

END

ANNEXURE D

Letter from Land Claims Department



rural development
& land reform

Department
Rural Development & Land Reform
REPUBLIC OF SOUTH AFRICA

OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER EASTERN: CAPE PROVINCE
P.O. BOX 1375, East London, 5200; Tel: 043 700 8000; Fax: 043 743 8887

TO : The Regional Land Claims Commissioner
Ms L Faleni

FROM : Ms Z. Pona

SUBJECT : Confirmation of Land Claims

DATE : 03 December 2009

Purpose

To request the Regional Land Claims Commissioner, Ms L Faleni, to sign the letter attached hereto.

Background


NPM Planning Mr. Deon Pootman TRP(SA) requested a written confirmation from our office that there are no land claims currently pending against the properties being:

1. Portion 2 of farm 211 Queenstown,
2. Portion 6 of Farm 175, Queenstown,
3. Farm 209 Queenstown, Province of the Eastern Cape.

Findings

There is no claim on the above-mentioned property.


.....
Ms Z. Pona
Deputy Director: Pre Settlement
Date: 08/12/2009


.....
Mr. G. Memela
Director: Operational Management
Date: 17/12/09



**rural development
& land reform**

Department:
Rural Development & Land Reform
REPUBLIC OF SOUTH AFRICA

OFFICE OF THE REGIONAL LAND CLAIMS COMMISSIONER EASTERN: CAPE PROVINCE
P.O. BOX 1375, East London, 5200; Tel: 043 700 6000; Fax: 043 743 3887

Enquiries: S.Xaphe

Your Ref: Ref: 1362.02/1363.02

Attention: Deon Poortman

Tel: 043 722 2935

Fax: 086 509 3487

Dear Sir

Your letter has a reference,

PROPERTIES:

1. Portion 2 of farm 211 Queestown,
2. Portion 6 of Farm 175, Queestown,
3. Farm 209 Queestown, Province of the Eastern Cape.

This serves to confirm that there are no claims registered on the abovementioned properties.

It must also be pointed out that some claims have been received for unspecified land and until such claims have been field visited it is not known to which portions of land it applies. Therefore the fact that a claim has not been registered specifically on the abovementioned property at this stage does not preclude the fact that it might be included in the unspecified claims mentioned above.

While reasonable care has been taken in ensuring the accuracy in the compilation of this information, the office of the Commissioner can not be held accountable for any claims that may be brought as a result of legal actions based on the information thus given.

Please feel free to contact us for any clarification that may be required.

Yours faithfully

Ms L. F. Feni
Regional Land Claims Commissioner: Eastern Cape

Date: 17/12/09

ANNEXURE E

Power of Attorney and Trust Resolution

POWER OF ATTORNEY

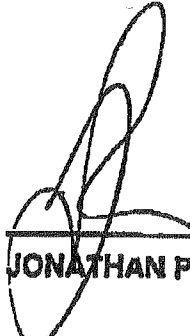
I, the undersigned, JONATHAN PEPLER duly authorised hereto by a resolution of the MEMBERS of PEPLER FAMILIE TRUST NO. IT1382/2000/4 adopted on 1 APRIL 2010 a copy of which is attached marked Annexure A do hereby appoint NPM PLANNING CC NO: 2008/134189/23 (hereinafter called "the Agent") (and including its associates) to be my lawful agent with full power and authority and in my name:

1. To apply in terms of the Development Facilitation Act No. 67 of 1995 for the approval of a land development area on the properties referred to in the said Annexure A which also includes details of the nature and extent of the said development all of which are authorized and approved in terms of this POWER OF ATTORNEY.
2. To sign all documents as may be necessary in connection with the aforementioned application.
3. To undertake and perform such duties including the authorisation of such appointments as may be necessary in connection with or related to the application referred to in paragraph 1 above.
4. To appear before and make such representations as may be necessary to the East Cape Development Tribunal in connection with the aforementioned application.

SIGNED at QUEENSTOWN on this 01 day of May 2010.

As witnesses:

1. _____
2. _____



 JONATHAN PEPLER

ANNEXURE A**RESOLUTION ADOPTED AT A MEETING OF THE MEMBERS OF PEPLER FAMILIE TRUST NO. IT1382/2000/4 HELD IN QUEENSTOWN ON 1 APRIL 2010****RESOLVED:**

- (1) That in order to facilitate the application referred to in paragraph (2) below, Portion 6 of Farm 175 Queenstown, Deed of Transfer No. T6578/2010, Division of Queenstown, which is owned by the Trust.
- (2) That an application be lodged with the Eastern Cape Development Tribunal in terms of the Development Facilitation Act No. 67 of 1995 for approval to the establishment on the aforesaid Portion 6 of Farm 175 Queenstown of a land development area shown on the Site Development Plan No. 1362.08 prepared by NPM Planning and comprising, inter alia, residential estate dwelling units, a medical centre, chapel/hall, clubhouse and associated buildings, the development in question to be named the Flowers Halt Retirement Estate.
- (3) That JONATHAN PEPLER in his capacity as member of the Trust, be and is hereby authorised to:
 - (a) lodge with the Eastern Cape Development Tribunal an application for the development authority envisaged in paragraph (2) above;
 - (b) lodge with any government body or institution any ancillary application for consent to the development as envisaged in paragraph (2) above or as may be required in terms of applicable law;
 - (c) sign and execute any document, form or agreement which may be necessary or required to be signed and executed with regard to the aforesaid application(s);
 - (d) appoint any consultant or advisor as may be necessary in connection with the preparation and lodgement of the aforesaid application (s);
 - (d) appoint any consultant or advisor to appear on behalf of the Company before the Eastern Cape Development Tribunal in connection with the application referred to in subparagraph (3 (a) above;

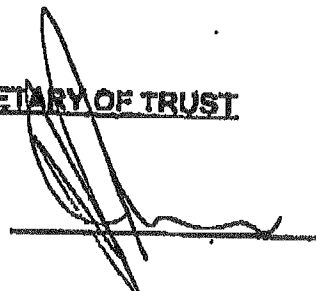


- (e) generally do anything whatsoever as may be required in connection with the aforesaid application(s); and
 - (f) deal with and apply to the Department of Agriculture and in terms of The Subdivision of Agricultural Land Act 70 of 1970 or apply for exemption, whichever is appropriate.
- (4) That the appointment by the said DEON BARRY POORTMAN of NPM PLANNING CC 2008/134189/23 to prepare the application referred to in paragraph (2) and any and all reports associated therewith be noted and be hereby approved and ratified.
 - (5) That the appointment by the said JONATHAN PEPLER of any other consultant and/or party to prepare any application necessary or associated with the application referred to in paragraph (2) also be noted and be hereby approved and ratified.
 - (6) That any documentation already signed and acts performed by the said JONATHAN PEPLER in connection with the aforementioned application (s) further also be noted and be hereby approved and ratified.
 - (7) That all costs incurred in connection with or associated with the aforementioned application(s) be borne by the Company.

CERTIFIED A TRUE EXTRACT

SECRETARY OF TRUST

DATE: _____



ANNEXURE F

Borehole yield and water quality

KOMANI PUMPS

CK2007/224868/23

DIETER : 082 854 3287
FAX: 045 8383371

LIVINGSTONE ROAD
QUEENSTOWN
5320

VAT :4520246028

MR D POORTMAN
EBDEN STREET
QUEENSTOWN

12/1/2009

RE: AMBERDALE BOREHOLE TESTS

BOREHOLE NO. 1

BOREHOLE DEPTH 50m
WATER LEVEL 18m
DRAW DOWN 41m
CONSTANT YIELD 6000L/hr

BOREHOLE NO. 2

BOREHOLE DEPTH 90m
WATER LEVEL 22m
DRAW DOWN 78m
CONSTANT YIELD 1800L/hr

BOREHOLE NO. 3

BOREHOLE DEPTH UNKNOWN
WATER LEVEL UNKNOWN
DRAW DOWN UNKNOWN
CONSTANT YIELD 1500L/hr

BOREHOLE NO. 4(WINDMILL)

BOREHOLE COLLAPSED

PS: RECOVERY WAS NEVER MEASURED. BOREHOLE NO. 3 IS AN EXISTING SUB. PUMP WHICH IS IN DAILY USE & WE COULD ONLY TEST THE EXISTING PUMPING YIELD.

WE TRUST THAT YOU WILL FIND THE ABOVE IN ORDER.

ANNEXURE G

Engineering Services Report

**ENGINEERING REPORT INTO THE LAND DEVELOPMENT AREA ON
PORTION 6 OF FARM 175, QUEENSTOWN, (FLOWERS HALT
RETIREMENT ESTATE), FOR THE PEPLER FAMILIE TRUST**

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6. WATER SUPPLY
7. SEWAGE TREATMENT & DISPOSAL
8. SOLID WASTE DISPOSAL
9. ELECTRICITY
10. TELKOM
11. CONCLUSION

ENGINEERING REPORT INTO THE LAND DEVELOPMENT AREA ON PORTION 6 OF FARM 175, QUEENSTOWN, (FLOWERS HALT RETIREMENT ESTATE), FOR THE PEPLER FAMILIE TRUST

1. INTRODUCTION

NPM Planning CC (Mr D Poortman) requested that Walters & Associates (Mr D Walters), Consulting Civil Engineers from East London, prepare an Engineering Services Report into the proposed Land Development Area of a portion of land on behalf of the Developer, the Pepler Familie Trust, the owner of Portion 6 of Farm 175, (Amberdale), Queenstown, comprising a total of 18,92ha. The land is to be developed into the Flowers Halt Retirement Estate. This application is to be made to the Eastern Cape Development Tribunal for the establishment of this proposed retirement estate.

The proposed development is to comprise of three phases. Phase One is to comprise of 70 dwelling units over 6,95ha or 10,2 dwelling units per ha. Phase Two and Three will be developed in the future once the engineering infrastructure has been installed, and the future demand has been proven.

This Report deals with the required bulk and internal engineering infrastructure to the proposed development, and the design standards to be used in the implementation of the infrastructure to the proposed development layout. The proposed development falls within the jurisdiction of the Lukhanji Municipality and the Chris Hani District Municipality.

Whatever characteristics, attributes, qualities and potential a site may offer for development, these cannot be realised without a supporting infrastructure of services such as roads, water supply, electricity supply, sewage disposal, stormwater drainage, solid waste disposal, telecommunications, fire protection and access to emergency health services. The services of this development will NOT be taken over by the Lukhanji Municipality on completion of construction, as this is a PRIVATE development. However, all municipal services will need to be installed in accordance with generally accepted municipal standards and specifications.

2. LOCATION

The proposed 18,92ha development, is situated approximately 6,8 km northeastwards from Queenstown, along a gravel road, off the tarred N6 national road to Aliwal North. It also borders along the main East London-Johannesburg railway line along its southern boundary.

3. GEOLOGY & TOPOGRAPHY

The development area of Flowers Halt Retirement Estate falls within the lower/ central portion of the 1 / 250 000 scale, number 3126 Queenstown Geological map.

The development area falls entirely within the Karoo Sequence, with locally occurring, Jurassic dolerite sills and ring-complexes forming an important part of the structural framework of the Karoo Basin, and outcrop over an area covering approximately half of South Africa. In addition, the Queenstown Geological map indicates that Farm 175/6 (Amberdale) is situated on Alluvium of the Quaternary deposits comprising alluvial slope sheet-wash at the foot of the adjacent northern kopje. The alluvium overlies brownish red to grey mudrock and sandstone of the Burghersdorp formation, of the Tarkastad subgroup, and of the Beaufort Group. The alluvial slope deposits range from a thin veneer of about 400 to 600mm to about two metres in thickness. The existing dam at the farmhouse indicates the soil profile of 600mm of this deposit, overlying the sandstone formation.

4. ROADS

As outlined above, access to the Flowers Halt Retirement Estate is situated along a gravelled minor municipal road, off the tarred N6 national road. There are no suitable road making materials to be found on Farm 175/6, as subbase, or as gravel wearing course. On no account should the 'slaking' variety of mudstone be used as wearing course on the roads, as the surfaces will turn into 'soap' during rainy and wet weather. The internal roads to the 70 residential units will be surfaced, comprising 4,50 metre wide concrete interlocking block-paved roads, with grassed verges.

All road making material will have to be imported from commercial sources. If used as the sub base layer, the natural 'sabunga' material should be stabilised with ordinary portland cement, in the proportions of at least 3,0% cement content by weight. On no account should any 'slaking' mudstone material be used in the road formation. The sub base should be a G5 material with a CBR >45, while the selected subgrade could be a G7 with a CBR >10. The base material should be a cement-stabilised G5 material, the final layer before the concrete interlocking pavers are laid upon.

5. STORMWATER DRAINAGE

Due to the almost flat, constant slope of 1 in 200 across the development area, from north to south, it is recommended that the stormwater drainage system to be employed be concentrated in the major drainage system of overland flow and the internal road network. The roads should be constructed at a sunken, lower level than the surrounding road verges, in order to collect the overland rainfall runoff, and discharge the stormwater flow down towards the railway line to the south.

6. WATER SUPPLY

Phase One of the Flowers Halt Retirement Estate will comprise of 70 units, with an occupancy of two persons per unit. Allowing for 250 litres per person per day as an estimate for these types of developments, this approximates to an AADD water demand of 35 000 litres of potable water per day.

The existing Farm 175/6 (Amberdale) currently relies on using borehole water for drinking purposes, for cooking, washing, in toilets, etc. There are three boreholes that may be utilised, while one windmill borehole has collapsed. Mr Dieter Deysel of Komani Pumps tested these three boreholes during the current month of January 2010, and their recorded Constant Yields, which are in excess of requirements, were as follows :

Borehole No. 1 : 6 000 litres per hour [144 m³ per day]

Borehole No. 2 : 1 800 litres per hour [43 m³ per day]

*Borehole No. 3 (currently in use) : 1 500 litres per hour [36 m³ per day]

It is recommended that borehole No. 1 be connected by pipeline to discharge into a ground-level storage reservoir constructed in the top northeast corner of the development, and an adjacent additional elevated reservoir, to provide a static pressure head of at least 10,0 metres. The ground-level storage reservoir should have a minimum storage capacity of at least 36 hours of annual average daily demand (AADD), or 52,5 cubic metres, while the elevated reservoir should have storage capacity of 20,0 cubic metres. [***Borehole 3 test done using small, existing pump]

7. SEWAGE TREATMENT & DISPOSAL

The entire development will be linked up and served with a waterborne underground piped sewerage system comprising 160mm diameter PVC sewerage pipes and manholes. Due to the prevailing flat and constant sloping topography, all sewage will be piped to a sewage package plant. It is our recommendation that a modular package plant system be installed such as the CSIR developed "Lilliput" system. As detailed on the development plan, the plant is to be placed in the southwest corner of the development.

If properly designed, sized and constructed, we are confident that the final treated effluent will adequately meet the General Standard of the Department of Water Affairs. Any type of sewage disposal system will need to be approved and permitted by DWAF, who will then monitor the system on a regular basis. We further recommend that the treated effluent be discharged into one of the on-site earth dams, from where the water may be irrigated over the lawned areas of the resort.

8. SOLID WASTE DISPOSAL :

Solid waste / kitchen refuse is to be collected at the entrance gate to the complex, stored in a secure facility and removed by private Contractor, and dumped at the DWAF registered Queenstown solid waste site, and residents of the proposed development will be expected to comply with the Local Authority requirements. Disposal on-site in pits, etc, will not be permitted.

9. ELECTRICITY :

It has been determined that there is sufficient electrical bulk supply capacity to the area. However Eskom have indicated that the bulk supply to the proposed complex will have to be upgraded to accommodate the increase in demand, in the form of a large mini-sub. Each individual erf would have a 60Amp circuit breaker with an After Diversity Maximum Demand (ADMD) of $\pm 4\text{kVA}$, while the electrical reticulation will comprise of suitably sized underground cables, which will supply the individual 70 new units with metered electrical connections from individual electrical kiosks.

10. TELKOM

Additional Telkom overhead and underground cables and connections will only be installed to individual dwellings once Telkom is satisfied with the actual applied demand for individual telephones from completed houses in the proposed development.

11. CONCLUSION

The proposed development on the Flowers Halt Retirement Estate will be designed and implemented in accordance with generally accepted engineering practices as outlined in the 'Red Book', the 'Guidelines for the Development of Human Settlement and Planning', in addition to the relevant SABS 1200 series of Civil Engineering Specifications. All relevant Statutory Legislation as outlined in the Environmental and Water Acts will be strictly complied with, to ensure that the proposed development at Flowers Halt Retirement Estate will be an outstanding example of environmental and engineering excellence.

D E Walters Pr Eng BSc(Eng) B Eng(Hons) MSAICE
WALTERS & ASSOCIATES
April 2010

ANNEXURE H

Geo-technical Report

**GEOTECHNICAL REPORT
INTO THE LAND DEVELOPMENT AREA
ON PORTION 6 OF FARM 175,
QUEENSTOWN,
FLOWERS HALT RETIREMENT ESTATE,
FOR THE PEPLER FAMILIE TRUST**

DEVELOPER :

**PEPLER FAMILIE TRUST
P O BOX 330
QUEENSTOWN
5320**

ENGINEER :

**WALTERS & ASSOCIATES
Consulting Civil Engineers
97 Chamberlain Road
Vincent
EAST LONDON
5247**

(043) 726 7945

APRIL 2010

GEOTECHNICAL REPORT INTO THE SUBSOIL CONDITIONS AT THE PROPOSED LAND DEVELOPMENT AREA ON PORTION 6 OF FARM 175, QUEENSTOWN, (FLOWERS HALT RETIREMENT ESTATE), FOR THE PEPLER FAMILIE TRUST

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- 6. GEOTECHNICAL EVALUATION**
 - 6.1 Excavation Evaluation**
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 - 6.6 Road Construction Materials**
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GEOTECHNICAL REPORT INTO THE SUBSOIL CONDITIONS AT THE PROPOSED LAND DEVELOPMENT AREA ON PORTION 6 OF FARM 175, QUEENSTOWN, (FLOWERS HALT RETIREMENT ESTATE), FOR THE PEPLER FAMILIE TRUST

1. INTRODUCTION

NPM Planning CC (Mr D Poortman) requested that Walters & Associates (Mr D Walters), Consulting Civil Engineers from East London, prepare an Engineering Services Report into the proposed Land Development Area of a portion of land on behalf of the Developer, the Pepler Familie Trust, the owner of Portion 6 of Farm 175, (Amberdale), Queenstown, comprising a total of 18,92ha. The land is to be developed into the Flowers Halt Retirement Estate. This application is to be made to the Eastern Cape Development Tribunal for the establishment of this proposed retirement estate.

The proposed development is to comprise of three phases. Phase One is to comprise of 70 dwelling units over 6,95ha or 10,2 dwelling units per ha. Phase Two and Three will be developed in the future once the engineering infrastructure has been installed, and the future demand has been proven.

The objectives of this Geotechnical Report are to :

- (a) Identify, where possible, the underlying geological formations and their near surface weathered, residual and transported cover.
- (b) Delineate the site into the prescribed geotechnical zones according to the different founding conditions.
- (c) Provide suitable foundation recommendations for the proposed development
- (d) To comment on the excavation characteristics of the site soils and rock.

2. LOCATION

The proposed 18,92ha development, is situated approximately 6,8 km northeastwards from Queenstown, along a gravel road, off the tarred N6 national road to Aliwal North. It also borders along the main East London-Johannesburg railway line along its southern boundary.

3. TOPOGRAPHY

The entire development area is situated on an almost flat area, with a constant slope of 1 in 200 from north to south, along the railway line. Farm 175/6, with co-ordinates of 31° 54' 20"S and 26° 48' 10"E, has an average elevation of approximately 1135m, while the adjacent, northerly kopje has an average maximum elevation in excess of 1400m.

4. GEOLOGY

Farm 175/6 of the development area of Flowers Halt Retirement Estate falls within the lower/ central portion of the 1 / 250 000 scale, number 3126, Queenstown Geological map. The development area falls entirely within the Karoo Sequence, with locally occurring, Jurassic dolerite sills and ring-complexes forming an important part of the structural framework of the Karoo Basin, and outcrop over an area covering approximately half of South Africa. In addition, the Queenstown Geological map indicates that Farm 175/6 (Amberdale) is situated on Alluvium of the Quaternary deposits comprising alluvial slope sheet-wash at the foot of the adjacent northern kopje. The alluvium overlies brownish red to grey mudrock and sandstone, sedimentary rocks of the Burghersdorp formation, of the Tarkastad subgroup, and of the Beaufort Group. The alluvial slope deposits range from a thin veneer of about 400 to 600mm to about two metres in thickness. The existing dam at the farmhouse indicates the soil profile of 600mm of this deposit, overlying the sandstone formation.

In the Eastern Cape, fresh unweathered dolerite is rare in natural outcrops. Where quarried for aggregate and road material, the fresh dolerite ('iron stone') displays its distinctive bluish-black to dark grey colour and fine-grained crystalline texture. Natural dolerite outcrops show a characteristically brown speckled, hard rock that commonly shows a well developed spheroidal ('onion skin') weathering pattern. An egg box-like joint network in the dolerite causes weathering by groundwater to proceed, initially, more rapidly along the cracks, attacking, especially, the rock at the corner intersections.

This leads to a systematic pattern of rounded core stones, each enveloped by layers of progressively weathered rock with a distinctive yellow-brown (khaki) colour. This is clearly seen in the N6 national road cutting and quarry operation.

Freshly crushed, unweathered dolerite is extensively used for concrete aggregate, and for the bituminous surfacing layer on roads. Dolerite produces swelling clays as a weathering product, which leads to foundation failure in cases of under designed structures built on decomposed dolerite, as has happened in the past at the Komani Hospital. Dolerite dykes are generally good aquifers, storing water at their side walls and in the joint fractures. Because it was originally at temperatures of up to 1000°C, the dolerite magma baked (by thermal metamorphism) the Beaufort mudstone along the contact zone to produce hornfels, and the sandstone into quartzites.

It has been determined that the varying mode of weathering of rocks and the associated variation in performance of weathered rocks in road construction, for example, are related to climate. Dr HH Weinert developed the N-value, a function of rainfall and evaporation, with contours of $N = 5$ being the division between humid ($N < 5$) and arid regions ($N > 5$). The N-value at the study area is 4,1 which indicates an increase in the thickness of residual soil cover, commonly fine-grained and clayey, with chemical decomposition being the dominant mode of weathering of the crystalline rocks. With minor exceptions, smectite minerals, notably montmorillonite in the form of grey to black highly active clays, are the final product of decomposition of basic crystalline rocks such as dolerite. The weathering of dolerite is determined primarily by climate and secondarily by topographical aspect and internal drainage, which control the 'soil climate'.

The area has a predominantly summer rainfall and the average annual rainfall is moderate, around 500 mm. The Thornthwaite moisture index map indicates that the study area is situated in a humid climatic area, where the moisture index is between 0 (wet/moist) and -20 (semi-arid).

Sandstones comprise a large proportion of the Karoo sediments, and are generally closely intercalated with mudrocks. This results in the alternating arenaceous and argillaceous sediments so characteristic of the Karoo Sequence.

The term mudrock is used here to include all sedimentary rocks which are composed predominantly of silt-sized or smaller clay particles. For general purposes only, the terms mud-shale or *shale* (for the stratification or lamination variety) and *mudstone* (for the massive variety) are used to differentiate in the classification of mudrocks. One of the most troublesome properties of most Karoo mudrocks is their tendency to break down rapidly after exposure on excavation, the so-called "slaking" process. From an engineering point of view, these shales and/or mudrocks should not be used as aggregate in any form of structural concrete, in gabion work, or as aggregate / stonework in rubble masonry concrete work, because they disintegrate in position. Only hard, durable sandstone and quartzitic sandstone should be used instead.

5. SOILS :

The soil types in the study area are likely to be dominated by transported soils eroded from the parent rock, and overlying residual soils developed in areas where significant chemical weathering of the parent rock has taken place. Transported soils will comprise thicker gravelly silty sands on the lower slopes (hillwash) and alluvial banks (alluvium) underlain by residual soils (silty clays and silty sands) followed by weathered parent rock. Significant thick accumulations of Quaternary alluvium (gravels, sand and silt) have been mapped on the site, that was previously cultivated.

Excavations on the property such as the farm dams, irrigation furrows and trial holes, indicate the extent and depth of the localised basal parent rock formation (being mostly Beaufort Series mudstone and sandstone throughout), followed by the residual subsoil and the transported topsoil alluvial layer, containing decomposed fragments of the parent rock within a matrix of silty clayey soil, transforming into alluvium, a widely occurring transported soil. Its accumulation is mostly pronounced on the lower reaches of the kopje slopes and pediments, as indicated by the soil profile. The top or surface layer of alluvium is the fertile topsoil layer, which has a thickness of between 400 and 600 mm over the 70 unit residential area. Using the method of Jennings & Brink to profile the soil formations, a number of soil profiles of trial pits were investigated.

6. GEOTECHNICAL EVALUATION

The geotechnical appraisal is based on on-site field observations and interpretations.

6.1 EXCAVATION CLASSIFICATION WITH RESPECT TO SERVICES

The development area site is covered by transported soils with an average thickness of about 600mm overlying residual soils and weathered mudstone/ sandstone formation. Excavation of shallow, 1,0 metre deep trenches through the transported soils of the wide open fields of the development area will be easily achieved using a normal TLB, while a tracked 20 tonne Excavator will complete the operation in a very short time, at deeper depths. Hard rock is only anticipated at depths exceeding about 2,0 metres.

6.2 SLOPE STABILITY & EROSION

Due to the flat slope of the terrain, at a 1 in 200 gradient, on which the 70 unit development area is to be positioned, normal problems associated with slope instability and soil erosion may be excluded.

6.3 SOIL ACTIVITY

In terms of the Van der Merwe Activity Chart, some of the colluvium and residual soils found in the pediment above the development site, upwards towards the surrounding dolerite kopjes, have a medium activity rating, and therefore may be subject to significant swelling on saturation, such as found on the other side of Queenstown around the Komani hospital.

6.4 ON-SITE EFFLUENT DISPOSAL

The use of on-site disposal of domestic effluent using septic tanks and french drain soakaways will not be permitted due to the close proximity of the borehole field.

6.5 BUILDING FOUNDATIONS

Normal concrete strip footings of dimensions 600mm x 200mm in cross sectional area may be used for all single storey buildings on the development area. However, we recommend that the foundation plinth walls be cast as 50mm wide cavity walls, reinforced with reference #193 weldmesh strips, in place of normal wire brickforce between brick courses, and the cavities filled with 20MPa concrete.

6.6 ROAD CONSTRUCTION MATERIALS

There are no suitable road making materials to be found on Farm 175/6, as subbase, or as gravel wearing course. On no account should the 'slaking' variety of mudstone be used as internal foundation/pavement layers or wearing course on the roads, as the surfaces will turn into 'soap' during rainy and wet weather. The internal roads to the 70 residential units will be surfaced, comprising 4,50 metre wide concrete interlocking block-paved roads, with grassed verges.

All road making material will have to be imported from commercial sources. If used as the sub base layer, the natural 'sabunga' material should be stabilised with ordinary portland cement, in the proportions of at least 3,0% cement content by weight. On no account should any 'slaking' mudstone material be used in the road formation. The sub base should be a G5 material with a CBR >45, while the selected subgrade could be a G7 with a CBR >10. The base material should be a cement-stabilised G5 material, the final layer before the concrete interlocking pavers are laid upon.

7. CONCLUSION

The development of the Flowers Halt Retirement Estate, on Portion 6 of Farm 175, Queenstown is considered feasible provided the recommendations set out in the above report are strictly adhered to as they amount to no more than good engineering practice. In addition, the requirements and regulations as outlined in the National Building Regulations and the National Home Builders Registration Council (NHBRC) manuals which will have to be adhered to during building construction operations, have been formulated to protect the new Home Owner against unscrupulous building contractors.



D E Walters Pr Eng BSc(Eng) B Eng(Hons) MSAICE

WALTERS & ASSOCIATES

April 2010

ANNEXURE I

Agriculture Specialist Report

FLOWERS HALT

Retirement Estate



Report on Agricultural potential

DATE : May 2010

PREPARED BY : Jongisizwe Support Services cc
Mr P R Brill
Tel: 082 320 1460
Fax: 086 60 31709
E-mail: pbrill@jongi.co.za

12 Villagers Road
Balmoral
Queenstown
5320

EXECUTIVE SUMMARY

This report has been prepared to assist NPM Planning in determining the Agricultural potential of Portion 6 of Farm 175 Queenstown, currently known as Geluk smallholding, which is intended to be developed in to a Retirement Estate.

Geluk smallholding has been occupied as a residential home for the past 20 years and has not been farmed, as such, for the entire period of 20 years.

The smallholding is 18.92 ha in extent and has a recommended carrying capacity of 7 ha/ LSU. The agricultural land has not been utilised at all and the grass component has therefore degraded severely due to under-utilisation.

There is no potential for intensive agriculture such as irrigation. Although the soils may be deep enough for agriculture, the size of the farm is not large enough to conduct a commercial farming operation under dry-land conditions and there is no water source which could be used for an intensive farming operation. The farm is flat but as mentioned, water is a limiting factor with regard to intensification.

The proposed development will have a positive impact on the town of Queenstown and the Region as a whole as it will provide accommodation for retired people which is sorely needed in Queenstown.

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1 INTRODUCTION

1.1 PURPOSE OF THE REPORT

The submission of this Report is in response to an appointment made by NPM Planning to assist them with an assessment of the agricultural potential of Geluk smallholding.

This Report provides a brief overview of the current land use, the natural environment and the Agricultural potential of Geluk smallholding as well as findings and conclusions which will support an application for the Rezoning and sub-division of a portion of the Land for Developmental purposes as regulated by Act 70 of 1970

This report is to be submitted to NPM Planning who has been appointed by "Peplar Familie Trust", owner of Geluk smallholding.

2 PROJECT DETAIL

2.1 LOCATION

The proposed 18,92 ha development is situated approximately 6,8 km north-east of Queenstown, along a gravel road, off the tarred N6 national road to Johannesburg. It also borders the main East London-Johannesburg railway line along its southern boundary.

2.2 PRESENT SITUATION

2.2.1 Present Land Use

The property has recently been sold to "Peplar Familie Trust" by an elderly couple who have lived on the smallholding for 20 years. In an interview with the previous owners it was revealed that there was no agricultural activity conducted at all for the 20 years they lived there. All the fences, including the boundary fences are in a poor state of disrepair which also suggests that no activity other than the house being used as a residence has taken place for many years. The existing infrastructure such as sheds, staff housing and pig styes are derelict and would need to be demolished and rebuilt if farming activities were to be resumed.

2.2.2 Existing Water Supply Sources and Infrastructure

The existing water supply source is a borehole. There are 2 dams on the farm which rely on rainwater run-off and all the furrows which should lead water to these dams are breached and therefore ineffective.

There are 4 boreholes, two of which are capped, a third borehole equipped with an electric motor and pump and the fourth borehole, which was equipped with a windpump, has collapsed. The third borehole is being used to supply potable water to the existing infrastructure.

These four boreholes are not recorded in the National Groundwater database (NGDB). Three of the four boreholes were recently yield tested and are recorded in Table 1:

Table 1: Summary of Borehole on "Geluk"

Site ID Number	Borehole Depth	Static Water Level	Draw Down	Reported Yield (l/hr)
Borehole 1	50 m	18 m	41 m	6000
Borehole 2	90 m	22 m	78 m	1800
Borehole 3	unknown	unknown	unknown	1500
Borehole 4	Collapsed	N/A	N/A	Collapsed

(The National Water Act (Act 36 of 1998) ensures that water resources are adequately protected, used, developed, conserved and controlled. Under the Act, a developer is required to obtain the necessary permits for water usage and the disposal of waste-water from the authority responsible for the administration of the Act, namely the Department of Water & Environmental Affairs (DWEA). Any private well or borehole sunk for the abstraction of groundwater has to be reported to the regulatory authority.)

3 NATURAL ENVIRONMENT

3.1 GEOLOGY

The development area falls entirely within the Karoo Sequence. In addition, the Queenstown Geological map indicates that Portion 6 of Farm 175 (Amberdale) is situated on alluvium of the Quarternary deposits comprising alluvial slope sheet-wash at the foot of the adjacent northern kopje. The alluvium overlies brownish red to grey mudrock and sandstone of the Burghersdorp formation, of the Tarkastad subgroup, and of the Beaufort Group. The alluvial slope deposits range from about 400mm to about two metres in thickness. The existing dam at the farmhouse (see picture below) indicates the soil profile of 600mm of this deposit, overlying the sandstone or mudstone formation.



3.2 CLIMATE

3.2.1 Rainfall

The average annual rainfall is estimated at between 459 mm to 623 mm as shown in Table 2.

Table 2: Average annual rainfall of stations within 30km

Station Name	Distance (km)	Record (Years)	Latitude	Longitude	MAP (mm)
Queenstown	10	106	31°53'47"S	26°55'25"E	536
Fordyce	20	25	31°58'49"S	26°42'23"E	624
Newstead	15	84	31°07'17"S	26°57'32"E	459

The rainfall in this area falls mainly from October to March, with peak falls, often with hail, in the hot summer months. There is a distinct dry winter period. The late rainfall and long frost period restricts cropping potential. This rainfall trend is clearly depicted in Table 3.

Table 3: Rainfall (mm/month) – Fordyce (25 years) & Qtn (106 years)

July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	Total
7	17	35	57	92	79	108	82	81	41	14	11	624
16	27	39	55	70	76	83	82	39	23	14	12	536

3.2.2 Temperature

Mean max. : 19°C (July) - 30°C (January)

Mean min. : <3°C (July) - 16°C (January)

Hot scorching berg winds cause extremes of temperature – as high as 44°C in January and 31°C in July.

Frost occurs regularly and the mean duration of frost is <100 days. Frost occurs from mid-April to end-September.

3.2.3 Hail

Hail occurs on a frequent basis in the summer months which often causes damage to crops in the area.

3.3 WATER

Water on the smallholding is scarce and is currently only developed for the residence. The two dams which exist on the smallholding rely totally on run-off and all the diversion furrows which are evident have been breached and are now ineffective. There is evidence that there was a borehole equipped with a windmill but it is now derelict.

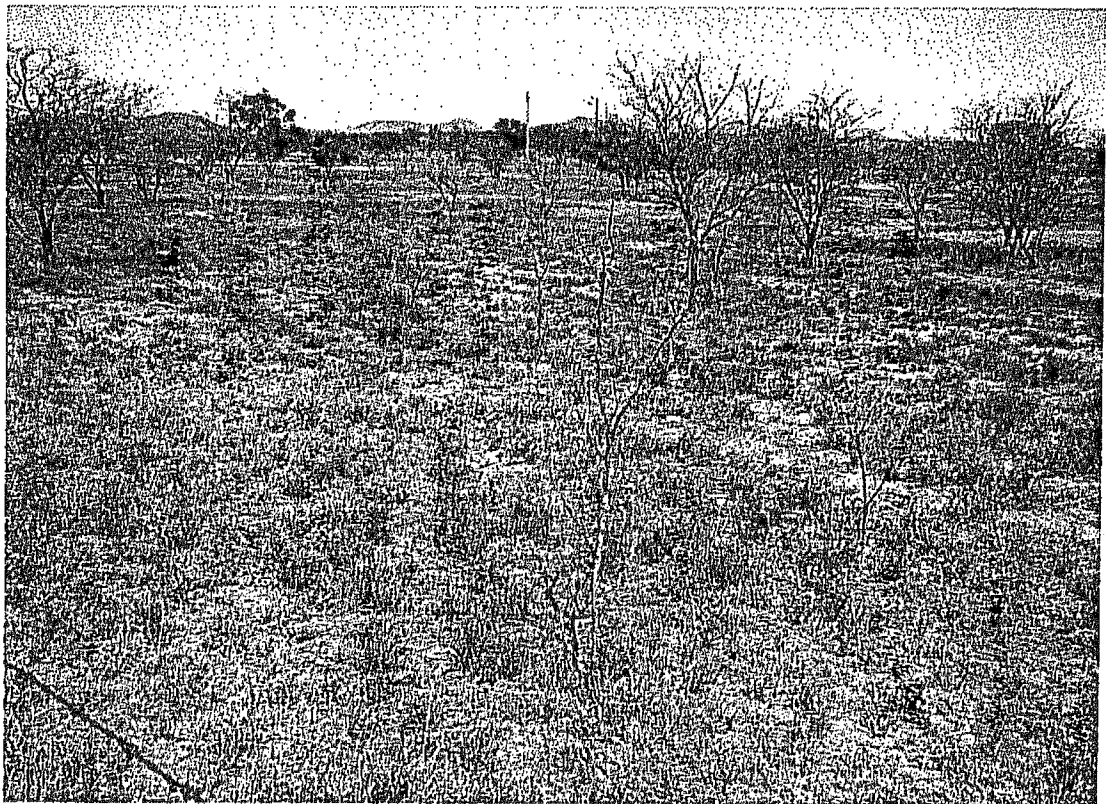
3.4 VEGETATION

The vegetation is predominantly grassveld and Thorn trees (Acacia Karoo) which is indicative of sweetveld vegetation. The area is flat and there is evidence of old lands which have been ploughed previously. The grass cover is very sparse and there is very little evidence of climax grass species such as Themeda Triandra (Rooigras). This is indicative of underutilisation of the grazing component which has had no stimulation by grazing or fire for the past 20 years. Underutilisation of a climax grass component results in aerial tillering and subsequent plant mortality resulting in loss of the climax grass species.

The photos below depict the sparseness of the grazing component which has a marked effect on the carrying capacity of the area.



The recommended grazing capacity for the area is estimated at 7 ha/LSU. The total grazing capacity for the smallholding is 3 large stock units (LSU's). However, due to the sparseness of the vegetation at present, the carrying capacity is in all likelihood greater than 10ha/LSU.

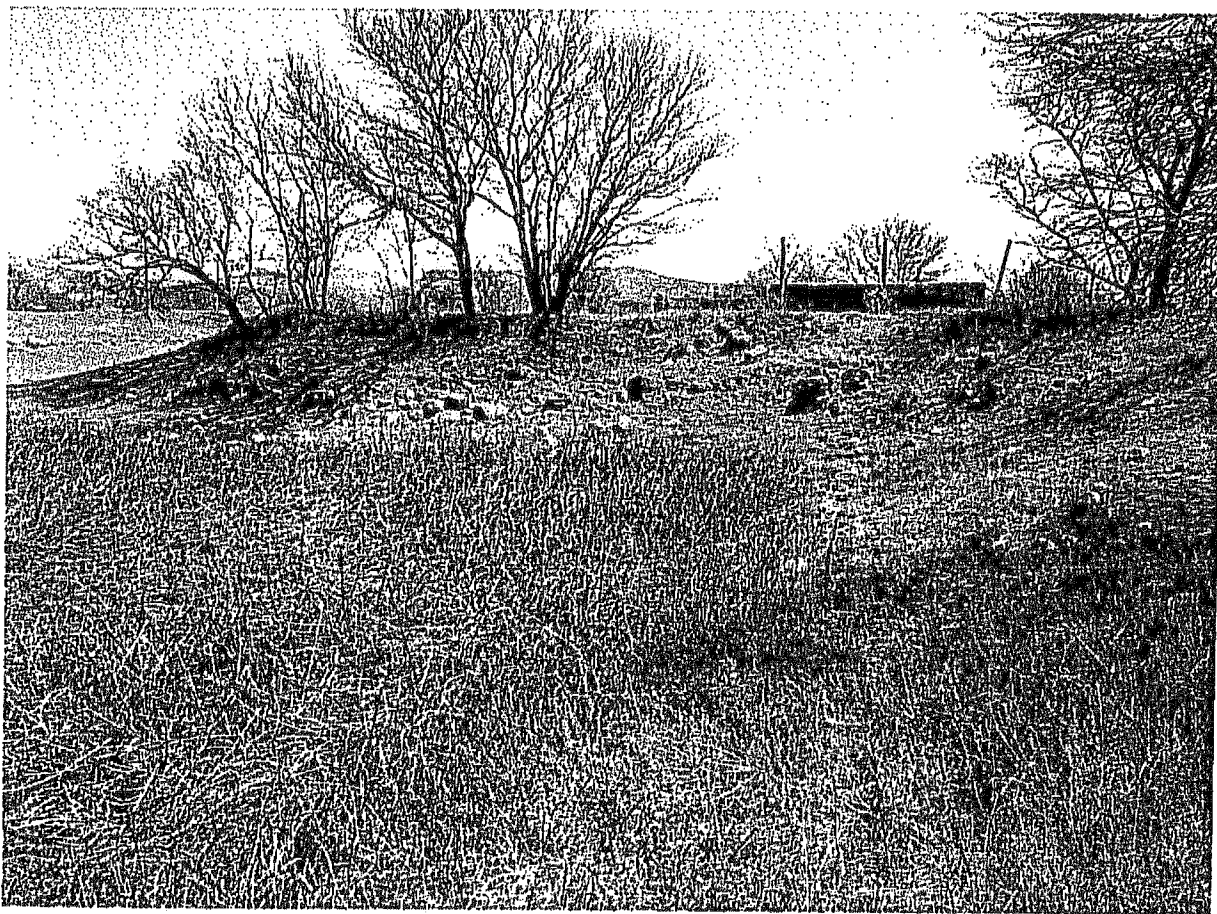


3.5 SOILS

The soils have not been classified for the purposes of this report. However, the area is flat with a constant slope of 1:200 and there is evidence of cultivation in the past.

The size of the property and the lack of water makes it an uneconomical unit to cultivate crops under dry-land conditions.

The photograph below give as Indication of the soils at the smallholding. As one can see the soil has a depth of approximately 600 mm and is underlain by sandstone and mudstone.



4 AGRICULTURAL POTENTIAL

4.1 BACKGROUND

Although irrigation engineering, fertilisation and other technologies may profoundly change the natural agricultural capabilities of an area; climate, topography and soils remain the prime physical determinants of agricultural systems

Where an in-depth report is required for a major development it is advisable to conduct an Agricultural Land Classification study which gives an evaluation of the land by means of a Land Description code which breaks up the study area into land quality classes.

For the purposes of this report though, a simpler Land evaluation has been adopted by assessing very broadly the following criteria:

- Land Use Capability – assessed primarily on the basis of the hazard of use of land where soil loss through erosion is the principle use hazard.
- Land Suitability – this is not a fixed parameter, but varies with economic, climate, social and other influences.

4.2 DISCUSSION ON LAND-USE POTENTIAL

4.2.1 Land Use Capability

The entire 18.92 ha area of the smallholding is very flat and is therefore suitable for cultivation from the perspective of slope. However, the soils on the property are no deeper than 600 mm and are underlain by rock and decomposed dolerite which makes them marginal and limited in terms of cropping potential. The farm has not been cultivated for the past 20 years and all forms of erosion protection such as furrows and contours are in an absolute state of disrepair and would require major effort to re-instate. Costs to resurrect the farm to a state where cultivation could take place would be prohibitive and this, as well as the lack of water for intensive agriculture, makes it uneconomical to consider a commercial agricultural enterprise.

4.2.2 Land Suitability

The property is not suitable for any form of livestock farming due to its size. The farm is 18.92 hectares in extent and with a recommended carrying capacity of 7ha/LSU is capable of sustaining 3 LSU's. Even if the farm were to be developed under pastures with a carrying capacity of 4 LSU per hectare the smallholding remains an uneconomic unit. Any form of cropping under dry-land conditions is non-viable and irrigation is not an option because there is no sustainable source of water in the area.

5 FINDINGS and CONCLUSIONS

There is currently no land on the Property which is cultivated and the land has no particular unique value for which it needs protection.

There is no land on the property which meets the criteria for high potential land.

The land which has been identified for development is fairly shallow underlain by rock that has very limited arable potential.

The proposal to develop the smallholding into a Retirement Estate is to be supported since it is in close proximity to Queenstown and there is a dire need to provide a secure residential environment for retired people.

From a socio-economic perspective the proposed development will provide employment to a region which has a very high unemployment rate.

It can therefore be concluded that the proposed development will have a very positive effect on the Property and the Region and will have no detrimental effects on the Agricultural potential in the Region.

6 References

"Soil Classification : a binomial System for South Africa." G.N Macvicar et al 1977

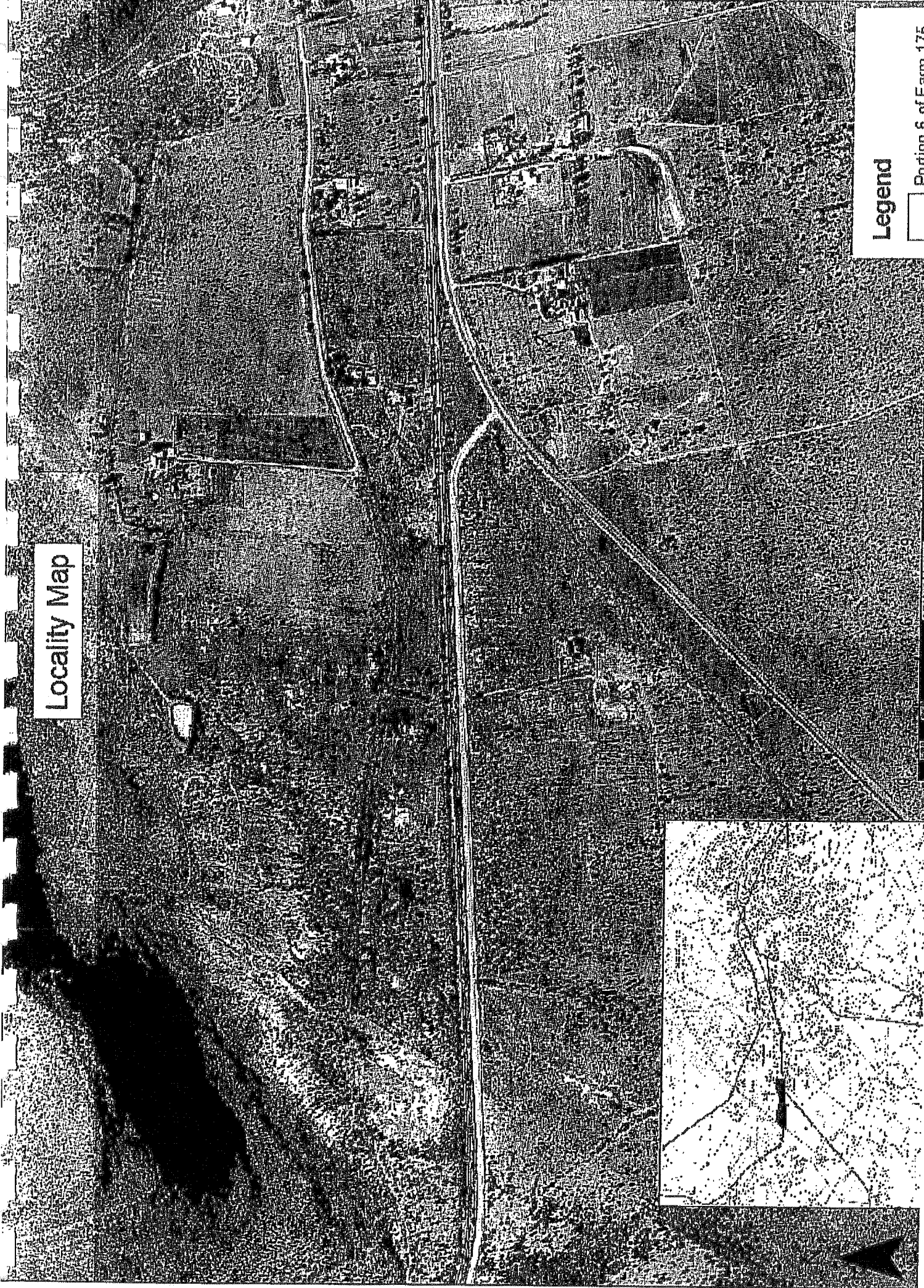
"The Development of "CALC" – a new Ciskeian land evaluation system".
M. Copeland. Ciskei Agricultural Journal, 1st quarter, 1987.

Groundwater Database of Department of Water Affairs

APPENDIX A

PROJECT AREA

Locality Map



Legend

□ Portion 6 of Farm 175

ANNEXURE J

Environmental Scoping Report

FLOWERS HALT RETIREMENT ESTATE

**PROPOSED LAND DEVELOPMENT AREA ON
PTN 6 OF FARM 175, QUEENSTOWN**

DFA Scoping Report

April 2009

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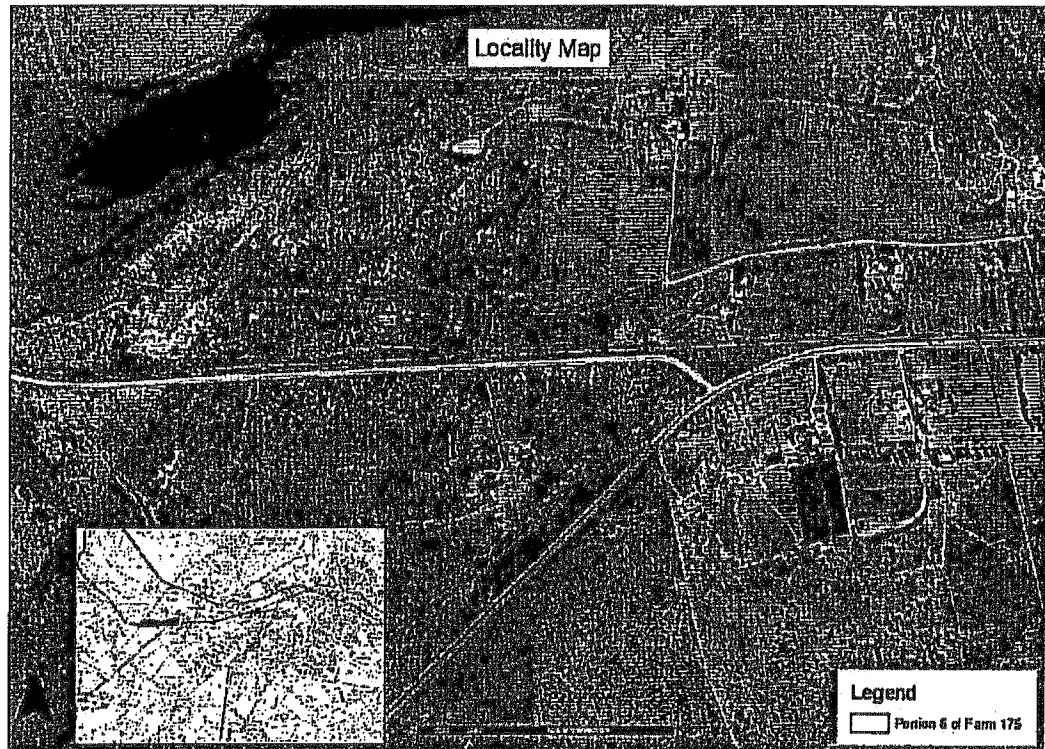
ABBREVIATIONS

BAR	Basic Assessment Report
DEDEA	Department of Economic Development and Environmental Affairs
DFA	Development Facilitation Act
ECA	Environment Conservation Act
ECHRA	Eastern Cape Heritage Resources Agency
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
I&AP's	Interested & Affected Parties
NEMA	National Environmental Management Act
ROD	Record of Decision
SDF	Spatial Development Framework
WWTW	Waste Water Treatment Works

1 INTRODUCTION

1.1 Background

The "Pepler Familie Trust", is proposing the establishment of a 70 units plus ancillary infrastructure retirement estate. The proposed development is to be known as Flowers Halt Estate. The proposed development will be situated on Portion 6 of Farm 175 Queenstown. The proposed development is located within the Lukhanji Local Municipality and Chris Hani District Municipality.



Dirk Prinsloo Environmental Consulting has been appointed as Environmental Assessment Practitioner (EAP) for the undertaking of a Basic Assessment Report for the proposed development.

This document constitutes the Scoping Report as per the DFA requirements for the proposed development.

1.2 Objectives of this Scoping Report

The Scoping Report requirements are defined by the DFA Regulations and will indicate the extent to which the proposed activity or development will impact on the environment, and where appropriate deal with the following specific aspects of the environmental impact:

- a. The physical and landscape characteristics of the land development area and its surroundings;
- b. The ecological characteristics of the land development area and its surroundings;

- c. The current and potential land-uses of the land development area;
- d. Existing significant archaeological, historical and cultural sites in the land development area and its surroundings;
- e. The social and economic impact on communities in the land development area and surroundings;
- f. The existing infrastructure and/or services in or around the land development area;
- g. The existing social and community structures, services and facilities in or around the land development area;
- h. The levels of present and possible pollution, including noise pollution, in the future as a result of the proposed development,
- i. Any risks or hazards to the environment posed by the development;
- j. The health and safety of the public;
- k. The social costs of the proposed development;
- l. The effect of the proposed development on different groups or individuals;
- m. The medium and long term environmental sustainability of the proposed development;
- n. What mitigating measures could be implemented to reduce negative impacts and enhance positive impacts of the aspects described in paragraphs (a) to (m) and, where appropriate to what extent alternative sites for the development were investigated.

1.3 Legal Requirements Applicable to the Proposed Activity

The National Environmental Management Act (Act 107 of 1998) Section 24(5) stipulates that "listed activities" require environmental authorization by means of a Basic Assessment. Government Notice No. 386 (July 2006 EIA Regulations) identifies the following listed activities, applicable to the proposed development as requiring environmental authorization:

Listed Activity No. 1 (k) – The bulk transportation of sewage and water, including storm water, in pipelines with –

- i. an internal diameter of 0.36 metres or more; or
- ii. a peak throughput of 120 litres per second or more

Listed Activity No. 1 (s) - the treatment of effluent, wastewater or sewage with an annual throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres; (Note DEDEA Notification, dated 31 March 2009, prior to Waste Management Regulations.)

Listed Activity No. 15 – The construction of a road that is wider than 4 metres or that has a reserve wider than 6 metres, excluding roads that fall within the ambit of another listed activity or which are access roads of less than 30 metres long

Listed Activity No. 16 – The transformation of undeveloped, vacant or derelict land to establish infill development covering an area of 5 hectares or more, but less than 20 hectares; or residential, mixed, retail, commercial, industrial or institutional use where such development does not constitute infill and where the total area to be transformed is bigger than 1 hectare.

Listed Activity No. 18 - The subdivision of portions of land 9 hectares or larger into portions of 5 hectares or less.

In addition to the Basic Assessment Report Process, NPM Planning cc. has been appointed by the applicant to process an application for development rights on the property in terms of the Development Facilitation Act, No. 67 of 1995.

The following is a list of key national environmental legislation that has direct relevance towards the project.

1.3.1 National Environmental Management Act 107 of 1998 (NEMA)

The National Environmental Management Act (Act 107 of 1998) is intended to enact the environmental policy of South Africa.

The NEMA establishes a number of principles related to the environment in South Africa. These principles are designed to provide a general framework for environmental planning and guidelines for the interpretation, administration and implementation of the Act.

The principles include a number of internationally recognised environmental law norms and some principles peculiar to South Africa, i.e. the:

- Preventive principle;
- Precautionary principle;
- Polluter pays principle; and
- Equitable access for the previously disadvantaged to ensure human well being.

NEMA stipulated that development must be socially, environmentally and economically sustainable. Sustainable development requires the consideration of all relevant factors including the following:

- That the disturbance of ecosystems and loss of biological diversity are avoided, or, minimised and remedied;
- That pollution and degradation of the environment are avoided, or, minimised and remedied;
- That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or, minimised and remedied;
- That waste is avoided, or, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;
- That the use and exploitation of non-renewable natural resources is done in a manner that is responsible and equitable;
- That the development, use and exploitation of renewable resources and the ecosystem of which they are part of do not exceed the level beyond which their integrity is jeopardised;
- That a risk-averse and cautious approach is applied; and
- That negative impacts on the environment and on the people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

1.3.2 National Water Act 36 of 1998

Water Supply

The National Water Act (Act 36 of 1998) ensures that water resources are adequately protected, used, developed, conserved and controlled.

Under the Act, a developer is required to obtain the necessary permits for water usage and the disposal of wastewater from the authority responsible for the administration of the Act, namely the Department of Water & Environmental Affairs (DWEA).

Any private well or borehole sunk for the abstraction of groundwater has to be reported to the regulatory authority.

Wastewater

The National Water Act is the principal piece of South African legislation governing wastewater management. Under the Act there are several important issues specific to this project to note:

- It is an offence to wilfully or negligently pollute surface water or groundwater;
- In the event of a pollution incident, the offending party is obliged to report the incident to the regulatory authority; and
- The regulatory authority can take the necessary steps to prevent the pollution of water resources and can recover the costs of clean up from the polluter.

1.3.3 National Forest Act 84 of 1998

The National Forest Act (No 84 of 1998) protects all forests from the destruction, damage or removal of trees. Natural forests and woodlands form an important part of the environment and need to be conserved and developed according to the principles of sustainable development. The sustainable management and development of forests is to be promoted for the benefit of all.

The Act provides special measures for the protection of certain forests and trees:

Section 7 (1)¹ No person may cut, damage, or destroy any indigenous, living tree in a natural forest; process, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose any tree, or any forest product derived from a tree contemplated in paragraph (a)¹; or except in terms of:

- a licence issued under subsection (4) or section 23; and
- or an exemption from the provisions of this subsection published by the Minister in the Gazette on the advice of the Council.

Section 15 (1) lists the effects of declaring trees as protected and Section 23 (1) lists the activities, which may be licensed in a state forest.

¹ Section (a) lists those species as protected in terms of National Forest Act.

2 APPROACH TO THE SCOPING STUDY

2.1 Introduction

The Scoping Phase is recognised as the first critical stage in the EIA process. The characteristics of scoping are as follows:

- It is an open process that involves the authorities, proponent and stakeholders;
- Feasible alternatives are identified and selected for further assessment;
- Important characteristics of the environment are identified; and
- Important potential impacts on the environment are identified.

The following describes the tasks that were carried out as part of this Scoping Study:

- Site visit and assessment of existing environment;
- The identification of reasonable and feasible alternatives;
- Initiation of Public Participation Process (PPP) as per NEMA Basic Assessment requirements;
- Identification and preliminary assessment of impacts;
- Development of mitigation measures for identified impacts; and
- Production of a DFA Scoping Report and NEMA Basic Assessment Report.

3 PROJECT DESCRIPTION AND ALTERNATIVES

3.1 Project Description

The proposal envisages the establishment of a low density limited residential development. Phase one consists of 70 units plus ancillary, private open space and private roadway.

3.2 Alternatives

Consideration of alternatives is a key element of the EIA process, and is a requirement of the scoping process as defined in the EIA regulations (DEAT, 2006). The goal of evaluating alternatives is to find the most effective way of meeting the need and purpose of the proposal, either through enhancing the environmental benefits of the proposed activity, or through reducing or avoiding potentially significant negative impacts. Key criteria for consideration when identifying alternatives are that they should be "practicable", "feasible", "relevant", "reasonable" and "viable". The general approach to EIA alternatives is that a range of alternatives should be considered together with the No-go alternative. Assessment of alternatives should include a comprehensive comparison of all potential impacts, both direct and indirect and cumulative, on the environment (DEAT, 2004).

3.2.1 Alternatives Assessed

Only activity/technology alternatives such as sanitation and water supply options were assessed in the Basic Assessment. No site (property) alternatives were assessed, due to the applicant owning the property.

Layout and Density

Layout and density options were considered by the NPM Planning reports submitted to the DFA tribunal.

Sanitation Options

Use of Septic tanks, low volume waste water treatment works and disposal of sewage at Municipal facilities versus septic tanks or package plants options were assessed. No Municipal Waste Water Treatment Works are in close proximity to the proposed development. The preferred alternative is thus to use septic tanks or a low volume waste water treatment works.

Water Supply Options

There is no Municipal water supply to the proposed site. Water provision options such as rainwater harvesting as per Schedule 1 of the National Water Act or the provision of water from the existing boreholes have been considered. All Water Act requirements will be met.

4 BASELINE ENVIRONMENT

4.1 Land use

The subject property is bordered by agricultural smallholdings.

4.2 Vegetation

Conservation Status

The proposed property is situated in an area that is predominantly used for non commercial agricultural activities. Portion 6 of Farm 175 is severely degraded and does not have any intact indigenous vegetation.

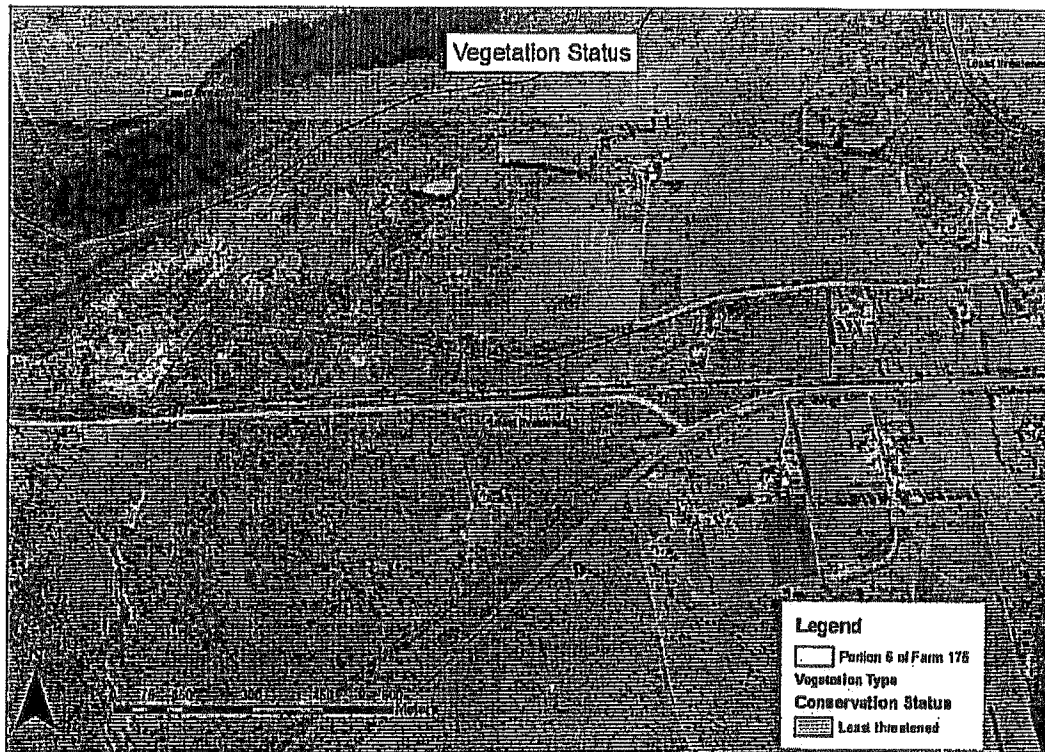


Figure 1 Conservation Status

The Proposed development is located in vegetation types considered to be least threatened (See Figure 1 Conservation Status) by the Vegetation Map of Southern Africa (Mucina and Rutherford, 2006). In addition the proposed development complies with provisions of the draft National List of Threatened Ecosystems (G.N 1477 of 2009) of the National Environmental Management Biodiversity Act, 2004 (Act 10 of 2004).

The conservation status of Queenstown Thornveld and Tarkastad Montane Shrubland (See

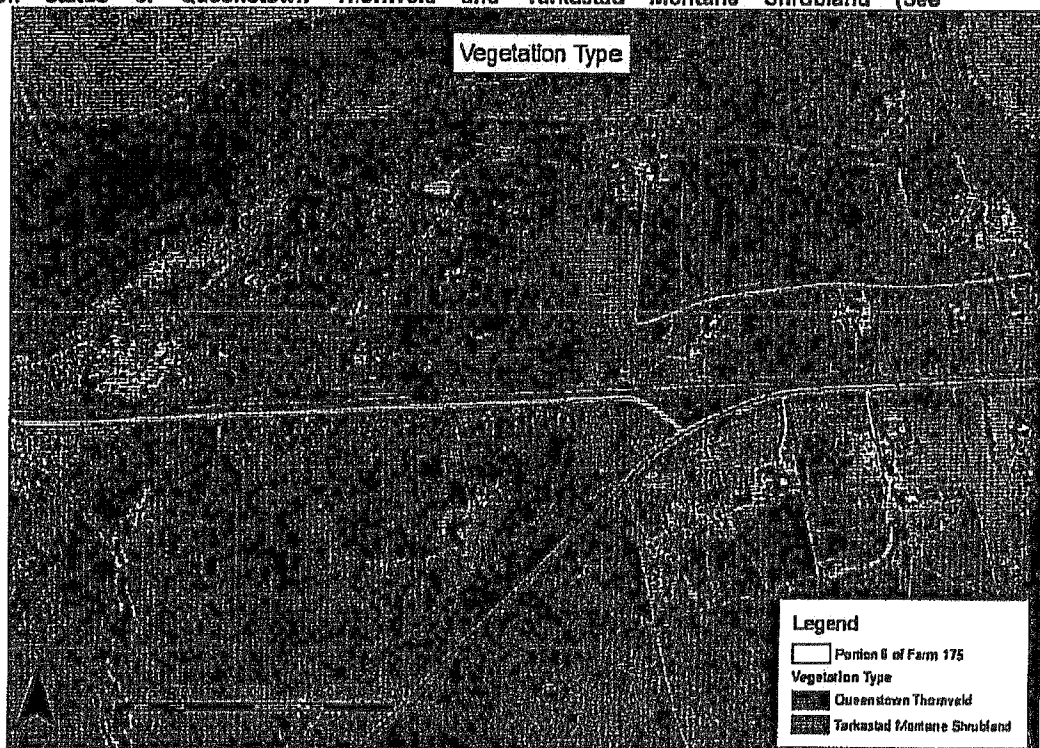


Figure 2 Vegetation Type) is classified as least threatened.

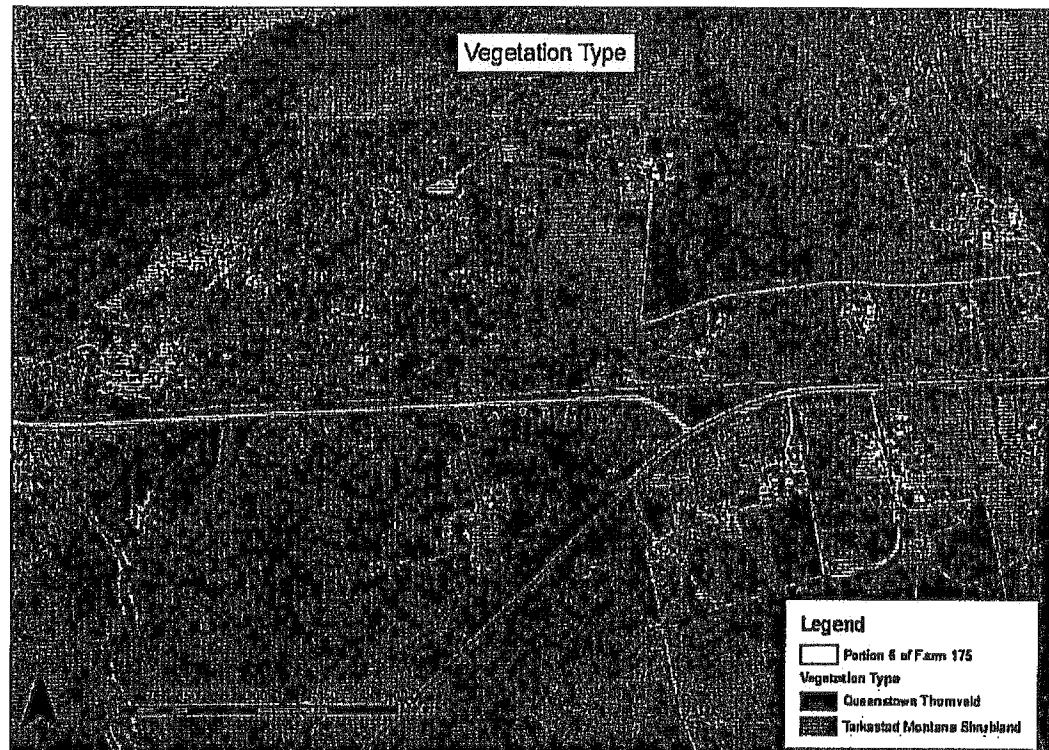


Figure 2 Vegetation Type

4.3 Conservation importance of the study area

A fine scale analysis of the study area illustrates that the proposed development does not fall within an area considered to be a critical biodiversity area (CBA1) as per the Eastern Cape Biodiversity Conservation Plan (ECBCP). The Western part of the property is located within a CBA2 area as can be seen in Figure 3.

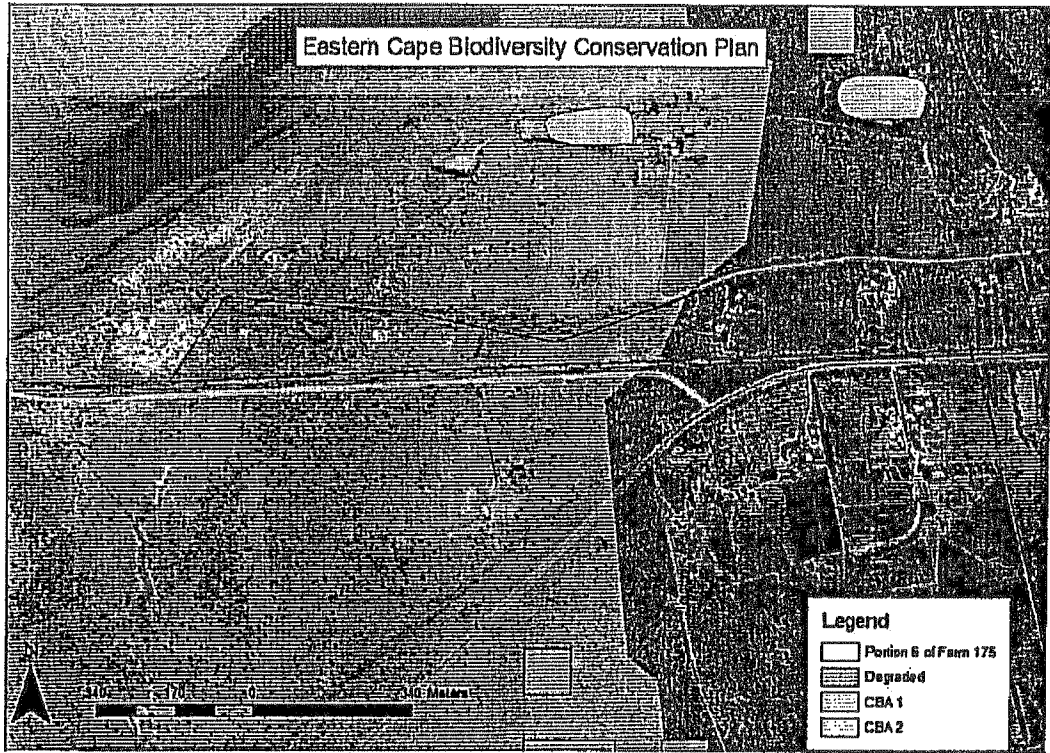


Figure 3 Eastern Cape Biodiversity Conservation Plan

5 ENVIRONMENTAL ISSUES AND POTENTIAL ENVIRONMENTAL IMPACTS

5.1 Key issues and responses

Anticipated issues include:

- Sustainable water supply; and
- Sanitation technology options.

5.1.1 Sustainable water supply

Sustainable water supply is a vital component of the proposed development. The option of rainwater harvesting and storage as per Schedule 1 of the National Water Act was investigated. The most challenging aspect of this option is the storage of water, equal to approximately 80 days of the daily requirement of each unit.

The site currently has boreholes that have been tested by Amberdale Boreholes to determine its suitability for use by the development.

A dual conventional water reticulation network will be installed. The one network will provide potable water from the one reservoir to the proposed development where the other network will provide the irrigation and fire fighting water from the other reservoir. Details of a provisional distribution networks will be provided once the preliminary design has been completed by Emonti Consulting Engineers.

5.1.2 Sanitation technology options

Sanitation options that were considered include septic tanks, removal of effluent to a Municipal operated Waste Water Treatment Works (WWTW) and the use of septic tanks. The use of septic tanks is the preferred option, due to no Municipal WWTW being in close proximity to the proposed development.

A dual system septic tank is the preferred option. This system should be a conventional septic tank system where the grey and black water are discharged into two separate septic tanks. A typical dual septic tank system consists of two adequately sized two chamber underground tanks. The outflow of each of the septic tanks is to be discharged into two separate absorption trenches. In this manner, faecal coli forms and other bacteria are confined to a specific area with a low water inflow, thus reducing the mechanism by which these organisms can spread in the sub-soil. Without large water volumes accompanying the sewage, the harmful component cannot be transported far from the soak-away. By separating the grey and black water, the risk of system malfunction is thus greatly reduced. It is important that the absorption trenches for the grey and black water are located at least 10 metres apart and that the sewage absorption trench is always located up-gradient from the grey water absorption trench. The geometric design of the tank itself is vital in preventing short circuiting and maintaining appropriate flow rates. Details will be submitted at detailed design stage.

5.2 Impact Assessment

This section investigates the likely biophysical and socio-economic impacts, which may arise from the construction and operation (use) of the proposed development. The assessment

findings and proposed mitigation measures are described in this section. In this scoping report, mitigation measures refer to the precautionary measures designed to avoid, reduce or remedy the impacts of activities emanating from the proposed project.

Two phases are identified with the proposed projects:

Construction Phase

The construction phase refers to all the construction and construction related activities that will occur within the project area until the development is commissioned.

Operational Phase

This phase will involve all the post-construction activities, including the operation i.e. habitation or use and maintenance of the proposed development.

5.3 Biophysical Impacts

5.3.1 Water Quality Impacts

Water quality of both surface and ground water may be impacted on during the construction phase.

The possible impacts are described below:

- Contamination of surface water from construction activities such as spillage's of oils, construction waste and inappropriate ablution facilities for construction that have the potential to pollute surface water.
- During the operational phase, ground water could be contaminated by septic tanks.

Discussion

Water Affairs and relevant Municipal operational guidelines for the management of septic tanks will have to be adhered to. This includes the signing of a legally binding document between the proposed Home Owners Association and the Municipality. Water Affairs water quality standards will also have to be complied with.

Mitigation

- Only treated effluent that complies with the DWAF effluent discharge standard will be used for irrigation;
- No structures to be located within the 1:100 year flood line;
- No repairs or servicing of plant and construction machinery allowed on-site; Utilise drip trays to prevent oil or fuel spills in case of on-site emergency maintenance; All concrete batching to be conducted on impermeable sheet material;
- Temporary ablution facilities must be provided on site for construction workers (1 to 15 ratio); appropriate waste and sewage collection and disposal procedures and facilities to be implemented.

5.3.2 Biodiversity Impacts

Little intact indigenous vegetation is found at the site. No endangered vegetation types occur on site. The study area is not in a pristine state due to disturbance from agriculture and development.

(a) Nature of Impacts

Potential Impacts can be described as follows:

- o Alien plant invasion and the subsequent displacement of indigenous species.

(b) Discussion

The proposed development footprint will mostly be situated on previously disturbed areas.

(c) Mitigation

- Little indigenous vegetation clearing will take place.
- The proposed development will apply accepted soil conservation and environmental management practices, which will prevent soil erosion. In addition no development will take place on steep slopes, which would also prevent erosion and contribute to estuarine environment not being degraded. In excess of 90% of the development will be zoned as agriculture.
- An Environmental Control Officer (ECO) should be designated on site to take responsibility for the protection of sensitive habitats during the construction phase of the project;
- No-go areas must be clearly demarcated prior to the establishment of the contractor on site.
- A search and rescue operation must be undertaken prior to site clearing. Species which can be used for landscaping on site should be transplanted to a temporary plant nursery and then returned once construction is complete;
- According to the Conservation of Agricultural Resources Act (Act No. 43 of 1983) all declared alien weeds and declared invader plants must be effectively removed by the landowner; and
- Only plants indigenous to the area should be planted in gardens.

5.3.3 Soil Loss and Erosion Impacts

The clearing and removal of vegetation will expose soils to wind and rain and may result in localised erosion.

(a) Mitigation

- Adequate attenuation measures must be put in place to ensure that water velocities are reduced and that gully formation does not occur.
- Applying accepted soil conservation and environmental management practices which will prevent soil erosion and in addition no development will take place on steep slopes, which would also prevent erosion and contribute to estuarine environment not being degraded.
- Topsoil's are to be separated from subsoil and should be stockpiled in piles no greater than 1,5m in height.

5.3.4 Visual impacts

The rural character and sense of place of the site may be altered by visual impacts associated with the proposed development

(a) Discussion

Aspects that have a strong visual influence with regard to the development proposal include:

- Construction camps, plant and vehicles during construction phase; and
- Visual impact of development during operation phase

(b) Mitigation

- Adhering to good housekeeping during the construction phase to ensure that construction camps and sites are well organised, material is neatly stacked and waste is regularly removed;
- The architect has suggested a number of ways in which the visual impact will be mitigated, as included in the application. The architect has developed design standards which will limit the visibility of the units.
- Facilitating the establishment of vegetation cover.

5.3.5 Noise Impacts

(a) Discussion

Noise levels are expected to rise during the construction phase of the development. Construction activities that cause noise include vehicle trafficking, generator noise, pressure hammers and winches, construction worker voices etc. People closest to the construction activities, i.e. properties adjacent to the proposed development will be most affected by the increase in the noise levels.

The significance of the noise impact is considered to be of low significance however the following should be considered as part of normal, responsible construction practice:

(b) Mitigation

- Restriction of construction activities to daytime (normal working hours 8:00 to 17:00) and weekdays only;
- Restrict the use of heavy machinery; and
- Ensure all plant is fitted with silencers that are properly maintained.

5.3.6 Heritage Impacts

Although no specialist investigation was undertaken, no known features of cultural, historical or heritage impact were identified during the site inspection. The potential impact of the proposed development on the heritage value of the area is considered to be of low significance.

Any potential heritage features uncovered during the construction activities should be reported to the engineer, developer and the South African Heritage Resources Authority (SAHRA) or Eastern Cape Heritage Resources Agency (ECHRA) immediately.

CONCLUSION

This report details the findings of a DFA Scoping Report as part of the Basic Assessment Procedures and related public participation component to identify key issues associated with the proposed projects on Portion 6 of Farm 175..

Out of these key issues, no ecological fatal flaws were identified for the proposed Flowers Halt Retirement Estate that should prevent the project from taking place. All potential environmental impacts are considered to be of low significance and there are no impacts of concern that cannot be mitigated against.

It is recommend that an Environmental Management Plan be developed prior to construction commencing, approved by DEDEA and be incorporated into the relevant contract documentation of the preferred contractor.

The appointment of an Environment Control Officer is recommended for the construction phase of the development.

ANNEXURE K

Draft Body Corporate / Association Agreement

ANNEXURE L

Servitude Diagram

SIDES Metres		ANGLES OF DIRECTION	
		Constants	
AB	3235,15	87 11 59	A B
ED	1441,31	212 44 45	E D
DF	1315,06	212 44 45	F F
	(194) QUEEN 4		△
	(197) LESSEYTON NEK		△

S.G. No.

581/92

Approved

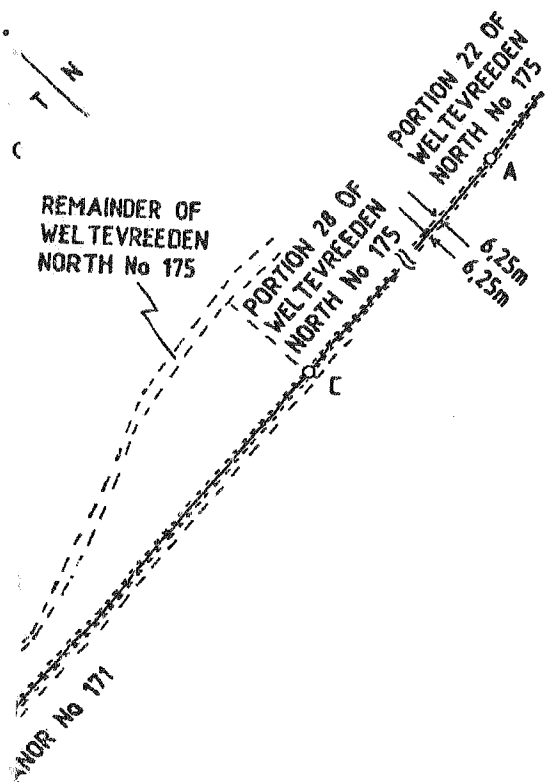


Surveyor-General

1992-04-14

DESCRIPTION OF BEACONS

- A, B : 20mm Round iron peg in cairn.
- C : Not computed or beacons.
- D : Computed but not beacons
- E : Planted stone.
- F : Section of fence standard in c



The figure Line C D

represents the centre line of an Electric Power Servitude 12,5 metres wide over the Remainder farm WELTEVREEDEN NORTH No 175

situate in

Administrative District of QUEENSTOWN

Surveyed in November 1990 - April 1991

by me,

This diagram is annexed to

The original diagram is

No. dated

No. 1235/1935 annexed

i.f.o.

Transfer/Grant

No. 1945-329-16434

Registrar of Deeds

ANNEXURE M

Building layouts & elevations

NOTES:
 ALL DIMENSIONS ARE TO FACE UNLESS NOTED OTHERWISE.
 ALL FINISHES ARE TO BE DETERMINED BY THE CLIENT.
 ALL MATERIALS AND METHODS OF CONSTRUCTION TO BE DETERMINED BY THE ARCHITECT.
 ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT BUILDING CODES AND REGULATIONS.
 ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT ZONING ORDINANCES.
 ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT ENVIRONMENTAL REGULATIONS.
 ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT HEALTH AND SAFETY REGULATIONS.
 ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT FIRE SAFETY REGULATIONS.
 ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT ACoustics REGULATIONS.
 ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT ENERGY REGULATIONS.
 ALL WORK SHALL BE IN ACCORDANCE WITH THE CURRENT SUSTAINABILITY REGULATIONS.

GENERAL NOTE

NO.	DATE	REVISIONS

CLIENT
 J. Pepler

APPROVED BY CLIENT
 APPROVED BY

APPROVED BY
 APPROVED BY

DATE OF ISSUE
 Concept

PROJECT TITLE
 Flowerhall Lifestyle Village

DETAILED DESCRIPTION
 Chalet - 2Bedroom

SCALE	As Shown
DATE	10/10/2023
REVISIONS	
DESIGNED	
DRAWN	

COMPANY
 KAWAYA Architects
 2nd Floor, 100-1000
 P.O. Box 1000
 Flowerhall, NSW 2177
 Australia

PROJECT NO. 1006
PROJECT NAME Flowerhall Lifestyle Village
SCALE 1:100
DATE 10/10/2023

1 TO GRD FLR 1:50

2 East 1:100

3 North 1:100

4 South 1:100

5 West 1:100

6 NW View

