construction of approximately 240 single detached residential dwellings, as well as the provision of associated services infrastructure in Alicedale, Makana Municipality. The proposed development will affect the abovementioned properties. It is anticipated that the development will provide formal housing for approximately 1200 individuals from the local area. In order to provide water to the proposed housing development it is proposed that a water reservoir with a storage capacity of approximately 500kL is also constructed to the south of the development, from where water will be reticulated into the development.

Public Process Consultants has been appointed by the project applicant as the Environmental Assessment Practitioner to undertake the Basic Assessment including public participation for the proposed project as described hereunder.

PROJECT LOCALITY:

The property is located to the south of the Transriviere, Kwanonzwakazi and Mandela Park settlements in Alicedale in the Makana Municipal Area. The site can be accessed via Mandela Park settlement, the entrance to which is off the MR00476 between Alicedale and Grahamstown, approximately 50 kilometres to the west of Grahamstown.

BRIEF PROJECT DESCRIPTION:

The proposed development will include the following project components:

- Approximately 240 single detached residential dwellings
- Internal roads
- Open Space
- Stormwater management infrastructure
- Bulk water storage reservoir (storage capacity of approximately 500kL)
- Provision of water, electricity and sanitation infrastructure (sewerage reticulation)

The project will require approximately 15 hectares of vegetation be cleared prior to the installation of the infrastructure and construction of the development. Water will be provided to the development by means of a pipeline from the water pumping station to the reservoir that is to be constructed to the south of the development, where from water will be reticulated into the development by means of a 160mm diameter pipeline. A full waterborne sewerage system will be provided for the development and will tie into the existing sanitation infrastructure for Transriviere. Stormwater infrastructure will be provided for the development with stormwater

discharge proposed to be into one of two drainage lines (one to the northwest and the other to the north east of the site) that currently drain the site

The final design and layout of the development and associated infrastructure will be informed by technical and environmental specialist input during the Basic Assessment process.

LEGISLATIVE CONTEXT AND OPPORTUNITY FOR COMMENT:

In terms of Regulations 543, 544 and 546 promulgated under Chapter 5 of the NEMA in Government Gazette 33306 on 18 June 2010, the project requires Basic Assessment because it includes the following activity listed activities in GN R544:

**23. The transformation of undeveloped, vacant or derelict land to –
(ii) residential, retail, commercial, recreational, industrial or institutional use, outside an urban area and where the total area to be transformed is bigger than 1 hectare but less than 20 hectares; -"**

In addition to the above, the project also triggers the following listed activities which will be assessed as part of the Basic Assessment process:

- GN R544 Activity 9. (i); 11. (xi); and 18. (i)
- GN R546 Activity 2. (a) iii (dd); 4. (a) ii (ee); 13. (a) ; 14. (a) (i); and 16. (iv) (a) (ii) (ff).

The listed activities require authorisation from the Provincial Department of Economic Development, Environmental Affairs and Tourism. The Basic Assessment needs to show the responsible authority, DEDEAT, and the project proponent what the consequences of their choices will be in biophysical, social and economic terms.

As the landowner of the affected site you will be registered on the project database and be notified in writing of the various opportunities for comment and review of documentation.

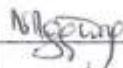
Should you have any queries with regards to the above please contact Sandy Wren or Dr Paul-Pierre Steyn using the contact details provided above.

Regards,



Sandy Wren
Environmental Assessment Project Leader

ACKNOWLEDGEMENT OF RECEIPT

Company / Organisation	Dept of Road & Public Works
Capacity	Administrative Officer
Name & Surname	Nxolo Ngweni
Signature	
Date	21.06.2012

PLEASE SIGN AND FAX BACK TO PAUL STEYN / SANDY WREN 041 – 373 2002

APPENDIX G (viii) DETAILS OF SPECIALISTS AND DECLARATIONS OF INTEREST



PROVINCE OF THE EASTERN CAPE DEPARTMENT OF ECONOMIC DEVELOPMENT AND ENVIRONMENTAL AFFAIRS

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/
NEAS Reference Number:	DEAT/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

Makana Human Settlement Project, Alicedale, Makana Municipality

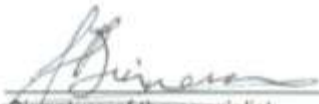
Specialist:	Dr Johan Binneman		
Contact person:	Dr Johan Binneman (JB) or Mr Kobus Reichert (KR) Mr Kobus Reichert		
Postal address:	Eastern Cape Heritage Consultants P.O. Box 689, Jeffreys Bay		
Postal code:	6330	Cell:	0722411528(JB) 0728006322 (KR)
Telephone:	042 2960399	Fax:	042 2960399
E-mail:	J.Binneman@ru.ac.za kobusreichert@yahoo.com		
Professional affiliation(s) (if any)	Member of the Association of Southern African Professional Archaeologists (ASAPA)		
Project Consultant:	Public Process Consultants		
Contact person:	Marisa Jacoby		
Postal address:	PO Box 27688		
Postal code:	6057	Cell:	083 233 5612
Telephone:	041 374 8426	Fax:	041 373 2002
E-mail:	marisa@publicprocess.co.za		

4.2 The specialist appointed in terms of the Regulations_

I, **J.N.F. Binneman**, declare that --

General declaration:

- I act as the independent specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.

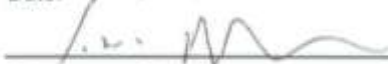

Signature of the specialist:

Eastern Cape Heritage Consultants

Name of company (if applicable):

06/09/2012

Date:



Signature of the Commissioner of Oaths:

06/09/2012

Date:



EASTERN CAPE HERITAGE
111 STREET 119A
PRIVATE BAG X1004
GRAHAMSTAD/GRAHAMSTOWN
6140



**PROVINCE OF THE EASTERN CAPE
DEPARTMENT OF ECONOMIC DEVELOPMENT AND
ENVIRONMENTAL AFFAIRS**

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/
NEAS Reference Number:	DEAT/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

Makana Human Settlement Project, Alicedale, Makana Municipality

Specialist:	Urban-Econ Eastern Cape		
Contact person:	Matthew Keeley		
Postal address:	49 Parliament Street, Central, Port Elizabeth		
Postal code:	6001	Cell:	083 470 0088
Telephone:	041 585 6640	Fax:	041 585 6151
E-mail:	matthew@urban-econ.com		
Professional affiliation(s) (if any)			

Project Consultant:	Public Process Consultants		
Contact person:	Marisa Jacoby		
Postal address:	PO Box 27688		
Postal code:	6057	Cell:	083 233 5612
Telephone:	041 374 8426	Fax:	041 373 2002
E-mail:	marisa@publicprocess.co.za		

4.2 The specialist appointed in terms of the Regulations

I, **Matthew Keeley**, declare that --

General declaration:

- I act as the independent specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of section 24F of the Act.



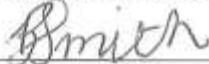
Signature of the specialist:

Urban-Econ Eastern Cape

Name of company (if applicable):

Date:

Signature of the Commissioner of Oaths:



Date:

13.08.2012

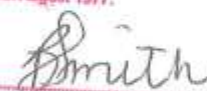
Designation:

Official stamp (below)



REPORT AS AND SIGNED in my presence at Port Elizabeth this

20.08.2012 the Deponent having de-
clared that he/she understood the contents of this affidavit, that he/she had no
conflicting interests in the undertaking of the activity, that he/she considered the prescribed oath to
be of no effect in his/her conscience. The oath has been administered in accordance with Act
No. 1972 and amended and the regulations published in Government Notice R1258 dated
1977 and dated R1548 dated 19th August 1977.


COMMISSIONER OF OATHS

NAME: COMMISSIONER OF OATHS
BernaDette Smith
VACANCY: SENIOR ADMINISTRATION CLERK
ADDRESS: STATE ATTORNEY'S OFFICE
29 WESTERN ROAD, CENTRAL
PORT ELIZABETH

APPENDIX G (ix) SPECIES LIST OF ALL THE PLANTS RECORDED IN THE PROPOSED DEVELOPMENT FOOTPRINT ON THE REMAINDER OF PORTION 1 OF FARM 276 ALICEDALE DURING THE SITE VISITS CONDUCTED ON 5 JULY 2012 AND 17 SEPTEMBER 2012

<u>Family Name</u>	<u>Scientific Name</u>	<u>Status</u>
Acanthaceae	<i>Barleria irritans</i>	
Acanthaceae	<i>Hypoestes aristata</i>	
Aizoaceae	<i>Aizoon rigidum</i>	
Alliaceae	<i>Tulbagia acutiloba</i>	
Amaryllidaceae	<i>Boophone disticha</i>	R (Declining); P
Amaryllidaceae	<i>Brunsvigia gregaria</i>	P
Anacardiaceae	<i>Searsia longispina</i>	
Anacardiaceae	<i>Searsia pterota</i>	
Apocynaceae	<i>Carissa bispinosa</i>	
Apocynaceae	<i>Pachypodium succulentum</i>	P
Apocynaceae	<i>Sarcostemma viminalis</i>	
Araliaceae	<i>Cussonia spicata</i>	
Asparagaceae	<i>Asparagus asparagoides</i>	
Asparagaceae	<i>Asparagus crassifolius</i>	
Asparagaceae	<i>Asparagus setaceus</i>	
Asparagaceae	<i>Asparagus suaveolens</i>	
Asparagaceae	<i>Asparagus virgatus</i>	
Asparagaceae	<i>Asparagus striatus</i>	
Asphodelaceae	<i>Aloe ciliaris</i>	P
Asphodelaceae	<i>Aloe ferox</i>	
Asphodelaceae	<i>Aloe speciosa</i>	P
Asphodelaceae	<i>Aloe striata</i>	P
Asphodelaceae	<i>Bulbine frutescens</i>	
Asphodelaceae	<i>Bulbine latifolia</i>	
Asphodelaceae	<i>Bulbine narcissifolia</i>	
Asphodelaceae	<i>Gasteria bicolor</i>	
Asphodelaceae	<i>Haworthia glauca</i>	P
Asteraceae	<i>Chrysocoma ciliata</i>	
Asteraceae	<i>Curio radicans</i>	
Asteraceae	<i>Cuspidia cernua</i>	
Asteraceae	<i>Elytropappus rhinocerotis</i>	
Asteraceae	<i>Felicia filifolia</i>	
Asteraceae	<i>Gazania krebsiana</i>	
Asteraceae	<i>Othonna carnosa</i>	
Asteraceae	<i>Pentzia incana</i>	
Asteraceae	<i>Pteronia incana</i>	
Cactaceae	<i>Opuntia ficus-indica</i>	Exotic ¹
Capparaceae	<i>Cadaba aphylla</i>	
Capparaceae	<i>Capparis sepiaria</i>	
Celastraceae	<i>Elaeodendron sp.</i>	
Celastraceae	<i>Gymnosporia heterophylla</i>	

Celastraceae	<i>Putterlickia pyracantha</i>	
Colchicaceae	<i>Colchicum striatum</i>	
Crassulaceae	<i>Cotyledon campanulata</i>	
Crassulaceae	<i>Cotyledon velutina</i>	
Crassulaceae	<i>Crassula capitella</i>	
Crassulaceae	<i>Crassula cultrata</i>	
Crassulaceae	<i>Crassula expansa</i>	
Crassulaceae	<i>Crassula mesembryanthemoides</i>	
Crassulaceae	<i>Crassula muscosa</i>	
Crassulaceae	<i>Crassula nemorosa</i>	
Crassulaceae	<i>Crassula ovata</i>	
Crassulaceae	<i>Crassula perforata</i>	
Crassulaceae	<i>Crassula tetragona</i>	
Crassulaceae	<i>Kalanchoe rotundifolia</i>	
Dracaenaceae	<i>Sansevieria hyacinthoides</i>	
Ebenaceae	<i>Diospyros dichrophylla</i>	
Ebenaceae	<i>Euclea undulata</i>	Indicator of Bush Encroachment
Euphorbiaceae	<i>Euphorbia fimbriata</i>	
Euphorbiaceae	<i>Euphorbia mauritanica</i>	
Euphorbiaceae	<i>Euphorbia tetragona</i>	
Fabaceae	<i>Acacia karroo</i>	Indicator of Bush Encroachment
Fabaceae	<i>Indigofera denudata</i>	
Fabaceae	<i>Schotia afra</i>	
Geraniaceae	<i>Pelargonium peltatum</i>	
Geraniaceae	<i>Pelargonium odoratissimum</i>	
Hyacinthaceae	<i>Drimia sp.</i>	
Hyacinthaceae	<i>Ledebouria ensifolia</i>	
Hyacinthaceae	<i>Ledebouria concolor</i>	
Hyacinthaceae	<i>Albuca shawii</i>	
Hypoxidaceae	<i>Hypoxis hemerocallidea</i>	R (Declining)
Iridaceae	<i>Moraea polystachya</i>	P
Iridaceae	<i>Tritonia sp.</i>	P
Lamiaceae	<i>Plectranthus madagascariensis</i>	
Malvaceae	<i>Abutilon sonneratianum</i>	
Malvaceae	<i>Grewia occidentalis</i>	
Malvaceae	<i>Hermannia altheaoides</i>	
Mesembryanthemaceae	<i>Delosperma ecklonis</i>	P
Mesembryanthemaceae	<i>Drosanthemum hispidum</i>	P
Mesembryanthemaceae	<i>Lampranthus spectabilis</i>	P
Mesembryanthemaceae	<i>Mesembryanthemum aitonis</i>	P
Mesembryanthemaceae	<i>Ruschia rigens</i>	P
Molluginaceae	<i>Pharnaceum sp.</i>	
Oleaceae	<i>Olea europaea L. subsp. africana</i>	

Plumbaginaceae	<i>Plumbago auriculata</i>	
Poaceae	<i>Cynodon dactylon</i>	
Poaceae	<i>Digitaria eriantha</i>	
Poaceae	<i>Eragrostis curvula</i>	
Poaceae	<i>Panicum maximum</i>	
Poaceae	<i>Themeda triandra</i>	
Polygalaceae	<i>Polygala virgata</i>	
Portulacaceae	<i>Portulacaria afra</i>	
Ptaeroxylaceae	<i>Ptaeroxylon obliquum</i>	
Rutaceae	<i>Zanthoxylum capense</i>	
Salvadoraceae	<i>Azima tetraacantha</i>	Indicator of Bush Encroachment
Sapindaceae	<i>Pappea capensis</i>	
Sapotaceae	<i>Sideroxylon inerme</i>	PF
Scrophulariaceae	<i>Jamesbrittenia microphylla</i>	
Scrophulariaceae	<i>Nemesia affinis</i>	
Scrophulariaceae	<i>Selago geniculata</i>	
Solanaceae	<i>Lycium cinerium</i>	
Solanaceae	<i>Solanum elaeagnifolium</i>	Exotic ¹
Solanaceae	<i>Solanum linnaeanum</i>	
Tecophilaeaceae	<i>Cyanella lutea</i>	
Verbenaceae	<i>Verbena aristigera</i>	
Viscaceae	<i>Viscum obscurum</i>	
Viscaceae	<i>Viscum rotundifolium</i>	
Vitaceae	<i>Rhoicissus digitata</i>	
Vitaceae	<i>Rhoicissus tridentata</i>	
<p>P = Protected in terms of the Cape Nature & Environment Conservation Ordinance (No 19 of 1974)</p>		
<p>R = Status in terms of the National Red List of South African Plants</p>		
<p>PF = Protected in terms of the National Forests Act (Act 84 of 1998)</p>		
<p>Exotic¹ = Category 1 Exotic Declared Weed in terms of the Conservation of Agricultural Resources Act Lists (Act 43 of 1983)</p>		

