ENVIROROOTS

PPC CEMENT SA (PTY) LTD

DWAALBOOM OPERATIONS

DRAFT BASIC (ENVIRONMENTAL IMPACT) ASSESSMENT REPORT

IN SUPPORT OF THE APPLICATION FOR ENVIRONMENTAL AUTHORISATION

FOR

THE PROPOSED NEW WASTE TYRE STORAGE AREAS

ON

PORTIONS 2 AND 4 OF THE FARM SCHOONGEZICHT 238 KP FALLING WITHIN THE JURISDICTION OF THE THABAZIMBI LOCAL MUNICIPALITY, WATERBERG DISTRICT, LIMPOPO PROVINCE

22 JULY 2022

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SACNASP Pr. Sci. Nat. 129647

PROJECT TITLE:	Draft Basic Assessment Report in support of the Application for Environmental Authorisation for the proposed new waste tyre storage areas on Portions 2 and 4 of the Farm Schoongezicht 238 KP falling within the jurisdiction of the Thabazimbi Local Municipality, Waterberg District, Limpopo Province

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STATEMENT OF LIMITATION

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LIST OF ABBREVIATIONS

AEL	Air Emissions License
BA(R)	Basic Assessment (Report)
CR	Critically Endangered
DALRRD	Department of Agriculture, Land Reform and Rural Development
DFFE	Department of Forestry, Fisheries and the Environment
DMRE	Department of Mineral Resources and Energy
DWS	Department of Water and Sanitation
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPR	Environmental Management Programme
EN	Endangered
GG	Government Gazette
GN	Government Notice
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
IEM	Integrated Environmental Management
IWMP	Integrated Waste Management Plan
LEDET	Limpopo Department of Economic Development, Environment and Tourism
MPRDA	Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEM:AQA	National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NWMS	National Waste Management Strategy
PPE	Personal Protective Equipment
SA	South Africa
SAHRA	South African Heritage Resources Agency
SCC	Species of Conservation Concern
VU	Vulnerable
WM	With Mitigation
WOM	Without Mitigation

UNITS OF MEASURE

%	**Percentage**
°C	Degrees Celcius
cm	Centimetres
ha	Hectares
km	Kilometres
km/h	Kilometres per Hour
m	Metres
m^2	Square Metres
m^3	Cubic Metres
mm	Millimetres
t/h	Tonnes per Hour

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
ECONOMIC DEVELOPMENT, ENVIRONMENT & TOURISM

BASIC ASSESSMENT REPORT - EIA REGULATIONS, 2014

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.

File Reference Number:	

	(For official use only)
NEAS Reference Number:	
Date Received:	
Due date for acknowledgement:	
Due date for acceptance:	
Due date for decision	

Kindly note that:

1. The report must be compiled by an independent Environmental Assessment Practitioner.

2. 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.

3. Where applicable **tick** the boxes that are applicable in the report.

4. 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 Department of Economic Development, Environment and Tourism as the competent authority (Department) for assessing the application, it may result in the rejection of the application as provided for in the regulations.

5. An incomplete report may be returned to the applicant for revision.

6. Unless protected by law, all information in the report will become public information on receipt by the department. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.

7. The Act means the National Environmental Management Act (No. 107 of 1998) as amended.

8. Regulations refer to Environmental Impact Assessment (EIA) Regulations of 2014.

9. The Department may require that for specified types of activities in defined situations only parts of this report need to be completed. No faxed or e-mailed reports will be accepted.

10. This application form must be handed in at the offices of the Department of Economic Development, Environment and Tourism:-

Postal Address:	Physical Address:
Central Administration Office	Central Administration Office
Environmental Impact Management	Environmental Affairs Building
P. O. Box 55464	20 Hans Van Rensburg Street / 19 Biccard Street
POLOKWANE	**POLOKWANE**
0700	0699

Queries should be directed to the Central Administration Office: Environmental Impact Management:-

For attention: Mr E. V. Maluleke
Mobile: 082 947 7755
Email: malulekeev@ledet.gov.za

11. **View the Department's website at http://www.ledet.gov.za/ for the latest version of the documents.**

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?	**YES**	NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" or appointment of a specialist for each specialist thus appointed:

Any specialist reports must be contained in Appendix D.

1 ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail[1]:

INTRODUCTION AND LOCALITY

PPC Cement SA (Pty) Ltd (applicant) currently operates its existing Dwaalboom operations (hereafter referred to as PPC Dwaalboom) approximately 10 km south of Dwaalboom Town via the Holfontein Northam Route within the Thabazimbi Local Municipality and Waterberg District Municipality of the Limpopo Province.

Dwaalboom is an open cast limestone, lava and shale mine with an associated clinker and cement manufacturing plant. Open cast mining takes place using traditional drilling and blasting, hauling and crushing techniques. The crushed limestone and lava form the bulk of the raw materials required for the clinker and cement manufacturing. Both clinker and cement are distributed from Dwaalboom. The cement (~ 850 000 tons per annum) is sold into the Southern African market (mainly northern provinces of South Africa) and the clinker (~ 1.8 million tons per annum) is transported by rail to the PPC Hercules and Jupiter plants, located in Gauteng, for additional grinding into cement.

The Dwaalboom mining licence (ML2/95) was granted over the farms Schoongezicht 238 KP, Jakhalskraal 239 KP and Gansvley 240 KP for limestone, lava, shale and other minerals required for cement manufacturing which licence was submitted for the conversion as required by the Minerals and Petroleum Resources Development Act, 28 of 2002 (MPRDA) in 2010, and subsequently approved in 2014.

The converted mining right (Ref.: LP30/5/1/2/2/51MCR) authorises the removal of limestone, shale, lava and other minerals required for cement manufacturing. The Mining Right was granted for a period of thirty years, commencing on 26 February 2014 and, unless cancelled or suspended in terms of clause 13 of the right and/or Section 47 of the Mineral and Petroleum Resources Development Act (MPRDA), 2002 (Act No. 28 of 2002), will continue to be in force until 25 February 2044.

PRODUCTION PROCESS

The clinker (and cement) production process require that raw mix extracted from the silos are transferred to the kiln pre-heaters. Combustion gases from the kiln flow through the preheaters, heating the raw mix as it passes down toward the kiln. The material then enters the kiln which is heated by the combustion of pulverised coal. The high temperatures in the kiln firstly dissociate calcium carbonate to calcium oxide, expelling carbon dioxide gas, followed by a reaction of calcium oxide with raw material components to form calcium silicates and aluminates. The reaction product mix leaves the kilns as a grey nodular material, referred to as clinker.

[1] Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description.

The clinker is then cooled and transferred to clinker silos for storage. The kiln off-gases pass through bag filters for particulate removal. The gas passed through the bag filters is then vented to atmosphere through stacks.

Dwaalboom has two operating kilns:

- Kiln 1 was commissioned in 1985, mothballed shortly afterwards and re-commissioned in 1996. This kiln line has a 5-stage preheater and is 78 m long. The kiln can produce a maximum of 2 500 tons of clinker per day. It is fitted with a multi-channel burner. Its emissions are drawn through a bagfilter to reduce emissions to compliance level.
- Kiln 2, commissioned in 2008, has a 6-stage preheater and is 54 m long. The kiln can produce a maximum of 3 300 tons of clinker per day. It is fitted with a multi-channel burner and an in line calciner. Emissions are controlled through the use of a bag house.

Preheaters use hot kiln exhaust gases to preheat the raw meal entering the kiln. This makes effective use of the kilns' energy. The raw meal from the raw meal silo is fed via compressed air into the preheater towers. While the material passes through the preheater, the raw meal is dried and partial calcinations takes place at approximately 900 ºC. During calcination, limestone (predominantly $CaCO_3$) breaks down and releases carbon dioxide (CO_2):

$CaCO_3$ + heat → $CaO + CO_2$.

The heated material is then passed through the coal fired rotating kilns, where the temperature is raised to 1 400 °C. At this temperature, various minerals start to fuse together to form calcium silicate crystals, known as clinker. The coal is burnt through multi-channel burners.

WASTE TYRES AS ALTERNATIVE ENERGY/FUEL SOURCE

As mentioned above, PPC Dwaalboom has two kilns, both of which are currently coal fired. The operations, however, have been issued an Atmospheric Emission License (AEL) (Ref.: H16/1/13-WDM04) in terms of the National Environmental Management: Air Quality Act (NEM:AQA), 2004 (Act No. 39 of 2004) which allows for the production of cement using alternative fuels and/or resources (refer to the table below for the approved activity).

Category of Listed Activity	Sub-category of the Listed Activity	Description of the Listed Activity
5 – Mineral Processing, Storage and Handling	5.5 – Cement production (using alternative fuels and/or resources)	The production and cooling of Portland cement clinker, grinding and blending of clinker to produce finished cement where alternative fuels and/or resources are used

Amongst others, the AEL approves scrap tyres and rubber waste as materials to be used as an alternative energy/fuel source for both kilns.

In January 2009 the Minister of Environmental Affairs and Tourism approved the Environmental Conservation Act (73/1989): Waste Tyre Regulation, 2008. This regulation prohibits the landfilling of whole tyres. The regulation requires the development of an Integrated Industry Waste Tyre Management Plan by tyre producers. As of October 2017, the South African Waste Management Bureau has the responsibility for the management of waste tyres. Processing of waste tyres is a key priority for the Bureau.

The cement production process requires relatively high amounts of energy and using waste tyres as an alternative fuel leads to both energy saving and reduction in emissions. Additionally, utilising waste tyres as an alternative fuel for cement production requires that there be modifications to equipment, systems, and process conditions to effectively allow for efficient combustion. Various technologies exist and have been implemented successfully in cement operations all over the world, with coal substitution rates upwards of 60%.

In South Africa, substituting coal with waste tyres requires Government support to realise mutual benefits as the potential impact on energy costs alone would not suffice to justify the necessary investment, given the relatively low price of coal.

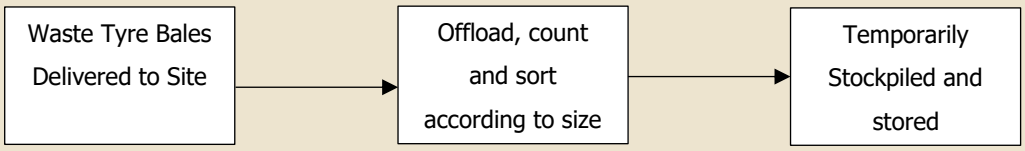
PROPOSED ESTABLISHMENT OF WASTE TYRE STORAGE AREAS AT PPC DWAALBOOM

To achieve the above, PPC Dwaalboom therefore requires the establishment of areas on its property that may be used for the storage of waste tyres. These storage areas will then be close enough to the plants where processing can be done. The total operational footprint of the proposed waste tyre storage will equate to 4.5358 ha (or 45 358 m^2) and will consist of the following areas:

Waste Tyre Storage Area Name	Coordinates	Site Size	Maximum Volume of Waste Tyres Stored
Area A	24°48'48.20"S 26°49'50.17"E	10 447 m^2	265 200
Area B1	24°48'51.17"S 26°49'56.55"E	2 475 m^2	78 000
Area B2	24°48'49.48"S 26°49'58.85"E	3 108 m^2	93 600
Area C	24°48'43.96"S 26°50'8.40"E	29 328 m^2	780 000

The operation will be mechanised and involve the following process:

- Temporary Storage: Receiving, offloading, and sorting of waste tyre bales at the temporary storage areas, according to tyre sizes. Waste tyres will be offloaded manually or by use of support vehicles, e.g. forklift or Bell Logger, depending on size of tyres, stacked and stored according to the requirements of the relevant regulations.



The estimated waste tyre usage for PPC Dwaalboom was calculated for the operation on the assumption that a 4 t/h load will be required. At 4 t/t it is estimated that:

- Peak consumption is 96 tons tyres per day and 2880 tons month.
- Estimated supply during the months Feb to Nov, will be 2500 tons per month.
- Estimated supply for Dec and Jan months will be 1500 tons per month to accommodate supply stoppage during the festive season and the accumulation of tyres during the kiln shutdown.
- The Total supply is thefore estimated to be (2500 x 10) + (1500 x 2) = 28 000 tons for 4 t/h consumption during kiln normal operating conditions.
- Buffer stock will be kept on site of 1500 tons (16 days' supply).
- Maximum amount of tyre storage needed will be 1500 tons plus 2500 tons (for uninterrupted supply during kiln shutdown up to a month) this totals 4000 tons.

The quantities of waste tyres required will be sourced from various sources and all agreements with waste tyre suppliers must be kept on site.

The construction and operation of the tyre storage areas triggers activities listed in Government Notice R. (GNR) 983 (Listing Notice 1, as amended by GN No. 327 of 07 April 2017 and GN No. 517 of 11 June 2021) and will therefore require Environmental Authorisation from the Limpopo Department of Economic Development, Environment and Tourism (LEDET).

APPLICATION PROCESS

Notice is hereby given in terms of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998), read with Regulation 19 of the Environmental Impact Assessment (EIA) Regulations (GN No. R.982 of 04 December 2014, as amended by GN No. 326 of 07 April 2017 and GN No. 517 of 11 June 2021), that PPC Cement SA (Pty) Ltd proposes to lodge an application for Environmental Authorisation by means of a Basic Assessment Report (BAR) Process for the following activities listed in **Government Notice R.983 (Listing Notice 1, as amended by GN No. 327 of 07 April 2017 and GN No. 517 of 11 June 2021), Activity 27:** The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation.

Notice is hereby given in terms of the National Environmental Management: Waste Act (NEMWA), 2008 (Act No. 59 of 2008), read with the List of Waste Management Activities that have, or are likely to have, a detrimental effect on the environment (GN No. 921 of 29 November 2013, as amended), that PPC Cement SA (Pty) Ltd will comply with the listed relevant requirements or standards for the following listed activity: **GN No. 921 (as amended), Category C, Activity (3):** The storage of waste tyres in a storage area exceeding 500 m^2.

Notice is hereby given in terms of Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), that a Heritage Assessment will be conducted as part of the Basic Assessment Report Process.

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. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity 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 Department 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.

LOCATION ALTERNATIVES

PPC Dwaalboom undertook in-depth internal investigations as to the best suited options for the establishment of a waste tyre storage area or areas. Locality played a major role in the site selection process as these had to be in close proximity to the plants where processing can be done. Further to the above, site selection within and surrounding the existing plant footprint area were beneficial so as to not disturb naturally vegetated areas outside of the plant area (which in turn would require further travelling distances to the processing areas). Following internal investigations, four sites were selected for development within the existing plant area, where minimal disturbance would take place, and which were at the correct distances from the processing areas to limit unnecessary travelling distances. The Vegetation Assessment conducted for the four proposed development sites revealed no high sensitivities. Area A, B1 and B2 are considered to be of low significance, with Area C considered of low to moderate significance. All areas were found to be disturbed to some extent with Species of Conservation Concern (SCC) not found and unlikely to occur. For this reason, no alternative sites were therefore assessed. The four proposed development sites combined form the preferred alternative.

DESIGN OR LAYOUT ALTERNATIVES

Design or layout alternatives are not possible given the nature of the preferred localities. The sites selected for development are situated around the existing plant area in specific patches of disturbed vegetation. The design and layout were therefore adapted specifically to these areas.

NO-GO ALTERNATIVE

The No-go Alternative, in essence, comprises the Technology Alternative considered by PPC Dwaalboom. With the implementation of the No-go Alternative, the current fuel source via coal burning will remain in use at the kilns. The Applicant would not be allowed the opportunity to implement waste tyres as an alternative energy/fuel source in line with their approved Air Emissions License (Ref.: H16/1/13-WDM04). The Applicant would furthermore not be allowed the opportunity to have a positive environmental impact by reducing their carbon footprint. The land will remain unused and disturbed without purpose as connectivity to surrounding ecosystems is very limited. No additional employment opportunities will be created and therefore no positive socio-economic impact.

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

3 ACTIVITY POSITION

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 Hartebeeshoek 94 WGS84 spheroid in a national or local projection.

List alternative sites, if applicable.

		Latitude (S):			**Longitude (E):**		
Alternative:							
Alternative S1[2] (preferred or only site alternative)	Area A	24°	48'	48.20"	26°	49'	50.17"
	Area B1	24°	48'	51.17"	26°	49'	56.55"
	Area B2	24°	48'	49.48"	26°	49'	58.85"
	Area C	24°	48'	43.96"	26°	50'	08.40"
Alternative S2 (if any)		°	'	"	°	'	"

[2] "Alternative S.." refer to site alternatives.

Alternative S3 (if any)	°	'	"	°	'	"

In the case of linear activities:

Alternative:	**Latitude (S):**			**Longitude (E):**		
Alternative S1 (preferred or only route alternative)						
• 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	°	'	"	°	'	"

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

4 PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:		**Size of the activity:**
Alternative A1[3] (preferred activity alternative)	Area A	10 447 m^2
	Area B1	2 475 m^2
	Area B2	3 108 m^2
	Area C	29 328 m^2
Alternative A2 (if any)		m^2
Alternative A3 (if any)		m^2

or,

<u>for linear activities:</u>

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	m
Alternative A2 (if any)	m
Alternative A3 (if any)	m

[3] "Alternative A.." refer to activity, process, technology or other alternatives.

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

		Size of the site/servitude:
Alternative:		
Alternative A1 (preferred activity alternative)	Area A	10 447 m^2
	Area B1	2 475 m^2
	Area B2	3 108 m^2
	Area C	29 328 m^2
Alternative A2 (if any)		m^2
Alternative A3 (if any)		m^2

5 SITE ACCESS

Does ready access to the site exist?	**YES**	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 required. Existing roads within the plant area will be used.

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.

6 SITE OR 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:

6.1 the scale of the plan which must be at least a scale of 1:500;

6.2 the property boundaries and numbers of all the properties within 50 metres of the site;

6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;

6.4 the exact position of each element of the application as well as any other structures on the site;

6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;

6.6 all trees and shrubs taller than 1.8 metres;

6.7 walls and fencing including details of the height and construction material;

6.8 servitudes indicating the purpose of the servitude;

6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):

- rivers;
- the 1:100 year flood line (where available or where it is required by Department of Water Affairs);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or invested with alien species);

6.10 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500 mm contours must be indicated on the plan; and

6.11 the positions from where photographs of the site were taken.

7 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 form**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

8 FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 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.

9 ACTIVITY MOTIVATION

9.1 SOCIO-ECONOMIC VALUE OF THE ACTIVITY

What is the expected capital value of the activity on completion?	R 1 000 000	
What is the expected yearly income that will be generated by or as a result of the activity?	R 0	
Will the activity contribute to service infrastructure?	YES	**NO**
Is the activity a public amenity?	YES	**NO**
How many new employment opportunities will be created in the development phase of the activity?	10	
What is the expected value of the employment opportunities during the development phase?	R 250 000	
What percentage of this will accrue to previously disadvantaged individuals?	100%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	8	
What is the expected current value of the employment opportunities during the first 10 years?	R 9 600 000	
What percentage of this will accrue to previously disadvantaged individuals?	100%	

9.2 NEED AND DESIRABILITY OF THE ACTIVITY

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

NEED:			
i.	Was the relevant municipality involved in the application? Comments Requested	**YES**	NO
ii.	Does the proposed land use fall within the municipal Integrated Development Plan?	**YES**	NO
iii.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:		

DESIRABILITY:			
i.	Does the proposed land use / development fit the surrounding area?	**YES**	NO
ii.	Does the proposed land use / development conform to the relevant structure plans, Spatial development Framework, Land Use Management Scheme, and planning visions for the area?	YES	**NO**
iii.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	**YES**	NO
iv.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation:		
	According to the Draft (VS3) Thabazimbi Land Use Scheme (2022) Portions 2 and 4 of the Farm Schoongezicht 238 KP is proposed as agricultural use zone.		
v.	Will the proposed land use / development impact on the sense of place?	YES	**NO**
vi.	Will the proposed land use / development set a precedent?	YES	**NO**
vii.	Will any person's rights be affected by the proposed land use / development?	YES	**NO**
viii.	Will the proposed land use / development compromise the "urban edge"?	YES	**NO**
ix.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.		

BENEFITS:			
i.	Will the land use / development have any benefits for society in general?	**YES**	NO
ii.	Explain:		
	Utilising tyres as an alternative fuel source at PPC Dwaalboom will lower the operation's carbon footprint and reduce the requirement for fossil fuels which cause air pollution. The proposed Waste Tyre Storage Areas will offer a cleaner environment with less waste tyres strewn around. Local landfill sites will benefit from more landfill airspace being available for other waste types. In addition, the project has the potential to reduce the number of tyres burnt in informal settlements, which will in turn reduce emissions into the atmosphere through which communities will benefit from cleaner air and decreased health risks. The initiative will furthermore promote waste minimisation, re-use, recycling and recovery in line with the 2019 Integrated Waste Management Plan (IWMP) for the Thabazimbi Local Municipality. As indicated in the IWMP, developing partnerships with the private sector is critical for the implementation of particularly waste minimisation, re-use and recycling opportunities including with, amongst others, Waste Tyre Recyclers.		
iii.	Will the land use / development have any benefits for the local communities where it will be located?	**YES**	NO
iv.	Explain:		
	The proposed Waste Tyre Storage Areas will contribute to the local socio-economy through job creation and skills development, especially taking previously disadvantaged individuals into consideration. Temporary employment will be created during the construction phase, whereas permanent employment opportunities together with skills development will be created during the operational phase.		

10 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:	Description:	Administering authority:	Date:
Constitution of the republic of South Africa, 1996 (Act No. 106 of 1996)	The Constitution is the supreme law of the Republic of South Africa and any act or conduct inconsistent with it is invalid and will have no force of law. Environmental provisions are included in the Bill of Rights in Chapter 2 of the Constitution Act, No. 108 of 1996. In terms of section 24 of the Act, everyone has the right: (a) *to an environment that is not harmful to their health or well-being; and* (b) *to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:* o prevent pollution and ecological degradation; o promote conservation; and o secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. The Constitution provides the legal basis for allocating powers to different spheres of government and is thus relevant to the institutional regulation of integrated pollution and waste management.	South African Government	1996
National Environmental Management Act, 1998 (Act No. 108 of 1998)	The NEMA is South Africa's overarching environmental statute concerned with integrated environmental management (IEM) and the underlying principles by which environmental management must be undertaken. Its primary objective is to provide for co-operative governance, thus binding all organs of State by establishing principles for decision making on matters affecting the environment, institutions that will promote co-operative governance, and procedures for co-ordinating environmental functions exercised by organs of State and to provide for matters connected therewith. The NEMA provides for the Constitutional right to an environment that is not harmful to the health and well-being of South African citizens, the equitable distribution of natural resources, sustainable development, environmental protection, and the formulation of environmental management frameworks. Section 2 of NEMA sets out principles for sustainable integrated environmental governance; the principles are further detailed in subsequent sections of NEMA. Section 24(5), 24M and 44 of the NEMA enables the Minister to publish regulations pertaining to environmental impact assessments. The	LEDET	1998

	current Environmental Impact Assessment Regulations, GN No. 326 (EIA Regulations), were published on 07 April 2017. Sections 24(2) and 24D of the NEMA make provision for the Minister to publish listed activities that would require environmental authorisation prior to commencement of that activity. The Minister published the following three Regulations in terms of Sections 24(2) and 24D of the NEMA on 4 December 2014: • Regulation GNR.327 of 2017 which sets out a list of identified activities which may not commence without environmental authorisation from the competent authority and which must follow the Basic Assessment (BA) procedure as provided for in Chapter 4, Part 2 of the EIA Regulations; • Regulation GNR.325 of 2017 which sets out a list of identified activities which may not commence without environmental authorisation from the competent authority and which must follow the scoping and EIA procedure as provided for in Chapter 4, Part 3 of the EIA Regulations; and • Regulation GNR.324 of 2017, which sets out a list of identified activities per geographical area, which may not commence without environmental authorisation from the competent authority and which must follow the BA procedure as, provided for in Chapter 4, Part 2 of the EIA Regulations. In terms of Section 24(2) and 24(D) of the NEMA, authorisation is required for the following listed activities identified: • GNR 983 (as amended by GN 327 and GN 517) – Activity No. 27 This Basic Assessment Report will be submitted to the competent and commenting authority in support of the application for authorisation.		
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	In terms of S57, the Minister of Environmental Affairs has published a list of critically endangered, endangered, vulnerable, and protected species in GNR 151 in Government Gazette 29657 of 23 February 2007 and the regulations associated therewith in GNR 152 in GG29657 of 23 February 2007, which came into effect on 1 June 2007. In terms of GNR 152 of 23 February 2007: Regulations relating to listed threatened and protected species, the relevant specialists must be employed during the EIA Phase of the project to incorporate the legal provisions as well as the regulations associated with listed threatened	LEDET	2004

	and protected species (GNR 152) into specialist reports in order to identify permitting requirements at an early stage of the EIA Phase. The Act provides for listing threatened or protected ecosystems, in one of four categories: critically endangered (CR), endangered (EN), vulnerable (VU) or protected. The first national list of threatened terrestrial ecosystems has been gazetted, together with supporting information on the listing process including the purpose and rationale for listing ecosystems, the criteria used to identify listed ecosystems, the implications of listing ecosystems, and summary statistics and national maps of listed ecosystems (National Environmental Management: Biodiversity Act: National list of ecosystems that are threatened and in need of protection, (GG 34809, GN 1002), 9 December 2011). The following biodiversity studies have been undertaken for the proposed project: • Faunal Ecological Impact Assessment; • Flora Assessment; and • Wetland Delineation & Functionality Assessment.		
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)	The National Environmental Management Air Quality Act, 2004 (Act No. 39 of 2004) (NEM:AQA) allows for national, provincial and local air quality standards to be established as well as the declaration of priority areas. In addition, the NEM:AQA requires that Air Quality Management Plans form part of the environmental implementation plan or environmental management plans to be prepared by national departments or the Province as required by Chapter 3 of the NEMA. Furthermore, the NEMAQA requires municipalities to include an Air Quality Management Plan into its integrated development plan (IDP). The NEM:AQA requires the Minister of the DFFE to publish a list of activities which results in atmospheric emissions which may have a detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions, ecological conditions or cultural heritage. The NEM:AQA requires that an atmospheric emissions licence be obtained for such listed activities. Such a list of activities was published in GNR. 248 of 2010. PPC Dwaalboom have been issued an Atmospheric Emission License (AEL) (Ref.: H16/1/13-WDM04) in terms of the National Environmental Management: Air Quality Act (NEM:AQA), 2004 (Act No. 39 of 2004)	Waterberg District Municipality	2004

	which allows for the production of cement using alternative fuels and/or resources, including waste tyres.		
National Heritage Resources Act, 1999 (Act No. 25 of 1999)	The National Heritage Resources Act (No. 25 of 1999) (NHRA) established the South African Heritage Resources Agency (SAHRA) in 1999. SAHRA is tasked with protecting heritage resources of national significance. With regard to heritage sites, sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, dolomitic land and ridges, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure. A heritage site means a place declared to be a national heritage site by SAHRA or a place declared to be a provincial heritage site by a provincial heritage resources authority. Section 34 and 38 of the NHRA details specific activities that require a heritage impact assessment that will need to be approved by SAHRA. Furthermore, section 48(2) requires a permit from a heritage resources authority to perform such actions at such time and subject to such terms, conditions and restrictions or directions as may be specified in the permit. This would include any development of the site where "development" means any physical intervention, excavation, or actions, other than those caused by natural forces, which results in a change to the nature, appearance or physical nature of a place, or influences its stability and future well-being, including: • Construction, alteration, demolition, removal or change of use of a place or a structure at a place; • Carrying out any works on or over or under a place; • Any change to the natural or existing condition or topography of land; and • Any removal or destruction of trees, or removal of vegetation or topsoil. A Heritage Assessment has been undertaken for the proposed development as part of the Basic Assessment Report Process.	SAHRA	1999
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	The NEM:WA covers a wide spectrum of issues including requirements for a National Waste Management Strategy, definition of priority waste, waste minimisation, treatment and disposal of waste, Industry Waste Management Plans, licensing of activities, and waste information management. It now forms the central waste legislation for South Africa. This Act aims to enforce an integrated approach to waste management, with emphasis on prevention and reduction of waste at	LEDET	2008

	source and, where this is not possible, to encourage reuse and recycling in preference to disposal. The overall purpose of the Waste Act is to regulate the management of waste to protect the health of people as well as the environment (plants, animals, land, air, water, etc.). The Waste Act makes businesses and industries that create waste responsible for the waste they generate. It also holds businesses involved in waste management and recycling accountable for the waste they manage. This helps minimise illegal dumping, pollution and with it, harmful effects on human health and the environment. To ensure that waste is managed correctly across all sectors (from the household to businesses and government); the Waste Act regulates the licensing and control of waste management activities. Only activities exceeding the thresholds as published in the Government Gazette require a waste management license. The Waste Management Listed Activities are divided into the three categories below: • **Category A** requires a Basic Assessment Process set out in the Environmental Impact Assessment Regulations under section 24(5) of NEMA, 1998 (Act 107 of 1998) as part of a waste management license application. • **Category B** requires a Scoping and Environmental Impact Assessment Process set out in the EIA Regulations under section 24(5) of NEMA, 1998 (Act 107 of 1998) as part of the application process before a Waste Management License may be issued. • **Category C** requires the prospective operator to comply with the relevant Norms and Standards that are provided for the storage, recycling or recovery of waste as determined by the minister: o Norms and standards for the storage of waste, 2013; or o Standards for Extraction, Flaring or Recovery of Landfill Gas, 2013; or o Standards for Scrapping or Recovery of Motor Vehicles, 2013 o National Norms and Standards for the Sorting, Shredding, Grinding, Crushing, Screening or Baling of General Waste, 2017.		

	The storage of waste tyres triggers Category C of the listed waste activities.		
Waste Tyre Regulations (GN No. 1064 of 29 September 2017)	The Waste Tyre Regulations specify requirements for a waste tyre management facility. The EMPr has been drafted taking into considerations the requirements of the Waste Tyre Regulations.	DFFE & LEDET	2017
National Norms and standards for storage of waste (GN No. 926 of 29 November 2013)	The National Norms and Standards for the Storage of Waste provide for the following requirements in terms of storage of waste: • A uniform national approach to the management of waste storage facilities; • To ensure best practice in the management of such facilities; • To implement minimum standards for the design and operation of new and existing facilities. It is therefore important that the waste has been classified Hazardous or General in order to correctly apply the Norms and Standards. The norms and standards apply to any person storing whether general or hazardous waste. No Basic Assessment or waste license will be required but the facility must comply with the norms and standards.	DFFE & LEDET	2013
National Waste Management Strategy (NWMS), 2011	The National Waste Management Strategy (NWMS) was promulgated by DEA in May 2012. The strategy aims at giving effect to the objectives of the Waste Act. The strategy effectively defines South Africa's vision for waste management highlighting the waste management hierarchy which encourages waste disposal only as a last resort.	DFFE & LEDET	2011

11 WASTE, EFFLUENT, EMISSION AND NOISE

11.1 SOLID WASTE MANAGEMENT

Will the activity produce solid construction waste during the construction/initiation phase?	YES	**NO**
If yes, what estimated quantity will be produced per month?		m^3

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

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

Will the activity produce solid waste during its operational phase?	YES	**NO**
If yes, what estimated quantity will be produced per month?		m^3

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

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

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 department 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 relevant legislation?	YES	**NO**
If yes, inform the department and request a change to an application for scoping and EIA.		

Is the activity that is being applied for a solid waste handling or treatment facility?	**YES**	NO

If yes, then the applicant should consult with the Department to determine whether it is necessary to change to an application for scoping and EIA.

11.2 LIQUID EFFLUENT

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	**NO**
If yes, what estimated quantity will be produced per month?	m^3	
Will the activity produce any effluent that will be treated and/or disposed of on site?	Yes	**NO**

If yes, the applicant should consult with the Department 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?	YES	**NO**

If yes, provide the particulars of the facility:

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

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

11.3 EMISSIONS INTO THE ATMOSPHERE

Will the activity release emissions into the atmosphere?	**YES**	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	**NO**

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.

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

Negligible emissions are expected from machinery (e.g. forklift, bell logger) and dust generated during operations (e.g. trucks delivering waste tyres). The proposed Waste Tyre Storage Areas will not release any toxic emissions for which an Air Emissions License is required in terms of the National Environmental Management: Air Quality Act (NEM:AQA), 2004 (Act No. 39 of 2004).

11.4 GENERATION OF NOISE

Will the activity generate noise?	**YES**	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	**NO**

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.

If no, describe the noise in terms of type and level:

The proposed Waste Tyre Storage Areas will produce some noise associated with its daily operations similar to a "place of work" in an industrial area. The noise to be generated by vehicles and machinery will however have a negligible effect on surrounding receptors given that the development sites are situated within the existing PPC Dwaalboom plant area sufficiently away from any potential sensitive receptors. Noise to be generated at the Waste Tyre Storage Areas is expected to blend in with the daily plant operations and will likely not be extensively noticeable.

12 WATER USE

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

municipal	**water board**	groundwater	river, stream, dam or lake	other	the activity will not use water

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: Litres

Does the activity require a water use permit from the Department of Water Affairs? YES **NO**

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

13 ENERGY EFFICIENCY

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

Operations will take place during daylight working hours reducing the need for lighting. If possible, use will be made of existing lighting within the plant area and where additional lighting is required, energy efficient lighting will be used as far as practical.

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

The proposed development will be a storage area and not a major industrial operation. The Waste Tyre Storage Areas do not require large energy volumes to be consumed. PPC Dwaalboom will investigate the best practical option for site specific conditions when relevant.

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 C and indicate the area, which is covered by each copy No. on the Site Plan.

   Section C 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	NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

Property description/physical address:

Portion 2 of the Farm Schoongezicht 238 KP
Portion 4 of the Farm Schoongezicht 238 KP

(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning: Mining (presumed)

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	**NO**
Must a building plan be submitted to the local authority?	YES	**NO**

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 indication of the project site position as well as the positions of the alternative sites, if any;
- 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, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

1 GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Area A	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
Area B1	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
Area B2	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
Area C	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

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

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

2 LOCATION IN LANDSCAPE

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

Area A:

2.1 Ridgeline		2.6 Plain	X
2.2 Plateau		2.7 Undulating plain / low hills	
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

Area B1:

2.1 Ridgeline		2.6 Plain	X
2.2 Plateau		2.7 Undulating plain / low hills	
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

Area B2:

2.1 Ridgeline		2.6 Plain	X
2.2 Plateau		2.7 Undulating plain / low hills	
2.3 Side slope of hill/mountain		2.8 Dune	

2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

Area C:

2.1 Ridgeline		2.6 Plain	X
2.2 Plateau		2.7 Undulating plain / low hills	
2.3 Side slope of hill/mountain		2.8 Dune	
2.4 Closed valley		2.9 Seafront	
2.5 Open valley			

3 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

	Alternative S1 Area B1**:**		**Alternative S2 (if any):**		**Alternative S3 (if any):**	
Shallow water table (less than 1.5m deep)	YES	**NO**	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	**YES**	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	**NO**	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	**NO**	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	**NO**	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	**NO**	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	**NO**	YES	NO	YES	NO
An area sensitive to erosion	YES	**NO**	YES	NO	YES	NO

	Alternative S1 Area B2**:**		**Alternative S2 (if any):**		**Alternative S3 (if any):**	
Shallow water table (less than 1.5m deep)	YES	**NO**	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	**YES**	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	**NO**	YES	NO	YES	NO

Unstable rocky slopes or steep slopes with loose soil	YES	**NO**	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	**NO**	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	**NO**	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	**NO**	YES	NO	YES	NO
An area sensitive to erosion	YES	**NO**	YES	NO	YES	NO

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

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).

Area A:

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

Area B1:

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

Area B2:

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

Area C:

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

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 LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that does 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:

Area A:

5.1 Natural area	X	5.22 School	
5.2 Low density residential		5.23 Tertiary education facility	
5.3 Medium density residential		5.24 Church	
5.4 High density residential		5.25 Old age home	
5.5 Medium industrial [AN]	X	5.26 Museum	
5.6 Office/consulting room	X	5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam [A]		5.29 Sewage treatment plant [A]	
5.9 Light industrial	X	5.30 Train station or shunting yard [N]	
5.10 Heavy industrial [AN]		5.31 Railway line [N]	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport [N]	X
5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	
5.15 Filling station [H]		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	X

			Gardens

Area B1:

5.1 Natural area	X	5.22 School	
5.2 Low density residential		5.23 Tertiary education facility	
5.3 Medium density residential		5.24 Church	
5.4 High density residential		5.25 Old age home	
5.5 Medium industrial [AN]	X	5.26 Museum	
5.6 Office/consulting room	X	5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam [A]		5.29 Sewage treatment plant [A]	
5.9 Light industrial	X	5.30 Train station or shunting yard [N]	
5.10 Heavy industrial [AN]		5.31 Railway line [N]	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport [N]	
5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	
5.15 Filling station [H]		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	X
			Gardens

Area B2:

5.1 Natural area	X	5.22 School	
5.2 Low density residential		5.23 Tertiary education facility	
5.3 Medium density residential		5.24 Church	
5.4 High density residential		5.25 Old age home	
5.5 Medium industrial [AN]	X	5.26 Museum	
5.6 Office/consulting room	X	5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam [A]		5.29 Sewage treatment plant [A]	
5.9 Light industrial	X	5.30 Train station or shunting yard [N]	
5.10 Heavy industrial [AN]		5.31 Railway line [N]	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport [N]	
5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	

5.15 Filling station [H]		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	X
			Gardens

Area C:

5.1 Natural area	X	5.22 School	
5.2 Low density residential	X	5.23 Tertiary education facility	
5.3 Medium density residential		5.24 Church	
5.4 High density residential		5.25 Old age home	
5.5 Medium industrial [AN]	X	5.26 Museum	
5.6 Office/consulting room	X	5.27 Historical building	
5.7 Military or police base/station/compound		5.28 Protected Area	
5.8 Spoil heap or slimes dam [A]		5.29 Sewage treatment plant [A]	
5.9 Light industrial	X	5.30 Train station or shunting yard [N]	
5.10 Heavy industrial [AN]		5.31 Railway line [N]	
5.11 Power station		5.32 Major road (4 lanes or more)	
5.12 Sport facilities		5.33 Airport [N]	
5.13 Golf course		5.34 Harbour	
5.14 Polo fields		5.35 Quarry, sand or borrow pit	
5.15 Filling station [H]		5.36 Hospital/medical centre	
5.16 Landfill or waste treatment site		5.37 River, stream or wetland	
5.17 Plantation		5.38 Nature conservation area	
5.18 Agriculture		5.39 Mountain, koppie or ridge	
5.19 Archaeological site		5.40 Graveyard	
5.20 Quarry, sand or borrow pit		5.41 River, stream or wetland	
5.21 Dam or Reservoir		5.42 Other land uses (describe)	X
			Gardens

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

Although not completely on the level of an "airport", PPC Dwaalboom has their own runway situated to the north of the proposed development sites. The Waste Tyre Storage Areas will have no impact on the runway and is situated sufficiently away from the runway. Activities at the Waste Tyre Storage Areas will be localised.

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

If YES, specify and explain:	The area surrounding the proposed Waste Tyre Storage Areas is industrial in nature and comprises the PPC Dwaalboom Clinker and Cement Manufacturing Plant (and associated infrastructures). The

	purpose of the Waste Tyre Storage Areas will be to temporarily store Waste Tyres which will provide the plant area with an alternative fuel source. The activities to be undertaken at the proposed sites are fit for purpose in terms of the general land use character of the area surrounding the proposed sites and will form part of existing industrial activities.
If NO, specify:	

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

If YES, specify and explain:	
If NO, specify:	

6 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	YES	**NO**
Archaeological or palaeontological sites, on or close (within 20m) to the site?	Uncertain	
If YES, explain:		

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

Briefly explain the findings of the specialist:	A Phase 1 Heritage Impact Assessment was undertaken which revealed no sites, features, or material of cultural heritage (archaeological and/or historical) significance in the study area.

Will any building or structure older than 60 years be affected in any way?	YES	**NO**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	**NO**

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

SECTION C: PUBLIC PARTICIPATION

1 ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

(a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the department) at a place conspicuous to the public at the boundary or on the fence of—
  (i) the site where the activity to which the application relates is or is to be undertaken; and
  (ii) any alternative site mentioned in the application;

(b) giving written notice to—
  (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;

(ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
(iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
(iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
(v) the municipality which has jurisdiction in the area;
(vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
(vii) any other party as required by the department;

(c) placing an advertisement in—
(i) one local newspaper; or
(ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

(e) using reasonable alternative methods, as agreed to by the department, in those instances where a person is desiring of but unable to participate in the process due to—
(i) illiteracy;
(ii) disability; or
(iii) any other disadvantage.

2 CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

(a) indicate the details of the application which is subjected to public participation; and
(b) state—
(i) that the application has been submitted to the department in terms of these Regulations, as the case may be;
(ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
(iii) the nature and location of the activity to which the application relates;
(iv) where further information on the application or activity can be obtained; and
(v) the manner in which and the person to whom representations in respect of the application may be made.

3 PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the department in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in

any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of these Regulations.

Advertisements and notices must make provision for all alternatives.

4 DETERMINATION OF APPROPRIATE MEASURS

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the department to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

5 COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in these Regulations and be attached to this application. The comments and response report must be attached under Appendix E.

6 AUTHORITY PARTICIPATION

Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input.

Name of Authority informed:	**Comments received (Yes or No)**
Department of Environment, Forestry and Fisheries (DFFE)	Awaiting Comments
Department of Water and Sanitation (DWS)	Awaiting Comments
Department of Mineral Resources and Energy (DMRE)	Awaiting Comments
Department of Agriculture, Land Reform and Rural Development (DALRRD)	Awaiting Comments
Department of Transport (National)	Awaiting Comments
Limpopo Department of Economic Development, Environment and Tourism (LEDET)	Awaiting Comments
Limpopo Department of Agriculture and Rural Development	Awaiting Comments
Limpopo Department of Public Works, Roads and Infrastructure	Awaiting Comments
Limpopo Department of Transport and Community Safety	Awaiting Comments
Thabazimbi Local Municipality	Awaiting Comments
Thabazimbi Local Municipality Councillor for Ward 5	Awaiting Comments

Waterberg District Municipality	Awaiting Comments

7 CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the department.

Proof of any such agreement must be provided, where applicable.

Has any comment been received from stakeholders?	YES	**NO**

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

Comments from Interested and Affected Parties (I&APs) will be included in the Final Basic Assessment Report (BAR) following the 30-day public commenting period.

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.

1 ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

Comments from Interested and Affected Parties (I&APs) will be included in the Final Basic Assessment Report (BAR) following the 30-day public commenting period.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report as Annexure E):

Responses to comments from Interested and Affected Parties (I&APs) will be included in the Final Basic Assessment Report (BAR) following the 30-day public commenting period.

2 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

List the potential direct, indirect, and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) 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.

GENERAL APPROACH

All forms of development will have an immediate effect on the natural environment. It is therefore of utmost importance to provide information on the environmental consequences these activities will have and to inform the decision-makers thereof. The assessment of aspects which might potentially impact on the environment must adhere to the minimum requirements as recorded in the EIA Regulations, 2014, and should take applicable official guidelines into account. An explanation of the impact assessment criteria that will be applied during the Environmental Assessment is provided in the sections to follow.

IMPACT ASSESSMENT CRITERIA

An impact significance rating and evaluation form part of the Impact Assessment. The majority of the identified and anticipated negative impacts listed below will only take effect once the construction of the proposed expansion related infrastructures commences. There are numerous assessment methodologies and approaches within the international sphere of assessing the potential impact of development activities on the environment. When a particular method for environmental impact analysis is selected or used certain general principles must be kept in mind. In general terms an environmental assessment evaluation comprises four main tasks which include:

1. Collection of data;
2. Analysis and interpretation of this data;
3. Identification of significant environmental impacts; and
4. Communication of the findings.

The selected impact evaluation method must enable these four tasks. Impact methodologies provide an organised approach for predicting and assessing the potential impacts. Any one methodology and approach will have opportunities and constraints, as well as resource and skill demand, and no one method is appropriate for all South African circumstances. The selected methodologies proposed by this document are appropriate for most habitat assessment situations, taking the above aspects into account.

The Impact assessment methodology should comply with the following set of criteria:

- Be comprehensive: The environment consists of intricate systems of biotic and abiotic factors, bound together by complex relationships. The methodology must consider the impact on these factors.
- Be flexible: Flexibility must be contained in the methodology, as projects of different size and scale result in different types of impacts.

- Detect true impact: The actual impact that institutes environmental change, as opposed to natural existing conditional changes. Long-term and short-term changes should be quantified.
- Be objective: The methodology must be objective and unbiased, without interference from external decision-making.
- Ensure input of required expertise: Sound, professional judgement must be assured by a methodology.
- Utilize the state of the art: Draw upon the best available analytical techniques.
- Employ explicitly defined criteria: Evaluation criteria used to assess the magnitude of environmental impacts should not be arbitrarily assigned. The methodology should provide explicitly defined criteria and explicitly stated procedures regarding the use of these criteria, including the documented rational.
- Assess actual magnitude of impacts: A method must be provided for an assessment based on specific levels of impact for each environmental concern.
- Provide for overall assessment of total impact: Aggregation of multiple individual impacts is necessary to provide an evaluation of overall total environmental impact.
- Pinpoint critical impacts: The methodology must identify and emphasize particularly hazardous impacts.

IMPACT SIGNIFICANCE RATING

As required by the 2014 NEMA regulations, impact assessment should provide quantified scores indicating the expected impact, including the cumulative impact of a proposed activity. The impact assessment methodology scoring system used to determine the significance of impacts prior and after mitigation is presented below.

Impact Assessment Methodology Scoring System

Extent of the Impact		
The EXTENT of an impact is the physical extent/area of impact or influence		
Score	**Extent**	**Description**
1	Footprint	The impacted area extends only as far as the activity, such as footprint occurring within the total site area.
2	Site	The impact could affect the whole, or a significant portion of the site.
3	Regional	The impact could affect the area including the neighbouring farms, the transport routes and the adjoining towns.
4	National	The impact could have an effect that expands throughout the country (South Africa).
5	International	Where the impact has international ramifications that extend beyond the boundaries of South Africa.
Duration of the Impact		
The DURATION of an impact is the expected period of time the impact will have an affect		
Score	**Extent**	**Description**
1	Short term	The impact will either disappear with mitigation or will be mitigated through a natural process in a period shorter than that of the construction phase.
2	Short to medium term	The impact will be relevant through to the end of a construction phase (1.5 years).
3	Medium term	The impact will last up to the end of the development phases, where after it will be entirely negated.
4	Long term	The impact will continue or last for the entire operational lifetime i.e. exceed 30 years of the development, but will be mitigated by direct human action or by natural processes thereafter.

5	Permanent	This is the only class of impact, which will be non-transitory. Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

Intensity of the Impact

The INTENSITY of an impact is the expected amplitude of the impact

Score	Extent	Description
1	Minor	The activity will only have a minor impact on the affected environment in such a way that the natural processes or functions are not affected.
2	Low	The activity will have a low impact on the affected environment.
3	Medium	The activity will have a medium impact on the affected environment, but function and process continue, albeit in a modified way.
4	High	The activity will have a high impact on the affected environment which may be disturbed to the extent where it temporarily or permanently ceases.
5	Very High	Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases.

Probability of the Impact

The PROBABILITY of an impact is the severity of the impact on the ecosystem structure

Score	Extent	Description
1	Improbable	The possibility of the impact occurring is none, due either to the circumstances, design or experience. The chance of this impact occurring is zero (0 %).
2	Possible	The possibility of the impact occurring is very low, due either to the circumstances, design or experience. The chances of this impact occurring is defined as 25 %.
3	Likely	There is a possibility that the impact will occur to the extent that provisions must therefore be made. The chances of this impact occurring is defined as 50 %.
4	Highly Likely	It is most likely that the impacts will occur at some stage of the development. Plans must be drawn up before carrying out the activity. The chances of this impact occurring is defined as 75 %.
5	Definite	The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on. The chance of this impact occurring is defined as 100 %.

Weighting Factor

Weighting factor is indicative of the importance of the impact in terms of the potential effect that it could have

Score	Extent
1	Low
2	Low to Medium
3	Medium
4	Medium to High
5	High

Significance is determined through a synthesis of impact characteristics as described in the above paragraphs. It provides an indication of the importance of the impact in terms of both tangible and intangible characteristics (refer to **Equation 1**). The significance of the impact "without mitigation" is the prime determinant of the nature and degree of mitigation required. Where

the impact is positive, significance is noted as "positive". The Significance of an impact is rated according to the scores as presented below.

Equation 1:

Significance (WOM) = (Extent + Duration + Intensity + Probability) x Weighting Factor

Calculation of Significance Rating of Impact

Significance Rating		
Score	**Significance**	**Colour Code**
0 – 19	Low	
20 – 39	Low to Moderate	
40 – 59	Moderate	
60 – 79	Moderate to High	
80 – 100	High	

The degree to which the impact can be mitigated is the effect of mitigation measures on the impact. The Significance With Mitigation is therefore calculated as indicated in **Equation 2** below.

Equation 2:

Significance (WM) = Significance (WOM) x Mitigation Efficiency

Mitigation Efficiency Scores

Mitigation Efficiency (ME)	
High	0.2
Medium to High	0.4
Medium	0.6
Low to Medium	0.8
Low	1.0

IMPACT ASSESSMENT FOR THE PROPOSED PPC DWAALBOOM WASTE TYRE STORAGE AREAS (PREFERRED ALTERNATIVE)

Aspect	Phases	Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Pre-Mitigation	Mitigation Potential	Significance Post-Mitigation
Flora	Construction and Operation	Development related activities will lead to the removal of vegetation and overall loss of floral biodiversity within the clearance area and adjacent areas of natural vegetation.	3	5	1	5	2	28	0.8	22
Flora	Construction and Operation	Construction, human and vehicle movement and introduction of foreign material may lead to the introduction of alien invader species, impacting on the floral characteristics of the project site and especially on the adjacent natural areas. These species may also compete with indigenous species and will degrade the veld condition by making it unfeasible for other land-uses such as wilderness, grazing and agriculture.	3	4	3	4	3	42	0.6	25.2
Flora	Construction and Operation	Floral SCC are unlikely to occur within the area of construction and immediate vicinity. Thus, impacts to floral SCC species due to construction and operation of the storage areas is highly unlikely. No areas of high floral sensitivity were identified on the project footprint and immediate vicinity which may be impacted.	3	5	1	1	1	10	0.8	8
Flora	Closure and Post-Closure	Rehabilitation could be ineffective if measures are not appropriately complied to. Without the necessary mitigation measures, rehabilitation will be unsuccessful, and the environment will not be self-sustaining. Without mitigation the alien invasive species will increase and result in a degraded veld condition making the property less viable for post-closure land use activities such as wilderness, grazing and agriculture.	2	4	3	3	2	24	0.6	14.4

Aspect	Phases	Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Pre-Mitigation	Mitigation Potential	Significance Post-Mitigation
Fauna	Construction	The site has sections which is modified, and habitat has been transformed, however, the onset of additional activities (specifically at Site C) might result in impacts to the natural environment due to increased movement, traffic and large machinery to the area. Most of the impacts on plant and habitat species will occur during the construction phase when removal of plant communities will take place on site.	3	5	3	5	3	48	0.6	28.8
Fauna	Construction and Operation	Endemic, protected and/or SCC species could possibly occur within the area of construction and could be destroyed without proper knowledge and/or mitigation measures. The impacts are given as low significance since the natural vegetation which characterises this region, has been altered. The remaining habitat types found on Site C has been delineated as Low significance in terms of faunal habitat.	3	5	3	3	4	56	0.4	22.4
Fauna	Construction	Fragmentation of habitat areas due to possible fencing or the placement of boundary structures could lead to increased edge effects. Habitat that is not to be cleared, needs to be protected. Based on the results of the assessment, minimal faunal natural habitat remain. Habitat destruction and degradation is therefore minimal and only expected for Site C.	3	5	3	5	3	48	0.6	28.8
Fauna	Construction	Anthropogenic influence stemming from expansion and increase of staff and contractors that infiltrate the natural veld areas will damage and impact on animal species communities within certain areas.	3	5	3	3	4	56	0.6	33.6

Aspect	Phases	Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Pre-Mitigation	Mitigation Potential	Significance Post-Mitigation
Fauna	Closure and Post-closure	Initial movement around the site to ensure rehabilitation will have similar results as may be expected during the Construction Phase, but vastly reduced since it will have been operational for many years. The results may be positive if rehabilitation has been done correctly and the site may be rehabilitated back to a natural landscape.	1	1	1	2	3	15	0.6	9
Geohydrology	Construction and Operation	Groundwater contamination due to local spills of hydrocarbon materials from vehicles and machinery as well as improper storage and handling of hazardous materials.	2	3	5	2	3	36	0.6	21.6
Wetlands and/or Aquatic Environments	Construction, Operation, Closure and Post-closure	No wetlands are found within the vicinity of the PPC Dwaalboom properties. The nearest drainage line, classified as an 'A' section channel is 1.8 km from the proposed development sites with no potential for impacts to the channel from the proposed development.						N/A		N/A
Air Quality	Construction and Operation	Negligible emissions are expected from machinery (e.g. forklift, bel logger) and dust generated during operations (e.g. trucks delivering waste tyres). The proposed Waste Tyre Storage Areas will not release any toxic emissions for which an Air Emissions License is required in terms of the National Environmental Management: Air Quality Act (NEM:AQA), 2004 (Act No. 39 of 2004).	2	4	1	2	1	9	0.8	7.2
Heritage	Construction, Operation, Closure and Post-closure	No sites, features, or material of cultural heritage (archaeological and/or historical) origin or significance were identified in the study area during the physical assessment.						N/A		N/A

Aspect	Phases	Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Pre-Mitigation	Mitigation Potential	Significance Post-Mitigation
Noise	Construction and Operation	The proposed Waste Tyre Storage Areas will produce some noise associated with its daily operations similar to a "place of work" in an industrial area. The noise to be generated by vehicles and machinery will however have a negligible effect on surrounding receptors given that the development sites are situated within the existing PPC Dwaalboom plant area sufficiently away from any potential sensitive receptors. Noise to be generated at the Waste Tyre Storage Areas is expected to blend in with the daily plant operations and will likely not be extensively noticeable.	2	4	1	2	1	9	0.8	7.2
Land Use and Land Capability	Construction and Operation	Localised soil contamination due to local spills of hydrocarbon materials from vehicles and machinery as well as improper storage and handling of hazardous materials.	1	3	5	2	3	33	0.4	13.2
Land Use and Land Capability	Construction	Localised clearing of vegetation and compaction of the construction footprint will result in the soils being particularly more vulnerable to soil erosion.	1	3	3	3	3	30	0.6	18
Fire	Operation	Accidental fire incidents may occur due to the temporary storage of waste tyres on site. Whole tyres are highly flammable, especially when stored in high volumes. Flaming tyres emit noxious gases, create run-off of toxic oil, dangerous heavy metals and soot causing soil pollution. These can also have a negative impact on human health.	2	1	5	3	5	55	0.6	33
Health and Safety	Operation	Personnel health and safety may be compromised by site activities such as forklifting and/or Bell Logger as well as other impacts mentioned above such as potential fire hazards.	1	1	5	4	5	55	0.6	33

Aspect	Phases	Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Pre-Mitigation	Mitigation Potential	Significance Post-Mitigation
Waste Tyre Management	Operation	Inadequate waste management may result in contamination of water resources and the environment in general.	2	4	5	4	5	75	0.2	15

PROPOSED MITIGATION MEASURES (PREFERRED ALTERNATIVE)

Aspect	Mitigation Measures
Flora (Construction and Operation)	• Responsible persons from the staff members/workers should be identified to ensure that the necessary mitigation measures are implemented and established. These personnel should also enforce the collaboration of other staff members and contractors with these mitigation measures. • The development footprint and area in which vegetation will be cleared should be confined to the exiting operational area of PPC Dwaalboom as per the layout provided for this assessment. • Control of access to areas outside of the operation should continue to be implemented. • It is recommended that existing access roads be used and, as far as feasible, no new roads should be created outside of the operational area of PPC Dwaalboom. • Should any impacts occur outside of the operational footprint of PPC Dwaalboom continuous rehabilitation should be undertaken, where re-vegetation practices should be prioritised. • A management plan for the control of invasive and exotic plant species needs to be implemented for the PPC Dwaalboom operation. Specialist advice should be used in this regard. This plan should include pre-treatment, initial treatment and follow-up treatment and should be planned and budgeted for in advance. • Monitoring of vegetation should be done on an annual basis to assess whether there are any concerns regarding the flora, especially regarding impacts from the operations that may affect flora outside of the operational boundary. • Monitoring of the flora should start as soon as the construction phase of the development commences. The monitoring of vegetation should include annual visual assessment of surrounding areas to determine if vegetation in undisturbed areas is being impacted. The visual assessment can be undertaken by the ECO. Photographic record of monitoring sites should be kept for comparison between monitoring events.
Flora (Closure and Post-closure)	• A management plan for control of invasive/exotic plant species needs to be implemented. This will be ongoing throughout the life of the development. • Rehabilitation plans should be planned long before the closure phase is due. • Depending on the final land use for the site, all infrastructure and material should be removed from the site, the area should be topsoiled and ripped, followed by revegetation of the area with an indigenous flora species.
Fauna (Construction and Operation)	• Demarcate specific areas to be developed and remain clear of other areas where activities are not necessary. • The demarcated footprint areas should be managed in accordance with the EMPr approved for PPC. Waste management and the restriction of access to the other natural areas should be enforced. • Adhere to all management and mitigation measures as prescribed within other specialist reports and Environmental Management Programme (EMPr). • Prevent death, injury or hindrance to any fauna encountered during the project phases and particularly with regard to any protected or endemic species; • To minimize potential impacts to animal species, animals (wildlife and domestic animals) may under no circumstances be handled, removed, killed or interfered with by the Contractor, his employees, his Sub-Contractors or his Sub-Contractors' employees.

Aspect	Mitigation Measures
	• Allow animals to escape areas of activity freely and do not hinder their movement, especially avoid the natural ecological corridors, since movement will occur between the surrounding landscape and the main river system (and associated dams). • All injured animals sighted during the development should be protected and moved to receive rehabilitation at the designated centre (the responsible person should find out which centre will be appropriate for the species in the proximity) and should not be handled by the employees under any circumstance. Clear protocol should be developed on the matter. • All footprint areas should remain as small as possible and clear only the designated approved areas. This can be achieved by fencing footprint areas to contain all activities within designated areas. • An Environmental Control Officer (ECO) should be appointed (or the site manager should fulfil this role) and actively manage and prevent unnecessary ecological impacts. Ensure that no animal is harmed and no breeding ground or unexpected discovery of red listed/sensitive animals that may require relocation is handled incorrectly by uninformed personnel. In the event of uncertainty, consult a specialist immediately to ensure the best and legally correct manner to proceed (i.e. if a permit is required 41elocateion or capture). • A survey for SCC species on the project footprint area should be undertaken by a ECO/Site Manager prior to the start of construction. If any SCC are encountered within the subject property in the future, the following should be ensured: o If any threatened species will be disturbed, ensure effective relocation of individuals to suitable offset areas or within designated open space on the subject property. o All rescue and relocation plans should be overseen by a suitably qualified specialist. o Obtain relevant permits/consent, if applicable, for each protected or endangered floral species identified within the proposed development area that will be destroyed. o Human and vehicle movement should be restricted from taking place in sensitive habitats. Areas to be fenced if necessary. • Prevent impacts from reaching downstream water resources by ensuring installation and proper functioning of stormwater management systems. • No movement into the natural environment, hunting, removal of vegetation and firewood gathering should be allowed. No open fires should be allowed either as it constitutes a fire risk for the farmers as well as the natural environment. • Continuous rehabilitation of the area should occur, immediate closure of the any excavation sites (during construction) and prevent injury and deadly pitfalls to animals. • As part of the rehabilitation of any area, the spreading of topsoil should be done to encourage regrowth of natural vegetation. • Prevent the needless loss of or damage to flora (and therefore valuable habitat) particularly with regard to protected, endemic, near-endemic and rare species to keep the specific habitat type as unaltered as possible. This will include the active management of Alien and Invasive species if follow-up monitoring shows that an increase has occurred on site.

Aspect	Mitigation Measures
	• Ensure awareness amongst all staff, contractors and visitors to site to not needlessly harm or hinder animals or damage flora that are endemic and serve as habitat for the animals inhabiting the area. • All noisy equipment should be avoided or mitigated to lessen sound levels as well as vibration levels should be controlled to limit impact on biodiversity and sensitive species. • Ensure trucks and vehicles remain on existing roads (where possible). Planning will go a long way to ensure the access route used to the site constitutes the less invasive option as many of the areas already have well developed routes based on historic activity. • Ensure speed limits are set and enforce speed limits. Ensure all drivers at the site are informed about speed limits. • Regularly maintain equipment to reduce risk of hydrocarbon leaks and have communication channels set up to report incidences and action plans in place to address issues immediately. Spills should be handled immediately. • Monitoring of the stormwater management and receiving environment should occur and a formal water monitoring plan should form part of the Water Use License application. The Waste Management Plan for the waste facilities should be implemented and adhered to at all times. • Monitoring framework should be initiated and managed by the responsible body. Implementation of a workable system may enforce good practice: o Implement an "Observe and report" approach which will enable employees to report any disturbance of flora/fauna or degradation that they encounter during the any phase of the development. o Annual monitoring to impacted areas ensuring rehabilitation has been successful. Also ensure no Alien and Invasive species may have become established during the period when natural vegetation was absent or impacted.
Fauna (Closure and Post-closure)	• Prevent impacts from reaching downstream water resources by ensuring no spillage and proper handling of infrastructure during removal. • Continuous rehabilitation of the area should occur until the landscape had been restored and confirmed as rehabilitated. • Ensure that an acceptable aesthetic scenario is created and implement the final approved land form as per Environmental Authorisation if closure is proposed at any stage of the development. • Annual monitoring of the success of rehabilitation should be instigated until it is sure that the areas have naturally regrown and vegetation is self-sustainable (a period of 3 years is proposed). If the natural regrowth is unsuccessful, it will be the applicant's responsibility to restore damaged and degraded habitat areas until it reached sustainability. This should include the camp areas where natural vegetation may have been damaged and where edge effects may have occurred. • All remaining materials and equipment associated with the development should be removed after closure.
Geohydrology (Construction and Operation)	• No washing of vehicles should be allowed on site. Vehicles should be washed in areas designated for this purpose. • No washing of tyres should take place on site.

Aspect	Mitigation Measures
	• No refueling of vehicles should be allowed on site without the necessary measures in place. These include appropriate dispensing equipment and drip trays. No tipping of fuel drums should be allowed. • All equipment and vehicles must be parked in designated areas. • Drip trays must be placed under equipment or vehicles not in use for some time. • Drip trays shall only be emptied into a dedicated containers. • If necessary, 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 and must be impermeable. • Contaminated stormwater within the bund areas 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 bund walls. • All preventative servicing of earth moving equipment and construction vehicles shall be undertaken off site. • 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. • A pollution control system/spill handling procedure must be implemented to limit impact of such • occurrences and prevent discharge to the receiving environment. • Contaminated soil shall be removed and disposed of to an appropriate licensed landfill site in terms of NEM:WA, or can be removed by a service provider that is qualified to clean the soil.
Air Quality (Construction and Operation)	• The existing dust suppression regime can be implemented, if needed. • The speed of heavy-duty vehicles must be strictly controlled at 40 km/h within the vicinity of the Waste Tyre Storage Areas. • Vehicles and equipment used must be regularly serviced and be well-maintained to ensure the functioning of the exhaust systems to reduce excessive emissions.
Noise (Construction and Operation)	• Noisy activities to be undertaken during normal working hours as far as practical. • Noisy activities to be restricted to weekdays as far as practical. • A formal recording system/grievance mechanism must be introduced to capture public perceptions and complaints regarding noise (and all other aspects). This should also be done to track investigation actions and introduce corrective measures for continuous improvement. • Vehicles and equipment used must be regularly serviced and be well-maintained.
Heritage (All Phases)	• Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward.
Land Use and Land Capability (Construction and Operation)	• No refueling of vehicles should be allowed on site without the necessary measures in place. These include appropriate dispensing equipment and drip trays. No tipping of fuel drums should be allowed. • All equipment and vehicles must be parked in designated areas. • Drip trays must be placed under equipment or vehicles not in use for some time. • Drip trays shall only be emptied into a dedicated containers.

Aspect	Mitigation Measures
	• If necessary, 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 and must be impermeable. • Contaminated stormwater within the bund areas 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 bund walls. • All preventative servicing of earth moving equipment and construction vehicles shall be undertaken off site. • 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. • A pollution control system/spill handling procedure must be implemented to limit impact of such • occurrences and prevent discharge to the receiving environment. • Contaminated soil shall be removed and disposed of to an appropriate licensed landfill site in terms of NEM:WA, or can be removed by a service provider that is qualified to clean the soil. • All tyres should preferably be washed off-site prior to being delivered to PPC Dwaalboom. • Erosion control measures shall be implemented where deemed necessary. • All erosion damage must be repaired as soon as possible.
Fire (Operation)	• Personnel need to have fire risk, prevention, and management training. • An Emergency Response Plan (including fire management) to be developed and implemented should emergency incidents occur. A copy of this should be kept on site and all personnel should be trained on the plan. • Telephone numbers of emergency services, including the local firefighting service to be clearly displayed in the depot manager's office near a telephone. • Notices are to be placed around the facility specifying 'NO SMOKING' within the bounds of the depot. • There should be basic firefighting equipment like extinguishers on site, and these must be well-maintained and prepared for emergency situations. • No burning of waste or fire lighting should occur on site. • In the occurrence of a fire break out, the Waste Tyre Storage Manager must be informed immediately. • Fire breaks could be implemented around the site boundary and within the site between bales. • In the event of a major incident, i.e. fire causing damage to property and environment, major spill or leak of contaminants, the relevant authorities should be notified in line with the notification stipulation for emergency incidents set out in NEMA.
Health and Safety (Operation)	• All personnel must be inducted prior to the commencement of operations. • The wearing of Personal Protective Equipment (PPE) (i.e. overall, hard hats, steel capped safety boots, protective goggles, ear plugs, gloves and mask) must be strictly enforced. • Drivers of equipment must be licensed and competent.
Waste Tyre Management	• A risk assessment must be conducted before offloading to ensure correct placement of tyres and to ensure that bale wires are secure and will not snap.

Aspect	Mitigation Measures
	• Adhere to all rules, regulations and Standard Operating Procedures regarding offloading and storage. • Tyre bales must be stored in the tyre yard. • Trucks must be parked in such a manner to assure safe working of equipment around the truck when offloading. • Do not stack more than 2 bales on top of each other. Tyres to be stacked neatly for transportation to kiln. • Ensure compliance with the Waste Tyre Regulations (GN No. 1064 of 29 September 2017). • Ensure compliance with the National Norms and standards for storage of waste (GN No. 926 of 29 November 2013). • All agreements with waste tyre suppliers must be kept on site. • The sites on which waste tyres are stored must meet the following minimum requirements: o clearly visible signs with operating hours, contact details and site regulations must be posted near the entrance to the facility; o a security attendant trained in fire prevention must be on site at all times; o the site manager must be on site at all times when the facility is open; o a person designated to manage the site must ensure the site is secured and no unauthorised person can access the site; o no single pile of waste tyres may exceed a height of 3 metres, a length of 20 metres and a width of 10 metres; o all interior firebreaks between piles of waste tyres must be at least five metres wide; o the site must be flat and hard packed; o the site must make provision for storm water management. Stormwater management must ensure that dirty water is contained and managed and clean water remains clean. As the site is within the PPC Plant it is important that the stormwater management of the tyre storage areas is incorporated into the PPC Plant overall stormwater management system. o the edges of the piles must be at least 8 metres from the perimeter fence, and any buildings, and the area between the piles and the fence and buildings must be clear of debris and vegetation; o all firebreaks must be at least 8 metres wide; and o waste tyre piles may not be located within 8 metres of a powerline. o Waste tyres must not be stored in a manner which impact or pose a significant environmental risk to any sensitive environment. • The tyre storage areas must be constructed under supervision of a qualified registered engineer and according to approved designs specifications. • It is important that strict capacity management as applied to the waste tyre storage areas. This is to ensure that a situation does not arise where tyre storage areas is full and waste tyres stored outside of these areas or where the supply to the kilns is interrupted.

Aspect	Mitigation Measures
	• Clear record must be kept of the daily and monthly quantities of waste tyres received and used per storage site. At the end of each day, the Waste tyre storage area site manager will capture the following information for each of the storage areas: o Number of Tyres Received for the day o Tonnage of tyres received for the day o Number of tyres sent to kilns for the day o Tonnages sent to the kilns for the day • Stock counts will be performed weekly. The following are general points which must be observed: o The inventory counting process and the reconciliation should be supervised or performed by waste tyre storage manager. o Each tyre category should have a dedicated pile. There shall be no mixing of different tyre categories into piles. o The storage area stock count sheet shall be developed and utilised for the stock count. o The completed stock count sheet must be used as tool for reconciliation for daily counts. • Access to the waste tyre storages areas must be managed and it is proposed that access control procedure is developed and implemented by PPC specifically for the tyre storage areas. • The tyre storage site manager and Plant Safety Representative must provide training to all personnel on dangers of tyre storage areas. • Fire equipment must be installed according to the requirements of the Thabazimbi Municipal Fire Department. This plan must be provided to the Thabazimbi Municipal Fire Department for comment and approval. • PPC Dwaalboom must compile an Emergency Management Procedure specifically for the tyre storage areas and this must be incorporated into the overall Health and Safety system of the PPC Dwaalboom Plant. • All training at the waste tyre storage areas will be provided in accordance with Waste Tyre Regulations 2017. • All Staff at the waste tyre storage areas will be trained in the correct use, fitting and inspection of PPE. o The waste tyre site manager will conduct inspections of all waste tyre storage area staff to ensure that they are wearing the appropriate PPE attire. o The waste tyre area manager will keep a record of all depot staff working on site o The waste tyre area manager will not allow any staff to enter the storage areas without proper PPE.

CUMULATIVE IMPACTS (PREFERRED ALTERNATIVE)

Incremental losses and fragmentation of habitat are two of the more serious cumulative impacts in terms of fauna and flora. Given the transformed nature of the surrounding landscape, the characteristics and sensitivity of the affected area, the nature of the proposed development, and the potential for cumulative impacts are expected to be low as the activities and therefor the impacts occur within the PPC designated area.

IMPACT ASSESSMENT FOR THE NO-GO OPTION

Aspect	Phases	Impact	Extent	Duration	Intensity	Probability	Weighting Factor	Significance Pre-Mitigation	Mitigation Potential	Significance Post-Mitigation
Air Quality	N/A	With the implementation of the No-go Alternative, the current fuel source via coal burning will remain in use at the kilns. The Applicant would not be allowed the opportunity to implement waste tyres as an alternative energy/fuel source in line with their approved Air Emissions License (Ref.: H16/1/13-WDM04). The Applicant would furthermore not be allowed the opportunity to have a positive environmental impact by reducing their carbon footprint.	5	4	5	5	5	95	N/A	N/A
Land Use and Land Capability	N/A	The land will remain unused and disturbed without purpose as connectivity to surrounding ecosystems is very limited.	1	4	1	5	3	33	N/A	N/A

3 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)

A summary of impacts identified is provided below. The results indicated here have been obtained by implementing the methodology described above.

SUMMARY OF IMPACTS IDENTIFIED

Potential Impact	Phases	Significance Rating Pre-mitigation	Significance Rating Post-mitigation
Flora			
Development related activities will lead to the removal of vegetation and overall loss of floral biodiversity within the clearance area and adjacent areas of natural vegetation.	Construction and Operation	Low to Moderate	Low to Moderate
Construction, human and vehicle movement and introduction of foreign material may lead to the introduction of alien invader species, impacting on the floral characteristics of the project site and especially on the adjacent natural areas. These species may also compete with indigenous species and will degrade the veld condition by making it unfeasible for other land-uses such as wilderness, grazing and agriculture.	Construction and Operation	Moderate	Low to Moderate
Floral SCC are unlikely to occur within the area of construction and immediate vicinity. Thus, impacts to floral SCC species due to construction and operation of the storage areas is highly unlikely. No areas of high floral sensitivity were identified on the project footprint and immediate vicinity which may be impacted.	Construction and Operation	Low	Low
Rehabilitation could be ineffective if measures are not appropriately complied to. Without the necessary mitigation measures, rehabilitation will be unsuccessful, and the environment will not be self-sustaining. Without mitigation the alien invasive species will increase and result in a degraded veld condition making the property less viable for post-closure land use activities such as wilderness, grazing and agriculture.	Closure and Post-Closure	Low to Moderate	Low
Fauna			
The site has sections which is modified, and habitat has been transformed, however, the onset of additional activities (specifically at Site C) might result in impacts to the natural	Construction	Moderate	Low to Moderate

Potential Impact	Phases	Significance Rating Pre-mitigation	Significance Rating Post-mitigation
environment due to increased movement, traffic and large machinery to the area. Most of the impacts on plant and habitat species will occur during the construction phase when removal of plant communities will take place on site.			
Endemic, protected and/or SCC species could possibly occur within the area of construction and could be destroyed without proper knowledge and/or mitigation measures. The impacts are given as low significance since the natural vegetation which characterises this region, has been altered. The remaining habitat types found on Site C has been delineated as Low significance in terms of faunal habitat.	Construction and Operation	Moderate	Low to Moderate
Fragmentation of habitat areas due to possible fencing or the placement of boundary structures could lead to increased edge effects. Habitat that is not to be cleared, needs to be protected. Based on the results of the assessment, minimal faunal natural habitat remain. Habitat destruction and degradation is therefore minimal and only expected for Site C.	Construction	Moderate	Low to Moderate
Anthropogenic influence stemming from expansion and increase of staff and contractors that infiltrate the natural veld areas will damage and impact on animal species communities within certain areas.	Construction	Moderate	Low to Moderate
Initial movement around the site to ensure rehabilitation will have similar results as may be expected during the Construction Phase, but vastly reduced since it will have been operational for many years. The results may be positive if rehabilitation has been done correctly and the site may be rehabilitated back to a natural landscape.	Closure and Post-closure	Low	Low
Geohydrology			
Groundwater contamination due to local spills of hydrocarbon materials from vehicles and machinery as well as improper storage and handling of hazardous materials.	Construction and Operation	Low to Moderate	Low to Moderate
Wetlands and/or Aquatic Features			
No wetlands are found within the vicinity of the PPC Dwaalboom properties. The nearest drainage line, classified as an 'A' section channel is 1.8 km from the proposed development sites with no potential for impacts to the channel from the proposed development.	Construction, Operation, Closure and Post-closure		
Air Quality			

Potential Impact	Phases	Significance Rating Pre-mitigation	Significance Rating Post-mitigation
Negligible emissions are expected from machinery (e.g. forklift, bell logger) and dust generated during operations (e.g. trucks delivering waste tyres). The proposed Waste Tyre Storage Areas will not release any toxic emissions for which an Air Emissions License is required in terms of the National Environmental Management: Air Quality Act (NEM:AQA), 2004 (Act No. 39 of 2004).	Construction and Operation	Low	Low
Heritage			
No sites, features, or material of cultural heritage (archaeological and/or historical) origin or significance were identified in the study area during the physical assessment.	Construction, Operation, Closure and Post-closure		
Noise			
The proposed Waste Tyre Storage Areas will produce some noise associated with its daily operations similar to a "place of work" in an industrial area. The noise to be generated by vehicles and machinery will however have a negligible effect on surrounding receptors given that the development sites are situated within the existing PPC Dwaalboom plant area sufficiently away from any potential sensitive receptors. Noise to be generated at the Waste Tyre Storage Areas is expected to blend in with the daily plant operations and will likely not be extensively noticeable.	Construction and Operation	Low	Low
Land Use and Land Capability			
Localised soil contamination due to local spills of hydrocarbon materials from vehicles and machinery as well as improper storage and handling of hazardous materials.	Construction and Operation	Low to Moderate	Low
Localised clearing of vegetation and compaction of the construction footprint will result in the soils being particularly more vulnerable to soil erosion.	Construction	Low to Moderate	Low
Fire			
Accidental fire incidents may occur due to the temporary storage of waste tyres on site. Whole tyres are highly flammable, especially when stored in high volumes. Flaming tyres emit noxious gases, create run-off of toxic oil, dangerous heavy metals and soot causing soil pollution. These can also have a negative impact on human health.	Operation	Moderate	Low to Moderate
Health and Safety			

Potential Impact	Phases	Significance Rating Pre-mitigation	Significance Rating Post-mitigation
Personnel health and safety may be compromised by site activities such as forklifting and/or Bell Logger as well as other impacts mentioned above such as potential fire hazards.	Operation	Moderate	Low to Moderate
Waste Tyre Management			
Inadequate waste management may result in contamination of water resources and the environment in general.	Operation	Moderate to High	Low
Socio-Economic			
Utilising tyres as an alternative fuel source at PPC Dwaalboom will lower the operation's carbon footprint and reduce the requirement for fossil fuels which cause air pollution. The proposed Waste Tyre Storage Areas will offer a cleaner environment with less waste tyres strewn around. Local landfill sites will benefit from more landfill airspace being available for other waste types. In addition, the project has the potential to reduce the number of tyres burnt in informal settlements, which will in turn reduce emissions into the atmosphere through which communities will benefit from cleaner air and decreased health risks. The initiative will furthermore promote waste minimisation, re-use, recycling and recovery in line with the 2019 Integrated Waste Management Plan (IWMP) for the Thabazimbi Local Municipality. As indicated in the IWMP, developing partnerships with the private sector is critical for the implementation of particularly waste minimisation, re-use and recycling opportunities including with, amongst others, Waste Tyre Recyclers.	Operation	Positive Impact	
The proposed Waste Tyre Storage Areas will contribute to the local socio-economy through job creation and skills development, especially taking previously disadvantaged individuals into consideration. Temporary employment will be created during the construction phase, whereas permanent employment opportunities together with skills development will be created during the operational phase.	Construction and Operation	Positive Impact	

Following the implementation of mitigation measures, the overall impact to the environment from the proposed Waste Tyre Storage Areas is considered to be of Low to Moderate significance. The mitigation efficiency proposed by all independent Specialists involved is regarded as appropriate to the scale and nature of the proposed development and is deemed sufficient to adequately protect the environment.

Based on the analysis and findings as discussed throughout the report, there is no reason why the project should not be authorised and allowed to proceed. There are no environmental fatal flaws, and all impacts can be effectively mitigated. The implementation of effective mitigation will ensure that the Waste Tyre Storage Areas management is conducted in an environmentally acceptable manner.

NO-GO ALTERNATIVE (COMPULSORY)

With the implementation of the No-go Alternative the following impacts are expected:

- The current fuel source via coal burning will remain in use at the kilns. The Applicant would not be allowed the opportunity to implement waste tyres as an alternative energy/fuel source in line with their approved Air Emissions License (Ref.: H16/1/13-WDM04).
- The Applicant would furthermore not be allowed the opportunity to have a positive environmental impact by reducing their carbon footprint.
- The land will remain unused and disturbed without purpose as connectivity to surrounding ecosystems is very limited.
- No employment opportunities will be created and no transfer of skills will take place.

The No-go Alternative has a high negative impact largely attributed to the continued burning of coal as fuel source which contributes to air pollution and climate change on a National Scale.

Furthermore, the No-go Alternative does not contribute to the 2019 Integrated Waste Management Plan (IWMP) for the Thabazimbi Local Municipality which promotes waste minimisation, re-use, recycling and recovery and will therefore not aid in creating more available airspace within landfill sites. Thereby negatively impacting on the Municipal targets and objectives.

No socio-economic benefits will result from the No-go Alternative.

The No-go alternative is therefore not considered to be the best practical environmental option and is thus not the favourable alternative.

ALTERNATIVE B

ALTERNATIVE C

For more alternatives please continue as alternative D, E, etc.

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**	NO

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):

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 department in respect of the application:

It is recommended that the following conditions be included in the Environmental Authorisation:

- All mitigation measures included in this report, specialist reports and management plans should be adhered to.
- An Environmental Control Officer (ECO) should be appointed for the construction phase of the proposed Waste Tyre Storage Areas.
- External Audits should be conducted on compliance with the Environmental Authorisation, if granted.

Is an EMPr attached?

YES	NO

The EMPr must be attached as Appendix F.

SECTION F: APPENDICES

The following appendixes must be attached as appropriate:

APPENDIX A: Site plan(s)
APPENDIX B: Photographs
APPENDIX C: Facility illustration(s)
APPENDIX D: Specialist reports
APPENDIX E: Public Participation Report
APPENDIX F: Environmental Management Programme (EMPr)
APPENDIX G: Other information

SECTION G: DECLARATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, CHANTEL BOWYER declare that I –

(a) act as the independent environmental practitioner in this application;
(b) do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;
(c) do not have and will not have a vested interest in the proposed activity proceeding;
(d) have no, and will not engage in, conflicting interests in the undertaking of the activity;
(e) undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the Environmental Impact Assessment Regulations, 2006;
(f) will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
(g) will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the Department in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the Department may be attached to the report without further amendment to the report;
(h) will keep a register of all interested and affected parties that participated in a public participation process; and
(i) will provide the Department with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.

Signature of the Environmental Assessment Practitioner:

EnviroRoots (Pty) Ltd

Name of company:

20 July 2022

Date:

APPENDIX A:

SITE PLAN(S)

APPENDIX B:
PHOTOGRAPHS

APPENDIX C:
FACILITY ILLUSTRATION(S)

APPENDIX D:
SPECIALIST REPORTS

APPENDIX E:

PUBLIC PARTICIPATION REPORT

APPENDIX F:

ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

APPENDIX G:
OTHER INFORMATION