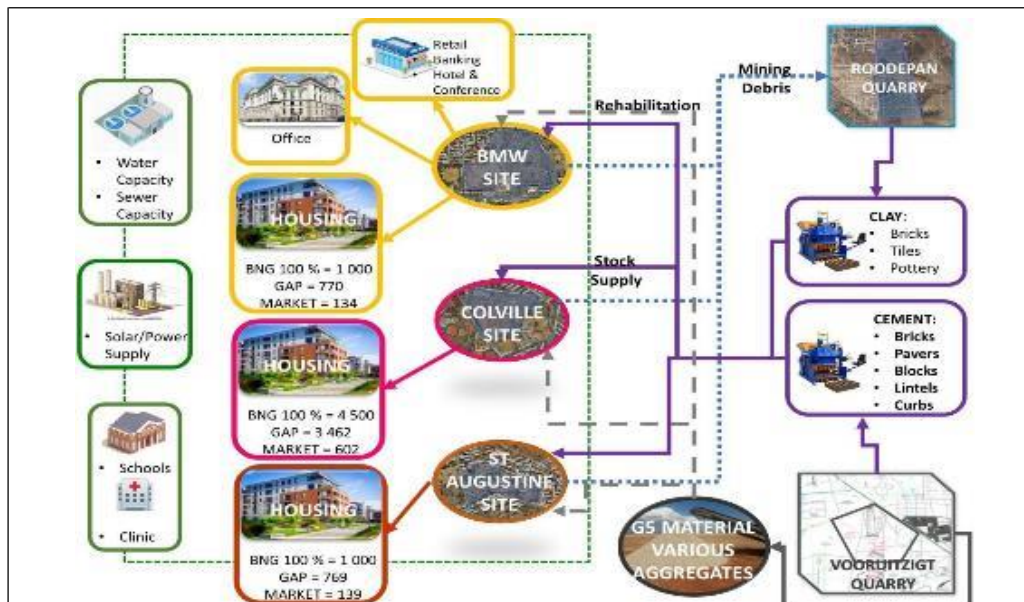
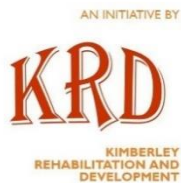


Application for an Environmental Authorisation (EA) for the proposed “Changing the Face of a City” Project in Kimberley, Northern Cape Province

Draft Basic Assessment Report (Draft BAR) for the Housing development at the Colville Site

DENC Reference Number:

Report Prepared on behalf of:



Report Prepared by



October 2020

BASIC ASSESSMENT REPORT



the denc

Department:
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

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(For official use only)

File Reference Number:

Application Number:

Date Received:

Basic Assessment Report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2014 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of 07 April 2017. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. The use of “not applicable” in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?

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

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in [Appendix I](#).

1. ACTIVITY DESCRIPTION

a) Describe the project associated with the listed activities applied for

Kimberley Rehabilitation and Development (KRD) is proposing to develop various infrastructure, mining (mining permit application) and industrial developments to change the face of Kimberley City located in Sol Plaatje Local Municipality, Northern Cape Province.

The project will contribute to the city and the province in terms of infrastructure and socio-economic development, especially due to the estimated 1 500 direct and indirect job opportunities. KRD has conducted extensive calculations, investigations and consultations in the compilation of the project plan and its various components and its integration into a single integrated business model. The information and calculations all indicate the feasibility of the project if implemented as an integrated model. This project cannot succeed if the various individual activities do not contribute to the execution of the project plan.

The proposed project will entail removal of mining debris from three sites (BMW, St. Augustine and Colville) to the Roodepan Quarry, which is vacant and has been unattended for the last \pm 80 years.

The debris will be reworked to extract the clay content, which will be used for the manufacturing of clay bricks at the Roodepan Quarry. These clay bricks together with the cement bricks manufactured at the Vooruitzigt Quarry will be used for the development of the three development sites (BMW, St. Augustine and Colville). The unused material will be used to fill the quarry in accordance with an approved Environmental Management Programme (EMPr) which will be submitted to the DENC as part of a separate application.

Figure 1 summarizes the scope of the project entitled "Changing the Face of a City" which KRD is packaging for implementation:

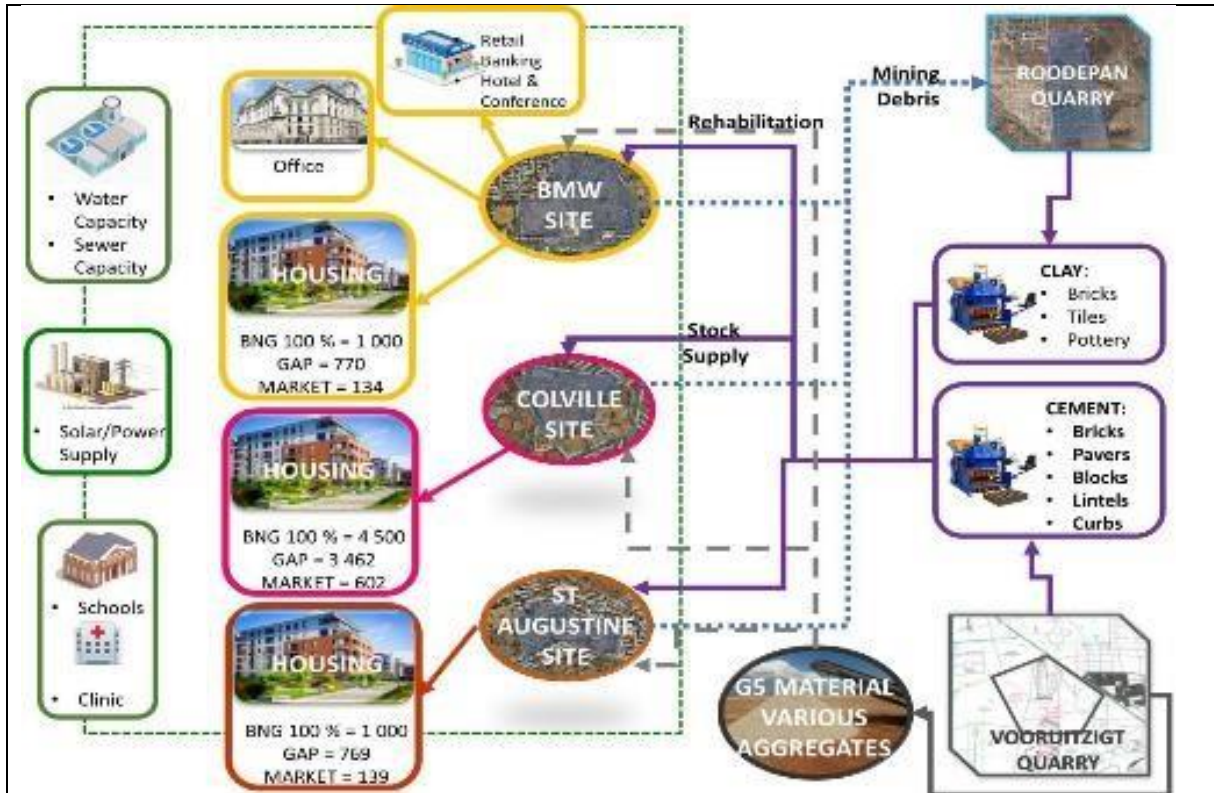


Figure 1: Changing the face of the City Project Summary

Table 1 provides an indicative development rationale amounting to approximately 12 369 housing opportunities.

Table 1: Summary of proposed development

Development Rationale							Land Use Application						
Site	Area (ha)	Site Name	Building Footprint (%)	Coverage (000m ²)	Height (Storeys)	Bulk (000m ²)	Housing Configuration						
							Type	BNG100%	GAP Housing		Market		Total
							Commercial (000m ²)	60	60	65	85	95	
								50	20	20	5	5	100%
1	20	BMW (A)	20	40	3	120		1000	400	369	71	63	1908
1	20	BMW (B)	20	40	2	80	80	0	0	0	0	0	0
							Units						

BASIC ASSESSMENT REPORT

2	45	Colville	40	180	3	540			4500	1800	1662	318	284	8563
3	10	Augustine St	40	40	3	120			1000	400	369	71	68	1903
TOTAL							80		6500	500	2400	450	411	12369

The Colville site, which is subject to this BAR, has been earmarked for the construction of a housing development which will include residential housing buildings. The project activities that will be undertaken at the Colville site will include:

- Excavation and removal of aggregate from the site;
- Transportation of debris from the Colville site to the Roodepan Quarry to be reworked;
- Ground works at the site;
- Foundations for the proposed buildings;
- Building activities;
- Transportation of building material to and from the construction sites;
- Provision of infrastructure such as sewage systems, electrical, water reticulation systems, roads, stormwater systems; and
- Shop fitting of the residential buildings.

As the three development sites contain mining debris, it will be necessary to rehabilitate the sites in accordance with the outcome of a geotechnical assessment and a purpose designed environmental rehabilitation plan for each site. Provisionally it is envisaged that approximately the top 1.5m will have to be dug out and backfilled with G5 compacted to 90 Mod.AASHTO. The full range of gravel will be obtained from the quarry to be developed on Portion 1 of the farm Vooruitzigt No 81. KRD has submitted the necessary applications to Department of Mineral Resources (DMR) for the establishment of the Roodepan and Vooruitzigt quarries.

Infrastructure

It is expected that municipal infrastructure will not be able to meet additional demand for services and the project will therefore include upgrading of services. Infrastructure construction will consist of:

- Bulk Earthworks;
- Streets and stormwater including shallow stormwater attenuation ponds;
- Water and sanitation reticulation;
- Electrical reticulation and street lighting; and
- Bulk services connections to each site: water, sewer, electrical.

Electrical feed will be via overhead or underground electrical cables and the electrical source will be from existing Kimberley Municipal substations. Alternative energy sources such as renewable

sources will also form part of the development.

Water will be delivered to each site via a new bulk supply pipeline from the existing 'New Park' reservoir complex.

Employment

KRD will make use of contactors during the construction phase, who will recruit local people where possible to assist in the removal of the debris from the old mine dump at the site and for construction of the housing development.

The construction and operation of the project at the Colville site triggers activities listed in GNR 327 (Listing Notice 1) of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) and will require an Environmental Authorisation (EA) from the Northern Cape Department of Environment and Nature Conservation (DENC).

Ndi Geological Consulting Services (Pty) Ltd was appointed by KRD as the Independent Environmental Assessment Practitioner (EAP) to undertake the application for an EA to be submitted to the DENC, the Competent Authority (CA).

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN 327, 325 and 324	Description of project activity
Example: GN 327 Item xx xx): The construction of a bridge where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.	A bridge measuring 5 m in height and 10m in length, no wider than 8 meters will be built over the Orange river
Listing Notice 1 (GNR 327): Activity 26: Residential, retail, recreational, tourism, commercial or institutional developments of 1 000 square metres or more, on land previously used for mining or heavy industrial purposes;	The proposed residential housing development will be located on land previously used for mining.
Listing Notice 1 (GNR 327): Activity 27: The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for	Construction of the proposed residential housing will require clearance of indigenous vegetation covering more than 1 ha and less than 20ha.

2. FEASIBLE AND REASONABLE ALTERNATIVES

“**alternatives**”, in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

Describe alternatives that are considered in this application as required by Appendix 1 (3)(h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

The determination of whether site or activity (including different processes, etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the, competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

No alternatives outside of the no-go alternative were considered for the project. The sites were selected in accordance with their highest and best land use potential. Sol Plaatje Municipality, particularly Kimberley has valuable land such as at the Colville site, locked under old mine dumps. Not only are these dumps a hindrance to land use, but according to the Sol Plaatje IDP, they cause an unpleasant authenticity to the city, that it is forgotten mining town. Under the proposed project, KRD proposes to recycle and implement beneficiation projects from the dumps, including the dump located on the Colville site.

The site is currently vacant and mainly used as a pass-through by the local community. Wood harvesting, littering and illegal dumping is also occurring on the site.

The proposed project will lead to beneficial use of the site.

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Mining debris will be removed from the Colville site and transported to the Roodepan Quarry where the debris will be reworked to extract clay for brick making. The clay bricks from the Roodepan Quarry together with the cement	28°43'4.222"S	24°45'22.245"E

BASIC ASSESSMENT REPORT

bricks manufactured at Vooruitzigt Quarry will be used for the mixed-use and housing development at the three sites (BMW, Colville and St Augustine).

The proposed housing development at the Colville site will include:

- Housing;
- Bulk Earthworks;
- Streets and stormwater including shallow stormwater attenuation ponds;
- Water and sanitation reticulation;
- Electrical reticulation and street lighting; and
- Bulk services connections to each site: water, sewer, electrical.

In the case of linear activities:

N/A

Alternative:

Alternative S1 (preferred)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S2 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity

Latitude (S):

Longitude (E):

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in [Appendix A](#) of this form.

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
<p>The proposed housing development at the Colville site will include:</p> <ul style="list-style-type: none"> • Housing; • Bulk Earthworks; • Streets and stormwater including shallow stormwater attenuation ponds; • Water and sanitation reticulation; • Electrical reticulation and street lighting; and • Bulk services connections to each site: water, sewer, electrical. 	28°43'4.222"S	24°45'22.245"E
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Alternative 1 (preferred alternative)
<p>Technology alternatives are not considered applicable to the general purpose of this application as the purpose of this application is for a housing development.</p> <p>Diggers and shovels will be used for the collection of debris from the Colville site. Trucks will transport the debris from the Colville site to the Roodepan Quarry where the debris will be reworked to extract the clay content, which will be used for the manufacturing of clay bricks.</p>
Alternative 2
Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)
<p>The project will commence once all the required authorisations are in place and the engineering work has been concluded.</p>
Alternative 2
Alternative 3

e) No-go alternative

The EIA includes an assessment of the no-go option. This option will result in no additional biophysical environmental impacts occurring as it maintains the current status quo. This alternative would however represent a lost opportunity for the applicant, the Sol Plaatje Local Municipality and its residents. The opportunities that will be lost should the project not be authorised include:

- Loss of the potential investment of R 6 billion that would result from the project;
- Loss of the benefits to the local community and economy associated with the creation of employment opportunities (approximately 1500 direct and indirect opportunities) and the establishment of new or support to existing related businesses such as transporting, waste collection, security services and recycling companies;
- Lost opportunity in provision of low-cost housing and services to the residents of Sol Plaatje Local Municipality;
- Lost opportunity to the Sol Plaatje Local Municipality in terms of additional revenue to be collected through rates and taxes to be paid; and
- A lost opportunity for the rehabilitation of mine dumps located at the Colville site.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

a) Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:

Alternative A1¹ (preferred activity alternative)
 Alternative A2 (if any)
 Alternative A3 (if any)

Size of the activity:

40 000m ²
m ²

or, for linear activities:

Alternative:

Alternative A1 (preferred activity alternative)
 Alternative A2 (if any)
 Alternative A3 (if any)

Length of the activity:

m
m
m

b) Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:

Alternative A1 (preferred activity alternative)

Size of the site/servitude:

400 000m ²

¹ "Alternative A.." refer to activity, process, technology or other alternatives.

Alternative A2 (if any)
Alternative A3 (if any)

m²
m²

4. SITE ACCESS

Does ready access to the site exist?

YES
X NO

If NO, what is the distance over which a new access road will be built

m

Describe the type of access road planned:

No new access roads are planned for the project. It is expected that existing roads will be used during the construction phase of the project. New internal roads will be constructed for use in the operational phase of the project.

Two options are currently being considered for material transport routes as follows:

- use of existing roads (preferred); and
- use of N12 by-pass reserve (new road, not preferred due to barriers in the way).

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

5. LOCALITY MAP

An A3 locality map must be attached to the back of this document, as [Appendix A](#). The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.). The map must indicate the following:

- an accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection).

6. LAYOUT/ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as [Appendix A](#) to this document.

The site or route plans must indicate the following:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100-year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in [Appendix A](#).

8. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under [Appendix B](#) to this report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 1:200 as [Appendix C](#) for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

10. ACTIVITY MOTIVATION

Motivate and explain the need and desirability of the activity (including demand for the activity):

<p>1. Is the activity permitted in terms of the property's existing land use rights?</p>	<p>YES X</p>	<p>NO</p>	<p>Please explain</p>
<p>Although the site is locked under old dumps, the property where the Colville site will be located (Erf 5025 Kimberley) is zoned for Public Open Space purposes in terms of the Sol Plaatje Land Use Management Scheme of 2008. Secondary land use rights would require consent from the Municipality.</p> <p>KRD held several engagement meetings with the Sol Plaatje Municipality and Provincial economic cluster to discuss the proposed project. A meeting to obtain approval of the proposed project from the Council was held in June 2020. The council approved the implementation of the proposed project and made the land where the Colville site will be located (Erf 5025 Kimberley) available to KRD, subject to the conclusion of a Public-Private Partnership Agreement (PPPA) with the Municipality. A copy of the resolution by the council is attached as Appendix J 1.</p>			
<p>2. Will the activity be in line with the following?</p>			
<p>(a) Provincial Spatial Development Framework (PSDF)</p>	<p>YES</p>	<p>NO X</p>	<p>Please explain</p>
<p>There was no Provincial Spatial Development Framework (PSDF) for the Northern Cape Province available at the time of the assessment. However, the Executive Council of the Northern Cape Province adopted a resolution in March 2020 in support of the proposed project. The resolution from the Provincial Executive Council is attached as Appendix J 2.</p>			
<p>(b) Urban edge / Edge of Built environment for the area</p>	<p>YES X</p>	<p>NO</p>	<p>Please explain</p>
<p>This is not applicable as the proposed project will be integrated into the urban area and will not have any implications for Kimberley's urban edge.</p>			
<p>(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).</p>	<p>YES X</p>	<p>NO</p>	<p>Please explain</p>

According to an assessment undertaken by Town Planning Specialists, the proposed development at the Colville site will fit in with the current surrounding landuses as it falls within an area surrounded by mainly residential units with a few tuck shops to the north. There is a primary school to the east and a stadium and clinic to the south and an informal settlement to the west. According to the current Sol Plaatje Local Municipality SDF, the area falls within the demarcated Settlement Area for economic concentration. The site falls within Sub-Area 23, which is earmarked as the Sol Plaatje Sports Academy Precinct to enable recreational and sport training facilities. However, a revised SDF which provides the City with a clear direction and supports the proposed land used must be completed and approved. According to the SPLM 2nd Draft SDF from September 2016 which has not been approved yet:

- There are no defined sub-areas restricting this specific development.
- Residential densification is supported in the periphery of the CBD, along activity spines extending from the CBD and around neighbourhood and community level shopping centres.
- The Colville site could be considered being within the “periphery of the CBD”.

It must also be noted that the Sol Plaatje Council approved the implementation of the proposed project and made the land where the Colville site will be located (Erf 5025 Kimberley) available to KRD, subject to the conclusion of a PPPA with the Municipality.

<p>(d) Approved Structure Plan of the Municipality</p>	<p>YES X</p>	<p>NO</p>	<p>Please explain</p>
<p>The current project does not form part of the Structure Plan of the Municipality. However, implementation of the project will not compromise the integrity of the IDP of Sol Plaatje Local Municipality, but will contribute to meeting the goals set out in the IDP, including attracting investment to the area and providing low cost housing and services to the residents of Sol Plaatje Local Municipality.</p> <p>Although the current SDF does not support the proposed project, discussion and the resolution from the council indicates that the council supports the project and will make the Colville Site available to KRD.</p>			
<p>(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)</p>	<p>YES</p>	<p>NO X</p>	<p>Please explain</p>
<p>No EMF was available at the time of the compilation of the Draft BAR. However, a Strategic Environmental Assessment (SEA) conducted for the proposed project found no fatal flaws associated with the proposed project.</p> <p>All the identified high-level impacts associated with the project can be mitigated to within acceptable levels. Where possible, it is expected that the final layout of the project at the specific sites will be such that areas considered to be of environmental importance will be avoided.</p> <p>Detailed specialist assessments have been conducted as part of this EIA, including site specific mitigation measures that have been included in the site specific EMPr attached as Appendix G.</p>			

(f) Any other Plans (e.g. Guide Plan)	YES	NO X	Please explain
None			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	YES X	NO	Please explain
<p>The municipal IDP (2017/2022) shows that housing and attracting investment to grow the economy over time is one of the priority areas of the Sol Plaatje Local Municipality (Key Performance Area (KPA) 1 (Local Economy Development).</p> <p>According to the IDP, at present land locked spaces and sprawling informal settlements dominate the spatial landscape. The land use patterns within the urban centres are not conducive to investment and robustness, which has led to crime, grime and dilapidation. The IDP places a higher value and importance on spatial governance and local economic development programmes playing a bigger role in transforming the spatial landscape and resultant consequences. The proposed project will lead to an investment of approximately R 6 billion and will also assist the municipality in unlocking some of the locked land (BMW is currently an old mine dump) by rehabilitating the area and constructing housing infrastructure.</p> <p>KPA 1 also notes that the local government should negotiate bulk services contributions linked to private developments to ensure private funding of bulk service connections for water, sewer, electricity and access roads for developments in housing, retail malls and factories. The proposed project will entail upgrading and expansion of services including electrical, water, sewage and stormwater management to meet the additional demand for municipal services.</p> <p>The proposed project also contributes to the attainment of KPA 2 (Access to Basic Services and Infrastructure Development). Activities under KPA 2 which are considered to have broad economic implications which the project will contribute to include the building of infrastructure by way of housing, facilities and roads, provision of services such as water, electricity, property management in the leasing of land and buildings and provision of social services.</p> <p>Any anticipated and potential negative impacts will be adequately mitigated in accordance with the Environmental Management Programme (EMPr) developed for the proposed housing development and is attached as Appendix G. The overall benefits of the proposed activity include the following:</p> <p><i>Socio-economic:</i></p> <ul style="list-style-type: none"> • Provision of low-cost housing and associated electrical, water, stormwater and sewage services; • Creation of employment and boosting associated local businesses; • Revenue for the municipality through rates and taxes; and • Investment of approximately R 6billion into the area. <p><i>Environmental:</i></p> <ul style="list-style-type: none"> • Rehabilitation of old mine dumps and Roodepan quarry; and • Opportunity for the eradication and management of alien invasive plant species on the site 			

BASIC ASSESSMENT REPORT

<p>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</p>	<p>YES X</p>	<p>NO</p>	<p>Please explain</p>
<p>The main aim of the project is to provide low cost housing to the residents in Sol Plaatje Local Municipality. According to the Sol Plaatje Local Municipality IDP, 30% of the Northern Cape housing backlog exists in Sol Plaatje, with the municipality advocating for focus to be on ramping up the planning and delivery of houses, with clear economic spin offs to boost the local economy. Under the proposed project, a total of 12 369 houses will be constructed, of which 8 563 will be located on the Colville site. The anticipated investment from the project is approximately R 6 billion.</p> <p>In addition, the project will provide permanent employment to local people (approximately 1 500 direct and indirect jobs) within a local municipality with a high rate of unemployment, potentially providing job security (and the benefits thereof) not only for employed individuals but for households. The proposed project will also provide an economic stimulus to the local economy through the establishment or promotion of existing small businesses (transporters, builders, providers of other materials required).</p> <p>Additionally, the project provides the municipality with an opportunity to rehabilitate old mine dumps that are not currently in use and collect revenue from rates and taxes which can be used to improve services in the area.</p> <p>The project will thus in the long run have an overall positive economic and environmental impact for the receiving area and will have a cumulative impact that can be considered to be of high significance.</p>			
<p>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>		<p>NO X</p>	<p>Please explain</p>

BASIC ASSESSMENT REPORT

The current municipal services in terms of electrical water, sewage and stormwater management will not be adequate to cater to the proposed project. As such, the proposed project will also include the expansion of the municipal services (electrical, water, stormwater and sewage).

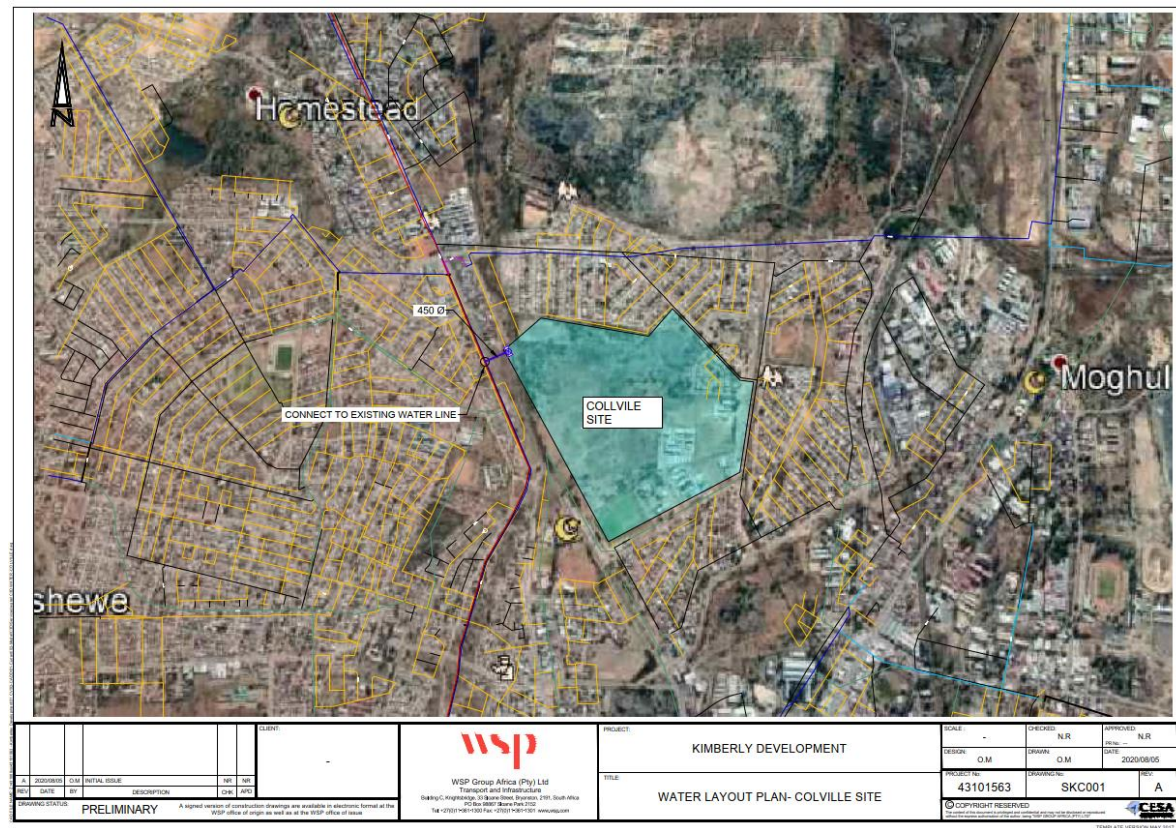


Figure 2: Proposed Water Network at the Colville Site



Figure 3: Proposed Sewerage Network at the Colville Site

BASIC ASSESSMENT REPORT



Figure 4: Proposed Stormwater Network at the Colville Site

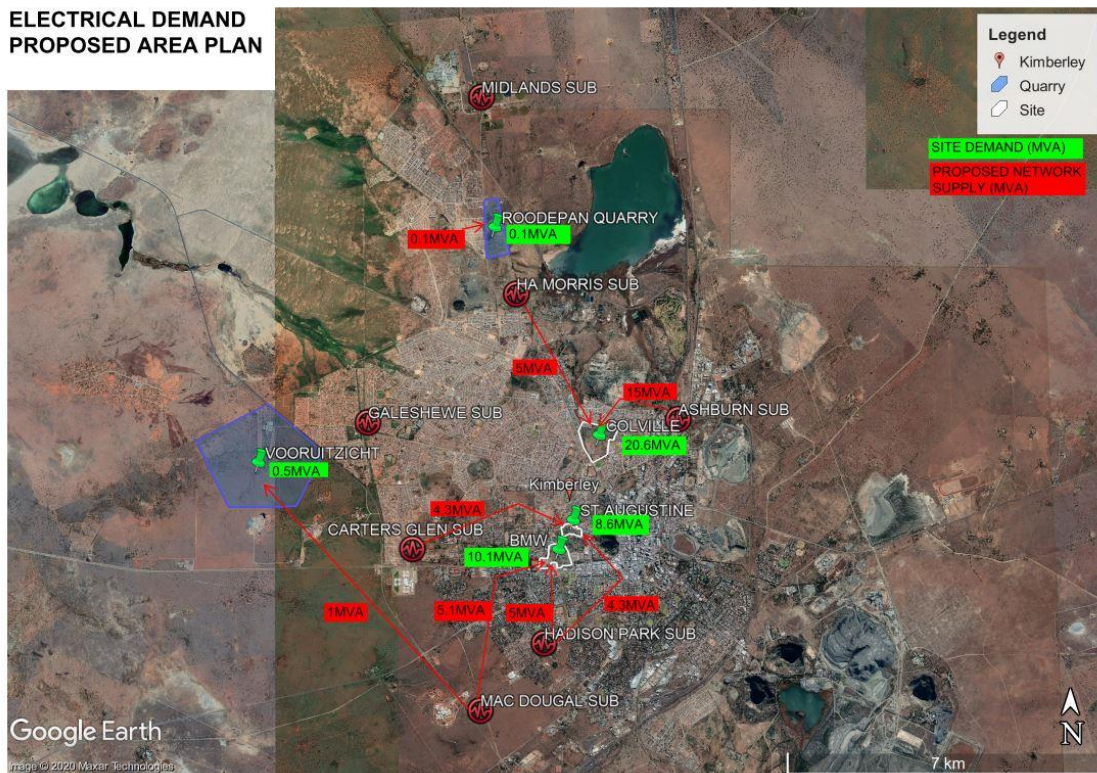


Figure 5: Electrical Demand Proposed Area Plan

BASIC ASSESSMENT REPORT

<p>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>		<p>NO X</p>	<p>Please explain</p>
<p>The proposed project is not provided for in the infrastructure planning of the Sol Plaatje Local Municipality. The project will include the expansion of existing municipal services (electrical, water, stormwater and sewage) to cater to the additional demand.</p> <p>KRD held several meetings with the Sol Plaatje Municipal representatives and the council to discuss the project and to seek approval of the project. The council approved the implementation of the proposed project, including the additional infrastructure that will be constructed and connected to the existing municipal infrastructure..</p>			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>		<p>YES X</p>	<p>Please explain</p>
<p>The proposed project contributes to the attainment of the Integrated Residential Development Programme (IRDP) which was initiated to facilitate and guide housing development that occurs in well-located areas that provide convenient access to urban amenities, including places of employment (National Housing Code, 2009).</p> <p>In terms of the National Housing Code (2009) the IRDP replaced the Project Linked Subsidy Programme to mitigate against the development of housing that was centred only on subsidized housing without integrating a mix of typologies, tenure types, incomes and a range of amenities. Therefore, the proposed housing development proposed on the Colville Site will assist in achieving the IRDP.</p>			
<p>8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)</p>		<p>YES X</p>	<p>Please explain</p>
<p>Sol Plaatje Municipality, particularly Kimberley has valuable land locked under the old mine dumps. Not only are these dumps are a hindrance to land use, but they cause an unpleasant authenticity to the city, that it is forgotten mining town. Under the proposed project, KRD proposes to recycle and implement beneficiation projects from the dumps, including the old mine dump located on the Colville Site.</p> <p>The site is currently vacant land and mainly used as a pass-through by the local community. Wood harvesting, littering and illegal dumping occur on the site. The proposed project will lead to beneficial use of the site.</p>			
<p>9. Is the development the best practicable environmental option for this land/site?</p>		<p>YES X</p>	<p>Please explain</p>

BASIC ASSESSMENT REPORT

<p>The site is vacant land and mainly used as a pass-through by the local community, wood harvesting, littering and illegal dumping. The proposed project will lead to beneficial use of the site.</p> <p>A SEA conducted for the site found that there are no environmental fatal flaws associated with the project and that all the identified potential impacts are considered to be of medium to low significance prior to implementation of mitigation measures. The implementation of mitigation measures provided in the EMPr will reduce all the identified impacts to be of low significance.</p>		
<p>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</p>	<p>YES X</p>	<p>NO Please explain</p>
<p>The impact assessment conducted for the application showed that the benefits of the proposed project outweigh the possible negative impacts identified. The main aim of the project is to provide low cost housing to the residents in Sol Plaatje Local Municipality. A total of 12 369 houses will be constructed, of which 8 563 will be located on the Colville Site. The anticipated investment from the project is approximately R 6 billion. In addition to the investment, the project will in creation of employment (approximately 1 500 direct and indirect jobs) during all phases of the project and will create opportunities for other businesses.</p> <p>Additionally, the project provides the municipality with an opportunity to rehabilitate old mine dumps that are not currently in use and collect revenue from rates and taxes which can be used to improve services in the area.</p> <p>The impact assessment conducted for the SEA determined that there are no environmental fatal flaws associated with the project and that all the negative impacts that may occur as a result of the project can be mitigated to low and very low significance.</p>		
<p>11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?</p>	<p>YES X</p>	<p>NO Please explain</p>
<p>KRD is proposing to unlock potential for beneficial use of old mine dump areas that are currently going unused. It is not foreseen that similar activities will be undertaken in other areas as a result of the proposed project. Should this occur, it would an opportunity for the Sol Plaatje Local Municipality to re-use land that is currently not being used beneficially.</p> <p>However, should additional similar activities be required in the area, an impact assessment, including a cumulative impact assessment and motivation will be conducted.</p>		
<p>12. Will any person's rights be negatively affected by the proposed activity/ies?</p>	<p>YES X</p>	<p>NO Please explain</p>

BASIC ASSESSMENT REPORT

The proposed project will be located on a property that is owned by the Sol Plaatje Local Municipality and is currently lying unused as an old mine dump area. There are a number of impacts that have been identified that may affect the surrounding communities. These include:

- A potential increase in traffic due to the movement of vehicles and trucks in the area;
- Negative impacts on health and safety of the local communities as a result of additional vehicles on the roads;
- Negative impact on, local community health and safety due to influx of employees, the presence of job seekers, which may lead to prostitution and conflict with the local communities. Illegal informal settlement of job seekers in the area may exacerbate the situation;
- Increase in nuisance noise which may result in conflicts with other landowners;
- Visual impacts due to the presence of construction vehicles and land clearance as well as the presence of the three storey buildings; and
- An increase in nuisance dust and air emissions as a result of excavation of the mine dump debris, movement of vehicles and clearance of vegetation.

All the impacts identified were deemed to be of medium to low significance and can be mitigated to be of low and very low significance. The property owner, Sol Plaatje Local Municipality has consented to the use of the property for the proposed housing development.

13. Will the proposed activity/ies compromise the “urban edge” as defined by the local municipality?

YES
 NO
 X

Please explain

The proposed project site at the Colville Site is located within the urban edge and will not have an impact on the urban edge.

14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPs)?

YES
 NO
 X

Please explain

The project will not contribute to any of the SIPs.

15. What will the benefits be to society in general and to the local communities?

Please explain

The main aim of the project is to provide low cost housing to the residents in Sol Plaatje Local Municipality. A total of 12 369 houses will be constructed, of which 8 563 will be located on the Colville Site. The anticipated investment from the project is approximately R 6 billion. In addition, the project will provide permanent employment (1 500 direct and indirect) to local people within a local municipality with a high rate of unemployment, potentially providing job security (and the benefits thereof) not only for employed individuals but for households. The proposed project will also provide an economic stimulus to the local economy through the establishment of other small businesses (transporters, builders, providers of other material required).

Additionally, the project provides the municipality with an opportunity to rehabilitate old mine dumps that are not currently in use and collect revenue from rates and taxes which can be used to improve services in the area.

The project will thus in the long run have an overall positive economic impact for the receiving area and will have a cumulative impact that can be considered to be of high significance.

16. Any other need and desirability considerations related to the proposed activity?	Please explain
None	
17. How does the project fit into the National Development Plan for 2030?	Please explain
<p>The National Development Plan (NDP) offers a long-term perspective, defines a desired destination and identifies the role different sectors of society need to play in reaching that goal. The NDP aims to eliminate poverty and reduce inequality by 2030. According to the plan, South Africa can realise these goals by drawing on the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnerships throughout society.</p> <p>At its core, the NDP aims to ensure the achievement of a “decent standard of living” for all South Africans by 2030. A decent standard of living consists of the following core elements which the proposed project will contribute to:</p> <ul style="list-style-type: none"> • Housing, water, electricity and sanitation: The proposed project will result in construction of 12 369 houses, with 8 563 located on the Colville Site. In addition, electrical, water, sewage and stormwater management services will also be provided to meet the additional demand. • Employment: The proposed project will result in the creation of employment (1 500 direct and indirect opportunities) during the construction and operational phases. • Clean environment: the proposed project includes the rehabilitation of the mining dump located at the Colville Site. 	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
<p>The EIA process has been undertaken according to Section 23 of the National Environmental Management Act (NEMA) (No 107 of 1998) and the following aspects have been considered:</p> <ul style="list-style-type: none"> • An Application for the Environmental Authorisation was lodged with the DENC; • Potential environmental impacts and risks associated with the project have been identified and assessed according to their significance; • The Interested and Affected Parties (I&APs) were consulted from the onset and throughout the Basic Assessment process; and • The principles of NEMA such as the “polluter pays principle” and Section 28 of the NEMA “Duty of Care have also been considered within the Environmental Management Programme (EMPr) for the project, where KRD (the applicant) and its appointed Contractors will be responsible for avoiding negative impacts and where not possible, mitigating or rectifying any damages caused in the environment. 	
19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.	

One of the key principles in Section 2 of NEMA is that “development must be socially, environmentally and economically sustainable”. The proposed project is deemed to be socially, environmentally and economically sustainable and would not result in any significant adverse impacts to either the biophysical or socio-economic environments.

The proposed project has been assessed against the requirements of sustainable development and the need to place people and their needs at the forefront of environmental management.

The Basic Assessment process sought to enhance the benefits of the project and the Public Participation Process (PPP) was inclusive and comments from Interested and Affected Parties (I&APs) were taken into account.

11. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
Constitution of the Republic of South Africa, (No. 108 of 1996)	<p>Chapter 2 – bill of rights</p> <p>Section 24 – Environmental Rights</p> <p><i>The proposed activities shall be conducted in such a manner that significant environmental impacts are avoided, and where significant impacts cannot all together be avoided they will be minimised and mitigated in order to protect the environmental rights of South Africans as per the EMPr attached in Appendix G.</i></p>	N/A	1996
Promotion of Access to Information Act (Act No. 2 of 2000) (PAIA)	<p>The Promotion of Access to Information Act (Act No. 2 of 2000) (PAIA) recognises that everyone has a right of access to any information held by the state and by another person when that information is required to exercise or protect any right. The purpose of the Act is to promote transparency and accountability in public and private bodies and to promote a society in which people have access to information that enables them to exercise and protect their right.</p> <p><i>The BA process was undertaken in terms of the NEMA, where the associated stakeholder consultation process were aligned with the PAIA in the sense that all I&APs were given an opportunity to register as an I&AP prior to the initiation of the project and all registered stakeholders will in turn be provided a fair opportunity to review and comment on any reports submitted to the competent authorities for decision making.</i></p>	N/A	2000

BASIC ASSESSMENT REPORT

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act (NEMA) (No. 107 of 1998)	<p>Section 24 – Environmental Authorisation (control of activities which may have a detrimental effect on the environment)</p> <p>Section 28 – Duty of care and remediation of environmental damage</p> <p><i>Environmental management principles were incorporated into the EIA and EMPr, which the applicant will be required to comply with to ensure that negative impacts on the environment are avoided or kept to a minimum and that positive impacts are enhanced.</i></p>	DENC	1998
National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) and the EIA Regulations 2014 (Government Notice (GN) 984), as amended	<p>The EIA Regulations (GNR 982) were promulgated in terms of Sections 24 of the NEMA, to manage the process, methodologies and requirements for the undertaking of an EIA. The GNR 982 stipulates that the applicant for activities listed under GNR 983, 984 or 985 must appoint an independent EAP to manage the EIA process. Listed Activities are activities identified in terms of Section 24 of the NEMA which are likely to have a detrimental impact on the environment, and which may not commence without an EA from the Competent Authority (CA). EA required for Listed Activities is subject to the completion of either a Basic Assessment (BA) process or full Scoping and Environmental Impact Assessment (S&EIA) with applicable timeframes associated with each process. The EA must be obtained prior to the commencement of those listed activities.</p> <p><i>The project triggers activities listed in GNR 327 (Listing Notice 1) and will require an EA from the DENC. According to GNR 326 of</i></p>	DENC	2014 and amended in 2017

BASIC ASSESSMENT REPORT

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	<i>the NEMA, activities listed in GNR 327 require that a BA be undertaken.</i>		
Department of Environmental Affairs (DEA) Integrated Environmental Management Guideline Series, Guideline 5: Assessment of the EIA Regulations, 2012 (Government Gazette 805)	<i>Environmental impacts will be generated primarily in the construction and associated post-construction phases of the project. These have been assessed as part of the BA process and mitigation measures that the applicant will be required to implement to minimise and/avoid the identified negative impacts have been included in the EMPr.</i>	DENC	2012
Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004	<i>A Basic Environmental Impact Assessment is required for the proposed project as activities are triggered under GN R327.</i>	DENC	2004
DEA Integrated Environmental Management Guideline Series, Guideline 7: Public Participation in the Environmental Impact Assessment Process, 2012 (Government Gazette 807)	<i>Public participation is a requirement of the EIA Process and has been conducted for the proposed project as stipulated in Chapter 6 of the NEMA, taking into consideration Annexure 3 of the Department of Environment, Forestry and Fisheries (DEFF) Disaster Management Directions of 5 June 2020.</i>	DENC	2012
National Water Act, 1998 (Act 36 of 1998)	<i>There is an artificial wetland located on the Colville Site. The need for a Water Use Authorisation (WUA) should be confirmed with the DWS.</i>	DWS	1998
National Environmental Management: Waste Act (Act No. 59 of 2008) (NEM: WA)	<i>NEM: WA and will therefore not require a Waste Management Licence (WML) from the DENC and/or DEFF. The EMPr takes into</i>	DEFF/DENC	2008

BASIC ASSESSMENT REPORT

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	<i>account the NEM: WA requirements and includes measures to ensure proper management of waste to be produced from the proposed development.</i>		
The National Forestry Act, 1998 (Act No. 84 of 1998) (NFA)	<p>The NFA protects against the cutting, disturbance, damage, destruction or removal of protected trees.</p> <p><i>A biodiversity assessment was conducted as part of the EIA, which found that no NFA listed protected trees will be affected by the proposed project. A permit from the DAFF will therefore not be required. The EMPr will however include measures to minimise unnecessary loss of biodiversity, including flora.</i></p>	Department of Agriculture, Forestry and Fisheries (DAFF)	1998
The National Environmental Management: Biodiversity Act (Act No. 10 of 2004) (NEM:BA)	<p>The National Environmental Management: Biodiversity Act (Act No. 10 of 2004) (NEMBA) provides for the management and conservation of South Africa's biodiversity within the framework of NEMA, as well as the protection of species and ecosystems that warrant national protection and the sustainable use of indigenous biological resources. The Act provides for listing of threatened or protected ecosystems, in one of four categories: critically endangered, endangered, vulnerable or protected.</p> <p><i>The biodiversity assessment identified a number of alien invasive plant species located on the site. The management and control of these alien invasive species will be governed by the NEM: BA. The NEM: BA ensures that provision is made by the site developer to remove any alien species, which have been introduced to the site or are present on the site. Biodiversity hotspots and bioregions</i></p>	DEFF	2004

BASIC ASSESSMENT REPORT

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	<i>were investigated to determine the potential impacts that the project may have on the receiving environment.</i>		
Conservation of Agricultural Resources Act (Act No. 43 of 1983)	<p>Control measures for erosion</p> <p>Control measures for alien and invasive plant species</p> <p><i>The biodiversity assessment identified a number of alien invasive plant species located on the site. The EMPr will include measures to control and manage alien invasive plant species.</i></p>	Department of Agriculture Forestry and Fisheries	1983
National Heritage Resources Act 25 of 1999	<p>Heritage Permit for structures 60 years or older.</p> <p><i>A Phase 1 Heritage assessment was conducted for the proposed project to identify heritage and/or cultural sites affected by the proposed project, if any.</i></p> <p><i>The Heritage Resources Assessment found that the Colville Site is associated with a low artefact density and general absence of diagnostic material, which implies a low heritage significance of the material found at the site. The Heritage Resources Specialist recommended that a representative sample of the middens be excavated in order to assess their significance before any further decision pertaining to heritage mitigation (for example potential Phase 2 archaeological specialist assessments) are taken. This measure should be undertaken subject to the relevant archaeological excavation permitting requirements from the competent heritage authority (SAHRA). In addition, destruction permits should be obtained from the relevant heritage authorities</i></p>	Northern Cape Heritage Resource Authority	1999

BASIC ASSESSMENT REPORT

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	<i>(SAHRA) prior to any impact on these sites..</i>		
Northern Cape Nature Conservation Act, Act 9 of 2009 (NCNCA)	Protection of listed species. <i>The Ecological Assessment conducted found no species that are protected under the (NCNCA</i>	DENC	2009
National Disaster Management Act, 2002 (Act No. 57 of 2002)	Annexure 3 of the Department of Environment, Forestry and Fisheries (DEFF) Disaster Management Directions of 5 June 2020. The Directions require that a person (proponent/ applicant, specialist, EAP) or other professional) who undertakes actions as part of an environmental authorisation process must: <ul style="list-style-type: none"> • Prepare a written Public Participation Plan (PPP) or Stakeholder Engagement Plan, containing proposals on how the identification of and consultation with all potential Interested and Affected Parties (I&APs) will be ensured in accordance with regulation 41(2)(a) to (d) of the Environmental Impact Assessment (EIA) Regulations (2014, as amended) or proposed alternative reasonable methods as provided for in regulation 41(2)(e) of the EIA Regulations, for the purposes of the application and submit such plan to the competent authority; • Request a meeting or pre-application discussion with the relevant competent authority to determine the reasonable measures to be followed to identify potential I&APs and register IA&Ps for purposes of conducting public participation on an application requiring adherence to Chapter 6 of the EIA Regulations as set out in the PPP and obtain agreement from the relevant competent authority on 	DENC/DEFF	2020

BASIC ASSESSMENT REPORT

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	<p>the Public Participation Plan;</p> <ul style="list-style-type: none"> ○ For new applications, the PPP agreed with the competent authority, must be attached to the application form; and ○ Unless part of a site visit, virtual or telephonic meetings to be arranged with the relevant competent authority as set out in Annexure 2. <p><i>A pre-application discussion was held with the DENC where the proposed stakeholder engagement process was discussed. This stakeholder engagement plan was included in the application that was submitted to the DENC and has been included in this BAR in Section C and will be implemented throughout the EIA process.</i></p>		

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

YES X	NO
----------	----

If YES, what estimated quantity will be produced per month?

>100m ³

How will the construction solid waste be disposed of (describe)?

The project will include removal and screening of all the Kimberlite stockpiles located on the site. Approximately 50% of the material will be used for brick production and 50% will be waste to be discarded at Roodepan quarry holes.

A licensed waste management company will be responsible for the collection of waste from the construction related project area and disposing of it at an approved landfill site. Waste manifests will have to be obtained as proof of legal disposal of waste.

Where will the construction solid waste be disposed of (describe)?

The waste from the Kimberlite collected from the site will be used as backfill at the Roodepan Quarry. All construction related waste produced will be disposed of at a licenced municipal landfill site.

Will the activity produce solid waste during its operational phase?

YES X	NO
----------	----

If YES, what estimated quantity will be produced per month?

28-35 t/d (household solid waste) and 2.25 t/d commercial mixed solid waste

How will the solid waste be disposed of (describe)?

During the operational phase of the project, normal household and commercial solid waste will be generated. On-site storage options from the waste are provided in Figure 6.


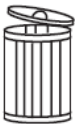


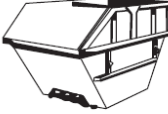
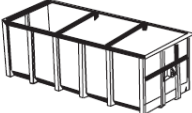
Level	Density	Description	Common use	Illustrated examples	Collection method
Domestic	Low	85 litre plastic bin liners	Domestic/household Small business & Industry General public amenities		By hand on-site or on sidewalk Liners deposited directly into collection vehicle
	Medium and High	85 litre rubber / galvanised steel bins	Domestic/household Small business & industry General public amenities		By hand on-site or on sidewalk Bins emptied directly into collection vehicle
	Medium and High	120/240 litre mobile refuse bins	Domestic/household Small business & industry General public amenities		Rear-end loading compactors with special lifting equipment
Commercial	T1	1 and 1.2 m ³ mobile refuse containers	Small business and industry		Rear-end loading compactors with special lifting equipment
	T2	4.5, 5.5, 6, 9 & 11m ³ bulk containers	Large business & industry, garden refuse, building rubble, general public amenities & bulk wastes and communal collection systems		Load luggers Rear-end loading compactors with special lifting equipment
	T3	15 to 30 m ³ open bulk containers	Large business & industry, garden refuse, building rubble & bulk wastes and communal collection systems		Roll-on roll-off vehicles

Figure 6: Proposed on-site waste storage options

It is expected that during the operational phase, the municipality will be responsible for the collection of refuse from the buildings and disposing of the waste at an approved site.

Waste Separation and Handling: General domestic waste will be disposed of through a colour coded bin system for different types of waste material. Domestic waste and scrap metals will be collected in rubbish bins.

Recycling: Provision for recycling of waste will be considered and all recyclable waste material will be disposed of at the Sol Plaatje Local Municipality registered landfill site. These facilities recycle plastics, glasses, papers, scrap metals, cardboard boxes, tins and cans.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

The waste will be disposed of at an approved solid waste municipal site.

Where will the solid waste be disposed of if it does not feed into a municipal waste stream (describe)?

N/A

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the NEM:WA?

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

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?

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

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

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

If YES, what estimated quantity will be produced per month?

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

Will the activity produce any effluent that will be treated and/or disposed of on site?

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

If YES, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Will the activity produce effluent that will be treated and/or disposed of at another facility?

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

If YES, provide the particulars of the facility:

Facility name:
Contact person:
Postal address:
Postal code:
Telephone:
E-mail:

[Redacted]	
Cell:	[Redacted]
Fax:	[Redacted]

Describe the measures that will be taken to ensure the optimal reuse or recycling of wastewater, if any:

N/A, no wastewater, outside of sewage will be produced as a result of the proposed project. The proposed project will include expansion of the municipal stormwater management infrastructure.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES	NO X
YES	NO X

If YES, is it controlled by any legislation of any sphere of government?

If YES, the applicant must consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If NO, describe the emissions in terms of type and concentration:

According to the specialist air impact quality assessment, the main pollutant of concern is Particulate Matter (PM) (Total Suspended Particles (TSP), PM₁₀ and PM_{2.5}). Particulate matter emissions would result from all the planned activities including construction at the Colville Site. Gaseous emissions (SO₂, NO_x, CO₂, Hydrocarbons (HC) and VOC) would result from vehicle tailpipe emissions from trucks transporting the building materials from the quarries to the Colville Site.

Air quality related impacts will primarily be from construction activities such as land clearing activities, including removal of waste rock and surface levelling (grading and scraping), and the off-loading and handling of building materials (bricks, cement, etc.) on-site. Once the site has been developed, there might be an increase in road traffic contributing to increased vehicle tailpipe emissions.

High impacts are expected at the residential areas of Square Hill Park; Gemdene and Floors Twp, and at Floors Clinic; Floors Comprehensive School and Olympic Primary School. Medium to high impacts are expected at Galeshewe suburb and at Progress Laerskool; Progress Primary School and Tshireleco High School.

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

YES	NO X
-----	---------

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?

YES X	NO
YES	NO X

If YES, is it controlled by any legislation of any sphere of government?

Describe the noise in terms of type and level:

The noise specialist study conducted for the project found that there are several noise receptors in the area which may be affected by the additional hauling and construction activities. According to the study, the ambient noise level in the vicinity of the proposed alternatives alignments is predominantly made up out of:

- Domestic type noise;
- Distant traffic noise;
- Central business type noises;
- Traffic noise; and
- Birds and insects.

The proposed project, whereby aggregate will be removed from Colville, St Augustine and Colville Sites and construction activities will take place at all five areas, will be below the threshold value of 7.0dBA before such activities can be classified as a noise disturbance. The recommended noise mitigatory measures must always be in place and quarterly noise assessments must be carried out to determine compliance to the Noise Control Regulation, 1992 on a pro-active basis.

The potential impact will be mechanical noise created by earth moving machinery at the site and earthmoving equipment at the Colville Site. The overall potential noise intrusion from the Kimberly Rehabilitation Upgrade project can however be controlled by means of approved acoustic screening measures, state of the art equipment, proper noise management principles and compliance to the Noise Control Regulations, 1992 and the International Finance Corporation's Environmental Health and Safety Guidelines. The proposed noise management plan in the EMPr must be in place during the construction and operational phases to identify any noise increase on a pro-active basis and to address the problem accordingly.

The specialist concluded that proposed project will be in line with the environmental noise standards and guidelines provided that all the noise mitigatory measures are in place and that the Noise Impact Management Programme (NIMPr) for the project is adhered to.

13. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es):

Municipal X	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water
----------------	-------------	-------------	-------------------------------	-------	------------------------------------

The source of water will be Sol Plaatje Local Municipality's existing Riverton Water Treatment Works which is currently abstracting from the Vaal River. No additional raw water abstraction is envisaged.

The proposed project will include expansion of the municipal water infrastructure in to cater to the increased demand as a result of the proposed project. Approximately 13.6 ML/d will be required.

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

N/A
NO X

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

14. ENERGY EFFICIENCY

Describe the design measures, if any, which have been taken to ensure that the activity is energy efficient:

The appointed Contractor will be advised to transport all construction materials on site at the same time where possible and the collection of waste materials will be conducted simultaneously with other activities to reduce the amount of fuel usage for such transportation.

Solar Geysers and solar energy are also being considered as well as energy limiting infrastructure like LED lights and streetlights.

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

See above

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A): ████████

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?

YES
X

NO
████████

If YES, please complete the form entitled “Details of specialist and declaration of interest” for each specialist thus appointed and attach it in [Appendix I](#). All specialist reports must be contained in [Appendix D](#).

Property description/physical address:

Province	Northern Cape	
District Municipality	Francis Baard District Municipality	
Local Municipality	Sol Plaatje Municipality Local Municipality	
Ward Number(s)	Ward 30901014	
Farm name and number	Remaining Extent of Erf 5025 Kimberley	
Portion number	Remaining Extent of Erf 5025 Kimberley	
SG Code	C03700010000502500000	

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

Public Open Space

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to, to this application.

Is a change of land-use or a consent use application required?

YES
X

NO
████████

The following land use applications apply to the Colville Site:

- Closure of public open space;
- Subdivision;
- Rezoning to allow residential development; and
- Removal of title conditions.

It must also be noted that the municipal council approved the implementation of the proposed project and made the land where the Colville Site will be located (Erf 5025 Kimberley) available to KRD, subject to the conclusion of a PPPA with the Municipality.

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	1:50 – 1:20 X	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7.5	1:7.5 – 1:5	Steeper than 1:5
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Alternative S2 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7.5	1:7.5 – 1:5	Steeper than 1:5
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Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7.5	1:7.5 – 1:5	Steeper than 1:5
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2. LOCATION IN LANDSCAPE

The topography of the site is generally by slightly undulating to flat plains. All the sites are located with areas defined as a Plain at a Medium Level (ENPAT 2000).

Indicate the landform(s) that best describes the site:

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input checked="" type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input type="checkbox"/>	2.6 Plain	<input checked="" type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>
2.10 At sea	<input type="checkbox"/>				

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO X	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO X	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO X	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO X	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO X	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO X	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO X	YES	NO	YES	NO
An area sensitive to erosion	YES	NO X	YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted.

The geology area is underlain by rocks of the Karoo Supergroup. The Karoo sequence in the Kimberley area comprises sedimentary succession of the Dwyka, Ecca and Beaufort Groups. The Dwyka consists of Tillite, sandstone, mudstone and shale. The Dwyka Formation is found at the base of the Karoo Sequence. In the central of the Karoo it was deposited in a comparatively shallow basin with a rather even floor, so that the rocks in this area are practically horizontally bedded and not very thick.

A Land type unit is a unique combination of soil pattern, terrain and macroclimate, the classification of which is used to determine the potential agricultural value of soils in an area. The land type units represented within the project areas include the Ae45 land type (Land Type Survey Staff, 1987) (ENPAT, 2000). The land type, geology and associated soil type is presented in Table 2 as classified by the Environmental Potential Atlas, South Africa (ENPAT, 2000).

Table 2: Land types, geology and dominant soil types of the proposed development site

Landtype	Soils	Geology
Ae45	Red yellow apedal, freely drained soils; red, high base status, > 300 mm deep (no dunes)	Tillite (Dwyka Formation), shale and mudstone (Ecca Group) covered partially by surface limestone and red wind-blown sand. Dolerite intrusions also occur.

The soils in a regional context are reddish, moderately shallow, sandy, and often overlay layers of calcrete of varying depths and thickness. The soils are typically weakly structured with low organic content. These soils drain freely which results in a soil surface susceptible to erosion, especially wind erosion when the vegetation cover is sparse and gully erosion in areas where stormwater can concentrate.

4. GROUNDCOVER

Indicate the types of groundcover present on the site. The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition ^E	Natural veld with scattered aliens ^E	Natural veld with heavy alien infestation ^E x	Veld dominated by alien species ^E	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

The specialist assessment identified 4 major vegetation / ecological units (Figure 7) as follows:

- Degraded *Vachellia tortilis* – *Prosopis* woodland;

- *Prosopis glandulosa* woodland (Open woodland and Thickets / degraded areas (old mining dumps))
- Degraded grassland / bare ground; and
- Drainage features: Artificial Wetland.

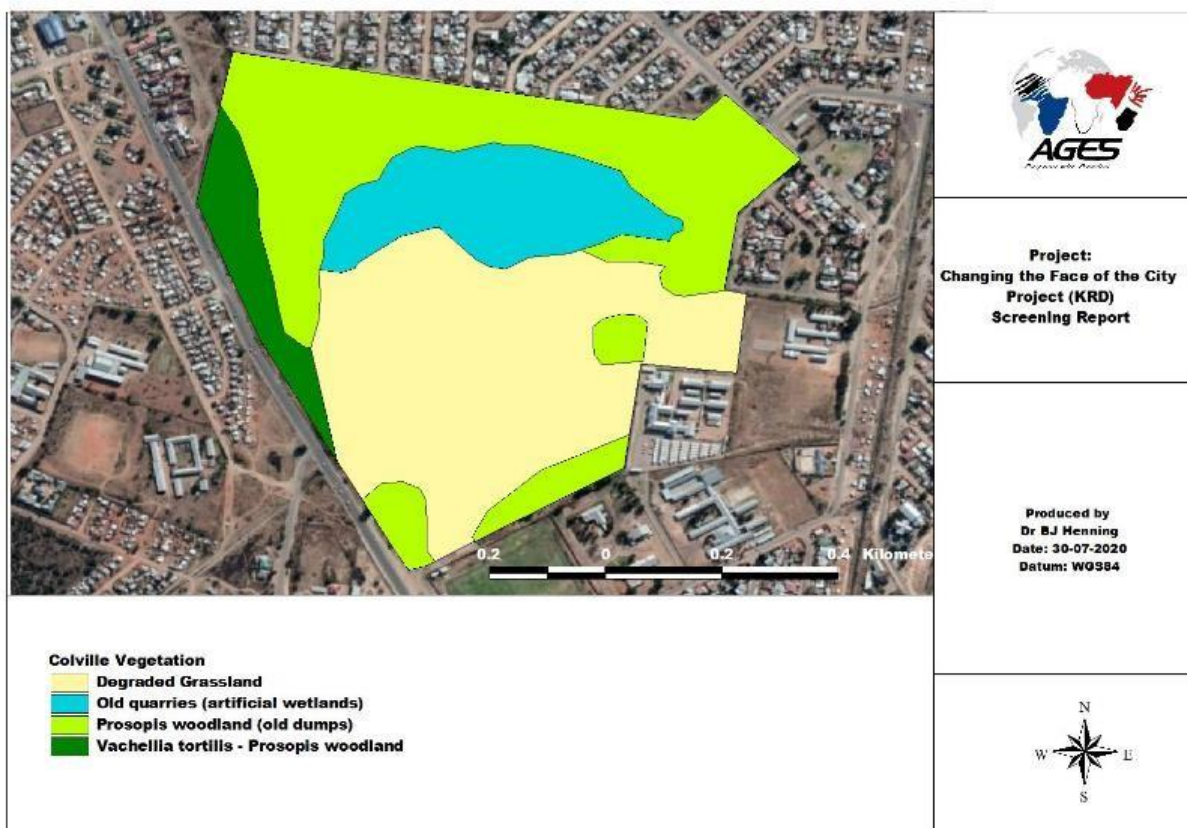


Figure 7: Vegetation Map of the proposed development

If any of the boxes marked with an “E” is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn’t have the necessary expertise.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO X	UNSURE
Non-Perennial River	YES	NO X	UNSURE
Permanent Wetland	YES	NO X	UNSURE
Seasonal Wetland	YES	NO X	UNSURE
Artificial Wetland	YES X		UNSURE

BASIC ASSESSMENT REPORT

Estuarine / Lagoonal wetland	YES	NO X	UNSURE
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If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

According to the ecological assessment, there are artificial wetlands located on the Colville site. The depressions in the project area represent man-made quarries or artificial depressions created where stormwater or water from surrounding leaking pipelines collect. Species such as *Phragmites australis*, *Typha capensis*, *Persicaria serullata*, *Schoenoplectus corymbosus*, *Ludwigia stolonifer* and *Leersia hexandra* mostly grow along the shallow edges of the quarries in the project area on a muddy substrate.

The artificial wetlands have a medium sensitivity and still have some functionality in terms of the hydrology of the area as well as providing habitat to various waterfowl. The specialist recommended that the area should be drained, backfilled and levelled according to rehabilitation specifications.

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station ^H
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential	Church	Agriculture
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant ^A	Nature conservation area
Medium industrial ^{AN}	Train station or shunting yard ^N	Mountain, Koppie or ridge
Heavy industrial ^{AN}	Railway line ^N	Museum
Power station	Major road (4 lanes or more) ^N	Historical building
Office/consulting room	Airport ^N	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe)

BASIC ASSESSMENT REPORT

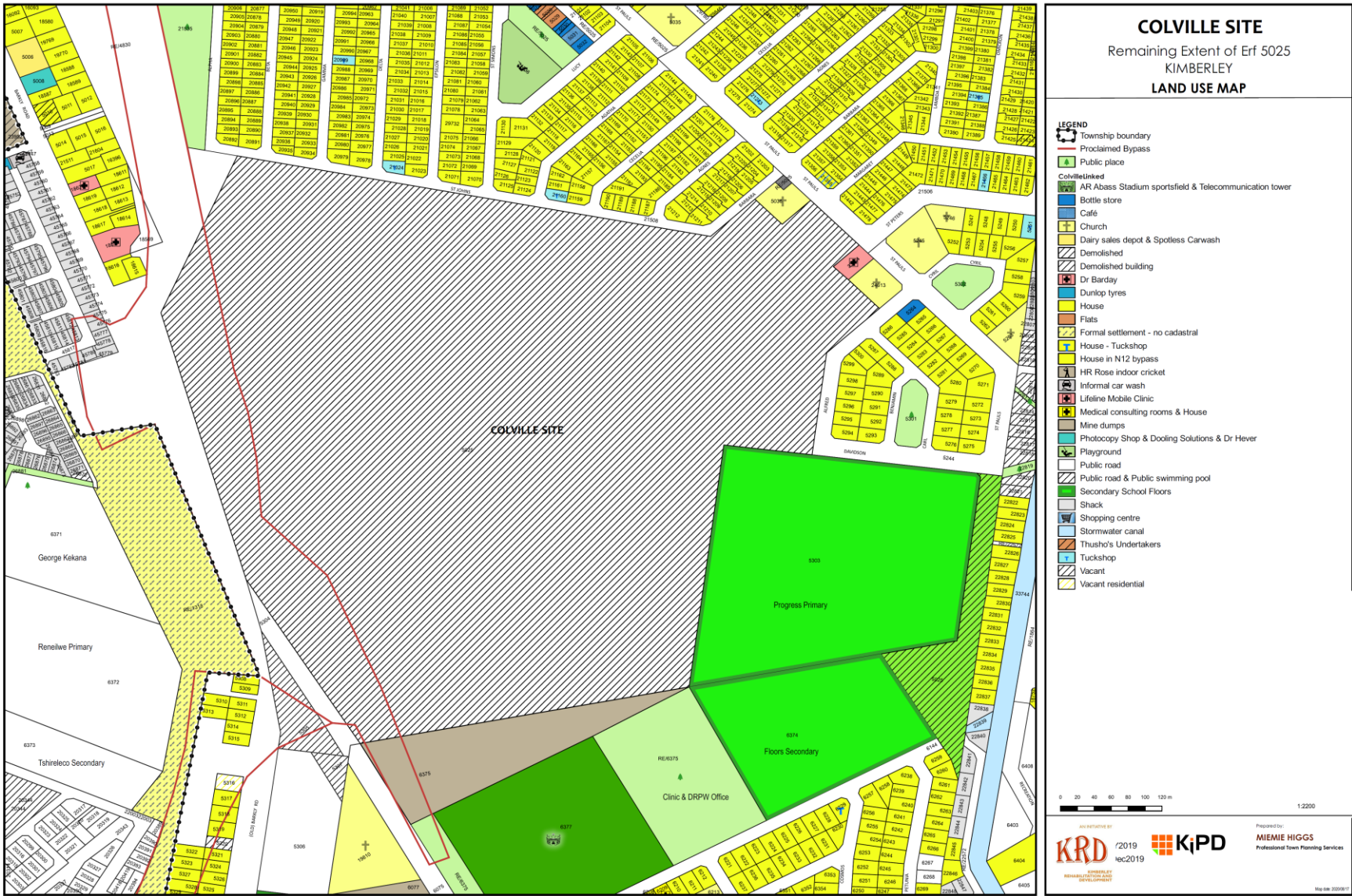


Figure 8: Land use Zoning

If any of the boxes marked with an "N" are ticked, how this impact will / be impacted upon by the proposed activity? Specify and explain:

The project on the Colville site will have an impact on N8. The main impact on the N8 would be the potential increase in traffic due to transportation of construction material to the Colville site as shown in Figure 9.

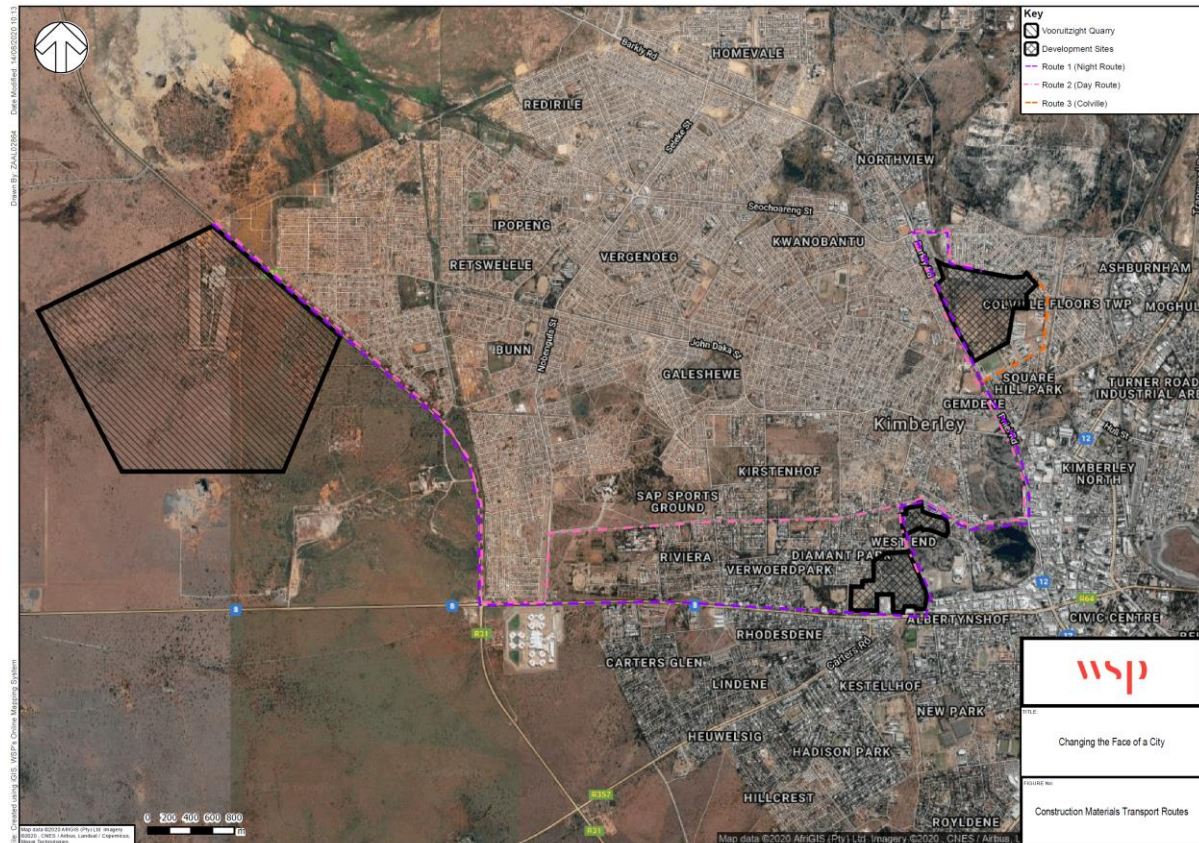


Figure 9: Proposed Material Transportation Routes

The impacts during the construction phase are considered to be of low significance as they will be short lived and will last until the conclusion of construction activities. The impacts during the operational phase are also considered to be of low significance as they will result in minimal additional traffic on the affected roads.

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

N/A

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

N/A

BASIC ASSESSMENT REPORT

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	NO X
Core area of a protected area?	YES	NO X
Buffer area of a protected area?	YES	NO X
Planned expansion area of an existing protected area?	YES	NO X
Existing offset area associated with a previous Environmental Authorisation?	YES	NO X
Buffer area of the SKA?	YES	NO X

If the answer to any of these questions was YES, a map indicating the affected area must be included in [Appendix A](#).

The development footprint area is located in an area classified as Ecological Support Areas (ESAs) and Other Natural Areas (ONA) as shown in Figure 10. The assessment undertaken by the biodiversity specialist found that the proposed Colville Site is in a highly degraded state and should not be classified into any of the categories indicated on the map in Figure 10.

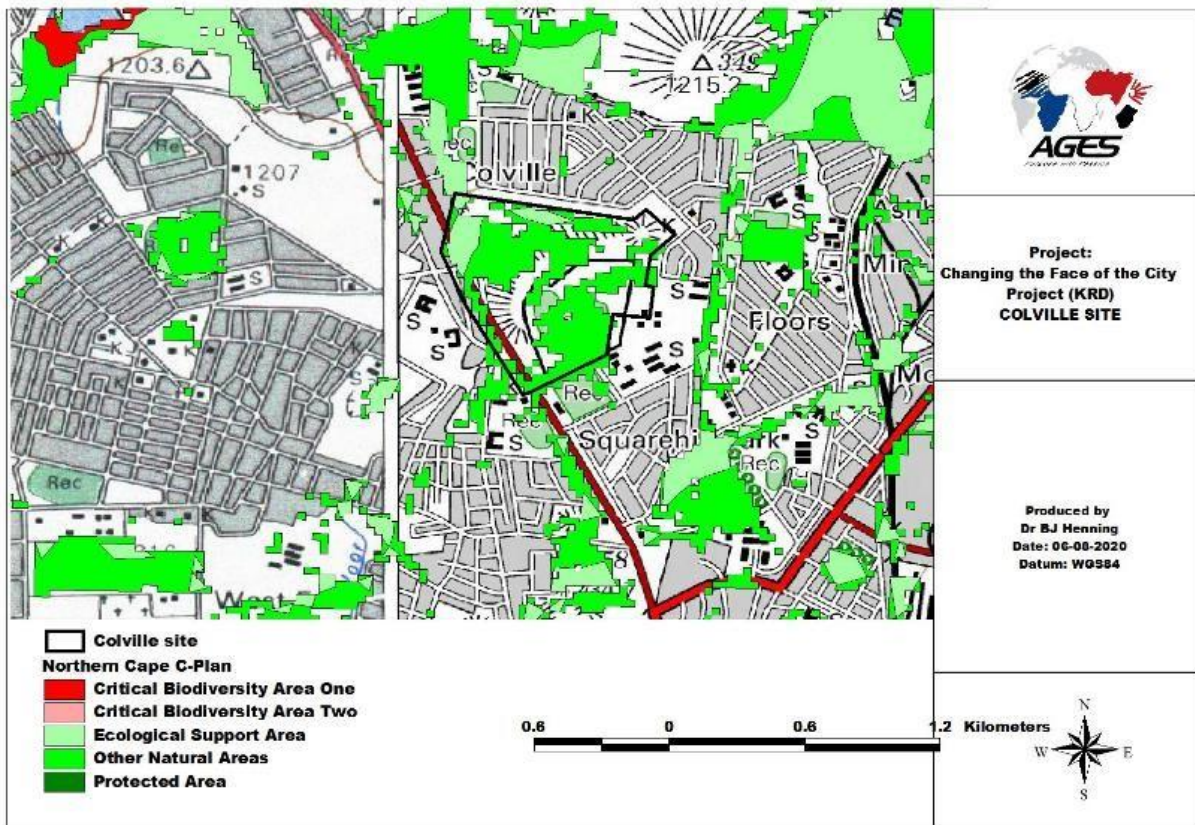


Figure 10: C Plan Map

7. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:

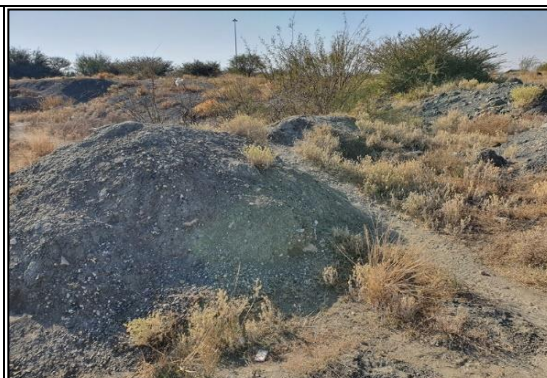
YES	NO
X	
Uncertain	

The heritage assessment of the specific sites found that the Colville Site shows signs of recurring and considerable historical and recent surface disturbances and little to no original surface cover on the terrains remain. Surface and subsurface deposits at the sites are made up of a mix of mine debris, ash-heaps and domestic waste. The Historical Kimberley Mine and many other historical monuments are situated within a radius of approximately 2km of the project areas. Other archaeological occurrences have been documented at a number of locales in the landscape immediately surrounding the respective project areas and particularly at mine dumps dating to Kimberley's Historical period.

A large number of archaeological and historical studies have been conducted in the Kimberly area. These studies all infer a rich and diverse archaeological landscape around the town and the Northern Cape Province, which encompasses a significant heritage legacy, mostly dominated by a rich historical Industrial frontier. The abundance of locally available raw material implies a prominent Stone Age presence and specifically Earlier Stone Age (ESA) and Middle Stone Age (MSA) artefacts occur widely in the area. A wealth of Later Stone Age rock art sites, most of which are in the form of rock engravings are also to be found in the larger landscape e.g. at Wildebeestkuil. Sites dating to the Iron Age occur in the north eastern part of the Province, but environmental factors delegated that the spread of Iron Age farming westwards from the 17th century was constrained mainly to the area east of the Langeberg Mountains. However, evidence of an Iron Age presence as far as the Upington area in the eighteenth century occurs in this area. Moving into recent times, the archaeological record reflects the development of a rich colonial frontier, characterised by, amongst others, a complex industrial archaeological landscape such as mining developments at Kimberley, which herald the modern era in South African history.



A porcelain fragment from the refuse dump at the Colville Site



View of refuse dumps at the Colville Site.

An analysis of historical aerial imagery and archive maps of the project area suggests a landscape which has been sparsely populated in historical times but the area was subjected to extensive industrialization and urban development, quarrying and digging towards the end of the 20th century during the Kimberly diamond rush and subsequent mine growth. The following recommendations are made based on general observations in the proposed BMW, Colville & St Augustine Sites Development in terms of heritage resources management:

- According to the South African Heritage Resources Agency Information System (SAHRIS) Palaeo Map, portions of the project area fall within a sensitive fossiliferous zone and a Palaeontological Assessment is recommended for the project, subject to review and recommendations by the relevant heritage authorities. Should fossil remains such as fossil fish, reptiles or petrified wood be exposed during construction, these objects should carefully safeguarded and the relevant heritage resources authority (SAHRA) should be notified immediately so that the appropriate action can be taken by a professional palaeontologist.

- Fragments of dated bottles and bottle necks, porcelain, glass and metal occur in random scatters at the project sites in refuse dumps. These artefacts were found in low densities in association with mining debris from the Historical Period. The St Augustine Mine located directly north-west of the Kimberley Mine, was in operation from the late 1890s until 1902. Later, the tailings of the Kimberley Mine were deposited over the St Augustine kimberlite and all indications of the mine disappeared.
- Some discarded mining areas became dumping areas for industrial and domestic waste which seems to be the case with the St Augustine, BMW and Colville Sites. Cognisant of the regional significance of the Historical Dumps at the BMW, Colville & St Augustine Sites, it is recommended that a representative sample of the middens be excavated in order to assess their significance before any further decision pertaining to heritage mitigation (for example potential Phase 2 archaeological specialist assessments) are taken. This measure should be undertaken subject to the relevant archaeological excavation permitting requirements from the competent heritage authority (SAHRA). In addition, destruction permits should be obtained from the relevant heritage authorities (SAHRA) prior to any impact on these sites.
- It is recommended that all planned activities should be carefully monitored by an archaeologist familiar with the archaeology and history of Kimberley on a regular basis (bi-monthly during initial site clearing and ground moving) in order to detect impact on the cemetery or any previously undetected heritage remains at the earliest opportunity. In addition, an informed ECO should inspect the construction sites on regular basis in order to monitor possible impact on heritage resources.
- Considering the localised nature of heritage remains, the general monitoring of the development progress by an ECO or by the heritage specialist is recommended for all stages of the project. Should any subsurface palaeontological, archaeological or historical material, or burials be exposed during construction activities, all activities should be suspended, and the archaeological specialist should be notified immediately.

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

N/A, a heritage specialist was appointed to undertake the HIA assessment.

Will any building or structure older than 60 years be affected in any way?

YES	NO X
YES X	

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

This BAR, together with the Heritage Impact Assessment Report will also be submitted to the SAHRA as part of the EIA process (commenting authority).

The Heritage Resources Specialist recommended that a representative sample of the middens be excavated in order to assess their significance before any further decision pertaining to heritage mitigation (for example potential Phase 2 archaeological specialist assessments) are taken. This measure should be undertaken subject to the relevant archaeological excavation permitting requirements from the competent heritage authority (SAHRA). In addition, destruction permits should be obtained from the relevant heritage authorities (SAHRA) prior to any impact on these sites.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

Compared to the other regions in Frances Baard District Municipality, Sol Plaatje Local Municipality had the highest Economic Active Population (EAP) as a percentage of the total population within its own region relative to the other regions. In 2005, 39.7% of the total population in Sol Plaatje Local Municipality were classified as economically active which decreased to 39.6% in 2015. Of the economically active people in the municipality, 31.9% are unemployed (per the narrow definition of unemployment). 41.7% of the economically active youth (15 – 34 years) in the area are unemployed. In 2015 the labour force participation rate for Sol Plaatje was at 60.0%, similar to the 59.2% in 2005 and the unemployment rate for Sol Plaatje was 36.6% (2005) and decreased overtime to 36.0% in 2015. The gap between the labour force participation rate and the unemployment rate decreased between 2005 and 2015, indicating a negative outlook for employment within Sol Plaatje Local Municipality.

A market survey conducted for the project found that 61.6% of the potential labour force participates in the local economy and 12 917 people became economically active since 2009, with 5 991 jobs created since 2009. Unemployment increased by 6 929 since 2009.

The socio-economic overview of the primary market areas shows that 56.5% of the population is economically active and 43.9% is not (Figure 11).

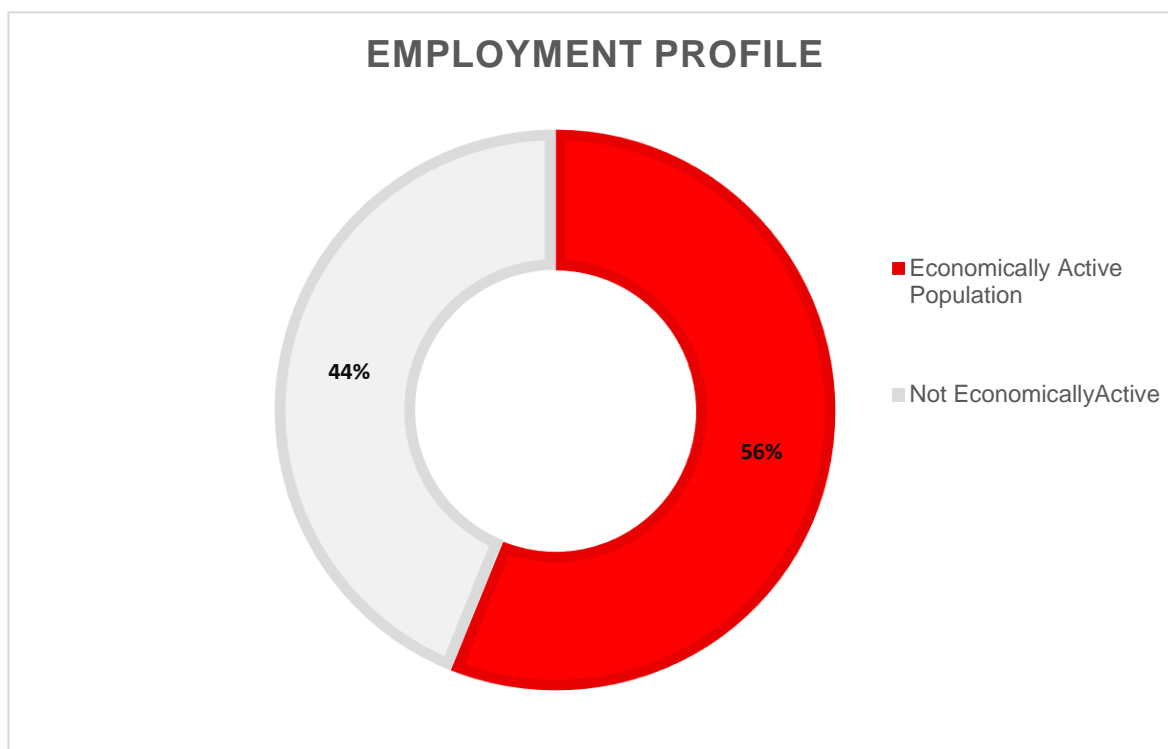


Figure 11: Economic Profile of the Primary Market Areas

It is expected that the proposed project will result in additional creation of employment (1 500 direct and indirect jobs) as well as contribution to the Local and Provincial Gross Domestic Product (potential R 6 billion in investment).

Economic profile of local municipality:

The Sol Plaatje Local Municipality is a Category B municipality located in the Frances Baard District in the Northern Cape Province. It is bordered by Dikgatlong in the north, the Pixley ka Seme District in the south and west, and the Free State Province in the east.

The size of Sol Plaatje local economy is approximately R46.0 billion. The municipality contributes 78.0% and 25.5% to the Frances Baard District Economy and the Northern Cape Province Economy respectively.

The main economic sectors: include agriculture, business services, game farming, tourism and hospitality, manufacturing, transport, community services, social and personal services. The fastest growing sectors in the Municipality are agriculture, electricity and water, and mining sectors. The IDP notes that the current growth occurring in these sectors should be exploited to ensure the creation of new job opportunities for local people.

Level of education:

Of the population over 20 years of age, 30% of the population has obtained matric and higher education, while 10% indicate no schooling. The remaining 60% have some primary schooling and some secondary schooling (Figure 12).

The Sol Plaatje IDP notes that this poses a serious problem for the future economic trajectory as skills will have to be built to suit the economic path and in the short-term skills will have to be brought in from skilled areas.

Education Levels of Population over 20 yrs

- No schooling ■ Some primary ■ Complete primary
- Some secondary ■ Grade 12/ Std 10 ■ Higher Education

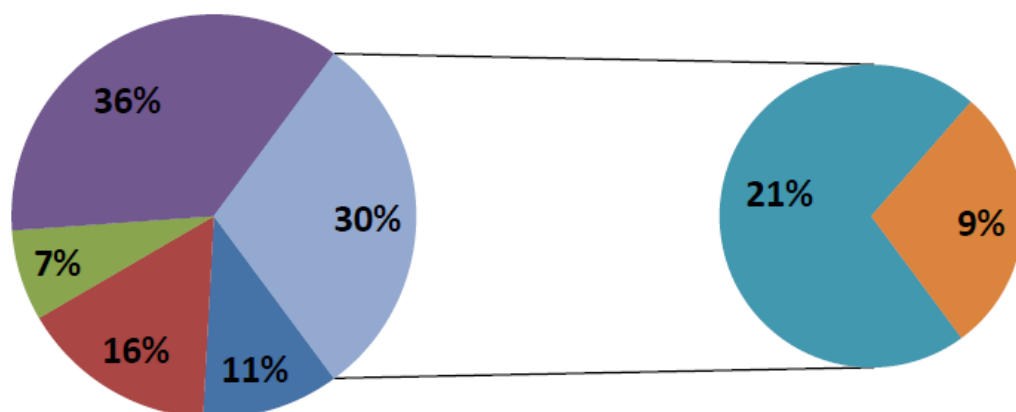


Figure 12: Education (Source – Stats SA, 2011)

Table 3 provides a summary of educational levels in the Sol Plaatje Local Municipality.

Table 3: Educational Levels in the Sol Plaatje Local Municipality

No schooling age 20+	10%
Higher education aged 20+	9%
Matric aged 20+	21%

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R6 billion		
What is the expected yearly income that will be generated by or as a result of the activity?	Between 15 and 20 % of turnover		
Will the activity contribute to service infrastructure?	<table border="1"> <tr> <td>YES X</td> <td>NO</td> </tr> </table>	YES X	NO
YES X	NO		
Is the activity a public amenity?	<table border="1"> <tr> <td>YES</td> <td>NO X</td> </tr> </table>	YES	NO X
YES	NO X		
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Approximately 1500, direct and indirect		
What is the expected value of the employment opportunities during the development and construction phase?	R480 million over 6-year period		
What percentage of this will accrue to previously disadvantaged individuals?	Approximately 90%		
How many permanent new employment opportunities will be created during the operational phase of the activity?	Approximately 1500, direct and indirect		
What is the expected current value of the employment opportunities during the first 10 years?	R666 million		
What percentage of this will accrue to previously disadvantaged individuals?	Approximately 90%		

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP’s responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as [Appendix D](#) to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category	If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
--	---

Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNA)	<p>Small portions of the site are classified as Ecological Support Areas (ESAs), which are areas that are not essential for meeting biodiversity targets but play an important role in supporting the ecological functioning of Critical Biodiversity Areas and/or in delivering ecosystem services.</p> <p>The biodiversity specialist assessment however found that the proposed Colville site is in a highly degraded state and should not be classified into any of the categories indicated on the map (Figure 13).</p>
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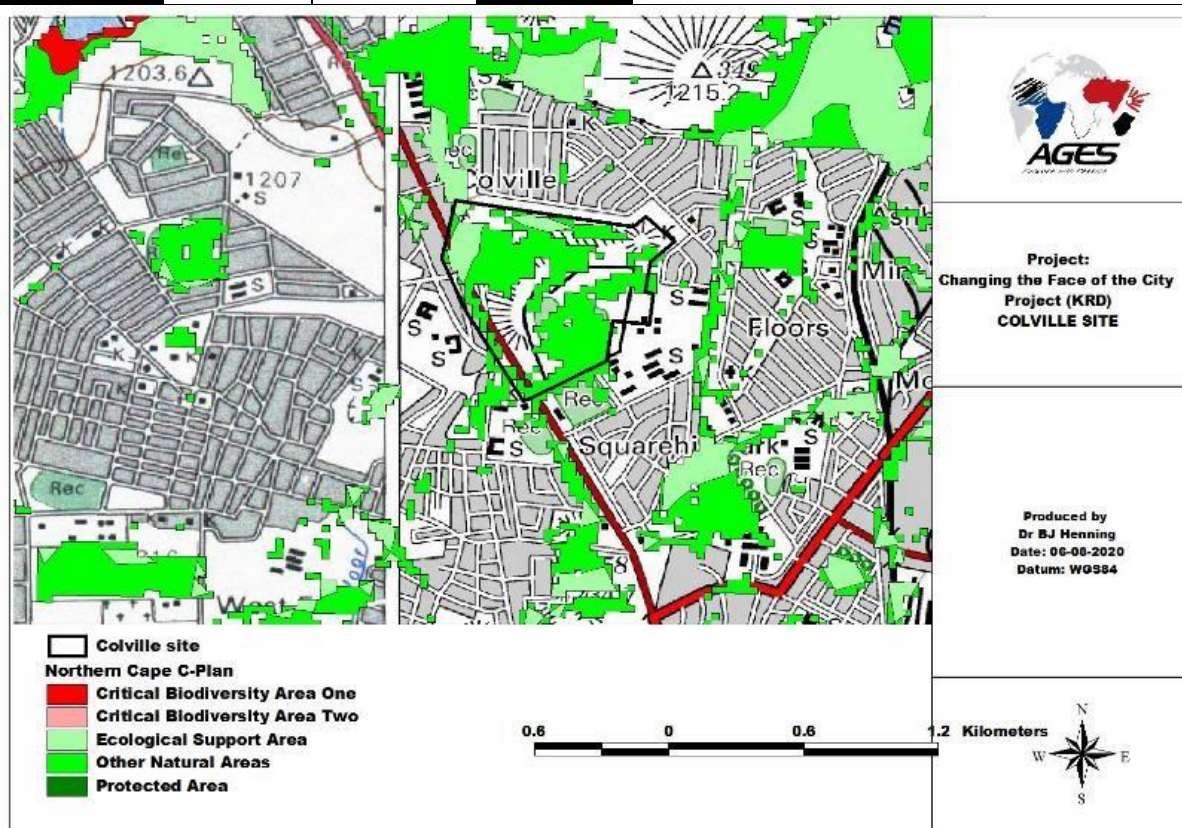


Figure 13: C Plan Map

b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural	0%	No natural habitat remaining
Near Natural	6.3%	Pockets of degraded microphyllous woodland in

BASIC ASSESSMENT REPORT

(includes areas with low to moderate level of alien invasive plants)		between the mining dumps
Degraded (includes areas heavily invaded by alien plants)	78.7%	Mine dumps representing woodland areas and degraded grassland invaded by various alien species
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	15%	Old quarries on site that now represent artificial wetlands, although still considered man-made features

c) Complete the table to indicate:

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems					
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical Endangered Vulnerable	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)			Estuary	Coastline	
	Least Threatened	YES	NO X	UNSURE	YES	NO X	YES S

According to the SANBI data, the project area is situated within an area with ecosystems that are classified as Least Threatened (Figure 14).

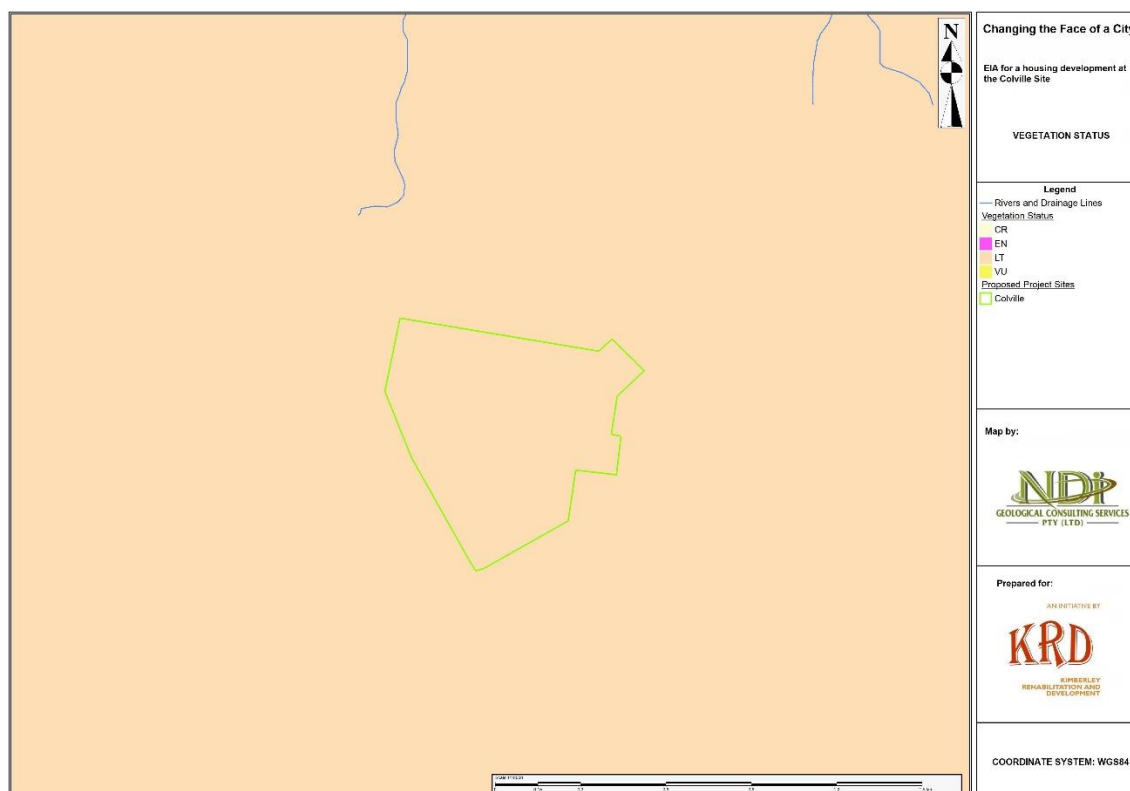


Figure 14: Vegetation Status

The SANBI remaining vegetation data shows that there are no natural threatened ecosystems remaining in the area.

- d) **Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)**

According to the biodiversity assessment, the indigenous flora of the area is mostly represented by the Kimberley Thornveld (Mucina & Rutherford, 2006) which occurs on slightly irregular plains with well-developed tree layer dominated by tree species such as *Vachellia erioloba*, *V. tortilis*, *V. karroo* and *Boscia albitrunca* and well developed shrub layer with occasional dense stands of *Tarchonanthus camphoratus* and *Senegalia mellifera*. The grass layer is often open with much uncovered soil, although erosion is very low. This vegetation type has a Least Threatened conservation status with 18% transformed mostly through cultivation, while only 2% conserved.

5 major vegetation units (**Error! Reference source not found.**) occur on the proposed development site as follows:

- *Vachellia tortilis* – *Prosopis* woodland: This vegetation unit occurs in the western section of the site on red apedal soils of the Hutton soil form. The woody layer is characterised by the dominance of the indigenous *Vachellia tortilis* and the alien invasive *Prosopis glandulosa*. The woodland is typical of the Kimberley Thornveld vegetation type on plains and can be considered as the only natural vegetation unit occurring on the Colville site. Herbaceous species within the understory included grass species such as *Enneapogon cenchroides*, *Enneapogon desvauxii*, *Cenchrus ciliaris*, *Eragrostis echinocloidea*, *Aristida congesta*, *Fingerhutia africana* and *Themeda triandra*. The vegetation unit has a Medium-low Sensitivity and unlimited development can be supported within the footprint area.
- *Prosopis glandulosa* woodland: This vegetation unit represent the *Prosopis* invaded areas on the old mining dumps of the Colville Site. Two specific variations of this vegetation unit occur namely a more open unit. This vegetation unit represent the *Prosopis* invaded areas on the old mining dumps of the Colville Site. Two specific variations of this vegetation unit occur namely a more open unit where *Prosopis* have invaded and a variation where the *Prosopis* trees form dense stands or thickets. The Mesquite tree (*Prosopis glandulosa*) is synonymous with dry arid areas in especially the Karoo and the Northern Cape. The tree is loved by livestock for its sweet seed pods which is sometimes also used among residents for its medicinal purposes. It has since become the second most widespread invasive tree species in South Africa. *Prosopis* trees are extravagant users of readily available groundwater and dense stands could seriously affect the hydrology of the ecosystems they invade. Dense stands compete with and replace indigenous woody and grassland species. Dense stands produce few pods and thus replace natural pasturage without providing pods in return. Dense stands are virtually impenetrable, restricting the movement of domestic and wild animals and causing injuries. These species and hybrids have been listed as invasive species in terms of the Alien and Invasive Species Regulations (AIS), National Environmental Management: Biodiversity Act (Act No 10 of 2004). They were listed as category 3 species in the Northern Cape recently and the Kimberley area have a serious problem with *Prosopis* invasion. The development will ensure that the *Prosopis* stands are controlled, although a specific approach would be needed to prevent spreading to neighbouring areas. The Mesquite tree (*Prosopis glandulosa*) is synonymous with dry arid areas in especially the Karoo and the Northern Cape. The tree is loved by livestock for its sweet seed pods which is sometimes also used among residents for its medicinal purposes. It has since become the second most widespread invasive tree species in South Africa. *Prosopis* trees are extravagant users of readily available groundwater and dense stands could seriously affect the hydrology of the ecosystems they invade. Dense stands compete with and replace indigenous woody and grassland species. Dense stands produce few pods and thus replace natural pasturage without providing pods in return. Dense stands are virtually impenetrable, restricting the movement of domestic and wild animals and causing injuries. These species and hybrids have been listed as invasive species in terms of the Alien and Invasive Species Regulations (AIS), National Environmental Management: Biodiversity Act (Act No 10 of 2004).

- They were listed as category 3 species in the Northern Cape recently and the Kimberley area have a serious problem with *Prosopis* invasion. The development will ensure that the *Prosopis* stands are controlled, although a specific approach would be needed to prevent spreading to neighbouring areas. The vegetation unit has a low sensitivity and unlimited development can be supported within the footprint area; and
- Degraded grassland / bare ground: This vegetation unit occurs along the edges of the old mining dumps in the central and western section of the site and represent secondary grassland. Most of the areas were previously degraded for mining related activities. Although secondary grasslands may superficially look like primary grasslands, they differ markedly with respect to species composition, vegetation structure, ecological functioning and the ecosystem services they deliver. These grasslands are still in an early successional state, although somewhat older (older than 5 years) with several grass species like *Enneapogon scoparius*, *Aristida junciformis*, *Aristida congestas. congesta* and *Eragrostis echinchoidea*. The herbaceous layer is characterised by dense stands (density 60-70%) of climax grasses of medium height (0.6-1.2m). The vegetation unit has a Low Sensitivity and unlimited development can be supported within the footprint area;
- Artificial Wetlands: The depressions in the project area represent man-made quarries or artificial depressions created where stormwater or water from surrounding leaking pipelines collect. Species such as *Phragmites australis*, *Typha capensis*, *Persicaria serullata*, *Schoenoplectus corymbosus*, *Ludwigia stolonifer* and *Leersia hexandra* mostly grow along the shallow edges of the quarries in the project area on a muddy substrate.

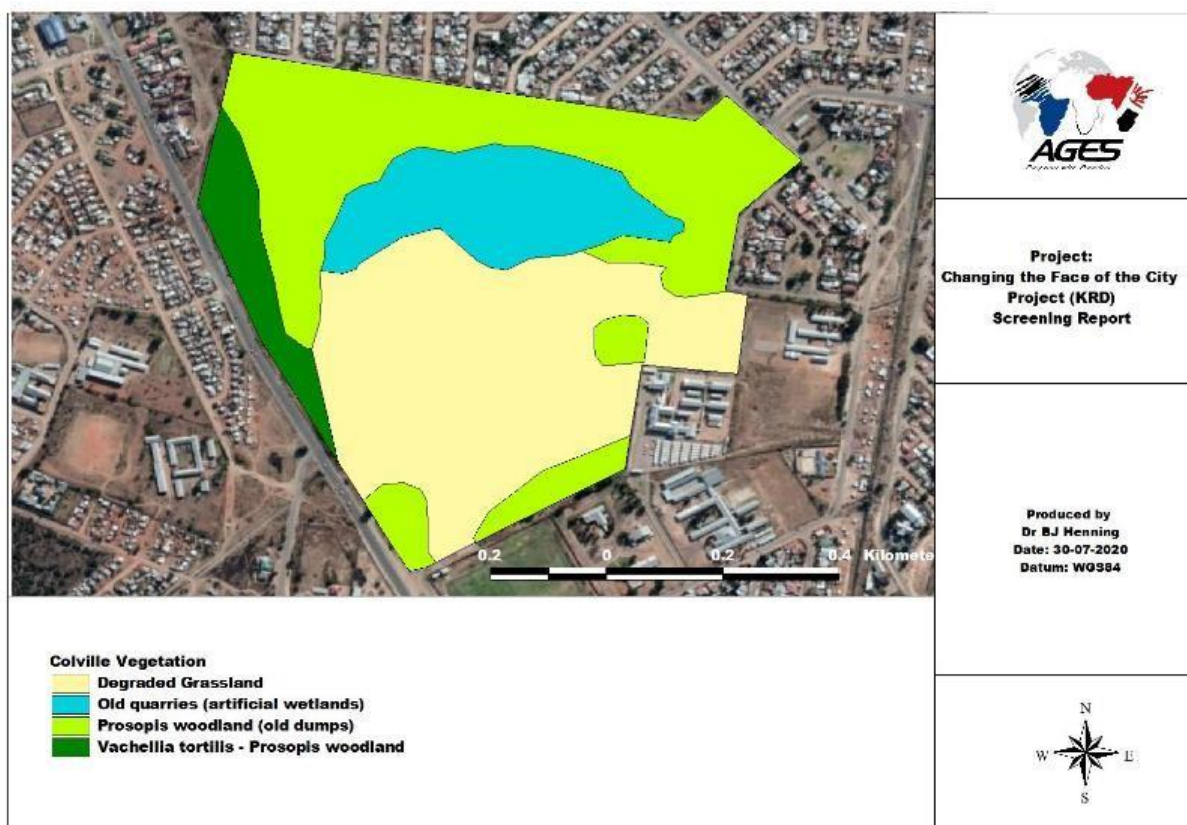


Figure 15: Vegetation Units on the Colville Site

A floral species level assessment found that:

Species of conservation concern

A list of SCC plant species previously recorded in the study area in which the proposed development is planned was obtained from the Plants of Southern Africa (POSA) database of South African National Biodiversity Institute (SANBI).

Error! Reference source not found. provides a list of the potential red data species occurring in the QDS of the study area with reference to the vegetation types.

Table 4: Red data species potentially occurring in the quarter degree grid of the study area with specific reference to the vegetation types (SIBIS database)

Species Name	Conservation Status
<i>Gallenia pallens</i>	Data Deficient

None of these species were documented during the surveys.

Protected Trees (National Forest Act, No.84 of 1998)

No protected tree species was documented on site.

Protected plants (Northern Cape Nature Conservation Act, No. 9 of 2009)

No NCNCA protected species are located on the site.

Invasive alien species (Alien and Invasive Species Regulations GNR 599 of 2014)

The Alien Invasive Plant Species identified during the survey are provided in **Error! Reference source not found.**

Table 5: List of AIS documented in the project area

Species	NEM:BA Category
<i>Agave sisalana</i>	2
<i>Argemone ochroleuca</i>	1b
<i>Atriplex nummularia</i>	2
<i>Cirsium vulgare</i>	1b
<i>Datura stramonium</i>	1b
<i>Flaveria bidentis</i>	1b
<i>Melia azedarach</i>	3 (in urban areas)
<i>Nicotiana glauca</i>	1b
<i>Opuntia ficus-indica</i> ; <i>Opuntia stricta</i>	1b
<i>Prosopis glandulosa</i>	3
<i>Ricinus communis</i>	2
<i>Salsola kali</i>	1b
<i>Tipuana tipu</i>	3
<i>Xanthium strumarium</i>	1b

Fauna

- **Habitat:** The area represents mixed woodland vegetation components with a diverse vegetation structure and height class. There are three main faunal habitat types present on the site that might be impacted on by the proposed project namely open water habitat (wetlands), degraded grassland and mixed woodland (alien invasive and indigenous).
- **Mammals:** Large mammals that occurred historically at the site, are absent from the area, owing to anthropogenic impacts in recent centuries. This loss of large species means that the mammal diversity at the site is far from its original natural state not only in terms of species richness but also with regards to functional roles in the ecosystem. Mammals are sensitive to disturbances and habitat destruction and degradation and as such the anticipated species diversity of the study area would be low. Settlement areas have negated the possibility of encountering any medium to large mammals. The presence of dogs as well as poaching activities (snares observed on site), poses a threat to the presence of mammals on sites. The mammals are mostly represented by generalised species such as rodents and scrub hares that will move through the area while foraging. The proximity of the informal settlements does however place constant pressure on these mammal populations and many of these populations will eventually disappear from the area completely. Most mammal species are highly mobile and will move away during construction. The connectivity of the project site is low.
- **Birds (avifauna):** The conservation status of many of the bird species that are dependent on wetlands reflects the critical status of wetland nationally, with many having already been destroyed. In the study area, only pans (artificial wetlands in old quarries) were observed. These pans are extremely important sources of water for most bird species and will be regularly utilised not only as a source of drinking water and food, but also for bathing. The pans in this study area could also be used as flight paths for certain species. Species such as greater flamingos will utilize the salt pans in the area for foraging, although the artificial wetlands are not considered a habitat of significance compared to the Kamfers Dam to the east of the Roodepan site. Microphyllous woodland usually supports much higher bird numbers compared to the broadleaved woodlands. The area represents microphyllous woodland and supports many smaller bird species such as Ashy Tit, Pied Babbler, Kalahari Robin, Burntnecked Eremomela, Desert Barred Warbler, Marico Flycatcher, PiritBatis, Crimsonbreasted Shrike, Longtailed Shrike, Threestreaked Tchagra, Great Sparrow, Whitebrowed Sparrowweaver, Scalyfeathered Finch, Violeteared Waxbill and Blackcheeked Waxbill.
- **Herpetofauna (Reptiles and Amphibians):** Typical species associated with arid and semi-arid habitat types occur in the study area. Venomous species such as the puff adder and cape cobra are expected to occur in the larger study area, although the location within Kimberley City makes the probability of these snakes occurring on site virtually zero. The general habitat type for reptiles consists of open woodland and grassland with limited available habitat for diurnally active and sit-and-wait predators, such as terrestrial skinks and other reptiles. The amphibians appear to be poorly represented on site since no standing or perennial water sources are located on site. The stormwater canal might hold water for limited times of the year that could attract a few locally occurring frog or toad species. No threatened species occur in the area.

- **Red data species:** According to the existing databases and field survey the following number of fauna species included in the IUCN red data lists can potentially be found in the study area (Table 6):

Table 6: Red data list of potential fauna for the study area

English Name	Conservation Status	Probability of occurrence on site
BIRDS		
Bustard, Kori	Near threatened	Very low
Bustard, Ludwig's	Endangered	Very low
Courser, Burchell's	Vulnerable	Medium
Courser, Double-banded	Near threatened	Medium
Crane, Blue	Near threatened	Very low
Duck, Maccoa	Near threatened	Very low
Eagle, Martial	Endangered	Very low
Eagle, Tawny	Endangered	Very low
Eagle, Verreaux's	Vulnerable	Very low
Falcon, Lanner	Vulnerable	Very low
Flamingo, Greater	Near threatened	Very low
Flamingo, Lesser	Near threatened	Very low
Korhaan, Southern Black	Vulnerable	Low
Painted-snipe, Greater	Vulnerable	Very low
Pipit, African Rock	Near threatened	Low
Roller, European	Near threatened	Medium
Secretary bird	Vulnerable	Very low
Stork, Abdim's	Near threatened	Very low
Stork, Saddle-billed	Endangered	Very low
Stork, Yellow-billed	Endangered	Very low
Vulture, Lappet-faced	Endangered	Very low
Vulture, White-backed	Endangered	Very low
MAMMALS		
Bushveld Gerbil	Data Deficient	Medium
African Striped Weasel	Data deficient	Very low
Southern African Hedgehog	Near Threatened	Very low
African Straw-colored Fruit Bat	Near Threatened (IUCN ver 3.1)	Very low
Roan Antelope	Vulnerable	Zero – restricted to game reserves

BASIC ASSESSMENT REPORT

English Name	Conservation Status	Probability of occurrence on site
Sable antelope	Vulnerable	Zero – restricted to game reserves

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Noordkaap	Diamond Fields Advertiser
Date published	26 August 2020	28 August 2020
Site notice position	Latitude	Longitude
	28.679580	24.714489
	28.674153	24.707998
	28.724464	24.756427
	28.724499	24.756265
	28.724464	24.756427
	28.7357742	24.754526 8
	28.715113	24.754368
	28.721799	24.754932
	28.721961	24.761626
	28718654	24.762113
Date placed	27/08/2020	

Include proof of the placement of the relevant advertisements and notices in [Appendix E1](#).

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

The stakeholder engagement process forms an important part of the EIA and is primarily aimed at affording I&AP's the opportunity to gain an understanding of the proposed project. In addition, the purpose of consultation with the landowners, key stakeholders, and I&APs is to provide them with the necessary information about the proposed project so that they can make informed decisions as to whether the project will affect them, and provide the EIA team with local knowledge of the area and raise concerns relating to the biophysical, socio-economic and cultural impacts that may arise.

The stakeholder engagement process will be conducted in terms of NEMA, which provides clear guidelines for stakeholder engagement during an EIA as summarised in Table 7.

Table 7: NEMA Stakeholder Guidelines

NEMA Section	Applicability to Stakeholder Engagement
Chapter 1	Outlines the principles of environmental management, several pertaining to public consultation (e.g. Chapter 1, subsections (2), (3), (4) (f), (g), (h), (k), (q) and (r).
Chapter 6	Regulations 39 – 44 of the amended EIA Regulations GNR 326, promulgated on 8 December 2014 and amended on 7 April 2017, specify the minimum requirements for stakeholder engagement in an EIA process conducted under the NEMA.
Section 24J of the NEMA	In 2017, the Minister of Environmental Affairs published, Section 24J of the NEMA in terms of, Public Participation

BASIC ASSESSMENT REPORT

NEMA Section	Applicability to Stakeholder Engagement
	Guidelines which guide the Public Participation Process in order to give effect to Section (2)(4)(f), (o) and 24 (1A)(C) of the NEMA.

This process will also take cognisance of the requirements of Annexure 3 of the DEFF Disaster Management Directions of 5 June 2020.

Stakeholder engagement commenced with the applicant holding several meetings with different departments that will be involved in the proposed project. The following meetings were held with the different parties:

- Joint meeting with Sol Plaatje Local Municipality and Northern Cape Province representatives;
- The council on 22 July 2020; and
- The Development Bank of South Africa (DBSA).

Ndi Geological (EAP) also made use of various methods to inform stakeholder of the proposed development and KRD's intention to undertake the required and environmental processes and EA application. Stakeholders were provided with the opportunity to participate and register as I&AP's during the announcement phase of the project as follows:

- Project Announcement: Affected and adjacent landowners were notified of the project and application as follows:
 - Newspaper advertisements were published in the Noordkaap on 26 August 2020 and the Diamond Fields Advertiser on 28 August 2020;
 - On-site notices were erected around the project area on the 27th of August 2020; and
 - A radio announcements informing the public of the proposed project and inviting I&AP's to register on the stakeholder database were made as follows:

On Radio Taemaneng :	Slot 1: 07:15-07:45 am
	Slot 2: 15:00-15:30 pm
On Revival FM:	Slot 1: 08:20-08:45 am
	Slot 2: 14:55-15:20 pm
- Identification of stakeholders: Affected and adjacent property owners were identified using Surveyor General Information on windeed (<https://search.windeed.co.za/DeedsOffice/Property/>) and was also based on responses received from the project announcement process.
- Creation and maintenance of the stakeholder database, including correspondence with the stakeholders: The information, including contact details was collated into a stakeholder database.

All the issues and comments received during the process have been collated into a Comments and Responses Register (CRR) attached in Appendix E3.

The stakeholders will be provided with a 30-day public review and comment period on the Draft BAR. Comments received during the review and comment period will be incorporated into this Final BAR.

The final notification letter will be sent to the stakeholders once DENC has made a decision on the application and will provide details on the appeal process that may be followed, should it be necessary.

BASIC ASSESSMENT REPORT

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Ms. Sharon DeVos	Homeowner	078 658 4102
Mr Elton Cupido	Home owner	078 870 5585
Mr G Jacobs	Homeowner	078 406 1835
Mr K Marshall	Homeowner	082 940 9179
Mr K Rose	Homeowner	076 167 0641
Mr K Riddles	Homeowner	076 8241 404
Ps. Tyrone Africa	PPC Pescodia Church	083 732 6128
Ms Patty Coetzee	Homeowner	079 072 1526
Ms Catherina Markgraff	Homeowner	083 422 6911
Mr Shubart Avenue	Homeowner	076 672 8172
Mr Mc Kuur	Homeowner	083 271 5586
Mr Kock	Homeowner	062 342 3931
Mr Jones West	Tenant	079 057 9135
Christelle	Forestdale livestock (Plot 1)	n/a
Lucas De Kock	Homeowner	071 069 1100 Lw.dekock@yahoo.com
Mr Christo Louw	Homeowner	084 659 9782/ 079 212 9083
Mr Peter Raaf	Homeowner	0732998585
Ms Shanetee Koopman	Homeowner	n/a
Mr David Person	Homeowner	n/a
Mr Isaac Visser	Homeowner	0829729259
Ms Marlene Peterson	Homeowner	n/a
Mr Cunt Samuels	Homeowner	n/a
Mr Isaac Scoble	Homeowner	n/a
Mr C Crouch	Homeowner	n/a
Mr PLavan Wyk	Homeowner	n/a
Mr Brenton Dickson	Homeowner	n/a
Mr JK Wilson	Homeowner	n/a
Ms SR Badenhorst	Homeowner	n/a
Ms Clinton	Homeowner	n/a
Mr B Bartlett	Homeowner	n/a
MS E Wilkinson	Homeowner	n/a
Ms Jolene Aubertus	Homeowner	n/a
Mr Clive Nathan Ferris	Homeowner	082 400 7511
Ms Basetsana Kwanampe	Homeowner	N/A
Mr TS Mokhuane	Homeowner	n/a
Mr C W Martin	Homeowner	n/a
Ms Ashlynn Jampies	Homeowner	n/a
Mr Brent	Homeowner	n/a
Mr Abdul	Homeowner	n/a
Ms Vuyiswa L Faku	Homeowner	0642587408
Ms Eva Harmse	Homeowner	0761101735
Ms Hester Fouche	Homeowner	0538614341
Mr Anderson Woodwrap	Homeowner	0538611327

BASIC ASSESSMENT REPORT

Mr George Galelewkile	Homeowner	0612912026
Mr Hannetjie Viljoen	Homeowner	0837135463
Mr Denise Gaorwe	Samwu	0538611260
Mr Segundredolt	Best Drive Kimberley	0538323706
Ms Gerta Louw	New Vaal Motors Mercedes	0538312400
Ms N Breedt	Big Hole Driving Range	0823780939
Ms Philinda Golden	Homeowner	0738441283
Mr Peter Kole	Homeowner	0795014072
Ms Oratilwe Rapoo	Homeowner	0658695656
Mr Juandre Jacobs	BMW KBY	0538521961/jjacobs@sovereignbmw.co.za
Mr John O'Counell	Zenith	0824946660/zenithuis@webmail.com
Mr Mahase Mamaloke	Bokgoni Training & Development	0538614753/Info @bakgoni.com
Mr Reggie Jench	Basil Retad Mining	n/a
Mr F Haddad	Ass A Wholesalers	n/a
Mr E vd Walt	Auto Dreams	n/a
Mr Naude Dream	OK Towers (owner)	0538312900
Mr Ephraim Rihi	OK Towers Oasis	0812676375
Ms Joyce Heine	Dr Shabana Taleb Rooms	0875270612
Mr Jia Hui	Qiny cher overland liquor	0633645875
Mr F Dayzel	FJ vd Merwe PR Mine Surveyor	Surveyorfj@gmail.com
Ms Nicole Prinsloo	Libra Apteek	0538321922
Ms M Shoab	Tower @ Cellular	0812572978
Mr Arnold	Deboniours Pizza	0812572978
Ms Angelique Rasoon	Home Owner	0762808878

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

To be updated

Summary of main issues raised by I&APs	Summary of response from EAP

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to the Final BAR as [Appendix E3](#).

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
DWS					
SAHRA					
Sol Plaatje LM					
Francis Baard LM					
DAFF					
Northern Cape Province					

Include proof that the Authorities and Organs of State received written notification of the proposed activities as [Appendix E4](#).

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as [Appendix E5](#).

Copies of any correspondence and minutes of any meetings held must be included in [Appendix E6](#).

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

The anticipated impacts associated with the proposed project will be assessed according to a standardised impact assessment methodology, which is presented below. This methodology has been utilised for the assessment of environmental impacts where the consequence (severity of impact, spatial scope of impact and duration of impact) and likelihood (frequency of activity and frequency of impact) have been considered in parallel to provide an impact rating and hence an interpretation in terms of the level of environmental management required for each impact.

The first stage of any impact assessment is the identification of potential environmental activities², aspects³ and impacts, which may occur during the commencement, and implementation of a project. This is supported by the identification of receptors⁴ and resources⁵, which allows for an understanding of the impact pathway and an assessment of the sensitivity to change. Environmental impacts⁶ (social and biophysical) are then identified based on the potential interaction between the aspects and the receptors/resources.

The significance of the impact is then assessed by rating each variable numerically according to defined criteria as outlined in Table 8.

The purpose of the rating is to develop a clear understanding of influences and processes associated with each impact. The severity⁷, spatial scope⁸ and duration⁹ of the impact together comprise the consequence of the impact and when summed can obtain a maximum value of 15. The frequency of the activity¹⁰ and the frequency of the impact¹¹ together comprise the likelihood of the impact occurring and can obtain a maximum value of 10. The values for likelihood and consequence of the impact are then read off a significance rating matrix table as shown in Table 9.

This matrix thus provides a rating on a scale of 1 to 150 (low, medium low, medium high or high) based on the consequence and likelihood of an environmental impact occurring.

Natural and existing mitigation measures, including built-in engineering designs, are included in the pre-mitigation assessment of significance. Measures such as demolishing of infrastructure, and reinstatement and rehabilitation of land, are considered post-mitigation.

²An **activity** is a distinct process or task undertaken by an organisation for which a responsibility can be assigned. Activities also include facilities or pieces of infrastructure that are possessed by an organisation.

³An **environmental aspect** is an 'element of an organisations activities, products and services which can interact with the environment'. The interaction of an aspect with the environment may result in an impact.

⁴**Receptors** comprise, but are not limited to people or man-made structures.

⁵**Resources** include components of the biophysical environment.

⁶**Environmental impacts** are the consequences of these aspects on environmental resources or receptors of particular value or sensitivity, for example, disturbance due to noise and health effects due to poorer air quality. Receptors can comprise, but are not limited to, people or human-made systems, such as local residents, communities and social infrastructure, as well as components of the biophysical environment such as aquifers, flora and palaeontology. In the case where the impact is on human health or well-being, this should be stated. Similarly, where the receptor is not anthropogenic, then it should, where possible, be stipulated what the receptor is.

⁷**Severity** refers to the degree of change to the receptor status in terms of the reversibility of the impact; sensitivity of receptor to stressor; duration of impact (increasing or decreasing with time); controversy potential and precedent setting; threat to environmental and health standards.

⁸**Spatial scope** refers to the geographical scale of the impact.

⁹**Duration** refers to the length of time over which the stressor will cause a change in the resource or receptor.

¹⁰**Frequency of activity** refers to how often the proposed activity will take place.

¹¹**Frequency of impact** refers to the frequency with which a stressor (aspect) will impact on the receptor.

Table 8: Criteria for Assessing Significance of Impacts

SEVERITY OF IMPACT	RATING	CONSEQUENCE
Insignificant / non-harmful	1	
Small / potentially harmful	2	
Significant / slightly harmful	3	
Great / harmful	4	
Disastrous / extremely harmful	5	

SPATIAL SCOPE OF IMPACT	RATING	CONSEQUENCE
Activity specific	1	
Site specific (within the property boundary)	2	
Local area (within 5 km of the site boundary)	3	
Regional (Greater Sol Plaatje LM area)	4	
National	5	

DURATION OF IMPACT	RATING	CONSEQUENCE
One day to one month	1	
One month to one year	2	
One year to ten years	3	
Life of operation	4	
Post closure / permanent	5	

FREQUENCY OF ACTIVITY / DURATION OF ASPECT	RATING	LIKELIHOOD
Annually or less / low	1	
6 monthly / temporary	2	
Monthly / infrequent	3	
Weekly / life of operation / regularly / likely	4	
Daily / permanent / high	5	

FREQUENCY OF IMPACT	RATING	LIKELIHOOD
Almost never / almost impossible	1	
Very seldom / highly unlikely	2	
Infrequent / unlikely / seldom	3	
Often / regularly / likely / possible	4	
Daily / highly likely / definitely	5	

Table 9: Interpretation of Impact Rating

		Consequence														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Likelihood	1	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
	2	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
	3	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
	4	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
	5	10	20	30	40	50	60	70	80	90	99	108	117	126	135	144
	6	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
	7	14	28	42	56	70	84	98	112	126	140	154	168	182	196	210
	8	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
	9	18	36	54	72	90	108	126	144	162	180	198	216	234	252	270
	10	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300

	High	76 to 150	Improve current management
	Medium High	40 to 75	Maintain current management
	Medium Low	26 to 39	
	Low	1 to 25	No management required

SIGNIFICANCE = CONSEQUENCE x LIKELIHOOD

1. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

IMPACT ASSESSMENT FOR THE PLANNING PHASE

The potential impacts associated with the planning phase (pre-construction phase) of the project include:

- Infrastructure placement and design leading to overall loss of biodiversity; and
- Poor planning leading to an increased construction footprint.

Table 10: Summary of Impacts and Mitigation Measures for the Planning Phase

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (Preferred Option)			
Planning of infrastructure placement and design within sensitive habitat	<p>Direct impacts:</p> <ul style="list-style-type: none"> Infrastructure placement and design leading to overall loss of protected floral species; and Poor planning leading to an increased footprint. 	Low (-)	<ul style="list-style-type: none"> The proposed development footprint shall be kept to a minimum. Prior to commencement of mine dump debris removal from the site and construction activities, the contractor and site manager will finalise the layout plan and indicate no-go areas.
	<p>Indirect impacts:</p> <ul style="list-style-type: none"> No indirect impacts are anticipated during the planning phase. 		
	<p>Cumulative impacts:</p> <ul style="list-style-type: none"> No cumulative impacts are anticipated during the planning phase. 		
Alternative 2			
No Go Option			
Planning of infrastructure placement and design within sensitive habitat	<p>Direct impacts:</p> <ul style="list-style-type: none"> No direct impacts anticipated during the planning phase 		
	<p>Indirect impacts:</p> <ul style="list-style-type: none"> No indirect impacts are anticipated during the planning phase. 		
	<p>Cumulative impacts:</p> <ul style="list-style-type: none"> No cumulative impacts are anticipated during the planning phase. 		

IMPACT ASSESSMENT FOR THE REMOVAL OF MINING DEBRIS AND HOUSING CONSTRUCTION PHASE

Socio Economic

The main positive impacts of the proposed project will be as follows:

- Employment: The proposed project will result in the creation of employment (1 500 direct and indirect opportunities) during the construction and operational phases; and
- Possible boost to local supplier businesses.

The potential negative socio-economic impacts associated with the proposed project are as follows:

- Generation of dust due to movement of construction vehicles potentially resulting in a health and nuisance impact;
- Impact on safety and security as a result of theft, the occurrence of additional trucks on the roads, uncontrolled lighting of fires on site, littering and driving irresponsibly;
- Health and safety risk as a result of the movement of vehicles increasing the risk of accidents;
- Clearing of land which may potentially impact on the sense of place; and
- Squatting of job seekers.

Groundwater

The use of earth moving machinery and construction vehicles on site poses the risk of chemical spillages including fuel and oils, which may leach into the groundwater. Care should be taken during the utilisation and storage of hydrocarbons and chemicals, which may have an impact on groundwater quality as a result of spillages and uncontrolled release.

The removal of vegetation from the area could furthermore lower the evapotranspiration rates, thereby allowing a greater volume of potentially contaminated water to percolate to the underlying aquifer in the event of an accidental spill from the machinery. It must however be noted that the removal of vegetation will be limited to the required footprints, therefore the impact on evapotranspiration is therefore expected to be negligible.

Hydrology and Surface water

The possible potential impacts on surface water during the construction phase of the project are as follows:

- Accidental spillages of hazardous substances from construction vehicles used during construction, as well as from hazardous storage areas;
- Contamination of runoff by poor materials/waste handling practices;
- Contaminated dirty water runoff to surrounding areas resulting in the impact on local surface water quality; and
- Increase of surface runoff and potentially contaminated water that needs to be controlled in the areas where site clearing occurred.

Sedimentation could potentially occur in the stormwater canal as runoff is naturally anticipated to pick up environmental debris as it crosses natural areas. Dust produced from movement of vehicles and machinery during the construction operational phase of the project has potential to settle in the canal, increasing turbidity which can affect downstream water courses. Increased turbidity is reversible and surface water should return to pre-impact turbidity levels once sediment levels are reduced. Settled sediments should naturally move downstream during periods of high flow flowing storm events.

Air Quality and Climate Change

According to the specialist air impact quality assessment, the main pollutant of concern is Particulate Matter (PM) (Total Suspended Particles (TSP), PM₁₀ and PM_{2.5}). Particulate matter emissions would result from all the planned activities including construction at the Colville site. Gaseous emissions (SO₂, NO_x, CO₂, Hydrocarbons (HC) and VOC) would result from vehicle tailpipe emissions from trucks transporting the building materials from the quarries to the Colville site.

Air quality related impacts will primarily be from construction activities such as land clearing activities, including removal of waste rock and surface levelling (grading and scraping), and the off-loading and handling of building materials (bricks, cement, etc.) on-site. Once the site has been developed, there might be an increase in road traffic contributing to increased vehicle tailpipe emissions.

High impacts are expected at the residential areas of Square Hill Park; Gemdene and Floors Twp, and at Floors Clinic; Floors Comprehensive School and Olympic Primary School. Medium to high impacts are expected at Galeshewe suburb and at Progress Laerskool; Progress Primary School and Tshireleco High School.

The movement of vehicles and earth moving machinery may result in the production of carbon dioxide (Green House Gas), which may have an impact on the climate in the area.

The environmental impacts of wind-borne dust, gases and particulates from the construction activities associated with the proposed development will also have an impact on the vegetation of the area when dust settles on plant material reducing the amount of light reaching the chlorophyll in the leaves, thereby reducing photosynthesis, which in turn reduces plant productivity, growth and recruitment.

Noise

The use of vehicles and machinery during excavation of Kimberlite debris from the site and construction activities may result in an increase in ambient noise in the immediate vicinity of the project. The following activities will generate noise during the construction phase of the project:

- Removal of aggregate from the site;
- Ground works at the site;
- Foundations for the proposed buildings at the site;
- Building activities;
- Transportation of building material to and from the construction sites;
- Provision of infrastructure such as sewage systems, water reticulation systems, roads, stormwater systems at the three sites;
- Shop fitting of the residential buildings and offices;

- Use of emergency generators for lighting; and
- Use of earthmoving machinery.

Visual

The following potential impacts on the visual character of the area as a result of the proposed project are envisaged during the construction and operational phases of the project:

- Visual intrusion as a result of the movement of vehicles and machinery;
- Use of lighting at the construction sites; and
- Indirect visual impact due to vegetation clearance, dust generation, as a result of the movement of vehicles and materials, to and from the site area.

Soils, Land Use and Land Capability

The soils in the project area vary from shallow gravelly soils to deeper red apedal sandy loam soils on the undulating plains. The construction activities associated with the developments may result in widespread soil disturbance and is usually associated with accelerated soil erosion. Soil, sediments and associated contaminants are transported into water bodies such as pans and streams in the larger area, resulting in the loss or alteration of habitats for aquatic organisms, as well as changes in water quality. Soil erosion also promotes a variety of terrestrial ecological changes associated with disturbed areas, including the establishment of alien invasive plant species, altered plant community species composition and loss of habitat for indigenous flora.

Biodiversity

Potential biodiversity impacts identified include:

- **Habitat Destruction:** The construction of the infrastructure will result in loss of and damage to degraded habitats. Rehabilitation of some of these areas would be possible and should be adhered to. Most habitat destruction will be caused during the construction of the infrastructure.
- The impact of the habitat destruction will be on the flora and fauna of the study area in the following ways:
 - The construction will lead to the loss of individual plants such as grasses, forbs, trees and shrubs that will be cleared on the footprint area. This will mostly occur during the construction phase;
 - Loss of threatened, near threatened and endemic taxa: The anticipated loss of some of the natural habitats that support endemic species will result in the local displacement of endemic listed flora;
 - Due to habitat loss and construction activities animals will migrate from the construction area and animal numbers will decrease;
 - Changes in the community structure: It is expected that the faunal species composition will shift, due to an anticipated loss in habitat surface area. In addition, it is predicted that more generalist species (and a loss of functional guilds) will dominate the study area. Attempts to rehabilitate will attract taxa with unspecialised and generalist life-histories. It is predicted that such taxa will persist for many years before conditions become suitable for succession to progress.

- **Habitat Fragmentation:** The construction of buildings, fences and roads will inevitably result in natural movement patterns being disrupted and, to a varying degree depending on how different species react to these barriers will result in the fragmentation of natural populations. The development will have a low impact in fragmenting the habitats on the property.
- **Spread and establishment of alien invasive species:** The construction of the infrastructure almost certainly carries by far the greatest risk of alien invasive species being imported to the site, and the high levels of habitat disturbance also provide the greatest opportunities for such species to establish themselves, since most indigenous species are less tolerant of disturbance. The biggest risk is that seeds of noxious plants may be carried onto the site along with materials that have been stockpiled elsewhere at already invaded sites.
- **Continued movement of personnel and vehicles on and off the site, as well as occasional delivery of materials required for maintenance, will result in a risk of importation of alien species throughout the life of the project.**
- **Negative effect of human activities:** An increase in human activity on the site and surrounding areas is anticipated. The risk of wood harvesting, poaching and fires is increased which could have a definite impact on the flora and fauna of the larger area. If staff compounds are erected for construction workers, the risk of pollution because of litter and inadequate sanitation and the introduction of invasive flora are increased. The presence of many construction workers or regular workers during the construction phase on site over a protracted period will result in a greatly increased risk of uncontrolled fires arising from cooking fires, improperly disposed cigarettes etc.
- **Loss of fauna due to road mortality:** Large numbers of fauna are killed daily on roads. They are either being crushed under the tyres of vehicles in the case of crawling species, or by colliding with the vehicle itself in the case of avifauna or flying invertebrates. The impact is intensified at night, especially for flying insects, as result of their attraction to the lights of vehicles.

Heritage Resources

The potential heritage impacts that were identified includes:

- **Archaeology:** Historical Period refuse dumps occur at the BMW, Colville & St Augustine Sites and in terms of their significance, Sampson notes that “any community still in possession of its original ash-heap is most fortunate indeed...[it is] a most precious cultural heritage”. He explains that this is so “because an ash-heap is the only really accurate, undistorted and sensitive record of a community’s past...archives and documents record the deeds and decisions of such worthies as councillors, mayors and pastors [while] the humble ash-heap reflects an entirely unconscious picture of the real life and times of the community” (1991:9). For this reason, the Historical Period refuse dumps at the BMW, Colville & St Augustine Sites are regarded as of medium heritage significance within a regional context. However, the sites have been degraded and excavated which resulted in the general loss of context and site integrity for the artefacts. The refuse dumps will be reworked and rehabilitated in order to convert these sites into residential and urban developments. As such, impact on the resources by the proposed activities will be direct and permanent. The threshold of the impact can be limited by the implementation of mitigation measures (site sampling, destruction permitting, site monitoring in order to avoid the destruction of previously undetected heritage remains) for the sites, if / when required.
- **Cultural Landscape:** The larger area comprises a rich cultural horizon and the natural landscape surrounding the proposed project encompasses the larger historical Kimberley Mine

Complex situated in open grasslands and semi-arid plains, typical of the eastern Green Kalahari. The cultural landscape holds Herder sites, Colonial Period farmsteads and particularly Historical Period townscapes and industrial remnants. However, the proposed project is unlikely to result in a significant impact on the cultural landscape of this area.

- **Graves / Human Burials Sites** No human burials were documented in the project. In the rural areas of the Northern Cape Province, graves and cemeteries often occur around farmsteads in family burial grounds but they are also randomly scattered around archaeological and historical settlements. The probability of informal human burials encountered during development should thus not be excluded. In addition, human remains, and burials are commonly found close to archaeological sites; they may be found in "lost" graveyards or occur sporadically anywhere as a result of prehistoric activity, victims of conflict or crime. It is often difficult to detect the presence of archaeological human remains on the landscape as these burials, in most cases, are not marked at the surface. Human remains are usually observed when they are exposed through erosion. In some instances, packed stones or rocks may indicate the presence of informal pre-colonial burials. If any human bones are found during the course of construction work then they should be reported to an archaeologist and work in the immediate vicinity should cease until the appropriate actions have been carried out by the archaeologist. Where human remains are part of a burial they would need to be exhumed under a permit from either SAHRA (for pre-colonial burials as well as burials later than about AD 1500). Should any unmarked human burials/remains be found during the course of construction, work in the immediate vicinity should cease and the find must immediately be reported to the archaeologist, or the South African Heritage Resources Agency (SAHRA). Under no circumstances may burials be disturbed or removed until such time as necessary statutory procedures required for grave relocation have been met.

Traffic

The movement of construction vehicles in the project area will result in an increase in traffic on the roads.

Waste Management

Construction waste generation could result in an increase in general and hazardous waste to be managed and disposed of. The implementation of mitigation measures set out in the EMPr will reduce the significance of the impact.

Table 11: Summary of Impacts and Mitigation Measures for the Construction Phase

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (Preferred Alternative)			
Recruitment and site clearance (removal of debris from the old mine dump)	Direct Impacts		
	Possible boost in short term employment and local small business opportunities.	Medium-Low (+)	<ul style="list-style-type: none"> • Encourage the local employment for the following: <ul style="list-style-type: none"> ○ Employment opportunities for local SMME contractors during site clearance, preparation and construction. ○ Secondary service provision of food, toilet hires, and equipment, etc. • Reduce speed limits to 40 km/h or less. • No fires are allowed on the site, unless in areas demarked and managed for this purpose. • All workers will be made aware of fire risks. • Limit the aerial extent of the disturbance to the footprint of the proposed development, including the laydown areas surrounding the primary footprint.
	Generation of dust potentially resulting in a health and nuisance impact.	Medium-Low (-)	
	Potential impact on safety and security as a result of theft, the occurrence of additional trucks on the roads, uncontrolled lighting of fires on site, littering and driving irresponsibly.	Medium-Low (-)	
	Visual impacts as a result of movement of vehicles in the project area.	Low (-)	
	Potential squatting of job seekers.	Low (-)	
	Indirect Impacts		
<ul style="list-style-type: none"> • No indirect impacts are anticipated during the construction phase. 			
Cumulative Impacts			
<ul style="list-style-type: none"> • No cumulative impacts are anticipated during the construction phase. 			

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
Site Clearance and construction activities	Local spillages of oils from vehicles and machinery leading to groundwater contamination.	Medium-High (-)	<ul style="list-style-type: none"> • No washing of vehicles shall be allowed outside demarcated areas. The bays will be clearly demarcated and will not be allowed to contaminate any surface runoff; • Sufficient areas shall be provided for the maintenance and washing of vehicles;
	Improper storage and handling of hazardous materials leading to groundwater contamination.	Medium-High (-)	<ul style="list-style-type: none"> • Refuelling of vehicles will only be allowed in designated areas; • All construction equipment shall be parked in a demarcated area • Drip trays shall be used when equipment is not used for some time; • On surface bulk storage of hydrocarbons must be situated in a dedicated area which will include a bund or a drain where necessary to contain any spillages during the use, loading and off-loading of the material; • Bund areas shall contain 110% of the stored volume; • Bund areas must be impermeable; • Bund areas must have a facility such as a valve/sump to drain or remove clean stormwater; • Contaminated water shall be pumped into a container for removal by an approved service provider; • Regular inspections shall be carried out to ensure the integrity of the bundwalls; • All preventative servicing of earth moving equipment and construction vehicles shall be undertaken off site; • Runoff from this area shall be contained; • Spill kits shall be made available and all personnel shall be trained on how to use the kits and training records shall be made available on request.
	Potential deterioration in water quality as a result of accidental spillages of hazardous substances such as hydrocarbons from vehicles and machinery.	Medium-Low (-)	<ul style="list-style-type: none"> • Ensure the clean and dirty water segregation. • Spill kits to be made available at areas of possible spillages of hazardous substances. • Remediation of spillages must be conducted on a continual basis.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	Possible contaminated dirty water runoff to surrounding areas resulting in the impact on local surface water quality.	Medium-Low (-)	<ul style="list-style-type: none"> • Contaminated runoff will be contained and re-used where necessary. • No direct discharge of polluted water to the environment is permitted. • Ensure that topsoil is properly stored, away from the streams and drainage areas. • No construction activities are allowed within 100 metres from the nearby streams without consent from the DWS. • Vehicle and personnel movement within watercourses/ wetland areas/riparian areas shall be strictly prohibited. • Ensure that topsoil is properly stored, away from sensitive environmental areas; • Vehicle and personnel movement within watercourses and drainage areas shall be strictly prohibited; • Adequate stormwater management must be incorporated into the design of the project in order to prevent contamination of water courses and wetlands from dirty water.
	Debris from poor handling of materials and/or waste blocking watercourses may result in flow impediment and pollution.	Low (-)	
	Increase in silt load in runoff due to movement of vehicles on site.	Medium-Low (-)	
	Deterioration of water quality as a result of improper handling/ of chemicals.	Medium-Low (-)	
	Poor stormwater management leading to runoff from stockpiled material removed causing sedimentation of the water resources.	Medium-Low (-)	
	Increase of surface runoff and potentially contaminated water that needs to be contained in the areas where site clearing occurred.	Medium-Low (-)	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	Loss of archaeological resources from the site	Medium-Low (-)	<ul style="list-style-type: none"> • KRD must apply for permits for the destruction and relocation of heritage resources before commencement of construction activities. • If archaeological sites or graves are exposed during construction work, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. • A representative sample of the middens be excavated in order to assess their significance before any further decision pertaining to heritage mitigation (for example potential Phase 2 archaeological specialist assessments) are taken. • Should fossils be exposed during construction work, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. • A Palaeontological Assessment is recommended for the project, subject to review and recommendations by the relevant heritage authorities.
	Although no graves were found during the HIA, chance finds of graves in the project area cannot be excluded.	Low (-)	
	Impact on the cultural landscape in the area	Low (-)	
	Cumulative Impacts: The proposed project will result in a cumulative impact on the loss of archaeological resources in the region	Low (-)	
	According to the South African Heritage Resources Agency Information System (SAHRIS) Palaeo Map, portions of the project area fall within a sensitive fossiliferous zone	Low (-)	
	Localised chemical pollution of soils as a result of vehicle hydrocarbon spillages and compaction.	Medium-Low (-)	
	Localised clearing of vegetation and compaction of the construction footprint will result in the soils being particularly more	Medium-Low (-)	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	vulnerable to soil erosion.		<ul style="list-style-type: none"> • Drip trays shall be used when dispensing fuel or oils from the earthmoving equipment outside designated areas. • Drip trays shall only be emptied into a dedicated container. • Dedicated containers must be emptied into containers for removal by an approved contractor. • Waste manifests and safe disposal certificates must be filed as proof of safe disposal from site. • Erosion control measures shall be implemented where deemed necessary. • Prevent erosion from stockpiles to prevent increase in turbidity of watercourses. • All erosion damage must be repaired as soon as possible.
	Localised loss of soil resource and its utilisation potential due to compaction over unprotected ground/soil.	Medium-Low (-)	
	Localised loss of soil and land capability due to reduction in nutrient status - de-nitrification and leaching due to stripping and stockpiling footprint areas.	Medium-Low (-)	
	The construction of the infrastructure will result in loss of and damage to degraded habitats. Rehabilitation of some of these areas would be possible and should be adhered to. Most habitat destruction will be caused during the construction of the infrastructure.	Medium-Low (-)	
	The construction will lead to the loss of individual plants such as grasses, forbs, trees and shrubs that will be cleared on the footprint area. This will mostly occur during the construction phase.	Medium-Low (-)	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	Loss of threatened, near threatened and endemic taxa: The anticipated loss of some of the natural habitats that support endemic species will result in the local displacement of endemic listed flora.	Medium-Low (-)	<ul style="list-style-type: none"> • Construction related activities shall be kept strictly within the development footprint; • Construction vehicles shall only be allowed on designated roadways to limit the ecological footprint of the project. • Alien Invasive Plant Species Management plan to be implemented; • Edge effects of activities including erosion and alien/ weed control will be strictly managed in the riparian area; • All sites disturbed by construction activities shall be monitored for colonisation by exotic or invasive plants; • Exotic or invasive plants shall be controlled as they emerge; • An alien vegetation control program must be developed and implemented within all disturbed areas. After removal of alien vegetation, the affected areas must be re-assessed to determine the success of the program and any follow up measures that may be required; • The eradicated plant material must be disposed of at an approved solid waste disposal site; • During post-construction, an alien vegetation removal and monitoring plan must be compiled for those areas which were not effectively rehabilitated; • The extent of invasion must be established through investigation to identify priority areas; • Priority species shall be identified to control and develop protocols for the removal of all alien species e.g. mechanical removal, herbicidal treatment etc. Mechanical methods must be favoured for the removal of alien invasive species. Chemical removal shall only be undertaken by a suitably qualified and approved person; and • As much vegetation growth as possible must be promoted in order to protect soils. In this regard, special mention is made of the need to use indigenous vegetation
	Due to habitat loss and construction activities animals will migrate from the construction area and animal numbers will decrease	Medium-Low (-)	
	Changes in the community structure: It is expected that the faunal species composition will shift, due to an anticipated loss in habitat surface area. In addition, it is predicted that more generalist species (and a loss of functional guilds) will dominate the study area. Attempts to rehabilitate will attract taxa with unspecialised and generalist life-histories. It is predicted that such taxa will persist for many years before conditions become suitable for succession to progress	Medium-Low (-)	
	Habitat Fragmentation: The construction of buildings, fences and roads will inevitably result in	Medium-Low (-)	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	<p>natural movement patterns being disrupted and, to a varying degree depending on how different species react to these barriers will result in the fragmentation of natural populations. The development will have a low impact in fragmenting the habitats on the property.</p>		<p>species where hydro seeding, rehabilitation planting (where applicable) are to be implemented.</p>
	<p>Spread and establishment of alien invasive species: The construction of the infrastructure almost certainly carries by far the greatest risk of alien invasive species being imported to the site, and the high levels of habitat disturbance also provide the greatest opportunities for such species to establish themselves, since most indigenous species are less tolerant of disturbance. The biggest risk is that seeds of noxious plants may be carried onto the site along with materials that have been stockpiled elsewhere at already invaded sites.</p>	<p>Medium-Low (-)</p>	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	<p>An increase in human activity on the site and surrounding areas is anticipated. The risk of wood harvesting, poaching and fires is increased which could have a definite impact on the flora and fauna of the larger area. If staff compounds are erected for construction workers, the risk of pollution because of litter and inadequate sanitation and the introduction of invasive flora are increased. The presence of many construction workers or regular workers during the construction phase on site over a protracted period will result in a greatly increased risk of uncontrolled fires arising from cooking fires, improperly disposed cigarettes etc.</p>	<p>Medium-Low (-)</p>	<ul style="list-style-type: none"> • Staff should not be accommodated on site. No temporary accommodation must be erected on the site. Adequate rubbish bins and sanitation facilities should be provided to construction workers; • The ECO should regularly inspect the site, including storage facilities and compounds. A monitoring programme should also be implemented around these areas to detect alien invasive species early, before they become established and, in the case of weeds, before the release of seeds; • Maintain proper firebreaks around entire development footprint. • Educate construction workers regarding fire risks and the occurrence of important resources in the area and the importance of protection; • Construction activities must remain within defined construction areas and the road servitudes. No construction / disturbance will occur outside these areas. • Construction activities must be restricted to working hours Monday to Saturday, unless otherwise approved by the appropriate competent person in consultation with the affected residents. • Instruct employees, contractors, and site visitors to avoid harassment and disturbance of wildlife, especially during reproductive (e.g. courtship, nesting) seasons. In addition, control pets to avoid harassment and disturbance of wildlife. • Campfires at construction sites must be strictly controlled to ensure that no veld fires are caused.
	<p>Indirect Impacts</p> <ul style="list-style-type: none"> • No indirect impacts are anticipated during the construction phase. 		
	<p>Cumulative Impacts</p> <ul style="list-style-type: none"> • No cumulative impacts are anticipated during the construction phase. 		

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
Transportation of material to and from the site	Visual intrusion as a result of the movement of machinery and the establishment of the required infrastructure.	Low (-)	<ul style="list-style-type: none"> • The number of construction vehicles and machinery to be used shall be kept to a minimum; • Movement of vehicles shall be kept to outside busy hours to minimise the visual impacts on the residents; • Materials transported on public roads must be covered; and • Where possible, rehabilitation of the work areas shall be undertaken in tandem with construction to ensure that areas stripped of vegetation are kept to a minimum.
	<p>Indirect Impacts</p> <p>Indirect visual impact due to dust generation as a result of the movement of vehicles and materials, to and from the site area.</p>	Low (-)	
	<p>Cumulative Impacts</p> <ul style="list-style-type: none"> • No cumulative impacts are anticipated during the construction phase. 		
	The movement of vehicles and machinery during the construction phase may result in possible increase in dust generation, PM ₁₀ and PM _{2.5} as a result of stockpiling material, use of heavy machinery, and material movement. Gaseous emissions derive from the haul trucks, mining equipment, public vehicles, biomass burning and domestic fuel burning. These gaseous emissions include primarily SO ₂ , CO, CO ₂ , NO _x and	Low (-)	<ul style="list-style-type: none"> • Dust suppression measures shall be implemented on dry weather days and periods of high wind velocities; • Appropriate dust suppression measures may include spraying with water; • Where practical rehabilitation of areas cleared of vegetation should be undertaken in tandem with the construction activities; • A speed limit of 40 km/hr shall apply to limit vehicle entrained dust from the unpaved road; • All construction equipment must be scheduled for preventative maintenance to ensure the functioning of the exhaust systems to reduce excessive emissions and limit air pollution;

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	hydrocarbons. Vehicles on the roads in Kimberley, and on the national roads (N8, R64 and R357) will also contribute to these gaseous emissions but it is expected that it is not a busy road and therefore the contribution is negligible.		<ul style="list-style-type: none"> Dust control suppression shall be implemented on dry weather days and periods of high wind velocities; Appropriate dust suppression measures may include limiting the extent of open areas, reducing the frequency of disturbance and spraying with water; Where practical rehabilitation should be undertaken progressively; Materials transported on public roads must be covered;
	Increase in carbon emissions and ambient air pollutants (NO ₂ and SO ₂) as a result of movement of vehicles and operation of machinery/equipment.	Low (-)	<ul style="list-style-type: none"> Putrescible waste must be handled, stored and disposed of before the probability of it generating odours; and Chemical toilets must be emptied / serviced on a regular basis. Proof of this must be provided to the site manager.
	Cumulative Impacts: The project will contribute to cumulative air quality impact as there are already activities in the area contributing to air quality pollution.	Low (-)	
Indirect Impacts <ul style="list-style-type: none"> No indirect impacts are anticipated during the construction phase. 			
	Emissions of Green House Gases as a result of the use of construction vehicles and machinery.	Low (-)	<ul style="list-style-type: none"> All the construction vehicles shall undergo maintenance on a regular basis to ensure the combustion engine vehicle efficiency.
	The use of vehicles and machinery may generate nuisance noise in the immediate vicinity	Low (-)	<ul style="list-style-type: none"> Correct personal Protective Equipment (PPE) must be worn at all times by the personnel at the site. All equipment should be provided with standard mufflers. Muffling units on vehicles

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	<p>Cumulative Impact: The project will contribute to the noise in the area, in addition to the noise already existing</p>	Low (-)	<p>and equipment must be kept in good working order.</p> <ul style="list-style-type: none"> • Vehicles with low noise levels to be used and the reverse signal to be replaced with a vibration type monitor. • Machinery with low noise levels and maintained in a good order to be used and to comply with the IFC's Health and Safety Regulations. • Machinery with low noise levels to be used and reverse siren to be replaced with a vibration type monitor. • The calculated noise level at 25m from the road will be 52.3dBA which will be lower than the prevailing traffic noise levels along the identified hauling routes. • Staff working on site should wear ear protection equipment where necessary. • All equipment must be kept in good working order • Equipment must be operated within specifications and capacity (e.g. no overloading of machines). • Regular maintenance of equipment must be undertaken.
	<p>Indirect Impacts</p> <ul style="list-style-type: none"> • No indirect impacts are anticipated during the construction phase. 		
	<p>Increase in traffic volumes as a result of transportation of materials to site which may lead to an increase in traffic congestion on roads around the project area increasing the chances of road accidents.</p>	Medium-Low (-)	<ul style="list-style-type: none"> • Speed limits will be reduced to 40 km/h or less to reduce dust and noise generation and minimise the occurrences of accidents on public roads. • All the vehicles shall undergo maintenance on a regular basis to ensure the combustion engine vehicle efficiency. • The number of construction vehicles and trips shall be kept to a minimum. • Where possible the transportation of construction materials and rubbish shall be undertaken outside traffic peak hours to minimise inconveniencing residents.
	<p>The increase in vehicles results in an increased potential for road degradation of the road network in</p>	Medium-Low (-)	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	the vicinity of the project.		
	<p>Indirect Impacts No indirect impacts are anticipated during the construction phase.</p>		
	<p>Cumulative Impacts No cumulative impacts are anticipated during the construction phase.</p>		
Waste Management	<p>Direct Impacts Disposal of hazardous waste including hydrocarbon contaminated soils, rags etc. could result in the contamination of surface runoff</p>	Medium-Low (-)	<p><i>Separation of waste:</i></p> <ul style="list-style-type: none"> All waste shall be separated into general waste and hazardous waste; Hazardous waste shall not be mixed with general waste and in doing so increase the quantities of hazardous waste to be managed; General waste can further be separated into waste that can be recycled and or reused; No littering shall be allowed in and around the site, a sufficient number of bins shall be provided for the disposal of waste; Where necessary dedicate a storage area on site for collection of construction waste.
	Stockpiling material may result in secondary pollution and contamination of surface runoff.	Medium-Low (-)	
	<p>Cumulative impact: Contamination of surface water resources</p>	Low (-)	<p><i>Storage of waste:</i></p> <ul style="list-style-type: none"> General waste will be collected in an adequate number of litter bins located throughout the construction site; Bins must have lids in order to keep rainwater out; Bins shall be emptied regularly to prevent them from overflowing; All work areas shall be kept clean and tidy at all times;

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<ul style="list-style-type: none"> • All waste management facilities will be maintained in good working order; • Waste shall be stored in demarcated areas according to type of waste; • Runoff from any area demarcated for waste will be contained, treated and reused; • Flammable substances must be kept away from sources of ignition and from oxidizing agents; • If construction rubble is not removed immediately it shall be stockpiled outside the any sensitive environmental areas; • Demolition waste and surplus concrete shall be disposed of responsibly; • Waste shall not be buried or burned on site; and • The maximum retention time for temporary storage of waste generated shall not exceed 30 days, provided the waste does not present a health hazard or risk of odour. <p><i>Disposal of hazardous waste:</i></p> <ul style="list-style-type: none"> • No dumping shall be allowed in or near the construction site; • Hazardous containers shall be disposed of at an appropriate licensed site; • Hazardous waste will be removed and managed by an approved service provider; • A safe disposal certificate will be provided by the approved service provider as proof of responsible disposal of hazardous waste; and • The safe disposal certificate shall be stored and provided on request. <p><i>Disposal of general waste:</i></p> <ul style="list-style-type: none"> • No dumping shall take place in or near the construction site; • All general waste shall be disposed of to the nearest licensed landfill site; • Demolition waste and builders rubble shall be disposed of to an appropriate licensed landfill site; and • The necessary permissions must be obtained to dispose of builders' rubble to the

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			landfill site.
	<p><i>Indirect Impacts</i> No indirect impacts are anticipated during the construction phase.</p>		
Alternative 2			
No Go Option			
	<p><i>Direct impacts:</i></p> <ul style="list-style-type: none"> • No direct impacts are anticipated during the construction phase. 		
	<p><i>Indirect impacts:</i></p> <ul style="list-style-type: none"> • No indirect impacts are anticipated during the construction phase. 		
	<p><i>Cumulative impacts:</i></p> <ul style="list-style-type: none"> • No cumulative impacts are anticipated during the construction phase. 		

IMPACT ASSESSMENT FOR THE OPERATIONAL PHASE

Socio-Economic

During the operational phase of the proposed development the following potential impacts are likely to occur:

- Visual impact of the constructed three storey residential development;
- Increased traffic due to increased occupancy in the area;
- Job creation and boost for local businesses (1 500 direct and indirect opportunities from the project);
- Injection of R 6 billion worth of investment into the area;
- Provision of low-cost housing to the residents of Sol Plaatje Local Municipality (12 369 total of which 8 563 will be on the Colville site); and
- Rates and taxes to be paid to the local municipality and increased revenue.

Groundwater

The use of vehicles on site poses the risk of chemical spillages including fuel and oils, which may leach into the groundwater. Leaks of untreated water from pipelines may occur and also impact on the groundwater quality.

Hydrology

The possible potential impacts on surface water during the operational phases of the proposed project may be due to increased urban runoff from the infrastructure and roads. Leaks from the proposed pipelines may occur and result in contaminated run-off from the site.

Air Quality and Climate Change

Gaseous emissions derived from public vehicles, biomass burning, and domestic fuel burning will include primarily SO₂, CO, CO₂, NO_x and hydrocarbons. Vehicles on the roads in Kimberley, and on the national roads (N8, R64 and R357) will also contribute to these gaseous emissions but it is expected that it is not a busy road and therefore the contribution is negligible. It is not known what the frequency and magnitude of veld fires are in the region, but these could be significant contributors to ambient gaseous pollutants. Similarly, domestic fuel burning can be significant contributors to specifically indoor air pollution.

The movement of vehicles may result in the production of carbon dioxide (Green House Gas), which may have an impact on the climate in the area.

Noise

The movement of vehicles during operational activities to and from the project site may result in an increase in ambient noise in the immediate vicinity of the project.

Visual

Three storey structures developed on the site could be visually intrusive.

Biodiversity

Improper rehabilitation during and post construction can result in proliferation of alien invasive plant species and continued loss of vegetation and habitats. Run-off water from gardens typically contains seeds of exotic and garden-variety plants that pose a threat to indigenous vegetation and ecology. Run-off water should be diverted to storm water management services and infrastructures.

Traffic

The additional people and economic activities in the area will result in increased movement of vehicles in the project area will result in an increase in traffic on the roads.

Waste Management

The operational phase of the project will result in increased generation of domestic waste that will need to be handled and disposed of by the Sol Plaatje Local Municipality, increasing pressure on the municipality.

Table 12: Summary of Impacts and Mitigation Measures for the Operational Phase

Activity	Impact summary	Significance	Proposed mitigation
Activity 1 (Preferred Option)			
Operation of the mixed-use development	Direct Impacts		
	Visual impact of the constructed three storey residential development.	Low (-)	<ul style="list-style-type: none"> Local speed limits and traffic laws shall apply at all times to minimise the occurrences of accidents on public roads. Where possible, the buildings must be painted using colours that blend in with the existing structures in the area. The number of vehicles on the roads shall be kept to a minimum. Traffic laws shall apply. Security and safety should be emphasized. No workers shall be allowed to access private properties without the owner's knowledge and consent.
	Negative impact as a result of additional vehicles on the roads, impacting on local communities' health and safety.	Low (-)	
	Boost in employment and local small business opportunities.	High (+)	
	The use of vehicles on site poses the risk of chemical spillages including fuel and oils, which may leach into the groundwater.	Low (-)	<ul style="list-style-type: none"> All oil spills will be remedied using approved methodologies. The contaminated soils will be removed and disposed of at a licensed waste disposal facility. All waste generated from the project site will be collected in proper receptacles and removed by the Sol Plaatje LM to a registered disposal facilities e.g., sewage treatment plant, solid waste disposal site or hydrocarbon recycling or treatment facilities. All oil spills will be remedied using approved methodologies. The contaminated soils will be removed and disposed of at a licensed waste disposal facility. Monitor the groundwater environment for hydrochemistry and hydrocarbons
	Leaks of untreated water from pipelines may occur and also impact on the groundwater quality.	Medium-Low (-)	
	The possible potential impacts on surface water during the operational phases of the proposed project may be due to increased urban runoff from the infrastructure and roads.	Medium-Low (-)	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	Leaks from the proposed pipelines may occur and result in contaminated run-off from the site.	Medium-Low (-)	<ul style="list-style-type: none"> • No groundwater may be abstracted for use on site without approval from the DWS.
	Heavy rainfall events and associated sheet run-off towards the Vaal River has potential for contamination of off-site surface water due to uncontained on-site surface water run-off.	Medium Low (-)	<ul style="list-style-type: none"> • Storm water generated around the project site will be diverted away to the clean water environment. • All hydrocarbons will be stored on protected storage areas away from the streams. • Fire-fighting water- (sufficient storage, correct additives, impermeable storage containers), and contact water (run-off contained, remove or treat contained contact water) management. • Design and construct (bundling, impervious storage base), and manage stormwater run-off. • Ensure contaminated surface run-off is either treated or contained in leak-resistant structures. • All disturbed areas must be rehabilitated in tandem with construction activities. • Runoff water should be diverted to storm water management services and infrastructures. • Management and control of alien invasive plant species must be implemented even during the operational phase of the project. • Landscaping of the gardens must include removal of weeds that pose a threat to indigenous vegetation.
	Accidental fires and extinguishing of on-site fires results in potential contamination of soil, groundwater, and surface water run-off during a fire event if contact fire-fighting water is not contained	Low	
	Improper rehabilitation during and post construction can result in proliferation of alien invasive plant species and continued loss of vegetation and habitats.	Low	
	Run-off water from gardens typically contains seeds of exotic and garden-variety plants that pose a threat to indigenous vegetation and ecology.	Low (-)	
	The operational phase of the project will require vehicular movement which may result in possible increase in dust generation, PM ₁₀ and PM _{2.5} .	Medium Low (-)	

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
	Increase in carbon emissions and ambient air pollutants (CO ₂ , NO _x , HC, VOC and SO ₂) as a result of movement of vehicles and operation of machinery/equipment.	Medium Low (-)	spraying with water. <ul style="list-style-type: none"> • Dust control suppression shall be implemented on dry weather days and periods of high wind velocities. • Correct speed will be maintained at the proposed project site. • Putrescible waste must be handled, stored and disposed of before the probability of it generating odours.
	Cumulative Impacts Cumulative air quality impacts are anticipated during the operational phase.	Low (-)	
	Cumulative Impacts Socio-economic impacts in terms of job creation and promotion of other related local businesses	High (+)	<ul style="list-style-type: none"> • The positive impacts from the proposed project must be maximised and KRD must ensure that the local residents benefit from the project.
	Indirect Impacts No indirect impacts are anticipated during the operational phase.		
Waste Management	Direct Impacts		
	The operational phase of the project will result in increased generation of domestic waste that will need to be handled and disposed of by the Sol Plaatje Local Municipality, increasing pressure on the municipality	Low (-)	Storage of waste <ul style="list-style-type: none"> • General waste will be collected in an adequate number of litter bins; • Bins must have lids in order to keep rainwater out; • Bins shall be emptied regularly to prevent the bins from overflowing; • Waste shall be stored in demarcated areas according to type of waste; • Flammable substances must be kept away from sources of ignition and from oxidizing agents; • Waste shall not be buried or burned on site; and • The maximum retention time for temporary storage of waste generated shall not exceed 30 days, provided the waste does not present a health hazard or risk of odour.

BASIC ASSESSMENT REPORT

Activity	Impact summary	Significance	Proposed mitigation
			<p><i>Disposal of hazardous waste</i></p> <ul style="list-style-type: none"> • No dumping shall be allowed on site; • Hazardous containers shall be disposed of at an appropriate licensed site; <p><i>Disposal of general waste</i></p> <ul style="list-style-type: none"> • All general waste shall be disposed of to the nearest licensed landfill site.
	<p><i>Indirect Impacts</i> No indirect impacts are anticipated during the operational phase.</p>		
	<p><i>Cumulative Impacts</i> No cumulative impacts are anticipated during the operational phase.</p>		
Alternative 2			
No Go Option			
	<p><i>Direct impacts:</i></p> <ul style="list-style-type: none"> • No direct impacts are anticipated during the operational phase 		
	<p><i>Indirect impacts:</i></p> <ul style="list-style-type: none"> • No indirect impacts are anticipated during the operational phase 		
	<p><i>Cumulative impacts:</i></p> <ul style="list-style-type: none"> • No cumulative impacts are anticipated during the operational phase 		

IMPACT ASSESSMENT FOR THE DECOMMISSIONING PHASE

The proposed project entails the construction and operation of housing development and it is not expected that the project will be decommissioned in the near future.

At this point of the project planning process, the necessity for and timing of the decommissioning of the proposed project is unknown. Like construction phase impacts, decommissioning impacts are inherently temporary in duration. The DENC will be appropriately notified and consulted prior to decommissioning taking place. An application in terms of the prevailing EIA Regulations at the time when decommissioning will be required for the relevant Environmental Authorisation will be lodged if applicable.

Like the construction phase, it is expected that the decommissioning phase may result in short lived impacts on:

- Biodiversity, including potential proliferation of Alien Invasive Plant Species;
- Ambient air quality,
- Hydrology and groundwater;
- Traffic;
- Waste Management; and
- Increase in ambient noise levels.

Although the impacts during the decommissioning phase are expected to be the same as for the construction phase, the significance of the impacts is expected to be lower than for the construction phase.

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as [Appendix F](#).

2. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Alternative A (preferred alternative)

The potential impacts evident from the detailed impact assessment of the proposed project are both positive and negative in nature. The identified and assessed negative impacts can be managed to acceptable levels.

Most of the negative impacts identified i.e. impacts of particulate mobilisation, increased nuisance noise, visibility due to dust plumes, potential soil and groundwater pollution due to oil and diesel will take place during all phases of the project. However, the impacts are expected to be of low

significance and the periods of the majority of the impacts will be of short duration. Particulate mobilisation is easily and effectively controlled by wet suppression and the potential for soil and groundwater pollution will be mitigated by taking due care to prevent spillages of oil and diesel and to clean up any spillages that might occur.

There are no protected species located on the proposed project site and overall loss of biodiversity will be of low significance, limited to the footprint of the mine dump. In fact, the proposed project will also have a positive impact on biodiversity as it will result in removal of Alien Invasive Plant Species currently on the property. The Mesquite tree (*Prosopis glandulosa*) currently located on the Colville site is synonymous with dry arid areas in especially the Karoo and the Northern Cape and has become the second most widespread invasive tree species in South Africa. *Prosopis* trees are extravagant users of readily available groundwater and dense stands could seriously affect the hydrology of the ecosystems they invade.

All the identified cumulative impacts are expected to be of low significance and include:

- Traffic
- Air Quality;
- Archaeological resources;
- Groundwater and hydrology; and
- Biodiversity.

The main positive impacts of the proposed project will be as follows:

- Housing, water, electricity and sanitation: The proposed project will result in construction of 12 369 houses, with 8 563 located on the Colville Site. In addition, electrical, water, sewage and stormwater management services will also be provided to meet the additional demand.
- Employment: The proposed project will result in the creation of employment (1 500 direct and indirect opportunities) during the construction and operational phases.
- Injection of investment worth R 6 billion.
- Additionally, the project provides the municipality with an opportunity to rehabilitate old mine dumps that are not currently in use and collect revenue from rates and taxes which can be used to improve services in the area.

The mitigation measures in the EMPr (Appendix G) are deemed adequate to avoid and/or minimise further degradation of the environment. In the long term, effective implementation of mitigation measures (as recommended in the EMPr) may also result in positive impacts in terms of control of alien vegetation.

Alternative B

Alternative C

No-go alternative (compulsory)

This option will result in no additional impacts occurring as it maintains the current status quo and would therefore avoid the negative biophysical impacts associated with the proposed project. This

alternative would represent a lost opportunity for the Sol Plaatje Local Municipality, its residents and the broader region.

Sol Plaatje Municipality, particularly Kimberley has valuable land locked under the old mine dumps. Not only are these dumps a hindrance to land use, but they cause an unpleasant authenticity to the city, that it is forgotten mining town. Under the proposed project, KRDC proposes to recycle and implement beneficiation projects from the dumps, including the old mine dump located on the Colville Site.

The site is currently vacant land and mainly used as a pass-through by the local community. Wood harvesting, littering and illegal dumping occur on the site. The proposed project will lead to beneficial use of the site.

According to the Sol Plaatje Local Municipality IDP, 30% of the Northern Cape housing backlog exists in Sol Plaatje, with the municipality advocating for focus to be on ramping up the planning and delivery of houses, with clear economic spin offs to boost the local economy. Under the proposed project, a total of 12 369 houses will be constructed, of which 8 563 will be located on the Colville Site. The anticipated investment from the project is approximately R 6 billion.

In addition, the project will provide permanent employment to local people (approximately 1 500 direct and indirect jobs) within a local municipality with a high rate of unemployment, potentially providing job security (and the benefits thereof) not only for employed individuals but for households. The proposed project will also provide an economic stimulus to the local economy through the establishment or promotion of existing small businesses (transporters, builders, providers of other materials required).

Additionally, the project provides the municipality with an opportunity to rehabilitate old mine dumps that are not currently in use and collect revenue from rates and taxes which can be used to improve services in the area.

The project will thus in the long run have an overall positive economic and environmental impact for the receiving area and will have a cumulative impact that can be considered to be of high significance

The No-Go alternative is, therefore, not preferred.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?

YES
X

NO

The construction of the housing development must be conducted under duty of care and must be in accordance with the mitigation measures that were included in the EMPr to ensure that impacts are prevented and if they do occur they are kept to the minimum.

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

N/A

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application.

Where potential biophysical or social impacts have been identified mitigation and management measures have been proposed to control and monitor the magnitude of impacts associated with the various aspects of the proposed project. The identified impacts are manageable through the implementation of mitigation measures contained in the EMPr. The EAP therefore recommends that the project be authorised for a period and the following recommendations should be adhered to:

- Adequate storm water management must be incorporated into the design of the project in order to prevent erosion;
- The Applicant must apply for and obtain a permit for the destruction and/or relocation of heritage resources as per the recommendations of the specialist;
- The applicant must appoint an ECO who will oversee the implementation of the EMPr and submit annual compliance reports to the DENC;
- The proposed development footprint shall be kept to a minimal;
- All hazardous storage containers, storage areas and bunding areas for hazardous substances must comply with the relevant SANS standards to prevent leakage;
- Bulk storage of hydrocarbons must be stored in a dedicated area and must include a bund or a drain where necessary to contain any spillages during the use, loading and off-loading of the substances;
- The time in which soils are exposed during construction activities should remain as short as possible;
- Exotic or invasive plants shall be controlled as they emerge;
- An alien vegetation control program must be developed and implemented within the riparian and all disturbed areas. After removal of alien vegetation, the affected areas must be re-assessed to determine the success of the program and any follow up measures that may be required.;
- All areas of disturbed and compacted soils need to be ripped and reprofiled;
- No dumping of waste shall be permitted. If any spills occur, they should be immediately

cleaned up;

- All vehicles shall be inspected for leaks on a regular basis. Re-fuelling must take place on a sealed surface area to prevent ingress of hydrocarbons into topsoil;
- Site clearance must be conducted in a phased and restricted manner (where possible) to allow for any faunal species present to move away from the study area;
- No trapping or hunting of faunal species is to take place during all phases of the proposed project;
- Upon completion of construction activities, it must be ensured that indigenous vegetation is reintroduced and used for landscaping, where possible.

Is an EMPr attached?

YES
X

NO

The EMPr must be attached as [Appendix G](#).

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as [Appendix H](#).

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in [Appendix I](#).

Any other information relevant to this application and not previously included must be attached in [Appendix J](#).

[Ndivhudzannyi Mofokeng](#)

NAME OF EAP

SIGNATURE OF EAP

DATE

SECTION F: APPENDIXES

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Public Participation

Appendix E1: Relevant Advertisements and Notices

Appendix E2: Proof that the key stakeholder received written notification of the proposed activities

Appendix E3: Comments and Response Report

Appendix E4: Proof that the Authorities and Organs of State Received Written Notification

Appendix E5: List of Registered I&APs

Appendix E6: Copies of any Correspondence with stakeholders

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information