SOCIAL IMPACT ASSESSMENT

FOR

GEORGE EDUCATIONAL FACILITY

GEORGE MUNICIPALITY

WESTERN CAPE PROVINCE

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Prepared for

SHARPLES ENVIRONMENTAL SERVICES

By

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EXECUTIVE SUMMARY

INTRODUCTION AND LOCATION

Sharples Environmental Services (SES) was appointed by as the lead consultant to manage the Environmental Impact Assessment (EIA) process for the establishment of higher educational facility on land owned by the George Municipality (Remainder of Erf 464, George) adjacent to the Garden Route Dam in George, Western Cape Province. Tony Barbour Environmental Consulting was appointed by SES to undertake a specialist Social Impact Assessment (SIA) as part of an Environmental Impact Assessment (EIA) process.

PROJECT DESCRIPTION

The proposed development on the site consists of a university campus (8 000 students), housing (student and normal residential), recreational and open spaces, hotel and a business node.

SUMMARY OF KEY FINDINGS

The key findings of the study are summarised under the following sections:

- Fit with policy and planning;
- Construction phase impacts;
- Operational phase impacts;
- No-development option.

POLICY AND PLANNING ISSUES

Policy review

The key role of education is highlighted National Development Plan 2030 (2011). Chapter 9, Improving Education, Training and Innovation, outlines the key role played by education and supports the establishment of the proposed education facility in George. The NDP notes that by 2030, South Africa needs an education system that includes an *expanded higher-education sector* that can contribute to rising incomes, higher productivity and the shift to a more knowledge-intensive economy. The NDP notes that the single most important investment any country can make is in its people. The aim of the NDP is that by 2030 one in six people will be a university graduate. This is one of the strongest indicators of expanding access to university education. The NDP also highlights the importance and role of universities as centres of excellence and research and development.

The establishment of an education facility is also supported at a local level. The George Integrated Development Plan identifies 5 Strategic Goal (SG). Linked to the SGs are a number of Departmental Objectives, of which the following support the proposed development: are relevant to the proposed development.

- Identify an educational and research hub and to facilitate the continued growth of NMMU in George;
- Create and facilitate an enabling environment for economic development in George;

- Establish incubators, clusters and centres of excellence to contribute meaningfully to the demands of a growing economy. These centres can be linked to and benefit from the proposed university;
- Establish a Science Park. This can be linked to the proposed development of a university;
- Promote George as a sports tourism and business destination. The research from Stellenbosch has indicated that the University of Stellenbosch has contributed to establishing Stellenbosch as sports and business destination;

From a spatial perspective the George SDF notes that the development of George should reinforce George city's regional service centre role through attracting higher order, ***high quality education*** and health facilities, regional government administration and commercial headquarters.

Case study review
A study undertaken by the Bureau of Research in 2018 highlighted the key contribution of the University of Stellenbosch (SU) to the local economy of Stellenbosch and the region. In addition, Stellenbosch and the local economy benefits from a wide range of university linked initiatives, including technological, sport and cultural initiatives. The study at the Potchefstroom campus of North-West University also confirmed the benefit of the university in terms of the local economy. The study also highlighted the importance of universities in terms of providing resilience against economic fluctuations.

CONSTRUCTION PHASE IMPACTS

The key social issues associated with the construction phase include:

Potential positive impacts
- Creation of employment and business opportunities.

Employment
Based on experience from similar projects the total number of employment opportunities would be in the region of 1 800 per annum for a period of 8 years. Approximately 45% (810) of the employment opportunities will be available for low skilled workers, 45% (810) semi-skilled workers and 180 (10%) for skilled workers. Most of the employment opportunities associated with the low and semi-skilled categories will be taken up by Historically Disadvantaged Individuals (HDIs).

It is also important to note that the low and semi-skilled workers are typically the main bread winners and support a household of 3 to 5. The creation of 1620 employment opportunities for low and semi-skilled workers will therefore support the livelihoods of 4 860 to 8 100 members of the local community. The majority will be HDIs.

The total wage bill for the project will approximately R 2 billion (2019 rand values) of which R 1.5 billion (78%) will be earned by low and semi-skilled workers. Most of the total wage bill for the construction phase will therefore be earned by HDIs. This represents a significant socio-economic benefit. Most of the wage bill will also be spent locally and will therefore benefit the local George economy

Business opportunities
The total capital expenditure associated with the proposed educational facility and associated housing component will be in the region of R 2-3 billion (2019 rand

values). Most of the work associated with the construction phase is likely to be undertaken by local contractors and builders. The proposed development will therefore represent a positive benefit for the local construction and building sector in George and the Garden Route. Most of the building materials associated with the construction phase will be sourced from locally based suppliers in George. This will represent a positive injection of capital into the local economy. The proposed development would therefore represent a significant opportunity for the local construction and building sector. The project will also benefit professionals involved in the construction sector, including quantity surveyors, engineers, and architects.

Potential negative impacts

- Risks to local social networks posed by construction workers;
- Security and safety risks posed by construction workers to local residents;
- Noise, dust and safety impacts associated with construction related activities and the movement of heavy vehicles.

The significance of the potential negative impacts with mitigation was assessed to be of **Low Negative** significance. All the potential negative impacts can therefore be effectively mitigated if the recommended mitigation measures are implemented. Table 1 summarises the significance of the impacts associated with the construction phase.

Table 1: Summary of social impacts during construction phase

Impact	Significance No Mitigation	Significance With Enhancement /Mitigation
Creation of employment and business opportunities	Medium (+)	High (+)
Threat posed by workers to safety and security	Medium (-)	Low (-)
Impact of construction related activities (dust, noise, safety etc.)	Medium (-)	Low (-)

OPERATIONAL PHASE IMPACTS

The key social issues associated with the operational phase include:

Potential positive impacts

- Promotion of George as an educational centre;
- Creation of employment opportunities;
- Support local economic development;
- Establishment of recreational spaces and community facilities;
- Opportunity to show case green building design and technology.

Potential negative impacts

- Impact on existing tertiary institutions;
- Impact on adjacent residential areas linked to noise, traffic anti-social behaviour of students etc;
- Impact on Garden Route Dam.

Promote George as an education centre

The IDP identifies the establishment of a George as an educational centre as a Strategic Goal (SG). From a spatial perspective the George SDF notes that the

development of George should reinforce George city's regional service centre role through attracting higher order, ***high quality education*** and health facilities, regional government administration and commercial headquarters. The proposed development therefore supports key planning documents and policies.

The literature review also highlighted the benefits to towns associated with universities. The proposed development will therefore contribute towards the establishment of George as an educational centre. The establishment of the proposed educational facility is also likely to benefit existing schools and other tertiary institutions in George and the Eden District Municipality.

Create employment opportunities

The proposed George education facility has the potential to create between 600 and 800 full time employment opportunities when it is fully operational. The hotel and the associated waterfront precinct will create in the region of 200 employment opportunities. In addition to the direct employment opportunities the education facility, hotel and waterfront will also create a number of indirect employment opportunities linked to the provision of services, such as maintenance, security, and supplying materials, such as food, etc.

The residential component has the potential to create region of 800 employment opportunities for domestic workers. The majority of opportunities are likely to benefit women HDIs. Low and semi-skilled workers are typically the main bread winners and support a household of 3 to 5. The creation of employment opportunities for low and semi-skilled workers will therefore support the livelihoods of 2 400-4 000 members of the local community, the majority of whom will be HDIs.

Support local economic development

Annual university expenditure is estimated to be in the region of R 320 million. This will be spent on items such as electricity and water, rates, kitchen supplies, catering and entertainment, security and repairs and maintenance and will benefit the local economy. The annual wage bill for the proposed George educational facility is estimated to be in the region of R 650-700 million. A percentage of the wage bill will be spent in the local economy (rates and taxes, entertainment, maintenance, purchase of consumables and durable products etc.), which in turn will benefit local businesses. Based on the study by the Bureau of Economic Research at the University of Stellenbosch the expenditure by 8 000 students, including accommodation, food etc., is estimated to be in the region of R 750 million per annum. The proposed George education facility will therefore significantly benefit the local economy of George.

Establishment of recreational spaces and community facilities

The proposed development provides an opportunity to create a well-designed educational facility that is complimented by a recreational open space system consisting of natural and open spaces, sports fields and parks. These spaces will be open to and accessible to the public and will therefore create an asset for George. The presence of the educational facility and associated housing elements (student and normal housing) will also improve security on the site, which will make the use of the recreational open spaces more attractive. The educational facility is also likely to employ security personnel.

Opportunity to showcase green building design and technology

The proposed education facility creates an opportunity to incorporate green (environmental sustainability) principles into the design, construction and operation

of the proposed education facility. Green buildings are energy efficient, resource efficient and environmentally responsible. This would not only represent a commitment to addressing challenges such as climate change but would also create a facility that could be used to showcase green (environmental sustainability) principles. In addition, it would create an opportunity to market the town of George.

Potential negative impacts

- Impact on existing tertiary institutions;
- Impact on adjacent residential areas linked to noise, traffic anti-social behaviour of students etc;
- Impact on Garden Route Dam (water quality).

Impact on existing tertiary institutions

Based on the discussions with representatives from the NMU Saasveld campus, while there are concerns about the potential impact of the proposed facility on the current and future operations at Saasveld, there was also recognition that the two facilities could complement and support each other. This could in turn contribute towards positioning George as an attractive and sought-after centre of education.

Impact on adjacent residential areas

The key issues identified by residents from Eden George, Loerie Park and the Glenwood Small Holding Area and other interested and affected parties were linked to:

- Potential impact on water quality in Garden Route Dam and implications for George water supply;
- Increase in traffic associated with the development and associated congestion, safety etc. impacts;
- Impacts associated with behavior of students (noise, anti-social behavior, crime, social unrest and protests etc.) and potential impacts on quality of life and property values;

Traffic impacts

The findings of the TIA indicate that the development will result in a significant increase in the volume of traffic in the area. Phase 1 of the development (50% in first 5 years) would generate 758 and 1 483 new vehicle trips during the weekday AM and PM peak hours respectively. Phase 2 (final 50% by 2029) would generate 1 480 and 2 763 new vehicle trips during the weekday AM and PM peak hours respectively. This will result in increased congestion and delays. It will not be possible to fully mitigate these impacts.

Based on the findings of the TIA no transport (road) improvements are required for the first phase (2024). For the second phase (2029) the TIA notes that the Saasveld (Madiba Drive) Road and Meyer Road intersection should be developed as a roundabout with one circulating lane. The development also includes two new accesses of Madiba Drive to the east of the intersection with Meyer Road.

The concerns raised by residents indicate that Madiba Drive has a "rural character" and is used by runners and cyclists. The increase in traffic will significantly increase the safety risks. In addition, the single residential units located along Meyer and Stander Road will all require direct access onto these roads. Vehicles associated with these units are also likely to park on Meyer and Stander Roads. This will exacerbate the traffic and safety risks along Meyer and Stander Roads.

Traffic delays are also associated with the Glenwood House School, located in Glenwood Avenue. The delays are associated with drop of and pick up times and linked to the traffic lights at the intersection with Madiba Drive and Glenwood Avenue. The traffic associated with the development will exacerbate the traffic delays. These issues do not appear to be addressed by the TIA.

Impacts associate with behaviour of students
The proposed development will accommodate 8 000 students, of which approximately 3 000 – 4 000 will be accommodated in student accommodation on site. Experience has shown that the behavior of students can impact negatively on other residents. This is linked to noise, anti-social behavior and crime. In addition, in recent years there has been an increase in social unrest and protests at several tertiary institutions in South Africa. This has resulted in the destruction and damage of private and public property. This is a major concern for the residents of Loerie Park, Eden George and Glenwood. These areas are established, quiet, middle to upper income residential areas. The behavior of students and the potential risk they pose to the current qualify of life of the residents that live in the vicinity of the site and property values is therefore a key issue.

A well-designed, green facility, that is well maintained and includes managed open and public spaces, sports fields, biking and hiking trails etc., has the potential to have a positive impact on local property values. However, a poorly managed and maintained facility, where student protests and unrest is a common occurrence is likely to have a negative impact on property values. It is not possible to predict with any degree of certainty what the impact of the establishment of the proposed educational facility will have on property values in the adjacent area will have. A significance rating has therefore not been assigned.

Impact on Garden Route Dam
The development of the land in the catchment area of the Garden Route Dam will pose a potential pollution threat to the water supply of the George. Given the importance of the Garden Route Dam as the main water supply for George this represents a key risk. A threat to this key resource also represents key social issue. A Freshwater Habitat Assessment has been undertaken as part of the EIA process (Sharples, 2019). The findings of the study indicate that increased volumes and velocities of storm water runoff, will impact on watercourses receiving concentrated flows off the area, including the Garden Route Dam. Water pollution without effective mitigation was rated **High Negative**. With mitigation the rating was **Low Negative**. The mitigation measures are listed in the report. A Stormwater Management Plan has also been prepared by Aurecon (July 2019).

The significance of the impacts associated with the operational phase are summarised in Table 2.

Table 2: Summary of social impacts during operational phase

Impact	Significance No Mitigation	With Enhancement /Mitigation
Promote George as an education centre	Medium (+)	High (+)
Create employment opportunities	Medium (+)	High (+)
Promote local economic development	Medium (+)	High (+)

Establishment of recreational spaces and community facilities	Medium (+)	High (+)
Showcase green building design and technology	Medium (+)	High (+)
Impact on existing educational facilities	Low (-)	Medium (+)
Impact on adjacent residential areas linked to traffic	Medium (-)	Medium (-)
Impact of student behaviour on quality of life and property values	Significance rating not assigned	Significance rating not assigned
Impact on Garden Route Dam (water quality)	High (-)	Low (-)

NO DEVELOPMENT OPTION

The No-Development option would represent a lost opportunity for the local and regional economy. The lost opportunity relates to the employment and investment opportunities associated with the construction and operational phase, as well as the benefits associated with promoting George as an education centre and attracting new visitors and residents to the town. Therefore, despite the potential negative impacts on the residential areas in the vicinity of the site, the no-development option is therefore not supported.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The findings of the SIA indicate that the proposed George educational facility is supported by National, Provincial and Local policy and planning documents. The establishment of the proposed facility also supports the George SDF, which notes that the development of George should reinforce George city's regional service centre role through attracting higher order, ***high quality education.*** The construction and operational phase of the proposed development will also create social and economic benefits for George and the local economy. These include the creation of employment and business opportunities during both the construction and operational phase, and the promotion of economic development. The proposed development also provides an opportunity to create a well-designed educational facility that is complimented by a recreational open space system consisting of natural and open spaces, sports fields and parks. The findings of the SIA also highlight the benefits of universities to small towns, such as George.

The potential negative impacts are largely confined to the immediately adjacent residential areas of Eden George, Loerie Park and the Glenwood Small Holding Area. These impacts relate to the increase in traffic and the potential risks posed by the behaviour of students on the quality of life in these areas. Although these impacts cannot be fully mitigated there are localised. The benefits on the other hand benefit the broader George economy and community. The establishment of the proposed George educational facility on the Remainder of Erf 464, George, is therefore supported by the findings of the SIA.

Recommendations

- The establishment of the single residential units along Meyer and Stander Road should be reconsidered. The option of removing the erfs located along Meyer and Stander Road should be considered. This would provide a buffer between the development and the existing houses. Access to units associated with the

development would also be from internal roads and not directly of Meyer and Stander Road;

- If this is not feasible, the recommended that the development be designed to reduce the number of units locate along Meyer and Stander Road. The erf sizes should be similar to the existing erf sizes along Meyer and Stander Road;
- Access to the development from Stander Road should be reconsidered and or restricted.

TABLE OF CONTENTS

CONTENTS OF THE SPECIALIST REPORT – CHECKLIST

Regulation GNR 326 of 4 December 2014, as amended 7 April 2017, Appendix 6	**Section of Report**
(a) details of the specialist who prepared the report; and the expertise of that specialist to compile a specialist report including a *curriculum vitae*;	Section 1.5, p9, Annexure C
(b) a declaration that the specialist is independent in a form as may be specified by the competent authority;	Section 1.6, p9, Annexure D
(c) an indication of the scope of, and the purpose for which, the report was prepared;	Section 1.1, p1, Section 1.2, p1
(cA) an indication of the quality and age of base data used for the specialist report;	Section 1.2, p1, Section 3, p26
(cB) a description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	Section 5, p51
(d) the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	N/A for SIA
(e) a description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Section 1.2, p1, Annexure B
(f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	Section 5, p51, Section 6, p71
(g) an identification of any areas to be avoided, including buffers;	N/A
(h) a map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	N/A for SIA
(i) a description of any assumptions made and any uncertainties or gaps in knowledge;	Section 1.4, p8
(j) a description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives on the environment, or activities;	Section 5, p51, Section 6, p71
(k) any mitigation measures for inclusion in the EMPr;	Section 5, p51
(l) any conditions for inclusion in the environmental authorisation;	Section 5, p51, Section 6, p71
(m) any monitoring requirements for inclusion in the EMPr or environmental authorisation;	N/A
(n) a reasoned opinion— i. as to whether the proposed activity, activities or portions thereof should be authorised; iA. Regarding the acceptability of the proposed activity or activities; and ii. if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr or Environmental Authorization, and where applicable, the closure plan;	Section 6.3, p77
(o) a summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	Annexure A, lists key stakeholders interviewed
(p) any other information requested by the competent authority	N/A
Where a government notice gazetted by the Minister provides for any protocol or minimum information requirement to be applied to a specialist report, the requirements as indicated in such notice will apply.	

ACRONYMS

DEA	Department of Environmental Affairs (National)
DEA&DP	Department of Environmental Affairs and Development Planning (WCP)
DM	District Municipality
EDM	Eden District Municipality
EIA	Environmental Impact Assessment
GLM	George Local Municipality
IDP	Integrated Development Plan
LED	Local Economic Development
LM	Local Municipality
LSDF	Local Spatial Development Framework
SDF	Spatial Development Framework

SECTION 1: INTRODUCTION

1.1 INTRODUCTION

Sharples Environmental Services (SES) was appointed by as the lead consultant to manage the Environmental Impact Assessment (EIA) process for the establishment of higher educational facility on land owned by the George Municipality (Remainder of Erf 464, George) adjacent to the Garden Route Dam in George, Western Cape Province. Tony Barbour Environmental Consulting was appointed by SES to undertake a specialist Social Impact Assessment (SIA) as part of an Environmental Impact Assessment (EIA) process. This report contains the findings of the SIA.

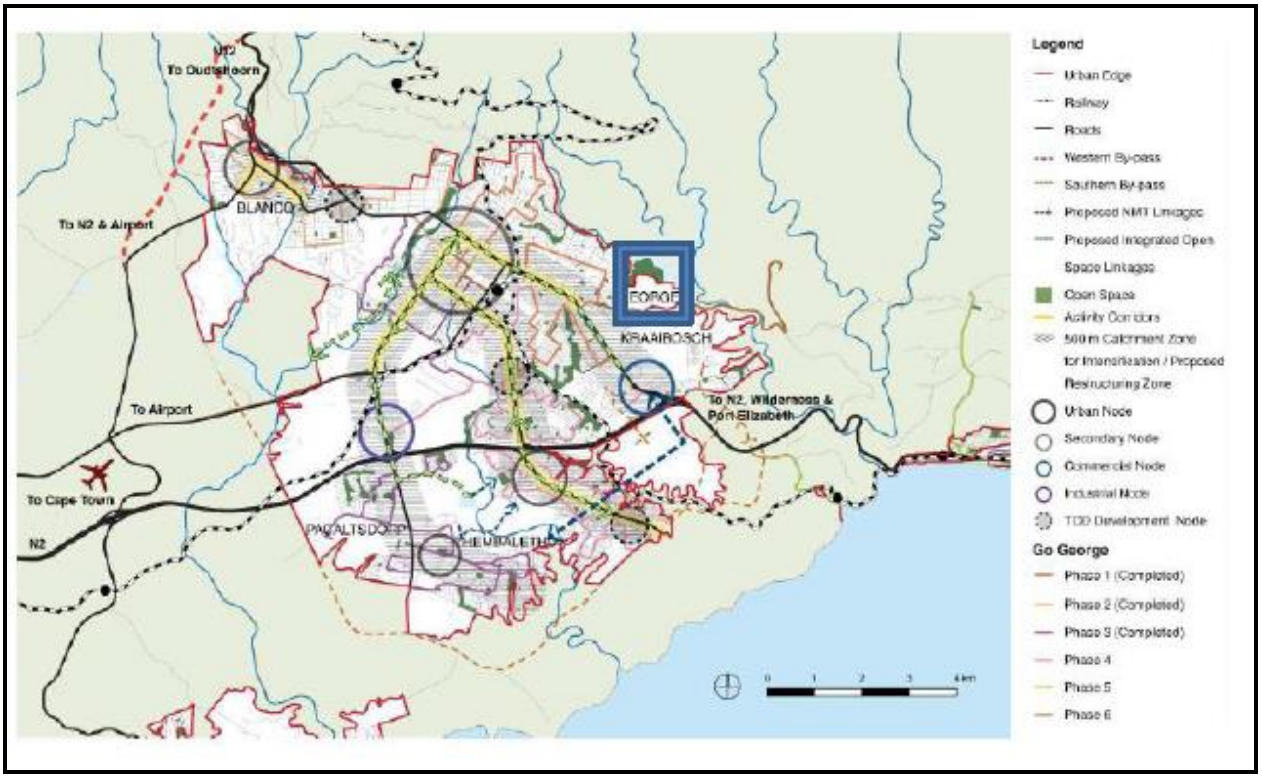


Figure 1.1: Location of proposed education facility next to Garden Route Dam

1.2 TERMS OF REFERENCE AND APPROACH TO STUDY

The terms of reference for the study require:

- A description of the environment that may be affected by the activity and the manner in which the environment may be affected by the proposed development;
- A description and assessment of the potential social issues associated with the proposed development and the associated alternatives;

- Identification of enhancement and mitigation measures aimed at maximizing opportunities and avoiding and or reducing negative impacts.

The approach to the SIA study is based on the Western Cape Department of Environmental Affairs and Development Planning Guidelines for Social Impact Assessment (DEADP, 2007). The key activities in undertaken as part of the SIA process as embodied in the guidelines included:

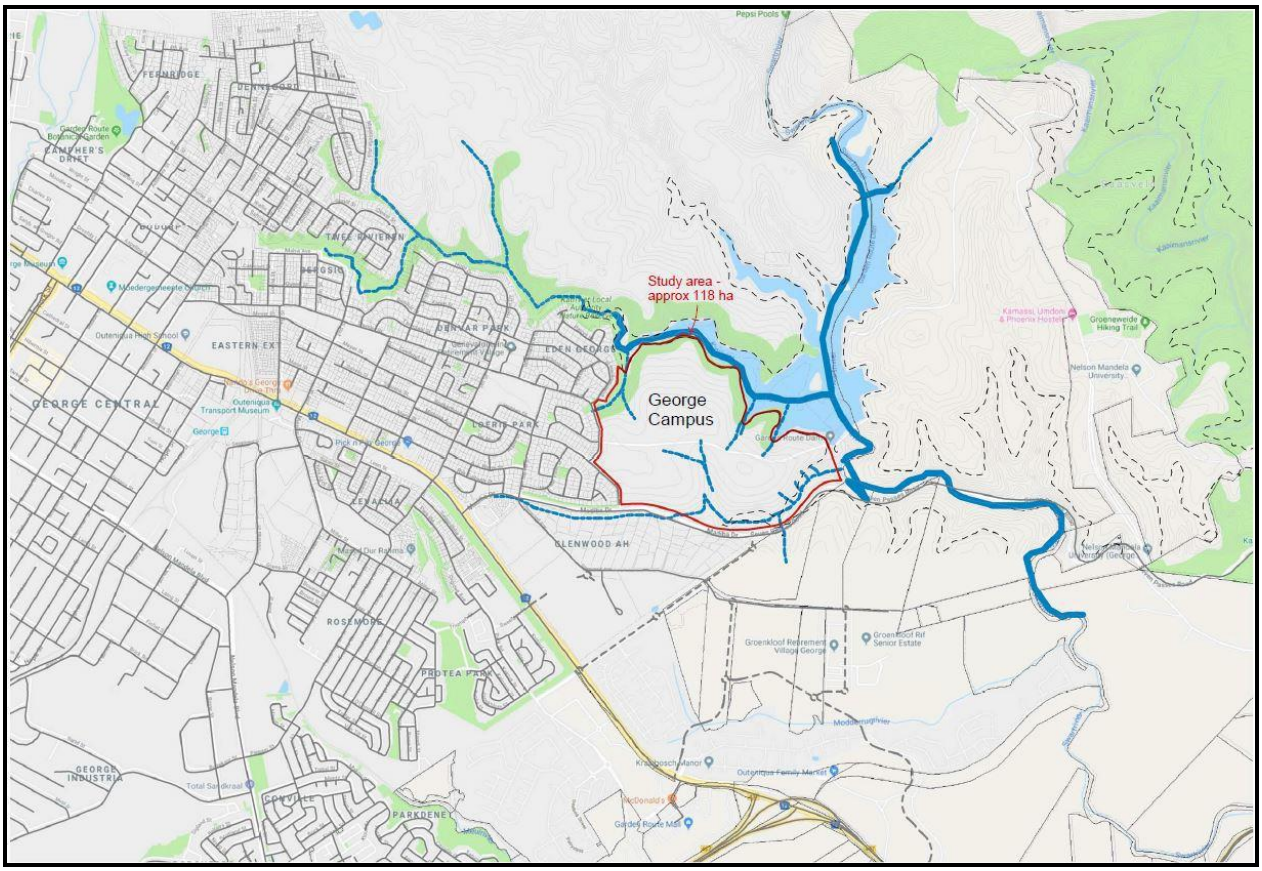
- Describing and obtaining an understanding of the proposed intervention (type, scale, and location) and communities likely to be affected by the proposed project;
- Collecting baseline data on the current social and economic environment;
- Site visit and semi-structured interviews with key stakeholders and affected individuals and communities;
- Identifying the key potential social issues associated with the proposed project;
- Assessing and documenting the significance of social impacts associated with the proposed intervention;
- Identification of enhancement and mitigation measures aimed at maximizing opportunities and avoiding and or reducing negative impacts.

The identification of potential social issues associated with proposed facility is based on observations during the project site visit, interviews with key stakeholders, review of relevant documentation and experience with similar projects. Annexure A contains a list of the secondary information reviewed and interviews conducted. Annexure B outlines the assessment methodology used to assign significance ratings during the assessment phase.

1.3 PROPOSED DEVELOPMENT

The project description is based on the information contained in the Planning Motivation Report prepared by Aurecon (2019). A previous application for a mixed-use development consisting of business and residential development of the land adjacent to the Garden Route Dam was submitted by the George Municipality number of years ago. However, the Department of Environmental Affairs and Development Planning (DEA&DP) only approved the hotel and tourism business component of the proposed development. The George Municipality subsequently appointed Aurecon South Africa (Pty) Ltd. to prepare and submit an application for rezoning (including departure and consent use) and subdivision for the establishment of a university/research institute/academy on the site. The municipality believes that this will maximise the potential social, economic and environmental benefits of the site and enable the broader community to benefit from the development of the area.

The Municipal Urban Edge is currently being amended by the Municipality and the newly proposed Urban Edge includes the majority of the site. No development is planned outside of the newly proposed Urban Edge.



Source: Aurecon

Figure 1.2: Regional location of Remainder of Erf 464

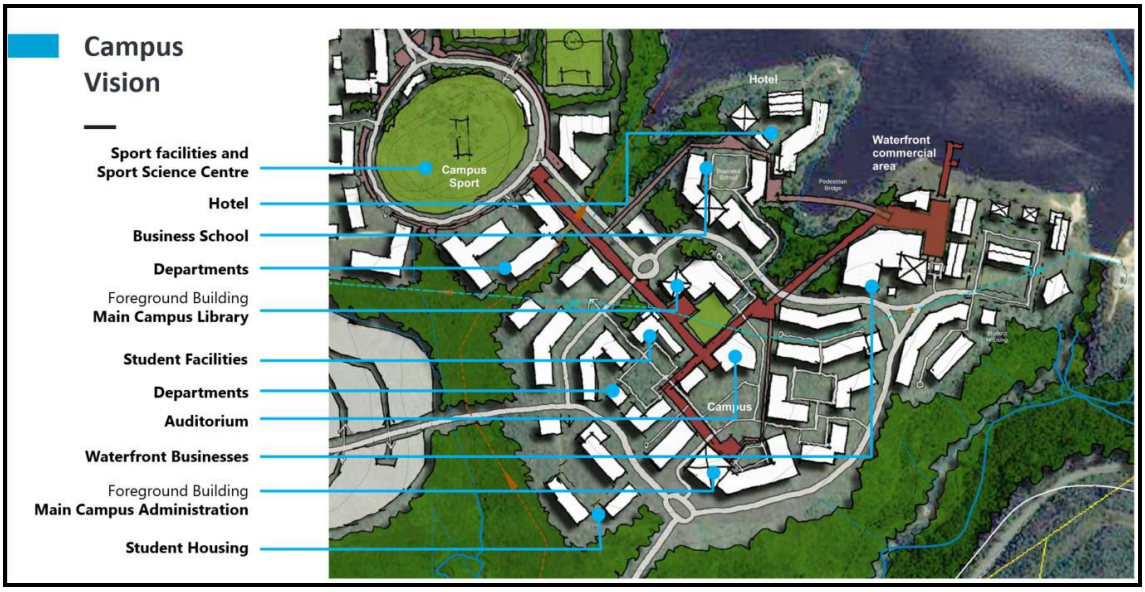
The proposed development on the site consists of a university campus, housing (student and normal residential), recreational and open spaces, hotel and a business node (Figure 1.3).

Campus – University / Research Institute / Academy

The key component of the proposed development is the establishment of a university campus. The core of the campus is located centrally in the eastern half of the site. At this stage interest has been show by a number of private institutions. Figure 1.3 and 1.4 illustrate the proposed layout of the campus.

Source: Aurecon

Figure 1.3: Broader design layout



Source: Aurecon

Figure 1.4: Campus layout

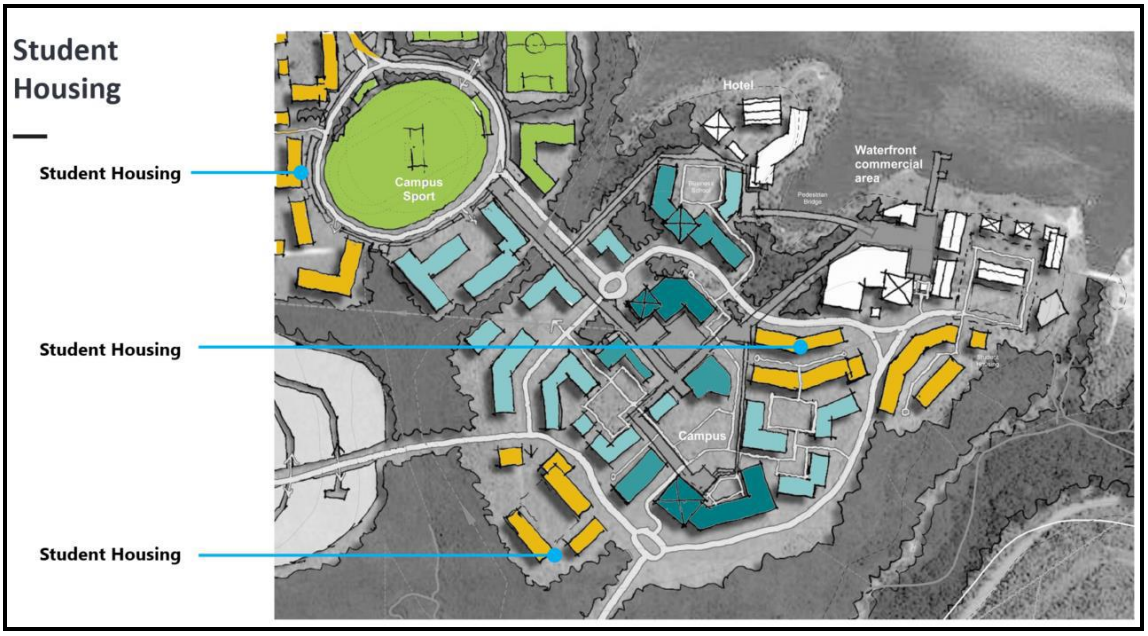
Housing

A mix of Single Residential and Group Housing land uses are proposed on the south-eastern portion of the site, as well as on a smaller portion towards the north-western boundary of the site. The housing will assist to meet the demand for houses and is aimed at this provision of residential space on the site will also absorb the demand for on-site housing by

future employees, post-graduate students and other users of this space. As indicated in Table 1.2, a total of 3312m housing units are proposed. This is made up of 129 free standing single residential units (General Residential Zone 1), 174 medium density group housing units (General Residential Zone II), 1 728 apartments/flats/student housing (General Residential Zone IV) and 1 281 student housing opportunities (residences) associated with Community Zone 1.

Student housing and accommodation

Student housing is proposed in clusters on the eastern portion of the site, and in dispersed locations around the extended campus. The student housing opportunities will be designed to provide a range of housing options in order to ensure affordability and choice (Figure 1.5).



Source: Aurecon

Figure 1.5: Location of student housing

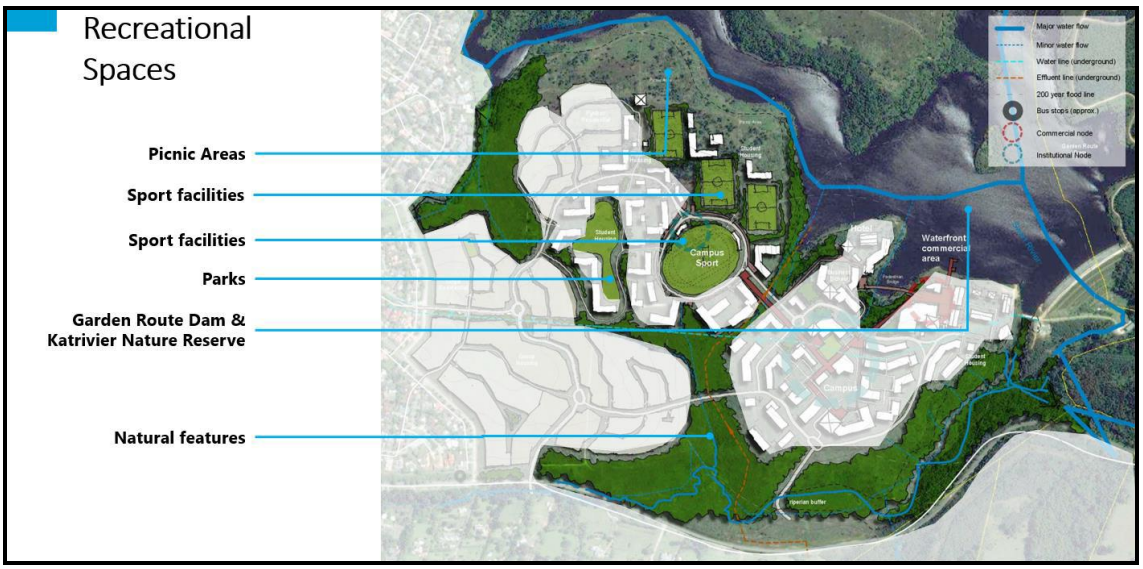
Recreational Spaces

The development will include the provision of recreational spaces, including several sports fields in key locations around the site. This includes a campus sports oval that will be large enough to accommodate a cricket oval and or athletics track. This space can also be used to host events for the benefit of the broader public, such as concerts. The facilities will be open to public use at dedicated times. Additional sports fields are located towards the northern boundary of the site (Figure 1.6). The recreational spaces are located in order to ensure that the use of the facilities does not impact on existing residential developments adjacent to the site. Landscaped park areas within the site and along the edge of the dam will also be developed. These areas will be open to the public. This will enable the development to take advantage of the views and also provide access to the Garden Route Dam and Katrivier Nature Reserve (Figure 1.6).

Natural and open areas

The layout will be informed by the findings of the relevant specialist studies, including botanical and wetland studies. In this regard sensitive areas, such as the riparian areas will

be maintained. The proposal also makes provision green belts and ecological corridors. Figure 1.6 outlines the initial conceptual layout.

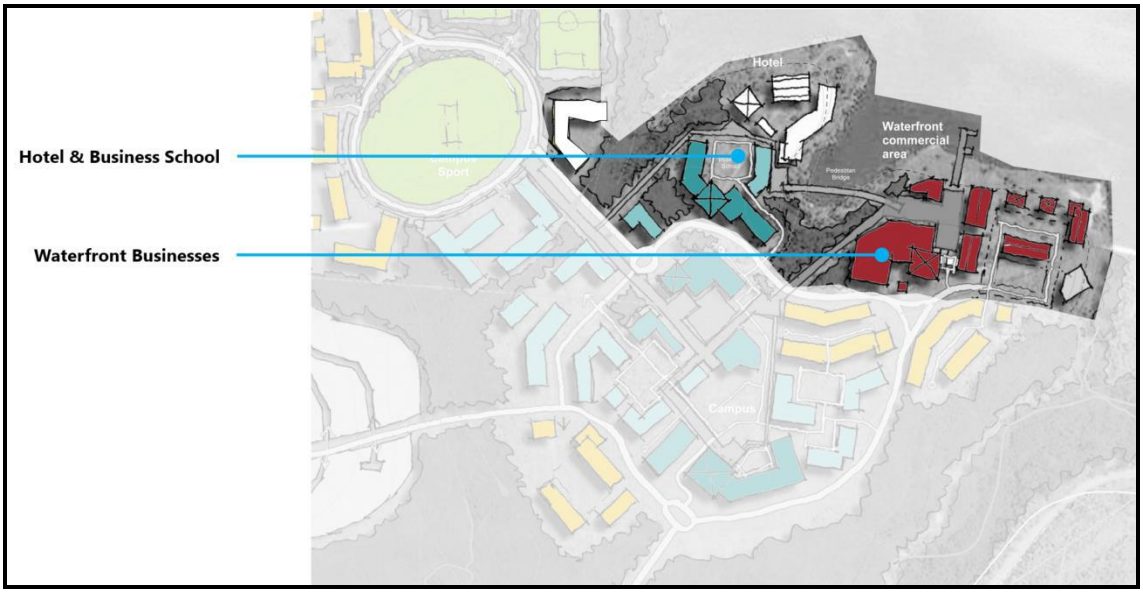


Source: Aurecon

Figure 1.6: Location of recreational and natural spaces

Hotel and waterfront business precinct

A hotel and tourism business development on a portion of the site (north-eastern portion of the site) was approved as part of the previous development application. The establishment of a hotel and waterfront business precinct would complement the proposed university and also provide an attraction for the broader community. The commercial area would accommodate formal trade and retail activities which would attract the general public and also serve the campus. The hotel would provide accommodation for visiting academics and people attending conferences etc. The precinct could also include a Business School (Figure 1.7).



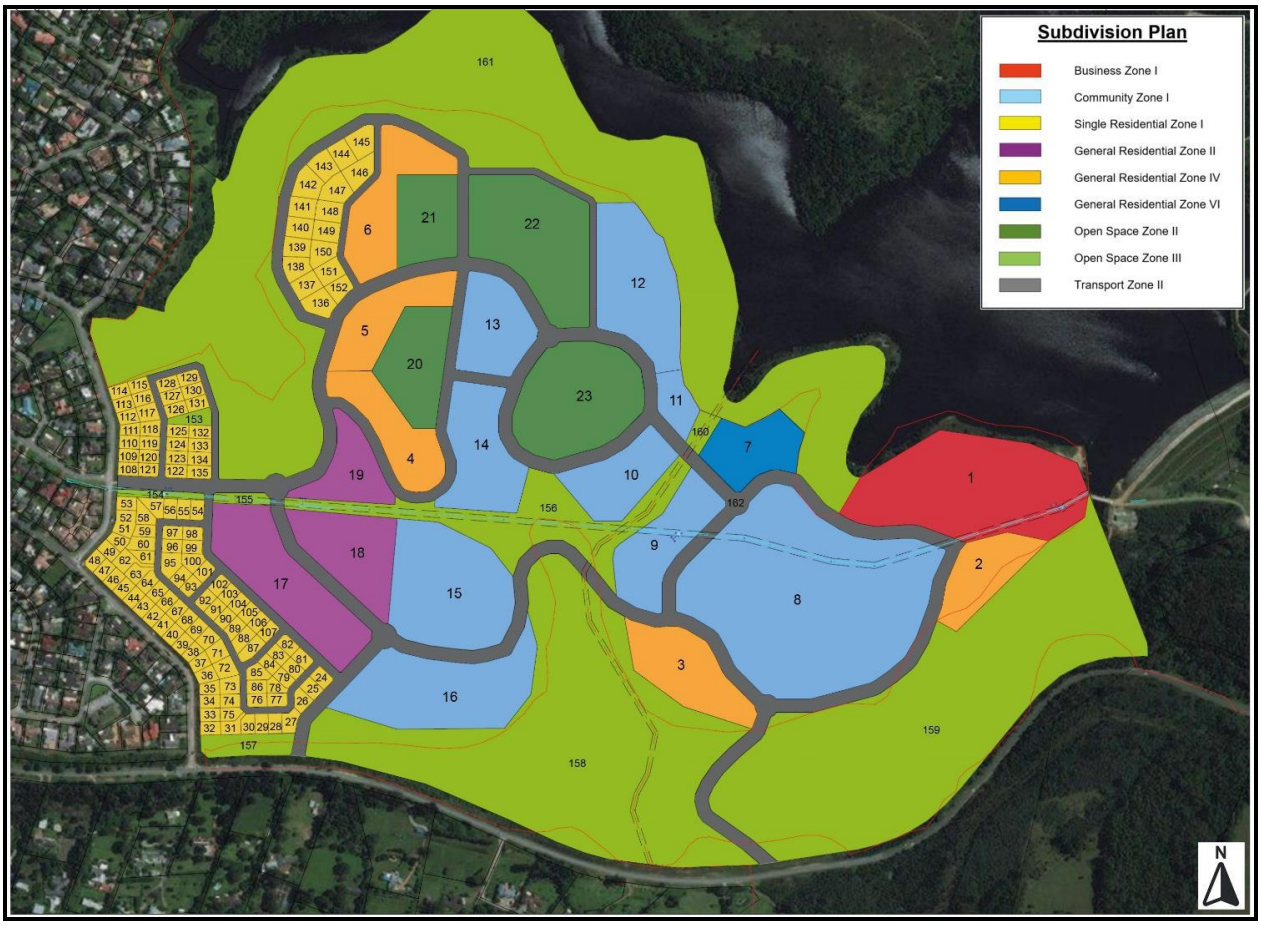
Source: Aurecon

Figure 1.7: Hotel and waterfront business precinct

Zoning

The subdivided portions will be zoned to the appropriate use zones to accommodate the proposed campus and the associated range of land uses. Figure 1.8 illustrates the proposed zoning which includes:

- Community Zone I;
- Business Zone I;
- Single Residential Zone I;
- General Residential Zone II;
- General Residential Zone IV;
- General Residential Zone VI;
- Open Space Zone II;
- Open Space Zone III;
- Transport Zone II.



Source: Aurecon

Figure 1.8: Land use zoning plan

The total area associated with each proposed zoning and the total number of residential units that will be provided is illustrated in Table 1.1 and 1.2.

Table 1.1: Table depicting the maximum permitted building sizes

Zoning	Land use Description	FAR	Density (dwelling units per hectare)		Building square meters	number of dwelling units	Area (Ha)	% of Area
Community Zone I	Campus - University/Research institute/Academy		1,2	na	265800,00	1281	22,15	19%
Business Zone I	Waterfront commercial development		3	na	129300,00	na	4,31	4%
General Residential Zone VI	Hotel		3	na	34500,00	na	1,15	1%
General Residential Zone II	Medium density residential / Group housing		na	35	na	174	4,97	4%
General Residential Zone IV	Apartments / Flats / Student Housing		1	na	69100,00	1728	6,91	6%
Single Residential Zone I	Free standing dwelling houses		na	1 dwelling per erf		129	9,32	8%
Open Space Zone II	Recreational Spaces / Sports fields		na	na	na	na	8,22	7%
Open Space Zone III	Parks / Natural Assets / Preservation Areas		na	na	na	na	52,08	44%
Transport Zone II	Roads		na	na	na	na	9,39	8%
							118,5	100%

Source: Aurecon

Table 1.2: table depicting the proposed number of dwelling units per zoning type

Zoning	Number of Dwelling Units
Community Zone I	1281
General Residential Zone II	174
General Residential Zone IV	1728
Single Residential Zone I	129
Maximum number of potential residential units that could be accommodated on site:	**3312**

Source: Aurecon

1.4 ASSUMPTIONS AND LIMITATIONS

1.4.1 Assumptions

Identification of area for the proposed development
It is assumed that the site represents a technically suitable site for the establishment of the proposed development. The property is also owned by the George Municipality.

Fit with planning and policy requirements
Legislation and policies reflect societal norms and values. The legislative and policy context therefore plays an important role in identifying and assessing the potential social impacts associated with a proposed development. In this regard a key component of the SIA process is to assess the proposed development in terms of its fit with key planning and policy documents. Should the findings of the study therefore indicate that the proposed development in its current format does not conform to the spatial principles and guidelines

contained in the relevant legislation and planning documents, and there are no significant or unique opportunities created by the development, the development cannot be supported.

The site falls within the urban edge and has therefore been identified as suitable for development.

1.4.2 Limitations

There are no limitations that have a material bearing on the findings of the study.

1.5 SPECIALIST DETAILS

Tony Barbour has 28 years' experience in the field of environmental management. In terms of SIA experience Tony Barbour has undertaken in the region of 250 SIA's and is the author of the Guidelines for Social Impact Assessments for EIA's adopted by the Department of Environmental Affairs and Development Planning (DEA&DP) in the Western Cape in 2007. Annexure C contains a copy of CV.

1.6 DECLARATION OF INDEPENDENCE

This confirms that Tony Barbour, the specialist consultant responsible for undertaking the study and preparing the report, is independent and has no vested or financial interest in the proposed project being either approved or rejected. Annexure D contains a signed declaration of independence.

1.7 REPORT STUCTURE

The report is divided into six sections, namely:

- Section 1: Introduction;
- Section 2: Policy and planning environment;
- Section 3: Overview of the study area;
- Section 4: Review of case studies;
- Section 5: Assessment of social issues;
- Section 6: Summary of key findings.

SECTION 2: POLICY AND PLANNING ENVIRONMENT

2.1 INTRODUCTION

Legislation and policy embody and reflect key societal norms, values and developmental goals. The legislative and policy context therefore plays an important role in identifying, assessing and evaluating the significance of potential social impacts associated with any given proposed development. An assessment of the "policy and planning fit[1]" of the proposed development therefore constitutes a key aspect of the Social Impact Assessment (SIA). In this regard, assessment of "planning fit" conforms to international best practice for conducting SIAs.

Section 2 provides an overview of the most significant policy documents of relevance to the proposed development, namely:

- Spatial Planning and Land Use Management Act of 2013 (SPLUMA) (Act 16 of 2013);
- National Environmental Management Act (Act 107 of 1998);
- National Development Plan 2030 (2011);
- Western Cape Provincial Spatial Development Framework (2014);
- George Municipality Integrated Development Plan (2017-2022);
- George Municipality Spatial Development Framework (2018).

2.2 SPATIAL PLANNING AND LAND USE MANAGEMENT (ACT 16 OF 2013)

The Spatial Planning and Land Use Management Act of 2013 (SPLUMA) came into operation on 1 July 2015. A number of the objectives set out in Section 3 of SPLUMA have a bearing on the proposed development, including:

- To provide a uniform, effective and comprehensive system of spatial planning and land use management for the Republic;
- To ensure that the system of spatial planning and land use management promotes social and economic inclusion;
- To provide for development principles and norms and standards;
- To provide for the sustainable and efficient use of land;
- To provide for cooperative government and intergovernmental relations amongst the national, provincial and local spheres of government; and
- To redress the imbalances of the past and to ensure that there is equity in the application of spatial development planning and land use management systems.

In order to realise these objectives, Section 4 of SPLUMA introduces a new spatial planning system for the whole of South Africa. The spatial planning system has a number of components. The following are relevant to the study:

[1] Planning fit" can simply be described as the extent to which any relevant development satisfies the core criteria of appropriateness, need, and desirability, as defined or circumscribed by the relevant applicable legislation and policy documents at a given time.

- Spatial Development Frameworks to be prepared and adopted by national, provincial and municipal spheres of government. In terms of Section 22, the Municipal Planning Tribunal (or other authority) may not make a decision which is inconsistent with a municipal development framework, although departures may be allowed, in certain circumstances, for site specific considerations;
- Development principles, norms and standards that are to guide spatial planning, land use management and land development. Development principles include the principle of spatial justice, spatial sustainability, efficiency, spatial resilience and good administration;
- The management and facilitation of land use (as contemplated in Chapter 5) through the mechanism of land use schemes. All municipalities are required to adopt land use schemes for their entire areas within 5 years after the commencement of SPLUMA.

The Development Facilitation Act has been repealed in its entirety by SPLUMA.

2.3 NATIONAL ENVIRONMENTAL MANAGEMENT (ACT 107 OF 1998)

The preamble to NEMA and the principles contained therein have a significant bearing on the need to identify and assess social impacts. In this regard the preamble refers to a number of the basic rights set out in Chapter 2 (Bill of Rights) of the Constitution. These include reference to the right of all persons to an environment that is not harmful to his or her health or well-being, the need for the State to respect, protect, promote and fulfil the social, economic and environmental rights of everyone and strive to meet the basic needs of previously disadvantaged communities, and the promotion of sustainable development that requires the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations. The following NEMA principles have a bearing on the proposed development:

- Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably;
- Development must be socially, environmentally and economically sustainable;
- Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option;
- Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons;
- Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination;
- The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured;
- Decisions must take into account the interests, needs and values of all interested and

affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge;
- Community well-being and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means;
- The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in light of such consideration and assessment;
- Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law;
- The environment is held in public trust for the people. The beneficial use of environmental resources must serve the public interest and the environment must be protected as the peoples' common heritage; and,
- The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.

2.4 NATIONAL DEVELOPMENT PLAN

The National Development Plan (NDP) contains a plan aimed at eliminating poverty and reducing inequality by 2030. Chapter 9, Improving Education, Training and Innovation, is relevant to and supports the establishment of the proposed education facility in George.

The NDP states that by 2030, South Africans should have access to education and training of the highest quality, leading to significantly improved learning outcomes. The current quality of education for most black children is poor. This denies many learners access to employment. It also reduces the earnings potential and career mobility of those who do get jobs – and limits the potential dynamism of South African businesses.

The NDP notes that by 2030, South Africa needs an education system with the following attributes:

- High-quality, universal early childhood education Quality school education, with globally competitive literacy and numeracy standards
- Further and higher education and training that enables people to fulfil their potential
- An ***expanding higher-education sector*** that can contribute to rising incomes, higher productivity and the shift to a more knowledge-intensive economy
- A wider system of innovation that links universities, science councils and other research and development role players with priority areas of the economy.

By 2030 the performance of South African learners in international standardised tests should be comparable to the performance of learners from countries at a similar level of development and with similar levels of access. Education should be compulsory up to Grade 12 or equivalent levels in vocational education and training. The education, training and innovation system should cater for different needs and produce highly skilled individuals. The graduates of South Africa's universities and colleges should have the skills and knowledge to meet the present and future needs of the economy and society.

The NDP notes that the single most important investment any country can make is in its people. Education has intrinsic and instrumental value in creating societies that are better able to respond to the challenges of the 21 century. Lifelong learning, continuous professional development and knowledge production alongside innovation are central to building the capabilities of individuals and society as a whole.

The NDP identifies a number of goals, including eradicating poverty, reducing inequality, growing the economy by an average of 5.4%, and cutting the unemployment rate to 6% by 2030. Education, training and innovation are critical to the attainment of these goals. Higher levels of education, skills, research and innovation capacity are also required for:

- The transition to a low carbon economy and meeting the greenhouse gas emission targets Tackling health challenges;
- Developing new and utilising existing technologies;
- Taking advantage of the opportunities that arise from economic growth.

Building national capabilities requires quality early childhood development, schooling, college, university and adult education and training programmes. Research institutions and the national science and innovation system must be coordinated and collaborative.

The NDP highlights the importance and benefits of higher education, noting that higher education is the major driver of information and knowledge that contributes to economic development. Continuing education is necessary for meaningful participation in a modern economy where many jobs require some college or university education.

In addition, higher education is also important for good citizenship and for enriching and diversifying people's lives. Quality higher education needs excellence in science and technology, just as quality science and technology needs excellent higher education. The most important factor that determines quality is the qualifications of staff.

In terms of the post-school education, the current system consists of wide range of institutions with different objectives and meeting different needs, including:

- Further education and training colleges, which focus mainly on vocational education and training;
- Private providers at colleges and universities;
- Adult education institutions.

The NDP notes that these institutions can be developed to accommodate more learners. The goal is to have a post-school system that provides quality-learning opportunities to young people, adults who want to change careers or upgrade skills, people who have left school before completing their secondary education and unemployed people who wish to start a career.

In this regard South Africa needs a post-school system that provides a range of accessible options for younger and older people. The system should be capable of adapting to changes in technology, industry, population dynamics and global trends. Accelerating economic growth requires science, technology, vocational and technical skills, and they need to be produced quickly. To promote lifelong learning, post-school institutions should accept students who are academically less prepared and provide them with targeted support.

Universities

With specific reference to universities, in 2030, South Africa will have over 10 million university graduates with a minimum of a bachelor's degree. This takes into account the current number of graduates and the targets proposed in this plan. This will be a 300 percent increase over a 30-year period (2001 – 2030). There will be roughly 400 000 new university graduates each year. In 2001, South Africa had 2.6 million graduates (Statistics South Africa) or one in every 17 people. The aim of the NDP is that by 2030 one in six

people will be a university graduate. This is one of the strongest indicators of expanding access to university education.

However, of relevance to the proposed development, the NDP notes that the university sector is under considerable strain. Enrolments have almost doubled in 18 years yet the funding has not kept up, resulting in slow growth in the number of university lecturers, inadequate student accommodation, creaking university infrastructure and equipment shortages.

The NDP notes that universities have a key role in developing a nation and play three main functions in society:

- Firstly, they educate and train people with high level skills for the employment needs of the public and private sectors;
- Secondly, universities are the dominant producers of new knowledge, and they critique information and find new local and global applications for existing knowledge. South Africa needs knowledge that equips people for a changing society and economy;
- Thirdly, given the country's apartheid history, higher education provides opportunities for social mobility. It can strengthen equity, social justice and democracy. In today's knowledge society, higher education is increasingly important for opening up people's opportunities.

The NDP also highlights the importance and role of universities as centres of excellence and research and development.

Colleges

The NDP notes that the college sector needs to be expanded. The priority is to strengthen colleges, address quality teaching and learning, and improve performance. A critical indicator of performance is the throughput rate and the ability of college programmes to provide the skills South Africa needs.

Colleges are the backbone of technical vocational education and training. Their target group includes young people in the FET phase who chose the vocational pathway, adults who want to change careers or upgrade skills, and unemployed people who wish to start a career. The NDP notes that colleges should be strengthened to become institutions of choice for the training of artisans and producing other mid-level skills. In order to improve colleges the NDP identifies a number of objectives including:

- Improve the throughput rate to 75% by 2030. This would have a major impact on South Africa's skills profile.
- Support the development of specialised programmes in universities focusing on training college lecturers. Provide funding for universities to conduct research on the vocational education sector.
- Build the capacity of FET institutions to become the preferred institutions for vocational education and training. Learners should be able to choose the vocational pathway before completing Grade 12.
- Expand the geographical spread of FET institutions to ensure that learners who choose to pursue a vocational career have access to institutions that provide quality vocational education and training.
- Expand the college system with a focus on improving quality. Better quality will build confidence in the college sector and attract more learners.
- Build a strong relationship between the college sector and industry. This will improve the quality of training in colleges and ensure quick absorption of college graduates into jobs.

2.5 PROVINCIAL SPATIAL DEVELOPMENT FRAMEWORK

The 2009 Provincial Spatial Development Framework (PSDF) was reviewed and up-dated in 2014. The need for the review was informed by the need to adapt to an ever changing economic climate as well as the imperative to best interpret land use planning law reform. However, the overall policy objective remains the same, namely to secure environmentally sustainable development and the use of natural resources while promoting socio-economic development of the Western Cape Province. The aim of the Western Cape PSDF is to:

- Give spatial expression to the national (i.e. NDP) and provincial (i.e. OneCape 2040) development agendas;
- Serve as basis for coordinating, integrating and aligning 'on the ground' delivery of national and provincial departmental programmes;
- Support municipalities to fulfil their Municipal Planning mandate in line with the national and provincial agendas; and
- Communicate government's spatial development intentions to the private sector and civil society.

The Western Cape's new PSDF is based on a number of spatial principles that are relevant to the proposed development, namely:

- Spatial justice;
- Sustainability and resilience;
- Spatial efficiency;
- Accessibility;
- Quality and liveability.

Spatial justice

A socially just society is based on the principles of equality, solidarity and inclusion. While equal opportunity targets everyone in the community, social justice targets the marginalised and disadvantaged groups in society. Inclusionary settlements focus on the public realm rather than on private enclaves; support civic interaction and equitable access throughout the public environment; and make urban opportunities accessible to all – especially the poor. Past spatial and other development imbalances should be redressed through improved access to and use of land by disadvantaged communities.

Sustainability and resilience

Land development should be spatially compact, resource-frugal, compatible with cultural and scenic landscapes, and should not involve the conversion of high potential agricultural land or compromising eco-systems. Resilience is about the capacity to withstand shocks and disturbances such as climate change or economic crises, and to use such events to catalyse renewal, novelty and innovation. The focus should be on creating complex, diverse and resilient spatial systems that are sustainable in all contexts.

Spatial efficiency

Efficiency relates to the form of settlements and use of resources - compaction as opposed to sprawl; mixed-use as opposed to mono-functional land uses; and prioritisation of public transport over private car use. When a settlement is compact higher densities provide thresholds to support viable public transport, reduce overall energy use, and lower user costs as travel distances are shorter and cheaper.

Accessibility

Improving access to services, facilities, employment, training and recreation, including improving the choice of safe and efficient transport modes (e.g. public transport, private vehicle, bicycle, walking and wheelchair) is essential to achieving the stated settlement transitions of the NDP and OneCape 2040. Accessibility is also defined by convenient and dignified access to private and public spaces for people with impaired mobility. Good and equitable access systems must prioritise the pedestrian, as well as provide routes for bikes, prams, wheelchairs and public transport. An accessible system will offer a choice of routes supporting these modes and safe connections between places and communities. Visual access implies direct sight lines or unfolding views, signs or other visual cues, and being able to see other people - all of which help in negotiating places.

Quality and liveability

The quality of an environment directly contributes to its liveability. A good environment is one that is legible, diverse, varied and unique. The legibility of a place is contributed to by the existence of landmarks such as notable buildings and landscaping or well- defined public space as well as the legibility and structure of its street networks. Diverse environments provide a variety of opportunities, experiences and choice. The more varied a place, the more valued because of the individual qualities that make it distinctive from other places. Liveable settlements feature a balance between individual and community, of logic and feeling, of order and random incident. In many cases, a town's public realm provides coherence and order while countless private ventures introduce variety and interest. One condition benefits from the other. The quality of public space can define the liveability of a place. Public spaces are the living rooms to settlements where people meet, play and relax. They need to be safe and attractive - features enabled by activity and surveillance.

2.6 GEORGE MUNICIPALITY INTEGRATED DEVELOPMENT PLAN

The George Municipality's vision is to be "A city for a sustainable future'. The IDP identifies 5 Strategic Goals that underpin the vision, namely:

- Strategic Goal 1: Develop and grow George
- Strategic Goal 2: Keep George clean, safe and green
- Strategic Goal 3: Deliver affordable quality services
- Strategic Goal 4: Participate in George – participative partnerships
- Strategic Goal 5: Ensure good governance and human capital in George

Strategic Goal (SG) 1 and 2 are most relevant to the proposed development.

Linked to the SGs are a number of Departmental Objectives, of which the following are relevant to the proposed development.

- Create and facilitate an enabling environment for economic development in George;
- Ensure the development of participatory, practically implementable economic development and business retention and expansion strategies;
- Ensure that industry support is focused on high-growth potential areas, with high job absorption ratios;
- Leverage construction industry potential through strategic housing related projects. In this regard the research from Stellenbosch has indicated that the provision of

accommodation for the University of Stellenbosch has had a significant benefit for the construction sector;
- Establish incubators, clusters and centres of excellence to contribute meaningfully to the demands of a growing economy. These centres can be linked to and benefit from the proposed university;
- Establish a Science Park. This can be linked to the proposed development of a university;
- To promote George as a sports tourism and business destination. The research from Stellenbosch has indicated that the University of Stellenbosch has contributed to establishing Stellenbosch as sports and business destination;
- Identify an educational and research hub and to facilitate the continued growth of NMMU in George.

2.7 GEORGE SPATIAL DEVELOPMENT FRAMEWORK

The George Municipality is one of the seven municipalities that make up Eden District Municipality. Economically it is one of the higher performing areas in the Western Cape Province. In terms of the local economy, the George Municipality contributes 39.8% of the District's GDPR and is also largest contributor to employment within the district (36%). The Western Cape Government's Growth Potential of Towns Study (WCG, 2014), also found that the George Municipality had very high growth potential in relation to towns within the Province. George is also served by three important national roads, the N2, N9 (R62) and N12, and the George regional airport, which serves the Southern Cape and Little Karoo.

The purpose of the George Municipal Spatial Development Framework (MSDF) as set out in the Spatial Planning and Land Use Management Act (2013) (SPLUMA) is to:

- Interpret and represent the spatial development vision of the municipality – informed by a long-term spatial development vision statement and plan;
- Guide planning and development decisions across all sectors of government and specifically the municipality and provincial government in its spatial planning and land use management decisions;
- Contribute to a coherent, planned approach to spatial development across the spheres of government;
- Provide clear and accessible information to the public and private sector and provide direction for investment purposes;
- Include previously disadvantaged areas, rural areas, informal settlements, slums and landholdings of state-owned enterprises and government agencies and address their inclusion and integration into the spatial, economic, social and environmental objectives of the relevant sphere;
- Address historical spatial imbalances in development;
- Identify the long-term risks of particular spatial patterns of growth and development and the policies and strategies necessary to mitigate those risks;
- Provide direction for strategic developments, infrastructure investment, promote efficient, sustainable and planned investments by all sectors and indicate priority areas for investment in land development;
- Promote a rational and predictable land development environment to create trust and stimulate investment;
- Take cognisance of any environmental management instrument adopted by the relevant environmental management authority;
- Give effect to national legislation and policies on mineral resources and sustainable utilisation and protection of agricultural resources;

- Assist in integrating, coordinating, aligning and expressing development policies and plans emanating from the various sectors of the spheres of government as they apply within the municipal area; and
- Outline specific arrangements for prioritising, mobilising, sequencing and implementing public and private infrastructural and land development investment in the priority spatial structuring areas identified (SPLUMA, 2013).

As indicated above, the George IDP identifies 5 Strategic Goals of which Strategic Goal (SG) 1 and 2 are most relevant to the proposed development.

- Strategic Goal 1: Develop and grow George;
- Strategic Goal 2: Keep George clean, safe and green.

Strategic Goal 1: Develop and Grow George

The SDF lists a number of objectives of linked to SG 1, of which the following are specifically relevant to the development of a proposed education facility.

- To identify an educational and research hub and to facilitate the continued growth of NMMU in George;
- To establish a Science Park;
- To create and facilitate an enabling environment for economic development in George;
- To establish incubators, clusters and centres of excellence to contribute meaningfully to the demands of a growing economy;
- To promote George as a sports tourism and business destination;

Strategic Goal 2: Safe, Clean and Green

The SDF lists a number of objectives of linked to SG 2, of which the following are specifically relevant to the development of a proposed education facility.

- To ensure the development of a desirable and quality living environment that fosters the safety and welfare of the community concerned;
- Preserves the natural and cultural environment, and does not impact negatively on existing rights;
- To develop a focused strategy on greening the city.

The spatial vision for the George LM is to "*Develop George as a resilient regional centre of excellence for inclusive, smart urban and rural prosperity".*

The SDF notes that, at the municipal scale, the key challenge is to manage the development and growth of the urban settlements to ensure ongoing sustainability and affordability whilst providing for the needs of the communities. As the main centre of the Municipality's population, services and employment, the George City Area needs to be restructured to integrate and enhance peripheral townships into the larger space economy of the city so that it functions more equitably and efficiently, with all of the opportunities that city living should bring.

The SDF identifies three spatial drivers that inform the development of the area, namely:

- The natural and rural environment which must be protected and managed to ensure it is able to function optimally as a basis for supporting and nourishing prosperous and resilient settlement and economic activity in George;

- The settlements and, within the city of George, the system of corridors and nodes which must be reinforced and developed in a managed way to function as a productive and efficient system;
- The regional accessibility network that links the settlements to one another within the Greater George Area, as well as to opportunities further afield. This includes the local accessibility network (motorised and non-motorised) connecting people and activities along corridors to nodes within the city of George.

The ease with which citizens of and visitors to George can access the opportunities, services and amenities it offers is a critical precondition for growth of the economy and development of its communities. In this regard the MSDF must promote an effective and efficient accessibility network that supports a productive interaction between the urban (settlement and service centres) and rural environments, and within the settlements.

Of relevance to the proposed development, the movement network cannot only be a matter of mobility for cars and modes of public transport but the mobility network and the open space network, must also facilitate walkability and the use of non-motorised transport (NMT). The MSDF notes that there is a real opportunity to integrate the open space network and the non-motorised transport network in George to reinforce the utility and value of the "green fingers" (river corridors) penetrating through the urban areas and connecting communities.

The SDF identifies three spatial development strategies that are relevant to the proposed development and support the spatial planning approach to directing and managing development in the Greater George Area and the George city area, namely:

- Consolidate: Making what we have work better for our people;
- Strengthen: Build on George's foundations for growth and resilience;
- Smart Growth: Invest in catalysts for social and economic prosperity

The SDF identifies a number of policies associated with each development strategy that that have a bearing on the proposed development. The policy guidelines associated with the policies also inform the design and development of the proposed education facility.

2.7.1 Consolidate: Making what we have work better for our people

Policy A: *Prioritise infrastructure that invests in people and their socioeconomic mobility and resilience*

Policy A2: *Prioritise investment in the roll-out, maintenance and improvement of social infrastructure targeting poor households*

Policy Guidelines
The following policy guidelines are regarded as relevant to the design of the proposed development:

- Ensure human settlements planning and implementation is integrated with social facilities planning and public transport services. Facilities should always be within walking distance or within walking distance of public transport;
- Cluster public facilities and public space and locate within direct access to public transport routes;
- Higher order clusters of facilities should be located on the priority public transport corridors and regional accessibility networks, and planned so as to encourage

complimentary private sector investment in the precinct, to support efficiencies and land use and social integration;
- Social facilities design should support the MSDF's intent to achieve the efficient use of land, densities that support public transport and walkability, as well as support the performance of the facilities precinct itself as an urban precinct, minimising collective and individual security and maintenance costs;
- Provide and maintain a high-quality public realm and non-motorised public transport network in higher density residential areas linking to priority public transport corridors and nodes and clusters of social facilities within them, as *safe* places for community life where social and economic (formal and informal) activity is encouraged;
- Reinforce this investment with a high standard of area based urban management as an incentive for private investment and positive social interaction and activity;
- Fewer but better facilities are preferred if this enables the provision and maintenance of a high standard of social infrastructure and there is convenient and affordable access to these facilities.

Policy A3: *Enhance public transport and non-motorised transport connectivity within and between settlements regionally and within the George city area*

Policy Guidelines
The following policy guideline is regarded as relevant to the design of the proposed development:

- Support development which emphasises walkability and public transport as opposed to private car use.

Policy A4: *Provide and maintain a high quality, safe open space system through maintaining the integrity of existing spaces and actively seek to link viable open spaces into a continuous green web that, with the public transport corridors, forms the basis for the non-motorised transport network.*

Policy Guidelines
The following policy guidelines are regarded as relevant to the design of the proposed development:

- Use the natural assets; namely, the river corridors running through the George city area to "anchor" and structure the open space system;
- Seek opportunities to consolidate this system – linking the existing and proposed formal open spaces to it so as to expand the ecological functionality and recreational opportunities presented by a network of formal, informal and natural open spaces;
- Areas for active and passive recreational facilities (e.g. sports fields, jogging and cycling trails, etc.), should be integrated into the open space system and designed to be appealing to all, legible and safe;
- Seek opportunities for the open space system to contribute to the building of a safe pedestrian and non-motorised transport network;
- Seek opportunities to integrate the conservation of critical biodiversity areas into the open space system that allows public interaction in terms of land uses supported by the spatial planning categories;
- As far as possible, associate municipal parks with community facilities and schools to secure the safety and maintenance benefits of clustering.

Policy B: *Direct public and private fixed investment to existing settlements reinforcing their economic development potential. In this way, the impact of public and private investment is*

maximised, the majority of residents benefit, and the Municipality's natural and productive landscapes are protected

Policy Guidelines
The following policy guideline is regarded as relevant to the design of the proposed development:

- Reinforce George city's regional service centre role through attracting higher order, ***high quality education*** and health facilities, regional government administration and commercial headquarters

Policy C: *Maintain a compact settlement form to achieve better efficiency in service delivery and resource use, and to facilitate inclusion and integration.*

Policy C1: *Within the George city area, direct public investment (public facilities, amenities and services), commercial activity and residential densification, in particular affordable residential opportunities, towards consolidating and reinforcing the principal public transport/ activity corridors and in particular the priority nodal centres identified in Map 14 (as civic and economic destination places).*

Policy Guidelines
The following policy guidelines are regarded as relevant to the design of the proposed development:

- Development in priority nodes should be promoted in accordance with the function of the node and its potential role to create a balance in the land uses within the node and a balance between origins and destinations in the public transport network; i.e. to promote demand for public transport throughout the day in different directions;
- The movement of public facilities or services or the location of new facilities or services should be planned in conjunction with the Integrated Public Transport Network to ensure the maintenance of public transport access.

Policy C2: *Restructure settlement patterns through infill development of vacant and underutilised land in the settlements in the George Municipal Area.*

Policy Guidelines
The following policy guidelines are regarded as relevant to the design of the proposed development:

- Strategic land parcels identified in the George Restructuring Strategy should be prioritised for release for mixed use development that is inclusive of high density social or affordable rental housing and catalytic in nature from the perspective of regenerating the CBD for example;
- Actively support the reservation and protection of municipally owned land as an asset to assist in achieving social integration and living opportunities closer to existing facilities, employment opportunities, services and / or amenity sites.

As indicated in figure 2.1, the proposed site is located on municipal owned land.

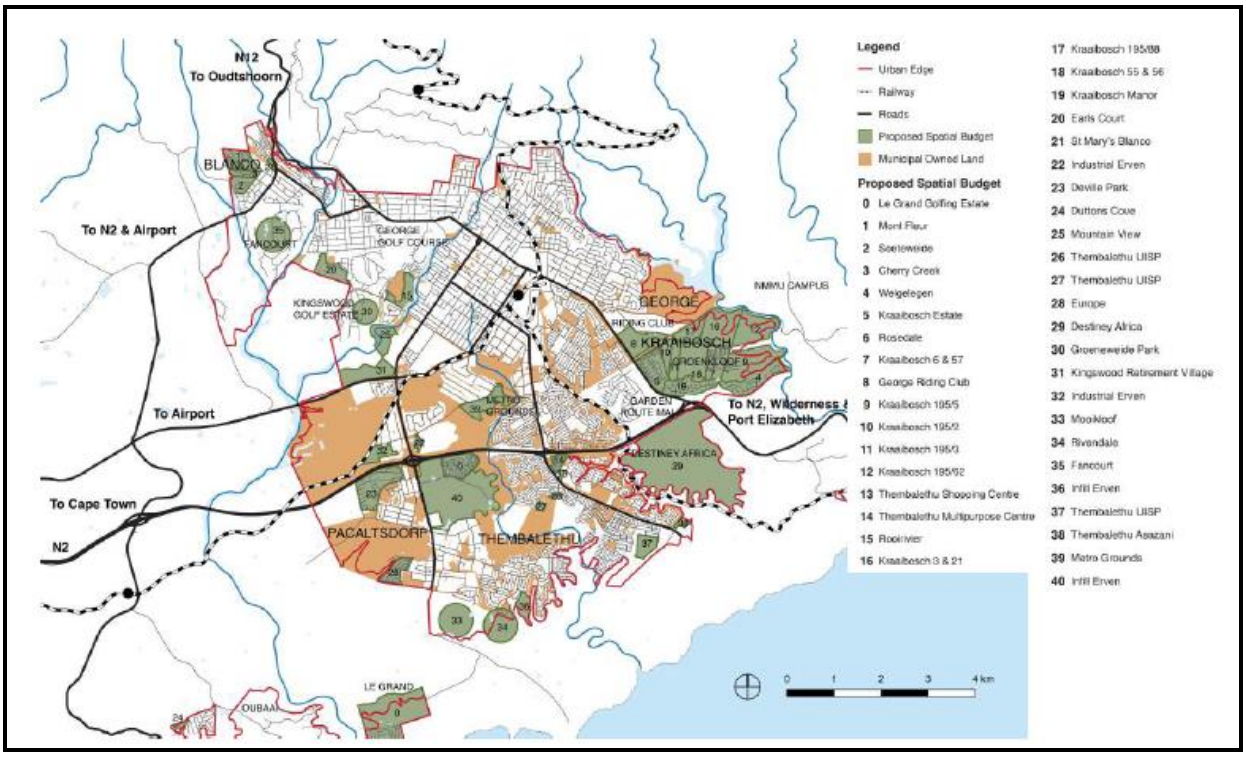


Figure 2.1: Location of municipal land

Policy C3: *Restructure settlement patterns through densification of the urban areas in the George city area in order to reduce land consumption, deliver services and facilities to households more cost effectively, and to establish the thresholds for viable public transport systems.*

Policy Guidelines
The following policy guidelines are regarded as relevant to the design of the proposed development:

- The focus of densification is not on residential use alone, a mix of land uses are required to sustainability restructure the urban areas of George;
- Support increased densities in the identified priority nodes and along the principal formal public transport activity corridors;
- Combine the repair and renewal of existing infrastructure in well located areas with enhanced capacity to accommodate densification.

2.7.2 Strengthen: Build on George's foundations for growth and resilience

The objective of this strategy is to strengthen George's natural and built assets that support life and livelihoods, offer the potential for further prosperity, as well as buffer the impacts of climate change to life and property.

Policy D: *Manage the use of land in the Municipal area in a manner which protects natural ecosystem functioning and values ecosystem services, respecting that these are assets that underpin the economy and settlement and their resilience.*

Policy D1: *Support and maintain the functionality of biodiversity areas*

Policy Guidelines
The following policy guideline has specific relevance to the proposed development:

- Land to the south of the Garden Route Dam, south of the watershed can be developed sensitively for urban development, the nature of which is to be determined but should promote integration and inclusivity (Figure 2.2). Any future development in this area will need to be dealt with sensitively to minimise environmental impact and hazard, ensure compatibility with the surrounding landscape and optimise public amenity. No urban development should be allowed to the north, east or west of the dam or, in other words, beyond the urban edge. This is a hard edge aimed at conservation of biodiversity.

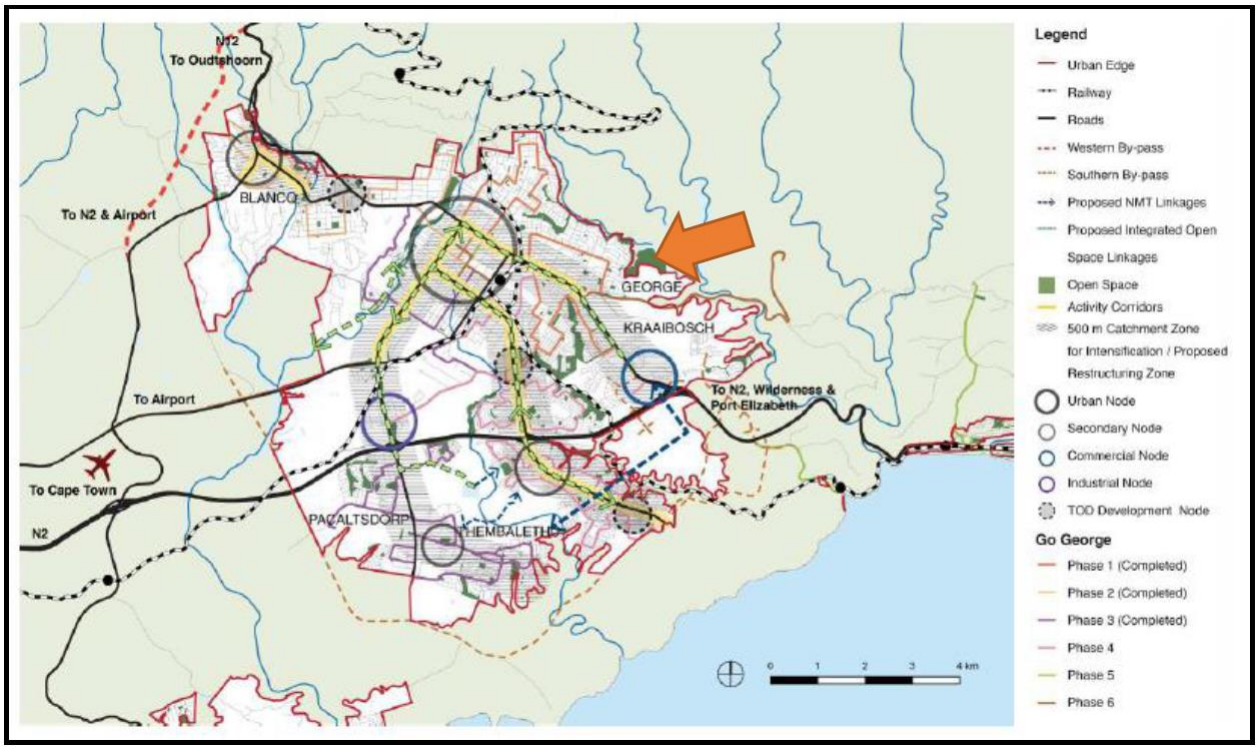


Figure 2.2: Location of site to south of Garden Route Dam (orange arrow)

Policy D4: *Protect rivers and estuaries from pollution from neighbouring settlement*

Policy Guidelines
The following policy guideline is regarded as relevant to the design of the proposed development:

- The impact of settlement alongside rivers and estuaries must be monitored and managed to minimise pollution.

Policy D6: *Minimise the impact of developments on visual landscapes and corridors*

Policy Guidelines
The following policy guidelines are regarded as relevant to the design of the proposed development:

- The George Municipality's Landscape Characterisation Visual Resource Management Analysis (2009) determines visually sensitive areas in the George landscape and must be applied to manage visual impacts of development;
- Valuable view corridors, undeveloped ridge lines, cultural landscape assets and existing vistas should not be compromised by any development proposal or cumulative impact of development proposals. The proportion of urban development up the slope of a prominent hill or mountain should not degrade its aesthetic / visual value;
- Employ the guidelines for managing visually sensitive landscapes set-out in the Garden Route Environmental Management Framework (EMF) and Visual Resource Management study.

Policy D7: *Manage the Municipal area in a manner that supports sustainable resource demand and use*

Policy Guidelines
The following policy guideline is regarded as relevant to the design of the proposed development:

- Protect publicly owned land that would facilitate public access to key destinations, in perpetuity and investigate the development of such destinations on this land. Of specific relevance George Dam is identified as a key destination.

Policy F: *Manage the growth of urban settlement in George to ensure the optimum and efficient use of existing infrastructure and resources and in turn, secure the Municipality's fiscal sustainability and resilience, while preventing further loss of natural and agricultural assets.*

Policy F1: *Maintain the urban edge as the development boundary where identified for settlements in the Greater George Area including the George City Area.*

Based in the information contained in the SDF the proposed site is located within the George Urban Edge.

Policy F2: *Direct the long term growth of the George city area, when necessary, contiguous to the existing urban footprint in a manner that reinforces existing accessibility and infrastructure networks and minimises impact on natural landscapes and agricultural resources.*

2.7.3 Smart growth: Invest in the catalysts for social and economic prosperity

The objective of this strategy is to identify the policies that should guide generative and inclusive renewal and growth at the street scale. The focus is on identifying priority investment locations and clarifying how public and private investment should take shape so that settlements offer inclusive, accessible opportunities that support human capital growth. Transforming public spaces into safe, lively places of community and business life that improves attractiveness of George for investors and the whole community is at the heart of this strategy.

Policy G: *Support place-making interventions through building economic infrastructure and upgrading the public environment in priority investment locations to promote inclusivity and invite private sector response*

Policy Guidelines
The following policy guidelines are regarded as relevant to the design of the proposed development:

- In the assessment of land use and building applications and public sector developments, pursue compact and diverse neighbourhoods, offering places to live, work, recreate all within close proximity, served by streets scaled to people so that they are comfortable to walk;
- Promote an urban design approach for the provision of public space to ensure alignment with national and international best practice

Policy G1: *Promote walkability within the intensification zone and especially within the priority nodes*

Policy Guidelines
The following policy guidelines are regarded as relevant to the design of the proposed development:

- Get the land use and density right – create a reason to walk and enable walks to be reasonably short and achieve a range of needs;
- Make walking safe and comfortable. This is influenced by block size, sidewalk quality, a connected street network and visual interest;
- Ensure good edges to streets. Everyone seeks "prospect" and "refuge" – visually attractive and safe – people are "drawn to spaces that have good edges" (Speck, 2013);
- Make sure that streets include signs of humanity (active ground floors, cluster social facilities);
- Develop an integrated and connected street network, improving pedestrian connections allowing direct connections between places wherever possible.

Policy H: *Celebrate built heritage assets in a manner than contributes to renewal, urban quality and opportunity*

Policy Guidelines
The following policy guidelines are regarded as relevant to the design of the proposed development:

- Actively promote the use of the George Architectural and Urban Design Guidelines to ensure development which is appropriate to a "green theme", "garden city" and the public and natural context, of appropriate architectural form and proportion, and is sensitive to heritage;
- Manage heritage places and landscapes in accordance with the findings and recommendations of the Municipality's Heritage Studies.

SECTION 3: OVERVIEW OF STUDY AREA

3.1 INTRODUCTION

Section 3 provides an overview of the study area with regard to:

- The general location and administrative context;
- The demographic context;
- The economic context;
- Site and surrounding land uses.

3.2 ADMINSTRATIVE CONTEXT

The study area is located in the George Local Municipality (GLM) in the south-eastern portion of the Eden District Municipality (EDM)(Figure 3.1). The GLM (WC044) is a category B-Municipality and is one of seven local municipalities that make up the EDM (DC4). The George LM borders onto the Mossel Bay LM to the west, the Oudshoorn LM to the northwest, the Bitou and Knysna LMs to the southeast (all of which form part of the EDM), and, the Baviaans LM to the northeast and Kou-Kamma LM to the east, both of which are located in the Eastern Cape Province.

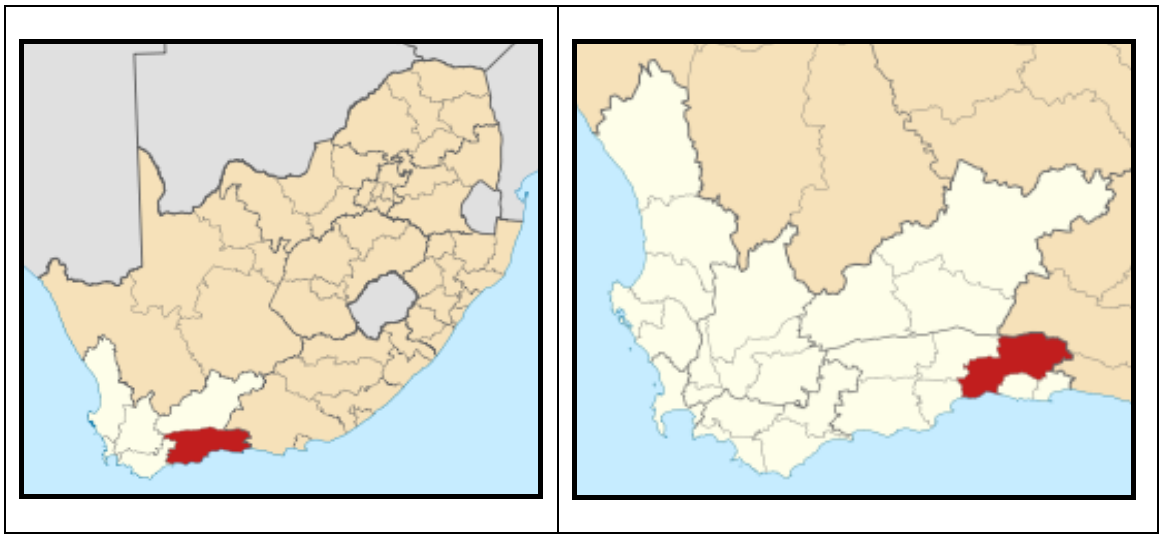


Figure 3.1: Location of Eden DM (left) and George LM within the Western Cape Province (source: *Wikipedia*)

In terms of geographic size and gross domestic product (GDP), the EDM the third largest district economy in the Western Cape, after the City of Cape Town and the Cape Winelands District. The city of George is the administrative seat of both the GLM and the EDM. As regional service centre the Greater George urban area is the economic hub of the municipal economy, with substantial service, commercial and light industrial sectors. George (town) is

situated along the N2 ("Garden route") between Cape Town (~420 km to the west) and Port Elizabeth (~330 to the east).

3.3 GEORGE

George is the sixth oldest town in South Africa, and, after the City of Cape Town, is ranked as the town with the greatest development potential in the Western Cape Province (WCP) (George LM, 2013). As indicated above, the town is the regional hub for the Southern Cape region. The town of George, as distinct from Blanco, is located to the north of the N2 ~8.5 km east of the study area. The large predominantly Coloured and Black townships of Pacaltsdorp and Thembalethu respectively are located to the south of the N2.

George evolved from a DEIC timber post established in 1776 to exploit the timber resources of what was then known as "Outeniqualand" in reference to the pastoralist Outeniqua Khoi-Khoi whose ancestral land it comprised. Increasing accessibility attracted woodcutters to settle in the area, and by 1811 George was proclaimed as a town (named after George III). The town gained municipal status in 1837 (Wikipedia). The utilization of the forest trees led to such industries as furniture and wagon making. By 1910 several large sawmills had been established in the district. Timber for export was transported to coastal ports by ox wagon. The opening of the Montagu pass (1849), a railway line (1913) and the N12 (Outeniqua pass) in 1951 have progressively provided direct abscess to the interior beyond the coastal range (i.e. Outeniqua Mountains).

Today George is modern city with sophisticated infrastructure, which includes banks, conference facilities, businesses and shopping centers. However, the town still retains its small town atmosphere. The town and surrounding area is also well-known for its world-class golf courses, including Fancourt, George Golf Course and Oubaai. The town does not have direct access to the beach, but nearby beaches include Victoria Bay (9km east of central George), Herolds Bay (18km southwest of the George city centre), and Wilderness (south-east of George).

Although urban George accommodates 82% of the municipality's population, it does not function as fully integrated town but as an agglomeration of fragmented urban areas that reflect the legacy of apartheid spatial planning. As a result there are significant disparities in living conditions within the Greater George urban area.

3.4 DEMOGRAPHIC AND SERVICES PROFILE

The information below is based on 2016 Community Survey and information contained in the George LM IDP (2017-2022).

3.4.1 Demographic profile

Based on 2016 Community Survey the population of the GLM was 208 238, which made up ~ 34 % of the population of the Eden DM (611 279) and less than 10% of the population of the Western Cape (6 279 731). According to the Department of Social Development the population in 2018 was estimated to be 213 189. This is expected to increase to 236 655 by 2024, which equates to a 1.8 % average annual growth over this period.

The majority of the population was Coloured (49.9%), followed by Black African (30.2%), and Whites (19.6%). The dominant language within the Municipality is Afrikaans (~63.3%), followed by isiXhosa (~26.9%) and English (~6.6%)(2016 Community Survey).

The total number of households in 2016 was 62 723, which makes up 33% of the total number of households in the Eden DM. Of this total 85.2% were formal, a marginal decrease of 0.7% from 2011. Therefore, despite the increase in population there has been a decrease in the number of informal dwellings. Of the total number of households, 35.2 % were headed up by women. This represents a significant number of households that are potentially headed up by vulnerable members of the community.

In terms of age structure, 33.1% of the population were younger than 18, while 60.6% were between the age of 18 and 64, which typically falls within the economically active age group. The remaining 6.3% were in the 65 and older age group (Census 2016). The figures for 2019 are estimated to be 25% (0-14), 65 % (15-64) and 10% (over 65). The increase in the number of number of people in the over 65 age group highlights the growing attraction of the area as a retirement destination.

Dependency ratio

George's dependency ratios are expected to remain relatively stable from 48.6 in 2011 to 48.9 in 2017 before slightly decreasing to 47.6 by 2023 (Table 3.1). As lower dependency ratios imply less strain on the working age to support their economic dependents (children and aged), this decrease will have positive social, economic and labour market implications.

An increase in the dependency ratio is often associated with a relative decrease in the working age population. From a national perspective, the relative decrease in the working age population will result in lower tax revenues, pension shortfalls and overall inequality as citizens struggle to tend to the needs of their dependents amidst increased economic hardship. At the municipal level, the decrease in the working population will potentially result in a smaller base from which local authorities can collect revenue for basic services rendered and will necessitate the prioritisation of municipal spending.

Table 3.1: Dependency ratio George Municipality

Year	Children: 0 – 14 Years	Working Age: 15 – 65 Years	Aged: 65 +	Dependency Ratio
2011	50 953	130 348	12 371	48.6
2017	53 020	140 780	15 781	48.9
2023	52 972	151 789	19 334	47.6

(Source: George LM IDP 2017-2022)

Household income

The poverty gap indicator produced by the World Bank Development Research Group measures poverty using information from household per capita income/consumption. This indicator illustrates the average shortfall of the total population from the poverty line. This measurement is used to reflect the intensity of poverty, which is based on living on less than R3 200 per month (R 38 400 per annum) for an average sized household. Based on this measure, in the region of 52.3 % of the households in the GLM live close to or below the poverty line. Of this total 12.5% of households indicated that they had no form of formal income (Tabl2 3.2). The total is slightly lower than the figures for the Eden DM, which were 55% and 13.6% respectively. The low-income levels for both the GLM and Eden

DM reflect the limited formal employment opportunities in the both areas the dependence on the seasonal tourism and agricultural sector. The low income levels are a major concern given that an increasing number of individuals and households are likely to be dependent on social grants. The low income levels also result in reduced spending in the local economy and less tax and rates revenue for the district and local municipality.

Table 3.2: Annual household income for George and Eden Municipalities

Column	George		Eden	
R0	12.5%	6,971	13.6%	23,131
Under R4800	2.6%	1,446	2.8%	4,767
R5k - R10k	4.4%	2,423	4.4%	7,408
R10k - R20k	13.3%	7,417	14.3%	24,281
R20k - R40k	19.5%	10,884	19.9%	33,860
R40k - R75k	17.2%	9,563	16.9%	28,730
R75k - R150k	12.6%	6,993	12%	20,320
R150k - R300k	9.7%	5,394	9%	15,203
R300k - R600k	5.9%	3,296	5%	8,433
R600k - R1.2M	1.6%	895	1.4%	2,400
R1.2M - R2.5M	0.5%	253	0.4%	743
Over R2.5M	0.3%	156	0.3%	528

(Source, 2016 Community Survey)

Poverty

The poverty headcount indicate that the number of poor people within the George LM decreased from 3.3% cent of the population in 2011 to 1.5% in 2016. Linked to the decrease in the number of poor people the GLM experienced a significant decrease in the number of indigents (6 120) between 2014 and 2015, which also implies a reduced burden on municipal resources.

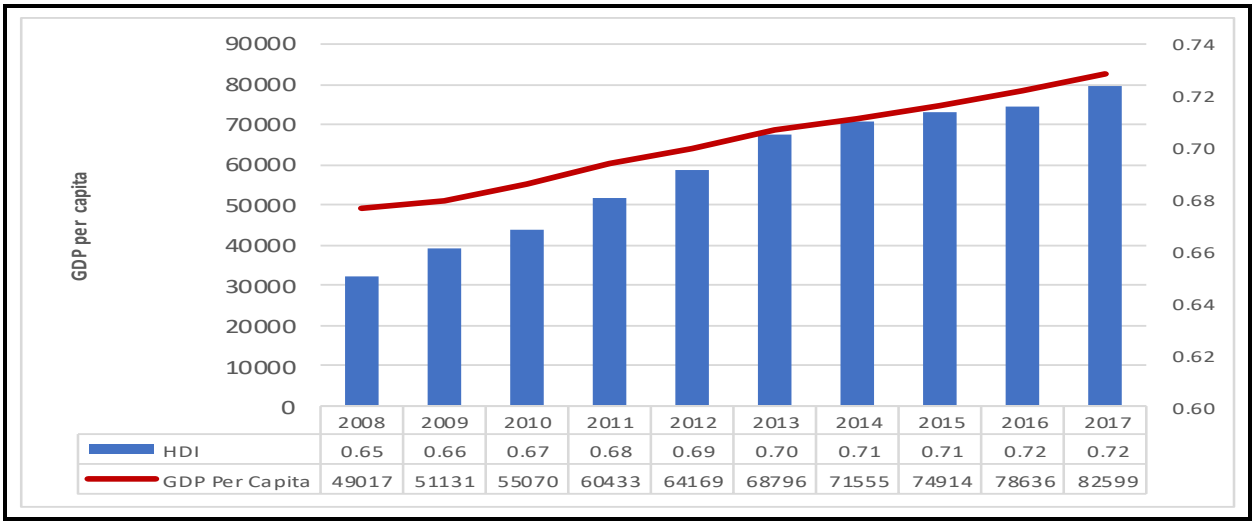
The decrease represents a positive socio-economic indicator and should translate into less strain on municipal financial resources. The IDP also notes that the intensity of poverty, i.e. the proportion of poor people that are below the poverty line within the George municipal area, decreased from 42.6 per cent in 2011 to 40.4 per cent in 2016. However, this percentage is still high and should be moving towards zero as income of more households within the George municipal area moves away from the poverty line.

In terms of inequality, the target set by the National Development Plan (NDP) it to reduce income inequality in South Africa from a Gini coefficient of 0.7 in 2010 to 0.6 by 2030. Although income inequality in the George municipal area has decreased between 2008 and 2011, it has increased since 2012, reaching 0.61 in 2017. George's income inequality level in 2017 is similar to the 2017 average for the Eden District and the Western Cape Province.

The United Nations uses the Human Development Index (HDI)[2] to assess the relative level of socio-economic development in countries. The indicators used to measure human

[2] The HDI is a composite indicator reflecting education levels, health, and income. It is a measure of peoples' ability to live a long and healthy life, to communicate, participate in the community and to have sufficient means to be able to afford a decent living. The HDI is represented by a number between 0 and 1, where 1 indicates a high level of human development and 0 represents no human development.

development include education, housing, access to basic services and health indicators. George recorded an HDI level of 0.723 in 2017 compared to 0.716 in 2016. As indicated in Figure 3.2, there has been a steady improvement in the HDI within the George municipal area, increasing from 0.65 in 2008 to 0.723 in 2017.



Source: Global Insight, 2017

Figure 3.2: HDI index trend for George Municipality

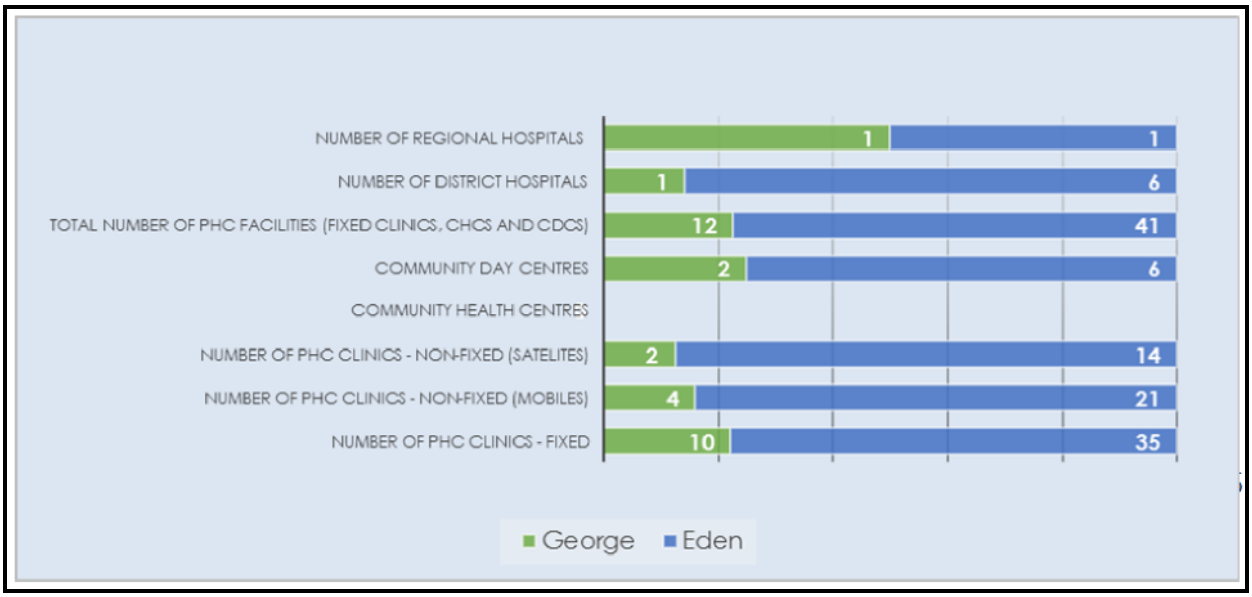
Education and educational facilities

The matric pass rates in the GLM have remained consistently above 80 % between 2013 and 2015, with the highest pass rate of 89.2 % recorded in 2013. The rate however declined to 81.9 and 84.6 % respectively in 2014 and 2015.

Of relevance to the proposed development the IDP notes that the availability of adequate education facilities such as schools, FET colleges and schools equipped with libraries and media centres could affect academic outcomes positively. In 2015 there were 51 schools within George which had to accommodate 34 460 learners at the start of 2015. Due the tough economic conditions schools in George have reported an increase in parents being unable to pay their school fees. Despite this the proportion of no-fee schools has remained at 70.6% between 2014 and 2015. The number of schools equipped with libraries also remained unchanged between 2014 and 2015, namely 30.

Healthcare facilities

The Eden DM and George LM have a range of primary healthcare facilities which includes 35 fixed clinics, 35 mobile/satellite clinics, 6 community day centres and 6 district hospitals. Of these facilities, 10 fixed clinics, 6 mobile/satellite clinics and 1 district hospital are situated within the George LM (Figure 3.3). The George LM is also equipped with 8 emergency ambulances, which equates to 0.36 ambulances per 10 000 population, which is lower than the District average of 0.64.



Source: George IDP 2017-20122

Figure 3.3: Healthcare facilities in Eden and George municipalities

3.4.2 Municipal services

The data for the key municipal services of water, electricity, sanitation and refuse collection all indicate an improvement between 2011 and 2016. This represents a positive socio-economic improvement in the George LM. Access to formal housing also increased over the same period.

Access to water

The main source of water in George in 2016 was piped water inside their dwelling/yard/or within 200 metres. In this regard 75% of households had piped water in the house in 2016. Access to piped water for these categories increased by 17.9% from 52 250 households in 2011 to 61 625 households in 2016 and increased by 14.5% across the Eden DM over the same period.

Access to electricity

Electricity was the single largest source of energy for lighting in the George LM in 2016. Access to electricity for lighting purposes improved by 25.8% from 48 737 households in 2011 to 61 313 % in 2016 and increased by 21.8% across for the Eden DM over the same period. Only 1.1% of households in the George LM had no access to electricity in 2016.

Access to sanitation

Flush toilets connected to the sewage system represented the most importance source of sanitation in the George LM. IN this regard 95.6% of all households have access to flush or chemical toilets in 2016. Access to flush toilets connected to a sewerage system improved by 26.1% from 47 441 households in 2011 to 59 838 households in 2016. At a district level there was an improvement of 26.9 % over the same period.

Access to refuse removal

The majority of households in George have their refuse removed by the local authority weekly (93.3 %) and a further 3.9% have their refuse removed by the local authority/private company less often. Refuse removed by local authority once a week

increased by 23.9% from 47 198 households in 2011 to 58 515 households in 2016 and by 18.6% for the Eden DM over the same period.

Access to housing
The IDP notes that 2016 84 % of households in the George LM resided in formal dwellings in 2016. The remaining 16.0% lived in either in informal, traditional and/or other dwellings. Access to formal dwellings increased by 17.1% from 44 940 households in 2011 to 52 606 households in 2016 and by 18.1% in the Eden DM.

3.5 ECONOMIC PROFILE[3]

The George economy is made up of three main sectors, namely the primary, secondary and tertiary sectors.

3.5.1 Primary sector

The primary sectors consist of agriculture, forestry and fishing and contributed 4.5% (R535.9 million) towards the Municipality's GDPR in 2015. The sector recorded modest growth of 2.2% for the period 2005 to 2015. However, the sector experienced a contraction of 0.5% between 2010 and 2015. In terms of employment the Agriculture, forestry and fishing sector employed 9.0% of the municipality's workforce. However, the contribution to employment has declined by 2.1% on average per annum over the period 2005 to 2015. The labour force in the primary sector is characterised by a relatively large proportion of low-skilled labour. In this regard majority (54.9%) fall within the low-skill sector, which has experienced a contraction of 2.9% since 2005. The semi-skilled (39.4% of the workforce employed in the sector) contracted at a rate of 2.3% per annum since 2005. The skilled sector employs the smallest proportion of the industry's workforce (5.7%) and has shown robust growth post-recession (5.4% per annum), with a 0.6% per annum contraction over the long term (2005 – 2015). The informal sector makes up 16.2% of the sectors workforce and was the only sector to experience long term growth (albeit marginal) as employment grew by 1.3% per annum over the period 2005 – 2015.

3.5.2 Secondary sector

Manufacturing
The manufacturing industry made up 14.2 % (R1.676 billion) of the George LM GDPR in 2015. The industry also experienced growth of 3.3% per annum on average over the period 2005 – 2015. The sector employed 8.7% of the Municipality's workforce. However, despite the annual growth in the sector, employment contracted by 0.2% per annum over the period 2005 – 2015. Employment has however remained at a similar level in the post-recessionary period following the financial crisis in 2008. The majority of workers are classified as semi-skilled (39.7%), followed by low-skilled (23.6%) and skilled (22.5%). 14.2% of the workforce operate within the informal sector. This sector has experienced meaningful employment growth in the post-recessionary period at 2.3%.

Construction
The construction industry contributed 4.2% (R497.8 million) towards the Municipality's GDPR in 2015, making it the fifth largest sector in the region. The sector has experienced robust growth since 2005, with growth averaging 4.7% per annum. Despite this GDP growth has nevertheless slowed since the recession and grew by 0.6 % over the period 2010 – 2015. The industry employed 7.7% of the Municipality's workforce in 2015. Employment in

[3] The information in this section is from the 2017-2022 George IDP

the industry increased by 2.5% per annum since 2005. However, this has declined to 1.3% per annum over the period 2010 – 2015. The majority of the workers (50%) employed in the construction industry operate within the informal sector. Employment growth within this sector has been consistently high since 2005 (7.9 per cent). In terms of categories, 14.3% fall within the low-skilled employment category, semi-skilled employment makes up 27.4 % of the workforce, while the remaining 8.2% are skilled.

3.5.3 Tertiary sector

Commercial Services
Commercial services encompass the wholesale and retail trade, catering and accommodation, transport, storage and communication and finance, insurance, real estate & business services industries. This sector was the largest contributor (60.2% or R7.144 billion) to the Municipality's GDPR in 2015 (the largest sector in the region). The industry grew at 4.9% per annum over the period 2005 to 2015, compared to the overall municipal average of 3.9 per cent. This dropped to 4.0% in the post-recessionary period 2010-2015.

The sector is also the largest employer, with 51.8% of the Municipality's workforce. Employment has shown moderate growth throughout the past decade recording a 3.9% growth rate per annum. This has however dropped to 2.5% per annum over the period 2010 – 2015. A large proportion (29.3%) of the industry's workforce fall within the semi-skilled category, followed by 23.3% that are skilled and 11.0% are low-skilled. Informal employment within the Commercial services industry makes up 36.4% of the industries workforce and has experienced robust growth of 10.7% per annum since 2005, and lower but still strong growth of 4.7% per annum over the last 5 years.

Government and Community, Social and Personal Services
The general government and community, social and personal services sector is relatively small, and contributes only 14.5% (R1.714 billion) towards the Municipality's GDPR in 2015. The industry experienced GDPR growth of 2.5% per annum over the period 2005 – 2015 and a marginally decreased to a rate of 2.0% per annum since 2010. Despite the relatively small contribution to GDPR, the industry employs 22.4% of the Municipality's workforce. Employment growth over the period 2005 – 2015 averaged 2.6% per annum. This has dropped to 1.8% per annum for the period 2010-2015. The majority (30.1%) of the industry's workforce are classified as low-skilled, while 22.3% are semi-skilled, and 28% are classified as skilled. The informal sector employed only 19.6% of the industries workforce, but grew at a rate of 15.6% per annum over the period 2005 – 2015.

3.6 SITE AND SURROUNDING LAND USES

The proposed educational facility and associated housing component is located on municipal owned land immediately to the south of the Garden Route Dam (Photograph 3.1). The surrounding land uses include the residential areas of Eden George and Loerie Park to the west of the site and the Glenwood Small Holding Area to the south of the site. The Garden Route Dam and the Kat River Nature Reserve are located to the north and north west of the site respectively. The area to the east of the site consist of forestry land and the Saasveld Campus of the Nelson Mandela University (NMU).

Figure 3.1: View from the site of Garden Route Dam

The Eden George and Loerie Park residential areas are well established, medium income, single residential areas. In terms of the local road network, the western boundary of the site is flanked by three roads, namely Meyer, Stander and Bokmakierie Street (Photograph 3.2, 3.3, 3.4 and 3.5).

Photograph 3.2: View looking south along Meyer Street with site to the left

Photograph 3.3: View looking north along Stander Street with site to the right

Photograph 3.4: View looking east towards site from public open space in Loerie Park

Meyer Street provides access to Loerie Park and Eden George from Madiba Drive, which runs along the southern boundary of the site. Madiba Drive also provides access to the Saasveld Campus of NMU. Madiba Drive has a feel of a country road and is used by cyclist and runners (Photograph 3.5 and 3.6). In terms of the proposed development, high density housing is proposed along the western section of the proposed site adjacent to Meyer and Stander Street (Photograph 3.2 and 3.3).

Photograph 3.5: View east over Bokmakierie Street towards the site

Photograph 3.6: Madiba Drive looking east towards intersection with Meyer Street on left

The Glenwood Small Holding area is a semi-rural area that consists of large, single erven. Many of the properties have stabling facilities for horses (Photograph 3.7 and 3.8). Glenwood House private school and the Pine Lodge Resort are located to the west of the site, near the intersection between Madiba Drive and Knysna Drive (Photograph 3.9). Glenwood House is accessed of Glenwood Avenue, which is located approximately 600 m

west of the intersection between Meyer and Madiba Drive. Traffic congestion at the intersection between Glenwood Avenue and Madiba Drive and Madiba Drive and Knysna Road is an issue of concern for residents living in Loerie Park and the Glenwood Small Holding Area.

Photograph 3.7: Glenwood Small Holding Area

Photograph 3.8: Glenwood Small Holding Area

Photograph 3.9: Glenwood House School

The NUM Sassveld Campus is located approximately 2 km to the east of the site and is separated from the site by forestry land. Access to the site is off Madiba Drive. The campus consists of lecture facilities, sports fields and residences (Photograph 3.10 and 3.11).

Photograph 3.10: Entrance to NMU Sassveld campus

Photograph 3.11: Residences at MU Sassveld campus

SECTION 4: BENEFITS ASSOCIATED WITH UNIVERSITIES

4.1 INTRODUCTION

Section 4 provides a summary of some of the key findings of two studies for universities in South Africa, namely the University of Stellenbosch and University of North West campus at Potchefstroom. The Bureau of Economic Research at the University of Stellenbosch undertook a detailed assessment of the economic impact of Stellenbosch University on the local municipal area. The study was published in February 2018. The objective of the study was to give a credible assessment and measurement of the economic contribution of Stellenbosch University (SU) to the economy of the Stellenbosch Municipal area. The findings of the study are therefore relevant to the proposed project in that they highlight the contribution of a university located in a small to medium sized town, namely Stellenbosch, on the town itself and the broader municipal area.

4.2 CASE STUDY: STELLENBSOCH UNIVERSITY

The results of the EIA show that the total economic impact of SU on output is estimated to be R5 112 million in 2016 – this measures all sales and transactions that were triggered by the initial injection of demand. The majority of this comes from student expenditure (61%), followed by staff expenditure (23%), creditor payments (14%) and diverse payments (2.5%). The economy-wide impact on Stellenbosch's GDP is a significant R2 688 million – this measures the value of final goods and services. The presence of SU also generates R1 108 million in labour remuneration and sustains 13 406 jobs in the local economy. As a result of multiplier effects, the total economic impact of the university community stretches far beyond its initial expenditure in the local economy. Indeed, SU has a significant impact on the Stellenbosch economy. In fact, SU contributes more than 15% to the total of production (or output) generated in the region, close to 19% of gross value added, as well as more than 20% to total formal employment.

This is a very conservative estimate in the sense that it does not include expenditures made by visitors, spin-off companies or local businesses that are related to the university. Although not quantifiable in monetary terms, the SU serves as a so-called anchor institution, which stimulates additional benefits in the region. Examples for these include research centre STIAS, Innovus and Maties Sport.

4.2.1 Study context

The Stellenbosch Local Municipality (better known as Stellenbosch Municipality) covers the towns of Stellenbosch, Klapmuts, Franschhoek and Pniel – an area of 831km2. The municipality falls within the Cape Winelands District Municipality and is located in the Western Cape Province. Please note that, as mentioned earlier, the study measures the impact of SU on the broader municipality, not just the town of Stellenbosch.

According to the National Treasury of the Western Cape Government (2017), Stellenbosch has a marginally higher real GDP per capita (at R61 187 in 2016) compared to the Western Cape Province (at R61 619) when accounting for the different population sizes. The gap used to be bigger, but has narrowed substantially over the past few years. Stellenbosch's

GDP per capita is still significantly higher compared to that of the Cape Winelands District (at R50 239). However, the per capita indicator does not give any insights into the distribution of income in the region.

The study notes that SU is part of the fabric of Stellenbosch and it would be difficult to imagine the region without the university. The integration comes, in part, from the fact that the campus of SU is not a separate closed-off section, but rather forms part of the structure of the town of Stellenbosch. University buildings, residential housing (both for students and non-students), commercial office blocks, shops, restaurants, hotels and other hospitability businesses are often located right next to each other. The students also make up a significant part of the Stellenbosch local population, with the absence of students during holidays being noticeable.

The study also notes that the university is a significant employer within the region. This means that the expenditure of SU also has a large **local impact** because of the wages earned by SU staff. In addition, there are considerable intangible benefits associated with the university present, such as the promotion of spin-off companies as well as other cultural and socio-economic benefits. The overall economic benefits of the university therefore extend well beyond its primary role of being a knowledge centre and driving force of innovation within a region.

4.2.2 Benefits associated with universities

Demand side impacts
Universities, such as SU, have significant operating budgets which include compensation for faculty and staff members, research, the purchase of goods and services, capital spending, scholarships and employment benefits. The literature review found that the majority of the expenditure is in the form of wages and salaries. However, the impact of the direct spending is propagated through indirect and induced effects on the economy, which, for example, support employment in other local industries and contribute to the existence of a vibrant local economy.

Staff spending: Expenditure on staff wages and salaries comprises a significant portion of a university's expenditure. This not only has a direct effect, but if one assumes that the staff expenditure would have occurred out of town and now happens locally due to the existence of the university, the spending creates additional indirect and induced effects.

Student spending: In general, universities attract many out-of-town students. This contributes to the overall economic impact through spending on student housing, food, transportation and education.

Visitor spending: A common characteristic of universities worldwide is that the institutions attract visitors. Visitors could come to a university to attend academic conferences or workshops, present or attend guest lectures, partake or attend sporting and cultural events, or to simply visit friends and/or family studying at the university. These visitors also generate an additional economic impact through spending on food, accommodation, transportation and various other avenues. The quantum of visitor spending is probably enhanced when the institution is based in tourism friendly and attractive areas.

The presence of a university positively impacts local businesses. These businesses often employ a number of university students and alumni. Furthermore, the students attracted to the area by the university provide additional customers to these businesses.

Supply side impacts
In addition to the economic impact induced by increased expenditure, higher educational institutions affect future output through various supply-side factors. These factors include, but are not limited to, human capital formation, an increase in the region's technological base, the impact of university research, and the promotion of collaboration between universities and local businesses.

Human capital: Education, especially higher education, is an investment in human capital which increases future output and the lifetime earnings of graduates. Universities lead to a more educated and higher earning workforce within a region, leading to increased spending within a local economy (Wayne & Lee, 2011). As such, universities and colleges have been singled out as the premier institutions for generating and maintaining a nation's professional labour force (Bluestone, 1993). The presence of higher education institutions in a region attracts further business activity.

Technological base: Another important impact that universities can have on regional economic development is the attraction of highly competitive companies (Garrido-Yserte et al., 2008). Universities play a catalytic role in driving innovation and increasing economic opportunity, allowing regions with universities to embrace innovation and remain globally competitive (O'Connor et al., 2015). This means that higher education institutions contribute to an area's technological base to the extent that companies locate to the region and receive inputs from the institution's research efforts and link academic research to the real world (O'Connor et al., 2015).

4.2.3 Summary of key findings

The key findings of the study indicate that the US has a positive impact on local property market, support employment, provides a stabilising influence, and has a significant economic impact on the local economy. In addition, Stellenbosch and the local economy benefits from a wide range of university linked initiatives, including technological, sport and cultural initiatives.

4.2.4 Impact on property market

Stellenbosch has experienced a boom in the local property market, driven by increased demand for housing (and specifically student housing) in the area. This is linked to the continued growth of the SU's student population as demand for education at the institution continues to rise, bringing with it an influx of students from various other regions. The university currently accommodates 28% of the student body in university-owned accommodation options, with the remaining 72% requiring accommodation in privately-owned accommodation. The scope for the university to expand its residence facilities is limited, thus private investors have entered the market to capitalise on the rising demand for private accommodation. The economic impact of the increased expenditure on capital projects within Stellenbosch as a result of the increased demand for accommodation stemming from SU's student body is thus substantial. Similar opportunities are likely to be created in George.

4.2.5 Education and employment

The Western Cape and Stellenbosch have always had a lower unemployment rate compared to the national average (Quantec Research, 2017). Part of this is because the Western Cape had no Apartheid-era homelands. Another important reason why the Western Cape, but particularly Stellenbosch, experiences a lower unemployment rate is due to higher levels of educational attainment. Stellenbosch residents have, on average, a higher level of

educational attainment compared to the provincial and national level. This is particularly true for tertiary education.

4.2.6 Economic stability

A university is a so-called stable employer because, unlike private companies, it is unlikely to close or relocate in difficult economic circumstances (Oxford Economics, 2016). This reduces the risk of economic volatility in a region. This benefit extends beyond just the university's direct suppliers through the entire supply-chain and local staff spending, fostering a greater degree of stability and confidence in the region (Oxford Economics, 2016). As of May 2017, the university employed a total of 5 273 staff members across all campuses, of which 3 549 staff were employed at the Stellenbosch main campus, constituting 67% of the total staff employed by SU. The university is a significant employer in Stellenbosch contributing ~ 6.5% of the total number of formal-sector jobs in the municipal area (Quantec Research, 2017). Of the 5 237 staff members employed, 1 509 (28.6%) are academic, while 3 764 (71.4%) are support staff. The majority (58.8%) of SU's staff is employed on a full-time permanent basis, followed by 16.9% and 16.5% who are employed on a full-time and part-time temporary basis respectively.

4.2.7 Economic Impact of Stellenbosch University

University expenditure
In 2016, total payments to creditors amounted to R1.67 billion and diverse payments totalled R825.43 million. In 2016, almost a fifth of all creditors were based in Stellenbosch. This implies that R319.11 million of expenditure flows to creditors occurred within the local economy. Of the R117.62 million that was classified as payments to government, R117.44 million specifically went to Stellenbosch Municipality, presumably for rates and taxes**.** The total economy-wide impact on GDP is R355 million for creditor payments and R63 million for diverse payments. Broken down into sectors, creditor payments have the biggest impact on the government sector (45%), while diverse payments make the biggest impact on the business services sector (38%).

Economic impact of staff
The economy-wide impact of staff expenditure on output amounts to R1 172 million, of which 83% (R968 million) is generated by spending of staff residing in Stellenbosch and the remainder by non-locals. About 63% (R742 million) of the total output is initiated by the direct impact, followed by 27% (R321 million) by the induced impact and the remaining 9% (R108 million) by the indirect effect. In terms of GDP, the staff spending has the biggest impact on the wholesale and retail trade sector (48%), followed by other community and personal services (20%) and business services (14%).

Economic impact of students
At registration in 2017, SU had a total enrolment of 32 003 students in all ten faculties. Students enrolled at the main campus comprise 77.3% of SU's total enrolment, or 24 725 students. This is followed by 4 434 at the Tygerberg Campus, 1 954 at Bellville Park, 629 at Saldanha, and 261 at Elsenburg. Various housing options are available to Stellenbosch main campus students. As of 2017, university accommodation on main campus accommodated 5 667 students in university residences, 976 students in university apartments, and 302 students in university houses. In addition to these facilities, Academia, a privately-owned student residence associated with the university, provides accommodation for 703 students. Furthermore, several private accommodation options have been developed to take advantage of the surplus demand for accommodation on or close to campus. Students living in private accommodation are members of Private Student Organisations (PSO's) and make

up the majority of students. Of the 24 725 main campus students, 17 076 live in private housing – of which 9 314 are situated within Stellenbosch and 7 762 elsewhere.

As would be expected, the biggest spending category is monthly rent by PSO students, which makes up 31% of all expenditure. This is followed by expenditure on food from grocery stores / supermarkets (12.7%) and the cost of accommodation at university residence (12.6%).

The economy-wide impact of student expenditure on output amounted to R3 096 million, of which R2 678 million (86%) came from students residing in Stellenbosch. Of the total impact, the direct impact is the largest (R2 062 million or 67%), followed by the induced impact (R748 million, 24%) and indirect effect (9%). From a subsector perspective, most of the output is generated in the wholesale and retail trade (R1 346 million, 43%) as well as the business services sector (R1 027 million, 33%).

In total, the economy-wide impact of SU on output (or value of production) is estimated to be R5 112 million in 2017. The majority of this comes from student expenditure (61%), followed by staff expenditure (23%), creditor payments (14%) and diverse payments (2.5%)(Figure 4.1). The majority of the economy-wide impact is stimulated by the direct impact (65%), but the induced impact also makes a sizeable 26% contribution

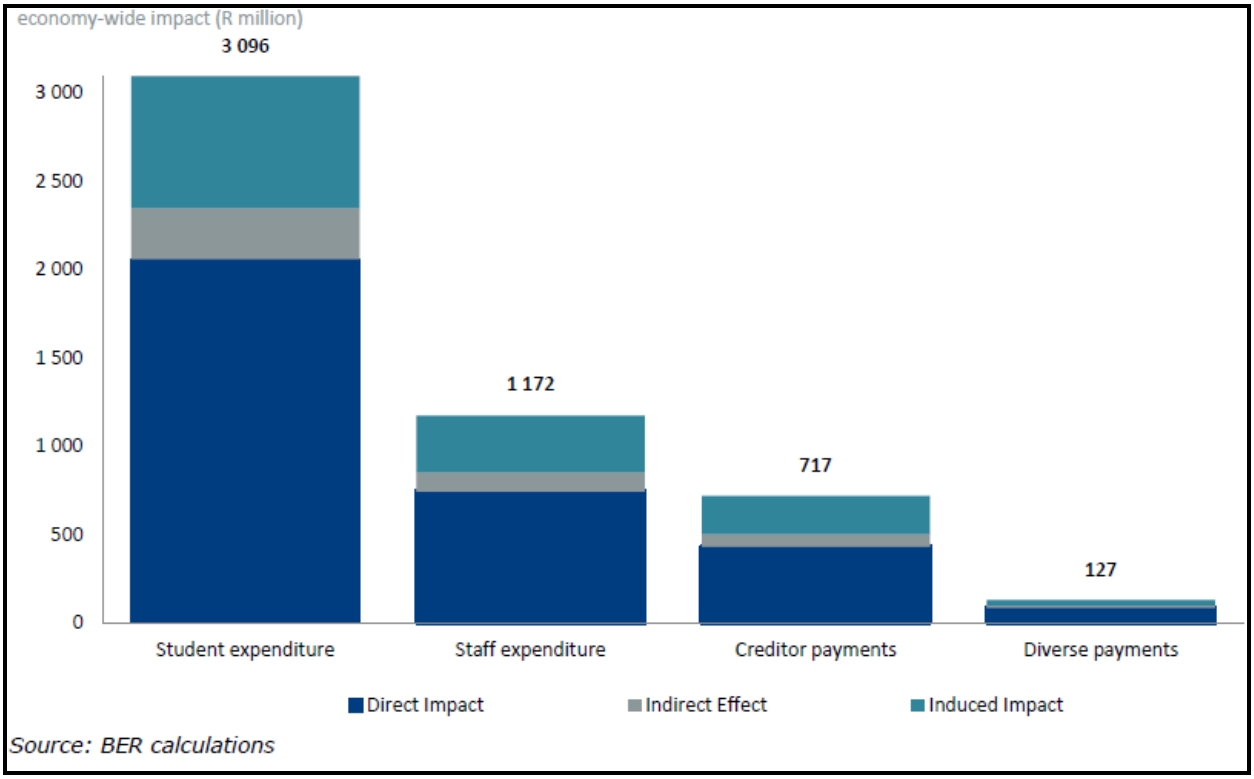


Figure 4.1: Economy-wide impact of SU on output

The economy-wide impact on Stellenbosch's GDP is a significant R2 688 million. The presence of SU also generates R1 108 million in labour remuneration, of which 69% is attributable to the direct impact, 23% to the induced impact and the remaining 8% to the indirect impact. Finally, SU also sustains 13 406 jobs in the local economy. About 60% is

linked to student spending, 26% to staff spending, 11% to creditor payments and 2.5% to diverse payments. Most of these jobs are skilled workers, followed by unskilled and informal. Crucially, this is the impact on the *local* Stellenbosch economy.

As a result of multiplier effects, the total economy-wide impact of the university community stretches far beyond its initial expenditure in the local economy. The study found that SU has a significant impact on the Stellenbosch economy and in fact contributes close to 20% of gross value added in the region, as well as more than 20% to total formal employment. This is a very conservative estimate as it does not include expenditures made by visitors, spin-off companies or local businesses that are related to the university – these are unpacked in the next section.

4.2.8 Additional benefit associated with US

In addition to US's quantifiable contribution to economic growth in the local economy, it also serves as a significant source of cultural, recreational and social enrichment for Stellenbosch. In this regard, increasingly, attention is being placed on the role of so-called anchor institutions in the local, urban environment and the impact these institutions have on the development of a town or region in general.

For example, SU has contributed to Stellenbosch's technological base through many channels. The university stimulates and diversifies technological innovation in the Stellenbosch region by playing a leading role in the establishment of the Stellenbosch Innovation District (SID). The concept of transforming Stellenbosch into an innovation district was introduced in 2013. The presence of SU has significantly increased the technological base of the town and these economic impacts are critical to the long-run economic development of the region. The existence of these enterprises is directly attributed to SU and has had a positive impact on Stellenbosch. The enterprises considered include Innovus, and the Stellenbosch Institute for Advanced Study (STIAS). In addition, Stellenbosch has benefited from Maties Sport and cultural events such as the US Woordfees.

Innovus
Innovus is the industry interaction and innovation company of SU. The company manages the commercialisation of SU's innovation and intellectual property (IP) portfolio through licensing, patenting and the formation of spin-out companies. Innovus supports the transfer of technology from the University to industry, while providing entrepreneurial support and development for innovation at SU.

STIAS
STIAS complex can house up to 20 researchers concurrently, but also caters extensively to associated activities, such as workshops and conferences. During 2016, almost 29 930 people made use of the facility (which translates to 110 people per day on average when taking account of weekends and holidays). Catering Unlimited, which provides some of the logistical support at STIAS, has 18 employees and is a viable business in its own right.

Maties Sport
Maties Sports strives to be a model for university sport in South Africa. It facilitates ten high-performance sporting disciplines and 23 other sports. SU is home to world-class sporting facilities including the High-Performance Sports Unit, the Centre for Human Performance Sciences and the SU Sport Performance Institute (SUSPI). These facilities are made available to athletes and students attending SU, as well as external sporting teams and the public. In 2016, 9 646 students formally took part in Maties Sport activities, representing a 60% increase in participation since 2014 (Maties Sport Review, 2016).

SU is a destination for sporting teams from around the world who seek high-performance training. The southern hemisphere climate and the availability of modern training facilities attract many international sportsmen and women to train and base themselves in Stellenbosch during the European winter months. While training at SU, the teams have access to all of the university's training and conditioning facilities. Furthermore, teams are supported by the sports science and sports medicine centre at SU, which is a gold accredited sport science testing centre. These services directly attract additional expenditure from abroad to Stellenbosch from fees paid by these teams. In addition to this, teams training at SU require accommodation which results in additional flows into the local economy. Data limitations did not allow for these inflows to be quantified, but it is important to highlight the benefit of having the facilities available, which include the intangible benefit of association with the best in the world.

Stellenbosch is also the location for several national and even international sport competitions. For example, in 2016, Maties Sport hosted and participated in numerous Varsity Sports and University Sports South Africa (USSA) competitions. Hosting of events such as Varsity Cup rugby, netball, athletics and cricket competitions attracts visitors and athletes from the town and other areas to Stellenbosch. Although many spectators may originate from Stellenbosch, non-local spectators are also drawn to these events. This generates additional expenditure within Stellenbosch in the form of ticket sales and other general entertainment expenses. Stellenbosch has also hosted the MTB world cup event and well as the MTB world cup down hill event. Both these events attract thousands of visitors to the town. One of the reasons Stellenbosch is chosen to host such events is because the MTB trails, culture and infrastructure is very well developed and therefore Stellenbosch has a huge MTB fan base as many students ride road and Mountain bikes.

This form of sports tourism, induced by Maties Sport, benefits the tourism sector in Stellenbosch as most visitors take advantage of the tourist-friendly town's array of activities. Sporting competitions are accompanied by several intangible benefits for Stellenbosch and SU in particular, such as the fact that they serve as a platform to showcase SU's brand as a world-class institution.

Maties Community Service (MGD)

The current concept of the Maties Community Services (which translates to Maties Gemeenskap Diens in Afrikaans, explaining the abbreviation MGD) was formed in 1956 by the first medical students to register at SU. MGD operates as a registered non-governmental organisation (NGO) as well a unit within the organisational structure of SU. The organisation's mission is to provide high-quality services and sustainable development programmes to the communities which it serves (MGD Annual Report, 2013). An important achievement of MGD is how the organisation has served the needs of historically disadvantaged communities over the last five decades.

Cultural community: arts, culture and heritage

Arts, culture and heritage have various positive social and economic impacts on a region, both tangible and intangible. Arts, culture and heritage make a tangible contribution to economic growth in a region through various avenues (including visitor expenditure, job creation and skills development) while the intangible benefits are difficult to quantify. This is also because most people do not value arts, culture and heritage based on its economic and social benefits, but rather by the benefit it adds to their personal lives. Arts, culture and heritage have a positive public spill-over effect. The US Woodfees is a literary and arts festival held in Stellenbosch and has become a popular fixture on the South African cultural calendar since its inception. Over-and-above the economic impact of visitor spending and

job creation, the US Woordfees also provides artists with a platform to express their creativity in an environment in which they are free to challenge the status quo.

4.3 CASE STUDY: UNIVERSITY OF NORTH WEST, POTCHEFSTROOM[4]

A study was undertaken by Dyason and Kletnhans in 2017 to assess the benefits to a small town associated with the presence of a university. The study notes that the benefits of universities are regularly valued on a national level by placing an emphasis on their role in improving the level of education for the national economy. Universities are institutions of higher education in which human capital improvement takes place, typically through the process of teaching, learning and innovation. This consequently benefits the economy.

The findings of the study indicate that universities represent institutions that are not only important for national economic growth, but also to the benefit of the local economy, especially when considering that universities are considered relatively resilient to business cycle fluctuations (Steinacker 2005:1161). Furthermore, universities have the ability to create employment and generate economic activity within the local economy by utilising local resources (Duke 2014). The benefit for the economy is often apparent through a changing physical landscape, where sectors benefit as a result of linkages with the university. A case in point is Potchefstroom, a small city approximately 120 km from Johannesburg in South Africa, with a population of 162 763 (StatsSA 2011), which hosts a campus of the North- West University (NWU).

Potchefstroom Campus is the largest campus of the NWU and had 21 501 full-time contact and 34 050 distance students enrolled in 2015 (NWU, 2015). The aim of the study was to identify the sectors that benefit from expenditure made by a university campus, by means of a bill-of-goods approach.

A literature review study was undertaken as part of the study. The findings of the review indicated that universities are often linked to the establishment of innovation hubs given their strong focus on research and innovation. Universities, through its linkages with the economy, are also a position to affect the spatial characteristics of the surrounding area where the university is located.

The interaction between a university and its surrounding environment is highlighted by Caffrey and Isaacs (1972), where the economy is distinguished between primary activities and secondary services. The primary activities of a university are indicative of activities such as research, innovation and development, teaching and learning of students and community development through social programmes. These primary activities result in the establishment of secondary services, for example, research and innovation leads to new product development and patent rights that can be used in improving production, a secondary service. Another example is the process of teaching and learning, which entails that students attend the university and this, subsequently, gives rise to secondary services through demand for residential and retail products. This interaction between the university and the economy creates opportunities where the personnel and the students take part in social and economic activities in the surrounding area, resulting in local development.

[4] Dyason, D. & Kleynhans, E.P.J., 2017, 'A university in a small city: Discovering which sectors benefit', *Acta Commercii* 17(1), a513. https://doi.org/10.4102/ ac.v17i1.513

Using information provided by the University (bill of good) the study was able get a detailed representation of the university's purchases of goods and services.
The value of total expenditure for Potchefstroom Campus from 2009 to 2015 is illustrated in Figure 4.2, which indicates that the value of expenditure by the campus in 2015 was in the region of R 1.6 billion and created a positive stimulus for the economy, both locally and nationwide.

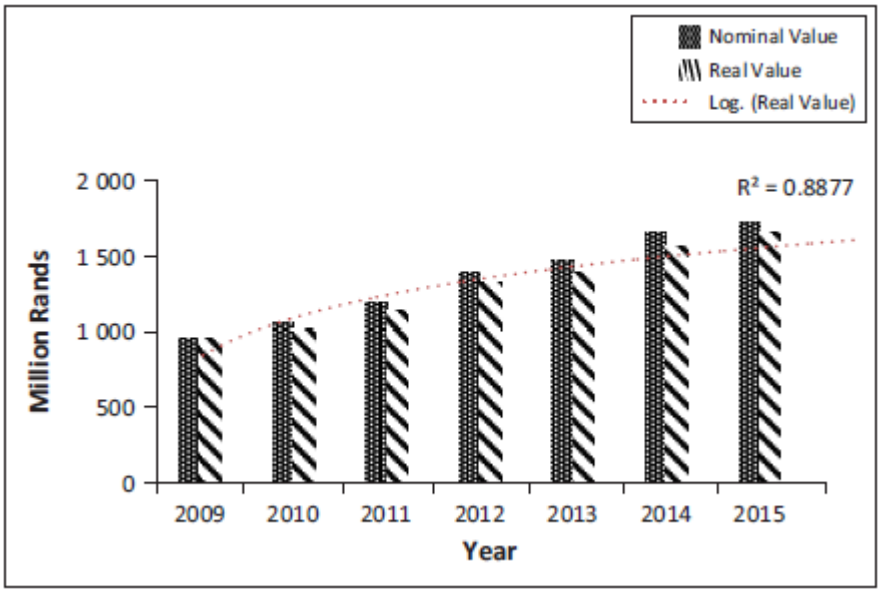


Figure 4.2: Total expenditure: Potchefstroom Campus, 2009–2015

Personnel remuneration is the single largest expense of the campus. In 2015, these expenses alone contributed 61% of total expenditure and were similarly large during the preceding years. Salaries represent an income source that is on its part used by households for spending on a variety of goods and services in different economic sectors.

Sectors that benefit
Figure 4.3 shows the expenditure made by the university campus according to sectors and that most of the sectors within the economy benefit, with the exception of agriculture and mining. The study found that retail represents the largest expenditure type with 31.7%, followed by business services with 29.3%. Expenditure on activities in the utilities sector represents 8.8% of all expenditure, catering and accommodation with 7.3%, and transport and storage at 6%. Expenditure on government services sector, which includes property tax, represents the smallest expense for the campus at 0.7%. A total of 84.3% of expenditure is within the tertiary sector, which highlights the benefit that these sectors receive from university expenditure.

The results indicate that expenditure on utilities, which includes water and electricity, has increased significantly and has more than doubled over the past seven years. This represents a direct benefit to the local municipality. The construction sector includes expenditure on general maintenance and investments in new buildings on the campus. The study found that expenditure on retail and related activity increases annually. The value in 2015 is double the 2009 value, and significant expenses are incurred in this sector. Retail expenditure includes activities such as stationery, food and computer equipment. This represents a direct benefit to local shops and the local economy of the town.

Activity	Sector or sub-sector
Publishing, course material, printing	Manufacturing
Water, electricity	Utilities
Building work, carpeting, electrical	Construction
Food, books, refreshments	Retail trade
Entertainment, accommodation	Catering and accommodation
Travel	Transport and storage
Postage, telephone, courier	Communication
Legal, consultation, software	Business services
Insurance, bank cost	Finance and insurance
Gardening, laundry	Community and personal services
Property tax, staff development (excluding personnel remuneration)	General government

Source: NWU 2016

Figure 4.3: Sectors that benefit from expenditure

The findings of the study indicate that three key sectors, namely government services, business services and trade sectors, gain the most from university expenditure by the Potchefstroom campus of North-West University. However, expenditure growth in smaller sectors such as catering and accommodation and utilities shows growth prospects. The study also found that although not completely unaffected by business cycle changes, the beneficial sectors will be more resilient to these changes. This highlights the importance of universities in terms of providing resilience against economic fluctuations.

4.4 BENEFITS OF UNIVERSITIES FOR TOWNS

Research by Jean-Paul Addie Marie Curie Research Fellow in Urban Geography, UCL, identifies a number of benefits associated with universities, these include:

Universities are economic engines
Universities are hotbeds of innovation and entrepreneurship. In partnership with government and business, academic research and technologies help to drive an array of vital industries. Universities provide students with the skills to compete in increasingly global workplaces and are themselves major employers. During the 2011 to 2012 financial year, London's universities contributed a total of £5.8 billion to the city and supported 145,921 jobs (directly and indirectly) across all skill levels. And recent research by Universities UK shows such economic impacts are even more pronounced in smaller cities and towns.

Universities can change the face of a city
As major landowners, universities are significant investors in the built environment. Campus developments reshape the skyline while providing new civic identities.

Universities attract global talent

Universities have a tremendous ability to attract global talent to cities and nations. Latest figures show that 28% of academic staff at UK universities are from overseas. And between 2014 and 2015, the country hosted 125 000 EU and 312 000 non-EU international students who generated in excess of £25 billion for the national economy.

Universities can build international connections
International staff and students do more than just boost the economy. They contribute to the vitality of their communities and help develop tolerant and inclusive societies. Internationalisation helps create lasting links into global networks. Academic mobility and research collaborations extend intellectual and cultural interaction and in doing so help to develop international relations.

Universities help address societal challenges
At an institutional level, universities are well positioned to offer comprehensive, independent assessments of key issues and challenges. Universities also offer vital services to their surrounding communities that are otherwise scarce, including access to health-care, cultural amenities and even sports facilities. Many universities also have museums, which are open to the public and run free lectures for the community to engage with.

Universities foster creativity and open debate
Universities support a number of creative activities. These, in turn, generate vibrant intellectual and artistic scenes that are strong pulls in their own right. Artistic and creative endeavours can help to put a city on the map.

Higher education improves lives
Access to higher education improves lives. It enhances self-knowledge, employment opportunities and promotes civic participation. As agents of social mobility, universities are more than sites of training and instruction, they are crucial intellectual milieus where knowledge is created, disseminated and challenged. Setting foot on campus is (and should be) an aspirational experience. And by rendering campuses more porous universities can foster opportunities for collaboration, knowledge exchange and social empowerment. Universities have a tremendous social and economic impact.

SECTION 5: ASSESSEMENT OF KEY SOCIAL ISSUES

5.1 INTRODUCTION

Section 4 provides an assessment of the key social issues identified during the study. The identification of key issues was based on:

- Review of project related information, including other relevant specialist studies;
- Interviews with key interested and affected parties;
- Review of relevant literature;
- Experience with similar projects.

The assessment section is divided into:

- Assessment of compatibility with relevant policy and planning context ("planning fit");
- Assessment of social issues associated with the construction phase;
- Assessment of social issues associated with the operational phase;
- Assessment of the "no development" alternative.

5.2 POLICY AND PLANNING FIT

Policy review

The key role of education is highlighted National Development Plan 2030 (2011). Chapter 9, Improving Education, Training and Innovation, outlines the key role played by education and supports the establishment of the proposed education facility in George. The NDP notes that by 2030, South Africa needs an education system that includes an *expanded higher-education sector* that can contribute to rising incomes, higher productivity and the shift to a more knowledge-intensive economy. The NDP notes that the single most important investment any country can make is in its people. The aim of the NDP is that by 2030 one in six people will be a university graduate. This is one of the strongest indicators of expanding access to university education. The NDP also highlights the importance and role of universities as centres of excellence and research and development.

The establishment of an education facility is also supported at a local level. The George Integrated Development Plan identifies 5 Strategic Goal (SG). Linked to the SGs are a number of Departmental Objectives, of which the following support the proposed development: are relevant to the proposed development.

- Identify an educational and research hub and to facilitate the continued growth of NMMU in George;
- Create and facilitate an enabling environment for economic development in George;
- Establish incubators, clusters and centres of excellence to contribute meaningfully to the demands of a growing economy. These centres can be linked to and benefit from the proposed university;

- Establish a Science Park. This can be linked to the proposed development of a university;
- Promote George as a sports tourism and business destination. The research from Stellenbosch has indicated that the University of Stellenbosch has contributed to establishing Stellenbosch as sports and business destination;

From a spatial perspective the George SDF notes that the development of George should reinforce George city's regional service centre role through attracting higher order, ***high quality education*** and health facilities, regional government administration and commercial headquarters.

Case study review
A study undertaken by the Bureau of Research in 2018 highlighted the key contribution of the University of Stellenbosch (SU) to the local economy of Stellenbosch and the region. In addition, Stellenbosch and the local economy benefits from a wide range of university linked initiatives, including technological, sport and cultural initiatives. The study at the Potchefstroom campus of North-West University also confirmed the benefit of the university in terms of the local economy. The study also highlighted the importance of universities in terms of providing resilience against economic fluctuations.

5.3 SOCIAL IMPACTS ASSOCIATED WITH THE CONSTRUCTION PHASE

The key social issues affecting the construction phase include:

Potential positive impacts

- Creation of employment and business opportunities.

Potential negative impacts

- Security and safety risks posed by construction workers to residents;
- Noise, dust and safety impacts associated with construction related activities and the movement of heavy vehicles.

5.3.1 Creation of local employment and business opportunities

Employment
Based on experience from similar sized projects the total number of employment opportunities would be in the region of 1 500-2 000 per annum. For the purposes of the assessment it is assumed that ~ 1 800 employment opportunities will be created per annum for a period of 8 years. Of this total approximately 45% (810) of the employment opportunities will be available for low skilled workers, 45% (810) semi-skilled workers and 180 (10%) for skilled workers. Most of the employment opportunities associated with the low and semi-skilled categories will be taken up by Historically Disadvantaged Individuals (HDIs). Most of the skilled employment opportunities (more than 50%) are also likely to be taken by HDIs. during the construction phase for the residential component of the development.

It is also important to note that the low and semi-skilled workers are typically the main bread winners and support a household of 3 to 5. The creation of 1620 employment opportunities for low and semi-skilled workers will therefore support the livelihoods of 4 860 to 8 100 members of the local community. The majority will be HDIs.

The total wage bill for the project will approximately R 2 billion (2019 rand values)[5]. Of this total R 624 million (31%) will be earned by low skilled workers, R 928 million (47%) by semi-skilled workers, and R 432 million (22%) by skilled workers. R 1.5 billion (78%) of the total wage bill will be earned by low and semi-skilled workers. Most of the total wage bill for the construction phase will therefore be earned by HDIs. This represents a significant socio-economic benefit. Most of the wage bill will also be spent locally and will therefore benefit the local George economy.

The employment opportunities associated with the construction phase are frequently regarded as temporary employment. However, while these jobs may be classified as "temporary" it is worth noting that the companies and workers involved in the construction industry by its very nature rely on "temporary" jobs for their survival. In this regard "permanent" employment in the construction sector is linked to the ability of construction companies to secure a series of temporary projects over a period of time. Each development, such as the proposed development therefore contributes to creating "permanent" employment in the construction sector.

Business opportunities

Based on the information from the Sol Plaatje University, which will accommodate 7 500 students, the total capital expenditure associated with the proposed educational facility and associated housing component will be in the region of R 2-3 billion (2019 rand values). Most of the work associated with the construction phase is likely to be undertaken by local contractors and builders. The proposed development will therefore represent a positive benefit for the local construction and building sector in George and the Garden Route. Most of the building materials associated with the construction phase will be sourced from locally based suppliers in George. This will represent a positive injection of capital into the local economy. The project should also be viewed within the context of the current economic climate in South Africa. The proposed development would therefore represent a significant opportunity for the local construction and building sector. The project will also benefit professionals involved in the construction sector, including quantity surveyors, engineers, and architects.

[5] Based on average monthly wage of R 8 000 for low-skilled, R12 000 for semi-skilled and R 25 000 for skilled workers over an 8-year period.

Table 5.1: Impact assessment of employment and business creation opportunities during the construction phase

Nature: Creation of employment and business opportunities during the construction phase		
	Without Mitigation	**With Enhancement**
Extent	Local – Regional (2)	Local – Regional (3)
Duration	Medium Term (3)	Medium Term (3)
Magnitude	Moderate (6)	Moderate (6)
Probability	Highly probable (4)	Definite (5)
Significance	Medium (44)	High (60)
Status	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impact be enhanced?	Yes	
Enhancement : See below		
Cumulative impacts: Opportunity to up-grade and improve skills levels in the area.		
Indirect impacts: There are unlikely to be any indirect impacts.		
Residual impacts: Improved pool of skills and experience in the local area.		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended enhancement measures
In order to enhance local employment and business opportunities associated with the construction phase of the project the following measures should be implemented:

- The developer/s should appoint locally based contractors and builders and, where possible, source material from local suppliers;
- The developer/s in consultation with the appointed contractor/s should look to employ a percentage of the labour required for the construction phase from the local area in order to maximize opportunities for members from the local HD communities.

While the use of local building contractors and workers is recommended, it is recognised that a competitive tender process may not guarantee the employment of local companies and labour during the construction phase.

5.3.2 Safety, security and potential for increased crime

Based on experience the construction phase and the associated presence of construction workers is often associated with an increase in petty crime and theft. This is linked to the movement of construction workers on and off the site and the ability to monitor the movements of local-residents and take advantage of their absence from the property. Most of the crime is therefore opportunistic and linked to theft and house break-ins.

The site is located adjacent to established, quiet residential areas of Eden George, Loerie Park and Glenwood Small Holding Area. Based on comments from residents, current crime levels in these areas are low and traffic in the area is largely related to residents. The

presence of construction workers on the site does therefore pose a risk to the property owners that live in the area. These risks are exacerbated by the duration of the construction phase over an 8-10 year period. While measures can be taken to reduce the risk, it will not be possible to eliminate the risk.

Table 5.2: Assessment of risk posed by construction workers on safety and security

Nature: Potential safety and security risk posed by presence of construction workers on site		
	Without Mitigation	**With Mitigation**
Extent	Local (2)	Local (2)
Duration	Medium Term (3)	Medium Term (3)
Magnitude	Moderate (6)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	Medium (33)	Low (27)
Status	Negative	Negative
Reversibility	Limited risk of irreversible impacts	Limited risk of irreversible impacts
Irreplaceable loss of resources?	N/A	N/A
Can impact be mitigated?	Yes	Yes
Mitigation: See below		
Cumulative impacts: No		
Indirect impacts: There are unlikely to be any indirect impacts.		
Residual impacts: Include psychological effects associated with attacks or crime related events that may last for many years.		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
The developer and or contractors cannot be held responsible for the off-site, after-hours behaviour of all construction employees. However, the contractors appointed by the developer/s should ensure that all workers employed on the project are informed at the outset of the construction phase that any construction workers found guilty of theft will be dismissed and charged. All dismissals must be in accordance with South African labour legislation. In addition, the following mitigation measures are recommended:

- No construction workers, with exception of security personnel, should be allowed to stay on site overnight;
- Building contractors appointed by the developer must ensure that workers are transported to and from the site on a daily basis;
- Building contractors should ensure that the construction site area is fenced off and movement of construction workers to and from the site is monitored;
- Construction related activities should comply with all relevant building regulations. In this regard activities on site should be restricted to between 07h00 and 18h00 during weekdays and 08h00 and 13h00 on Saturdays. No work should be permitted after 13h00 on Saturdays and on Sundays or Public Holidays;

- Access the site during the construction phase should be via the two new access roads of Madiba Drive. Access to the site via Stander Road during the construction phase should be minimised.

5.3.3 Impact of construction related activities

Construction related activities can impact negatively on adjacent landowners and communities. The typical impacts include dust, noise and safety. The movement of construction traffic along Madiba Drive, Meyer Street and Stander Drive (depending on access) will poses safety risks to local road users and landowners located along these roads. Site clearing activities during the construction phase will also increase the risk of dust, specifically during dry, windy periods. Noise generated from construction related activities, such as earth moving equipment, cement mixers, etc., will also impact on adjacent properties. The properties that stand to be most affected by dust and traffic related impacts are the properties located along Meyer and Stander Road, and to a lesser degree Bokmakierie Road, to the west of the site. Properties along Madiba Drive between the intersection with Knysna Road would all be affected by construction traffic. The impacts associated with the construction related activities will extend over an 8-10-year period.

Based on the development proposal three access points to the development site are proposed, namely one of Stander Road (existing access) and two of Madiba Drive. The access of Stander Road would require vehicles to travel along Meyer Road. It will not be possible to avoid these impacts. However, it will be possible to reduce the impacts on the properties in Meyer and Stander Road by accessing the site from the proposed new access roads of Madiba Drive.

Table 5.3: **Assessment of the impacts associated with construction related activities**

Nature: Potential noise, dust and safety impacts associated with movement of construction related traffic to and from the site		
	Without Mitigation	**With Mitigation**
Extent	Local (2)	Local (2)
Duration	Medium Term (3)	Medium Term (3)
Magnitude	Moderate (6)	Low (4)
Probability	Probable (3)	Probable (3)
Significance	Medium (33)	Low (27)
Status	Negative	Negative
Reversibility	Yes	
Irreplaceable loss of resources?	N/A	N/A
Can impact be mitigated?	Yes	
Mitigation: See below		
Cumulative impacts: Traffic delays and increased dust during construction phase		
Residual impacts: No residual impacts		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures

- The movement of construction related traffic along Meyer and Stander Road should be minimised. This would entail constructing the two access roads of Madiba Drive at the start of construction phase;
- Construction related activities should comply with all relevant building regulations. In this regard activities on site should be restricted to between 07h00 and 18h00 during weekdays and 08h00 and 13h00 on Saturdays. No work should be permitted after 13h00 on Saturdays and on Sundays and Public Holidays;
- Dust suppression measures must be implemented for heavy vehicles such as wetting of the gravel access roads on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers.
- All vehicles must be road-worthy and drivers must be qualified, made aware of the potential road safety issues, and need for strict speed limits.
- The footprint area cleared for development should be minimised and dust suppression measures, such as spreading mulch over exposed areas, should be implemented. Details of the dust suppression measures should be listed in the EMP.

5.4 SOCIAL IMPACTS ASSOCIATED WITH OPERATIONAL PHASE

The key social issues affecting the operational phase include:

Potential positive impacts

- Promotion of George as an educational centre;
- Creation of employment opportunities;
- Support local economic development;
- Establish recreational spaces and community facilities;
- Opportunity to show case green building design and technology.

Potential negative impacts

- Impact on existing tertiary institutions;
- Impact on adjacent residential areas linked to noise, traffic anti-social behaviour of students etc;
- Impact on Garden Route Dam.

5.4.1 Promote George as an education centre

As indicated above, the IDP identifies the establishment of a George as an educational centre as a Strategic Goal (SG). In this regard the IDP notes:

- Identify an educational and research hub and to facilitate the continued growth of NMMU in George;
- Establish incubators, clusters and centres of excellence to contribute meaningfully to the demands of a growing economy. These centres can be linked to and benefit from the proposed university;
- Establish a Science Park. This can be linked to the proposed development of a university;
- Promote George as a sports tourism and business destination. The research from Stellenbosch has indicated that the University of Stellenbosch has contributed to establishing Stellenbosch as sports and business destination.

From a spatial perspective the George SDF notes that the development of George should reinforce George city's regional service centre role through attracting higher order, ***high***

quality education and health facilities, regional government administration and commercial headquarters. The proposed development therefore supports key planning documents and policies. The literature review also highlighted the benefits to towns associated with universities. The findings of the study undertaken by the Bureau of Research highlighted the contribution of the University of Stellenbosch (SU) to the local economy of Stellenbosch and the region. The study found that the SU contributed R5 billion to the economy in 2016 and sustained 13 406 jobs in the local economy. In addition, Stellenbosch and the local economy benefits from a wide range of university linked initiatives, including technological, sport and cultural initiatives. The study at the Potchefstroom campus of North-West University also confirmed the benefit of the university in terms of the local economy. The study also highlighted the importance of universities in terms of providing resilience against economic fluctuations. The findings of the literature review also indicated that:

- Universities are economic engines;
- Universities can change the face of a city;
- Universities attract global talent;
- Universities can build international connections;
- Universities help address societal challenges;
- Universities foster creativity and open debate;
- Higher education improves lives.

Universities therefore have a significant social and economic impact. The proposed development will therefore contribute towards the establishment of George as an educational centre. The establishment of the proposed educational facility is also likely to benefit existing schools and other tertiary institutions in George and the Eden District Municipality. It is also important to note that the low and semi-skilled workers are typically the main bread winners and support a household of 3 to 5. The creation of employment opportunities for low and semi-skilled workers will therefore support the livelihoods of these families, the majority of whom will be HDIs.

Table 5.4: Contribution to George as an education centre

Nature: Contribution to growth of George as an education centre		
	Without Mitigation	**With Enhancement**
Extent	Local – Regional (3)	Local – Regional (4)
Duration	Long-Term (4)	Long-Term (4)
Magnitude	Moderate (6)	High (8)
Probability	Probable (3)	Highly Probable (4)
Significance	Moderate (39)	High (64)
Status	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impact be enhanced?	Yes	
Enhancement : See below		
Cumulative impacts: Contribution to development of town as an education centre and associated benefits for the local economy.		
Residual impacts: Improved economic opportunities		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended enhancement measures
The development of the proposed education facility is supported. In addition, the developers should liaise closely with representatives from the other tertiary institutions and education facilities in George, the Department of Education and the GLM to identify ways to promote and enhance the development of the town as an education centre.

5.4.2 Creation of employment

Education facility
Rhodes University had approximately 8 000 students in 2018, of which close to 4 000 (50%) stayed in one of the 51 residences. The university employed 357 academic staff. Information on the number of non-academic staff could not be sourced, however, it is likely to be in the region of 500. Based on these figures the proposed George education facility has the potential to create between 600 and 800 full time employment opportunities when it is fully operational.

Hotel
The number of staff employed by the hotel will depend on the type of services provided. Based on industry data, the staff to room ratio can range from 0.5 staff per room up to 1.5 staff per room, or even higher. For example, an exclusive, full-service hotels staff that include a restaurant, 24-hour service, conference facilities, grounds to be maintained, spas etc. have ratios of around 1.5 employees per room[6]. For the purposes of the assessment it is assumed that the ratio will be 0.8 staff per room. Based on this figure a 100-room hotel has the potential to create ~ 80 employment opportunities. Most of the employment opportunities will benefit residents from the local community, the majority of whom will be HDIs. The majority, if not all, of the employment opportunities associated with hotels are also available to women.

Waterfront and commercial component
Restaurants, shops and shopping centres do create employment opportunities. The number of employment opportunities associated with the waterfront and commercial component will depend on the type of commercial activities that are established. For the purposes of the assessment it is assumed that the number of employment opportunities will be similar to hotel, namely 80-100.

Based on the above information, the total number of direct employment opportunities created during the operational phase of the development (educational facility, hotel and waterfront) would be in the region of 800-1 000. A significant number of the employment opportunities are likely to benefit Historically Disadvantaged Individuals (HDIs) from the local community. Given the high unemployment levels in the surrounding areas this would represent a positive social impact.

In addition to the direct employment opportunities the education facility, hotel and waterfront will also create a number of indirect employment opportunities linked to the provision of services, such as maintenance, security, and supplying materials, such as food, etc.

[6] http://biblio3.url.edu.gt/Libros/2012/check/1.pdf.

Residential component

Based on the information contained in the Aurecon Report (See Table 5.5), the total number of residential units that could be accommodated on site would be in the region of 3 312. Of this total 129 would be Single Residential Zone 1, 1 728 General Residential Zone IV, 174 General Residential Zone II and 1281 Community Zone I.

Table 5.5: Proposed number of dwelling units per zoning type

Zoning	Number of Dwelling Units
Community Zone I	1281
General Residential Zone II	174
General Residential Zone IV	1728
Single Residential Zone I	129
Maximum number of potential residential units that could be accommodated on site:	**3312**

Source: Aurecon

A percentage of the residents of the 129 would be Single Residential Zone (129), General Residential Zone IV (1 728) and General Residential Zone II (174) are likely to employ a domestic worker (cleaning or garden staff). Based on the information provided the residents of Community Zone I are likely to be students. It is assumed that cleaning services will be provided by the university. The employment opportunities are therefore covered above.

Based on the assumption that 60% of the Single Residential and 40% of the General Residential employ a domestic worker, this would create in the region of 800 employment opportunities. The majority of these opportunities are likely to benefit women HDIs.

It is also important to note that the low and semi-skilled workers are typically the main bread winners and support a household of 3 to 5. The creation of employment opportunities for low and semi-skilled workers will therefore support the livelihoods of these families, the majority of whom will be HDIs.

Table 5.6: Creation of employment opportunities during the operational phase

Nature: Creation of employment opportunities during the operational phase		
	Without Mitigation	**With Enhancement**
Extent	Local – Regional (2)	Local – Regional (3)
Duration	Long-Term (4)	Long-Term (4)
Magnitude	Moderate (6)	Moderate (6)
Probability	Probable (3)	Definite (5)
Significance	Medium (36)	High (65)
Status	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impact be enhanced?	Yes	
Enhancement: See below		
Cumulative impacts: Opportunity to up-grade and improve skills levels in the area.		
Residual impacts: Improved pool of skills and experience in the local area.		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended enhancement measures
The enhancement measures listed in Section 4.4.1, i.e. to enhance local employment opportunities during the construction phase, also apply to the operational phase.

5.4.3 Support local economic development

University related expenditure
The Rhodes 2018 Annual Report indicated that the total operating budget in 2018 was approximately R 320 million, and included costs such as electricity and water (R23 million), rates (R13 million), residence kitchen supplies (R40 million), advertising (R3 million), catering and entertainment (R5.6 million), security (R5 million) and repairs and maintenance (R 22 million). The operating budget for the proposed George educational facility is likely to be similar given the similar number of students.

Wages
The annual wage bill for academic and non-academic staff at Rhodes University in 2018 was R 685 million (R 300 million and R385 million respectively). The wage bill for the proposed George educational facility is therefore also likely to be in the region of R 650-700 million. A percentage of the wage bill will be spent in the local economy (rates and taxes, entertainment, maintenance, purchase of consumables and durable products etc.), which in turn will benefit local businesses. The study by the Bureau of Economic Research at the University of Stellenbosch found the staff spending has the biggest impact on the wholesale and retail sector, followed by the community and personal services and the business sector.

Student expenditure
Expenditure by students will also benefit local business. The study by the Bureau of Economic Research at the University of Stellenbosch found the student spending by the 32 003 registered students amounted to R 3 billion. The majority of was associated with

rent for accommodation, followed by expenditure on food from grocery stores / supermarkets and the cost of accommodation at university residence. Based on this figure the spending associated with 8 000 students at the proposed George educational facility would be in the region of R 750 million per annum. The proposed George education facility will therefore significantly benefit the local economy of George. This is supported by the findings of the research undertaken for Stellenbosch and the University of the North West (Potchestroom campus).

Table 5.7: Contribution to local economic development

Nature: Contribution to local economic development		
	Without Mitigation	**With Enhancement**
Extent	Local – Regional (2)	Local – Regional (3)
Duration	Long-Term (4)	Long-Term (4)
Magnitude	High (8)	High (8)
Probability	High Probable (4)	Definite (5)
Significance	Medium (56)	High (75)
Status	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impact be enhanced?	Yes	
Enhancement: See below		
Cumulative impacts: Contribution to local economy and tourism.		
Residual impacts: Improved economic development opportunities		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

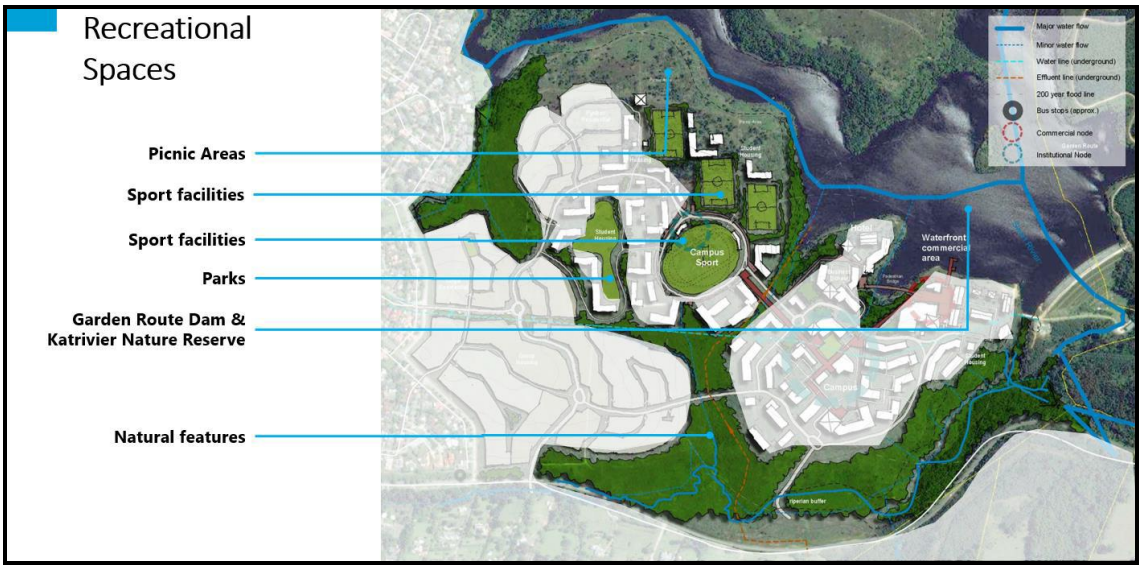
Recommended enhancement measures
The development of the proposed educational facility should be supported. In addition, the developers should liaise closely with representatives from the GLM, Eden District Municipality and George Chamber of Commerce and Business and other key stakeholders to identify ways in which opportunities for the local business sector can be enhanced.

5.4.4 Establishment of recreational spaces and community facilities

The development will include the provision of recreational spaces, including several sports fields in key locations around the site. This includes a campus sports oval that will be large enough to accommodate a cricket oval and or athletics track. This space can also be used to host events for the benefit of the broader public, such as concerts. The facilities will be open to public use at dedicated times (Figure 4.1). Landscaped public park areas within the site and along the edge of the dam will also be developed. These areas will be linked to each other via a system of trials. The proposed hotel and waterfront tourism and business precinct will also provide an attraction for the broader community.

The final layout will also be informed by the findings of the relevant specialist studies, including botanical and wetland studies. In this regard sensitive areas, such as the riparian areas will be maintained. The proposal also makes provision green belts and ecological

corridors which will also act as buffers (Figure 4.1). The proposed development therefore provides an opportunity to create a well-designed educational facility that is complimented by recreational open space system consisting of natural and open spaces, sports fields and parks. These spaces will be open to and accessible to the public and will therefore create an asset for George. Public access was a key issue raised by the George Sustainable City Forum. The presence of the educational facility and associated housing elements (student and normal housing) will also improve security on the site, which will make the use of the recreational open spaces more attractive. The educational facility is also likely to employ security personnel.



Source: Aurecon

Figure 4.1: Location of recreational and natural spaces

Table 5.8: Establishment of recreational spaces and community facilities

Nature: Establishment of recreational spaces and community facilities		
	Without Mitigation	**With Enhancement**
Extent	Local – Regional (2)	Local – Regional (3)
Duration	Long-Term (4)	Long-Term (4)
Magnitude	High (8)	High (8)
Probability	High Probable (4)	Definite (5)
Significance	Medium (56)	High (75)
Status	Positive	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impact be enhanced?	Yes	
Enhancement: See below		
Cumulative impacts: Increased pool of recreational spaces and community facilities		
Residual impacts: Increased pool of recreational spaces and community facilities		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended enhancement measures
The development of the proposed educational facility and associated recreational spaces and community facilities should be supported. In addition, the developers should liaise closely with representatives from local community groups and the GLM to identify ways in which opportunities for the local community can be enhanced.

5.4.5 Opportunity to showcase green building design and technology

The proposed education facility creates an opportunity to incorporate green (environmental sustainability) principles into the design, construction and operation of the proposed education facility. The green building movement addresses what are becoming the major issues of our time: excess energy consumption and the related CO2 emissions from burning carbon fuels; the pollution of air, water and land; the depletion of natural resources; and the disposal of waste. Green buildings are energy efficient, resource efficient and environmentally responsible. The comments submitted by the George Sustainable City Forum reflect and support a number of the key principles that underpin the concept of green buildings (Annexure E).

The Green Building Council South Africa notes that buildings are one of the main contributors to climate change. Building green is an opportunity to use resources efficiently and address climate change while creating healthier and more productive environments for people and communities. Green building incorporates design, construction and operational practices that significantly reduce or eliminate the negative impact of development on the environment and people.

This would not only represent a commitment to addressing challenges such as climate change but would also create a facility that could be used to showcase green (environmental sustainability) principles. In addition, it would create an opportunity to market the town of George.

Green Building Council South Africa lists several benefits associated with green buildings that are relevant to the proposed development[7].

- Green buildings have lower operating costs, are more efficient, future-proof, provide a higher rate of return and have been shown to promote wellness, healing and productivity. Research reveals that Green Star SA buildings enjoy energy savings of between 25% and 50% compared to buildings designed to SANS 204 standards. The payback periods of energy and water saving practices are becoming much shorter as a result of increasing utility costs and the wider availability of more affordable green building technology;
- Higher returns on assets. Extensive studies in the United States and Australia have shown rental rates in green buildings to be approximately 6% and 5% higher, respectively;
- Increased property values. Decreased operating costs, lease premiums and more competitive, less risky, future-proofed buildings contribute to the value of green buildings. This has been empirically proven in the United States and Australia with 11% and 12% valuation premiums, respectively.

[7] http://www.wecanchange.co.za/Profiles/GreenBuildingCouncilofSouthAfrica/tabid/754/Default.aspx

- Enhanced marketability. Green building creates a differentiated product in the market, which is viewed as technologically advanced and environmentally and socially responsible. These attributes are positively linked to the company brand and image of the owner and/or the tenant;
- Reduced liability and risk. Green buildings are future-proofed against increases in utility costs, potential energy and water supply problems, tightening legislation, carbon taxes and the impact of mandatory energy efficiency disclosure, as well as costly retrofits or even obsolescence;
- Retention of clients. Green buildings retain tenants;
- Responsible investing. Investment in green building is an integral part of the worldwide trend to more responsible, sustainable and ethical investing;
- Increases productivity. Improved internal environment quality (IEQ) from increased ventilation, temperature and lighting control, the use of natural light and the absence of toxic materials result in the improved health, comfort and wellbeing of building occupants. Studies show improvements in productivity of up to 20%.
- Attracting and retaining talent. Educated people, particularly younger graduates, are increasingly aware of sustainability and wellness issues and consequently, may be more attracted to working in a green environment;
- Combat climate change. Green building practices can have a significant impact on combating climate change and help to create truly sustainable communities.

Table 5.9: Showcase green building design and technology

Nature: Showcase green building design and technology		
	Without Mitigation[8]	**With Enhancement**
Extent	Local – Regional (2)	Local – Regional (3)
Duration	Long-Term (4)	Long-Term (4)
Magnitude	Moderate (6)	High (8)
Probability	Highly Probable (4)	Definite (5)
Significance	Medium (48)	High (75)
Status	Negative	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impact be enhanced?	Yes	
Enhancement : See below		
Cumulative impacts: Reduce impact on the environment		
Residual impacts: See cumulative impacts		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended enhancement measures
The design, construction and operation of the proposed educational facility should incorporate the principles of green buildings. This includes:

[8] Assumes green building principles are not applied

- Careful building design to reduce heat loads, maximising natural light and promoting the circulation of fresh air;
- Energy-efficient air conditioning and lighting;
- Using environmentally friendly, non-toxic materials;
- Reducing waste and using recycled materials;
- Water-efficient plumbing fittings and water harvesting;
- Using renewable energy sources;
- Sensitivity to the impact of the development on the environment.

5.4.6 Impact on existing tertiary educational facilities[9]

The potential impact on the NMU Saasveld campus was raised as an issue. In this regard the point was also made that the Saasveld campus should be expanded as opposed to developing another university that would potentially impact on the viability of the Saasveld campus. There is sufficient land available to expand the campus. In addition, the current capacity is 2 500 students, while there are only 1 500 students registered. Based on the discussions with representatives from the NMU Saasveld campus, while there are concerns about the potential impact of the proposed facility on the current and future operations at Saasveld, there was also recognition that the two facilities could complement and support each other. In this regard both facilities could offer different courses and degrees. The establishment of the proposed facility could also create an opportunity to physically link the two establishments and create a large, well located and attractive educational precinct. This could in turn also contribute towards positioning George as an attractive and sought-after centre of education. Linking the two facilities would also create an opportunity to make Saasveld more accessible to George and improve the current access of Madiba Drive. This would involve the construction of an access road over the Garden Route Dam wall. Therefore, while the proposed development may pose a risk to NMU Saasveld campus, the development also creates an opportunity for the two facilities to support and complement each other.

Table 5.10: Impact on NMU Saasveld campus

Nature: Potential impact on future development of Saasveld campus		
	Without Mitigation	**With Mitigation**
Extent	Local (1)	Local (1)
Duration	Long Term (4)	Long Term (4)
Magnitude	Low (4)	Moderate (6)
Probability	Probable (3)	Probable (3)
Significance	Low (27)	Medium (21)
Status	Negative	Positive
Reversibility	N/A	N/A
Irreplaceable loss of resources?	N/A	N/A
Can impact be mitigated?	Yes	
Mitigation: See below		
Cumulative impacts: Potential loss of students and lecturers		
Residual impacts: No residual impacts		

[9] The focus of the assessment is the NMU campus as Saasveld.

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
The proponents should liaise closely with representatives from NMU Saasveld campus to identify opportunities for the two facilities to support and complement each other and promote George as an education centre of excellence.

5.4.7 Impact on adjacent land uses

The key issues identified by residents from Eden George, Loerie Park and the Glenwood Small Holding Area and other interested and affected parties were linked to:

- Increase in traffic associated with the development;
- Impacts associated with behavior of students (noise, anti-social behavior, crime, social unrest and protests etc.);

Traffic impacts
The Traffic Impact Assessment (TIA) undertaken by SMEC (October 2019) considers a campus of 8 000 students, a waterfront development, hotel (345 rooms) and a residential component for 303 academic staff and 3 009 students. The TIA assumes that 50% of the development will be completed by 2024 and 100% by 2029 (in ten years).

The key findings of the TIA note:

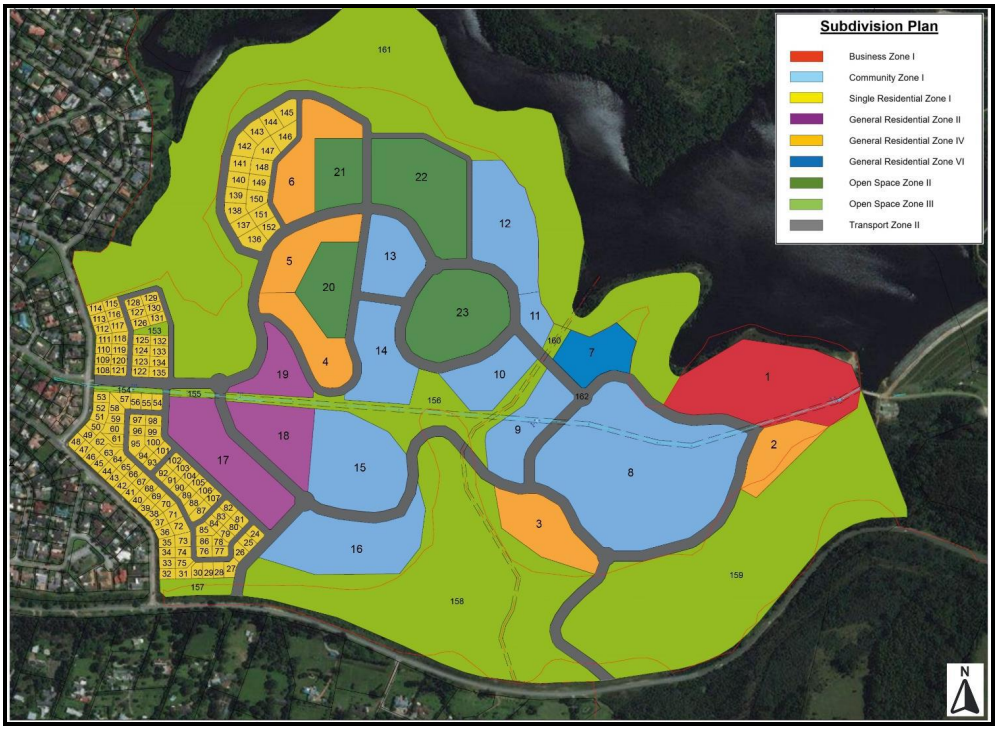
- The development of Kraaibosch and the proposed campus would be supported by roll out of the George Integrated Public Transport Network;
- The design of the campus focused on pedestrian accessibility and mobility;
- Phase 1 of the development (50% in first 5 years) would generate 758 and 1 483 new vehicle trips during the weekday AM and PM peak hours respectively;
- Phase 2 (final 50% by 2029) would generate 1 480 and 2 763 new vehicle trips during the weekday AM and PM peak hours respectively. The development will therefore result in a significant increase in the volume of traffic in the area.

Based on these findings the TIA notes no transport (road) improvements are required for the first phase (2024). For the second phase (2029) the TIA notes that the Saasveld (Madiba Drive) Road and Meyer Road intersection should be developed as a roundabout with one circulating lane. The development also includes two new accesses of Madiba Drive to the east of the intersection with Meyer Road.

The concerns raised by residents indicate that Madiba Drive has a "rural character" and is used by runners and cyclists. The increase in traffic will significantly increase the safety risks along Madiba Drive. In addition, the single residential units located along Meyer and Stander Road will all require direct access onto these roads (see Figure 4.2). Vehicles associated with these units are also likely to park on Meyer and Stander Roads. This will exacerbate the traffic and safety risks along Meyer and Stander Roads. Concerns were raised that this would in turn impact on property values.

Traffic delays are also associated with the Glenwood House School, located in Glenwood Avenue. The delays are associated with drop of and pick up times and linked to the traffic lights at the intersection with Madiba Drive and Glenwood Avenue. The traffic associated with the development is likely to exacerbate the traffic delays.

Based on the findings of the TIA the development will result in a significant increase in the volume of traffic in the area. This will result in increased congestion and delays. It will not be possible to fully mitigate these impacts.



Source: Aurecon

Figure 4.2: Single residential properties along Meyer and Stander Road are located on eastern (left) section of the plan in yellow

Table 5.11: **Assessment of the traffic impacts**

Nature: Impacts (congestion, safety, noise) associated with increased traffic volumes		
	Without Mitigation	**With Mitigation**
Extent	Local (2)	Local (1)
Duration	Long Term (4)	Long Term (4)
Magnitude	Medium (6)	Medium (6)
Probability	Highly Probable (4)	Highly Probable (4)
Significance	Medium (48)	Medium (44)
Status	Negative	Negative
Reversibility	Yes	Yes
Irreplaceable loss of resources?	N/A	N/A
Can impact be mitigated?	Yes	
Mitigation: See below		
Cumulative impacts: Increase in traffic and noise		
Residual impacts: No residual impacts		

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
The TIA recommendations should be implemented. In addition:

- The establishment of the single residential units along Meyer and Stander Road should be reconsidered. The option of removing the erfs located along Meyer and Stander Road should be considered. This would provide a buffer between the development and the existing houses. Access to units associated with the development would also be from internal roads and not directly of Meyer and Stander Road;
- If this is not feasible, the option of reducing the number of units locate along Meyer and Stander Road should be considered. The erf sizes should be similar to the existing erf sizes along Meyer and Stander Road;
- Access to the development from Stander Road should be reconsidered and or restricted.

Impacts associate with behaviour of students
The proposed development will accommodate 8 000 students, of which approximately 3 000 – 4 000 will be accommodated in student accommodation on site. Experience has shown that the behavior of students can impact negatively on other residents. This is linked to noise, anti-social behavior and crime. In addition, in recent years there has been an increase in social unrest and protests at several tertiary institutions in South Africa. This has resulted in the destruction and damage of private and public property. This is a major concern for the residents of Loerie Park, Eden George and Glenwood. These areas are established, quiet, middle to upper income residential areas. The behavior of students and the potential risk they pose to the current qualify of life of the residents that live in the vicinity of the site and property values is therefore a key issue.

However, it is also important to note that the property values in suburbs located in relatively close proximity to the University of Cape Town, such as Observatory, Mowbray, Rosebank and Rondebosch, are not negatively impacted by the presence of students. Residents in these areas live in and amongst students who rent houses and apartments. This is not to say that the students do not occasionally disturb residents with late night parties and noisy, anti-social behavior. However, it appears that they have not had a negative impact on property values in these areas. In fact, demand for student accommodation has inflated rental prices in these areas. The same applies to Stellenbosch. However, there are also examples from other towns in South Africa, such as Bloemfontein, where property values in the vicinity of the university have been negatively impacted by students.

The proposed development does create an opportunity to establish a well-designed, green facility, that is well maintained and includes managed recreational public spaces, sports fields, biking and hiking trails etc. This has the potential to have a positive impact on local property values. However, a poorly managed and maintained facility, where student protests and unrest is a common occurrence is likely to have a negative impact on property values.

It is therefore not possible to predict with any degree of certainty what the impact of the establishment of the proposed educational facility will have on property values in the adjacent area will have. A significance rating has therefore not been assigned.

Assessment of No-Go option
There is no impact as it maintains the current status quo.

Recommended mitigation measures
The recommendations identified for the traffic related impacts would also assist with addressing the potential impacts on adjacent properties. Specifically:

- The option of removing the erfs located along Meyer and Stander Road. This would provide a buffer between the development and existing houses. Access to units associated with the development would also be from internal roads and not directly of Meyer and Stander Road;
- Restricting access to the development from Stander Road.

5.4.8 Impact on Garden Route Dam

The development of the land in the catchment area of the Garden Route Dam will pose a potential pollution threat to the water supply of the George. Given the importance of the Garden Route Dam as the main water supply for George this represents a key risk. A threat to this key resource also represents key social issue. A Freshwater Habitat Assessment has been undertaken as part of the EIA process (Sharples, 2019). The findings of the study indicate that the most severe potential impacts associated with the development will likely be habitat disturbance/loss and erosion and sedimentation as a result of new road and pipeline crossings and stormwater runoff. The findings also indicate that the transformed land surface will promote increased volumes and velocities of storm water runoff, which can be detrimental to the watercourses receiving concentrated flows off the area, including the Garden Route Dam. Water pollution without effective mitigation is rated a **High Negative**. With mitigation the rating is **Low Negative**. The mitigation measures are listed in the report. A Stormwater Management Plan has also been prepared by Aurecon (July 2019).

5.5 ASSESSMENT OF NO-DEVELOPMENT OPTION

The No-Development option would represent a lost opportunity for the local and regional economy. The lost opportunity relates to the employment and investment opportunities associated with the construction and operational phase, as well as the benefits associated with promoting George as an education centre and attracting new visitors and residents to the town. Therefore, despite the potential negative impacts on the residential areas in the vicinity of the site, the no-development option is therefore not supported.

Table 5.12: Assessment of no-development option

Nature: The no-development option would result in the lost opportunity for the local economy		
	Without Mitigation[10]	**With Enhancement[11]**
Extent	Local-Regional (3)	Local-Regional (3)
Duration	Long term (4)	Long term (4)
Magnitude	Moderate (6)	High (8)
Probability	Highly Probable (4)	Highly Probable (4)
Significance	Medium (52)	High (60)
Status	Negative	Positive
Reversibility	Yes	
Irreplaceable loss of resources?	No	
Can impact be mitigated?	Yes	
Enhancement: See below		
Cumulative impacts: Negative, linked to lost opportunity for the local economy		
Residual impacts: See cumulative impacts		

Recommended enhancement measures
The establishment of the proposed facility is supported.

[10] Assumes that no development takes place
[11] Assumes development takes place

SECTION 6: KEY FINDINGS AND RECOMMENDATIONS

6.1 INTRODUCTION

Section 6 lists the key findings of the study and recommendations. These findings are based on:

- A review of key planning and policy documents pertaining to the area;
- Semi-structured interviews with interested and affected parties;
- Review of relevant studies and literature;
- The experience of the authors with the area and other similar projects.

6.2 SUMMARY OF KEY FINDINGS

The key findings of the study are summarised under the following sections:

- Fit with policy and planning;
- Construction phase impacts;
- Operational phase impacts;
- No-development option.

6.2.1 Policy and planning issues

Policy review
The key role of education is highlighted National Development Plan 2030 (2011). Chapter 9, Improving Education, Training and Innovation, outlines the key role played by education and supports the establishment of the proposed education facility in George. The NDP notes that by 2030, South Africa needs an education system that includes an *expanded higher-education sector* that can contribute to rising incomes, higher productivity and the shift to a more knowledge-intensive economy. The NDP notes that the single most important investment any country can make is in its people. The aim of the NDP is that by 2030 one in six people will be a university graduate. This is one of the strongest indicators of expanding access to university education. The NDP also highlights the importance and role of universities as centres of excellence and research and development.

The establishment of an education facility is also supported at a local level. The George Integrated Development Plan identifies 5 Strategic Goal (SG). Linked to the SGs are a number of Departmental Objectives, of which the following support the proposed development: are relevant to the proposed development.

- Identify an educational and research hub and to facilitate the continued growth of NMMU in George;
- Create and facilitate an enabling environment for economic development in George;
- Establish incubators, clusters and centres of excellence to contribute meaningfully to the demands of a growing economy. These centres can be linked to and benefit from the proposed university;
- Establish a Science Park. This can be linked to the proposed development of a university;

- Promote George as a sports tourism and business destination. The research from Stellenbosch has indicated that the University of Stellenbosch has contributed to establishing Stellenbosch as sports and business destination;

From a spatial perspective the George SDF notes that the development of George should reinforce George city's regional service centre role through attracting higher order, ***high quality education*** and health facilities, regional government administration and commercial headquarters.

Case study review
A study undertaken by the Bureau of Research in 2018 highlighted the key contribution of the University of Stellenbosch (SU) to the local economy of Stellenbosch and the region. In addition, Stellenbosch and the local economy benefits from a wide range of university linked initiatives, including technological, sport and cultural initiatives. The study at the Potchefstroom campus of North-West University also confirmed the benefit of the university in terms of the local economy. The study also highlighted the importance of universities in terms of providing resilience against economic fluctuations.

6.2.2 Construction phase

The key social issues associated with the construction phase include:

Potential positive impacts
- Creation of employment and business opportunities.

Employment
Based on experience from similar projects the total number of employment opportunities would be in the region of 1 800 per annum for a period of 8 years. Approximately 45% (810) of the employment opportunities will be available for low skilled workers, 45% (810) semi-skilled workers and 180 (10%) for skilled workers. Most of the employment opportunities associated with the low and semi-skilled categories will be taken up by Historically Disadvantaged Individuals (HDIs).

It is also important to note that the low and semi-skilled workers are typically the main bread winners and support a household of 3 to 5. The creation of 1620 employment opportunities for low and semi-skilled workers will therefore support the livelihoods of 4 860 to 8 100 members of the local community. The majority will be HDIs.

The total wage bill for the project will approximately R 2 billion (2019 rand values) of which R 1.5 billion (78%) will be earned by low and semi-skilled workers. Most of the total wage bill for the construction phase will therefore be earned by HDIs. This represents a significant socio-economic benefit. Most of the wage bill will also be spent locally and will therefore benefit the local George economy

Business opportunities
The total capital expenditure associated with the proposed educational facility and associated housing component will be in the region of R 2-3 billion (2019 rand values). Most of the work associated with the construction phase is likely to be undertaken by local contractors and builders. The proposed development will therefore represent a positive benefit for the local construction and building sector in George and the Garden Route. Most of the building materials associated with the construction phase will be sourced from locally based suppliers in George. This will represent a positive injection of capital into the local economy. The proposed development would therefore represent a significant opportunity for

the local construction and building sector. The project will also benefit professionals involved in the construction sector, including quantity surveyors, engineers, and architects.

Potential negative impacts

- Risks to local social networks posed by construction workers;
- Security and safety risks posed by construction workers to local residents;
- Noise, dust and safety impacts associated with construction related activities and the movement of heavy vehicles.

The significance of the potential negative impacts with mitigation was assessed to be of **Low Negative** significance. All the potential negative impacts can therefore be effectively mitigated if the recommended mitigation measures are implemented. Table 6.1 summarises the significance of the impacts associated with the construction phase.

Table 6.1: Summary of social impacts during construction phase

Impact	Significance No Mitigation	Significance With Enhancement /Mitigation
Creation of employment and business opportunities	Medium (+)	High (+)
Threat posed by workers to safety and security	Medium (-)	Low (-)
Impact of construction related activities (dust, noise, safety etc.)	Medium (-)	Low (-)

6.2.3 Operational phase

The key social issues associated with the operational phase include:

Potential positive impacts

- Promotion of George as an educational centre;
- Creation of employment opportunities;
- Support local economic development;
- Establishment of recreational spaces and community facilities;
- Opportunity to show case green building design and technology.

Potential negative impacts

- Impact on existing tertiary institutions;
- Impact on adjacent residential areas linked to noise, traffic anti-social behaviour of students etc;
- Impact on Garden Route Dam.

Promote George as an education centre

The IDP identifies the establishment of a George as an educational centre as a Strategic Goal (SG). From a spatial perspective the George SDF notes that the development of George should reinforce George city's regional service centre role through attracting higher order, ***high quality education*** and health facilities, regional government administration and commercial headquarters. The proposed development therefore supports key planning documents and policies.

The literature review also highlighted the benefits to towns associated with universities. The proposed development will therefore contribute towards the establishment of George as an educational centre. The establishment of the proposed educational facility is also likely to

benefit existing schools and other tertiary institutions in George and the Eden District Municipality.

Create employment opportunities
The proposed George education facility has the potential to create between 600 and 800 full time employment opportunities when it is fully operational. The hotel and the associated waterfront precinct will create in the region of 200 employment opportunities. In addition to the direct employment opportunities the education facility, hotel and waterfront will also create a number of indirect employment opportunities linked to the provision of services, such as maintenance, security, and supplying materials, such as food, etc.

The residential component has the potential to create region of 800 employment opportunities for domestic workers. The majority of opportunities are likely to benefit women HDIs. Low and semi-skilled workers are typically the main bread winners and support a household of 3 to 5. The creation of employment opportunities for low and semi-skilled workers will therefore support the livelihoods of 2 400-4 000 members of the local community, the majority of whom will be HDIs.

Support local economic development
Annual university expenditure is estimated to be in the region of R 320 million. This will be spent on items such as electricity and water, rates, kitchen supplies, catering and entertainment, security and repairs and maintenance and will benefit the local economy. The annual wage bill for the proposed George educational facility is estimated to be in the region of R 650-700 million. A percentage of the wage bill will be spent in the local economy (rates and taxes, entertainment, maintenance, purchase of consumables and durable products etc.), which in turn will benefit local businesses. Based on the study by the Bureau of Economic Research at the University of Stellenbosch the expenditure by 8 000 students, including accommodation, food etc., is estimated to be in the region of R 750 million per annum. The proposed George education facility will therefore significantly benefit the local economy of George.

Establishment of recreational spaces and community facilities
The proposed development provides an opportunity to create a well-designed educational facility that is complimented by a recreational open space system consisting of natural and open spaces, sports fields and parks. These spaces will be open to and accessible to the public and will therefore create an asset for George. The presence of the educational facility and associated housing elements (student and normal housing) will also improve security on the site, which will make the use of the recreational open spaces more attractive. The educational facility is also likely to employ security personnel.

Opportunity to showcase green building design and technology
The proposed education facility creates an opportunity to incorporate green (environmental sustainability) principles into the design, construction and operation of the proposed education facility. Green buildings are energy efficient, resource efficient and environmentally responsible. This would not only represent a commitment to addressing challenges such as climate change but would also create a facility that could be used to showcase green (environmental sustainability) principles. In addition, it would create an opportunity to market the town of George.

Potential negative impacts
- Impact on existing tertiary institutions;
- Impact on adjacent residential areas linked to noise, traffic anti-social behaviour of students etc;

- Impact on Garden Route Dam (water quality).

Impact on existing tertiary institutions
Based on the discussions with representatives from the NMU Saasveld campus, while there are concerns about the potential impact of the proposed facility on the current and future operations at Saasveld, there was also recognition that the two facilities could complement and support each other. This could in turn contribute towards positioning George as an attractive and sought-after centre of education.

Impact on adjacent residential areas
The key issues identified by residents from Eden George, Loerie Park and the Glenwood Small Holding Area and other interested and affected parties were linked to:

- Potential impact on water quality in Garden Route Dam and implications for George water supply;
- Increase in traffic associated with the development and associated congestion, safety etc. impacts;
- Impacts associated with behavior of students (noise, anti-social behavior, crime, social unrest and protests etc.) and potential impacts on quality of life and property values;

Traffic impacts
The findings of the TIA indicate that the development will result in a significant increase in the volume of traffic in the area. Phase 1 of the development (50% in first 5 years) would generate 758 and 1 483 new vehicle trips during the weekday AM and PM peak hours respectively. Phase 2 (final 50% by 2029) would generate 1 480 and 2 763 new vehicle trips during the weekday AM and PM peak hours respectively. This will result in increased congestion and delays. It will not be possible to fully mitigate these impacts.

Based on the findings of the TIA no transport (road) improvements are required for the first phase (2024). For the second phase (2029) the TIA notes that the Saasveld (Madiba Drive) Road and Meyer Road intersection should be developed as a roundabout with one circulating lane. The development also includes two new accesses of Madiba Drive to the east of the intersection with Meyer Road.

The concerns raised by residents indicate that Madiba Drive has a "rural character" and is used by runners and cyclists. The increase in traffic will significantly increase the safety risks. In addition, the single residential units located along Meyer and Stander Road will all require direct access onto these roads. Vehicles associated with these units are also likely to park on Meyer and Stander Roads. This will exacerbate the traffic and safety risks along Meyer and Stander Roads.

Traffic delays are also associated with the Glenwood House School, located in Glenwood Avenue. The delays are associated with drop of and pick up times and linked to the traffic lights at the intersection with Madiba Drive and Glenwood Avenue. The traffic associated with the development will exacerbate the traffic delays. These issues do not appear to be addressed by the TIA.

Impacts associate with behaviour of students
The proposed development will accommodate 8 000 students, of which approximately 3 000 – 4 000 will be accommodated in student accommodation on site. Experience has shown that the behavior of students can impact negatively on other residents. This is linked to noise, anti-social behavior and crime. In addition, in recent years there has been an increase in social unrest and protests at several tertiary institutions in South Africa. This has

resulted in the destruction and damage of private and public property. This is a major concern for the residents of Loerie Park, Eden George and Glenwood. These areas are established, quiet, middle to upper income residential areas. The behavior of students and the potential risk they pose to the current qualify of life of the residents that live in the vicinity of the site and property values is therefore a key issue.

A well-designed, green facility, that is well maintained and includes managed open and public spaces, sports fields, biking and hiking trails etc., has the potential to have a positive impact on local property values. However, a poorly managed and maintained facility, where student protests and unrest is a common occurrence is likely to have a negative impact on property values. It is not possible to predict with any degree of certainty what the impact of the establishment of the proposed educational facility will have on property values in the adjacent area will have. A significance rating has therefore not been assigned.

Impact on Garden Route Dam

The development of the land in the catchment area of the Garden Route Dam will pose a potential pollution threat to the water supply of the George. Given the importance of the Garden Route Dam as the main water supply for George this represents a key risk. A threat to this key resource also represents key social issue. A Freshwater Habitat Assessment has been undertaken as part of the EIA process (Sharples, 2019). The findings of the study indicate that increased volumes and velocities of storm water runoff, will impact on watercourses receiving concentrated flows off the area, including the Garden Route Dam. Water pollution without effective mitigation is rated a **High Negative**. With mitigation the rating is **Low Negative**. The mitigation measures are listed in the report. A Stormwater Management Plan has also been prepared by Aurecon (July 2019).

The significance of the impacts associated with the operational phase are summarised in Table 6.2.

Table 6.2: Summary of social impacts during operational phase

Impact	Significance No Mitigation	With Enhancement /Mitigation
Promote George as an education centre	Medium (+)	High (+)
Create employment opportunities	Medium (+)	High (+)
Promote local economic development	Medium (+)	High (+)
Establishment of recreational spaces and community facilities	Medium (+)	High (+)
Showcase green building design and technology	Medium (+)	High (+)
Impact on existing educational facilities	Low (-)	Medium (+)
Impact on adjacent residential areas linked to traffic	Medium (-)	Medium (-)
Impact of student behaviour on quality of life and property values	Significance rating not assigned	Significance rating not assigned
Impact on Garden Route Dam (water quality)	High (-)	Low (-)

6.2.4 Assessment of no-development option

The No-Development option would represent a lost opportunity for the local and regional economy. The lost opportunity relates to the employment and investment opportunities

associated with the construction and operational phase, as well as the benefits associated with promoting George as an education centre and attracting new visitors and residents to the town. Therefore, despite the potential negative impacts on the residential areas in the vicinity of the site, the no-development option is therefore not supported.

6.3 CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The findings of the SIA indicate that the proposed George educational facility is supported by National, Provincial and Local policy and planning documents. The establishment of the proposed facility also supports the George SDF, which notes that the development of George should reinforce George city's regional service centre role through attracting higher order, ***high quality education.*** The construction and operational phase of the proposed development will also create social and economic benefits for George and the local economy. These include the creation of employment and business opportunities during both the construction and operational phase, and the promotion of economic development. The proposed development also provides an opportunity to create a well-designed educational facility that is complimented by a recreational open space system consisting of natural and open spaces, sports fields and parks. The findings of the SIA also highlight the benefits of universities to small towns, such as George.

The potential negative impacts are largely confined to the immediately adjacent residential areas of Eden George, Loerie Park and the Glenwood Small Holding Area. These impacts relate to the increase in traffic and the potential risks posed by the behaviour of students on the quality of life in these areas. Although these impacts cannot be fully mitigated there are localised. The benefits on the other hand benefit the broader George economy and community. The establishment of the proposed George educational facility on the Remainder of Erf 464, George, is therefore supported by the findings of the SIA.

Recommendations

- The establishment of the single residential units along Meyer and Stander Road should be reconsidered. The option of removing the erfs located along Meyer and Stander Road should be considered. This would provide a buffer between the development and the existing houses. Access to units associated with the development would also be from internal roads and not directly of Meyer and Stander Road;
- If this is not feasible, the recommended that the development be designed to reduce the number of units locate along Meyer and Stander Road. The erf sizes should be similar to the existing erf sizes along Meyer and Stander Road;
- Access to the development from Stander Road should be reconsidered and or restricted.

ANNEXURE A: LIST OF SOURCES

INTERVIEWS

- Delia Power, George Municipality, 20/08/2019;
- Rudolf Schröder, Aurecon, 20/08/2019;
- Dr Dennis Farrel: George Business Chamber, 10/09/2019;
- Professor Rob Fincham: NMU, Saarsveld campus and George Sustainable City Forum, 10/09/2019
- Mr Stephen Stead, George Sustainable City Forum, 10/09/2019;
- Anton Schmidt, NMU, Saarsveld campus, 10/09/2019;
- Joshua Louw, NMU, Saarsveld campus, 10/09/2019
- Bianca Currie, NMU, Saarsveld campus, 10/09/2019;
- Marin Loubser, NMU, Saarsveld campus, 10/09/2019;
- Mr Hennie Pienaar, property owner, Glenwood, 10/09/2019
- Mrs Debbie Pienaar, property owner, Glenwood, 10/09/2019;
- Mr Wagner de Bruin, property owner, Glenwood, 10/09/2019;
- Jackie Dabrowski, 11/09/2019;
- Keith Eden, property owner, Eden George, 11/09/2019;
- Ken Pearce, property owner, Eden View, 11/09/2019;
- Johann de la Rey, property owner, Eden View, 11/09/2019;
- Sonja Wolfaard, property owner, Eden View, 11/09/2019;
- John Pierce, Wilderness Ratepayers' Association, 12/09/2019;
- Chris Hall, property owner, Loerie Park, 4/10/2019.

A Background Information Document was e-mailed to Joan Steenkamp, Glenwood Conservancy.

REFERENCES

- Aurecon, Motivation Report, Proposed Rezoning and Subdivision of Remainder of Erf 464, George (July 2019);
- Aurecon, Stormwater Manage Plan for Proposed Rezoning and Subdivision of Remainder of Erf 464, George (July 2019);
- Bureau of Economic Research: Economic impact assessment of Stellenbosch University on the local municipal area (February 2018)
- Dyason, D. & Kleynhans, E.P.J., 2017, 'A university in a small city: Discovering which sectors benefit', *Acta Commercii* 17(1), a513. https://doi.org/10.4102/ ac.v17i1.513
- George Municipality Integrated Development Plan 2017-2018;
- George Municipality Spatial Development Framework (2018);
- National Environmental Management Act (Act 107 of 1998);
- National Development Plan (2030);
- Rhodes University Annual Report, 2018;
- Sharples Environmental Services, Freshwater Habitat Assessment, development of Remainder of Erf 464, George (September 2019);
- SMEC, Traffic Impact Assessment Proposed George Campus (October 2019);
- Sol Plaatje University Annual Report, 2017;
- Western Cape Provincial Spatial Development Framework (2014);
- Spatial Planning and Land Use Management Act of 2013 (SPLUMA) (Act 16 of 2013).

ANNEXURE B

METHODOLOGY FOR THE ASSESSMENT OF POTENTIAL IMPACTS

Direct, indirect and cumulative impacts of the above issues, as well as all other issues identified will be assessed in terms of the following criteria:

- The **nature**, which shall include a description of what causes the effect, what will be affected and how it will be affected.
- The **extent**, where it will be indicated whether the impact will be local (limited to the immediate area or site of development), regional, national or international. A score between 1 and 5 will be assigned as appropriate (with a score of 1 being low and a score of 5 being high).
- The **duration**, where it will be indicated whether:
  - the lifetime of the impact will be of a very short duration (0–1 years) – assigned a score of 1;
  - the lifetime of the impact will be of a short duration (2-5 years) - assigned a score of 2;
  - medium-term (5–15 years) – assigned a score of 3;
  - long term (> 15 years) - assigned a score of 4; or
  - permanent - assigned a score of 5.
- The **magnitude**, quantified on a scale from 0-10, where a score is assigned:
  - 0 is small and will have no effect on the environment;
  - 2 is minor and will not result in an impact on processes;
  - 4 is low and will cause a slight impact on processes;
  - 6 is moderate and will result in processes continuing but in a modified way;
  - 8 is high (processes are altered to the extent that they temporarily cease); and
  - 10 is very high and results in complete destruction of patterns and permanent cessation of processes.
- The **probability** *of occurrence*, which shall describe the likelihood of the impact actually occurring. Probability will be estimated on a scale, and a score assigned:
  - Assigned a score of 1–5, where 1 is very improbable (probably will not happen);
  - Assigned a score of 2 is improbable (some possibility, but low likelihood);
  - Assigned a score of 3 is probable (distinct possibility);
  - Assigned a score of 4 is highly probable (most likely); and
  - Assigned a score of 5 is definite (impact will occur regardless of any prevention measures).
- The **significance**, which shall be determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high.
- The **status**, which will be described as either positive, negative or neutral.
- The *degree* to which the impact can be *reversed*.
- The *degree* to which the impact may cause *irreplaceable loss of reso*urces.
- The *degree* to which the impact can be *mitigated.*

The **significance** is determined by combining the criteria in the following formula:

S=(E+D+M)P; where

S = Significance weighting
E = Extent
D = Duration
M = Magnitude
P = Probability

The **significance weightings** for each potential impact are as follows:

- < 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- > 60 points: High (i.e. where the impact must have an influence on the decision process to develop in the area).

ANNEXURE C: CV

Tony Barbour
ENVIRONMENTAL CONSULTING AND RESEARCH

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(Tel) 27-21-761 2355 - (Fax) 27-21-761 2355 - (Cell) 082 600 8266
(E-Mail) tbarbour@telkomsa.net

Tony Barbour's experience as an environmental consultant includes working for ten years as a consultant in the private sector followed by four years at the University of Cape Town's Environmental Evaluation Unit. He has worked as an independent consultant since 2004, with a key focus on Social Impact Assessment. His other areas of interest include Strategic Environmental Assessment and review work.

EDUCATION

- BSc (Geology and Economics) Rhodes (1984);
- B Economics (Honours) Rhodes (1985);
- MSc (Environmental Science), University of Cape Town (1992)

EMPLOYMENT RECORD

- Independent Consultant: November 2004 – current;
- University of Cape Town: August 1996-October 2004**:** Environmental Evaluation Unit (EEU), University of Cape Town. Senior Environmental Consultant and Researcher;
- Private sector: 1991-August 2000: 1991-1996**:** Ninham Shand Consulting (Now Aurecon, Cape Town). Senior Environmental Scientist; 1996-August 2000: Steffen, Robertson and Kirsten (SRK Consulting) – Associate Director, Manager Environmental Section, SRK Cape Town.

LECTURING

- University of Cape Town: Resource Economics; SEA and EIA (1991-2004);
- University of Cape Town: Social Impact Assessment (2004-current);
- Cape Technikon: Resource Economics and Waste Management (1994-1998);
- Peninsula Technikon: Resource Economics and Waste Management (1996-1998).

RELEVANT EXPERIENCE AND EXPERTISE

Tony Barbour has undertaken in the region of 200 SIA's, including SIA's for infrastructure projects, dams, pipelines, and roads. All of the SIAs include interacting with and liaising with affected communities. In addition he is the author of the Guidelines for undertaking SIA's as part of the EIA process commissioned by the Western Cape Provincial Environmental Authorities in 2007. These guidelines have been used throughout South Africa.

Tony was also the project manager for a study commissioned in 2005 by the then South African Department of Water Affairs and Forestry for the development of a Social Assessment and Development Framework. The aim of the framework was to enable the Department of Water Affairs and Forestry to identify, assess and manage social impacts associated with large infrastructure projects, such as dams. The study also included the development of guidelines for Social Impact Assessment, Conflict Management, Relocation and Resettlement and Monitoring and Evaluation.

Countries with work experience include South Africa, Namibia, Angola, Botswana, Zambia, Lesotho, Swaziland, Ghana, Mozambique, Mauritius, Kenya, Ethiopia, Oman, South Sudan and Sudan.

ANNEXURE D

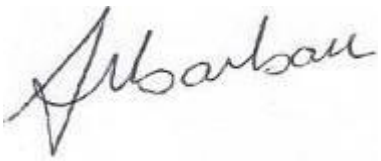
DECLARATION OF INDEPENDENCE

The specialist declaration of independence in terms of the Regulations_

I, Tony Barbour, declare that -- General

declaration:

I act as the independent specialist in this application;
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
I declare that there are no circumstances that may compromise my objectivity in performing such work;
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
I will comply with the Act, Regulations and all other applicable legislation;
I have no, and will not engage in, conflicting interests in the undertaking of the activity;
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
all the particulars furnished by me in this form are true and correct; and
I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the specialist:

Tony Barbour Environmental Consulting and Research

Name of company (if applicable):

31 October 2019

Date:

ANNEXURE E

George Sustainable City Forum
Unit 21 Harry Mann Square
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South Africa
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PRELIMINARY STATEMENT

Proposed George Dam Campus Development

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ABOUT THE FORUM

In principle, the Forum is not opposed to this development. However, recognising the significant risks to long-term social and ecological well-being associated with inappropriate development, the Forum is committed to actively working towards ensuring that development is undertaken as a transparent, socially inclusive and collaborative process working along sustainable land management principles and practice. Sustainable land management (SLM) is defined in the recent IPCC Special Report on Climate Change and Land (SRCCL) report as the "stewardship and use of land resources, including soils, water, animals and plants, to meet changing human needs, while ***simultaneously*** ensuring the long-term productive potential of these resources and the maintenance of their environmental functions" (IPCC, 2019, p. 24). The following recommendations are to assist the development to align with socio-ecologically informed design principles.

BACKGROUND ISSUES: Climate Change, Rapid Urbanisation and Ecological Integrity

Climate Change as a reference point

The significant risks of climate change have been brought into stark focus with the recent United Nations Intergovernmental Panel on Climate Change Special Report on Global Warming of 1.5°C[i] which highlights climate change as an existential risk to civilisation as we know it. Managing our land use and land use change has never been more important to ensure that we can achieve a low carbon footprint. A recent study by Bronson Griscom and colleagues, on Natural Climate Solutions (NCS)[ii], defines NCS as focusing on terrestrial conservation, its restoration, as well as improved practices that result in benefits for food, fibre, and habitat. These interventions result in increased carbon storage and/or avoid greenhouse gas emissions across landscapes such as our global forests, wetlands, grasslands, and agricultural lands. While this is not a stand-alone mitigation and also requires carbon reduction planning and practices, the concept does allow for cost effective, enhanced sequestration of carbon in the near term, as well as increasing resilience against extreme climatic events. Natural Climate Solutions have the potential to provide over a third of the cost-effective climate mitigation needed between the present and 2030 to

stabilize warming to below 2 °C. Critically, the study advocates improved stewardship of land as confusion remains about the land stewardship options available and their mitigation possibilities. With respect to long-term improved land stewardship within the George Municipality, the following issues are noted:

Preliminary Recommendations Regarding Socio-Ecologically Informed Design

Densification

Densification is a key motivation in the George Spatial Development Framework draft report. However, current single residential settlement planning leave little space for active tree growth, which negate carbon sequestration opportunities, and softens the landscape adding to a Garden Route sense of place. We are trapped in single storey, single residential suburban paradigm that limits the ability of cities to achieve a much higher density offering economies of scale that well-planned cities require to thrive in the future. We need to move to more compact units which have wide streets that can accommodate much more tree growth, that are designed for people, with an emphasis on public over private transport. Future residential streets should preferably be one-way, have wide sidewalks to accommodate trees and include walking / cycling lanes. These concepts need to be incorporated into the final design or detailed motivation on why they should not be incorporated.

Restricted access to ecological corridors

Concerns are raised regarding access to the dam and ecological corridors around the dam. Due to increase threat from global warming induced wildfires in the future, open space areas adjacent to residential areas, should be fronted by roads, and not walled off by erven that restricts greater public/private access to these areas. This layout planning also allows for increased access of fire protection services to these areas. This also allows the layout plans to be better aligned to the landscape, reducing cut/fills and retaining walls. Confirmation of these design themes should be provided.

Public transport access and Urban Green Infrastructure

The future of George is also going to be shaped by public transport over private transport, where public transport along important access routes needs to be facilitated. The proposed development needs to align with all future public transportation planning in George and a walkable city philosophy. Walkways and cycle paths should be the key focus for mobility and not private vehicles. Walkways and cycle paths need to be aligned along road corridors or other infrastructure and ecological corridors. Where aligned with roads, these public features need to be stand-alone features, not designed as an extension of the road. All roads need to be tree-lined as part of urban forestry planning, with trees separating the cycle and walk-ways from the road (for example, Caledon Street). Suitable parks need to be provided, with urban forestry incorporated as a design philosophy. Urban Green Infrastructure needs to be linked to the greater George UGI planning, with this development setting the precedent for future developments in the region. Concept planning of the UGI needs to be clearly articulated.

Climate Change Adaption Planning

The mandate of the Government Gazetted Climate Change Bill of 2018, is "to build the Republic's effective climate change response and the long term, just transition to a climate resilient and lower carbon economy and society in the context of an environmentally sustainable development framework". To assist in the George Municipalitie's long-term legal requirement to move to a low carbon footprint, the developer needs to provide specifications on how the development can contribute to long-term initiatives that lower / offset the George Municipality carbon footprint. As part of this specification, the developer needs to address how the development can facilitate urban forestry (mass planting of trees for carbon sequestration) within the development layout, how the development will utilise renewable energy, and energy efficiency regarding heating / cooling. Reduced rainfall induced water shortage is likely to be a consequence of climate change in the southern Cape. The developer needs to motivate how water capture and storage will be incorporated into the layout and design requiring the mandatory installation of rainwater capture tanks, as well as sustainable water catchment systems. This should include (amongst others), rain gardens, rain groves, circular depressions, planted storm water buffers, infiltration trenches, sand filters, bio-swales, porous paving, above ground cisterns, underground storm water chambers, preserved wetlands, tree protection areas, habitat protection areas, riparian buffers, constructed wetlands, parking lot detentions and vegetated ditches. This would also built resilience into the layout and planning by design, reducing the development community to the risks of climate change induced extreme events.

Environmental Compliance

- Best practice in environmental governance and compliance is a key aspect of meeting social and ecological well-being. The following recommendations are provided:
- For social and environmental impacts expected to have high significance, only recognised, registered EIA Specialists (registered in the appropriate field) should be appointed;
- Peer review of all in-house specialist reports submitted as a component of the environmental authorisation;
- The appointed Environmental Control Officer needs to be independent from the Environmental Assessment Practitioner;
- A community representative, independent from the municipality, the development team and the environmental team, needs to be appointed and allowed access (on request from the ECO);
- To ensure that mitigations identified in the EIA process are implemented, EIA Specialists need to have a formal sign-off process to independently declare that their recommendations have been successfully implemented. Should the recommendations not be implemented, the relevant authorities need to be informed and measures set in place to ensure that the impacts are addressed;
- As this is an amendment to EIA, full access to all previous reporting should be made available to the public.

Alignment to an inclusive learning city philosophy for George and the region.

Historically, education facilities in South Africa have been undermined by conservative education institutions aligned with narrow, apartheid philosophies catering for minority needs at the expense of the greater majority. The proposed Garden Route Dam Campus needs to be aligned to a greater learning city philosophy that embraces inclusive higher education for all communities. Private education institutions have the potential to become wealth driven entities focussing on education of the elite to the exclusion of the poor. Mechanisms to ensure that this new education centre is not captured by conservative, single

language driven education philosophies need to be set in place. In this regard, a broad education body needs to be established to ensure these higher education philosophies form the basis by which the proposed future education institutions are authorised ***and*** operate. The George Municipality needs to be the custodian of this initiative. Representatives from all educational facilities in the George region should be included on this panel.

Planning and information

Due to the sensitivities of the proposed development site, detailed planning needs to be provided. While area zoning can be incorporated for future sell-off of sites, the detailed planning would need to be reviewed against the Socio-Ecologically Informed Design principles, and be subject to external review by the Forum (or another community collaborative non-profit organisation with appropriate specialisation knowledge in sustainable land management).

Roads and development nodes need to be aligned with contours such that cut-fills are limited.

The proposed hotel/water-front development and other large structures need to be suitably set back from the dam and designed such that it does not become an overly dominating feature as seen from the Garden Route Dam, Nelson Mandela University Campus and the greater wilderness regions around the dam. The dam needs to be incorporated as a Key Observation Point for the Visual Impact Assessment.

All information needs to become public access and shared in a transparent and open manner.

To achieve the social and economic benefit of urbanisation, proactive planning is required to ensure that all settlement typologies are more effectively managed along sustainable land management approaches, incorporating new-urbanism design concepts such as the neo-traditional neighbourhood development (Creutzig *et al.*, 2016). These types of design concepts aim to "reverse the contemporary trend of low-density, automobile-oriented, single-use developments that lack local character by creating vibrant, mixed-use neighbourhoods with higher residential and employment densities, complementary land uses, and place making" (Creutzig *et al.*, 2016, p. 77). While we support mixed-use neighbourhoods, this should not be to the detriment of the George Central Business District, and should *not* embrace 'shopping mall' planning ideologies. The concept of 'place-making' needs to be well embedded into the proposed development *by design*.

Conservation of ecological infrastructure that maintains aquatic ecosystem health and ecosystem services at the Garden Route Dam

The Garden Route Dam provides the main drinking water supply for the city of George. While water quality in the dam is currently of a good standard for treatment for potable use, there are a few indications that water quality may be declining. While this hypothesis has not been explored in any real detail, the annual growth of extensive stands of Kariba Weed is a good indicator of nutrient enrichment, and decomposition of these infestations could end up causing low oxygen events resulting in fish kills. Eutrophication of our dams is one of the biggest threats facing water security in South Africa, as many of our large reservoirs are already heavily impacted. Eurtrophication of large dams is very difficult, if not impossible to reverse and should therefore be avoided at all costs. If we are to ensure a clean and reliable water supply for the city in the coming decades and centuries then we need to

carefully consider the impacts of developments we're planning around the dam in the present. This principle should be extrapolated to all watercourses potentially impacted by new developments in the George area. Residents (and ecosystems) currently enjoy a comparatively high standard of water quality in comparison to other areas of South Africa which are far more impacted. But a 'business as usual' approach to urban development will ensure that the water resources of George become just as degraded as any other town if responsible and sustainable approaches are not utilised in future developments.

Planning and layout

Ensure all watercourses as defined under the National Water Act have been identified, classified, delineated and adequately buffered. This information should be available as a spatial layer, and should indicate the associated Present Ecological State (PES) and Ecological Importance and Sensitivity (EIS) of all watercourses at the site. Layout of the development should be informed and modified to ensure that building does not occur within delineated areas of watercourses, and that the risks to watercourses have been rigorously determined using the Section 21 c and i Risk Assessment.

Where modifications to watercourses are unavoidable, these should be restricted to low sensitivity watercourses only, while moderate to high sensitivity watercourses should be considered no-go areas.

Where possible, all buildings should face onto watercourses, as evidence has shown that people are more likely to care about the habitat that they look at, as opposed to what's 'outside their back door'.

Water conservation and demand management

Waterborne sanitation was developed in Europe and introduced to the African continent by colonists. Rainfall is higher in Europe than in a semi-arid country like South Africa where our annual rainfall is below the world average. It is therefore not a sustainable practice to continue using large quantities of potable water to flush toilets for a growing population in this country. Water saving toilets and/or efficient wastewater treatment can significantly reduce the amount of potable water used. Examples of alternative toilet systems include Arumloo (2 litres per flush) (https://www.isidima.net), dual flush toilets and UDT or UDDT systems (Urine-diverting dry toilets) which separate urine and black waste water. The urine can be re-used as fertilizer, especially for agriculture. (https://en.wikipedia.org/wiki/Urine-diverting_dry_toilet). BioRock ECOROCK is an efficient wastewater treatment system which requires minimal maintenance and operation costs and has the ability to be electricity free (https://biorock.com/). These systems are more environmentally friendly and sustainable than conventional systems.

Reduce unnecessary water consumption by installing water efficient fittings, such as water-saving taps and low-flow shower heads, which can be used for all plumbing fixtures. These systems should be linked to a grey water system where possible; this water can also be used for gardening, toilet flushing etc. This will dramatically reduce the amount of water used per capita on the property and is more environmentally sustainable.

Storm-water management

Small watercourses are easily eroded and their habitat can be severely degraded when high volumes of stormwater are channelled into them. Where stormwater channels will discharge into watercourses, ensure that erosion is kept to a minimum using methods such as stilling basins to reduce flow velocities. An alternative that enhances habitat diversity is to create constructed wetlands that act to dissipate flow velocities and allow pollutants to settle out of suspension prior to release into natural watercourses.

Rainwater storage tanks should be fitted to all gutter and roofing systems in order to store rainwater for a range of uses which will also reduce the amount of stormwater that needs to be diverted away from buildings.

Design parking areas to be permeable to rainwater using materials such as gravel or Turfstone for example (the latter is pricey, but is attractive in small areas). These modifications will reduce surface runoff associated with impervious surfaces and the need to divert large quantities of channelled stormwater into natural watercourses which may include unchannelled wetlands and seeps. The latter are very sensitive to high velocity channelled inflows.

Aquatic habitat protection and maintenance

Alien vegetation is abundant throughout the site, but is particularly prevalent along watercourses. A typical management goal in responsible developments is to eradicate alien plants from the area. However, care must be taken in this regard when alien plants are in and along watercourses, because clearing using heavy machinery can cause irreparable damage to instream, riparian and wetland habitat. While an alien plant management plan is essential, heavy machinery must be kept out of watercourses at all times.

Cleared alien vegetation is often dumped into watercourses which clearly has a detrimental impact on aquatic habitat. This should not occur at the site, and alien vegetation must be disposed of off-site.

Rehabilitation of watercourses

Alien vegetation management has been neglected at the site which was previously a forestry area and is now regenerating. Therefore many of the watercourses on site require rehabilitation to improve their ecological function. This would primarily involve a comprehensive plan to control alien vegetation, but may involve other interventions depending on the nature of specific impacts.

[i] IPCC, 2018: Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change,

sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P. R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp.

[ii] Griscom, B. W. *et al.* (2017) 'Natural Climate Solutions Symposium', *Proceedings of the National Academy of Sciences*, 114(6), pp. 1–6. doi: 10.1073/pnas.1710465114.