

373512

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SRK report no: 373512(6)



Executive Summary

Final Environmental Impact Assessment Report: Seaview Low Income Housing Development, Port Elizabeth

1. Introduction

The Nelson Mandela Bay Municipality (NMBM) proposes to construct a low income housing development and associated facilities in Seaview (see locality in Figure 2). The development will primarily cater for the communities currently living in Zweledinga and New Rest informal settlements in Seaview.

SRK Consulting (SRK) has been appointed by the NMBM, as the independent consultants, to conduct the Environmental Impact Assessment (EIA) in terms of the National Environmental Management Act 107 of 1998 (NEMA), as amended, and the Environmental Impact Assessment (EIA) Regulations, 2010, for the proposed housing development.

In July 2014 an application to commence the current EIA process was submitted to the Department of Economic Affairs, Environmental Affairs and Tourism (DEDEAT) and the project was assigned the reference number **ECm1/C/LN2/M/01-2014**.

2. Approach to the Study

The proposed development is subject to environmental authorisation from DEDEAT in terms of the NEMA. As such, an EIA is required and this Final Environmental Impact Assessment report (FEIR) presents an important milestone in the EIA process.

The first phase of the EIA process (see Figure 1), the Scoping Study has been completed and included a Public Participation Process (PPP). The Scoping process was aimed at identifying the issues and/ or impacts that may result from the proposed activities, including the concerns of Interested and Affected Parties (IAPs), in order to inform the Impact Assessment phase of the EIA process. The

scoping study included a Plan of Study for the EIA which was approved by DEDEAT on 21 October 2016.

The second phase of the EIA commenced with the Draft Environmental Impact Report (DEIR) which was released for public comment. All comments received on the content of the DEIR have been incorporated into the Final Environmental Impact Report (FEIR) (this report) which will be submitted to DEDEAT for a decision on whether to grant or refuse Environmental Authorisation. The aim of this report is to present the results of investigations of the issues and concerns identified in the Scoping Study, identify and assess the potential impacts of the proposed development and provide recommendations with the objective of minimising negative environmental impacts and maximising benefits.

The following key activities have been completed as part of the EIA in accordance with the requirements of the NEMA 2010 EIA regulations:

- Advertisement of the proposed development in "The Herald" newspaper on 5 March 2014, and placement of on-site posters;
- Distribution of the Background Information Document (BID) commencing on 6 March 2014 to identified Interested and Affected Parties (IAPs), stakeholders and neighbouring residents;
- Distribution of a Draft Scoping Report (DSR), incorporating comments received on the BID, and making it available on SRK's website, for review by IAPs for a 40 day comment period (27 May - 7 July 2016), and submission to relevant authorities;
- Distribution of a Final Scoping Report (FSR), incorporating comments received on the DSR, and making it available on SRK's website, for review by

IAPs for a 21 day comment period (28 August – 16 September 2016);

- Submission of the FSR to DEDEAT for approval of the Plan of Study for EIA and authorisation to proceed to the Impact Assessment phase of the EIA;
- Consultation with beneficiary communities via two public meetings (one in Zweledinga and one in New Rest) via the social facilitator appointed by NMBM;
- Distribution of the DEIR, incorporating comments received on the FSR, to public venues, and making it available on SRK’s website, for review by IAPs for a 40 day comment period (2 May – 12 June 2017);
- Conducting a public open day to present the findings of the DEIR held between 17h30 and 19h30 on 23 May 2017 at the Seaview Community Hall;
- A community meeting via the social facilitator appointed by NMBM at New Rest and Zweledinga on 16 May 2017 and 18 May respectively to present the findings of the DEIR to the beneficiary communities; and
- Distribution of a Final Environmental Impact Report (FEIR) (this report), incorporating comments received on the DEIR, for review by IAPs during a 30 day comment period (28 August – 27 September 2017).

The following activities that must still be conducted as part of the EIA process:

- Notifying all registered IAPs of DEDEAT’s decision.

An overview of the EIA process being followed, indicating opportunities for public comment, is provided in Figure 1.

A summary of comments and responses raised by IAPs and stakeholders to date as part of the EIA process is provided in Chapter 4 of the FEIR.

3. Motivation for the Proposed Development

Housing and service delivery is a key challenge facing the Nelson Mandela Bay Municipality (NMBM). According to the NMBM’s Built Environmental Performance Plan (2015/16) the NMBM has a housing backlog of 72,411 units (49,000 backyard shacks and 23,411 units in informal settlements) and identified the provision of quality housing and the structured upgrading of informal settlements as one of their main objectives. The proposed provision of housing for residents of informal settlements in the Seaview area is also listed as one of the priority projects for Ward 40 in the NMBM’s 2016/17-20/21 IDP (15th Ed). The IDP aims to provide basic sanitation to all communities in the NMBM by 2021.

The NMBM has identified five potential sites to provide housing for the informal settlements of Zweledinga and New Rest, located to the north and north-west of Seaview. The NMBM is focused on the provision of sustainable integrated human settlements, which means the provision

of housing must be accompanied by the provision of other services and amenities required to improve the socio-economic conditions of the residents of that area (i.e. access to community facilities such as educational, entertainment, cultural, health, sports and welfare services). Therefore, the focus of this project is on creating an integrated sustainable settlement that, where possible, reflects the vision of new initiatives in the NMBM.

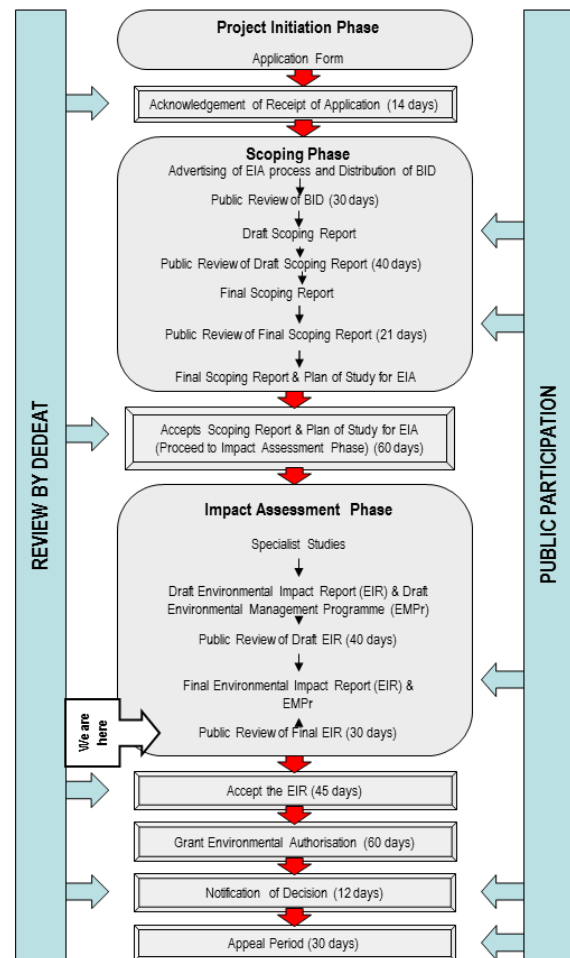


Figure 1: EIA Process

4. Development Proposal

The NMBM proposes to develop low income residential units and associated infrastructure in Seaview. The development will provide formal housing for the current residents of Zweledinga and New Rest informal settlements located on erven 590, 238 and 240. Current estimations are that approximately 430 housing units are required to meet this requirement. Two development options have been assessed via this EIA, option 1 entailing the development of approximately 478 units on non-forested patches on these erven as well as portion 10 of farm 28, Seaview, and option 2 involving development of up to approximately 1050 units on portion 1 of farm 28. On-site sanitation is also proposed for both options. The locations of the two options are shown on Figure 2.

Housing and associated land uses

Beneficiaries will receive a fully state subsidised formal structure (Free basic house/RDP) of 45 m². Beneficiaries will depend entirely on being housed by the state without any expectation of making financial contributions towards the house/services/ transfer/ registration costs for the property to be received. Houses will be typical RDP structures on a minimum erf size of 250 m² to accommodate the proposed leach pit sanitation services on each erf. The houses will consist of one toilet, shower and sink per dwelling (no bath).

The proposed development will include areas zoned as public open space (both parks and natural/ indigenous vegetation), as well as community zoning to make provision for uses such as a crèche or church. Special Purpose zoning would be a zoning for an integrated use such as a community facility or a waste transfer station etc.

Development Site Options

As the majority of properties making up option 1 fall within areas of natural forest, which is protected in terms of the National Forest Act, development is limited to the non-forested areas on these properties. Option 1 therefore proposes to use the disturbed areas on Erf 590, Erf 238, Erf 240 and portion 10 of Farm 28 to collectively make up sufficient area (approximately 20 ha) for the formal housing and associated services to meet the required number of houses. It is therefore proposed that the development be split between these properties.

The second site option under consideration is the purchase of Portion 1 of Farm 28 which contains approximately 66 ha of previously transformed land to the east of the property. The area will be sufficient to meet the housing requirement for the current communities (with capacity for future expansion to accommodate community growth), and possibly to accommodate other communities from surrounding areas if required.

Sanitation Options

No bulk sewerage infrastructure is available in the Seaview area, and most properties currently make use of septic tanks. Two options were assessed for the provision of sanitation on Portion 1 of Farm 28 (development option 2): 1) A waterborne sewerage system with an on-site package Wastewater Treatment Plant, or 2) Low Volume Flush Toilets with leach pits. Both options will be connected to flushing toilets in the houses. The latter option is proposed for Development Option 1, for which no other viable sanitation solutions were found, due partly to space limitations.

The Low Volume Flush Toilets will be drained to a leach pit located on each property. Special modifications will be made to the leach pit to accommodate additional water from the sink and the shower and will comprise dual pits. Community institutions will be provided with low volume flush toilets connecting, depending on size of institution, to either a small septic tank discharging to a soak pit or to a

conventional septic tank discharging to a French drain. The acceptability of the leach pit system from a groundwater contamination perspective has been investigated as part of this EIA

The proposed package plant (for site option 2) will make use of pill chlorination and the final effluent will be discharged through a series of reed beds. Excess sludge will be stored in drying beds. The proposed package treatment plant would have the process capacity to treat 551 kl/day and would be located in the south eastern corner of farm 28/1.

Water

The development will connect onto the proposed Seaview bulk water supply scheme, which is intended to augment water supply for the broader area. Environmental authorisation for this project has recently been granted (DEDEAT Ref: ECm1/C/LN1&3/M/51-2016). No other options are available for water supply.

Stormwater

Some of the proposed sites for Option 1 are located in areas that tend to become water logged (depressions), limiting development in these areas. Some of these sites will therefore be used as stormwater detention earth ponds.

Development option 2 does not have this problem as the slope allows for good drainage. There might however be a need for stormwater control measures i.e. detention pond or discharge outlets at the lowest point of the catchment area to manage the discharge.

Electricity

With the development of formal housing, electricity will be supplied from the Seaview sub-station by means of an overhead power line, and the housing design will include the NMBM standard specifications for low income housing such as solar geysers. Due to load growth in the Seaview area the NMBM will upgrade the line to a 22kV underground cable which will be sufficient to supply the power requirements for Seaview, including the proposed development. Where possible other energy saving technologies (such as solar street lighting) will be installed.

Waste

Solid waste generated by individual households will be collected as per the NMBM's waste collection schedule (weekly collections). A new waste transfer station for the area will be required and provision for this is made in both layout options.

Access

Access to all the sites except Portion 10 of Farm 28 will be off Seaview road. It is proposed that portion 10 is accessed via Aliwal Road in Seaview. A 12 m road reserve (to allow for access by municipal service vehicles such as waste removal and servicing of leachpits) will need to be constructed to connect the development with Aliwal road.

This new access route will follow the footprint of the transformed area through portion 31 of farm 28.

5. Findings and Conclusions

The following Specialist Studies were conducted for the EIA Phase of the assessment, the full reports for which were included in Appendix K (**Volume 2 of the DEIR**):

- Socio-economic Impact Assessment – Appendix K1;
- Traffic Impact Assessment - Appendix K2;
- Palaeontological Impact assessment - Appendix K3;
- Archaeological Impact Assessment - Appendix K4;
- Aquatic Impact Assessment - Appendix K5;
- Forest Survey – Appendix K6;
- Ecological Survey - Appendix K6; and
- Groundwater Impact Assessment - Appendix K7.

The impact significance ratings for the various impacts that were identified, both before and after application of mitigation (for negative impacts) or enhancement for positive impacts are summarised in Table 2.

Key observations with regard to the overall impact ratings assuming mitigation measures are effectively implemented are highlighted as follows:

- The significance of predicted impacts on **archaeological** and **palaeontological** resources, resulting from destruction of heritage resources mainly during construction, is predicted to be LOW and VERY LOW (-ve) respectively prior to mitigation. With mitigation however, positive (LOW and VERY LOW) impacts could potentially result due to preservation of currently undocumented heritage resources;
- **Ecological** impacts (for both site options) are predicted to result from clearing of vegetation and habitat, disturbance of fauna, and loss of species of special concern. The significance of these impacts is predicted to range from LOW to VERY LOW (-ve). Impacts on Critical Biodiversity Areas (CBAs) adjacent to the proposed development areas, especially for development option 1, are predicted to be MEDIUM (after mitigation) during construction.
- Site development option 1 is expected to result in a HIGH (-ve) impact on protected **forest** due to destruction of trees and edge effects. With mitigation this could be reduced to MEDIUM, however forest destruction permits would be required to support the current proposed development layout. DAFF has indicated that they do not support this layout and would only support development within the current footprint of the informal settlements, which places a significant constraint for this development site option as it would not allow sufficient space to meet the housing requirement to accommodate all current

residents of these communities. Development of site option 2 could result in a LOW to MEDIUM (+ve) impact on forest, as the communities currently living amongst the forest patches would be relocated, assuming the vacated areas are successfully rehabilitated.

- The **socio-economic** impacts during construction, although temporary, are predicted to be largely positive, with HIGH to MEDIUM impacts. VERY LOW (-ve) impacts are predicted to result from changes to sense of place and increases in social conflict associated with an influx of workers.
- During operation, the **socio-economic** impacts are again predicted to be predominantly positive, with a VERY HIGH (+ve) impact on production and GDP predicted. Other significant impacts (MEDIUM to HIGH (+ve) with enhancement, would result from employment, improved standards of living, increased government revenue, improved health and safety for housing beneficiaries, improved sense of place due to removal of the informal settlements, and additional value to the housing market. Negative impacts of VERY LOW to INSIGNIFICANT significance (with mitigation) are predicted to result from sense of place due to development of currently undeveloped areas, and influx of additional housing seekers.
- Impacts on **traffic** during construction are expected to result from increased traffic, affecting traffic flow, deterioration of roads, and increased safety risks, and are predicted to be of VERY LOW (-ve) significance.
- Impacts on **traffic** during operation are expected to again result from increased traffic, affecting traffic flow, deterioration of roads, and increased safety risks, especially given the predicted increase in pedestrian and public transport vehicle volumes. These are predicted to be of MEDIUM (-ve) significance prior to mitigation, reduced to MEDIUM to LOW (-ve), or LOW (+ve) (in cases where road upgrades are included) significance with mitigation.
- Impacts on **groundwater** as a result of spread of contamination from the proposed sanitation solutions (either option) during operation are predicted to be VERY LOW, after mitigation. DWS has however expressed concern regarding potential contamination from the leach pits and has expressed a preference for the package treatment plant option.
- **Other impacts** anticipated to result include spread of pollution and erosion associated with stormwater, spread of waste, dust, visual impacts, noise disturbance, and fire risks. All are predicted to be VERY LOW to INSIGNIFICANT (-ve) during construction, and LOW to VERY LOW (-ve) during operation, after mitigation.

- The **no-go option** (i.e. no development and continuation of the informal settlements in the area) would see continuation of the current negative impacts associated with it. These include: MEDIUM (-ve) impacts as a result of fire risk, destruction of forest, risks to the health and safety of residents of the informal settlements, and traffic safety risks; LOW (-ve) impacts resulting from spread of waste and visual impacts; and VERY LOW (-ve) impacts resulting from noise.
- While the predicted impacts associated with the **development alternatives** assessed are largely similar, development option 2 is preferred from an environmental perspective, primarily due to the lack of forest on this site. This site is also preferred from a traffic, archaeological, and socio-economic perspective. Pending further comment from DAFF and DWS however, no fatal flaws relating to development option 1 have been conclusively identified.

It is the EAP's opinion that while both development options are potentially environmentally acceptable provided the mitigation measures listed are effectively implemented, development option 2 is environmentally preferred, and based on comment received from DAFF and DWS, may be the only feasible option that would accommodate all beneficiaries. The following key considerations relating to development of each site option are noted:

Development Option 1 - A key concern remains that, based on comment received from DAFF the current layout proposed is not supported in terms of overlaps with forested areas, and it appears that a suitable compromise between meeting the objectives of DAFF and the National Forest Act, and those of the NMBM in terms of housing provision for the current residents of the informal settlements cannot be reached based on the limited space available for development. DWS has also expressed concerns about the proposed sanitation solution for this development option (leach pits) despite the findings of the groundwater study. No other options for sanitation have been proposed for this development option. Based on feedback from these two commenting authorities, it would therefore appear that development option 1 is no longer a feasible option, however the final decision in this regard would need to take into account all considerations, including those highlighted below for development option 2.

Development Option 2 - As the property is privately owned, an agreement of sale would need to be reached between the NMBM and the landowner. The affordability of such a land purchase to the NMBM has not yet been established (but is outside the scope of this EIA). The development potential (and most sustainable use of resources) of erf 28/1 significantly exceeds the current housing need to accommodate the residents of New Rest and Zweledinga. The possibility therefore remains that additional residents from other surrounding areas would also be accommodated on this site. The details of these

potential additional beneficiaries are however unknown at this stage and therefore have not been addressed as part of this EIA. A number of the positive impacts anticipated to result from development of this site would be as a result of removal of the informal settlements from the area and successful rehabilitation of the areas they currently occupy, to prevent re-occupation. Should this not be achieved, these impacts would not be realised, and the current negative (no-go) impacts would offset many of the predicted positive impacts of the development of this site.

6. Recommendations

The specific recommended mitigation measures are presented in Section 5 and Section 7 (Environmental Management Programme) of the FEIR.

Key recommendations, which are considered essential, are:

- Damage or destruction of any forest trees must be avoided, and where this is not possible, the necessary destruction permits must be obtained in advance from DAFF;
- Protected forest clumps to be conserved (as per the site layout once it has been approved by DAFF) must be marked prior to site clearing and all personnel on site must be educated on the importance of the protection of forest on site;
- Should option 2 be implemented, monitor and prevent dumping and re-establishment of informal housing in these areas and manage alien vegetation;
- NMBM to conduct regular site inspections to police land invasions activities, in conjunction with a team established from within the community to act as whistle blowers;
- Suitable formal public transport and pedestrian facilities must be provided;
- Access to the proposed Waste Transfer Station on erf 240 must be gained from the internal roads (and not from Seaview road);
- Keep vegetation clearance to a minimum;
- The sanitation system must be designed, operated and maintained according to its design criteria; and
- NMBM to ensure services are delivered and maintained and that public open spaces are kept clean and well maintained.

7. Way Forward

The key remaining activities and the provisional timetable required to achieve the objectives of the EIA process are summarised in Table 1 below. The public participation programme has given IAPs an opportunity to assist with the identification of issues and potential impacts.

The Executive Summary (this document) of the FEIR has been distributed to all registered IAPs for a 30 day comment period (28 August – 27 September 2017). A printed copy of the report will be made available at **Walmer Public Library** (Main Road, Walmer, Port Elizabeth). The report can also be accessed as an electronic copy on SRK Consulting's webpage via the 'Public Documents' link: <http://www.srk.co.za/en/page/za-public-documents>

Written comment on this FEIR should be sent to DEDEAT directly (Reference Number ECm1/C/LN2/M/39-2014), by **17h00 on 27 September 2017** to:

Ms Nicole Gerber

Department of Economic Development, Environmental
Affairs and Tourism

Private Bag X5001, Greenacres, 6057

Email: Nicole.Gerber@dedea.gov.za

Fax: (041) 508 5865

A copy of any comments must also be forwarded to:

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Table 1: Estimated target dates for key activities in the EIA process

Stage / Activity	Target Dates	
	Start	End
Public Comment Period for Final EIR (30 days)	28 August 2017	27 September 2017
Submit Final EIR to DEDEAT for a decision	28 September 2017	

Table 2: Summary of significance ratings for potential impacts of the proposed Seaview housing development, Options 1 and 2

Impact group	Impact Description	+/-	Significance without management		Significance with management	
			Option 1	Option 2	Option 1	Option 2
	CONSTRUCTION					
Archaeology	A1: Destruction of archaeological resources	-/+	Low (-ve)	Low (-ve)	Low (+ve)	Low (+ve)
Paleontology	P1: Destruction of palaeontological resources	-/+	Very low (-ve)		Very Low (+ve)	
Ecology	E1: Loss of vegetation and habitat	-	Medium	Low	Low	Low
	E2: Disturbance of fauna	-	Low	Low	Low	Very Low
	E3: Loss of SSC	-	Low	Medium	Low	Low
	E4: Destruction of forest	-	High	N/A	Medium	N/A
	E5: Impact on CBAs	-	High	N/A	Medium	N/A
Socio-economic	S1: Temporary stimulation of the national and local economy	+	High		High	
	S2: Temporary increased employment in the national and local economies	+	High		High	
	S3: Temporary increase in household	+	Medium		Medium	

Impact group	Impact Description	+/-	Significance without management		Significance with management	
			Option 1	Option 2	Option 1	Option 2
	earnings					
	S4: Temporary increase in government revenue	+	Low		N/A	
	S5: Negative changes to the sense of place	-	Very low	Low	Insignificant	Very low
	S6: Temporary increase in social conflict associated with influx	-	Very low		Insignificant	
Traffic	T1: Increased Traffic on existing roads	-	Very Low		Very low	
	T2: Deterioration of Road Condition	-	Very Low		Very Low	
	T3: Increased traffic safety risks due to conflict with general traffic	-	Very Low		Very Low	
Stormwater	SW1: Spread of pollution and erosion	-	Very Low		Insignificant	
Waste	W1: Spread of Waste	-	Very Low		Insignificant	
Air Quality	AQ1: Dust generation	-	Very Low		Insignificant	
Visual	V1: Visual impact	-	Very Low		Insignificant	Very Low
Noise	N1: Noise disturbance	-	Very Low		Insignificant	
Fire	F1: Fire risk	-	Insignificant		Insignificant	
	OPERATION					
Archaeology	A1: Destruction of archaeological resources	-/+	Very low (-ve)		Very low (+ve)	
Ecology	E1: Loss of vegetation/habitat destruction	-	Medium	Low	Low	Very Low
	E2: Disturbance of fauna	-	Medium	Very Low	Low	Very Low
	E3: Loss of Species of Special Concern	-	Low		Low	
	E4: Destruction of forest	-/+	Medium (-ve)	Low (+ve)	Low (-ve)	Medium (+ve)
	E5: Impacts on conservation targets and CBAs	-	Medium	N/A	Low	N/A
Socio-economic	S7: Sustainable increase in production and GDP nationally and locally	+	High		Very High	
	S8: Creation of sustainable employment positions nationally and locally	+	Low		Medium	
	S9: Improved standards of living for households benefiting from employment	+	Low		Medium	
	S10: Sustainable increase in national and local government revenue	+	High		High	
	S11: Improvement in Health and Safety for housing beneficiaries	+	Medium		High	
	S12: Positive impacts on the sense of place – removal of informal settlements	+	Low	Medium	Medium	High
	S13: Additional value in the local property market from new housing	+	Medium		High	
	S14: Negative impacts on sense of place – housing in areas where none currently exists	-	Medium		Very low	
	S15: Influx of people seeking an	-	Very Low		Insignificant	

Impact group	Impact Description	+/-	Significance without management		Significance with management	
			Option 1	Option 2	Option 1	Option 2
	opportunity to obtain housing					
Traffic	T4: Increased traffic volumes on existing roads	-/ +	Medium(-ve)		Low (+ve)	Low (-ve)
	T5: Increased Pedestrian Volumes on Existing Roads	-	Medium		Low	
	T6: Increased pedestrian and traffic volumes on existing roads leading to safety concerns	-/+	Medium (-ve)		Medium (+ve)	Low (+ve)
	T7: Deterioration in road condition	-/+	Medium (-ve)		Very Low (+ve)	Low (+ve)
	T8: Intersection and link capacity reduction	-/+	Medium (-ve)		Low (-ve)	Low (+ve)
	T9: Conflict with pedestrians and public transport at existing entrances	-	Medium		Low	Medium
	T10: Vehicle conflict at proposed entrances with marginal sight distance	-	Medium	N/A	Low	N/A
Groundwater	G1: Pollutants from Sanitation System Reaching Groundwater Receptors	-	Low		Very low	
Stormwater	SW2: Spread of pollution, flooding and erosion	-	Low		Very low	
Waste	W2: Spread of Waste	-	Medium		Very Low	
Visual	V2: Visual impact during operation	-	Low	Medium	Very Low	Low
Noise	N2: Noise impact	-	Low		Very Low	
Fire	F2: Fire risk	-	Very low		Low	
	NO-GO OPTION					
Ecology	E2: Disturbance of fauna	-	Low		N/A	N/A
	E4: Destruction of forest	-	Medium	N/A	N/A	N/A
Socio-economic	S11: Improvement in Health and Safety for housing beneficiaries	-	Medium		N/A	N/A
Traffic	T6: Increased pedestrian and traffic volumes on existing roads leading to safety concerns	-	Medium		N/A	N/A
Waste	W2: Spread of Waste	-	Low		N/A	N/A
Visual	V2: Visual impact	-	Low		N/A	N/A
Noise	N2: Noise disturbance	-	Very Low		N/A	N/A
Fire	F2: Fire risk	-	Medium		N/A	N/A

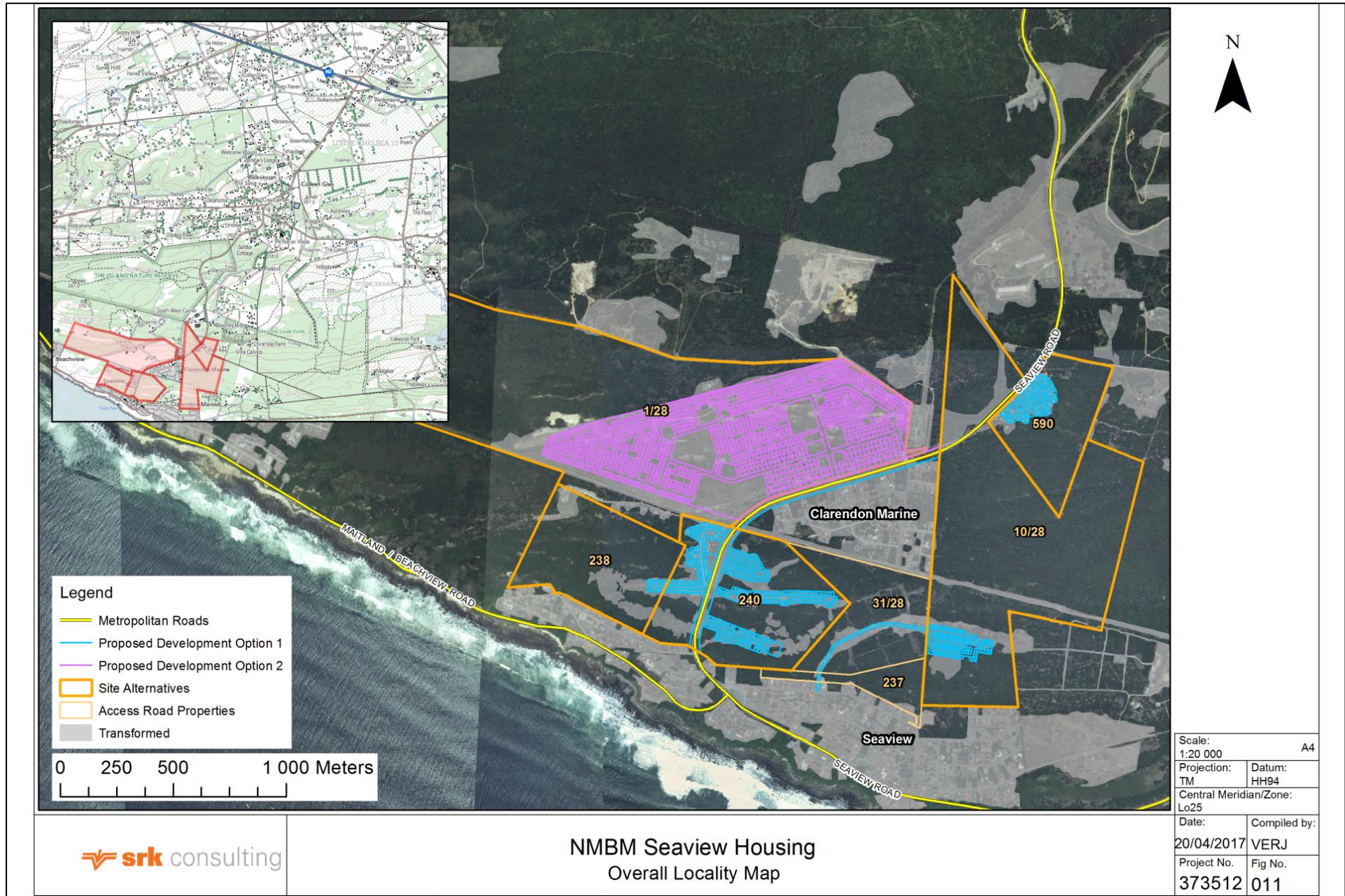


Figure 2: Site locality map indicating the two proposed development options