

MEMORANDUM

APPLICATION FOR TOWNSHIP ESTABLISHMENT IN TERMS OF SECTION 96 OF THE TOWN PLANNING AND TOWNSHIPS ORDINANCE, 1986

(ORDINANCE 15 OF 1986)

REMAINING PORTION OF THE FARM LEEUWPOORT 283 REGISTRATION DIVISION J.S., PROVINCE OF MPUMALANGA

24 OCTOBER 2014

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A. GENERAL INFORMATION

1. Introduction

Application is made for the establishment of a proposed township in terms of Section 96(3) read with Section 69(6) of the Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986), on the Remaining Portion of the Farm Leeuwpoort 283, JS.

The proposed township will be known as **PINE RIDGE EXTENSION 5 - 25**, and will for the interim be referred to as such. This is a development to be accommodated in the Emalahleni Municipal area, as indicated on the locality map, refer to **"Annexure E".**

2. Extent of the Development

It is the intention of the developer to accommodate a residential development on the proposed property. The land use differentiation can be summarized as follow:

Proposed uses	Erf/Erven* No	Size (ha)	Height	Only for
Residential 1 4 161 185.7478 2 storeys		Dwelling House		
Residential 2 2 0.7806 2 storeys		Dwelling Units, 25 per Ha		
Residential 3	5	1.3949	3 storeys	Residential Buildings
Residential 4	30	7.5283	5 Storeys	Residential Buildings
Community Facility	Community Facility 9 6.3298 3 storeys		Crèche, clinic, place of instruction & sport and recreation	
Institutional	12	15.1090	3 Storeys	Crèche, clinic, dwelling house, hospital, institution, place of instruction, place of worship.
Business 2	8	2.5642	3 storeys	Club, government, medical & veterinary consulting rooms, municipal, parking garage, place of instruction, place of refreshment, residential buildings.

Table 1: Land Use Differentiation of Pine Ridge Extension 5 - 25

Business 3	7	3.1008	2 storeys		Business purposes, club, government, hotel, institution, medical & veterinary consulting rooms, motor dealer, municipal, offices, parking garage, place of instruction, place of refreshment, place of worship, residential buildings, shops & social hall.
Industrial 1	9	4.1997	3 storeys		Agricultural buildings, builders yard, filling station, industrial purposes, mechanical workshop, medical & veterinary consulting rooms, municipal, parking garage, public garage, scrapyard, service industry, transport yard, warehouse, wholesale trade, workshop.
Government	2	2.1436	3 s [.]	toreys	Dwelling house, government, municipal, offices, place of instruction.
Park	9	149.1692		n/a	Park and Sport & Recreation
Private Park	1	3.8393		n/a	Dwelling house, park, sports & recreation.
Private Road		77.7912	2 s ⁻	toreys	Road
		Der	nsity Units	per ha	
	Erf/Erven* No	Coverage	FAR	Height	Only for
Residential 1	4 161	50 %	0.7	2 storeys	Dwelling House
Residential 2	2	50 %	0.7	2 storeys	Dwelling Units, 25 per Ha
Residential 3	5	30%	0.4	3 storeys	Residential Buildings
Residential 4	30	40%	1.5	5 Storeys	Residential Buildings
Community Facility	9	50%	0.7	3 storeys	Crèche, clinic, place of instruction & sport and recreation
Institutional	12	50%	0.7	3 Storeys	Crèche, clinic, dwelling house, hospital, institution, place of instruction, place of worship.
Business 2	8	50%	0.6	3 storeys	Club, government, medical & veterinary consulting rooms, municipal, parking garage, place of instruction, place of refreshment, residential buildings.
Business 3	7	40%	0.4	2 storeys	Business purposes, club, government, hotel, institution, medical & veterinary consulting rooms, motor dealer, municipal, offices, parking garage, place of instruction, place of refreshment, place of worship, residential buildings, shops & social hall.
Industrial 1	9	70%	0.7	3 storeys	Agricultural buildings, builders yard, filling station, industrial purposes, mechanical workshop, medical & veterinary consulting rooms, municipal, parking garage, public garage, scrapyard, service industry, transport yard, warehouse, wholesale trade, workshop.
Government	2	70%	0.6	3 storevs	Dwelling house, government, municipal,
Park	9	n/a	n/a	n/a	Park and Sport & Recreation
Private Park	1	n/a	n/a	n/a	Dwelling house, park, sports & recreation.
Private Road		n/a	n/a	2 storev/s	Road
As required by the Emglahleni Land Use Management Scheme, 2010					I ament Scheme 2010

The proposed township is located approximately 6km north of Emalahleni CBD and directly north of Pine Ridge, with the provincial district road forming the eastern boundary of the development site.



Figure 1: Aerial photo of the proposed development site

4. Present Zoning

In terms of the Witbank Town Planning Scheme 1991, the present zoning of the property is "Agricultural".

Please refer to the Zoning Certificate enclosed as **ANNEXURE B**.

5. Land Use

The property is vacant at present and has been used for grazing previously.

As far as the land uses of the surrounding properties are concerned, the Remaining Portion of the Farm Leeuwpoort 283 - JS, Province of Mpumalanga is situated in an area earmarked for residential expansion and within the urban edge as approved by Emalahleni local Municipality.

Near and directly adjacent to the property, are the following land uses:

- North: Agricultural Land
- East : Provincial District Road & Agricultural Land
- South : Proposed Pine Ridge Extensions 1 4, Klarinet Extension 6, Pine Ridge Township
- West : Agricultural Land

Refer to the land use map enclosed as ANNEXURE C.

6. Deed Of Transfer Description

In terms of the Deed of Transfer, T83826/99, the property is described as follows:

"REMAINING PORTION OF THE FARM LEEUWPOORT 283, REGISTRATION DIVISION JS., PROVINCE OF MPUMALANGA"

7. Registered Owner

In terms of the Deed of Transfer, the registered owner is:

SAROVIC INVESTMENTS CLOSE CORPORATION REGISTRATION NO: 2006/085393/23

8. Size of Property

In terms of the Deed of Transfer the size of the property is 459, 6984 hectares.

9. Restrictive Conditions

According to the Title Deed, T83826/99, there are no conditions restrictive to this application.

10. Local Authority

The property under discussion is situated within the jurisdiction of

EMALAHLENI LOCAL MUNICIPALITY.

11. Advertisements

The application will be advertised on **24 October 2014** & **31 October 2014** in the Provincial Gazette, Beeld and Citizen Newspapers.

Proof of compliance with the advertisement procedure will be submitted after the objection period has lapsed.

12. Bonds

According to the Title Deed there are no bonds registered over the Property.

13. Mineral Rights

All mineral rights belong to the state.

14. Geological Conditions

David van der Merwe of Geoset cc was employed to conduct a geological survey to determine the engineering geological properties that influence township proclamation.

The northern area is underlain by shale and tillite of the Dwyka Formation, Karoo Supergroup, and sandstone, quartzitic sandstone and conglomerate of the Wilge River Formation, Waterberg Group, towards the Blesbokspruit River. The bedrock is covered by transported material which is termed as "hillwash" in the test pit profiles. No dolomite occurs in the area and no dolomite stability investigation is required.

The mechanical properties of the soil layers were determined by means of laboratory tests performed on disturbed samples taken during the profiling of trial pits.

Potentially low to medium expansive and compressible and highly collapsible soil with thickness more than 750mm which classified as site class C2H1 requiring special foundations varying through to site class HCR requiring normal or modified normal construction or a soil raft, with associated site drainage provisions as described within each defined zone.

Substantial financial implications on development are expected in Geotechnical Zone PR where scattered rock, shallow rock and rock outcrop were encountered. The rehabilitation of quarried areas in Zone PQ should precede the town development process. These proposed mitigation and precautionary measures need to be adhered to for successful development of the proposed residential township.



Modified Normal Development:

Site Class C2H1/2A2C:

Dark reddish brown sandy clay represents a medium expansive and compressible to highly collapsible soil, with a thickness in excess of 0,75m and an expected range of more than 15mm of total soil movement measured at surface, form this zone on site. Foundations will therefore require modified normal foundation techniques such as lightly reinforced strip footings or reinforced boxed steel in slightly widened strip foundations, the use of split construction techniques or articulation joints at all internal and external doors and openings with light reinforcement (brickforce) in masonry, or soil replacement by an engineered fill soil raft by removing all or part of the expansive horizon to 1,0m beyond the perimeter of the structure and replacing with inert backfill, compacted to 93%MOD ASSHTO density at or near optimum moisture content, where after normal strip footing foundations can be used. Site drainage, a concrete apron of 1,0m around all structures and plumbing and service precautions are advised. It is classified as C2H1 in terms of the NHBRC

guidelines (1995) or the SAICE Code of practice (1995) and 2A2C after the classification for urban development (Partridge, Wood & Brink).

Normal Development with Risk:

Site Class CHR/1A1C2F:

A thin layer of hillwash or a pebble marker consisting of clayey silty sand and gravel represents a low expansive or a slightly collapsible soil, with a thickness of less than 750mm, and an expected range of less than 7,5 mm of total soil movement measured at surface, underlain by a competent pebble marker or shallow rock or core stones which will restrict excavations for the placement of services and will require pneumatic tools, a competent TLB and even blasting to reach the required depth for the placement of services. Normal foundations will be adequate including proper compaction with a wacker compactor of in situ soils below individual footings with soil near optimum moisture content, combined with good site drainage. It is classified as CHR according the NHBRC guidelines (1995) & SAICE Code of practice (1995) and 1A1C2F after the classification for urban development (Partridge, Wood & Brink).

Land not Suitable for development

Site Class CHR/PD

This is a combined site class of the zone above where a perched water table was encountered, and a proper drainage system needs to be designed to handle excess water within this zone to enable development.

Site Class PR:

Rock outcrop and sub-outcrop will restrict excavatability required during service installation as well as foundation excavations. Blasting or difficult excavation operations will dramatically increase the development cost in this zone.

Site Class PQ:

Areas used for surface mining of construction material will need to be rehabilitated and properly backfilled to engineer's specification before any development can be allowed.

Undevelopable areas

Site Class PD:

This zone represents the area within the 1:100 year flood line and development should be restricted to outside and 50m from these areas. The geotechnical problems encountered will require modified normal to special foundation techniques and construction, and proper standard compaction techniques and drainage is required.

The Geological Survey is attached to this application as **ANNEXURE H**.

15. Engineering And Municipal Services

The proposed township Pine Ridge Extension 5 - 25 is situated within the jurisdiction of the Emalahleni Municipality, which will be responsible for the provision of water, electricity, sewerage and refuse removal services.

15.1 Roads and Storm Water

Access

The proposed development will primarily have direct access from the Saaihoek Road (D1126) as planned by WSP Consulting Engineers. The adjacent proposed township on Portion 79 of the Farm Blesboklaagte296 – JS (Pine Ridge Extension 1 - 4) will make use of the same existing road entrances, i.e. Saaihoek Road.

Secondary access from the Verena road and Pineridge Township will be provided during later phases of the development.

Sufficient capacity will be available from Saaihoek Road for the phase 1 of the development.

Street classification

The following street classes were provided for and incorporated in the current layout by Korsman & Associates.

Street Reserve Width	Class of Road	Roadway width (m)	Road Description
13 m	Class 5	5 m	Local Access Roads
20 m	Class 4	6 m	Local Collector Roads
25 m	Class 3	7 m	Distributors / Secondary
20111		7 111	Roads

It is the opinion of SCIP Engineering Group (Pty) Ltd that the various street widths provided are sufficient.

Services like storm water, sewerage and water as well as telecommunication and electricity will also be accommodated in the road servitudes. These services will be accommodated according to the protocol set by Emalahleni Local Municipality in terms of positioning in the servitudes.

Surface Drainage

The road layout of the township leans itself to a good free drainage scheme. Sufficient material slopes exists.

Storm water, as excess surface runoff during rainfall events, can drain freely from erven via streets to kerb inlets that will be provided on all internal roads and spaced according to topography and therefore catchment size.

Releasing storm water from this township to the nearby stream can be easily managed through minor outlet and energy dissipating structures located high within the 1:100 floodline area. It might be necessary to place rubbish retaining structures at the storm water outlet points.

Storm water lines are accommodated mostly in road reserves and these lines will be designed to also accommodate water run-off from higher lying adjacent townships.

It is not foreseen that any problems will be encountered to accommodate the 1:2 (residential) and 1:5 (business) return period storms on the roads and in subsurface conduits.

Street levels will be designed in such a way that streets act as storm water collectors. Storm water inlets will be placed in such a way that access to stands are not compromised. No erosion will take place since all streets will be paved.

Storm water Routing

The safe routing of storm water within the Township will receive special attention.

Retention ponds may be considered at bulk stands depending on the density of housing that will eventually be provided here. The requirement for retention ponds shall be in accordance with the bylaws of the Local Authority and shall be provided at detail design phase. At this stage no retention ponds are envisaged.

Existing excavated areas to the north and northwest could be utilized as retention ponds as it is our opinion that these areas will be uneconomical to rehabilitate for the development of houses. These areas should be considered for parks and recreation areas. These areas will be adequately drained and rehabilitated according to DMR Standards and the EMP.

15.2 Water Services

Bulk Water Availability

The proposed land use will require and estimated water demand as follows:

Technical Parameter	Estimated value
Estimated total daily demand	3,0 Mł/d
Estimated peak flow rate based on a peak factor of 5	180 l /s

The main water supply internally will be designed for fire water requirements and pipe sizes will likely vary from 110 mm diameter to 315 mm diameter pipes. The

pipes will have to be designed with the greater area in mind, i.e. the later phases of development.

The area is located relatively low compared to low level reservoirs at Point A and theoretically it is expected that sufficient pressure will be available for this development. It should be noted that it is our knowledge that the water purification plant of Emalahleni is under great pressure at the time of compiling this report. With the probable placing of secondary reservoirs in the area, the need for elevated water storage systems might arise. Designs will be done according to a master plan for the development of the greater Pine Ridge Area.

The development of the greater Western area, together with the recently established Klarinet x6 will necessitate the building of a new reservoir group in the area.

The upgrading of bulk lines to this development will have to be provided and should be done in accordance with the Klarinet Integrated Housing Project currently implemented by Bigen Africa and ABSA's Development Company. A master plan for the development of this area is obviously of paramount importance.

It is likely that the upgraded water line from Pap & Vleis will not be sufficient for the Sarovic Development and that further upgrading by the Local Authority, through the bulk services contribution strategy, will have to be implemented.

It is our opinion that the Local Authority will have to plan carefully in terms of the necessary upgrading work required for bulk water services.

Internal Water Layout

The township layout by Korsman & Associates provides sufficient servitudes for an internal water network. The network will be designed and constructed according to municipal and national standards. All stands will be equipped with separate connections which will allow for internal fire systems as well. Fire water will also be accommodated according to national and municipal standards.

15.3 Sewerage

Bulk Sewer Conveying Availability

Most of the development is situated topographically higher than the outfall sewer draining to the Pine ridge Sewage Pump station.

According to Mr. Dieter Storbeck from Bigen Africa, the outfall sewer line and pumping line from the Pine ridge Sewage Pump station is sufficient for most of the phase 1 Klarinet Integrated Housing Development. However a services agreement was apparently signed by ELM in which it is implied that no spare capacity is available on the pumpline to Klipspruit for the Sarovic Development which means that the bulk line will have to be upgraded.

The further phases of the Klarinet Integrated Housing Development will require a new outfall sewer line that will serve the Sarovic Development.

The necessity for an upgraded pump station at Pine Ridge proper outfall gravity sewer to the Klipspruit Works is inevitable. Such an upgrade should be done in accordance with the Klarinet Integrated Housing Development and Bulk Services Contribution Policy of ELM. The greater area of Pine Ridge is in dire need of a sewage master plan.

Technical parameter	Estimated value
Estimated average daily dry weather flow	2,5 M ł /d
Estimated peak wet weather flow rate	3,0 Mł/d

Internal sewer lines will likely vary from 160 mm to 250 mm diameter lines.

The full Civil Services Report is attached to this application as **ANNEXURE F**.

15.4 Electricity

The proposed development falls within the Emalahleni Municipalities distribution area. Major electrical infrastructure visible or identified on the proposed development were Eskom High Voltage overhead lines and some minor MV overhead lines. Bulk supply to the new development will be from the Klarinet 22/11kV substation with a current installed capacity of 10MVA [non-firm supply] transformer available.

Electrical Load Estimate						
Proposed use	Area	Units	Loading			
Residential 1	1 857 478 m ²	4 161	14 564 kVA			
Residential 2	7 806 m ²	20	60 kVA			
Residential 3	13 949 m ²	93	279 kVA			
Residential 4	75 283 m ²	2 823	7 058 kVA			
Community Facility	63 298 m ²		2 216 kVA			
Institutional	151 090 m ²		5 289 kVA			
Business 2	25 642 m ²		821 kVA			
Business 3	31 008 m ²		993 kVA			
Industrial 1	41 997 m ²		1 344 kVA			
Government	21 436 m ²		686 kVA			
Park	298 338 m ²	9	450 kVA			
Private Park	7 679 m ²	1	5 kVA			
Private Road	388 956 m ²	486	25 kVA			
TOTAL	4 596 984 m ²		33 800 kVA			

The After Diversity Maximum Demand (ADMD) allowed for Residential Units are as follows:

For Res 01 units is 3.5kVA per Unit, for Res 02 units is 3.0kVA, for Res 3 units is 3.0kVA and for the Res 04 Units 2.5kVA. All the above are calculated as [ADMD] per unit. As this development is targeted at middle and lower income level groups, this loading should be was calculated at 50 VA/m², Business at 80

VA/m², Government facilities at 80 VA/m² and Industrial at 40 VA/m². The Development will be a Phased Development, consisting of 21 Phases.

The bulk electricity cannot currently be provided, but it is recommended that all application processes be exercised nevertheless, in tandem with the Town Planning processes. Adequate power should be available with the new primary substation to be built by Eskom.

Once the township is approved, a service report will be prepared in order to allow the finalization of the services agreement. Electrical Contractors will then be appointed to supply and install the municipal and consumer's electrical networks.

Electrical Engineering Report is attached as **ANNEXURE G** respectively.

16. Environmental Impact Study

Shangoni Management Services (Pty) Ltd has been appointed to lodge an environmental impact study. The EIA application will address all critical environmental issues related to the site of application.

The council will be provided with the proof of submission and thereafter with the Record of Decision.

17. Flood Line Report

SCIP Engineering Group (Pty) Ltd. has been appointed to calculate the 1:100 year flood lines for all streams in the vicinity of the proposed township development. Take note that the flood line report was conducted on both the Remaining Extent of Portion 79 (a portion of Portion 4) of the Farm Blesboklaagte 296 – JS (proposed Pine Ridge Extensions 1 – 4 Township), and the Remaining Portion of the Farm Leeuwpoort 283 – JS (proposed Pine Ridge Extensions 5 – 25 Township).

The calculated 1:100 year flood line shows that some residence of Pine Ridge (south of river reach 1) run the risk of their property being flooded.

Any alterations to the stream channel or floodplain in whatever way will result in the calculated flood lines being invalid and care shall be taken to maintain the river as is.

It is recommended that a buffer zone of 50 m should be provided on either side of the 1:100 year flood line. The 50 m should be measured horizontally independently of the slope of the embankment under consideration.

The proposed development is affected by 1:100 year flood lines but not to a great extent. These flood lines can now be used a guideline for Town Planners to determine a land use layout for further discussion and evaluation.

18. Traffic Impact Study

WSP SA Civil and Structural Engineers (Pty) Ltd. has been appointed to lodge a traffic impact study.

The proposed development will be known as Pine Ridge Extension 5 - 25 and it is estimated to generate a maximum of 2 122 vph during the weekday AM and PM peak hours, as shown in Figures 3a to 3f.

The impact of the additional development traffic is significant on road D1126 and will require upgrading at all four (4) key intersections from a capacity viewpoint, according to the SIDRA analysis (refer to SIDRA results tables in Chapter 4). The access onto road D1126 will also require Upgrading, as illustrated on enclosed Drawing 17880.R/AL/01.

The proposed access into the development is located approx. 750m to the north of the proposed access into Pine Ridge X1-X4 on road D1126 and will require a short separate deceleration from the south on road D1126 and a short

separate right-turn lane from the north (road widening will be required on road D1126).

There are a minimum of ten (10) Minibus-taxi Lay-by's proposed on the main road (downstream of the intersections) within the proposed development, as described in Chapter 7 of this report, of which the exact positions should be decided upon by the Emalahleni Local Municipality with the input of the local Taxi Associations.

It can therefore be concluded that the proposed development is feasible in terms of the traffic generation and traffic impact viewpoints and is thus supported from a traffic engineering perspective, provided that the proposed Lay-by's and Site Access road with relevant road widening on road D1126, as shown on Drawing 17880.R/AL/01, is properly designed and constructed to the appropriate design standards of the relevant Road Authority.

The Traffic Impact Study is attached to this application as **ANNEXURE M**.

19. External Comments

Emalahleni Local Municipality has provided a list of the external Departments from whom comments must be obtained. Korsman & Associates has requested these comments via registered post to all relevant departments and will be submitted to council as soon as possible. Proof of submission will be submitted along with the affidavits for the advertisements that appear in the relevant newspapers.

20. Physiography

Topography

The site is located on a gentle gradient sloping form 1537 meters at the northern border to 1457 meters above mean sea level at the lowest point west at the Blesbokspruit.

Climate

The region is characterized by summer rainfall with thunderstorms, with annual low rainfall figures of 735mm (Middelburg TNK), recorded at the closest weather station to the site. Winters are dry with frost common. The warmest months are normally

December and January and the coldest months are June and July. An analysis of the data confirms a Weinert's N-Value in the order of 2,6 for Middelburg. The chemical decomposition of rocks will therefore be dominant over mechanical disintegration, and deep residual soil horizons will be expected.

Storm water drainage and road pavement design must incorporate the climatic extremes above as well as the relative flatness of the area.

Vegetation

The area is typically characterized by Bankenveld of the False Grasveld veld type (Acocks, 1988).

The site is covered by sparse grasslands of which some was used as agriculture land, and no indigenous trees are present on site.



Figure 3: Photo showing vegetation

B. MOTIVATION

1. General

Application is made for the proposed township **Pine Ridge Extension 5 - 25** in terms of Section 96 of the Town-Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986), on the Remaining Portion of the Farm Leeuwpoort 283, Registration Division JS, Province Mpumalanga.

The purpose of the application is to develop 4 255 erven on the abovementioned property with the following zonings:

•	"Residential 1"	=	4 161 erven;
•	"Residential 2"	=	2 erven;
•	"Residential 3"	=	5 erven;
•	"Residential 4"	=	30 erven;
•	"Community Facility"	=	9 erven;
•	"Institutional"	=	12 erven;
•	"Business 2"	=	8 erven;
•	"Business 3"	=	7 erven;
•	"Industrial 1"	=	9 erven;
•	"Government"	=	2 erven;
•	"Park"	=	9 erven;
•	"Private Park"	=	1 erven.

2. Public Participation

The application in respect of the establishment of the proposed township Pine Ridge Extension 5 - 25 will be advertised in accordance with Section 108(1)(a) of the Town Planing and Townships Ordinannce, 1986 (Ordinace 15 of 1986) in the Beeld and Citizen on 24 October 2014 and 31 October 2014 as well as the Mpumalanga Gazette on 24 October 2014 and 31 October 2014. Objectors will be afforded a period of 28 days from 24 October 2014 to submit objections or comments in respect of the proposed township area to the Municipal Manager. The application will also, in accordance with the prescriptions of Section 108(1)(b) of the Town Planning and Townships ordinance, 1986 (Ordinance 15 of 1986) be referred to the following external organizations / departments for comments or objections:

- Department of Transport, Roads and Community Safety
- Regional Land Claims Commission
- Department of Environmental Affairs & Tourism
- Telkom SA Limited
- Eskom
- Nkangala District Municipality
- Department of Minerals and Energy
- Department of Agriculture
- Department of Water Affairs and Forestry
- Department of Local Government and Traditional Affairs
- Department of Education
- Department of Health
- South African Post Office
- Spoornet
- South African Heritage Resources Agency
- South African National Roads Agency Limited

The fore-mentioned organizations / departments will be afforded a period of 60 days to comment in this matter in accordance with the prescriptions of Section 108(1) of the Town Planning and Townships Ordinance, 1986 (Ordinance 15 of 1986).

3. Background Information

Korsman & Associates Inc. was appointed by Sarovic Investments CC to attend to the establishment of the proposed township area of Pine Ridge Extension 5 – 25 comprising of 4 161 residential erven. To allow for the integrated development of the area north of the proposed township Pine Ridge Extensions 1 - 4 and Klarinet Extension 6 as well as Pine Ridge Proper, the pre-planning studies conducted in respect of the initial demarcated development area were extended to include the entire area east of the existing township area of Pine Ridge. This afforded Korsman & Associates to compile an integrated layout plan in respect of the entire development area. The owner of the Remaining Portion of the Farm Leeuwpoort 283 JS, Province of Mpumalanga also owns the land directly south of the proposed development (proposed Pine Ridge Extensions 1 - 4 Township) which has also been taken into account in the Master Planning of the area. A township establishment application on this farm was submitted to Emalahleni Local Municipal Council on 30/05/2014.

The project in respect of the establishment of the township areas of Pine Ridge 5 - 25 stems from the urgent need experienced in the Emalahleni for vacant affordable residential erven (medium to low income groups / social housing). The absence of vacant erven for occupation purposes has given rise to informal occupation of the area by informal residential structures.

The registered owner of the Remaining Portion of the Farm Leeuwpoort 283 JS, Province of Mpumalanga wants to develop a mixed density residential development on the proposed property. The proposed township establishment will be an extension of the existing township Pine Ridge and Klarinet Extension 6 and proposed township of Pine Ridge Extensions 1 – 4 that is situated adjacent the proposed site on the south side. The proposed uses will fit in with the surrounding area which is also being utilized for residential purposes. The proposed township establishment has been earmarked for Residential expansion according to the Draft Spatial Development Framework of Emalahleni, 2013/14.

4. Proposed Development

The intention of the applicant i.e. Sarovic Investments CC is to utilize the concerned property for the establishment of the proposed township areas of Pine Ridge Extension 5 - 25. The primary aim of the township area is to address the urgent need experience by Emalahleni for vacant residential erven. This

need has given rise to illegal occupation taking place. It was estimated that as many as 40 000 people are without formal housing according to the IDP 2013/2014.

The layout plan of the respective township area make provision for the following land uses:

The purpose of the application is to develop 4 255 erven on the abovementioned property with the following zonings:

PINE RIDGE EXTENSION 5 – 25						
Proposed use zone	Erf	Number of		Area/S	bize	
	Numbers	erven	Min. (m²)	Max. (m²)	Total (ha)	
Residential 1	1 - 4160	4 160	300	872	185,7478	
Residential 2	4161 - 4162	2	12 952	4 854	0,7806	
Residential 3	4163 - 4167	5	927	5 282	1,3949	
Residential 4	4168 - 4197	30	1 430	18 043	7,5283	
Community Facility	4198 - 4206	9	460	53 989	6,3298	
Institutional	4207 - 4218	12	1 512	1 756	15,1090	
Business 2	4219 - 4226	8	2 054	4 412	2,5642	
Business 3	4227 - 4233	7	1 453	9 962	3,1008	
Industrial 1	4234 - 4242	9	2 081	18 948	4,1997	
Government	4243 - 4244	2	2 601	18 835	2,1436	
Park	4245 - 4253	9	155	54 9893	149,1692	
Private Park	4254	1	38 393	38 393	3,8393	
Private Road			-	-	77,7912	
TOTAL		4 254	-	-	459,6984	

Factors influencing the layout plan

The layout plan of the proposed township area of Pine Ridge Extension 5 - 25 were influenced by the following factors:

- Providing access to the proposed township area from the adjacent existing
 Pine Ridge Township and proposed Pine Ridge Extension 1 4 Township, as
 well as the provincial district road on the eastern side of the development.
- The 1:100 year flood line was determined and the layout plan accommodates the 1:100 year flood line and restricts development to the area outside the 1:100 year flood line – reserving a 50 m buffer area between the 1:100 year flood line and the residential development.
- Wetland delineation was also conducted, which had a huge impact on the form of the layout.
- Major Eskom Servitude running through the development.
- Taking into consideration the access distance point to the provincial road of proposed Pine Ridge Extensions 1 4 and the newly proposed access point that had to be a distance of 650m from each other.
- Ensuring adequate surface storm water drainage;
- The layout plan makes provision for residential erven of minimum of 300 m² and an average of 327 m².
- Adequate community facilities and educational erven had to be designed taking into account the number of residential erven.

5. Lay-Out Plan

The layout plan makes provision for 21 extensions that will each be proclaimed in phases as the development progresses. Below follows the discussion regarding the proposed development and layout. Take note that the extensions will be developed in the form of phases.





As shown on **Drawing 17880.R/AL/01** (Refer to the Traffic Impact Study "Annexure M"), the proposed mixed use development is planned to have one access next to the eastern corner of the site, on road D1126, approximately 750m north of the proposed Access from D1126 to Pine Ridge Extension 1 - 4.

The Shoulder Sight distance at the site access position was found to be more than adequate (more than 300m) in both directions on district road D1126.

The proposed access layout is shown on enclosed **Drawing 17880.R/AL/01** (Refer to the Traffic Impact Study "Annexure M") which shows a road widening of road D1126 with a deceleration lane from the south and a widening for the right turn from the north, which will be required. The access road into the development will require two approach lanes in each direction, also as depicted on Drawing 17880.R/AL/01.

This area of development is characterized by a combined business node and industrial centre, allowing ease of access due to the proximity of the land uses to the district road. Directly adjacent to these land uses on the western and southern side is a park as well as higher density residential erven to accommodate social housing projects and flats, which will function as a buffer zone to the busy intersection and activities. Within the park directly adjacent to the "Residential 4" erven, is a grave site which will be protected and left undisturbed. The "Industrial 1" erf situated on the eastern side of the district road (D1126) is proposed to accommodate a filling station servicing the newly proposed township and existing residential areas.





Due to the need for proper sports and recreation facilities identified within the surrounding area, it is proposed to develop sport fields and related uses adjacent to the school. This will be open to the public and utilized to encourage the practicing and participation of sports within the community.

The proposed sports & recreation area as well as the school grounds is situated over an area which is currently excavated. A rehabilitation programme is in place to make this area suitable for development of sport fields, the reason being why it is not utilized for residential developments. This is in line with the mining certificate applicable to the site, stating that rehabilitation will be required. The roads traveling past the school will be a higher order road to accommodate the traffic generated by the proposed use as well as to increase accessibility from the surrounding areas. A drop-off and pick-up area has been included to ease congestion during the peak school traffic hours.

The proposed development is also planned to allow access into the recently applied for development known as Pine Ridge Extensions 1 - 4 as well as further south into Klarinet Extension 6 and to the west towards the existing Pine Ridge on the western side of the stream.



Figure 6: Clip from proposed Layout Plan

There are numerous properties identified and earmarked for the purpose of crèches and churches, as is evident from the clip above. These are placed within the residential areas as they are complimentary to the residential land uses as stated within the Breaking New Ground (BNG) Policy and supported by the Spatial Development Framework (SDF) of Emalahleni, 2013/2014.

The following is identified within the BNG Policy as having high importance in developing sustainable human settlements:

- Citizens should live in safe and secure environments, and have adequate access to economic opportunities, a mix of safe and secure housing, and tenure types, reliable and affordable basic services, educational, entertainment and cultural activities, and health, welfare and police services.
- Ensure that low-income housing is provided in close proximity to areas of opportunity.
- Ensure the development of compact, mixed land use, diverse, lifeenhancing environments.
- Ensure the development of more integrated, functional and environmentally sustainable human settlements, towns and cities.
- Multi-purpose cluster concept should be applied to ensure the sustainable provision of primary municipal facilities, such as parks, playgrounds, sports fields, crèches, community halls, taxi ranks, satellite police stations, municipal clinics, and informal trading facilities.

A business node is proposed towards the centre adjacent to the river running along the western boundary of the development, consisting of business activities as well as governmental functions and services. The following are a few land uses proposed within the mentioned node:

- Post Office;
- Clinic;
- Library;
- Community Centre;
- Shops / retail activities;
- Parking garage / site for public transport.

Figure 7: Clip from proposed Layout Plan



The advantages of clustering functional facilities are summarized as follow within the Guidelines for Human Settlement Planning and Design (Volume 1, Chapter 5.5, 5: 2005)

- " convenience, as all services are located in one center;
- the sharing of high-cost elements can reduce costs considerably;
- exposure for public facilities and the encouragement of their use;
- the integration of different communities;
- a reduction in inequalities in the provision of facilities;
- the offsetting of transport costs;
- a cutting down on the amount of land required;
- the promotion of full use of buildings;
- lower building costs;
- lower running costs;
- minimum maintenance costs;
- a large catchment area, less susceptible to localized demographic changes."





The figure above indicates the northern portion of the proposed development. A sewage plant is proposed within this area to ease the pressure on the Municipal Services. The site has a 100 m buffer in the form of a "Private Park" to be maintained by the owners of the land. The residential dwellings on the northern portion of the site are mainly single residential erven, with higher density erven located near the Private Park and just south of the main road running a loop around the development.

A business erf is also suggested to the east in this area as it can service the surrounding residents, not needing to travel far for basic grocery needs.

The far western portion of the proposed development will consist of a school, higher density and single residential erven as well as a church and crèche. This corner will gain access by means of the main road looping around the development and running through towards Pine Ridge Township.





Figure 10: Clip from proposed Layout Plan



Figure 10 shows the main road within the development which loops around and runs through to the neighboring townships, increasing accessibility to and from proposed Pine Ridge Extensions 5 - 25.

It is expected that a significant percentage of residents and customers / employees / workers will travel using public transport services such as Minibustaxi's and Busses along road D1126 and into the development (site) area using the proposed access road. Therefore there should be Minibus-taxi Lay-bys provided strategically within the development area on the main 'loop' road within the development area

As seen along the western boundaries of the property, there is a river running through the site with wetland areas along the edge of the river, making these areas undevelopable. A 50 m buffer is implemented in the design to ensure safety and keep possible floods from reaching the erven.

6. Integrated Development Plan & Spatial Development Framework

According to the Emalahleni Local Municipality municipal profile as conducted by The Housing Development Agency (HDA) there is a growing need for proper residential or housing provision with the estimated housing backlog in 2011 at approximately 23 954 units and growing (Housing Development Agency. Emalahleni Local Municipality: Municipal profile. 2013:9).



Figure 11: Dwelling type and Housing backlog

According to the Integrated Development Plan of Emalahleni, 2013/2014 there is a high number of informal settlements and housing backlog. In order to improve the current housing situation we are faced with the following actions that need to be taken:

- 1. Resuscitate the application process for accreditation;
- 2. Construction of low cost housing (RDP) / Social housing;
- 3. Upgrading of hostels;
- 4. Develop a housing needs register.

Seven areas within Emalahleni have been identified as major functional areas for the development of housing and will cater for the informal settlements. This is the first step in the Informal Settlement Formalization Program.

"These areas are:

- Lynnville;
- Kwa-Ququa/Hlalanikahle;
- Pineridge / Klarinet;
- South Eastern Suburbs;
- Phola;
- Ga-Nala / Rietspruit;
- Van Dyksdrift / Emagalasini.

The basic principle is that each of these areas should, as far as possible, cater locally for the local housing needs – either by way of in-situ upgrading and/or local relocations" (IDP Emalahleni: Informal settlements. 139:2013/2014).

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"The Pine Ridge and Klarinet areas are not affected that extensively by undermining, but have poor linkages to the rest of the eMalahleni urban area. Residential expansions of approximately 7 000 erven around Klarinet are currently being planned, with an average erf size of approximately 300 m². The planning is done by way of a framework plan for the Klarinet, Pine Ridge and Blesboklaagte area." Lynnville, Kwa-Guqa, Pine Ridge and Phola all serve as dormitory residential areas and are completely reliant on Emalahleni for the purchase of goods and services, and necessitate high levels of commuting to and from Emalahleni.

"The development of nodes in these areas should be actively promoted and encouraged, by means of the following incentives:

- Detailed design, including aspects such as taxi ranks, informal trade, public space, public conveniences, street lights etc.;
- Rezoning of land, if required and advertising land by means of a tender process for alienation / lease agreement;
- Offering incentives such as low rates and taxes, long term leases at low rent to attract developments; and
- Promoting the development of MPSDCs to attract private investment through pro-active public investment. "

SDF of Emalahleni Local Municipality 2013/2014

The property is located in an area that has been identified as Urban Settlement Growth Areas (USGA).

1. Urban Settlement Growth		Density:
Area	USGA	 Residential 1: 35 du/ha Residential 2 and 3: 65 du/ha Land Uses: All uses excluding heavy industrial
		 Provide a mix of uses compatible to creating sustainable settlements. Provide services and open spaces as per applicable guidelines. Design Directives: Locate all business uses in strategic locations. Allow connections between developments and Avoid buffers from separating developments Create pedestrian and cycling links between all precincts within the area and ensure links with abutting areas



Figure 12: Clip form Emalahleni Local Spatial Development Framework

7. Need & Desirability

With the constant growth in the property market over the past few years, more and more residential developments are taking place in Witbank. A shortage of subsequent land uses became evident with more and more property developers paying astronomical prices for vacant land. The recent increases in the interest rates do not yet show a change in the current market.

The Emalahleni region is not only experiencing growth in the residential markets but also in the most important sector viz the mining and industrial sector. The mining and industrial developments will create numerous new employment opportunities in the short, medium and long term, which will have direct influence on the demand for housing as well as vacant industrial sites in Witbank. The Spatial Development Framework of Emalahleni, 2013/2014 has earmarked the proposed property as an Urban Settlement Growth Area.

The Development Facilitation Act, 1995 (DFA) and the Integrated Development Plans for Emalahleni Local Municipality emphasize the need for infill development, in order to:

- Discourage the phenomenon of urban sprawl in urban areas,
- Contribute to the optimum use on undeveloped land;
- Infill development on vacant land within the municipal boundary
- Contribute to the optimum use of infrastructure, engineering services and social facilities; and

The proposed development will be developed in 21 phases according to the extensions, taking into consideration the size of the development.

The proposed portion of land under discussion has been earmarked by the Emalahleni Local Municipality for Residential expansion or as per the new draft SDF of Emalahleni, 2013/14 urban settlement growth area.

The proposed development is also considered desirable for the following reasons, i.e.:

- The site is easy accessible via local <u>and</u> provincial roads, access to the development will be via the existing townships Klarinet Extension 6 and Pine Ridge Proper as well as from proposed Pine Ridge Extension 1 - 4 and the provincial road on the eastern boundary of the development.
- The proposed density of 1 dwelling unit per 300m² is compatible with other housing developments in and around the area. The nature and scale of the proposed development will therefore fit in with the general character of the area. Provision has also been made for different size residential 1 erven up to maximum stand size of 872 m² in order to have a mixed density development.

- The proposed development will diversify the residential structure of the area by providing an alternative and affordable form of housing. Proposed Pine Ridge Extension 5 – 25 will form part of the greater Pine Ridge Township and can be considered as infill development within Emalahleni.
- The proposed industrial area will answer to the increasing need and availability of industrial / business (Retail) stands.
- Due to undermining, which is a constraint for expansion and development in Emalahleni, this site is ideal for mixed use development.
- The proposed development will be subject to a site development plan. This
 will enable the Municipality to consider aspects such as the siting of
 buildings, landscaping, the impact of the development on surrounding
 properties, etc. before the approval of building plans.

8. Conclusion

From a land use and town planning point of view the proposed development area is ideally suited for residential purposes due to the following:

- The purpose of the application for the township establishment is to provide sufficient erven within Emalahleni to address the long term need for residential erven in order to avoid future informal settlement from taking place whilst similarly providing vacant erven to allow for orderly future settlement development.
- The proposed development area is located directly adjacent to existing township areas and constitute the logic extension of the existing built-up urban area of Pine Ridge/Klarinet. In this regard the proposed development constitutes infill development.
- The location of the proposed development area in relation to the existing township area of Pine Ridge / Klarinet Extension 6 further allows for easy connection to existing services networks in order to service the erven within the proposed township areas.
- The proposed development area is further easily accessible due to its location adjacent to the existing provincial road on the eastern boundary of the development.

In view of the above-mentioned I trust that the application will be supported.