Draft Basic Assessment Report	Decommissioning of the University of Pretoria's Onderstepoort Incinerator WML Ref Nr.: To be confirmed

EARTH nSKY
environmental

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DEFINITIONS

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

Application
An application for a Waste Management Licence (WML).

Basic Assessment Report
A report contemplated in regulation 21 of the EIA Regulations, 2014.

Buffer Area
Unless specifically defined, means an area extending 10 kilometres from the proclaimed boundary of a world heritage site or national park and 5 kilometres from the proclaimed boundary of a nature reserve, respectively, or that defined as such for a biosphere.

Contaminated
In relation to Part 8 of Chapter 4, means the presence in or under any land, site, buildings or structures of a substance or micro-organism above the concentration that is normally present in or under that land, which substance or micro-organism directly or indirectly affects or may affect the quality of soil or the environment adversely.

Cumulative Impact
In relation to an activity, means the past, current and reasonably foreseeable future impact of an activity, considered together with the impact of activities associated with that activity, that in itself may not be significant, but may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

Dangerous Good
Goods containing any of the substances as contemplated in South African National Standard No. 10234, supplement 2008 1.00: designated "List of classification and labelling of chemicals in accordance with the Globally Harmonized Systems (GHS)" published by Standards South Africa, and where the presence of such goods, regardless of quantity, in a blend or mixture, causes such blend or mixture to have one or more of the characteristics listed in the Hazard Statements in section 4.2.3, namely physical hazards, health hazards or environmental hazards.

Decommissioning
In relation to waste treatment, waste transfer or waste disposal facilities, means the planning for and management and remediation of the closure of a facility that is in operation or that no longer operates.

Development
The building, erection, construction or establishment of a facility, structure or infrastructure, including associated earthworks or borrow pits, that is necessary for the undertaking of a listed or specified activity, including any associated post development monitoring, but excludes any modification, alteration or expansion of such a facility, structure or infrastructure, including associated earthworks or borrow pits, and excluding the redevelopment of the same facility in the same location, with the same capacity and footprint.

Development footprint
Any evidence of physical alteration as a result of the undertaking of any activity.

Disposal
The burial, deposit, discharge, abandoning, dumping, placing or release of any waste into, or onto, any land.

EAP
An environmental assessment practitioner as defined in section 1 of NEMA.

EMPr
An environmental management programme contemplated in regulations 19 and 23 of the EIA Regulations, 2014.

Environment
The surroundings (biophysical, social and economic) within which humans exist and that are made up of:
(i) the land, water and atmosphere of the earth;
(ii) micro-organisms, plant and animal life;
(iii) any part or combination of (i) and (ii) and the interrelationships among and between them; and
(iv) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.

Environmental Impact Assessment
A systematic process of identifying, assessing and reporting environmental impacts associated with an activity and includes Basic Assessment and Scoping and Environmental Impact Reporting.

Facility
A place, infrastructure, structure or containment of any kind including associated structures or infrastructure, wherein, upon or at, a waste management activity takes place and includes a waste transfer facility, a waste storage facility, container yard, waste disposal facility, incinerators, lagoons, recycling, co-processing or composting facilities.

Holder of waste
Any person who imports, generates, stores, accumulates, transports, processes, treats, or exports waste or disposes of waste.

Incineration
Any method, technique or process to convert waste to flue gases and residues by means of oxidation.

Independent
In relation to an EAP, a specialist or the person responsible for the preparation of an environmental audit report, means-

a) that such EAP, specialist or person has no business, financial, personal or other interest in the activity or application in respect of which that EAP, specialist or person is appointed in terms of the EIA Regulations; or
b) that there are no circumstances that may compromise the objectivity of that EAP, specialist or person in performing such work;

excluding -
(i) normal remuneration for a specialist permanently employed by the EAP; or
(ii) fair remuneration for work performed in connection with that activity, application or environmental audit.

Indigenous Vegetation
Vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation and where the topsoil has not been lawfully disturbed during the preceding ten years.

Industrial Complex
An area used or zoned for industrial purposes, including bulk storage, manufacturing, processing or packaging purposes.

Mitigation
To anticipate and prevent negative impacts and risks, then to minimise them, rehabilitate or repair impacts to the extent feasible.

Operational area
An area where waste is handled including the storage areas.

Phased Activities
An activity that is developed in phases over time on the same or adjacent properties to create a single or linked entity.

Registered Interested and Affected Party
In relation to an application, means an Interested and Affected Party whose name is recorded in the register opened for that application in terms of regulation 42 of the EIA Regulations, 2014.

Significant Impact
An impact that may have a notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds or targets and is determined through rating the positive and negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence.

Specialist
A person that is generally recognised within the scientific community as having the capability of undertaking, in conformance with generally recognised scientific principles, specialist studies or preparing specialist reports, including due diligence studies and socio-economic studies.

Systematic Biodiversity Plan
A plan that identifies important areas for biodiversity conservation, taking into account biodiversity patterns (i.e. the principle of representation) and the ecological and evolutionary processes that sustain them (i.e. the principle of persistence). A systematic biodiversity plan must set quantitative targets/thresholds for aquatic and terrestrial biodiversity features in order to conserve a representative sample of biodiversity pattern and ecological processes.

Treatment
Any method, technique or process that is designed to-
(a) change the physical, biological or chemical character or composition of a waste; or
(b) remove, separate, concentrate or recover a hazardous or toxic component of a waste; or
(c) destroy or reduce the toxicity of a waste,
in order to minimise the impact of the waste on the environment prior to further use or disposal.

Waste
(a) any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes as defined in Schedule 3 to this Act; or
(b) any other substance, material or object that is not included in Schedule 3 that may be defined as a waste by the Minister by notice in the Gazette, but any waste or portion of waste, referred to in paragraphs (a) and (b), ceases to be a waste-

(i) once an application for its re-use, recycling or recovery has been approved or, after such approval, once it is, or has been re-used, recycled or recovered;
(ii) where approval is not required, once a waste is, or has been re-used, recycled or recovered;
(iii) where the Minister has, in terms of section 74, exempted any waste or a portion of waste generated by a particular process from the definition of waste; or
(iv) where the Minister has, in the prescribed manner, excluded any waste stream or a portion of a waste stream from the definition of waste.

Waste treatment facility
Any site that is used to accumulate waste for the purpose of storage, recovery, treatment, reprocessing, recycling or sorting of that waste.

Watercourse
(a) a river or spring;
(b) a natural channel in which water flows regularly or intermittently;
(c) a wetland, pan, lake or dam into which, or from which, water flows; and
any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998); and
a reference to a watercourse includes, where relevant, its bed and banks.

Wetland
Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

ABBREVIATIONS

BAR	-	Basic Assessment Report
BID	-	Background Information Document
CRR	-	Comments and Response Report
DEFF	-	Department of Environment, Forestry and Fisheries (National)
DWS	-	Department of Water and Sanitation
EA	-	Environmental Authorisation
EAP	-	Environmental Assessment Practitioner
EIA	-	Environmental Impact Assessment
EMF	-	Environmental Management Framework
EMPr	-	Environmental Management Programme
GN	-	Government Notice
I&AP	-	Interested and Affected Party
NEMA	-	National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended
NEM:WA	-	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as amended
NHRA	-	National Heritage Resources Act, 1999 (Act No. 25 of 1999), as amended
R	-	Regulation
SAHRA	-	South African Heritage Resources Agency

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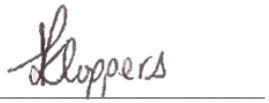
DECLARATION OF INDEPENDENCE

I, Lizette Kloppers, in my capacity as Environmental Assessment Practitioner, hereby declare that I –

- Act as an independent consultant;
- Do not have any business, financial, personal or other interest in the activity or application in respect of which I have been appointed in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), other than fair remuneration for the work performed; and
- That there are no circumstances that may compromise my objectivity in performing the work that I have been appointed for.



2021-01-13
Date

Lizette Kloppers (Pr.Sci.Nat.)
Environmental Assessment Practitioner
SACNASP Reg. No. 115453
EAPASA Reg No. 2019/767

1. PROJECT TITLE

Decommissioning of the University of Pretoria's Onderstepoort Incinerator.

2. APPLICANT DETAILS

- Applicant Name: University of Pretoria
- Postal Address: Private Bag X20, Hatfield, 0028

3. ENVIRONMENTAL ASSESSMENT PRACTITIONER DETAILS

- Environmental Assessment Practitioner Company: EARTHnSKY Environmental (Pty) Ltd.
- Contact Person: Lizette Kloppers
- Postal Address: PO Box 5419, Rietvalleirand, 0174
- Telephone Number: 061 524 2211 / 067 021 3401
- Fax Number: 086 552 6837
- Email Address: lizette@earthnsky.co.za / lizette.earthnsky@gmail.com
- Qualifications and expertise of the EAP to prepare the Report: MSc Environmental Management – University of London External Programme; More than 9 years' experience as an EAP
- Professional affiliation/registration: SACNASP Reg. No. 115453; EAPASA Reg No. 2019/767

The EAP's Curriculum Vitae is attached to this report under Appendix E.

4. LOCATION OF THE PROPOSED DEVELOPMENT AND ACTIVITIES

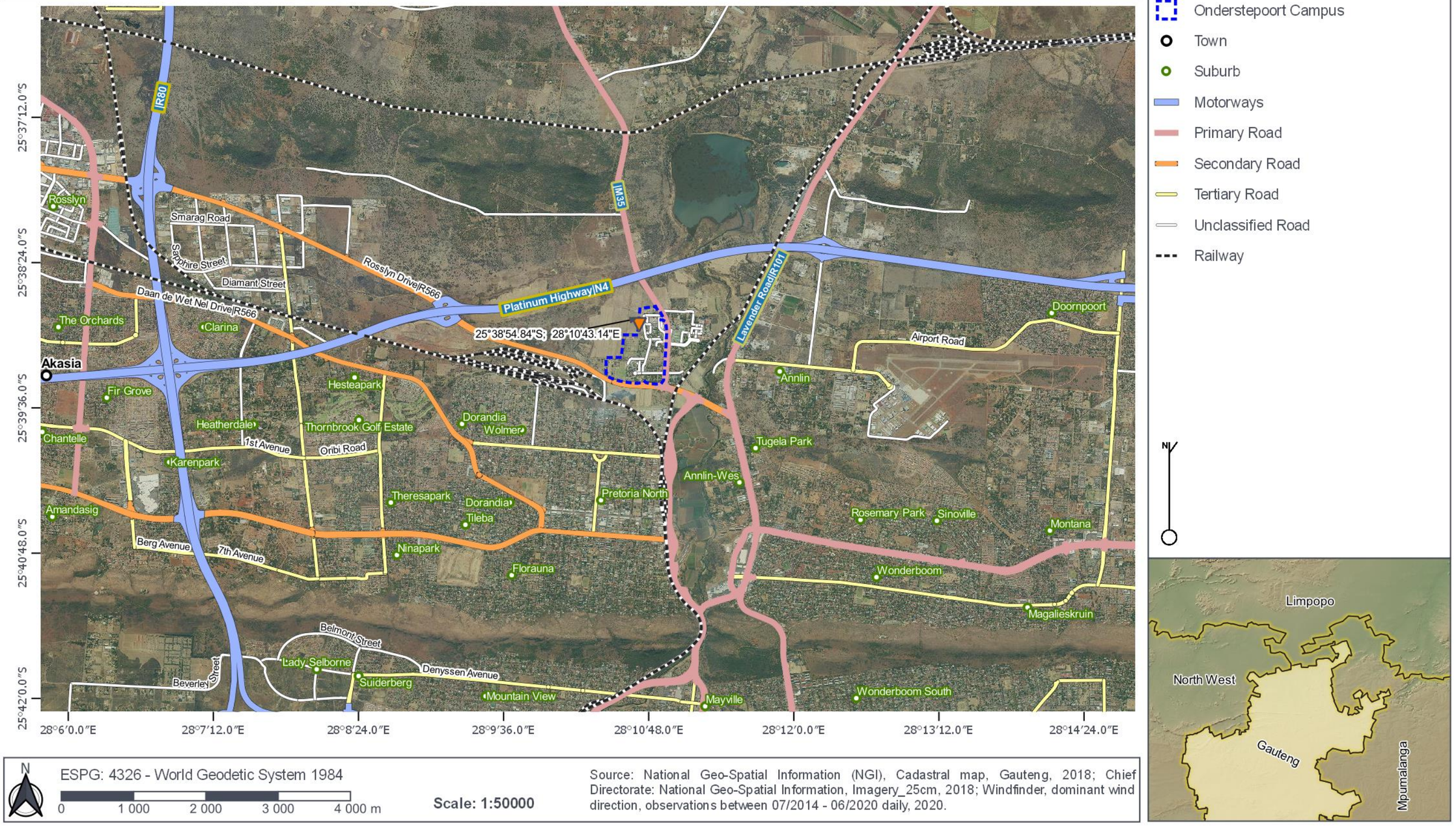
The property for the proposed project and its associated activities is as follows:

- Property/Land Parcel: Portion 0 (remaining extent) of the Farm Onderstepoort 478 JR
- 21-digit Surveyor General Code: T0JR00000000047800000
- Property size: 65.8340Ha
- Project site GPS coordinates: 25°38'54.83"S; 28°10'43.11"E

The project location is ±10km to the north of the Pretoria CBD, in the Tshwane Metropolitan Municipality, Gauteng Province.

A locality map, provided on the next page, shows the location of the project property, at an appropriate scale (a plan which locates the proposed activity or activities applied for as well as associated structures and infrastructure at an appropriate scale).

University of Pretoria: Onderstepoort Campus
Project: Decommisioning of Incinerator
Locality Map



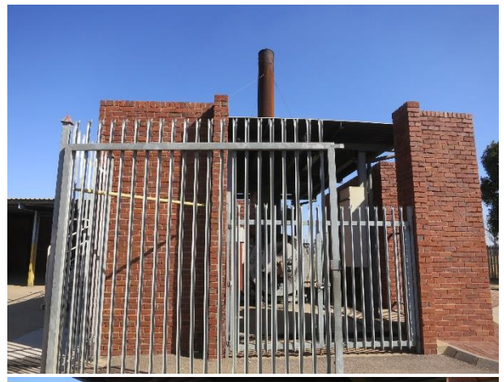
Legend

Incinerator

- Onderstepoort Campus
- Town
- Suburb
- Motorways
- Primary Road
- Secondary Road
- Tertiary Road
- Unclassified Road
- Railway

Figure 1: Project site locality map

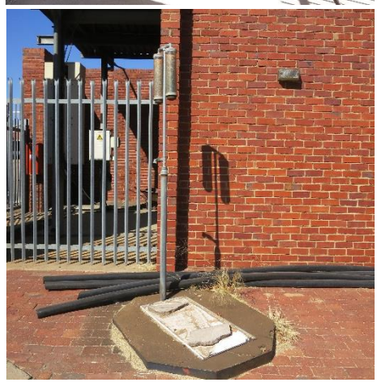
The following photographs give an indication of the current status of the project property. Photographs are also given under Appendix B.








5. SCOPE OF THE PROPOSED DEVELOPMENT AND ACTIVITIES

5.1 Description of the activities to be undertaken

5.1.1 Background to Applicant and Existing Operations

The University of Pretoria (the applicant) Faculty of Veterinary Science is located on the Farm Onderstepoort 478 JR, approximately 10km to the north of the Pretoria CBD.

The Faculty of Veterinary Science, located at the Onderstepoort Campus, is one of 46 veterinary faculties in Africa and the only one of its kind in South Africa. It is the second oldest faculty in Africa, dating back to the early 1920's. With the exception of the faculties in Khartoum (Sudan, 1938), and Cairo (Egypt, 1946), all the other African faculties were established after 1960. The Faculty has five academic Departments responsible for teaching, research and service rendering. These activities are further facilitated by well-developed support services provided by an academic hospital, various departmental laboratories, general and student administrative sections, a teaching animal unit and a number of research centres. The Veterinary Academic Hospital provides state of the art facilities for the clinical departments and is the focus of the Faculty's service-rendering activities to the immediate community and also a national referral facility (https://www.up.ac.za/faculty-of-veterinary-science/article/16343/about-veterinary-science).

The Faculty of Veterinary Science has an incinerator (the Onderstepoort Incinerator) that is used to incinerate animal carcasses, contaminated bedding (shavings) and contaminated material (paper and DNA packaging) generated by the various Veterinary Departments located on the Onderstepoort Campus. The waste is stored in sealed containers for bio-security reasons and is weighed before being incinerated. After incineration, the remaining ash is removed from the incinerator (approximately 20kg of ash) and is placed into nearby waste skips. The skips and ash are removed by a waste contractor for disposal off-site on a regular basis.

The incineration of these waste types used to occur once a day, mainly in the morning. Batch incineration of mixed waste (800kg animal carcasses together with 250kg of shavings) for a period of 3 to 4 hours was regular practice. Currently, the incinerator is only operated for maintenance purposes. The applicant has a contract with a waste management service provider for the removal of the previously listed waste streams. The contractor removes the waste streams to a licensed waste management facility where the waste is incinerated.

Existing buildings on site

The following infrastructure is currently present at the project site:

- The Onderstepoort incinerator;
- A brick-walled enclosure with palisade gates (within which the incinerator is located);
- An 8m^3 underground diesel tank; and
- A fuel dispensing station (fuel pump no longer in place).

5.1.2 Proposed project

The project entails the decommissioning and demolishing of the University of Pretoria's Onderstepoort Incinerator. The incinerator was constructed prior to 1989 (the exact date is unknown) and uses outdated technology. The outdated technology does not ensure compliance with the Maximum Emission Rates as stipulated in the incinerator's Atmospheric Emission Licence (Licence Number: 9/16/1/2/38/R; issued on 12 August 2019). It is financially more feasible for the University of Pretoria to dispose of the infectious waste generated at Onderstepoort, when compared to the costs that would be involved in operating the incinerator in future. Operational costs would include, for example, air quality monitoring costs and costs to replace/upgrade abatement technology on the incinerator to enable compliance to the Maximum Emission Rates. The applicant therefore wishes to rather decommission and demolish its Onderstepoort incinerator.

The proposed decommissioning will entail the dismantling and demolishing of the incinerator itself and the removal of the dismantled parts from site. Material that can be re-cycled or re-used will be provided to suitable facilities for re-use or recycling. Remaining material will be disposed at an adequately licensed landfill site/waste management facility. The brick-walled enclosure within which the incinerator is currently located as well as the concrete floor of the enclosure will also be removed. The area will then be converted into a landscaped garden. An unused freezer at the Pathology Department of the Onderstepoort Complex will be converted and used for the storage of the waste generated by the Veterinary Science activities at the Onderstepoort Campus prior to the waste being removed from site by a waste contractor. The unused freezer that will be used for the storage of waste has the following dimensions: 3.16m x 4.83m x 2.9m (44.26m^3). The small size (less than 80m^3) of the waste storage container means that it will not require a Registration application in terms of the National Norms and Standards for the Storage of Waste (GN No. 926 of 29 November 2013).

An underground diesel tank linked to the incinerator will also be removed. The diesel tank is owned and managed by TOTAL and has a capacity of 8m^3. The removal will be managed by TOTAL and they will be responsible for any rehabilitation of contaminated soil in the vicinity of the tank (should any soil contamination be present).

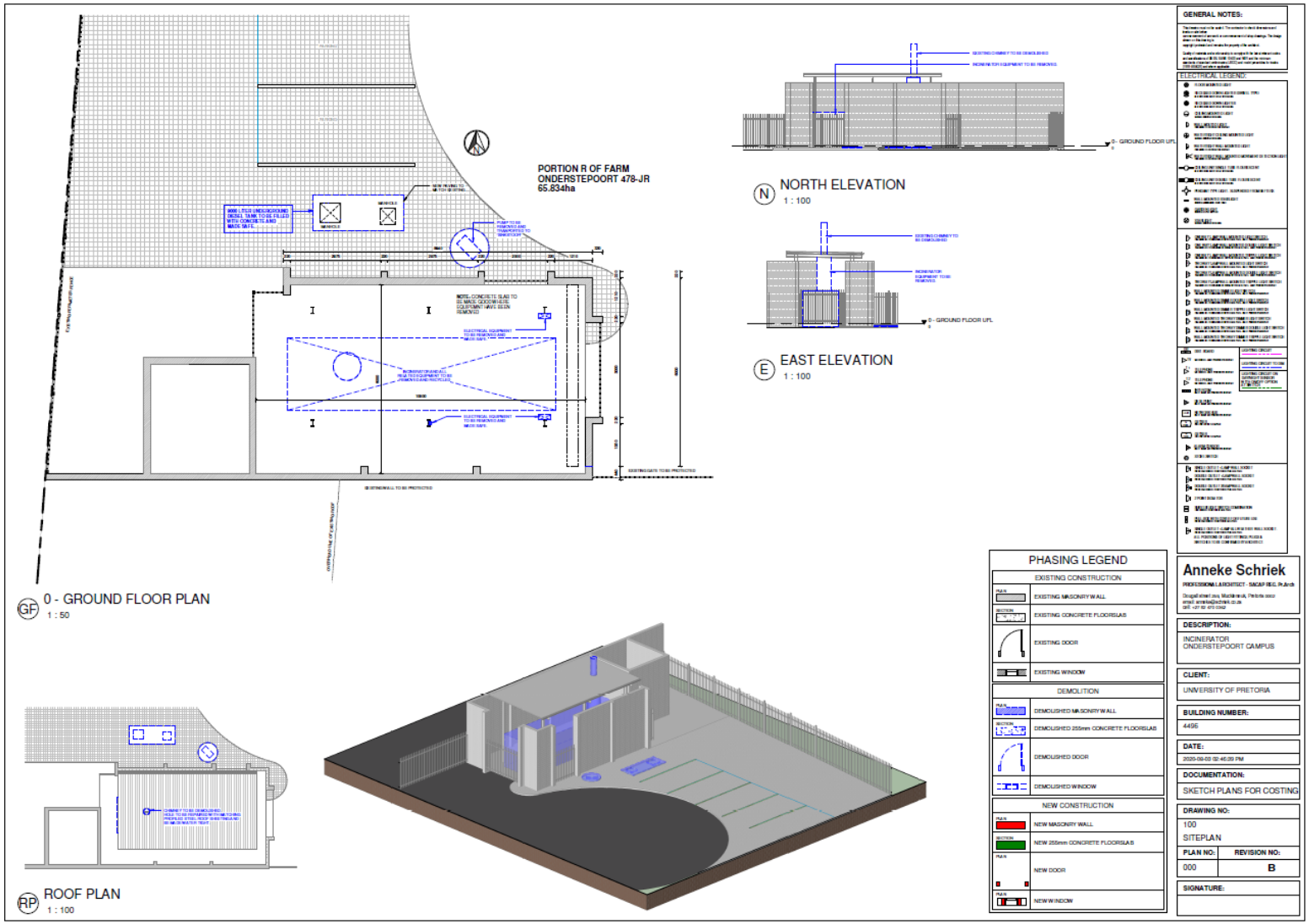


Figure 2: Facility Illustration for the decommissioning of the Onderstepoort incinerator

5.2 Waste management activities triggered by the proposed activity

The following waste management activity is triggered by the proposed activity and therefore requires a Waste Management Licence, in terms of the National Environmental Management: Waste Act 59 of 2008, 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:

Table 1: Waste Management Activity/Activities triggered by the proposed activity

Government Notice and Activity Number	Wording as per the Listing Notice	Description as per the project description relating to each listed activity
GN No. 921 of 29 November 2013, as amended - Category A(14)	The decommissioning of a facility for a waste management activity listed in Category A or B of this Schedule.	Decommissioning of the University of Pretoria's Onderstepoort Incinerator (a waste treatment facility with a capacity to process in excess of 500kg but less than 1 ton of hazardous waste per day).

5.3 Water Use Licence Activities

No water uses occur onsite or are proposed and Water Use Registration and/or Licence applications in terms of Chapter 4 of the National Water Act, 1998 (Act No. 36 of 1998) are therefore not required for the proposed project.

6. POLICY AND LEGISLATIVE CONTEXT OF THE APPLICATION

The following legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments are/may be applicable to the proposed project and have been considered in this Basic Environmental Impact Assessment process. It has been indicated how the proposed project complies with and/or responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments.

Legislation

- The Constitution of South Africa, 1996 (Act No. 108 of 1996), as amended - The project needs to adhere to the provisions of this legislation.
- The National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended - The application is lodged in terms of the provisions of this legislation.
- The Environmental Impact Assessment Regulations of 4 December 2014, as amended in 2017 - The application is lodged in terms of the provisions of this legislation.
- The National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), as amended - The application is lodged in terms of the provisions of this legislation.
- The National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003), as amended - The application is lodged in terms of the provisions of this legislation. In terms of Section 50(5) of the National Environmental Management: Protected Areas Act, approval is required from the Managing Authority for a Nature Reserve, prior to applications for Environmental Authorisation or similar approvals (in this case, a Waste Management Licence), being submitted by the applicant (the University of Pretoria in this case) to the Competent Authority. Please refer to Annexure E for this approval from the Managing Authority (the Agricultural Research Council).
- The National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), as amended - The incinerator has an Atmospheric Emission Licence in terms of this legislation.
- The National Heritage Resources Act, 1999 (Act No. 25 of 1999), as amended - This legislation is possibly applicable to the proposed project and will be confirmed by the South African Heritage Resources Agency.
- The National Appeal Regulations – Government Notice No. R.993 of 8 December 2014 - This legislation would be applicable should the decision on the application be appealed.

Plans

- Gauteng Conservation Plan Version 3.3 - Indicates the desktop sensitivity of the project site.

Guidelines

- Guideline on Need and Desirability in terms of the Environmental Impact Assessment (EIA) Regulations, 2010 - Used to adequately discuss the need and desirability of the proposed project.

Spatial tools

- SANBI Biodiversity GIS Database - Indicates the desktop sensitivity of the project site.
- National Web-based Environmental Screening Tool - Indicates the desktop sensitivity of the project site.

Municipal development planning frameworks

- City of Tshwane Integrated Development Plan, 2011-2016, April 2011 - Section 1.2 of the City of Tshwane Integrated Development Plan 2011-2016 states that one of the objectives of local government, as set out in Section 152 of the Constitution, is "(d) to promote a safe and healthy environment". The proposed project is in line with this goal as the main positive impact of the proposed project is the elimination of atmospheric emissions from an incinerator with outdated technology.

- City of Tshwane Regionalized Municipal Spatial Development Framework 2018 Region 2 - The Onderstepoort Complex (the project site for this application) is mentioned specifically in the City of Tshwane Regionalized Spatial Development Framework (RSDF) for Region 2 (the region within which the project site lies). The Onderstepoort Complex is described under Section 4.5.1.4 of the RSDF (Industrial/Mixed-Use Areas) and the following is stated: "The Onderstepoort Complex is already an area of job opportunities, and this should be supported and encouraged through the provision of proper supporting services" (City of Tshwane, 2018).
- City of Tshwane Town-Planning Scheme, 2008 - The project needs to adhere to the provisions of this document.
- City of Tshwane Land Use Management By-Law, 2016 - The project needs to adhere to the provisions of this document.

Provincial development planning frameworks

- Gauteng Province Environmental Management Framework - The site is situated within Zone 3 [High control zone (outside the urban development zone)] of the Gauteng Provincial Environmental Management Framework. The description for this zone is as follows: "This zone is sensitive to development activities and in several cases also have specific values that need to be protected. Conservation and related tourism and recreation activities should dominate development in this zone". The Onderstepoort Campus and incinerator are existing facilities. It is therefore not expected that the decommissioning of the Onderstepoort Incinerator will have any negative impact upon the zoning in terms of the Gauteng Provincial EMF.

Municipal By-Laws

- City of Tshwane Waste Management By-Law (Local Authority Notice 1393 of 2016) - The project needs to adhere to the provisions of this document.

7. MOTIVATION FOR THE NEED AND DESIRABILITY OF THE PROPOSED DEVELOPMENT

7.1 Need and desirability of the development in the context of the preferred location

7.1.1 The Applicant

The Onderstepoort Incinerator was constructed prior to 1989 and uses outdated technology. The outdated technology does not ensure compliance with the Maximum Emission Rates as stipulated in the incinerator's Atmospheric Emission Licence (Licence Number: 9/16/1/2/38/R; issued on 12 August 2019). It is financially more feasible for the University of Pretoria to dispose of the infectious waste generated at Onderstepoort, when compared to the costs that would be involved in operating the incinerator in future. Operational costs would include, for example, air quality monitoring costs and costs to replace/upgrade abatement technology on the incinerator to enable compliance to the Maximum Emission Rates. The applicant therefore wishes to rather decommission and demolish its Onderstepoort incinerator.

7.1.2 The Local Community

The decommissioning of the Onderstepoort Incinerator will ensure that an incinerator with outdated technology is no longer operated (the incinerator is currently only operated for maintenance purposes). This will result in less atmospheric emissions from the incinerator, having a positive impact on air quality.

7.2 Need and Desirability in terms of the Guideline on Need and Desirability

The Department of Environmental Affairs published a Guideline on Need and Desirability in terms of the Environmental Impact Assessment (EIA) Regulations, 2010, in Government Notice 891 of 2014 (20 October 2014).

The table below indicates how the guideline requirements have been addressed.

Table 2: Need and desirability of the proposed project, in terms of the Guideline on Need and Desirability

Requirement	Response
1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?[1]	Ecological integrity is the ability of an ecosystem to support and maintain a diverse community of organisms as well as ecological processes. The project site is in a completely disturbed state and no ecological processes are expected to therefore exist at the site. It is therefore not expected that the proposed project will have any impact on any ecological integrity of the project site. Impacts of the proposed project have been assessed in Section 9.3 of this report.
1.1. How were the following ecological integrity considerations taken into account?	
1.1.1 Threatened Ecosystems.[2]	The historical vegetation type of the project site was Marikana Thornveld. This vegetation type is considered as "Vulnerable". However, the project site is in a completely disturbed state. The proposed project will therefore have no impact on any threatened ecosystems. Impacts of the proposed project have been assessed in Section 9.3 of this report.
1.1.2 Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, 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.[3]	According to the SANBI Biodiversity GIS Database, there are no wetlands on the project site. The site is also in a completely disturbed state .The site is not situated close to any coastal areas.
1.1.3 Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs").	There are no CBAs or ESAs on the project site, as confirmed by the National Web based Environmental Screening Tool. The proposed project will therefore have no impact on any CBAs or ESAs. Impacts of the proposed project have been assessed in Section 9.3 of this report.

[1] Section 24 of the Constitution and section 2(4)(a)(vi) of NEMA refer.

[2] Must consider the latest information including the notice published on 9 December 2011 (Government Notice No. 1002 in Government Gazette No. 34809 of 9 December 2011 refers) listing threatened ecosystems in terms of Section 52 of National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).

[3] Section 2(4)(r) of NEMA refers.

Requirement	Response
1.1.4 Conservation targets.	The conservation target for the Marikana Thornveld vegetation type is 19% (Mucina & Rutherford, 2006). The project site is in a completely disturbed state. The proposed project will therefore have no impact on any conservation targets for the vegetation type. Impacts of the proposed project have been assessed in Section 9.3 of this report.
1.1.5 Ecological drivers of the ecosystem.	Ecological drivers include, for example, the influence of uncontrolled fires, human activity and alien invasive plant species. It is not expected that the decommissioning of the Onderstepoort Incinerator will have any negative impact on ecological drivers as the site is in a completely disturbed state.
1.1.6 Environmental Management Framework.	The site is situated within Zone 3 [High control zone (outside the urban development zone)] of the Gauteng Provincial Environmental Management Framework. The description for this zone is as follows: "This zone is sensitive to development activities and in several cases also have specific values that need to be protected. Conservation and related tourism and recreation activities should dominate development in this zone". The Onderstepoort Campus and incinerator are existing facilities within this zone of the EMF. It is therefore not expected that the decommissioning of the Onderstepoort Incinerator will have any negative impact upon the zoning in terms of the Gauteng Provincial EMF.
1.1.7 Spatial Development Framework.	The Onderstepoort Complex (the project site for this application) is mentioned specifically in the City of Tshwane Regionalized Spatial Development Framework (RSDF) for Region 2 (the region within which the project site lies). The Onderstepoort Complex is described under Section 4.5.1.4 of the RSDF (Industrial/Mixed-Use Areas) and the following is stated: "The Onderstepoort Complex is already an area of job opportunities, and this should be supported and encouraged through the provision of proper supporting services" (City of

Requirement		Response
		Tshwane, 2018). The proposed project will not negatively impact upon this goal of the RSDF.
1.1.8	*Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).*[4]	The proposed project will eliminate atmospheric emissions from an incinerator with outdated technology. This will have a positive impact in terms of mitigating climate change and assist South Africa in reaching their targets in terms of the Paris Agreement.
1.2	How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?[5]	The proposed project will have no negative impact on ecosystems and will not result in the loss of biological diversity. The proposed project will eliminate atmospheric emissions from an incinerator with outdated technology. Impacts of the proposed project have been assessed in Section 9.3 of this report. Mitigation measures have been identified and recommended in the EMPr to mitigate negative environmental impacts.
1.3	How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?[6]	It is expected that the decommissioning of the Onderstepoort Incinerator will not pollute or degrade the biophysical environment. The dismantled incinerator material will be re-used or re-cycled, where possible, and remaining material will be disposed at an adequately licensed landfill site/waste management facility. The decommissioning will have a positive impact on the biophysical environment as it will eliminate atmospheric emissions from an incinerator with outdated technology.
1.4	What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures	Dismantling and demolishing the Onderstepoort Incinerator will result in the generation of waste material. The dismantled incinerator material will be re-used or re-cycled, where possible, and remaining material will be disposed at an adequately licensed landfill site/waste management facility.

[4] Section 2(4)(n) of NEMA refers.

[5] Section 24 of the Constitution and Sections 2(4)(a)(i) and 2(4)(b) of NEMA refer.

[6] Section 24 of the Constitution and Sections 2(4)(a)(ii) and 2(4)(b) of NEMA refer.

Requirement		Response
	were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?[7]	
1.5	How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?[8]	It is not expected for the proposed project to have an impact on the landscapes and/or sites that constitute the nation's cultural heritage. The site is in a completely disturbed state and the Onderstepoort Incinerator will be dismantled and decommissioned. The brick-walled enclosure and concrete floor of the incinerator will also be removed. The South African Heritage Resources Agency (SAHRA) has, however, been notified of the proposed project as part of the general public participation process, seeing as SAHRA is considered to be an Interested and Affected Party of the proposed project. Any feedback from SAHRA will be considered and acted upon accordingly.
1.6	How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?[9]	The Onderstepoort Incinerator uses diesel as a supplementary fuel during start-up and to maintain combustion. The decommissioning of the incinerator will eliminate the use of diesel (a non-renewable natural resource) by the facility. This is a positive impact in terms of non-renewable resource usage.
1.7	How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure	The proposed project will not use or impact upon any renewable natural resources.

[7] Section 24 of the Constitution and Sections 2(4)(a)(iv) and 2(4)(b) of NEMA refer.

[8] Section 24 of the Constitution and Sections 2(4)(a)(iii) and 2(4)(b) of NEMA refer.

[9] Section 24 of the Constitution and Sections 2(4)(a)(v) and 2(4)(b) of NEMA refer.

Requirement		Response
	responsible and equitable use of the resources? What measures were explored to enhance positive impacts?[10]	
1.7.1	*Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life)*	The decommissioning of the Onderstepoort Incinerator will reduce and remove the use of natural resources at the incinerator.
1.7.2	*Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources this the proposed development alternative?)*	Not applicable. The decommissioning of the Onderstepoort Incinerator will reduce and remove the use of natural resources at the incinerator.
1.7.3	*Do the proposed location, type and scale of development promote a reduced dependency on resources?*	Yes. The decommissioning of the Onderstepoort Incinerator will reduce and remove the use of natural resources at the incinerator.
1.8	How were a risk-averse and cautious approach applied in terms of ecological impacts?[11]	The project site is in a completely disturbed state. Possible ecological impacts are therefore minimal and of low significance. Refer also to Section 9.3 of this report.
1.8.1	*What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?*	The following assumptions have been made:

[10] Section 24 of the Constitution and Sections 2(4)(a)(vi) and 2(4)(b) of NEMA refer.

[11] Section 24 of the Constitution and Section 2(4)(a)(vii) of NEMA refer.

Requirement	Response
	• That the project information, as provided by the applicant, is correct; • That all research and reference sources or material is accurate and up to date; • That the decommissioning of the incinerator will be undertaken as per the information provided by the applicant and that the underground diesel tank will be removed by TOTAL; • That TOTAL will be responsible for any required land remediation and that they will conduct said remediation, if it is found that the underground diesel tank has leaked and caused soil contamination; • That the dismantled and decommissioned incinerator material will be supplied to adequately licensed re-use or recycling waste management facilities, or where re-use or re-cycling is not possible, to an adequately licensed landfill site; and • That the dismantling and decommissioning of the incinerator will be conducted according to the Environmental Management Programme for this application. It is currently not known whether the underground diesel tank has leaked and caused any soil pollution. This will be determined by TOTAL prior to them removing the diesel tank. Should contamination be found, TOTAL will be required to undertake the required remediation and will need to obtain any required approvals from the National Department of Environment, Forestry and Fisheries.
1.8.2 What is the level of risk associated with the limits of current knowledge?	It is the EAP's opinion that the level of risk associated with the limits of current knowledge is *low-medium*.
1.8.3 Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	A risk-averse and cautious approach was applied to the Basic Environmental Impact Assessment by keeping in mind the gaps in knowledge and limitations.

Requirement		Response
1.9	How will the ecological impacts resulting from this development impact on people's environmental right in terms following:[12]	
1.9.1	*Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?*	Section 8.4 of this report provides a list of the anticipated impacts from the proposed project. Section 8.7 provides some mitigation measures for these impacts and the Environmental Management Programme for the proposed project provides further detailed mitigation measures that should be applied to minimise the impacts on the environment from the project.
1.9.2	*Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?*	The main positive impact of the proposed project is the elimination of atmospheric emissions from an incinerator with outdated technology.
1.10	Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)?	It is not expected for the proposed project to result in socio-economic impacts relating to livelihoods, loss of heritage sites and/or opportunity costs.
1.11	Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area?	Refer to Section 9.3 of this report.
1.12	Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations?[13]	Refer to Section 8.1 of this report.
1.13	Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?[14]	Refer to Section 9.3 of this report.
2.1	What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?	

[12] Section 24 of the Constitution and Sections 2(4)(a)(viii) and 2(4)(b) of NEMA refer.

[13] Section 2(4)(b) of NEMA refer.

[14] Regulations 22(2)(i)(i), 28(1)(g) and 31(2)(1) in Government Notice No. R. 543 refer.

Requirement		Response
2.1.1	*The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area,*	Section 1.2 of the City of Tshwane Integrated Development Plan 2011-2016 (April 2011) states that one of the objectives of local government, as set out in Section 152 of the Constitution, is "(d) to promote a safe and healthy environment". The proposed project is in line with this goal as the main positive impact of the proposed project is the elimination of atmospheric emissions from an incinerator with outdated technology.
2.1.2	*Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.),*	The proposed project will not negatively impact upon the goal of the RSDF for the Onderstepoort Campus, as discussed under point 1.1.7 of this Table.
2.1.3	*Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and*	The proposed project will not negatively impact upon the goal of the RSDF for the Onderstepoort Campus, as discussed under point 1.1.7 of this Table.
2.1.4	*Municipal Economic Development Strategy ("LED Strategy").*	The City of Tshwane Economic Development Department would be responsible for Local Economic Development in the Province. As the proposed project is for the decommissioning of the Onderstepoort incinerator there will be no operational phase with revenue generation or job creation. It is therefore foreseen that the project will not have any impacts upon any municipal local economic development strategies.
2.2	Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?	It is not expected that the proposed project will have any impacts (positive or negative) on the socio-economic context of the area.
2.2.1	*Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?*	As the proposed project is for the decommissioning of the Onderstepoort incinerator there will be no operational phase with revenue generation or job creation. It is therefore foreseen that the project will not have any impacts upon any municipal local economic development strategies or skills development programmes.

Requirement		Response
2.3	How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?[15]	The proposed project will result in improved air quality, which is a positive contribution towards physical needs of the local community.
2.4	Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long-term?[16] Will the impact be socially and economically sustainable in the short- and long-term?	It is expected for the proposed development to result in equitable impact distributions in the short- and long-term as well as to be socially and economically sustainable in the short- and long-term.
2.5	In terms of location, describe how the placement of the proposed development will:[17]	
2.5.1	*result in the creation of residential and employment opportunities in close proximity to or integrated with each other,*	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development". No employment opportunities will be created by the proposed project.
2.5.2	*reduce the need for transport of people and goods,*	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development".
2.5.3	*result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport),*	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development". It is not expected for the proposed project to have an impact upon access to public transport or the enabling of non-motorised and pedestrian transport.
2.5.4	*compliment other uses in the area,*	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development".

[15] Section 2(2) of NEMA refers.

[16] Sections 2(2) and 2(4)(c) of NEMA refers.

[17] Section 3 of the Development Facilitation Act, 1995 (Act No. 67 of 1995) ("DFA") and the National Development Plan refer.

Requirement	Response
2.5.5 *be in line with the planning for the area,*	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development".
2.5.6 *for urban related development, make use of underutilised land available with the urban edge,*	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development". The proposed project is for the decommissioning of the Onderstepoort Incinerator, within the confines of the developed Onderstepoort Campus.
2.5.7 *optimise the use of existing resources and infrastructure,*	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development". No use of resources or infrastructure is applicable once the incinerator has been decommissioned.
2.5.8 *opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement),*	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development". No new bulk infrastructure will be required for the proposed project.
2.5.9 *discourage "urban sprawl" and contribute to compaction/densification,*	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development". It is not expected that the proposed project will have any impacts (positive or negative) on "urban sprawl" or compaction/densification.
2.5.10 *contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs,*	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development". The proposed project can therefore have no impact (positive or negative) on historically distorted spatial patterns of settlements.
2.5.11 *encourage environmentally sustainable land development practices and processes,*	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development". Environmentally sustainable land development practices and

Requirement	Response
	processes are encouraged through specific mitigation measures that have been included in the Environmental Management Programme for this project. The main positive impact of the proposed project is the elimination of atmospheric emissions from an incinerator with outdated technology.
2.5.12 take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.),	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development".
2.5.13 the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential),	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development".
2.5.14 impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development". It is not expected for the proposed project to have an impact upon history, sense of place, heritage of the area or the socio-cultural and cultural-historic characteristics and sensitivities of the area. The site is in a completely disturbed state and the Onderstepoort Incinerator and its brick-walled enclosure and concrete floor will be dismantled and decommissioned. The South African Heritage Resources Agency (SAHRA) has, however, been notified of the proposed project as part of the general public participation process, seeing as SAHRA is considered to be an Interested and Affected Party of the proposed project. Any feedback from SAHRA will be considered and acted upon accordingly.
2.5.15 in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?	Not applicable. The proposed project is for the decommissioning of the Onderstepoort Incinerator. There is therefore no "placement of a proposed development". The proposed project can therefore have no impact (positive or negative) on integrated settlements.

Requirement	Response
2.6 How were a risk-averse and cautious approach applied in terms of socio-economic impacts?:[18]	A risk-averse and cautious approach was applied to the Basic Environmental Impact Assessment by keeping in mind the gaps in knowledge and limitations.
2.6.1 What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?[19]	The following assumptions have been made: • That the project information, as provided by the applicant, is correct; • That all research and reference sources or material is accurate and up to date; • That the decommissioning of the incinerator will be undertaken as per the information provided by the applicant and that the underground diesel tank will be removed by TOTAL; • That TOTAL will be responsible for any required land remediation and that they will conduct said remediation, if it is found that the underground diesel tank has leaked and caused soil contamination; • That the dismantled and decommissioned incinerator material will be supplied to adequately licensed re-use or recycling waste management facilities, or where re-use or re-cycling is not possible, to an adequately licensed landfill site; and • That the dismantling and decommissioning of the incinerator will be conducted according to the Environmental Management Programme for this application. It is currently not known whether the underground diesel tank has leaked and caused any soil pollution. This will be determined by TOTAL prior to them removing the diesel tank. Should contamination be found, TOTAL will be required to undertake the required remediation and will need to obtain any

[18] Section 2(4)(a)(vii) of NEMA refers.

[19] Section 24(4) of NEMA refers.

Requirement		Response
		required approvals from the National Department of Environment, Forestry and Fisheries.
2.6.2	*What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge?*	It is the EAP's opinion that the level of risk associated with the limits of current knowledge is *low-medium*.
2.6.3	*Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?*	A risk-averse and cautious approach was applied to the Basic Environmental Impact Assessment by keeping in mind the gaps in knowledge and limitations.
2.7	How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following:	
2.7.1	*Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?*	It is not expected for the proposed project to negatively impact on people's health, safety and social ills.
2.7.2	*Positive impacts. What measures were taken to enhance positive impacts?*	The main positive impact of the proposed project is the elimination of atmospheric emissions from an incinerator with outdated technology. As the proposed project is a decommissioning project, no further measures could be taken to enhance the positive impact beyond the decommissioning phase.
2.8	Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socioeconomic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?	The main positive impact of the proposed project is the elimination of atmospheric emissions from an incinerator with outdated technology. This is a positive socioeconomic and ecological impact.
2.9	What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?[20]	Refer to Section 8.1 of this report.
2.10	What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons	Refer to Section 8.1 of this report. The alternatives considered allow for the "best practicable environmental option" to be selected.

[20] Section 2(4)(b) of NEMA refers.

Requirement		Response
	(who are the beneficiaries and is the development located appropriately)?[21] Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?	
2.11	What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?[22]	The main positive impact of the proposed project is the elimination of atmospheric emissions from an incinerator with outdated technology. This will be a benefit to all segments of the community.
2.12	What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?[23]	The main positive impact of the proposed project is the elimination of atmospheric emissions from an incinerator with outdated technology. This is a positive environmental health and safety consequence of the proposed project. Mitigation measures have been identified in the Environmental Management Programme. The responsibility for implementing the mitigation measures lies with the applicant.
2.13	What measures were taken to:	
2.13.1	*ensure the participation of all interested and affected parties,*	The Public Participation Plan was approved by the Competent Authority prior to it being implemented. The public participation processes were conducted in accordance with the EIA Regulations, 2014, as amended, and also taking the following into consideration: GN 807 - Public Participation Guideline in the Environmental Impact Assessment Process, 2012.
2.13.2	*provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation,*[24]	The public participation process for this project is open to all parties. Site notices and a newspaper advertisement were placed to encourage participation from a wider audience than simply the adjacent land owners.

[21] Section 2(4)(c) of NEMA refers.

[22] Section 2(4)(d) of NEMA refers.

[23] Section 2(4)(e) of NEMA refers.

[24] Section 2(4)(f) of NEMA refers.

Requirement	Response
2.13.3 ensure participation by vulnerable and disadvantaged persons,[25]	The public participation processes were open to all individuals, also to vulnerable and disadvantaged persons.
2.13.4 promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means,[26]	All employees, contractors and sub-contractors will be required to attend environmental awareness inductions (training).
2.13.5 ensure openness and transparency, and access to information in terms of the process,[27]	The Public Participation Plan was approved by the Competent Authority prior to it being implemented. The public participation processes were conducted in accordance with the EIA Regulations, 2014, as amended, and also taking the following into consideration: GN 807 - Public Participation Guideline in the Environmental Impact Assessment Process, 2012. The public participation process was open to participation from any members of the public and was a fully transparent process. All comments received from Interested and Affected Parties have been included in the reports for this project and have also been responded to/addressed. The reports were available to any person wishing to review and comment upon the reports.
2.13.6 ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge[28]*, and*	The Public Participation Plan was approved by the Competent Authority prior to it being implemented. The public participation processes were conducted in accordance with the EIA Regulations, 2014, as amended, and also taking the following into consideration: GN 807 - Public Participation Guideline in the Environmental Impact Assessment Process, 2012.

[25] Section 2(4)(f) of NEMA refers.

[26] Section 2(4)(h) of NEMA refers.

[27] Section 2(4)(k) of NEMA refers.

[28] Section 2(4)(g) of NEMA refers.

Requirement		Response
2.13.7	*ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein were be promoted?*[29]	The Public Participation Plan was approved by the Competent Authority prior to it being implemented. The public participation processes were conducted in accordance with the EIA Regulations, 2014, as amended, and also taking the following into consideration: GN 807 - Public Participation Guideline in the Environmental Impact Assessment Process, 2012.
2.14	Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?[30]	The main positive impact of the proposed project is the elimination of atmospheric emissions from an incinerator with outdated technology. This will be a benefit to all segments of the community.
2.15	What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?[31]	All employees, contractors and sub-contractors will be required to attend environmental awareness inductions (training). This will include informing workers that they have the right to refuse work should the work be harmful to human health or the environment.
2.16	Describe how the development will impact on job creation in terms of, amongst other aspects:	
2.16.1	*the number of temporary versus permanent jobs that will be created,*	Not applicable. The proposed decommissioning project will not create any new job opportunities during its short duration.
2.16.2	*whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area),*	Not applicable. The proposed decommissioning project will not create any new job opportunities during its short duration.
2.16.3	*the distance from where labourers will have to travel,*	Not applicable. The proposed decommissioning project will not create any new job opportunities during its short duration.

[29] Section 2(4)(q) of NEMA refers.

[30] x

[31] Section 2(4)(j) of NEMA refers.

Requirement	Response
2.16.4 the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), and	Not applicable. The proposed decommissioning project will not create any new job opportunities during its short duration.
2.16.5 the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).	Not applicable. The proposed decommissioning project will not create any new job opportunities during its short duration.
2.17 What measures were taken to ensure:	
2.17.1 that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and	Relevant environmental and town planning legislation was considered and incorporated into this report. Comments were also requested from various stakeholders, including the local municipality and other governmental Departments. Also refer to Chapter 6 of this report.
2.17.2 that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	There have been no such conflicts to resolve to date.
2.18 What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?[32]	The main positive impact of the proposed project is the elimination of atmospheric emissions from an incinerator with outdated technology. This will be a benefit to all segments of the community. This serves the public interest and contributes to the protection of the environment as the people's common heritage. Mitigation measures have also been included in the Environmental Management Programme for this project to minimise the impacts of the proposed project on the environment.
2.19 Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?[33]	Realistic mitigation measures have been proposed in detail in the EMPr for this project. Should these mitigation measures be implemented by the applicant, it is not expected for there to be any long-term environmental legacy or burden.
2.20 What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing,	The applicant will be responsible for any costs associated with the remediation of pollution, environmental degradation and consequent adverse health

[32] Section 2(4)(o) of NEMA refers.

[33] Section 240(1)(b)(iii) of NEMA and the National Development Plan refer.

Requirement		Response
	controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?[34]	effects and for preventing, controlling or minimising further pollution, environmental damage or adverse health effects, where these may apply to the decommissioning of the Onderstepoort Incinerator. The diesel tank linked to the incinerator is owned and managed by TOTAL. The removal will be managed by TOTAL and they will be responsible for any costs associated with the remediation of pollution, environmental degradation and consequent adverse health effects and for preventing, controlling or minimising further pollution, environmental damage or adverse health effects, where these may apply to the removal of the diesel tank.
2.21	Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?[35]	Refer to Section 8.1 of this report.
2.22	Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area?[36]	Cumulative impacts have been discussed in Section 8.4.6 of this report.

7.3 Motivation for the preferred site, activity and technology alternative

Refer to Section 8.1 of this report.

[34] Section 2(4)(p) of NEMA refers.

[35] Section 2(4)(b) of NEMA refers.

[36] Regulations 22(2)(i)(i), 28(1)(g) and 31(2)(1) in Government Notice No. R. 543 refer.

8. PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED ACTIVITY, SITE AND LOCATION WITHIN THE SITE

8.1 Alternatives considered

The following alternatives could be applicable to the proposed project and could be assessed, according to the Western Cape Department of Environmental Affairs and Development Planning's Guideline on Alternatives (2010):

Table 3: Types of alternatives (Western Cape Department of Environmental Affairs and Development Planning, 2010)

Type of alternative	Description/explanation
Location	Refers to both alternative properties as well as alternative sites on the same property.
Activity	Incineration of waste rather than disposal at a landfill site/provision of public transport rather than increasing the capacity of roads.
Design or Layout	Design: e.g. Different architectural and or engineering designs . Site Layout: Consideration of different spatial configurations of an activity on a particular site (e.g. siting of a noisy plant away from residences).
Technological	Consideration of such alternatives is to include the option of achieving the same goal by using a different method or process (e.g. 1 000MW of energy could be generated using a coal-fired power station or wind turbines).
Demand	Arises when a demand for a certain product or service can be met by some alternative means (e.g. the demand for electricity could be met by supplying more energy or using energy more efficiently, by managing demand).
Input	Input alternatives are applicable to applications that may use different raw materials or energy sources in their process (e.g. industry may consider using either high sulphur coal or natural gas as a fuel source).
Routing	Consideration of alternative routes generally applies to linear developments such as power line servitudes, transportation and pipeline routes.
Scheduling and Timing	Where a number of measures might play a part in an overall programme, but the order in which they are scheduled will contribute to the overall effectiveness of the end result.
Scale and Magnitude	Activities that can be broken down into smaller units and can be undertaken on different scales (e.g. for a housing development there could be the option of 10, 15 or 20 housing units. Each of these alternatives may have different impacts).
"No-Go Option"	This is the option of not implementing the proposed activity.

Alternative Assessments must always include the "No-Go Option" as the baseline against which all other alternatives must be measured. Alternatives were considered in a qualitative manner.

The following alternatives could be considered for the proposed project:

8.1.1 Demand

The demand in the context of the proposed project is the service of waste disposal for the waste material generated at the Onderstepoort Complex. In the past, the waste material was incinerated in the Onderstepoort Incinerator. However, the incinerator uses outdated technology and running it at the capacity required to incinerate all waste generated at the Onderstepoort Complex would result in the exceedance of the Maximum Emission Rates as stipulated in the incinerator's Atmospheric Emission Licence (Licence Number: 9/16/1/2/38/R; issued on 12 August 2019). It is therefore not feasible for the waste to be incinerated in the Onderstepoort Incinerator. An alternative would be for the waste material to be removed by a waste contractor for disposal at a licensed landfill site. This option is, however, not the most desirable option as landfill airspace will be used. Another option (the preferred

option for the applicant) is for the waste to be removed by a waste contractor for incineration at a licensed, off-site incinerator. This has been considered as the best practicable environmental option for the disposal of the waste material. The waste material will be incinerated at a licensed facility, where emission rates are assumed to be within the permissible limits and the waste would be incinerated rather than being disposed at a landfill site where landfill airspace would be used. Ash generated through the incineration process can potentially also be re-used as a raw material.

8.1.2 "No-Go Option"

The No-Go Option would be where the Onderstepoort Incinerator is not decommissioned and demolished, and where it would continue to be operated, even just for maintenance purposes. The incinerator uses outdated technology, and this does not ensure compliance with the Maximum Emission Rates as stipulated in the incinerator's Atmospheric Emission Licence (Licence Number: 9/16/1/2/38/R; issued on 12 August 2019). To ensure that the Maximum Emission Rates are not exceeded, the applicant only uses the incinerator for maintenance purposes. The waste material that was usually incinerated is removed from site by a waste contactor for incineration at a licensed, off-site waste management facility. The applicant therefore already pays the waste contractor for the removal of the waste material and at the same time also has expenses to ensure that the incinerator's Atmospheric Emission Licence is adhered to, as well as to run the incinerator for maintenance purposes. The No-Go Option is not considered to be a reasonable alternative as this would mean that atmospheric emissions from the incinerator would continue (emissions from an incinerator that uses outdated technology). It is financially more feasible for the applicant to dispose of the infectious waste generated at Onderstepoort, when compared to the costs that would be involved in fully operating the incinerator in future. Operational costs would include, for example, air quality monitoring costs and costs to replace/upgrade abatement technology on the incinerator to enable compliance to the Maximum Emission Rates.

The following alternatives could not be considered for the proposed project:

8.1.3 Location

The Onderstepoort Incinerator is an existing facility. Its location on alternative properties or alternative sites on the same property can therefore not be considered.

8.1.4 Activity

The activity in the context of the proposed project is the incineration of waste generated at the Onderstepoort Complex. One alternative is the continued incineration of the hazardous waste in the Onderstepoort Incinerator. This is, however, not a feasible option as the incinerator uses outdated technology and running it at the capacity required to incinerate all waste generated at the Onderstepoort Complex would result in the exceedance of the Maximum Emission Rates as stipulated in the incinerator's Atmospheric Emission Licence (Licence Number: 9/16/1/2/38/R; issued on 12 August 2019). As the applicant does not have another incinerator or a waste disposal site, no other activity alternatives could be considered.

8.1.5 Design or Layout

The Onderstepoort Incinerator is an existing facility. Alternatives in terms of its design or layout could therefore not be considered.

8.1.6 Technological

The Onderstepoort Incinerator is an existing facility. No technological alternatives could therefore be considered.

8.1.7 Input

The input in terms of this project is the waste material generated at the Onderstepoort Complex. This is an ongoing process, and the type of waste will not change as long as the operations at the Onderstepoort Complex remain the same (which is expected for the foreseeable future). No input alternatives could therefore be considered.

8.1.8 Routing

There are no linear aspects to the proposed project. This alternative could therefore not be considered.

8.1.9 Scheduling and Timing

No scheduling or timing alternatives could be identified. The waste material generated at the Onderstepoort Complex, which requires disposal via some licensed means (for example, incineration), is dependent upon the operations at the Onderstepoort Complex and the scheduling or timing can therefore not be altered.

8.1.10 Scale and Magnitude

No scale and magnitude alternatives could be identified. The waste material generated at the Onderstepoort Complex, which requires disposal via some licensed means (for example, incineration), is dependent upon the operations at the Onderstepoort Complex and the scale and magnitude can therefore not be altered.

8.2 Public Participation Process undertaken in terms of Section 41 of the EIA Regulations, 2014

The following potentially Interested and Affected Parties were identified as part of the proposed project's Environmental Impact Assessment process:

- City of Tshwane Metropolitan Municipality
- Gauteng Provincial Air Quality
- Gauteng Department of Health
- Gauteng Department of Social Development
- Gauteng Department of Education
- Gauteng Department of Agriculture and Rural Development
- Gauteng Department of Co-operative Governance and Traditional Affairs
- Gauteng Department of Community Safety
- Gauteng Department of Economic Development
- Gauteng Department of Human Settlements
- Gauteng Department of Infrastructure Development
- Gauteng Department of Roads and Transport
- Department of Water and Sanitation
- South African Heritage Resources Agency (SAHRA)
- Department of Mineral Resources
- De Onderstepoort Nature Reserve Managing Authority (the Agricultural Research Council)
- South African Civil Aviation Authority (SACAA)
- Department of Defence
- Adjacent landowner: Portion 231 (Remaining Extent) of the farm Wonderboom 302 JR: South African Rail Commuter Corp Ltd (PRASA - Passenger Rail Agency of South Africa)
- Adjacent landowner: Portion 115 (Remaining Extent) of the farm Wonderboom 302 JR: Suid-Afrikaanse Spoorpendelkorporasie Ltd (PRASA - Passenger Rail Agency of South Africa)

- Adjacent landowner: Portion 1 of the Farm Onderstepoort 478 JR: Suid-Afrikaanse Spoorpendelkorporasie Ltd (PRASA - Passenger Rail Agency of South Africa)
- Adjacent landowner: Portion 9 (Remaining Extent) of the farm De Onderstepoort 300 JR: Agricultural Research Council
- Adjacent landowner: Portion 42 (Remaining Extent) of the farm De Onderstepoort 300 JR: Agricultural Research Council
- Adjacent landowner: Portion 32 (Remaining Extent) of the farm Wonderboom 302 JR: Agricultural Research Council

The Public Participation Process was approved by the National Department of Environment, Forestry and Fisheries before being conducted.

For the initial Public Participation Process (notification of potentially Interested and Affected Parties), written notifications and Background Information Documents were distributed to the above-mentioned list of identified Interested and Affected Parties. The notifications were sent via email. Site notices were placed on the boundary of the project property on the 2nd of November 2020. A newspaper advertisement was placed in the Pretoria North Rekord and Beeld newspapers on the 5th of November 2020.

Proof of the above mentioned initial Public Participation Process is attached under Appendix C of this report. The Interested and Affected Party Register is also attached under Appendix C.

8.2.1 Summary of the issues raised by the Interested and Affected Parties and how the issues were addressed or incorporated into the Environmental Impact Assessment process

Comments received from Interested and Affected Parties are summarised in the following table:

Table 4: Comments and Responses Report

Name and Surname	Entity represented	Date upon which comment was received	Comment submitted via	Comment(s) raised	Response to comment(s) raised
Tshinyadzo Mphephu	City of Tshwane Metropolitan Municipality	03-11-2020	Email	Good day Lizette City of Tshwane will require one (1) colour hard copy and two (2) CD's for reports.	Good day Tshinyadzo Thank you for your email. I hereby acknowledge receipt thereof and have taken note of the requirements for the reports. Please can you confirm: Can we provide the reports (1 x hard copy and 2 x CDs) to your offices marked for your attention, once available for public review? Thank you in advance.
Ms Delille Wessels	Agricultural Research Council - Onderstepoort	04-11-2020	Email	Is the incinerator replaces by another incinerator or what arrangements are made for the safe disposal of hazardous waste?	Good day Ms Wessels I hereby confirm receipt of your Interested and Affected Party Registration form and comments for the following project: Decommissioning of the University of Pretoria's Onderstepoort Incinerator. You have been added to the Interested and Affected Party Register and your comments have been included in the Comments and Responses Report for this project. To respond to the question that you have raised: The Onderstepoort Incinerator will be decommissioned and will not be replaced by another incinerator. The hazardous waste at

Name and Surname	Entity represented	Date upon which comment was received	Comment submitted via	Comment(s) raised	Response to comment(s) raised
					Onderstepoort will be removed by a waste contractor and taken to an adequately licensed, off-site waste management facility for incineration/disposal.
Tshinyadzo Mphephu	City of Tshwane Metropolitan Municipality	05-11-2020	Email	Good day Lizette Noted thanks. Mark attention for Ms Rudzani Mukheli.	Good day Tshinyadzo Thank you for the feedback. We take note thereof.

8.3 Environmental attributes associated with the alternatives considered – Environmental attributes of the proposed, project properties (the preferred alternative)

8.3.1 Geographical

Geology and Soil

The area is predominantly underlain by mafic intrusive rocks of the Rustenburg Layered Suite of the Bushveld Igneous Complex. Rocks include norite, pyroxenite, gabbro and anorthosite. The quartzites and shales of the Pretoria Group (Transvaal Supergroup) are also present (Mucina & Rutherford, 2006). The National Soil Class of the site is "Swelling clay soils" and the general description of the soil in the area is as follows: "Strongly structured cracking soils, mainly dark coloured, dominated by swelling clays (vertic soils). They may occur associated with one or more of melanic and red structured soils" (SANBI, 2017).

Agricultural Potential

According to the Environmental Screening Report for the site (attached under Appendix E), the agricultural land capability of the site is "Low-Moderate"/"Moderate", with a Medium sensitivity. The project site has historically been disturbed and is currently in a heavily modified/developed state.

8.3.2 Physical

Rainfall

The project site lies within a summer rainfall area and is characterised by very dry winters, with frequent frost. The mean annual precipitation is between 600mm and 700mm (Mucina & Rutherford, 2006).

Wind

The closest weather station to the site and for which data is available on www.windfinder.com, is the Wonderboom Airport weather station. The weather station is approximately 3.9km southeast of the project site. According to www.windfinder.com, the prevailing wind direction at the Wonderboom Airport is North (wind blowing from the North). The prevailing wind direction has been determined from yearly wind direction data from July 2014 to September 2020 (https://www.windfinder.com/windstatistics/wonderboom_airport).

Temperature

The average daytime temperatures in the area, as measured at the nearby Wonderboom Airport weather station, range between 41°C and -3°C (https://www.windfinder.com/windstatistics/wonderboom_airport).

Topography

The elevation of the project site is 1 100masl (meters above sea level). This is also shown in the figure below.

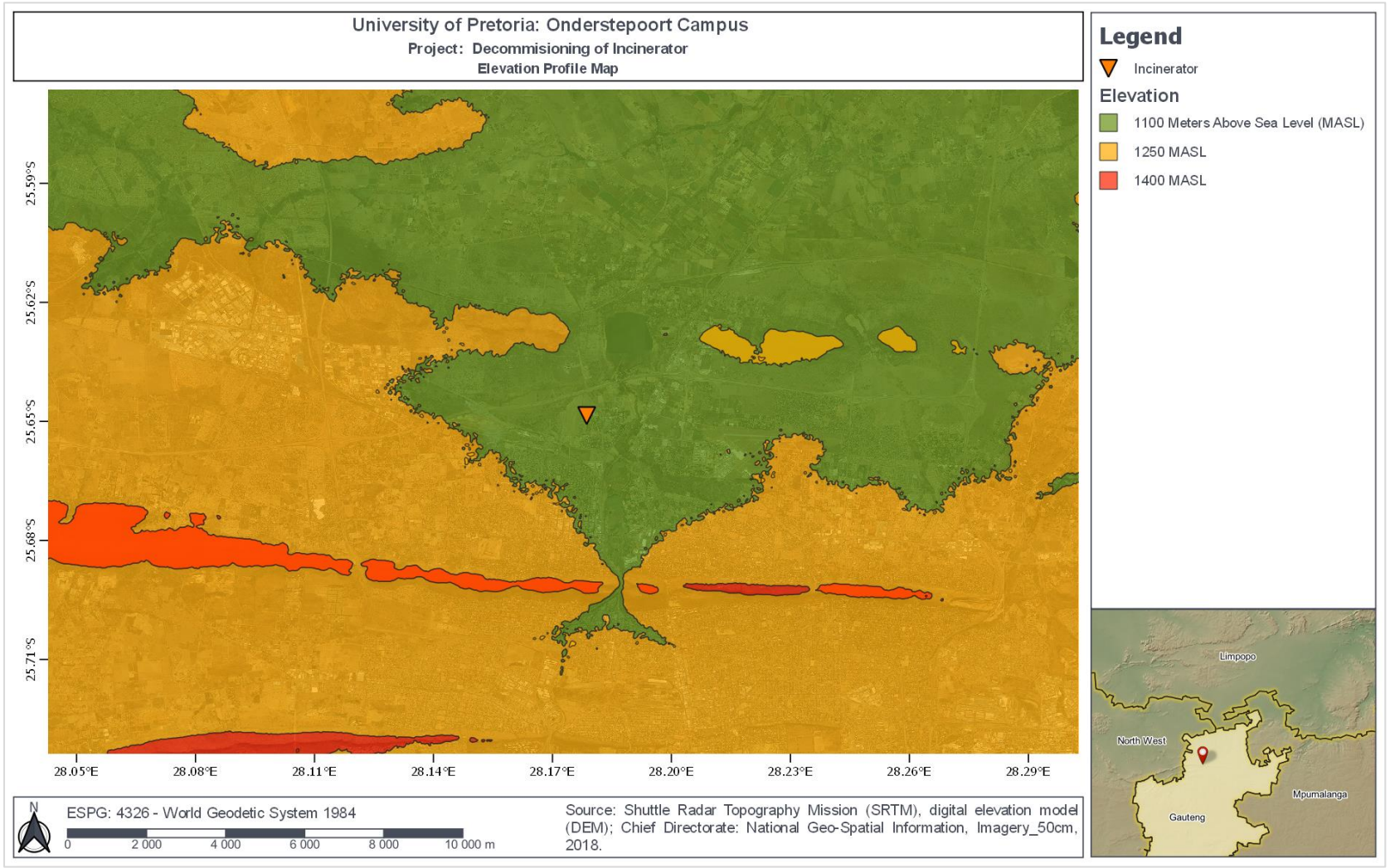


Figure 3: Elevation of the project site

8.3.3 Biological

Flora

As the project site is in a completely disturbed state, a desktop discussion is provided in this section as a reflection of the historical state of the environment (prior to historical disturbance).

The project site lies within the Savanna biome, and specifically within the Marikana Thornveld. Savanna vegetation in South Africa and Swaziland represents the southernmost extension of the most widespread biome in Africa. This biome extends past the tropics, meeting the Nama-Karoo Biome on the central plateau and the Grassland Biome to the east at higher altitudes, and also extends down the eastern seaboard interior and valleys where it transitions into Albany Thicket in the Eastern Cape. Savanna vegetation in South Africa is mostly found below 1 500masl.

The Marikana Thornveld is characterised as open *Acacia karroo* woodland, occurring in slightly undulating plans, valleys and some lowland hills. Shrubs are denser along drainage lines, in habitats protected by fire and on rocky outcrops and termitaria. Some of this vegetation type is conserved in the De Onderstepoort Nature Reserve and the Magaliesberg Nature Area. The vegetation type is considerably impacted, with 48% (2006 statistic) transformed mainly by cultivation and urban or built-up areas (as is the case for the project site) (Mucina & Rutherford, 2006).

As the project site has historically been disturbed, there are no remnants of the original Marikana Thornveld vegetation present onsite.

Fauna

Due to the disturbed nature of the project site, its suitability in terms of habitat provision is limited. It is therefore not expected for many fauna species to be present. It is furthermore not expected for any endangered or threatened fauna species to reside at the project site. The site is not situated within any of the Important Bird and Biodiversity Areas (IBAs).

Wetlands, watercourses and groundwater

According to the SANBI Biodiversity GIS Map Viewer, there are no watercourses or wetlands on the project site. The closest watercourse/wetland is ±3.3km to the north-west of the project site, as shown in *Figure 4* below. The site is situated within the A23E quaternary catchment, the Crocodile (West) and Marico Water Management Area (WMA) and specifically the Apies/Pienaars Sub Water Management Area (Sub-WMA) (SANBI, 2017).

The aquifers below the site are classified as minor aquifers (DWA, 2012) and specifically d3 intergranular and fractured aquifers, with borehole yields of between 0.5 and 2.0 litres per second (Geohydrological Map Sheet 2526: Johannesburg 1:500 000).

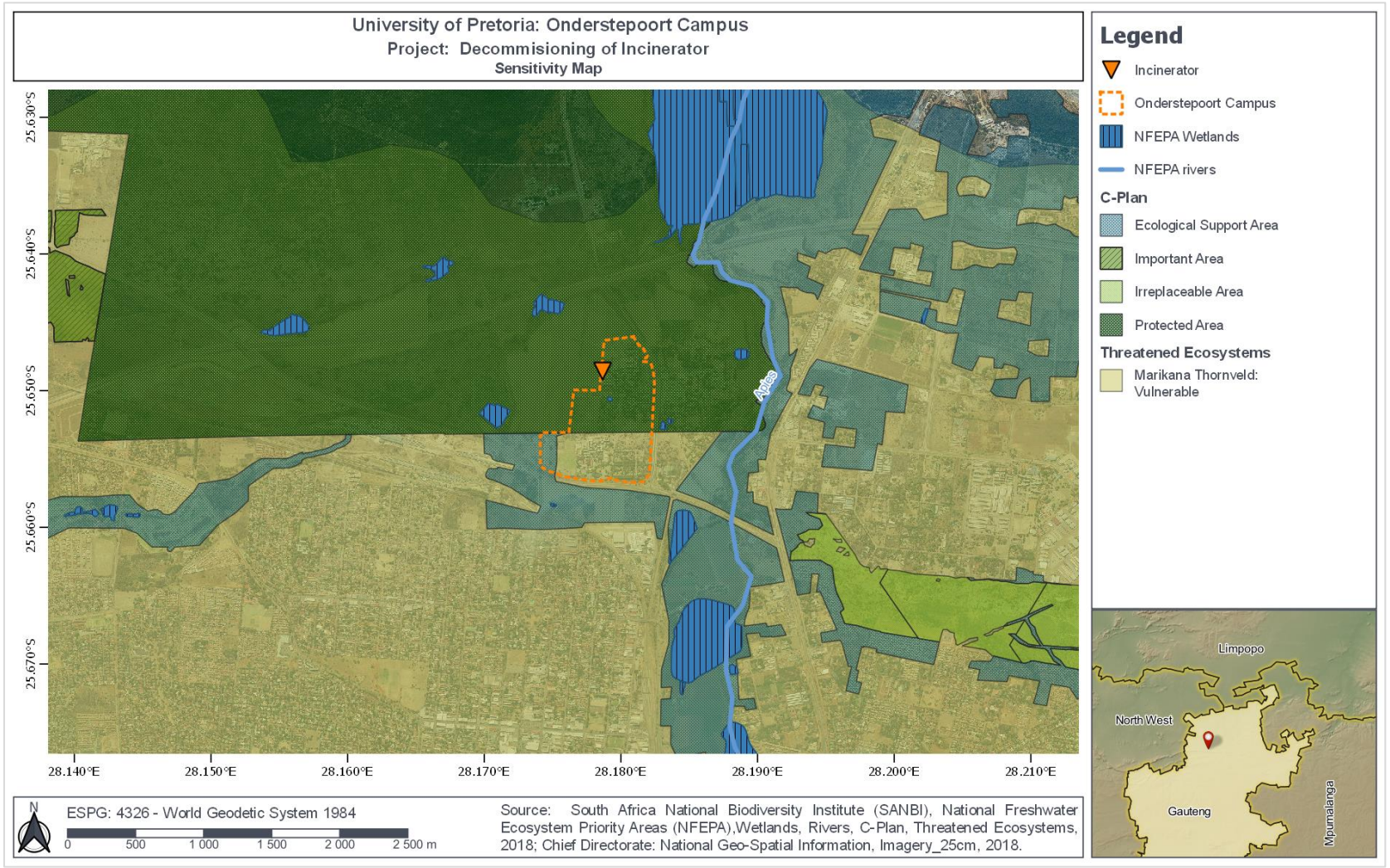


Figure 4: High level sensitivity map of the project site and surrounding areas, including hydrology of the area

8.3.4 Social

The project site is situated within the City of Tshwane Metropolitan Municipality. According to the 2011 Census, the municipality had a population of 2 921 488 people and 911 536 households (3.2 persons per household). The age structure of the City of Tshwane Metropolitan Municipality was as follows:

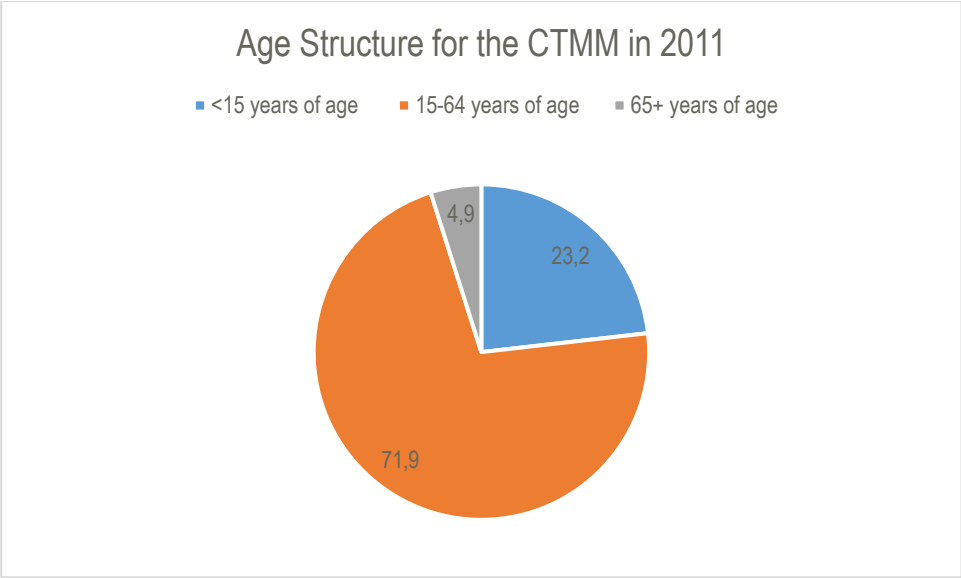


Figure 5: Age structure of the City of Tshwane Metropolitan Municipality (2011)

The official unemployment rate was 24.4% and the youth unemployment rate (15-34 years of age) was 32.6%. The population growth rate was 3.1% between 2001 and 2011. The dependency ratio was 39 persons per 100 persons and there were 99 men per 100 women in 2011 (Statistics South Africa, 2011).

8.3.5 Economic

The City of Tshwane Metropolitan Municipality covers an area of 6 260 km² and is the result of an amalgamation of the previous City of Tshwane (established in December 2000) and the three Metsweding Municipalities (Kungwini Local Municipality, Nokeng tsa Temane Local Municipality and Metsweding District Municipality) (City of Tshwane, 2012).

The project site lies within Region 2 of the City of Tshwane. In this Region, there are limited economic activities and most employment opportunities are in the inner city (city centre). The Region includes the Babelegi industrial area as well as other economic sectors, such as retail, mining, research, commerce, logistics and agriculture. These sectors contribute towards job creation and the Municipality's GDP. The region has a number of prominent land uses of strategic significance for the local and wider urban environment of the City of Tshwane, as well as on an international level. These include the Wonderboom Airport, the Onderstepoort Veterinary Research Institute, Veterinary training – University of Pretoria, Onderstepoort Biological Products, Dinokeng/Big Five Reserve, Tswaing Crater and the Zone of Choice (City of Tshwane, 2018).

8.3.6 Archaeological and Cultural Heritage

It is not expected for the proposed project to have an impact on the archaeological or cultural heritage of the area. The site is in a completely disturbed state and the Onderstepoort Incinerator will be dismantled and decommissioned. The brick-walled enclosure within which the incinerator is currently housed as well as its concrete floor will also be removed. No excavations deeper than what is required to remove the concrete floor will be undertaken. No foundations will be dug, and it is therefore expected that the bedrock below the site will not be disturbed.

The South African Heritage Resources Agency (SAHRA) has, however, been notified of the proposed project as part of the general public participation process, seeing as SAHRA is considered to be an Interested and Affected Party of the proposed project. Any feedback from SAHRA will be considered and acted upon accordingly.

8.3.7 Palaeontological

According to the South African Heritage Resources Agency's Palaeontological (Fossil) Sensitivity Map, the site has an *Insignificant/Zero* sensitivity. No palaeontological studies are required (https://sahris.sahra.org.za/map/palaeo).

8.4 Impacts and risks identified for each alternative

The following impacts and risks have been identified for the preferred alternative:

8.4.1 Planning and Design Phase

Environment in general:

- Ineffective planning for the proposed decommissioning of the Onderstepoort Incinerator leading to environmental impacts during the decommissioning and post-decommissioning phases.

8.4.2 Pre-construction Phase

Not applicable. The proposed decommissioning project does not include any pre-construction activities and no impacts or risks have therefore been identified for this phase.

8.4.3 Construction Phase

Not applicable. The proposed decommissioning project does not include any construction activities and no impacts or risks have therefore been identified for this phase.

8.4.4 Operational Phase

Not applicable. The proposed decommissioning project does not include any operational activities and no impacts or risks have therefore been identified for this phase.

8.4.5 Decommissioning and Post-decommissioning Phases

Heritage and Palaeontological Resources:

- Possible disturbance or destruction of cultural and heritage resources.
- Possible disturbance or destruction of palaeontological resources.

Fauna:

- Possible disturbance of any fauna species that may be present onsite.

Air Quality:

- Generation of dust from the dismantling and demolition activities.
- Improvement in air quality in the immediate vicinity of the site.

Soil:

- Possible soil pollution from hydrocarbon or chemical spillages or leakages from demolition contractor vehicles or equipment.
- Possible soil pollution due to inadequate management of waste generated by the dismantling and demolition activities.

- Possible soil pollution due to spillages from chemical toilets (if required).
- Possible soil pollution from the underground diesel tank that may have leaked diesel (to be addressed by TOTAL when the underground diesel tank is removed by them).

Surface and groundwater:

- Possible surface- and/or groundwater pollution from hydrocarbon or chemical spillages or leakages from demolition contractor vehicles or equipment.
- Possible contamination of stormwater runoff due to the incorrect storage of hazardous chemicals or hydrocarbon liquids.
- Possible surface- and/or groundwater pollution and/or contamination of stormwater runoff due to inadequate management of waste generated by the dismantling and demolition activities.
- Possible groundwater pollution from the underground diesel tank that may have leaked diesel (to be addressed by TOTAL when the underground diesel tank is removed by them).

Social:

- Possible risk to road users due to increase in traffic to and from the site (demolition contractor vehicles travelling to and from the site).
- Possible increase in crime due to the influx of contracted workers on site.
- Possible nuisance to adjacent landowners due to noise and dust generated during the dismantling and demolition activities.

8.4.6 Cumulative Impacts

It is not expected that the proposed decommissioning project will result in any cumulative environmental impacts.

The impacts have been fully assessed under Section 9.3 of this report.

8.5 Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives

Please refer to Sections 9.1 and 9.2 of this report.

8.6 Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected

As detailed under Section 8.4 above.

8.7 Possible mitigation measures that could be applied and level of residual risk

The following section contains possible mitigation measures that can be applied to mitigate the identified impacts. Detailed mitigation measures have also been included in the Environmental Management Programme (EMPr) that forms part of this Basic Assessment Report.

8.7.1 Planning and Design Phase

Environment in general:

Impact: Ineffective planning for the proposed decommissioning of the Onderstepoort Incinerator leading to environmental impacts during the decommissioning and post-decommissioning phases.
Residual risk: None anticipated.

Possible mitigation measures:

- The decommissioning contractor must be provided with a copy of the Waste Management Licence and Environmental Management Programme prior to commencing work on site. These documents must also form part of tender and contract documents for the decommissioning appointment, in order to ensure that the appointed contractor is aware of the environmental requirements to be implemented during the decommissioning phase.
- The applicant or decommissioning contractor must ensure that all employees attend Environmental Awareness Training (the Environmental Awareness Plan that is contained in the EMPr for this project) prior to the decommissioning activities commencing. Proof of training must be kept on record by the applicant.
- The decommissioning contractor must determine what Personal Protective Equipment (PPE) will be required for workers during the decommissioning activities and the relevant PPE must be provided to workers.
- Ways to cordon off or demarcate the decommissioning area should be identified and implemented prior to decommissioning activities commencing. This is to ensure that access to the area is restricted to workers involved in the decommissioning activities and can include the erection of danger tape or a temporary fence or screen. Planning should also be undertaken for safety signage to be displayed at the decommissioning area. This should be implemented before the decommissioning activities commence. Signage indicating that the site is a "Demolition Site", signage indicating the risks associated with the site, as well as emergency numbers must be displayed.
- The decommissioning contractor must determine the firefighting equipment requirements for the decommissioning area and the relevant equipment must be present onsite before the decommissioning activities commence.
- The applicant must ensure that the appointed decommissioning contractor is aware of the requirements for Safe Disposal Certificates to be obtained and provided to the applicant for all decommissioning waste that will be removed from the Onderstepoort Complex and disposed to landfill.
- The applicant must ensure that the appointed decommissioning contractor is aware of the requirements for Waste Manifest Documents to be completed and provided to the applicant for all hazardous decommissioning waste that will be removed from the Onderstepoort Complex.

8.7.2 Pre-construction Phase

Not applicable.

8.7.3 Construction Phase

Not applicable.

8.7.4 Operational Phase

Not applicable.

8.7.5 Decommissioning and Post-decommissioning Phases

Heritage and Palaeontological Resources:

Impact: Possible disturbance or destruction of cultural and heritage resources.
Residual risk: None anticipated.
Possible mitigation measures:

- Should any cultural or heritage resources, sites, features or objects be exposed during the decommissioning activities, all activities in the area must be stopped and a heritage specialist must be contacted to investigate the site and recommend the way forward. SAHRA should also be contacted.

Impact: Possible disturbance or destruction of palaeontological resources.
Residual risk: None anticipated.
Possible mitigation measures:

- Should any palaeontological resources be exposed during the decommissioning activities, all activities in the area must be stopped and a heritage specialist must be contacted to investigate the site and recommend the way forward. SAHRA should also be contacted.

Fauna:
Impact: Possible disturbance of any fauna species that may be present onsite.
Residual risk: None anticipated.
Possible mitigation measures:
- No fauna species may be killed by contractors working onsite.
- Should snakes be encountered, they should be relocated safely.

Air Quality:
Impact: Generation of dust from the dismantling and demolition activities.
Residual risk: None anticipated.
Possible mitigation measures:
- Decommissioning activities that will generate the most dust should be limited to days with low wind speeds, as far as possible.

Impact: Improvement in air quality in the immediate vicinity of the site.
Residual risk: Not applicable as this is a positive impact.
Possible mitigation measures: Positive impact. No mitigation measures are therefore required.

Soil:
Impact: Possible soil pollution from hydrocarbon or chemical spillages or leakages from demolition contractor vehicles or equipment.
Residual risk: None anticipated.
Possible mitigation measures:
- Any hydrocarbon or chemical spillages or leakages must immediately be cleaned and disposed as hazardous waste.
- Any leaking contractor vehicles should be repaired by the contractor and a drip tray should be placed beneath the leakage to contain the spillage.
- Chemicals and hydrocarbon liquids, such as oils, must be kept on impermeable surfaces (e.g., concreted areas).
- A spill kit must be available onsite to clean any hydrocarbon or chemical spillages or leakages.

Impact: Possible soil pollution due to inadequate management of waste generated by the dismantling and demolition activities.
Residual risk: None anticipated.
Possible mitigation measures:
- Refuse bins/containers should be provided for domestic waste, such as food waste.
- Waste must be managed according to its hazard classification (general vs hazardous waste).
- General and hazardous waste streams must not be mixed.
- Waste generated during the decommissioning activities must be stored in designated areas and/or containers.
- Waste destined for re-use/re-cycling should be stored separately from waste destined for disposal to landfill.
- Waste may only be removed from site to adequately licensed waste management facilities for re-use, recycling or disposal, according to the Waste Type of each waste stream. No dumping of waste is permitted.
- Safe Disposal Certificates must be obtained for all waste that is disposed to landfill and these records must be kept on file by the applicant for a period of at least 5 years.

- Waste Manifest Documents must be obtained for all hazardous waste that is removed from the site and these records must be kept on file by the applicant for a period of at least 5 years.
- Littering shall not be permitted onsite.
- The City of Tshwane Waste Management By-Law must be adhered to.

Impact: Possible soil pollution due to spillages from chemical toilets (if required).
Residual risk: None anticipated.
Possible mitigation measures:

- Should chemical toilets be required during the proposed decommissioning, the toilet(s) should be placed on impermeable surface (e.g., a concreted area).
- The chemical toilet(s) should be serviced/cleaned regularly.
- Any runoff of sewage from the chemical toilet(s) must immediately be contained and cleaned.

Impact: Possible soil pollution from the underground diesel tank that may have leaked diesel (to be addressed by TOTAL when the underground diesel tank is removed by them).
Residual risk: None anticipated.
Possible mitigation measures:

- The underground diesel tank is the property of TOTAL and is leased by the University of Pretoria. TOTAL will therefore be responsible for removal of the diesel tank that is connected to the Onderstepoort Incinerator. The applicant must request TOTAL to remove the diesel tank once this Waste Management Licence application process has been completed.
- The applicant must ensure that TOTAL determines whether the underground diesel tank has caused any contamination, should the tank perhaps have leaked diesel into the environment surrounding the tank.
- The applicant must ensure that, should land contamination be present at the underground diesel tank, TOTAL contacts the National Department of Environment, Forestry and Fisheries Directorate: Land remediation to confirm whether a Remediation Order is required before remediation of the contamination can be commenced with.
- The applicant must ensure that, should a Remediation Order be required, TOTAL obtains the required Remediation Order, and that the required remediation of the contamination is completed by TOTAL.
- The applicant must ensure that TOTAL removes the diesel tank in its entirety subsequent to the above-listed matters having been addressed and that a final report is received from TOTAL confirming that any contamination has been completely remediated and that the diesel tank has been removed and decommissioned.

Surface and groundwater:
Impact: Possible surface- and/or groundwater pollution from hydrocarbon or chemical spillages or leakages from demolition contractor vehicles or equipment.
Residual risk: None anticipated.
Possible mitigation measures:

- Any hydrocarbon or chemical spillages or leakages must immediately be cleaned and disposed as hazardous waste.
- Any leaking contractor vehicles should be repaired by the contractor and a drip tray should be placed beneath the leakage to contain the spillage.
- Chemicals and hydrocarbon liquids, such as oils, must be kept on impermeable surfaces (e.g., concreted areas).
- A spill kit must be available onsite to clean any hydrocarbon or chemical spillages or leakages.

Impact: Possible contamination of stormwater runoff due to the incorrect storage of hazardous chemicals or hydrocarbon liquids.
Residual risk: None anticipated.
Possible mitigation measures:

- Hazardous chemicals and hydrocarbon liquids, such as oils, must be kept on impermeable surfaces (e.g., concreted areas), preferably in a bunded container or drip tray and in a roofed area where rainwater cannot come into contact with the stored substances.
- Any hydrocarbon or chemical spillages or leakages must immediately be cleaned, and the material disposed as hazardous waste.
- Any runoff of contaminated stormwater should be contained, the area cleaned, and the contaminated material disposed as hazardous waste.
- A spill kit must be available onsite to clean any hydrocarbon or chemical spillages or leakages.
- A dedicated washing area/container, such as a plastic drum, must be available for the cleaning of equipment and/or machinery. The contaminated wash water must be disposed as hazardous waste.

Impact: Possible surface- and/or groundwater pollution and/or contamination of stormwater runoff due to inadequate management of waste generated by the dismantling and demolition activities.
Residual risk: None anticipated.
Possible mitigation measures:

- Refuse bins/containers should be provided for domestic waste, such as food waste.
- Waste must be managed according to its hazard classification (general vs hazardous waste).
- General and hazardous waste streams must not be mixed.
- Waste generated during the decommissioning activities must be stored in designated areas and/or containers.
- Waste destined for re-use/re-cycling should be stored separately from waste destined for disposal to landfill.
- Waste may only be removed from site to adequately licensed waste management facilities for re-use, recycling or disposal, according to the Waste Type of each waste stream. No dumping of waste is permitted.
- Safe Disposal Certificates must be obtained for all waste that is disposed to landfill and these records must be kept on file by the applicant for a period of at least 5 years.
- Waste Manifest Documents must be obtained for all hazardous waste that is removed from the site and these records must be kept on file by the applicant for a period of at least 5 years.
- Littering shall not be permitted onsite.
- The City of Tshwane Waste Management By-Law must be adhered to.

Impact: Possible groundwater pollution from the underground diesel tank that may have leaked diesel (to be addressed by TOTAL when the underground diesel tank is removed by them).
Residual risk: None anticipated.
Possible mitigation measures:

- The underground diesel tank is the property of TOTAL and is leased by the University of Pretoria. TOTAL will therefore be responsible for removal of the diesel tank that is connected to the Onderstepoort Incinerator. The applicant must request TOTAL to remove the diesel tank once this Waste Management Licence application process has been completed.
- The applicant must ensure that TOTAL determines whether the underground diesel tank has caused any contamination, should the tank perhaps have leaked diesel into the environment surrounding the tank.
- The applicant must ensure that, should land contamination be present at the underground diesel tank, TOTAL contacts the National Department of Environment, Forestry and Fisheries Directorate: Land remediation to confirm whether a Remediation Order is required before remediation of the contamination can be commenced with.
- The applicant must ensure that, should a Remediation Order be required, TOTAL obtains the required Remediation Order, and that the required remediation of the contamination is completed by TOTAL.
- The applicant must ensure that TOTAL removes the diesel tank in its entirety subsequent to the above-listed matters having been addressed and that a final report is received from TOTAL confirming that any contamination has been completely remediated and that the diesel tank has been removed and decommissioned.

Social:

Impact: Possible nuisance to adjacent landowners due to noise and dust generated during the dismantling and demolition activities.

Residual risk: None anticipated.

Possible mitigation measures:

- Decommissioning activities that will generate the most dust should be limited to days with low wind speeds, as far as possible.
- Decommissioning activities that will generate the most noise should be limited to weekdays, as far as possible.
- Vehicles must not be left idling and machinery/equipment must not be left running unnecessarily.

Impact: Possible risk to road users due to increase in traffic to and from the site (demolition contractor vehicles travelling to and from the site).

Residual risk: None anticipated.

Possible mitigation measures:

- All loads (demolished material) must be securely fastened before being transported off-site.
- Contractor vehicles must be roadworthy and adhere to tonnage limitations.

Impact: Possible increase in crime due to the influx of contracted workers on site.

Residual risk: None anticipated.

Possible mitigation measures:

- Access control will be implemented at the applicant's security station at the entrance to the Onderstepoort Complex.
- Formal appointment of the decommissioning contractor should be undertaken.

8.8 Outcome of the site selection matrix

The outcome of the site selection matrix was discussed under Section 8.1 of this report.

8.9 Motivation for not considering alternatives

The motivation for not considering certain alternatives was discussed under Section 8.1 of this report.

8.10 Concluding statement

The preferred alternative is the proposed project (the Decommissioning of the University of Pretoria's Onderstepoort Incinerator) and the preferred location for the project is the project property, as detailed under Section 4 of this report.

9. THE PROCESS UNDERTAKEN TO IDENTIFY, ASSESS AND RANK THE IMPACTS THAT THE ACTIVITY WILL IMPOSE ON THE PREFERRED LOCATION THROUGH THE LIFE OF THE ACTIVITY

According to the Environmental Impact Assessment Regulations, 2014, as amended in 2017, the objective of the basic environmental impact assessment process is to, through a consultative process-

(a) determine the policy and legislative context within which the proposed activity is located and how the proposed activity complies with and responds to the policy and legislative context;

(b) identify the alternatives considered, including the activity, location, and technology alternatives;

(c) describe the need and desirability of the proposed alternatives;

(d) through the undertaking of an impact and risk assessment process, inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine—

(i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and

(ii) the degree to which these impacts—

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and

(cc) can be avoided, managed or mitigated; and

(e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—

(i) identify and motivate a preferred site, activity and technology alternative;

(ii) identify suitable measures to avoid, manage or mitigate identified impacts; and

(iii) identify residual risks that need to be managed and monitored.

9.1 Description of all environmental issues and risks that were identified during the Environmental Impact Assessment process – process undertaken

Elements of the proposed project that can interact with the environment are deemed to be environmental aspects. These have been identified during the Environmental Impact Assessment process, for each phase of the proposed project. Thereafter, the potential impacts that can result from the project's aspects have been identified. The impacts, whether positive or negative, are defined as any change to the environment resulting from the identified environmental aspects.

All environmental issues and risks that were identified as part of this Basic Environmental Impact Assessment process have been listed under Section 8.4 of this report. The aspects can be seen in the tables under Section 9.3 of this report.

9.2 Assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures – process undertaken

Assessing the significance of the potential impacts has been conducted using the parameters listed in the table below. Direct, indirect and cumulative impacts have been assessed.

Table 5: Impact significance rating

Nature of the impact	This will include a qualitative description of what caused the impact and how it will affect the environment.
Extent of the impact	The size (physical/geographical) that will be affected by the impact: • Onsite impact: Weighting value **1**: The impact is confined to the project site/property • Local impact: Weighting value **2**: The impact is confined to the project site/property and a 10km radius around the project site/property • Regional impact: Weighting value **3**: The impact extends further than a 10km radius around the project site/property
Duration of the impact	The length of time over which the impact will persist: • Short term impact: Weighting value **1**: The impact will persist for up to one year • Medium term impact: Weighting value **2**: The impact will persist for longer than one year, but shorter than five years • Long term impact: Weighting value **3**: The impact will persist for longer than five years
Magnitude of the impact	The intensity of the impact on the environment: • Low impact: Weighting value **1**: Natural processes continue, albeit in an altered manner • Medium impact: Weighting value **2**: Natural processes cease temporarily • High impact: Weighting value **3**: Natural processes cease indefinitely
Probability of the impact occurring	How likely it is that the impact will happen: • Improbable: Weighting value **1**: It is unlikely that the impact will occur • Probable: Weighting value **2**: There is a chance that the impact will occur • Definite: Weighting value **3**: The impact will most certainly occur
Status of the impact	A qualitative description of the impact: • Whether the impact is **positive** or **negative** in nature • The degree to which the impact can be reversed • The degree to which the impact can be mitigated • The degree to which the impact may cause irreplaceable loss of resources
Significance of the impact	This will be calculated using the formula below: **Significance** = (Extent + Duration + Magnitude) x Probability The significance of each impact will be divided into the following ratings, according to the results of the Significance calculation given above: • Low Impact: Significance value: 1-9 • Medium Impact: Significance value: 10-18 • High Impact: Significance value: 19-27

The aspects to be assessed by specialists have been listed under Section 9.4. (where applicable) and will be undertaken according to the same methodology as provided in *Table 5* above.

9.3 Assessment of each identified potentially significant impact and risk, including cumulative impacts; the nature, significance and consequences of the impact and risk; the extent and duration of the impact and risk; the probability of the impact and risk occurring; the degree to which the impact and risk can be reversed; the degree to which the impact and risk may cause irreplaceable loss of resources; and the degree to which the impact and risk can be avoided, managed or mitigated

The following aspects have been assessed as part of the Basic Environmental Impact Assessment process:

- Environment in general;
- Heritage and Palaeontological resources;
- Fauna;
- Air quality;
- Soil;
- Surface- and groundwater; and
- Social.

The following tables discuss the impacts and risks identified for each alternative, including the nature, significance, consequences, extent, duration and probability of the impacts, the degree to which the impacts can be reversed; may cause irreplaceable loss of resources; and can be avoided, managed or mitigated.

9.3.1 Preferred Alternative – Decommissioning of the Onderstepoort Incinerator

9.3.1.1 Planning and Design Phase

Table 6: Impact Assessment: Planning and Design Phase

Aspect and nature of the potential impacts	Impact Significance rating before mitigation	Impact Significance rating after mitigation	The status of the impact	Risk of the impact and mitigation not being implemented
Environment in general				
Ineffective planning for the proposed decommissioning of the Onderstepoort Incinerator leading to environmental impacts during the decommissioning and post-decommissioning phases.	Extent of impact: 1 Duration of impact: 2 Magnitude of impact: 2 Probability of impact: 2 Significance of impact: **10 - Medium**	Extent of impact: 1 Duration of impact: 2 Magnitude of impact: 1 Probability of impact: 1 Significance of impact: **4 – Low**	Nature of impact: Negative The degree to which the impact can be reversed: High The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: Low	Low

9.3.1.2 Pre-Construction Phase

Not applicable. The proposed decommissioning project does not include any pre-construction activities and no impacts or risks have therefore been identified for this phase.

9.3.1.3 Construction Phase

Not applicable. The proposed decommissioning project does not include any construction activities and no impacts or risks have therefore been identified for this phase.

9.3.1.4 Operational Phase

Not applicable. The proposed decommissioning project does not include any operational activities and no impacts or risks have therefore been identified for this phase.

9.3.1.5 Decommissioning and Post-decommissioning Phases

Table 7: Impact Assessment: Decommissioning and Post-decommissioning Phases

Aspect and nature of the potential impacts	Impact Significance rating before mitigation	Impact Significance rating after mitigation	The status of the impact	Risk of the impact and mitigation not being implemented
Heritage and Palaeontological Resources				
Possible disturbance or destruction of cultural and heritage resources.	Extent of impact: 1 Duration of impact: 3 Magnitude of impact: 2 Probability of impact: 1 Significance of impact: **6 - Low**	Extent of impact: 1 Duration of impact: 3 Magnitude of impact: 1 Probability of impact: 1 Significance of impact: **5 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Low The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: High	Low
Possible disturbance or destruction of palaeontological resources.	Extent of impact: 1 Duration of impact: 3 Magnitude of impact: 2 Probability of impact: 1 Significance of impact: **6 - Low**	Extent of impact: 1 Duration of impact: 3 Magnitude of impact: 1 Probability of impact: 1 Significance of impact: **5 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Low The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: High	Low
Fauna				
Possible disturbance of any fauna species that may be present onsite.	Extent of impact: 1 Duration of impact: 1 Magnitude of impact: 1 Probability of impact: 2 Significance of impact: **6 - Low**	Extent of impact: 1 Duration of impact: 1 Magnitude of impact: 1 Probability of impact: 1 Significance of impact: **3 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Medium The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: Low	Low
Air Quality				
Generation of dust from the dismantling and demolition activities.	Extent of impact: 2 Duration of impact: 1 Magnitude of impact: 2 Probability of impact: 2 Significance of impact: **10 - Medium**	Extent of impact: 2 Duration of impact: 1 Magnitude of impact: 2 Probability of impact: 1 Significance of impact: **5 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: High The degree to which the impact can be mitigated: Medium The degree to which the impact may cause irreplaceable loss of resources: Low	Low

Aspect and nature of the potential impacts	Impact Significance rating before mitigation	Impact Significance rating after mitigation	The status of the impact	Risk of the impact and mitigation not being implemented
Improvement in air quality in the immediate vicinity of the site.	Not applicable (positive impact)	Not applicable (positive impact)	Nature of impact: Positive The degree to which the impact can be reversed: Not applicable (positive impact) The degree to which the impact can be mitigated: Not applicable (positive impact) The degree to which the impact may cause irreplaceable loss of resources: Not applicable (positive impact)	Not applicable (positive impact)
Soil				
Possible soil pollution from hydrocarbon or chemical spillages or leakages from demolition contractor vehicles or equipment.	Extent of impact: 2 Duration of impact: 2 Magnitude of impact: 2 Probability of impact: 2 Significance of impact: **12 - Medium**	Extent of impact: 2 Duration of impact: 2 Magnitude of impact: 2 Probability of impact: 1 Significance of impact: **6 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Medium The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: Medium	Low-Medium
Possible soil pollution due to inadequate management of waste generated by the dismantling and demolition activities.	Extent of impact: 2 Duration of impact: 2 Magnitude of impact: 3 Probability of impact: 2 Significance of impact: **14 - Medium**	Extent of impact: 2 Duration of impact: 2 Magnitude of impact: 2 Probability of impact: 1 Significance of impact: **6 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Medium The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: Medium	Low
Possible soil pollution due to spillages from chemical toilets (if required).	Extent of impact: 2 Duration of impact: 1 Magnitude of impact: 2 Probability of impact: 2 Significance of impact: **10 - Medium**	Extent of impact: 1 Duration of impact: 1 Magnitude of impact: 2 Probability of impact: 1 Significance of impact: **4 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Medium The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: Medium	Low
Possible soil pollution from the underground diesel tank that may have leaked diesel (to be addressed by TOTAL when the underground diesel tank is removed by them).	Extent of impact: 2 Duration of impact: 3 Magnitude of impact: 3 Probability of impact: 2 Significance of impact: **16 - Medium**	Extent of impact: 1 Duration of impact: 2 Magnitude of impact: 2 Probability of impact: 2 Significance of impact: **10 - Medium**	Nature of impact: Negative The degree to which the impact can be reversed: Medium The degree to which the impact can be mitigated: Medium The degree to which the impact may cause irreplaceable loss of resources: Medium/High	Low-Medium
Surface- and groundwater				
Possible surface- and/or groundwater pollution from hydrocarbon or chemical spillages or leakages from demolition contractor vehicles or equipment.	Extent of impact: 2 Duration of impact: 2 Magnitude of impact: 2 Probability of impact: 2 Significance of impact: **12 - Medium**	Extent of impact: 2 Duration of impact: 2 Magnitude of impact: 2 Probability of impact: 1 Significance of impact: **6 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Medium The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: Medium	Low-Medium
Possible contamination of stormwater runoff due to the incorrect storage of hazardous chemicals or hydrocarbon liquids.	Extent of impact: 2 Duration of impact: 2 Magnitude of impact: 2 Probability of impact: 2 Significance of impact: **12 - Medium**	Extent of impact: 1 Duration of impact: 2 Magnitude of impact: 2 Probability of impact: 1 Significance of impact: **5 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Medium The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: Medium	Low-Medium
Possible surface- and/or groundwater pollution and/or contamination of stormwater runoff due to inadequate management of waste generated by the dismantling and demolition activities.	Extent of impact: 2 Duration of impact: 2 Magnitude of impact: 3 Probability of impact: 2 Significance of impact: **14 - Medium**	Extent of impact: 2 Duration of impact: 2 Magnitude of impact: 2 Probability of impact: 1 Significance of impact: **6 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Medium The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: Medium	Low
Possible groundwater pollution from the underground diesel tank that may have leaked diesel (to be addressed by TOTAL when the underground diesel tank is removed by them).	Extent of impact: 3 Duration of impact: 3 Magnitude of impact: 3 Probability of impact: 2	Extent of impact: 2 Duration of impact: 3 Magnitude of impact: 2 Probability of impact: 2	Nature of impact: Negative The degree to which the impact can be reversed: Low The degree to which the impact can be mitigated: Medium	Low-Medium

Aspect and nature of the potential impacts	Impact Significance rating before mitigation	Impact Significance rating after mitigation	The status of the impact	Risk of the impact and mitigation not being implemented
	Significance of impact: **18 - Medium**	Significance of impact: **14 - Medium**	The degree to which the impact may cause irreplaceable loss of resources: Medium/High	
Social				
Possible risk to road users due to increase in traffic to and from the site (demolition contractor vehicles travelling to and from the site).	Extent of impact: 3 Duration of impact: 1 Magnitude of impact: 1 Probability of impact: 2 Significance of impact: **10 - Medium**	Extent of impact: 3 Duration of impact: 1 Magnitude of impact: 1 Probability of impact: 1 Significance of impact: **5 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Medium The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: Medium	Low
Possible increase in crime due to the influx of contracted workers on site.	Extent of impact: 1 Duration of impact: 1 Magnitude of impact: 2 Probability of impact: 2 Significance of impact: **8 - Low**	Extent of impact: 1 Duration of impact: 1 Magnitude of impact: 1 Probability of impact: 1 Significance of impact: **3 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Medium The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: Medium	Low
Possible nuisance to adjacent landowners due to noise and dust generated during the dismantling and demolition activities.	Extent of impact: 2 Duration of impact: 1 Magnitude of impact: 2 Probability of impact: 2 Significance of impact: **10 - Medium**	Extent of impact: 2 Duration of impact: 1 Magnitude of impact: 2 Probability of impact: 1 Significance of impact: **5 - Low**	Nature of impact: Negative The degree to which the impact can be reversed: Low-Medium The degree to which the impact can be mitigated: High The degree to which the impact may cause irreplaceable loss of resources: Medium	Low

9.4 A summary of the findings and impact management measures identified in any specialist reports complying with Appendix 6 of the EIA Regulations, 2014, and an indication as to how these findings and recommendations have been included in this Basic Assessment Report

No specialist reports have been deemed necessary for this Basic Environmental Impact Assessment process. There are therefore no findings and impact management measures that have been identified from specialist reports. No findings or recommendations from specialist reports have therefore been included in this Basic Assessment Report.

Refer to Annexure E for the Site Sensitivity Verification Report for this project.

10. ENVIRONMENTAL IMPACT STATEMENT

10.1 Summary of the key findings of the Environmental Impact Assessment

The summary of the key findings of this Basic Environmental Impact Assessment process is as follows:

- The project site (the preferred location) is in a completely disturbed state;
- The proposed project will result in a positive environmental- and social impact as atmospheric emissions from an incinerator with outdated technology will be eliminated;
- In this report, the potential environmental impacts associated with the proposed project have been identified and assessed in terms of their significance. The most significant impacts relate to possible soil-, surface water and/or groundwater pollution and nuisance conditions due to the generation of dust and noise during the decommissioning activities; and
- The majority of the impacts are rated as having a “Medium” significance before mitigation, and a “Low” significance after mitigation.

10.2 Environmental sensitivity overlay map

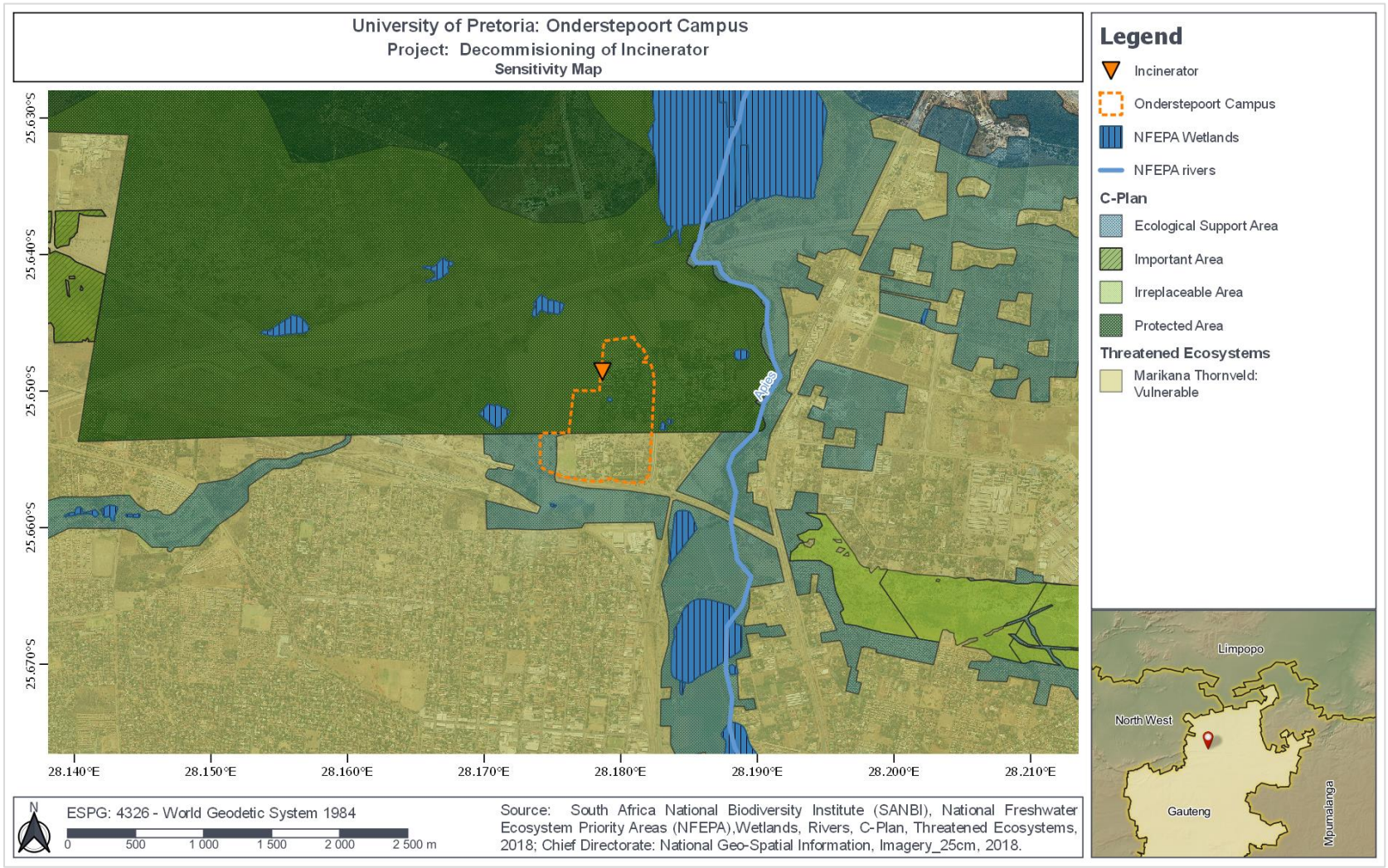


Figure 6: Sensitivity overlay map

10.3 Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives

The following main positive and potential negative impacts and risks have been identified for the proposed project:

Positive impacts

- Improvement in air quality in the immediate vicinity of the site.

Negative impacts

- Possible disturbance or destruction of cultural-, heritage- and/or palaeontological resources;
- Possible disturbance of any fauna species that may be present onsite;
- Generation of dust from the dismantling and demolition activities;
- Possible soil and/or surface- and groundwater pollution from hydrocarbon or chemical spillages or leakages from demolition contractor vehicles or equipment or the inadequate management of waste generated by the dismantling and demolition activities;
- Possible soil pollution due to spillages from chemical toilets (if required);
- Possible contamination of stormwater runoff due to the incorrect storage of hazardous chemicals or hydrocarbon liquids;
- Possible risk to road users due to increase in traffic to and from the site (demolition contractor vehicles travelling to and from the site);
- Possible increase in crime due to the influx of contracted workers on site; and
- Possible nuisance to adjacent landowners due to noise and dust generated during the dismantling and demolition activities.

10.4 Impact management measures from specialist reports and the recording of the proposed impact management outcomes for the development, for inclusion in the EMPr

No specialist reports have been deemed necessary for this Basic Environmental Impact Assessment process. There are therefore no impact management measures from specialist reports or the recording of proposed impact management outcomes for the project (from specialist reports), for inclusion in the Environmental Management Programme.

10.5 Aspects which were conditional to the findings of the assessment either by the EAP or specialists and which are to be included as conditions of authorisation

The following conditions must be included in the Waste Management Licence, should the proposed project be authorised:

- The mitigation measures contained in the Environmental Management Programme must be implemented during each developmental phase of the proposed project; and
- An independent Environmental Control Officer must be appointed to audit compliance to the Environmental Management Programme during the decommissioning phase of the proposed project.

10.6 Description of assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures

The following assumptions were made during this Basic Environmental Impact Assessment process:

- That the project information, as provided by the applicant, is correct;
- That all research and reference sources or material is accurate and up to date;
- That the decommissioning of the incinerator will be undertaken as per the information provided by the applicant and that the underground diesel tank will be removed by TOTAL;
- That TOTAL will be responsible for any required land remediation and that they will conduct said remediation, if it is found that the underground diesel tank has leaked and caused soil contamination;
- That the dismantled and decommissioned incinerator material will be supplied to adequately licensed re-use or recycling waste management facilities, or where re-use or re-cycling is not possible, to an adequately licensed landfill site; and
- That the dismantling and decommissioning of the incinerator will be conducted according to the Environmental Management Programme for this application.

10.7 Reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation

It is EARTHnSKY Environmental's independent and reasoned opinion that the identified and assessed environmental impacts can be sufficiently mitigated and that a Waste Management Licence should therefore be issued for the proposed Decommissioning of the University of Pretoria's Onderstepoort Incinerator.

Please refer to Section 10.5 above for conditions that should be included in respect of the Waste Management Licence.

10.8 Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required, the date on which the activity will be concluded, and the post construction monitoring requirements finalised

It is requested that the Waste Management Licence be valid for a period of five (5) years.

11. ENVIRONMENTAL ASSESSMENT PRACTITIONER UNDERTAKING/ AFFIRMATION

I, Lizette Kloppers, hereby confirm the following:

- The correctness of information provided in this Basic Assessment Report;
- The inclusion of all comments and inputs from stakeholders and I&APs;
- The inclusion of inputs and recommendations from the specialist reports, where relevant; and
- Any information provided by the EAP to I&APs and any responses by the EAP to comments or inputs made by I&APs have been included in this report.

I further confirm that I have no business, financial, personal or other interest in the activity or application in respect of which I have been appointed as EAP, in terms of the National Environmental Management: Waste Act and the EIA Regulations, other than fair remuneration for work performed in connection with this application for a Waste Management Licence.

12. DETAILS OF ANY FINANCIAL PROVISION FOR THE REHABILITATION, CLOSURE, AND ONGOING POST DECOMMISSIONING MANAGEMENT OF NEGATIVE ENVIRONMENTAL IMPACTS

No financial provisioning is applicable to the proposed project.

13. SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

No specific information has been required by the Competent Authority at this stage of the application process.

14. OTHER MATTERS REQUIRED IN TERMS OF SECTION 24(4)(A) AND (B) OF NEMA

At this stage, no other matters to address have been identified or required.