Olde World Foundry

Section 24G Rectification final Impact assessment report

Locality: Hammarsdale, Kwa-Zulu Natal

Departmental Ref No: DM/S24G/0001/2016

SHANGONI
Management Services (Pty) Ltd

FINAL IMPACT ASSESSMENT REPORT

Olde World Foundry

Section 24G Rectification final

Impact assessment report

Locality: Hammarsdale, Kwa-Zulu Natal

Departmental Ref No: DM/S24G/0001/2016

September 2018

Unit C8
Block @ Nature
472 Botterklapper Street
Pretoria

Office: + 27 (0)12 807 7036
Fax: +27 (0)12 807 1014

SHANGONI
Management Services (Pty) Ltd

PROJECT DETAILS	
Department of	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs
Reference No.:	DM/S24G/0001/2016
Project Title:	Section 24G Rectification final impact assessment report
Project Number:	CSI-KZN-16-10-28
Compiled by:	Lee-Anne Fellowes SACNASP registered: 115574 
Date:	September 2018
Revision number:	01
Location:	Hammarsdale, Kwa-Zulu Natal
Technical Reviewer:	Jan Nel 

Undertaking by the EAP

I, Lee-Anne Fellowes working as an EAP at Shangoni Management Services declare that:

- All work undertaken relating to the proposed project were done as an independent consultant;
- I have the necessary expertise to conduct EIA's including the required knowledge and understanding of any guidelines or policies that are relevant to the proposed activity;
- I have undertaken all the work and associated studies in an objective manner, even if the findings of these studies were not favourable to the project proponent;
- I have no vested interest, financial or otherwise, in the proposed project or the outcome thereof, apart from remuneration for the work undertaken;
- I have no vested interest, including any conflicts of interest, in either the proposed project or the studies conducted in respect of the proposed project, other than complying with the relevant required regulations;
- I have disclosed all material information in my possession that may have the potential to influence the competent authority's decision and/or objectivity in terms of any reports, plans or documents related to the proposed project as required by the regulations.
- I have included all comments and inputs provided by the Interested and Affected Parties during the Public Participation Process in the Impact Assessment Report.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

REFERENCES

Constitution of South Africa, 1996 (Act No. 108 of 1996).

Council for Scientific and Industrial Research (CSIR) (2012), Quick Best Practice Guide to consider Air-related Human Health in your Area, CSIR.

Department of Environmental Affairs (DEAT) (2007), The 2007 National Framework for Air Quality Management in the republic of South Africa, DEAT, Pretoria.

eThekwini Municipality (April 2007), Air Quality Management Plan for eThekwini Municipality, Kwa-Zulu Natal, South Africa, NILU: OR. /2006, 82-425-[Skriv ISBN-nr], eThekwini Health and Norwegian Institute for Air Research, Kwa-Zulu Natal, South Africa.

eThekwini Municipality, Spatial Development Framework, Draft Review 2016-2017

eThekwini Municipality Integrated Development Plan 5 Year Plan: 2012/13 to 2016/17 Annual Review 2016/2017.

Government Gazette 32816, Notice 1210, National Ambient Air Quality Standards, in terms of the National Environmental Management: Air Quality Act, 2003 (Act No. 39 of 2004), Department of Environmental Affairs, 24 December 2009.

Government Gazette 37804, Regulation 533, Regulations regarding air dispersion modelling, in terms of section 53 (f) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), Department of Environmental Affairs, 11 July 2014.

Government Gazette 36904, General Notice 747, Regulations prescribing the format of the Atmospheric Impact Report, in terms of the National Environmental Management: Air Quality Act, 2003 (Act No. 39 of 2004), Department of Environmental Affairs, 11 October 2013.

National Environmental Management Act, 1998 (Act 107 of 1998).

National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004).

Shangoni Management Services - Atmospheric Impact Assessment dated June 2016.

Shangoni Management Services - Desktop geohydrological study and waste assessment, March 2017.

Wilbrink & Associates, Document No.: NS 140/16 NOISE SURVEY December 2016

DEFINITIONS

Environment

The surroundings (biophysical, social and economic) within which humans exist and that are made up of

- the land, water and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.

Environmental Aspects

Elements of an organization's activities, products or services that can interact with the environment.

Environmental Degradation

Refers to pollution, disturbance, resource depletion, loss of biodiversity, and other kinds of environmental damage; usually refers to damage occurring accidentally or intentionally as a result of human activities.

Environmental Impacts

Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services.

Environmental Impact Assessment

A study of the environmental consequences of a proposed course of action.

Environmental impact

An environmental change caused by some human act.

Land use

The various ways in which land may be employed or occupied. Planners compile, classify, study and analyse land use data for many purposes, including the identification of trends, the forecasting of space and infrastructure requirements, the provision of adequate land area for necessary types of land use, and the development or revision of comprehensive plans and land use regulations.

Pollution Prevention

Any activity that reduces or eliminates pollutants prior to recycling, treatment, control or disposal.

Public Participation Process

A process of involving the public in order to identify needs, address concerns, in order to contribute to more informed decision making relating to a proposed project, programme or development.

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.

Topography

Topography, a term in geography, refers to the "lay of the land" or the physio-geographic characteristics of land in terms of elevation, slope and orientation.

Vegetation

All of the plants growing in and characterizing a specific area or region; the combination of different plant communities found there.

Waste

As per the definition of the National Environmental Management Waste Act, Act 59 of 2008 - means any substance, whether that substance can be reduced, re-used, recycled and recovered—
(a) that is surplus, unwanted, rejected, discarded, abandoned or disposed of; 3(b) which the generator has no further use of for the purposes of production; (c) that must be treated or disposed of; or (d) that is identified as a waste by the Minister by notice in the Gazette, and includes waste generated by the mining, medical or other sector, but— (i) a by-product is not considered waste; and 3(ii) any portion of waste, once re-used, recycled and recovered, ceases to be waste.

ABBREVIATIONS

BID	-	Background Information Document
CRR	-	Comments Response Report
DWR	-	Department of Water Resources
DTI	-	Department of Trade and Industry
KZNEDTEA	-	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs
EIA	-	Environmental Impact Assessment
EAP	-	Environmental Assessment Practitioner
ECA	-	Environmental Conservation Act of 1989
EMF	-	Environmental Management Framework
EMP	-	Environmental Management Programme
GN	-	Government Notice
I&AP	-	Interested and Affected Party
IPAP	-	Industrial Policy Action Plan
IAR	-	Impact Assessment Report
NEMA	-	National Environmental Management Act, Act 107 of 1998 as amended
NFTN	-	National Foundry Technology Network
R	-	Regulation

EXECUTIVE SUMMARY

The Applicant

Olde World Foundry is a non-ferrous and ferrous foundry based in Hammarsdale, Kwa-Zulu Natal Province. The foundry specializes in sand moulding of various metals (iron, brass and bronze) and gravity die casting of aluminium.

Purpose of this document

Olde World Foundry, received a directive on the 11th of August 2016. The directive letter attached as appendix B stated the following:

- On 10 March 2016, the eThekwini Municipality issued Olde World Foundry with a Notice of Intent to Issue a Compliance Notice in terms of S31L of NEMA.
- On 08 April 2016, the Department together with officials from the eThekwini Municipality conducted a site visit to the facility.
- Based on the observations and discussions, the Department had with Olde World Foundry, it was determined that the operation commenced in 2005 without prior environmental authorisation.
- Olde World Foundry, was directed to amend the S24G application to include the relevant EIA Listed activities in terms of the 2014 Regulation, as shown in the table below:

EIA listed activity in terms of Environment Conservation Act (Act 73 of 1989)	Similar listed activity in terms of the NEMA EIA Regulations 2014
9 Schedule process listed in the Second Schedule of the Atmospheric Pollution Prevention Act, 1965 (Act No.45 of 1965)	36 Commencing of an activity, which requires an atmospheric emission license in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), excluding - (i) activities which are identified and included in Listing Notice 1 of 2014; (ii) activities which are included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; or (iii) the development of facilities or infrastructure for the treatment of effluent, wastewater or sewage where such facilities have a daily throughput capacity of 2000 cubic metres or less.

- Contain or prevent the movement of pollution or degradation of the environment;
- Eliminate any source of pollution or degradation;

- Compile an impact assessment report containing-
    - A description of the need and desirability of the activity;
    - An assessment of the nature, extent, duration and significance of the consequences for or impacts on the environment of the activity, including the cumulative effects and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity;
    - A description of mitigation measures undertaken or to be undertaken in respect of the consequences for or impacts on the environment of the activity;
    - description of the public participation process followed during the course of compiling the report, including all comments received from interested and affected parties and an indication of how issues raised have been addressed;
    - An environmental management programme.

Background description

A number of processes known for generating atmospheric emissions which have or may have a significant detrimental effect on human- and the natural environment, including health-, social-, economic-, and ecological conditions were listed in the second schedule of the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965) (APPA) and required registration in terms of Section 9 of this Act.

APPA was repealed on the 1st of April 2010, and the scheduled processes in terms of this act were replaced by a new list of activities. The new list of activities was first published in Government Gazette 33064 (GG), General Notice (GN) 248 in terms of the National Environmental Management, Air Quality Act, 2004 (Act No. 39 of 2004) (NEM: AQA) on the 31st of March 2010. This list was later amended and published in GG 37054, GN 893 in terms of NEM: AQA, on the 22nd of November 2013.

Below is a description of an activity categorised in part 3 of GN893, found to draw parallel with the operations at Olde World Foundry, that require licensing as per Section 22 of NEM: AQA:

- The production and or casting of iron, iron ores, steel or ferro-alloys, including the cleaning of castings and handling of casting mould materials (Category 4: Metallurgical Industry, Subcategory 4.10: Foundries).

In terms of Section 22 of NEM: AQA no person may conduct an activity listed on a national list anywhere in Republic or listed on a list applicable in a province anywhere in that province without a provisional Atmospheric Emission License or an Atmospheric Emission License (AEL).

Shangoni Management Services was employed to conduct an Atmospheric Impact Assessment (AIA) of Olde World Foundry's operations. The AIA will identify all sources of emissions; determine the

potential impact these sources may have on sensitive receptors; and provide recommendations on the control and management of these emissions.

This Section 24G Rectification Application is in support of the Atmospheric Impact Report (AIR), as Olde World Foundry was operating without a AIR.

Project description

Olde World Foundry produces iron-, aluminium-, brass- and bronze castings. The main operations in the production process include receiving and handling of raw materials, melting of metals, manufacturing of sand moulds, casting of metal into sand moulds, breaking of sand moulds, fettling (grinding/cleaning of castings) and dispatch of the castings.

Receiving and handling of raw materials

Raw materials used at the foundry include metallics (i.e. pig iron, cast iron scraps, aluminium, brass, bronze, etc.), additives (i.e. ferrosilicon, ferromanganese, ME85, ferrosilicon magnesium, sascarb, etc.), binders (i.e. bentonite, sodium silicate, mould paint, coal dust, CO2 gas, etc.) and fuels (i.e. Heavy Fuel Oil (HFO). The materials are delivered by trucks and bakkies to the site, handled by hand and stored inside the factory area.

Manufacturing of sand moulds

Moulds are frames used for shaping the exterior of castings. The moulds are usually prepared in two halves and then assembled to form the complete shape of the casting. Olde World Foundry prepares sand moulds by mixing sand with a sodium silicate binder/resin, compacting the mixture into steel moulding frames and pumping CO2 gas into the mould until it hardens. The moulding frame is extracted, the mould is painted and then assembled with the other half.

Melting of metals

The foundry has four furnaces that can be categorised into three types. An electric coil furnace for the melting of aluminium, two crucible/pot furnace (fuelled by HFO) for the melting of brass and bronze and aluminium and an induction furnace for the melting of iron.

Casting of metal into sand moulds

The molten metal from the furnaces is poured (using hand shanks or a ladle) into the assembled sand moulds and allowed to cool naturally overnight.

Breaking of sand moulds

The casts are broken out of the sand moulds using hammers.

Fettling

The casts are grinded and cleaned, and then stored on pallets or shelves in the dispatch area. Storage of final products does not happen regularly. The operation prioritises immediate dispatch as soon as the fettling is done.

Dispatch of castings

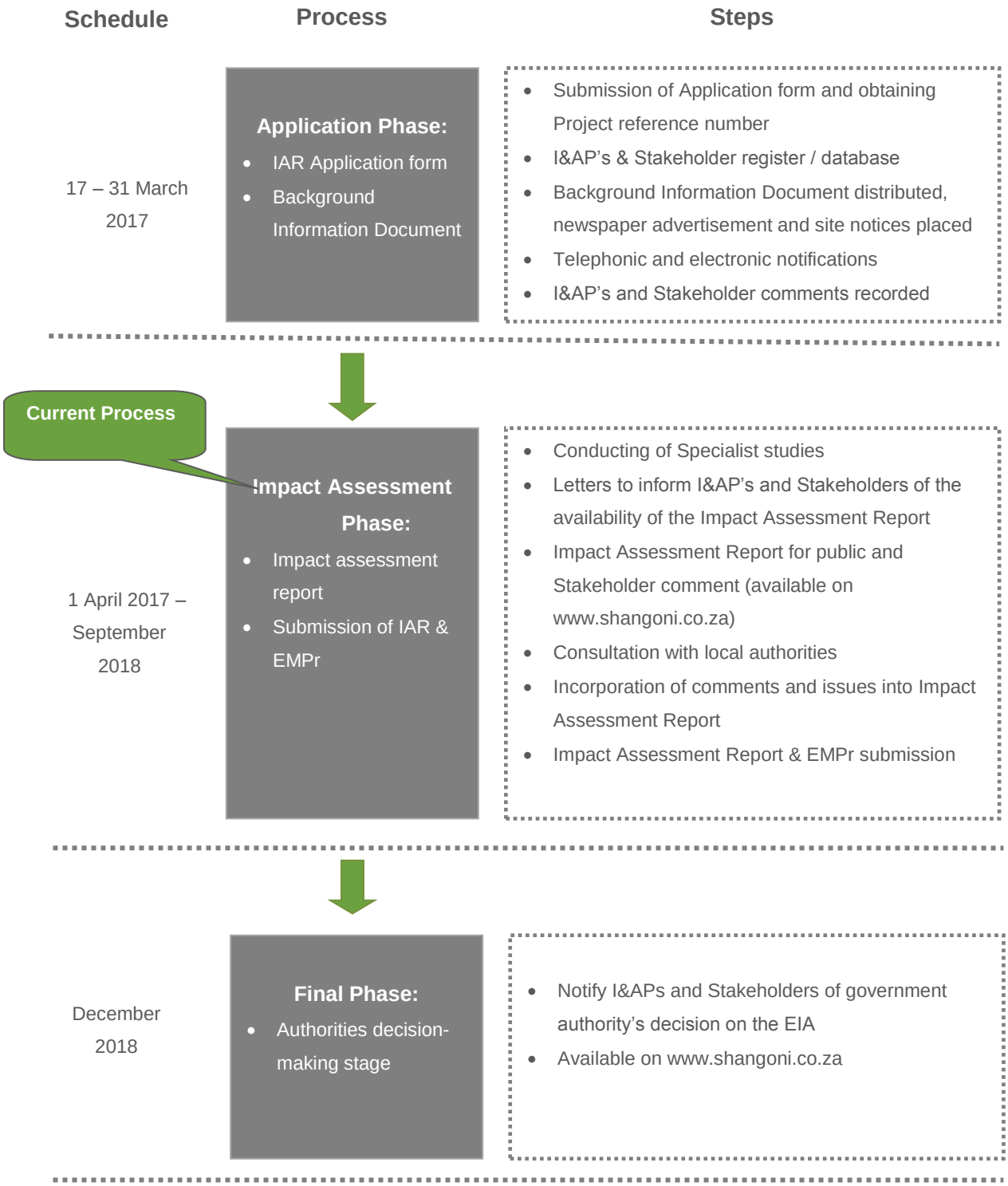
The castings are either delivered to clients or collected by clients using bakkies and/or small trucks.

Legal requirements and legislative process

As part of Olde World Foundry, listed activities defined under the National Environmental Management Act, Act 107 of 1998 (NEMA) will be conducted. To obtain the required environmental authorisations for these activities, the procedure, as prescribed in the Environmental Impact Assessment regulations of 2014 (GNR 982 of 4 December 2014) (hereafter 2014 EIA Regulations), will be followed. Relevant listed activities triggered by the proposed activities are described further in this Impact Assessment Report (refer to Part 1.3).

It is the intention of this Impact Assessment Report to provide the necessary information pertaining to the proposed activities associated with the project, as required in terms of the 2014 EIA Regulations under the NEMA. This Impact Assessment Report intends to highlight all information relevant to Olde World Foundry.

The diagram below provides a visual representation of the Section 24G Rectification approach followed in terms of NEMA and the 2014 EIA Regulations.


Schedule
Process
Steps
17 – 31 March 2017
Application Phase:
IAR Application form
Background Information Document
Submission of Application form and obtaining Project reference number
I&AP's & Stakeholder register / database
Background Information Document distributed, newspaper advertisement and site notices placed
Telephonic and electronic notifications
I&AP's and Stakeholder comments recorded
Current Process
1 April 2017 – September 2018
Impact Assessment Phase:
Impact assessment report
Submission of IAR & EMPr
Conducting of Specialist studies
Letters to inform I&AP's and Stakeholders of the availability of the Impact Assessment Report
Impact Assessment Report for public and Stakeholder comment (available on www.shangoni.co.za)
Consultation with local authorities
Incorporation of comments and issues into Impact Assessment Report
Impact Assessment Report & EMPr submission
December 2018
Final Phase:
Authorities decision-making stage
Notify I&APs and Stakeholders of government authority's decision on the EIA
Available on www.shangoni.co.za

Anticipated impacts

The activities associated with Olde World Foundry are described in full in Part 2 of this report and the impacts or potential impacts of the Olde World Foundry activities are described in Part 4. The table below provides a summary of impacts of the Olde World Foundry activities.

Table 1: Summary of Impacts identified

Potential Impact	Environmental Significance Pre-Mitigation			Environmental Significance Post Mitigation		
	P[1]	M[2]	S[3]	P	M	S
Soil						
Operation of the Olde World Foundry, can cause possible soil pollution due to ineffective and uncontrolled storage of slag and sand originating from the foundry operations.	2	2	M	2	2	L
Air Quality						
Respiratory health impacts, such as silicosis, on employees.	4	3	H	3	3	M
Respiratory health impacts on employees.	4	3	H	3	3	M
Health impacts on susceptible groups, such as the elderly, infants, persons with chronic cardiopulmonary disease, -pneumonia, -influenza and -asthma, in the surrounding area.	3	3	M	2	2	L
Degradation of the ambient air quality.	3	3	M	2	2	L
Noise						
Operation of noisy machinery at Olde World Foundry such has grinding of or hammering on metal surfaces. Only one neighbouring activity occurs to the west of the foundry. This is also an industrial activity as the site is an industrial park. No neighbours are found in close proximity to the foundry towards the north, east or south. Therefore, the impact is deemed to be more of a Health and safety impact on employees than surrounding neighbours.	3	2	M	2	2	L
Socio-economic						
Number of people employed at Olde World Foundry is 13.	Positive			Positive		
Surface Water						
Current disposal practices of the slag and sand material poses a risk towards pollution of surface and groundwater resources. The waste streams were assessed to be Type 2 wastes with a moderate potential to pollute the environment.	4	2	M	1	1	L
Ground Water						
Current disposal practices of the slag and sand material poses a risk towards pollution of surface and groundwater resources. The waste streams were assessed to be Type 2 wastes with a moderate potential to pollute the environment.	4	2	M	1	1	L

[1] Probability
[2] Magnitude
[3] Severity

Appropriate mitigation measures will assist in minimising the potential impacts on the surrounding environment. An Environmental Management Programme (EMP) has been compiled, with the aim of serving as a working document in order to manage and/or mitigate the identified potential impacts. Refer to Appendix E for a copy of the EMP.

The main mitigation measures identified in this Impact assessment include the following:

- According to the waste assessment the slag and sand waste streams are considered as moderate risk wastes with some potential for contaminant release (Type 2). It requires proper control and management to protect health and the environment.
- Type 2 waste may only be disposed of at a Class B landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of the Norms and Standards, may be disposed of at a landfill site designed in accordance with the requirements for a GLB+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill.
- Develop and maintain an air quality management plan.
- Employees should wear proper respiratory protective equipment with appropriately assigned protection factors;
- Investigate measures to capture particulate emissions at the fettling area. Examples of technologies include:
    - Shotblast cabinet; and
    - Extraction booth.

The main action plans identified in this Impact assessment include the following:

- As volumes are relatively low, it is proposed that the material be temporarily stored on covered hard and bunded surfaces (if possible) or stored within a covered waste skip until dispatched to a designated and licenced landfill site.
- Train staff and implement correct procedures for the handling any hazardous chemicals or materials.
- Hazardous materials used on site should be stored in the correct designated and bunded areas that are specially designed and constructed for that purpose.
- Train staff on the importance of recycling and sustainable use of waste material and compile a waste management plan.
- If recycling is not possible, all efforts should be made to dispose of all waste material in an environmentally friendly manner at designated and licensed landfill sites.

Based on the outcomes of the Impact Assessment, the following recommendations are made:

1. The mitigation measures proposed in this report and the Environmental Management Programme must be implemented during the operational phase of the proposed project.

2. It is assumed that the mitigation measures proposed in this report and the Environmental Management Programme will be correctly implemented by the applicant and that they will be effective.
3. Strict monitoring and enforcement of requirements of the EMP must be undertaken to ensure that operators adhere to these requirements.

1. INTRODUCTION

This document forms part of an application for rectification (Section 24G) for the Olde World Foundry, situated in Hammarsdale, Kwa-Zulu Natal. The application process is undertaken on behalf of the applicant, CSIR for Olde World Foundry. Shangoni was appointed, as independent environmental practitioner, to prepare this Section 24G Application and facilitate the application process.

This Impact Assessment Report is divided into the following parts:

- Part 1: Introduction
- Part 2: Nature and Extent of the activity
- Part 3: Nature and extent of the environment affected by activity
- Part 4: Environmental Framework
- Part 5: Applicable legislation and guidelines
- Part 6: Need and desirability of the activity
- Part 7: Public Participation Process
- Part 8: Conclusion

1.1 Details of the project applicant

Applicant	Olde world foundry
Postal Address	P.O. Box 10257 Ashwood 3605
Responsible Person	Vincent Farrar
Telephone Number	031 736 1888
Facsimile Number	013 736 1889
Cell Phone Number	083 352 5019
E-Mail Address	owf@telkomsa.net
Company Registration No.	CK2004/127184/23.
Co-ordinates of unlawful operation	S29º47’ 50.01’’ E30º39’ 54.16’’

1.2 Appointed Environmental Assessment Practitioner

Name of firm	Shangoni Management Services	
Postal address	PO Box 74726 Lynnwood Ridge 0040	
Telephone No.	012 807 7036	
Fax	086 639 7956	
E-mail	leeanne@shangoni.co.za	
Team of Environmental Assessment Practitioners on project		
Name	**Qualifications**	**Responsibility**
Jan Nel	Msc in Environmental Management from the University of the Free State	Project Manager
Lee-Anne Fellowes	B-Tech in Nature Conservation from the University of Technology. SACNASP registered: 115574.	Senior EAP

Project Team Profiles

Jan Nel – Project Manager

Jan has been actively involved or the past 16 years in environmental management within the mining industry, providing assistance with EMP Compliance, Environmental Impact Assessments (EIA). Financial Provision Calculations, Closure Plans, Rehabilitation Plans, Environmental Management Programme Reports (EMP) and EMP Performance Assessments. He is further experienced in environmental management through third party certification audits as well as Environmental Management System (EMS) implementation and has in excess of 8000 audit hours to date. Jan is also the vice chairman of TC 207 in South Africa.

Lee-Anne Fellowes – Senior Environmental Practitioner

Lee-Anne has a B-tech degree in Nature Conservation from the Tshwane University of Technology and holds a National Diploma in Nature Conservation. She gained valuable experience in the conservation and the environmental field through her employment at Gauteng's Department of Agriculture, Conservation and Environment. Her areas of expertise include alien invasive surveys & conservation plans, Environmental Impact Assessments (EIA), Environmental Management Programmes (EMP), Section 24G Rectification Applications, Basic Assessments and Project Management. Lee-Anne has 11 years' experience at Shangoni Management Services as project lead to EIA's and EMP's. Lee-Anne has been registered as a Professional Natural Scientist in the field of Conservation Science Registration number: 115574.

1.3 Unlawful activity and motivation

1.3.1 Unlawful activity

Olde World Foundry produces iron-, aluminium-, brass- and bronze castings. The main operations in the production process include receiving and handling of raw materials, melting of metals, manufacturing of sand moulds, casting of metal into sand moulds, breaking of sand moulds, fettling (grinding/cleaning of castings), and dispatch of castings.

Receiving and handling of raw materials

Raw materials used at the foundry include metallics (i.e. pig iron, cast iron scraps, aluminium, brass, bronze, etc.), additives (i.e. ferrosilicon, ferromanganese, ME85, ferrosilicon magnesium, sascarb, etc.), binders (i.e. bentonite, sodium silicate, mould paint, coal dust, CO2 gas, etc.) and fuels (i.e. Heavy Fuel Oil (HFO)). The materials are delivered by trucks and bakkies to the site, handled by hand and stored inside the factory area.

Melting of metals

The foundry has four furnaces that can be categorised into three types. An electric coil furnace for the melting of aluminium, two crucible/pot furnace (fueled by HFO) for the melting of brass and bronze and aluminium and an induction furnace for the melting of iron.

Manufacturing of sand moulds

Moulds are frames used for shaping the exterior of castings. The moulds are usually prepared in two halves and then assembled to form the complete shape of the casting. Olde World Foundry prepares sand moulds by mixing sand with a sodium silicate binder/resin, compacting the mixture into steel moulding frames and pumping CO2 gas into the mould until it hardens. The moulding frame is extracted, the mould is painted and then assembled with the other half.

Casting of metal into sand moulds

The molten metal from the furnaces is poured (using hand shanks or a ladle) into the assembled sand moulds and allowed to cool naturally overnight.

Breaking of sand moulds

The casts are broken out of the sand moulds using hammers.

Fettling

The casts are grinded and cleaned, and then stored on pallets or shelves in the dispatch area. Storage of final products does not happen regularly. The operation prioritizes immediate dispatch as soon as the fettling is done.

Dispatch of castings

The castings are either delivered to clients or collected by clients using bakkies and/or small trucks.

1.3.2 Site locality

Olde World Foundry rents a premises located within Spurwing Industrial Park in Hammarsdale, approximately 40 km West of Durban. Locally it falls under the jurisdiction of the Ethekweni Metropolitan Municipality in the Kwa-Zulu Natal Province.

Machinery was installed and raw material were brought in and production commenced immediately. No construction or alterations were necessary as the premises housed the boilers from the previous company, Denim Textiles, and was perfectly suited for foundry's operations. Refer to Figure 1 and Figure 2.

Province	Kwa-Zulu Natal
Local Municipality	Ethekweni Metropolitan Municipality
Ward	4
Catchment Zone	U60C Quaternary Catchment
Water Management Area	Pongola Mzimkulu water management area

1.3.3 Land use

The dominant land uses surrounding the wider area of the property include industrial use, the Hammarsdale wastewater treatment works, informal and rural residential areas, vegetation and a National Road (the N3). The surrounding land falls within the Indian Ocean Coastal Belt, Savanna and Forests biomes.

Surrounding residential areas include Ntshongweni, Mpumalanga, Summerveld, Cliffdale, Kwa-Tandaza, Georgedale, Minitown, Peacevale, Emalangeni, Edgley, Mandlakazi, Outer West Durban, Bux farm, Drummond and Camperdown rural. Railway roads are situated in Hammarsdale, Ntshongweni, Cliffdale, Kwa-Tandaza and Georgedale. Please refer to a list of sensitive receptors identified within a 10km radius from Olde World Foundry. Refer to Table 2.

Table 2: List of sensitive receptors within 10 km from Olde World Foundry

Schools	Distance from site (km)	Direction from site (°)	Latitude (^{0})	Longitude (^{0})
Pezulu High School	3.70	261.81	-29,803477	30,623424
Ubhedu Primary School	3,50	226,98	-29,836378	30,634679
Sikhethuxolo High School	2,59	195,	-29,821271	30,653730
Peaceville Primary School	0,50	235,26	-29,801343	30,657098
Umthombomuhle Primary School	2.42	61,65	-29,788518	30,683329

Cliffdale	3,00	43,36	-29.779206	30.682664
Hillcrest Primary School	9,60	82,12	-29,786962	30,759725
Halala Primary School	5,06	220,75	-29,833313	30,627070
Abini High School	4,82	149,01	-29,836056	30.687101
Ntshongweni Primary School	4,84	149,49	-29,820378	30,634679
Intando Primary School	4,56	251,86	-29,811819	30,615526
Amathezulu High School	5,00	278,94	-29,791820	30,610201
Ukusa High School	4.52	254,55	-29,809612	30,616209
Georgedale Primary School	5,39	279,16	-29,791221	30,606607
Wozamoya High School	6,18	168,29	-29,853404	30,674367
Roseway Waldarf School	7,37	29,85	-29,777842	30,733679
Ethembeni Special School	7,30	2,37	-29,732973	30,664460
Simon Peter Pre-school	10,12	80,12	-29,783325	30,764347
Winston Park Primary School	11,64	88,93	-29,796813	30,781728
Luthayi High School	4,54	228,37	-29,825950	30,626120
Isebukose High School	3.69	222,53	-29,823264	30,63541
Eston Primary School	9.98	224,94	-29.862646	30.589013°
Hospitals/Clinics	**Distance from site (km)**	**Direction from site (°)**	**Latitude (^{0})**	**Longitude (^{0})**
Halley Stat Clinic	9,66	52,34	-29,745726	30,740489
Peacevale Clinic	0,44	339,54	-29.795122	30.659715
Hlengisizwe Primary Health Clinic	2.75	193,25	-29.822969	30.654755
Shakaskral Clinic TB Unit	7,48	52,79	-29.758093	30.723048
Fredville Clinic	6,43	14,28	-29,743064	30,678052
Mpumalanga Clinic TB Unit	5,73	260,99	-29,806849	30,602717
Baker & Mc Veigh Euquine	4,75	117,88	-29.818763	30.704786
Summerveld Eugine Hospital	5,12	102,53	-29.80878	30.713072
Hillcrest Medical Centre	10,2	77,11	-29.778504	30.763334
Don Makenzie Hospital	9,72	51,98	-29.744934	30.740654
Hillcrest Private Hospital Pharmacy	7,78	83,27	-29.790588	30.741268
Hillcrest Hospital	9,77	83,99	-29.789606	30.761805
Healing Hills Hospital	6,57	2,57	-29.739563	30.663880
Golf Courses	**Distance from site (km)**	**Direction from site (°)**	**Latitude (^{0})**	**Longitude (^{0})**
Cots world Downs Gold Estate	13,86	67,12	-29,750311	30,793480

1.3.4 Motivation

The unlawful activity first commenced in January 2005.

The failure of Olde World Foundry to submit an Atmospheric Emission License (AEL) application was not an intentional disregard of the regulations pertaining to the National Environmental Management: Air Quality Act, 2004 (Act No. 39, 2004) or any other associated environmental act, but rather an oversight as they were unaware of these legislative environmental requirements.

The National Foundry Technology Network (NFTN) is an Initiative, funded by the Department of Trade and Industry (the DTI), and hosted at the Council for Scientific and Industrial Research (CSIR). The NFTN has a mandate to manage, coordinate and facilitate transformation and development in the casting industry sub-segment, in the product supply chains, and at manufacturing companies, through focused interventions, designed to enable the Foundries.

The goal of the NFTN has been and remains to increase the global competitiveness of the South African foundry industry through the provision of appropriate services, in order to reduce import leakage, increase local production, and increase investment in the sector. As part of the mandate the NFTN identified the need for an AEL for the Olde World Foundry.

Since then, to rectify the oversight, Shangoni Management Services (Pty) Ltd. have been employed, as environmental consultants, to aid Olde World Foundry to bring their operation in line with the regulations pertaining to the National Environmental Management: Air Quality Act, 2004 (Act No. 39, 2004) and to provide consultation with regards to any other legislative environmental requirements that arise during the licensing process.

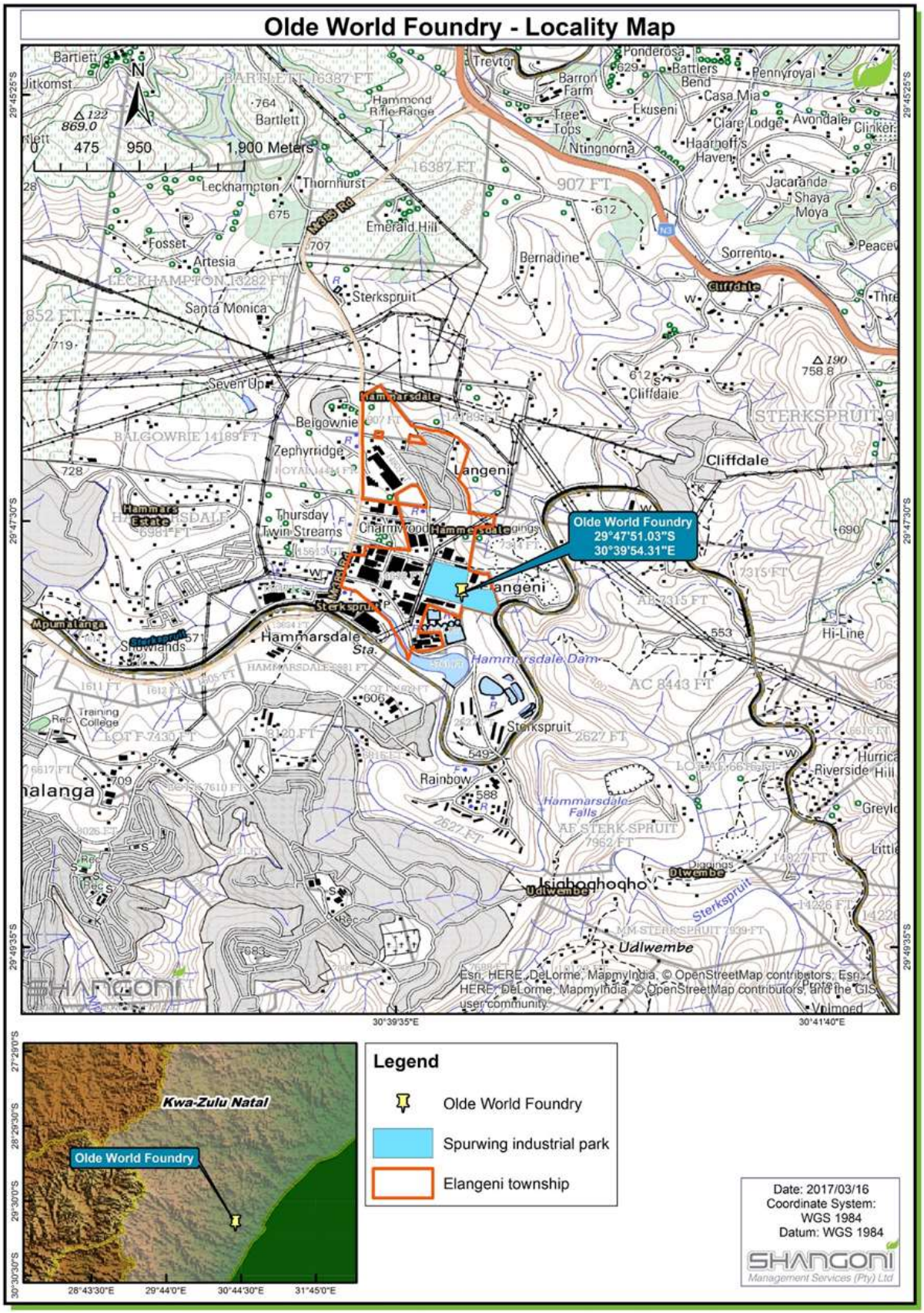


Figure 1: Locality map

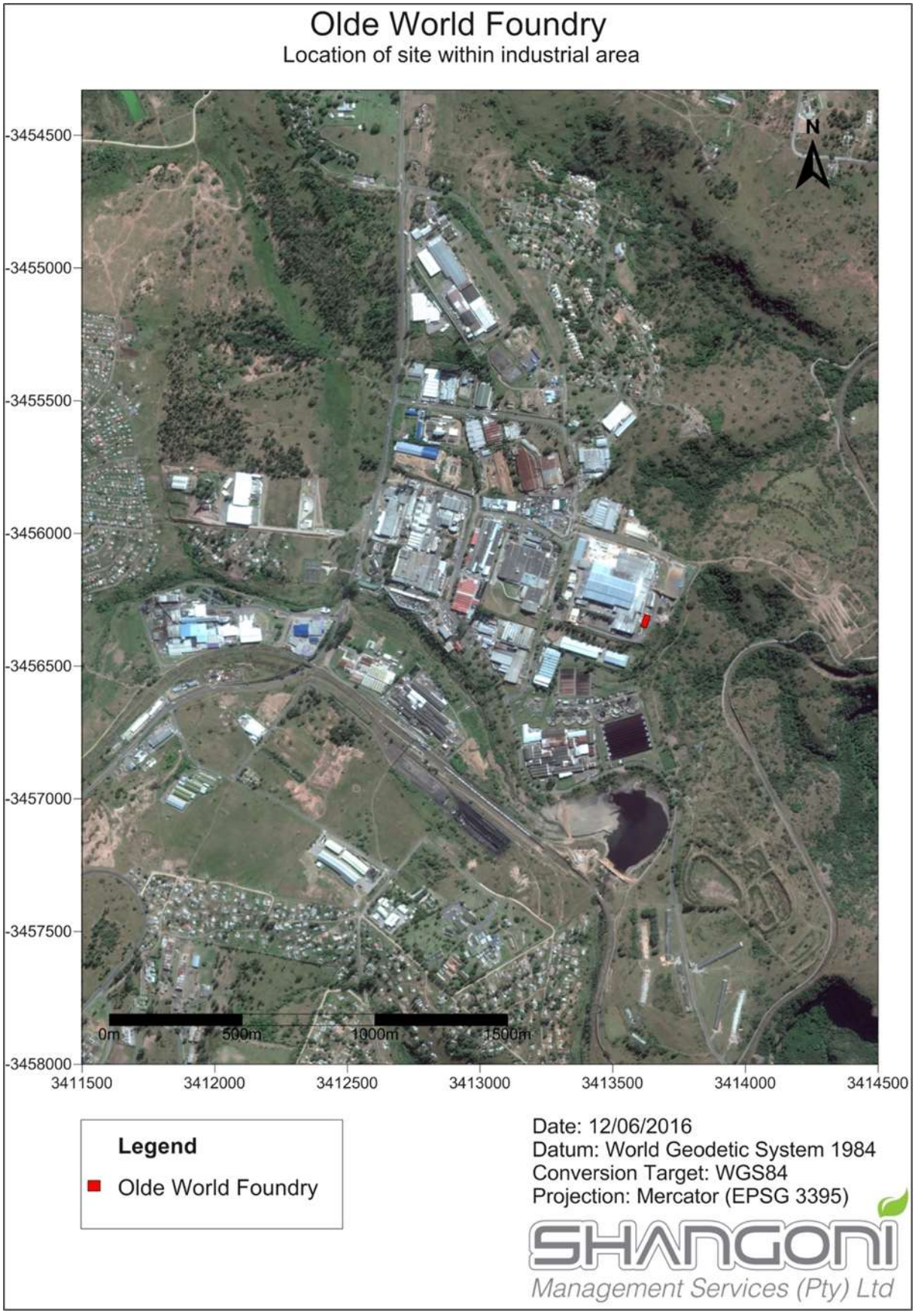


Figure 2: Site within the larger industrial area

1.3.5 Listed activities

In accordance with Section 24(G) read together with sections 24(F) and 12(3) of the National Environmental Management Amendment Act, 2008 (Act No. 62 of 1998), the applicant is required to carry out a rectification process for unlawfully commencing with the activities listed in Table 3.

Table 3: Unlawful activities undertaken for which the Rectification Application is undertaken

EIA listed activity in terms of Environment Conservation Act (Act 73 of1989)	**Similar listed activity in terms of the NEMA EIA Regulations 2014**
9 Schedule process listed in the Second Schedule of the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965)	36 Commencing of an activity, which requires an atmospheric emission license in terms of section 21 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), excluding - (i) Activities which are identified and included in Listing Notice 1 of 2014, (ii) Activities which are included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Management Waste Act, 208 applies; or (iii) The development of facilities or infrastructure for the treatment of effluent, waste water or sewage where such facilities have a daily throughput capacity of 2000 cubic meters or less.

2. NATURE AND EXTENT OF THE ACTIVITY

2.1 Process description

Olde World Foundry produces iron-, aluminium-, brass- and bronze castings. The main operations in the production process include receiving and handling of raw materials, melting of metals, manufacturing of sand moulds, casting of metal into sand moulds, breaking of sand moulds, fettling (grinding/cleaning of castings) and dispatch of the castings.

Receiving and handling of raw materials

Raw materials used at the foundry include metallics (i.e. pig iron, cast iron scraps, aluminium, brass, bronze, etc.), additives (i.e. ferrosilicon, ferromanganese, ME85, ferrosilicon magnesium, sascarb, etc.), binders (i.e. bentonite, sodium silicate, mould paint, coal dust, CO2 gas, etc.) and fuels (i.e. Heavy Fuel Oil (HFO). The materials are delivered by trucks and bakkies to the site, handled by hand and stored inside the factory area.

Manufacturing of sand moulds

Moulds are frames used for shaping the exterior of castings. The moulds are usually prepared in two halves and then assembled to form the complete shape of the casting. Olde World Foundry prepares sand moulds by mixing sand with a sodium silicate binder/resin, compacting the mixture into steel moulding frames and pumping CO2 gas into the mould until it hardens refer to Figure 3. The moulding frame is extracted, the mould is painted and then assembled with the other half refer to Figure 4.

Figure 3: Pumping CO_2 gas into the mould until it hardens

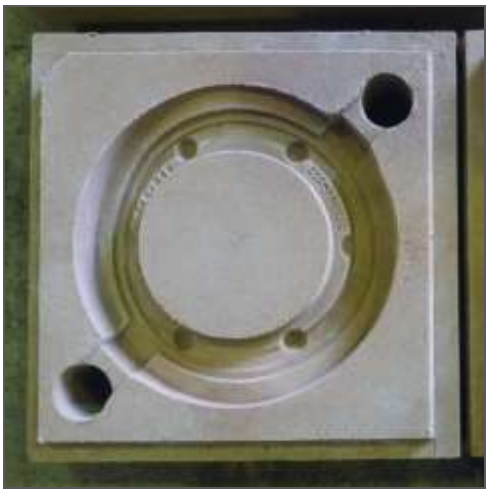


Figure 4: Moulding frame

Melting of metals

The foundry has four furnaces that can be categorised into three types. An electric coil furnace for the melting of aluminium, two crucible/pot furnace (fuelled by HFO) for the melting of brass and bronze and aluminium and an induction furnace for the melting of iron.

Casting of metal into sand moulds

The molten metal from the furnaces is poured (using hand shanks or a ladle) into the assembled sand moulds and allowed to cool naturally overnight refer to Figure 5.

Figure 5: Pouring molten metal

Breaking of sand moulds

The casts are broken out of the sand moulds using hammers.

Fettling

The casts are grinded and cleaned Figure 6, and then stored on pallets or shelves in the dispatch area. Storage of final products does not happen regularly. The operation prioritises immediate dispatch as soon as the fettling is done.

Dispatch of castings

The castings are either delivered to clients or collected by clients using bakkies and/or small trucks.

Figure 6: Fettling area

2.2 Emission Inventory

The type of facility, or process through which emissions are generated, can be characterised into four types based on their geometry (point, area, volume and line sources). Chemicals, particulates, or biological materials introduced into the atmosphere as a result of these sources all have different properties. An emission source's specifications and its resulting emission's properties are required to describe how much pollutants are being released into the atmosphere.

An emission inventory is a database of emission sources, and their contribution to the amount of pollution entering the atmosphere within a given time and geographic boundary. The development of a complete emission inventory is an important step in air quality management as it not only identifies emission sources, but can aid in establishing emission trends over time and identify areas that require mitigation.

Different methods for calculating an emission inventory depend on the availability of data, time, staff and finances and include, but are not limited to:

- Continuous monitoring to measure actual emissions;
- Extrapolating of short term emissions tests results;
- Mass balance;
- Engineering calculations; and
- The combination of published emission factors.

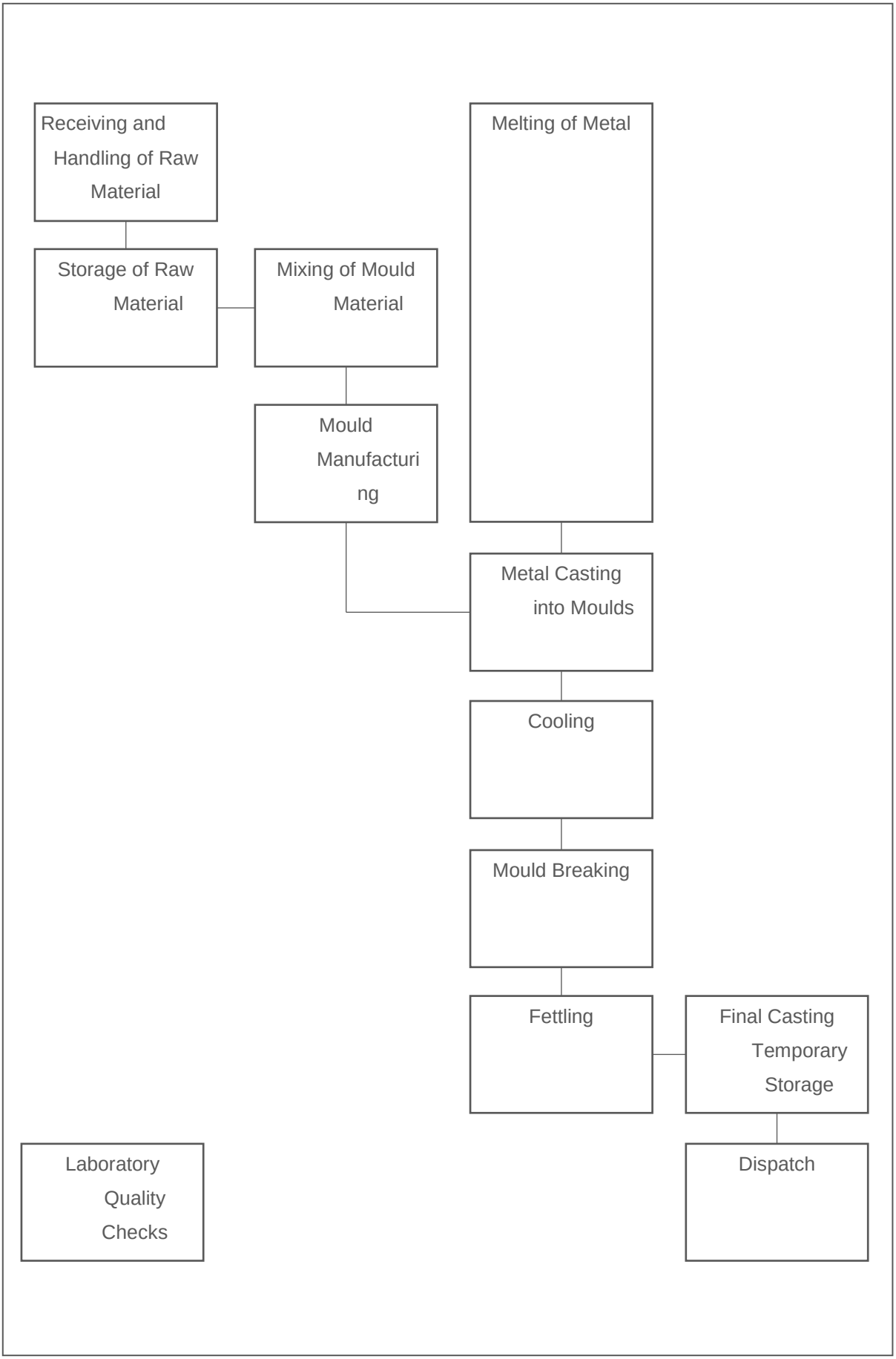


Figure 8: Process flow

Figure 9: Site layout

Building A – Mould making & die casting of Aluminium

Fugitive emissions from the electric furnace and aluminium pouring and casting in Building A were determined based on emission factors taken from the National Pollutant Inventory's emission estimation technique manual for non - ferrous foundries, Version 1.0, July 1999, First published in August 1998.

Building B – Mould making & casting

Fugitive emissions from the sand handling, core making and shakeout in Building B were based on emission factors taken from the National Pollutant Inventory's emission estimation technique manual for non - ferrous foundries, Version 1.0, July 1999, First published in August 1998 as well as the emission estimation technique manual for ferrous foundries, Version 2.0, January 2014, First published in August 1998.

Building C – Melting & casting of moulds

Fugitive emissions from the electric induction furnace in Building C were based on emission factors taken from the National Pollutant Inventory's emission estimation technique manual for ferrous foundries, Version 2.0, January 2014, First published in August 1998;

Fugitive emissions from scrap and charge handling and heating, the crucible/pot furnace, mould pouring and cooling and magnesium treatment in Building C were based on emission factors taken from the National Pollutant Inventory's emission estimation technique manual for non - ferrous foundries, Version 1.0, July 1999, First published in August 1998.

Fettling area

Fugitive emissions from the sand handling, core making, shakeout and cleaning & finishing in Building B were based on emission factors taken from the National Pollutant Inventory's emission estimation technique manual for non - ferrous foundries, Version 1.0, July 1999, First published in August 1998 as well as the emission estimation technique manual for ferrous foundries, Version 2.0, January 2014, First published in August 1998.

Emission Inventory Results

The emission inventory for Olde World Foundry (Refer to **Error! Reference source not found.**), identifies the fettling area as the primary source for fugitive Particulate Matter 10 (PM10) (Refer to Figure 10). This supports the observations made during the site visit on 12 May 2016.

In the National Pollutant Inventory's emission estimation technique manual for non - ferrous foundries, Version 1.0, Sulphur dioxide (SO_2) is only associated with the electric coil furnace (for the melting of Aluminium) and the crucible/pot furnace and Nitrogen dioxide (NO_2) (NO_x expressed as NO_2) is only associated with Aluminium pouring and casting.

The emission factors used have Emission Factor Ratings ranging from E to U. These EFR are an indication of the uncertainty associated with the various emission factors. These emission factors may exaggerate and overestimate emissions under assumed worst case scenarios. These estimates together with their model output results should therefore be used as guides in determining high risk areas and be verified by actual monitoring.

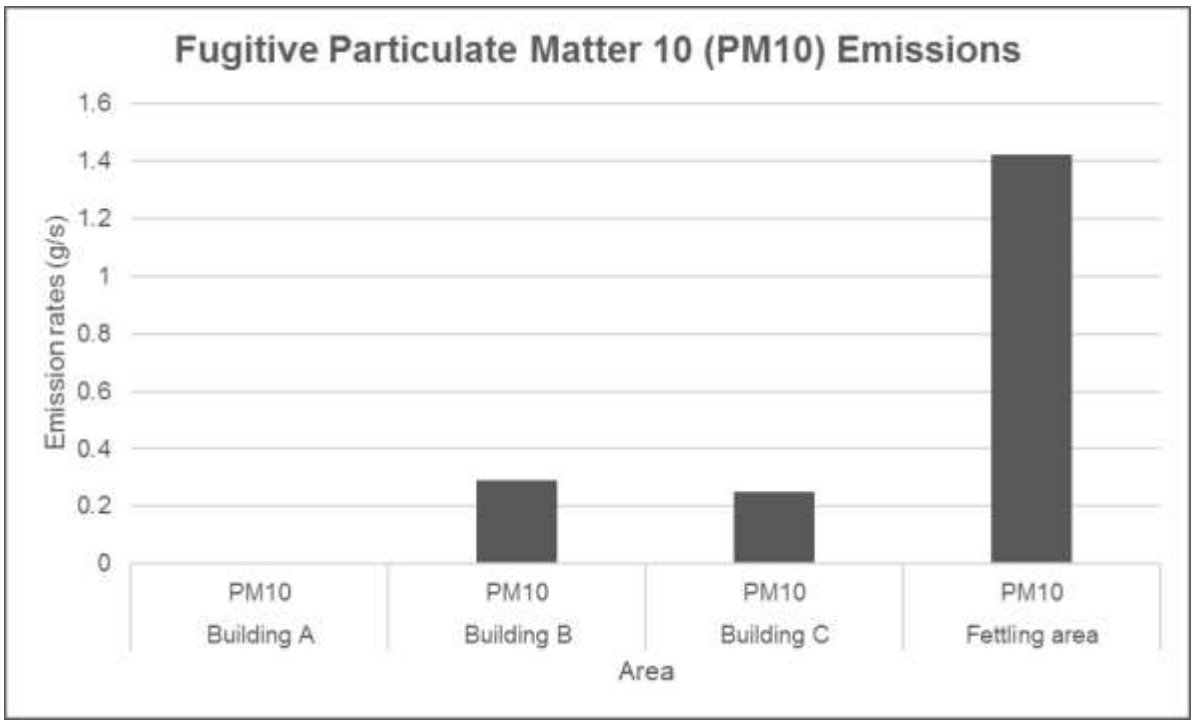


Figure 10: Estimated Fugitive Particulate Matter 10 (PM10) emissions

Table 4: Emission Inventory

Sources	Pollutants		Emission Factor	Unit[4]	EFR[5]	Activity rate			Emission rate					
						ual	ximum	Unit	Actual	Maximum	Unit	Actual	Maximum	Unit
Electric Furnace	Particulate Matter 10	M10	3.20E+00	kg/tonne		7.50E-01	2.00E+01	tonne/month	2.40E+00	6.40E+01	kg/month	5.56E-03	1.48E-01	
	Sulphur dioxide	O_2	1.50E-02	kg/tonne		7.50E-01	2.00E+01	tonne/month	1.13E-02	3.00E-01	kg/month	2.60E-05	6.94E-04	
Aluminium Pouring and Casting	Sulphur dioxide	O_2	1.00E-02	kg/tonne		7.50E-01	2.00E+01	tonne/month	7.50E-03	2.00E-01	kg/month	6.51E-05	1.74E-03	
	Nitrous Oxide	Ox[6]	5.00E-03	kg/tonne		7.50E-01	2.00E+01	tonne/month	3.75E-03	1.00E-01	kg/month	3.26E-05	8.68E-04	
Sand handling	Particulate Matter 10	M10	1.80E+00	kg/tonne		1.80E+01	3.60E+01	tonne/month	3.24E+01	6.48E+01	kg/month	6.43E-02	1.29E-01	
Core making (Please note: No core baking takes place)	Particulate Matter 10	M10	6.00E-01	kg/tonne		9.65E+00	7.80E+01	tonne/month	5.79E+00	4.68E+01	kg/month	1.15E-02	9.29E-02	
Shakeout	Particulate Matter 10	M10	1.60E+00	kg/tonne		9.65E+00	7.80E+01	tonne/month	1.54E+01	1.25E+02	kg/month	2.14E-01	1.73E+00	
Cleaning and finishing	Particulate Matter 10	M10	8.50E+00	kg/tonne		9.65E+00	7.80E+01	tonne/month	8.20E+01	6.63E+02	kg/month	1.42E+00	1.15E+01	
Scrap and charge handling, heating	Particulate Matter 10	M10	3.00E-01	kg/tonne		8.00E+00	3.80E+01	tonne/month	2.40E+00	1.14E+01	kg/month	5.56E-03	2.64E-02	
Electric Induction Furnace	Particulate Matter 10	M10	5.00E-01	kg/tonne		8.00E+00	3.80E+01	tonne/month	4.00E+00	1.90E+01	kg/month	9.26E-03	4.40E-02	
Crucible and pot furnace	Particulate Matter 10	M10	6.20E+00	kg/tonne		9.00E-01	2.00E+01	tonne/month	5.58E+00	1.24E+02	kg/month	1.29E-02	2.87E-01	
	Sulphur dioxide	O_2	2.50E-01	kg/tonne		9.00E-01	2.00E+01	tonne/month	2.25E-01	5.00E+00	kg/month	5.21E-04	1.16E-02	
Mould pouring and cooling	Particulate Matter 10	M10	2.10E+00	kg/tonne		8.90E+00	5.80E+01	tonne/month	1.87E+01	1.22E+02	kg/month	1.62E-01	1.06E+00	
Magnesium treatment	Particulate Matter 10	M10	9.00E-01	kg/tonne		8.00E+00	3.80E+01	tonne/month	7.20E+00	3.42E+01	kg/month	6.25E-02	2.97E-01	

[4] Kg/tonne product produced.

[5] Emission Factor Rating.

[6] NO_x expressed as NO_2.

2.3 Emission Monitoring Survey

An emission monitoring survey (Reference Number VREC 2016-41 OWF) was conducted by VR Environmental Consultants on Olde World Foundry's stack on the 13th of May 2016. The emission monitoring survey found that emissions from the stack were compliant to the minimum emission standards as specified under Category4: Metallurgical Industry, Subcategory 4.10: Foundries, Part 3 of General Notice (GN) 893, published on the 22nd of November 2013 in Government Gazette (GG) 37054 refer to Table 6.

Table 5: Point source parameters (VREC 2016_41 OWF)

Parameters	Values
Height of release above ground	12m
Height above nearby building	4m
Diameter at stack Tip/Vent Exit	0.930
Average stack temperature	45.44°C
Stack exit velocity	2.67m/s
Flow rate (normal)	6518.51Nm^3/hr
Flow rate (actual)	5765.90Am^3/hr

Table 6: Emission monitoring survey (VREC 2016_41 OWF)

Pollutant	Method	Uncertainty	Emission rate (g/s)	Concentration (mg/Nm^3)	Minimum Emission Standards (mg/Nm^3)	Compliance
Particulate Matter (PM)	US EPA Method 5	±10%	0.02	13.20	100	
Oxides of Nitrogen (NO_x)	US EPA Method 7E	±3%	0.0042	9.51	1200	
Sulphur dioxide (SO_2)	US EPA Method 6	±3%	0.0138	2.81	400	
In exceedance of minimum emission standard, as per GN893.						
Below minimum emission standard, as per GN893.						

3. NATURE AND EXTENT OF THE ENVIRONMENT AFFECTED BY ACTIVITY

3.1 Geology

The Olde World Foundry is underlain by rocks belonging to the Natal Group (Cape Supergroup, Paleozoic Era). It comprises erosion-resistant pinkish well bedded arkosic sandstone and quartzite with some minor shale. Refer to Figure 11.

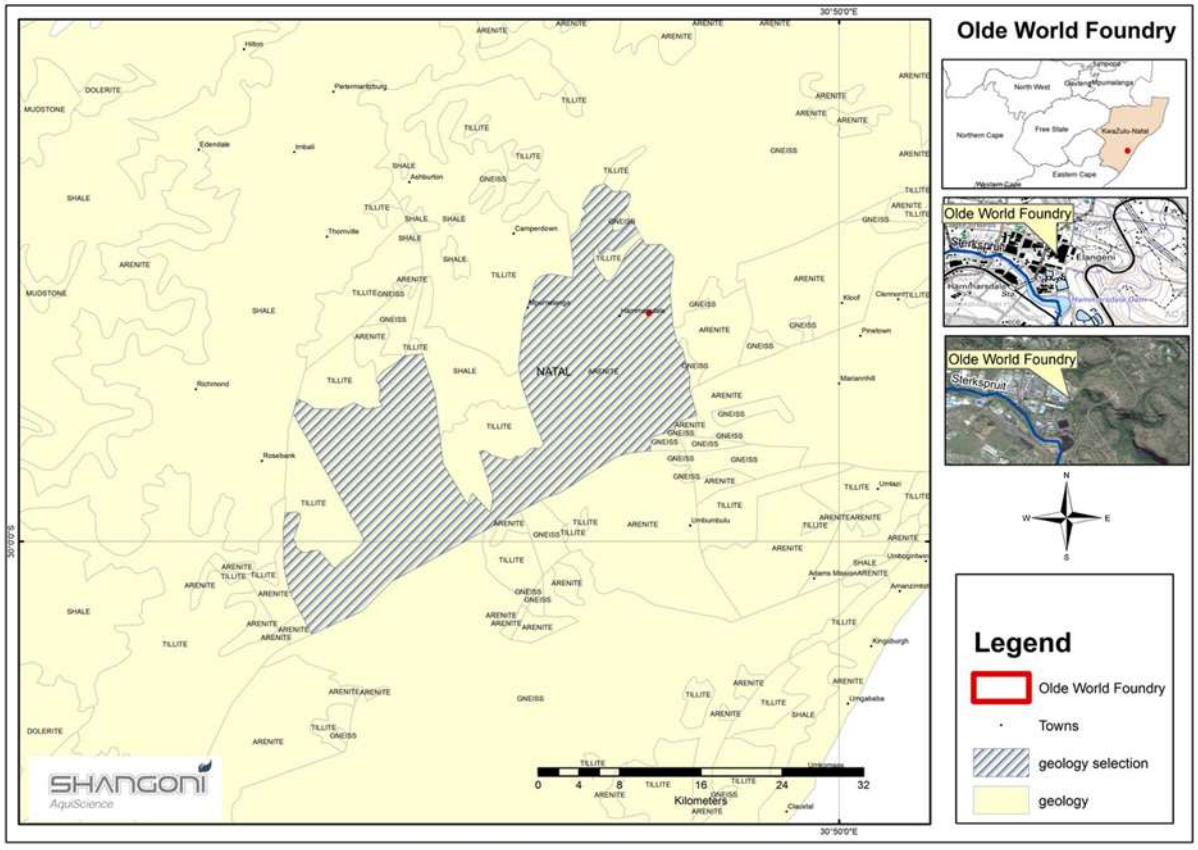


Figure 11: Regional surface geological map

The Natal Group rocks occur both in the coastal hinterland and along the faulted coastline. The Group thickens from north to south and from west to east. The western limit of the rocks is about 80 km from the coastline north of Durban. The thickness of the Natal Group can be up to 600 m.

1.3. Structural geology and tectonics

The coastal and coastal hinterland portions of KwaZulu-Natal are part of the rifted margin of the continent. These areas are intensely faulted, the structure being one of fault-tilted blocks with some associated horst and graben structures. Most of the blocks are tilted in a seaward direction at angles of between about 5 and 12°, but on the coast north of the Tugela River and around Port Shepstone

the tilted blocks dip in an inland direction. There are no significant fault systems or intruded dykes in near proximity to the study area. Desktop geohydrological study and waste assessment, March 2017.

3.2 Regional climate

The following information on the regional climate was extracted from: Atmospheric Impact Assessment dated June 2016.

3.2.1 Rainfall

Rainfall represents an effective removal mechanism of atmospheric pollutants. The annual average precipitation in 2013 was approximately 1162.30mm, in 2014 it was approximately 886.56mm and in 2015 it was approximately 658.15mm. The MM5 data thus shows a decrease in precipitation from 2013 to 2015 refer to Figure 12. July to March rainfall maps from 2013 to 2016, taken from the South African Weather Services' website, correlates fairly with the MM5 data by presenting an increased decline in rainfall towards the north coast refer to Figure 13, Figure 14, and Figure 15.

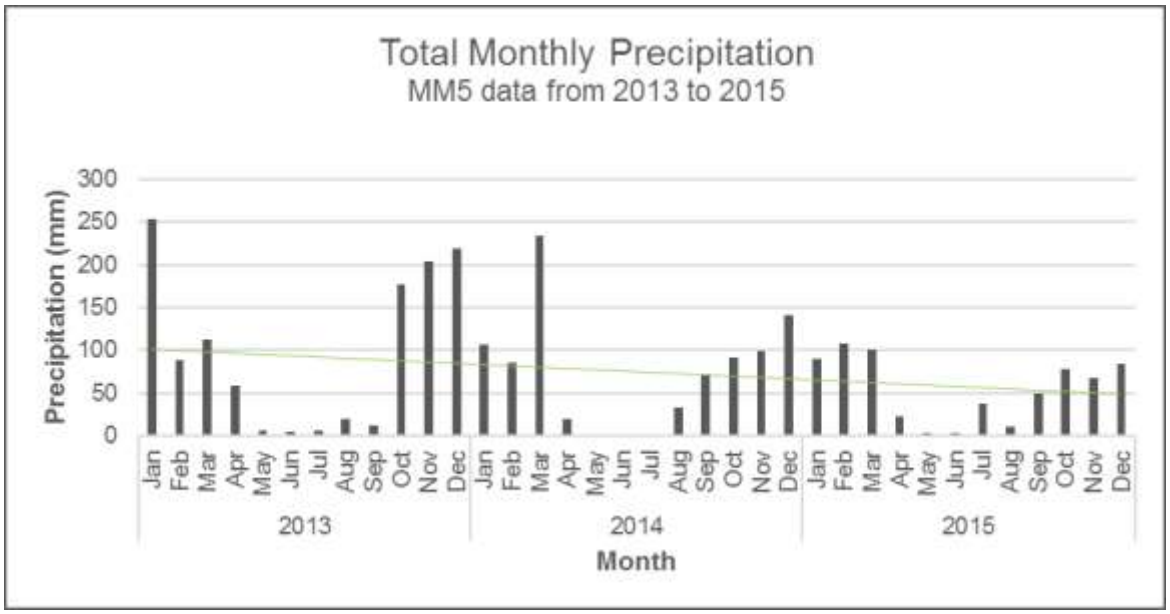


Figure 12: Total monthly precipitation from 2013 to 2015

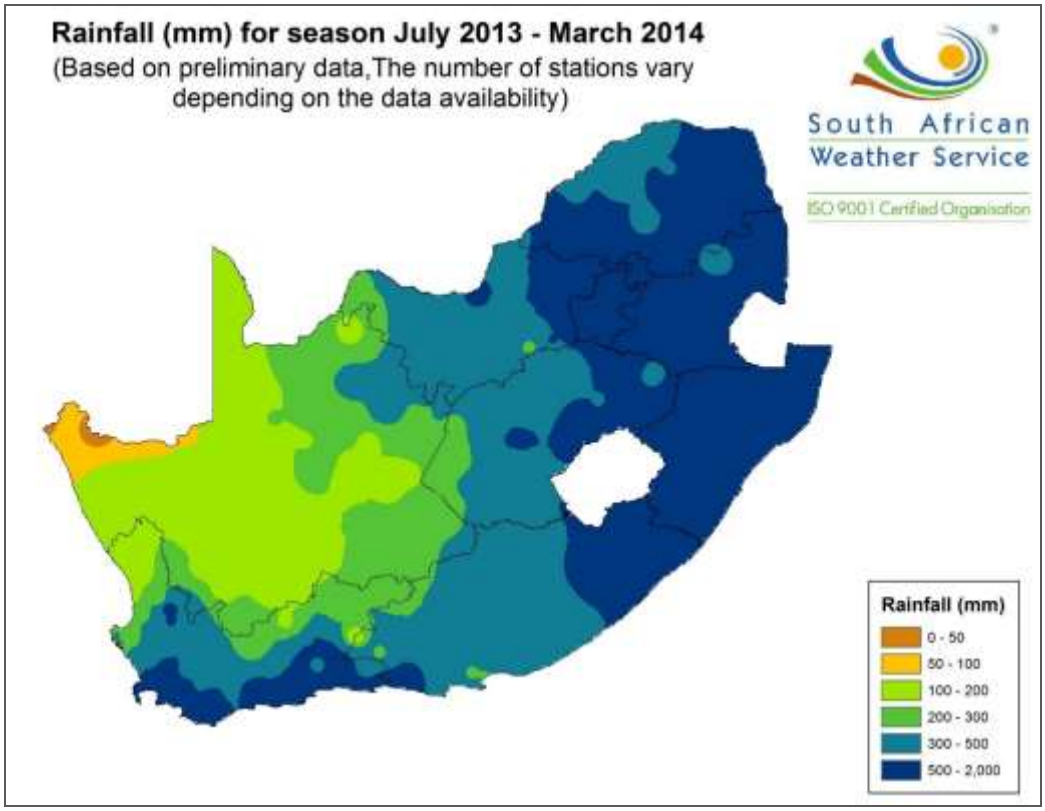


Figure 13 July to March rainfall maps from 2013 to 2014

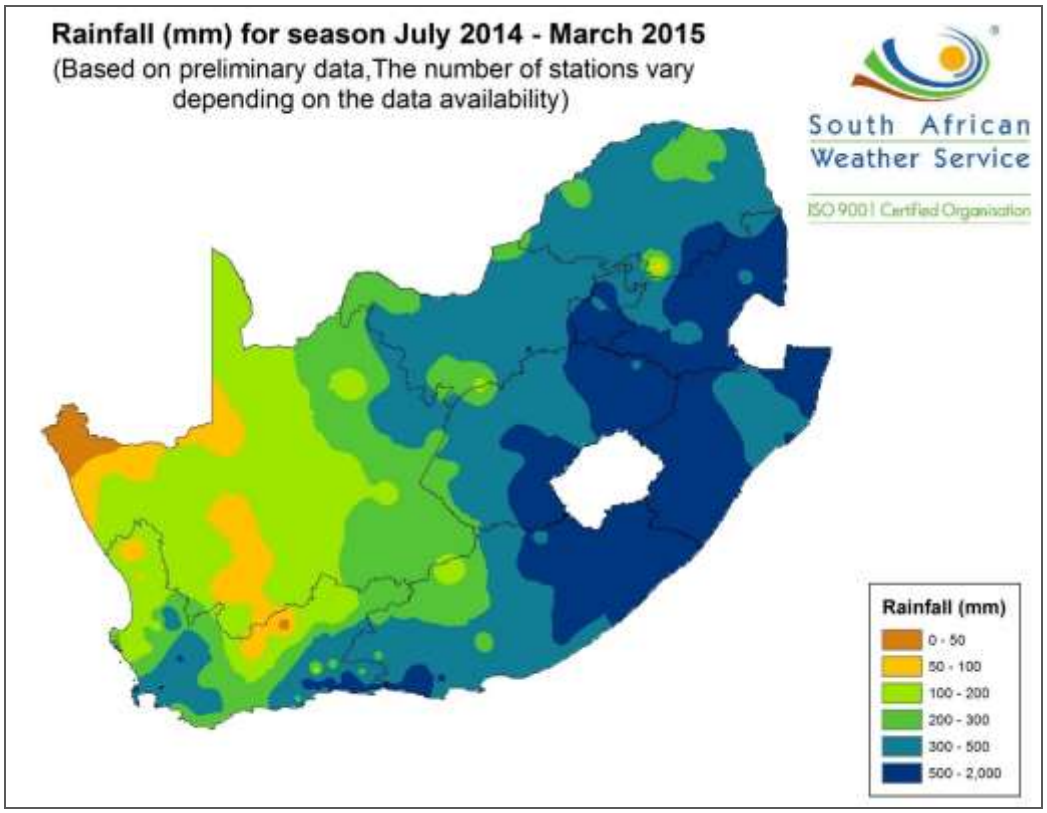


Figure 14: July to March rainfall maps from 2014 to 2015

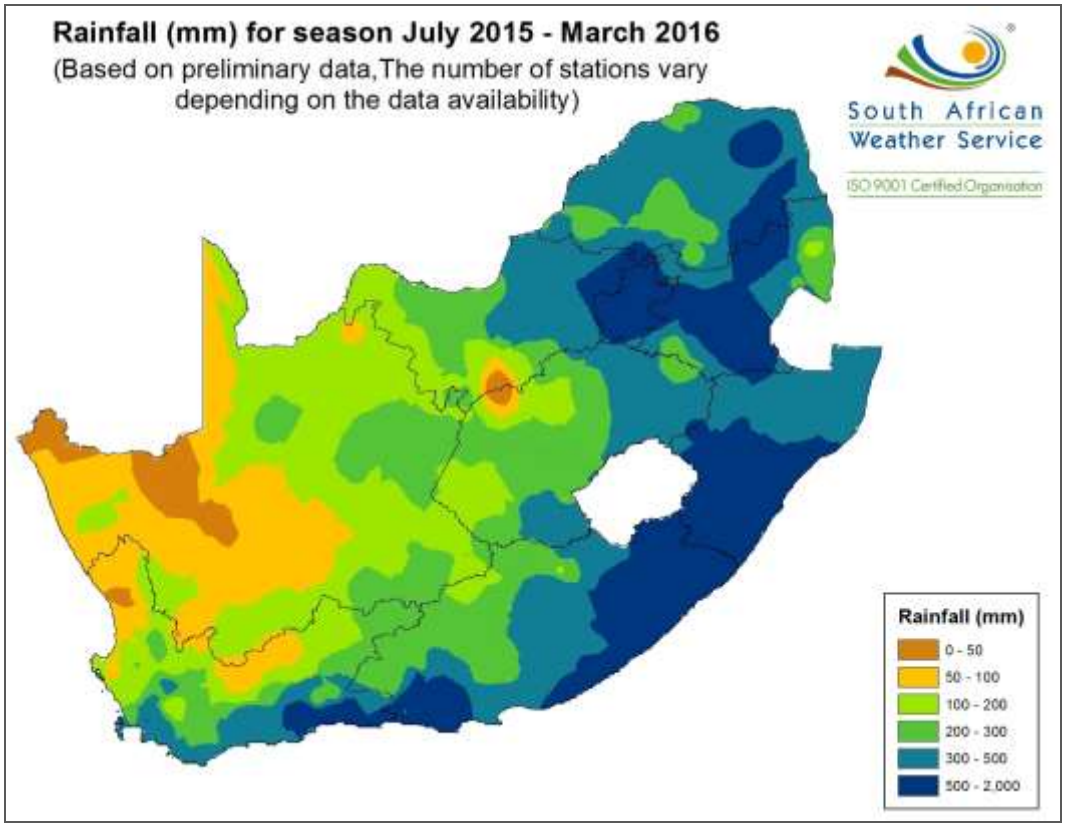


Figure 15: July to March rainfall maps from 2014 to 2015

3.2.2 Temperature

Air temperature is an important indicator of the mixing and dissipation of air pollutants or their trapping by inversion layers. The average annual temperature for the 2013 to 2015 MM5 data is approximately 17.5°C.

The annual average temperature in 2013 was approximately 17.20°C, in 2014 it was approximately 17.46°C and in 2015 it was approximately 18.00°C. The MM5 data thus shows a steady increase in the average ambient temperature from 2013 to 2015 Figure 16. Please refer to Figure 17 for the average monthly diurnal temperature profile.

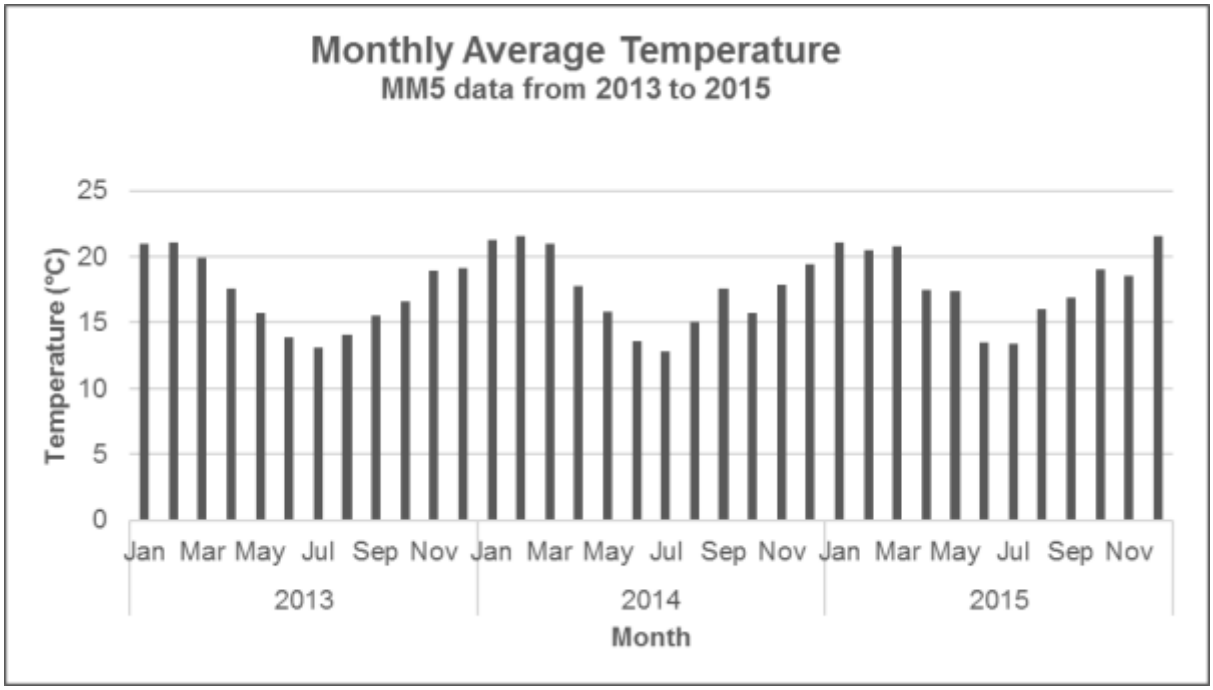


Figure 16: Monthly average temperature from 2013 to 2015

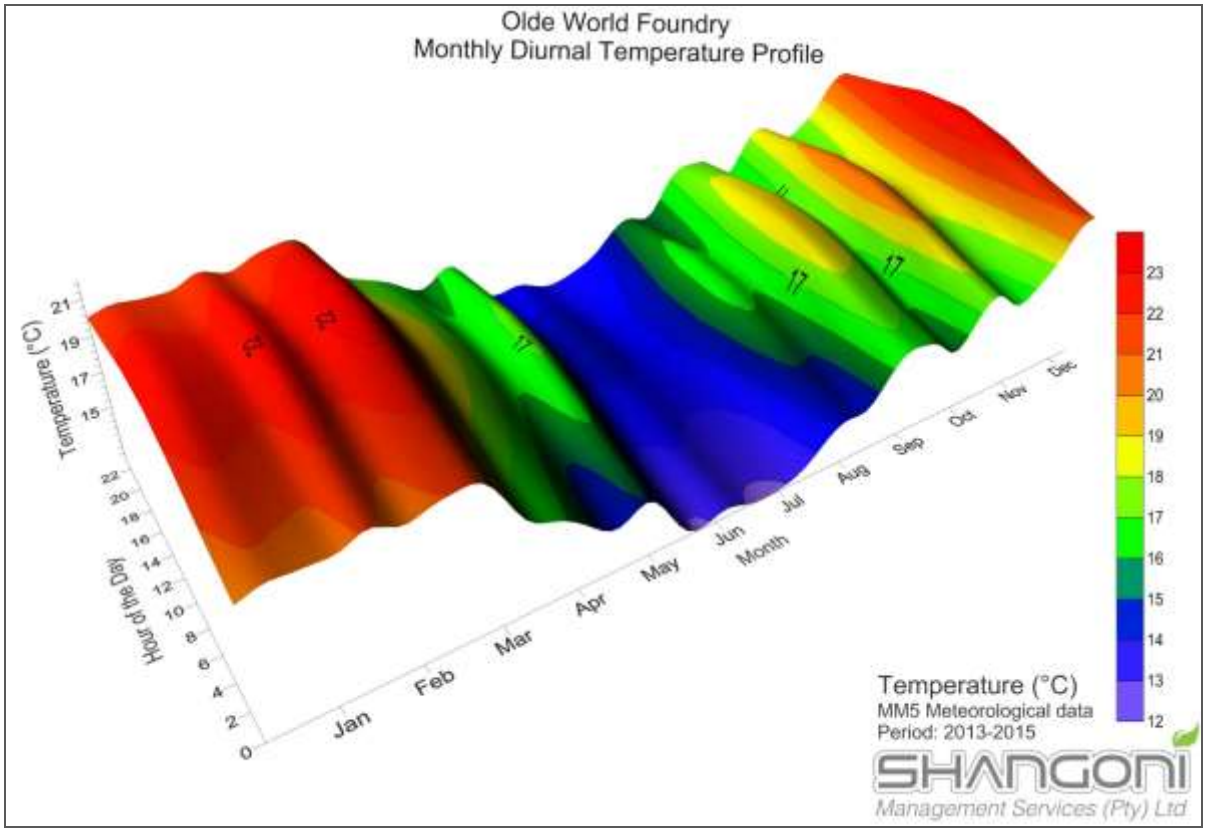


Figure 17: Monthly diurnal temperature profile

3.2.3 Wind

The dispersion of pollution is largely a function of the wind speed and wind direction, in combination with surface roughness. Refer to Table 7 for a description of wind at different speeds.

Table 7: Description of different wind speeds (SEPA, 2010)

Force	Description	Observation	m/s
	Calm	Smoke rises vertically	
	Light air	Direction of wind shown by smoke drift, but not wind vane	0.2-1.4
	Light breeze	Wind felt on face; leaves rustle, ordinary vane moved by wind	1.4-3.0
	Gentle breeze	Leaves and small twigs in constant motion	3.0-5.3
	Moderate breeze	Raises dust and loose paper; small branches are moved	5.3-8.0
	Fresh breeze	Small trees and leaves begin to sway, small branches are moved	8.0-10.8
	Strong breeze	Large branches in motion; umbrellas used with difficulty	10.8-13.9
	Near gale	Whole trees in motion; pressure felt when walking against wind	13.9-16.9

The MM5 meteorological data from 2013 to 2015 gives the average wind speed as 4.21m/s, equivalent to a gentle breeze. The year 2014 and 2015's wind speeds reached speeds of up to 13.4m/s to 14.9m/s. These wind speeds can be considered as near gale, where whole trees are in motion and pressure can be felt when walking against the wind. From Figure 18 we see that the average wind speeds are higher during winter months and the first few months of spring. These winter winds are primarily in a south southwest and southwesterly direction refer to Figure 19.

Wind roses made from the MM5 data, display the average wind speed and direction distributed from 2013 to 2015. The length of each spoke illustrates the frequency of wind coming from a particular direction. From the MM5 data we can derive that the predominant wind field throughout the years 2013-2015 (combined data) is from an east northeasterly direction refer to Figure 20, Figure 21, Figure 22 and Figure 23.

Edgewood ambient air quality monitoring station is located approximately 16.78km east southeast (100.71°) from Olde World Foundry. Wind speed and wind direction information obtained from Edgewood for the period: 01/07/2008 to 13/04/2016 correlate fairly to the observations made from the MM5 data refer to Figure 24 and Figure 25.

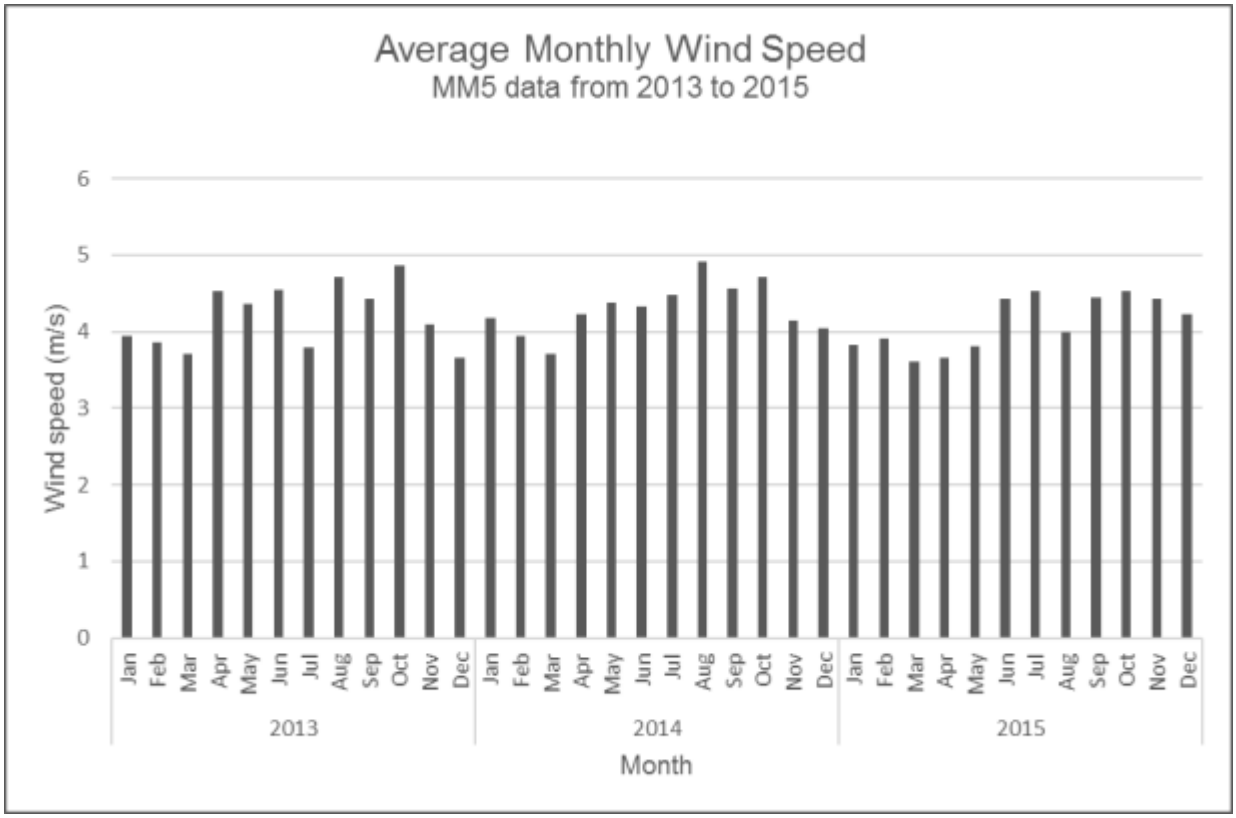


Figure 18: Monthly average wind speed from 2013 to 2015

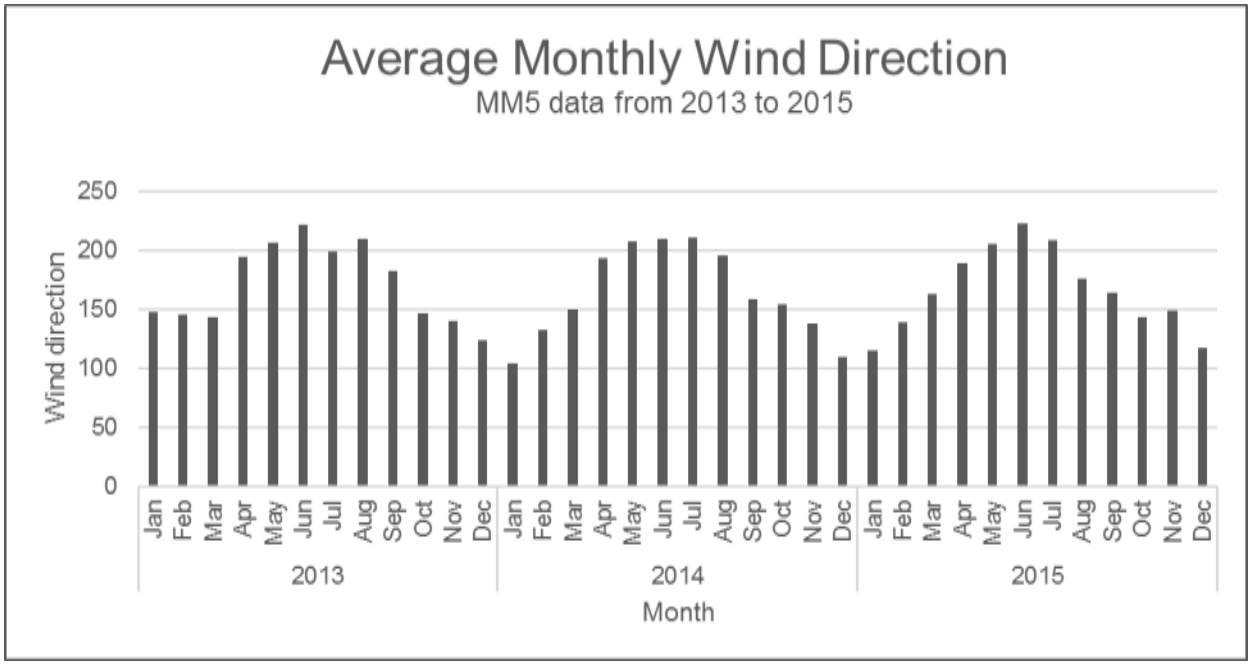


Figure 19: Monthly average wind direction from 2013 to 2015

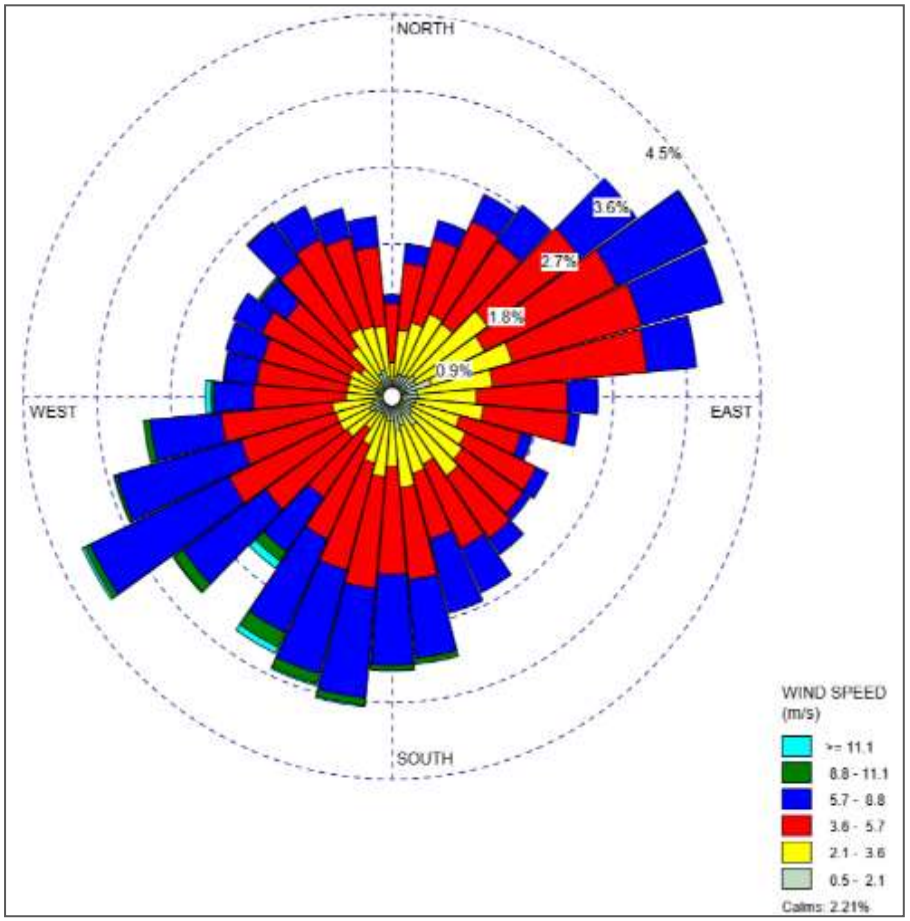


Figure 20: Wind rose 2013 MM5 Data

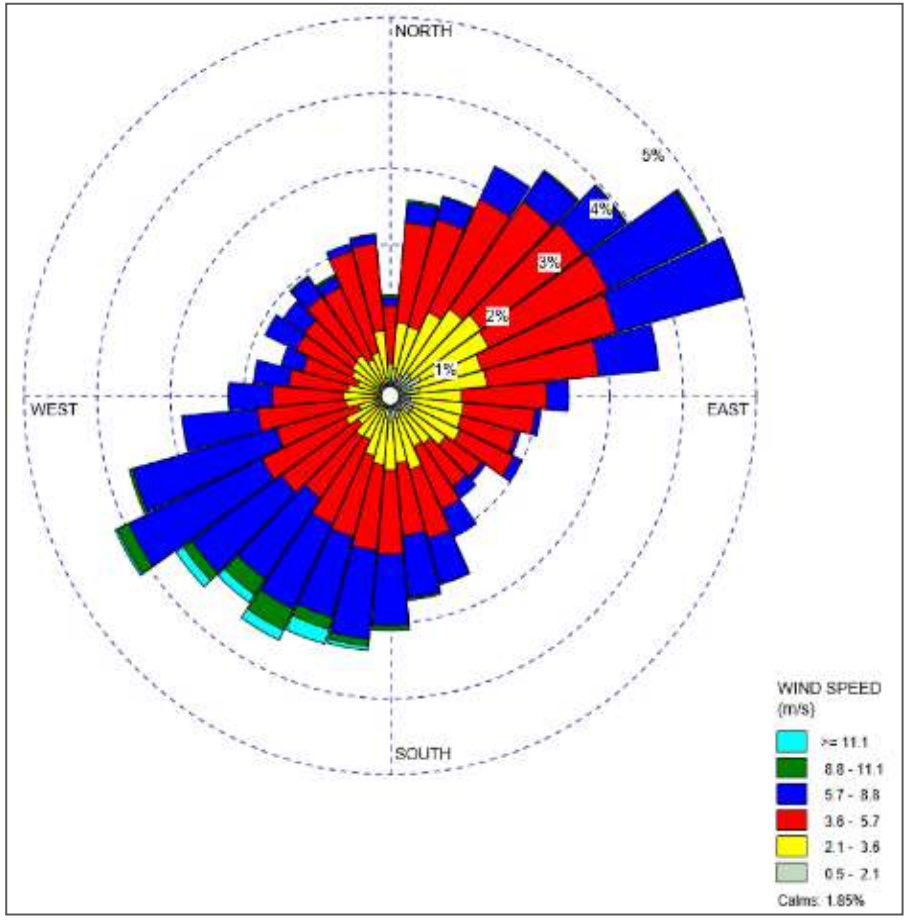


Figure 21: Wind rose 2014 MM5 Data

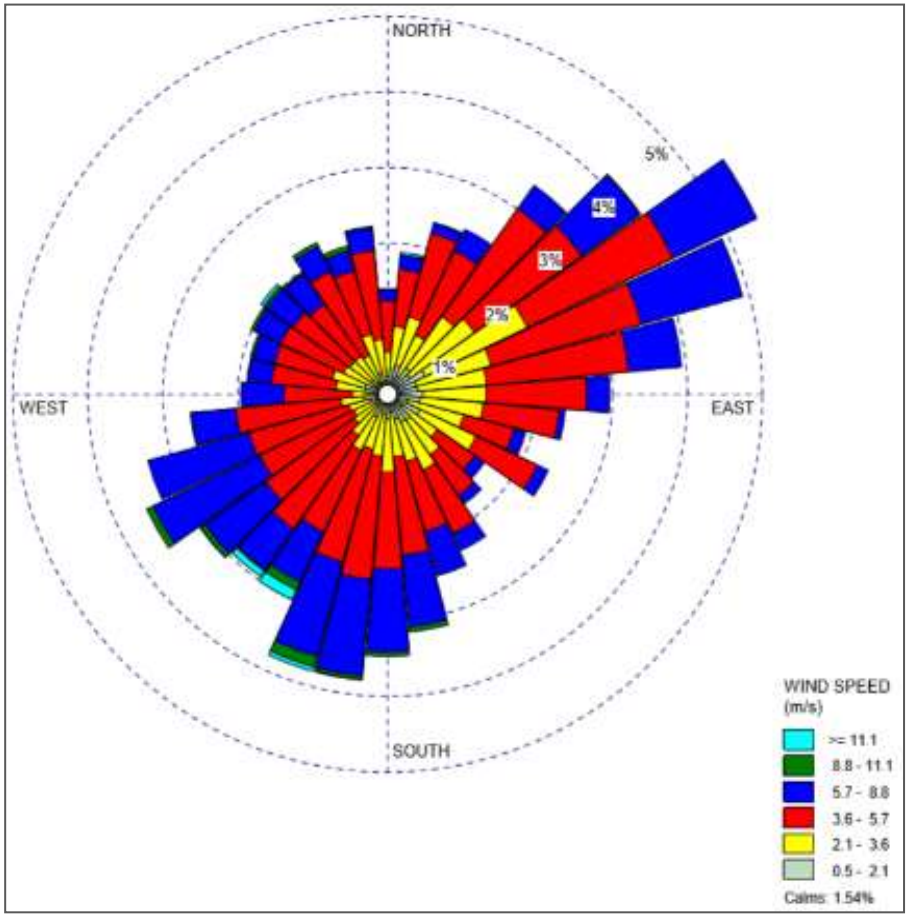


Figure 22: Wind rose 2015 MM5 Data

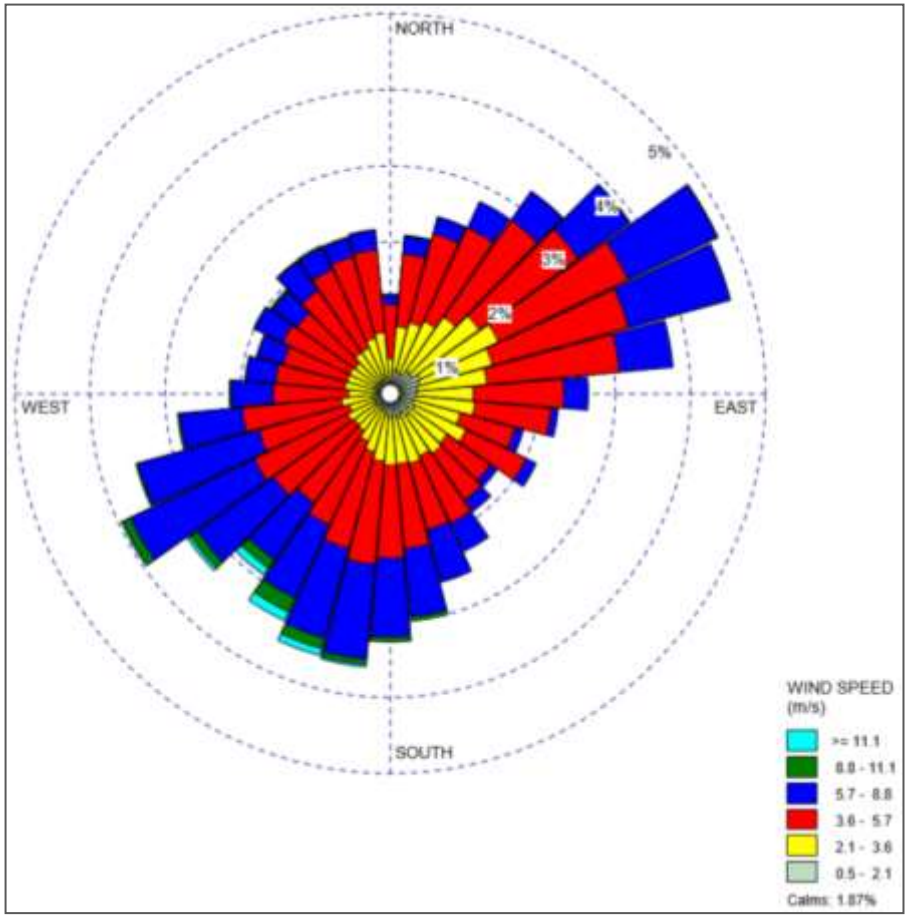


Figure 23: Wind rose combined data for 2013, 2014, 2015

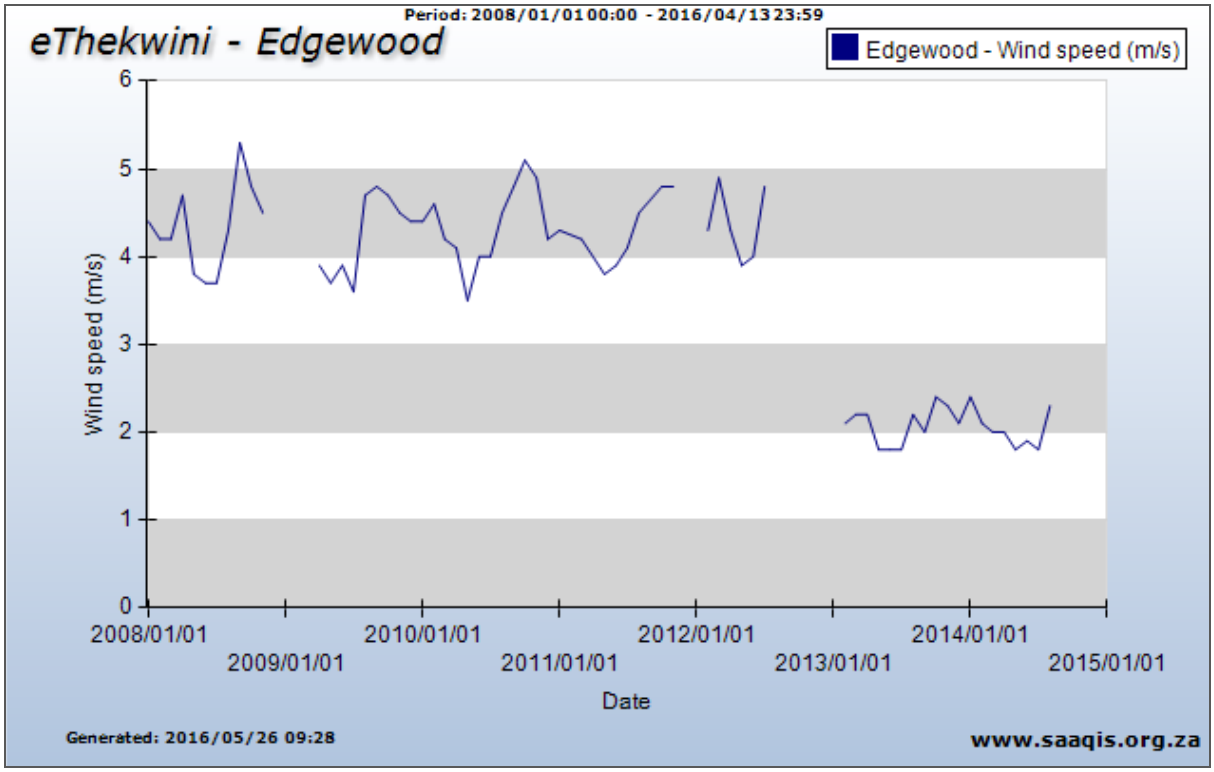


Figure 24: eThekwini Edgewood - Monthly wind speed from 2008 to 2016

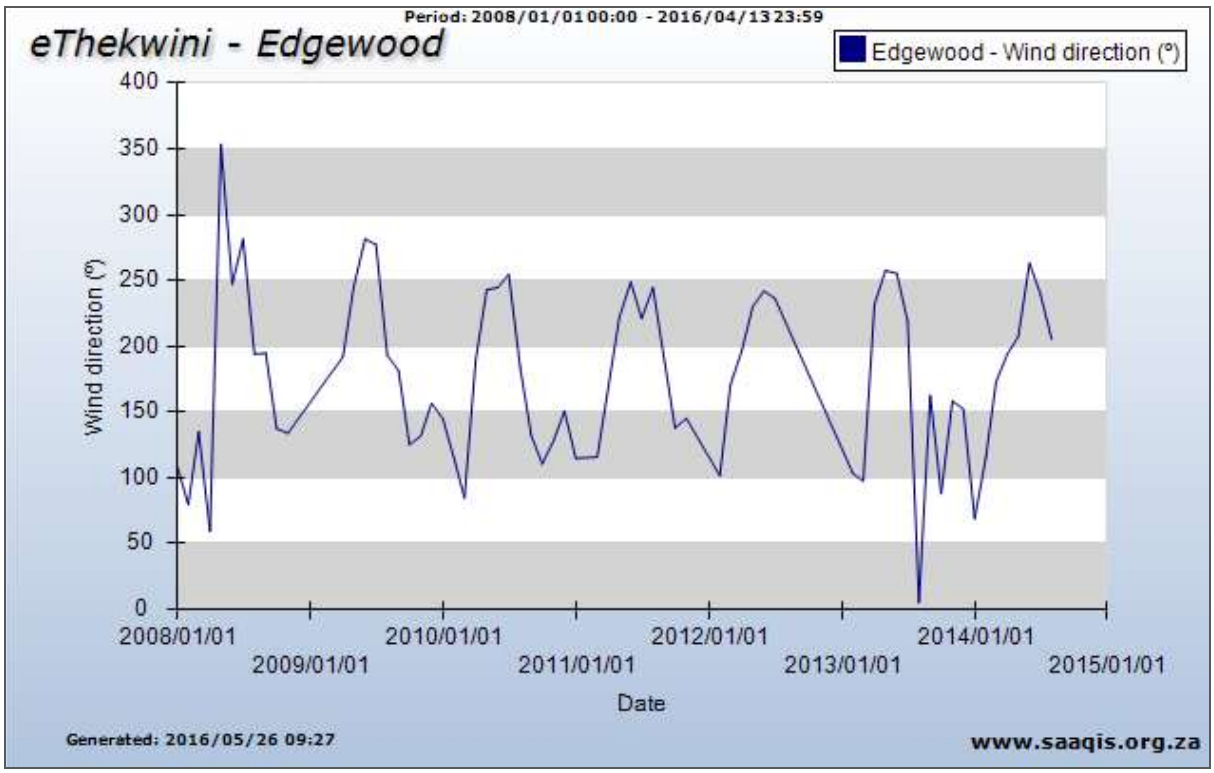


Figure 25: eThekwini Edgewood - Monthly wind direction from 2008 to 2016

3.3 Topography

Digital elevation data from the Shuttle Radar Topography Mission (SRTM), CGIAR-Consortium for Spatial Information © 2004 is used to illustrate the topography of the area surrounding Olde World Foundry. The site is situated at an elevation of 613m and surrounded by valleys refer to Figure 26.

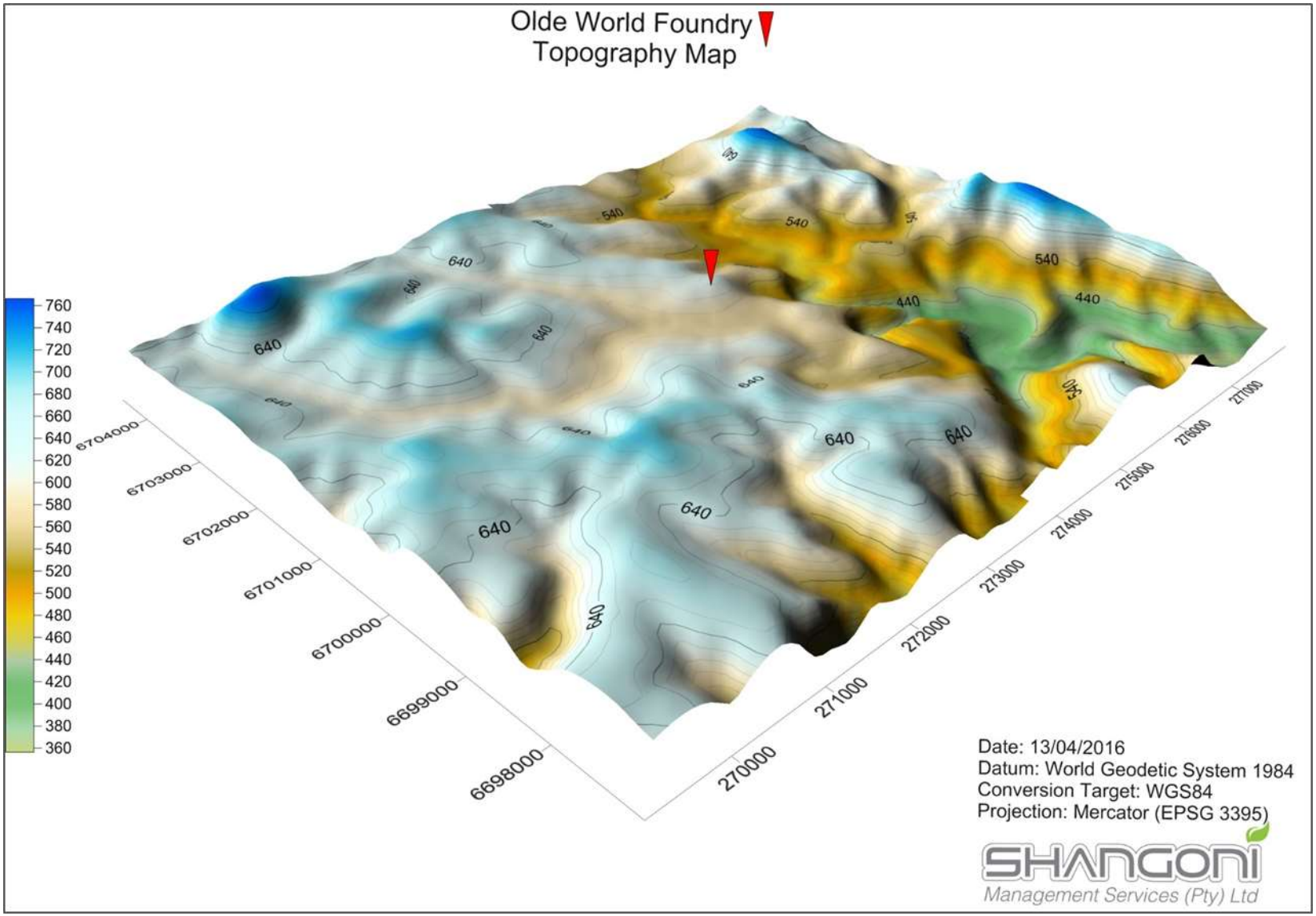


Figure 26: Topography map

3.4 Soils

The soil of Olde World Foundry can be described as, imperfectly drained soils, often shallow and often with a plinthic horizon. Relative wetness favourable in dry areas, may be seasonally wet. Refer to Figure 27.

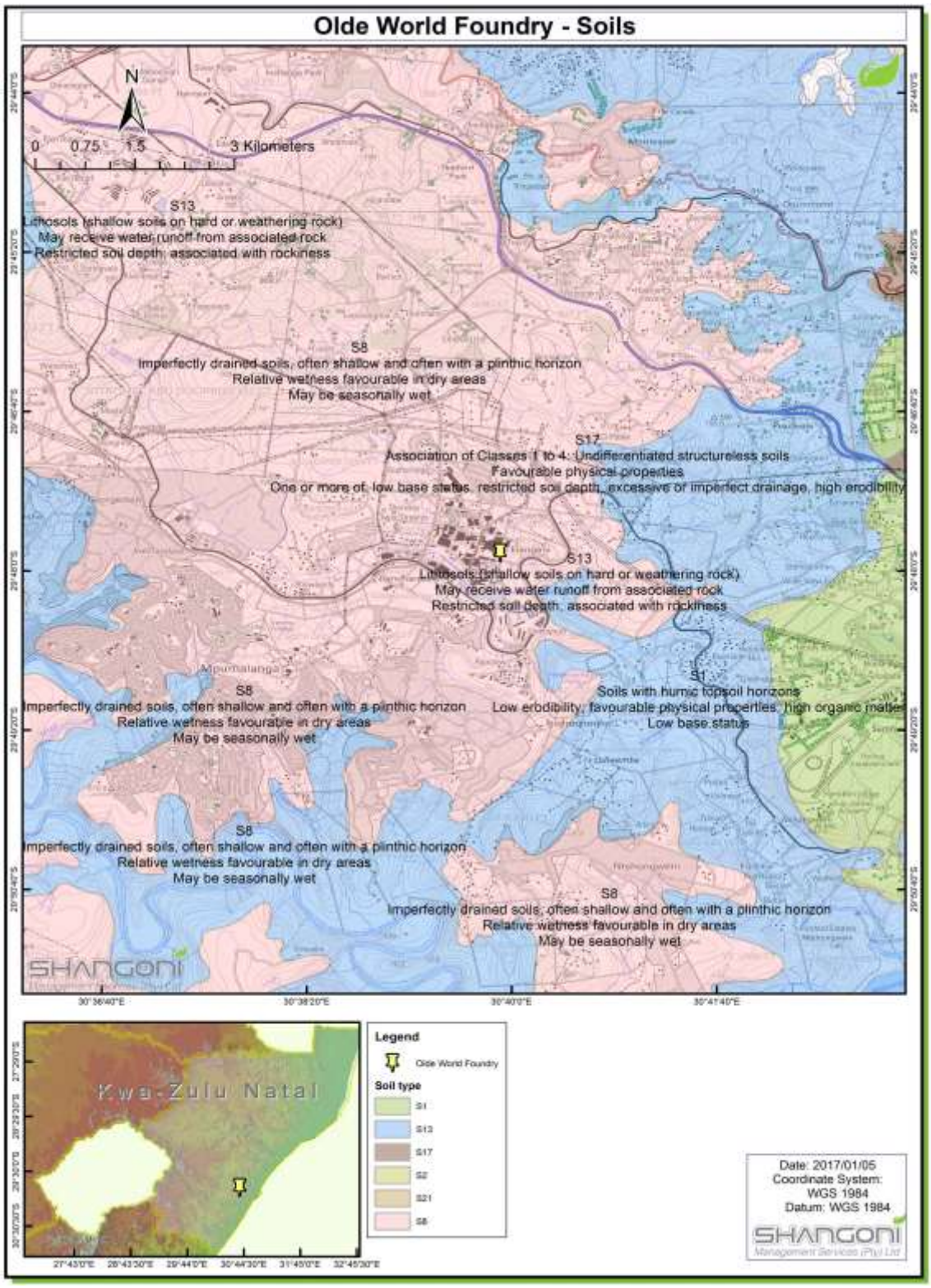


Figure 27: Soil map

3.5 Land use

The eThekwini Metropolitan Municipality's South Durban Basin occupies the most important harbour, industrial, manufacturing and refining capacity in South Africa.

The dominant land uses surrounding the wider area of the Olde World Foundry property include industrial use, the Hammarsdale wastewater treatment works, informal and rural residential areas, vegetation and a National Road (the N3). The surrounding land falls within the Indian Ocean Coastal Belt, Savanna and Forests biomes. Refer to Figure 28.

Surrounding residential areas include Ntshongweni, Mpumalanga, Summerveld, Cliffdale, Kwa-Tandaza, Georgedale, Minitown, Peacevale, Emalangeni, Edgley, Mandlakazi, Outer West Durban, Bux farm, Drummond and Camperdown rural. Railway roads are situated in Hammarsdale, Ntshongweni, Cliffdale, Kwa-Tandaza and Georgedale.

When identifying sensitive receptors in an area it is important to consider the type of activity associated with the facility (work, recreation, transport, residential, transportation) and whether it is in constant or occasional use.

The sensitivity of the facility is influenced by the interaction and relative relation people have with the location and operation. When people are confined to the territorial region of the facility they have fewer options to extract themselves from the impact of the facility. An inverse relationship exists between the options people have and the sensitivity of the facility.

Sensitive receptors include: residential dwellings, accommodation (hotels, B&B, guesthouses), hospitals, nursing homes, schools, churches, holiday/weekend dwellings, campsites, caravan parks, sports facilities and offices. Please refer to Figure 29 and **Error! Reference source not found.** for the sensitive receptors identified within a 10km radius from Olde World Foundry.

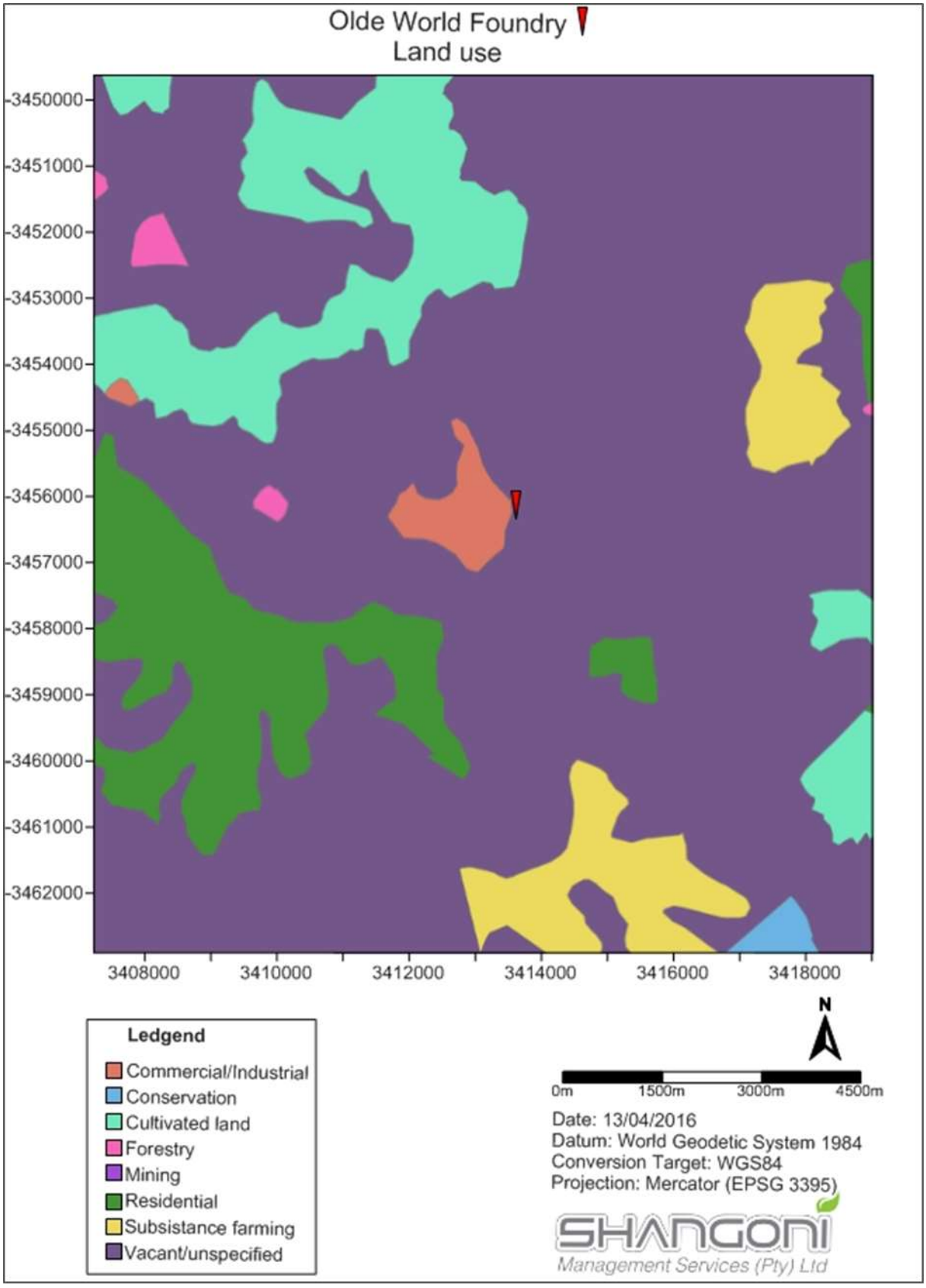


Figure 28: Land use map

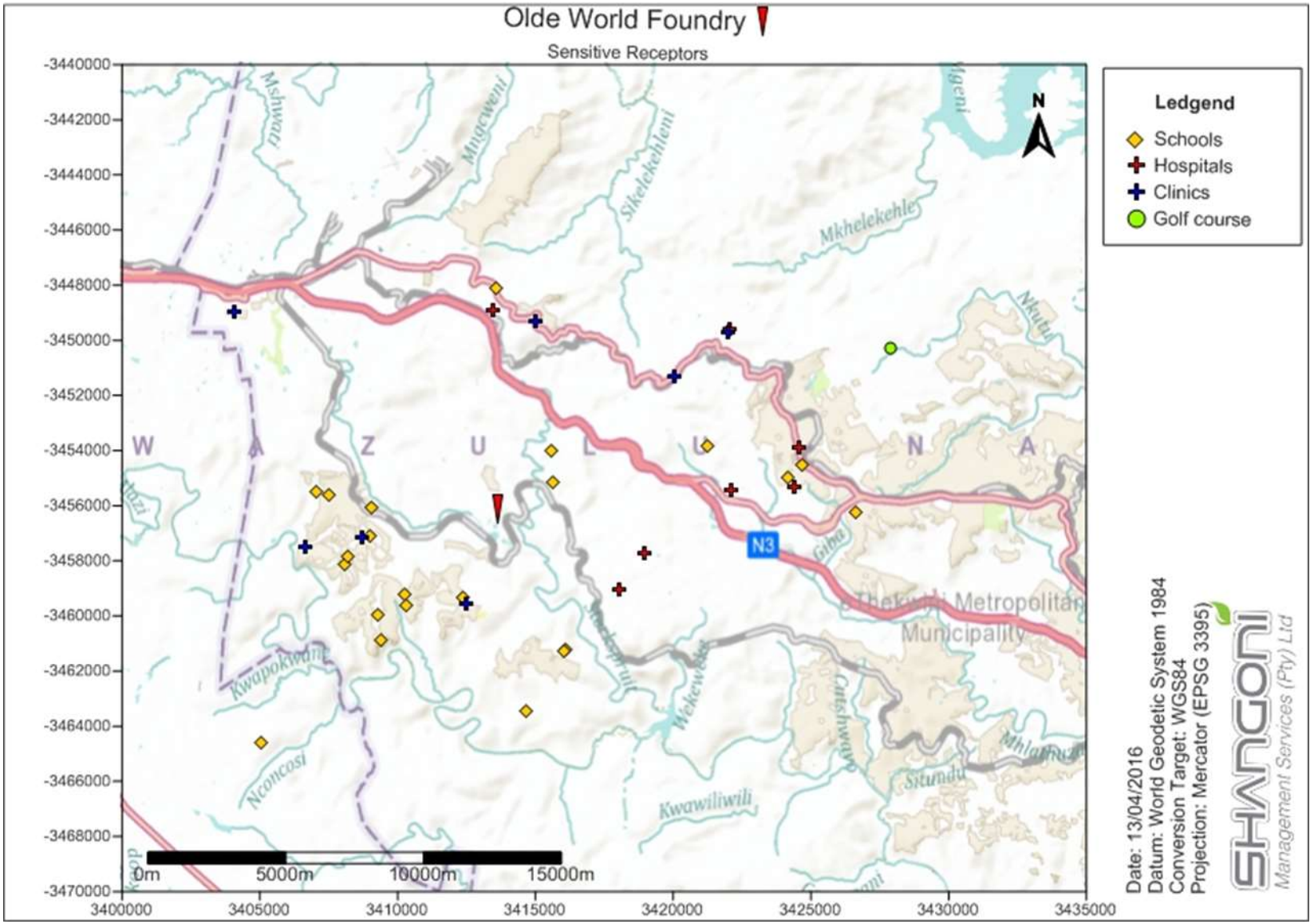


Figure 29: Sensitive receptors

3.6 Vegetation

Olde World Foundry, occurs in the Dry Coast Hinterland GS19, sub-escarpment grassland bioregion, grassland biome. Mucina & Rutherford, 2012. Refer to Figure 30.

Distribution KwaZulu-Natal and Eastern Cape Provinces: From Melmoth in the north to near Libode in the former Transkei (including Camperdown, Umlaas Road, Eston, Bisi, iZingolweni, Ngqeleni near Mthatha) generally occurring above the SVs 3 KwaZulu-Natal Hinterland Thornveld, SVs 7 Bisho Thornveld and the SVs 6 Eastern Valley Bushveld. Altitude 450 - 900 m.

Vegetation & Landscape Features Undulating plains and hilly landscape mainly associated with drier coast hinterland valleys in the rain-shadow of the rain-bearing frontal weather systems from the east coast. Sour sparse wiry grassland dominated by unpalatable Ngongoni grass (Aristida junciformis) with this monodominance associated with low species diversity. In good condition dominated by Themeda triandra and Tristachya leucothrix. Wooded areas are found in valleys at lower altitudes, where this vegetation unit grades into SVs 3 KwaZulu-Natal Hinterland Thornveld and SVs 7 Bisho Thornveld. Termitaria support bush clumps with Acacia species, Cussonia spicata, Ehretia rigida, Grewia occidentalis and Coddia rudis.

Conservation Statutorily conserved in Oribi Gorge Nature Reserve.

Herbaceous species richness is much less in Dry Coast Hinterland Grassland compared with the adjoining vegetation units KwaZulu-Natal Sandstone Sourveld; Moist Coast Hinterland Grassland; Midlands Mistbelt Grassland and relatively few of its common species are shared with these.

References Camp (1999a; 2001); Scott-Shaw (2011a)

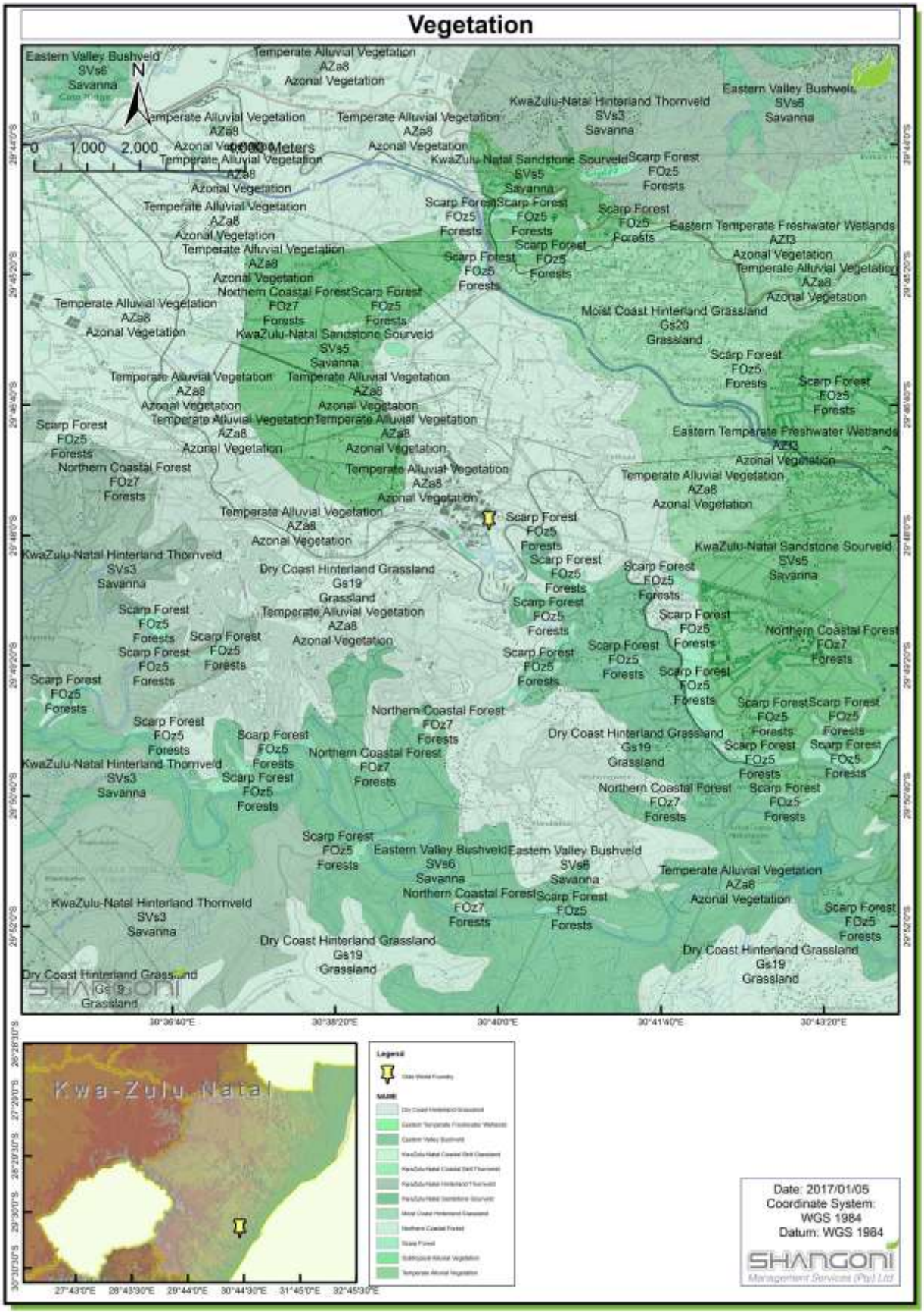


Figure 30: Vegetation map

3.7 Animal life

As Olde World Foundry, is situated within Spurwing Industrial Park in Hammarsdale, this site is considered disturbed. Therefore, there is no animal life remaining.

3.8 Surface water

Olde World Foundry is situated on the south-eastern edge of a water divide at approximately 610 meters above mean sea level (mamsl). Surface water flow will therefore be directed downgradient from this divide towards the Sterkspruit towards the south-east on a steep gradient of approximately 0.261. Surface contours (5 m) refer to Figure 31.

The site is located in the U60C Quaternary Catchment refer to Figure 32 and the major natural surface water feature is the Sterkspruit, a mostly perennial stream flowing in a south-eastern direction towards the Ntsongweni Dam. Several non-perennial tributaries of the Sterkspruit are located towards the direct east and downgradient of the site refer to Figure 33.

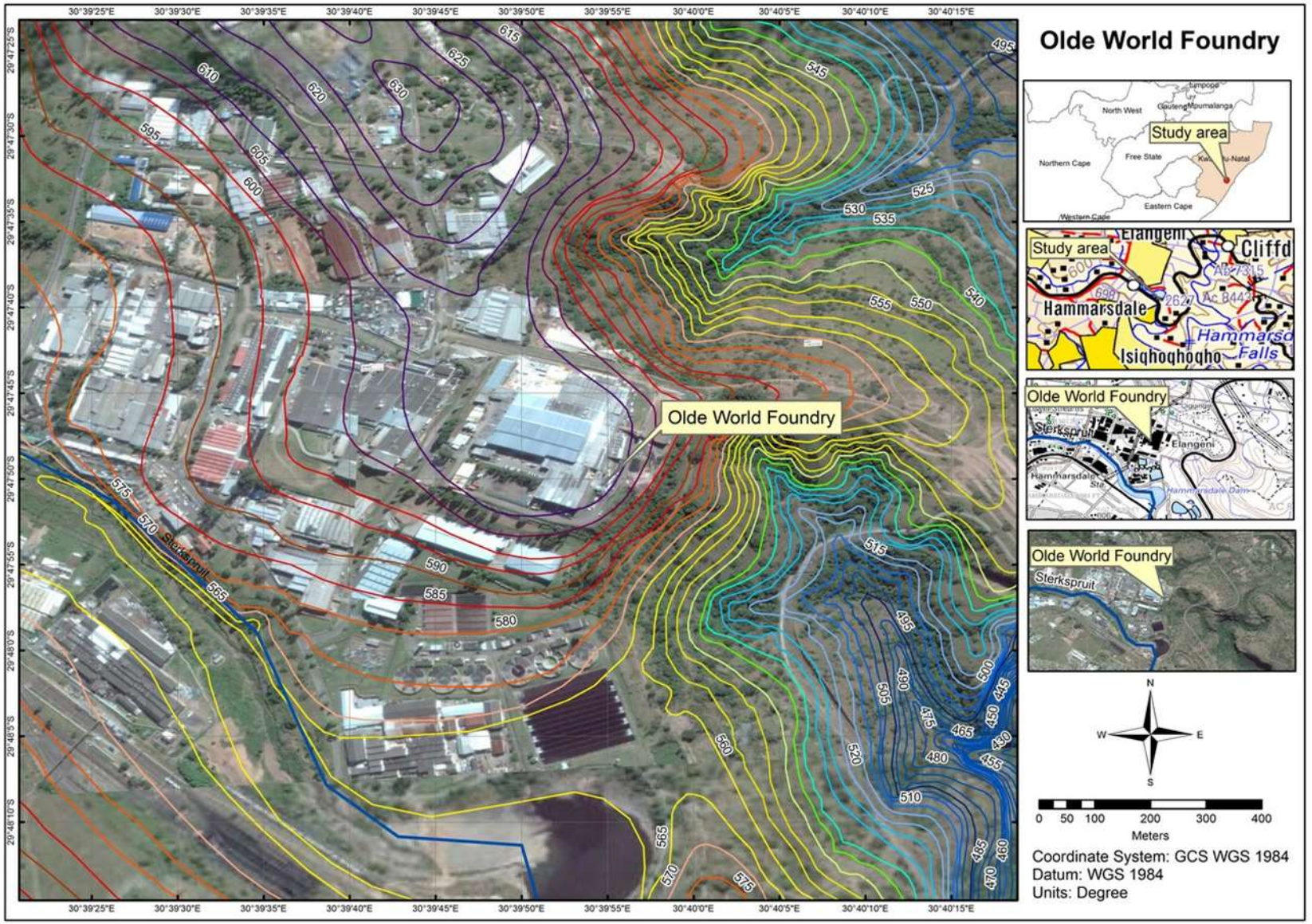


Figure 31: Surface contours (5 m) and flow vectors in vicinity of Olde World Foundry

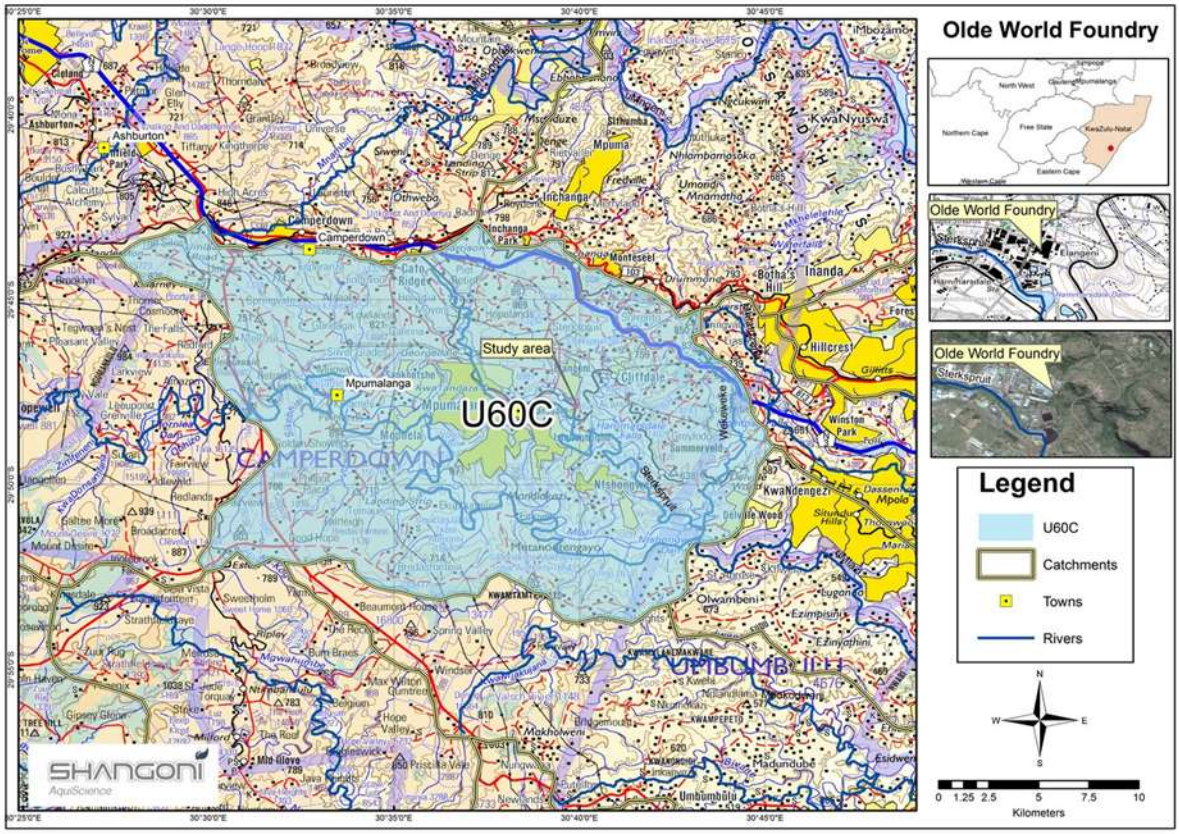


Figure 32: Quaternary catchments

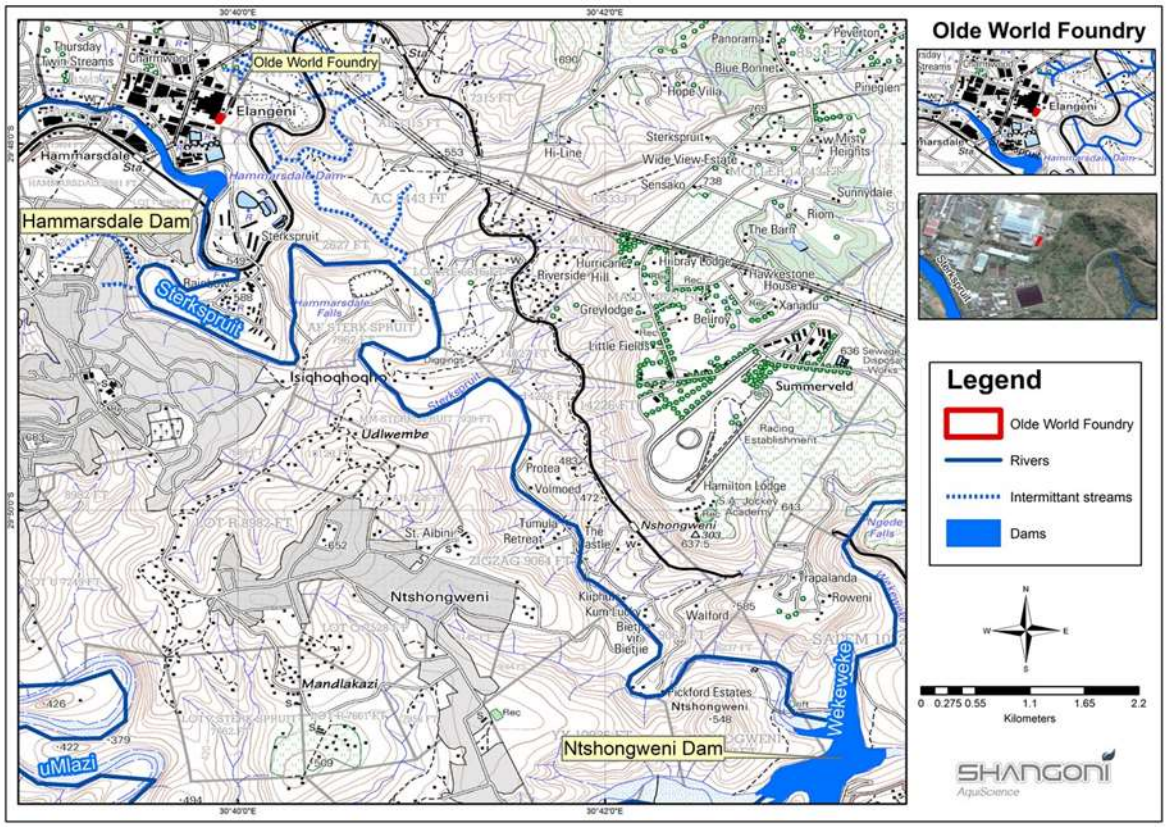


Figure 33: Natural surface water drainage features

3.9 Groundwater

3.9.1 Groundwater occurrence

In a typical geohydrological setting, groundwater flow and aquifer development are closely linked to the geology of an area, which is no different for the aquifers underlying Olde World Foundry. It is also expected that the groundwater flow paths will closely mimic that of the surface flow vectors and gradients, refer to Figure 31. Groundwater tend to move hydraulically from a high elevation to a low elevation being recharged from the higher lying areas or surface water divides where it will daylight within surface systems in groundwater contribution to baseflow.

The Natal Group rocks have a high quartz content which causes them to behave in a brittle manner. These rocks usually have well-developed joints that may be interconnected. Fault zones are very important high yielding areas in these rocks. The faults can however be silicified which may decrease the transmissivity of the aquifer and thus restrict its yield. Sandstones do however have higher yields as compared to metamorphic rock because of their abilities to store and transmit larger amounts of water given the interstitial spaces between individual sand grains.

The range of known hydraulic conductivities is from 0.4 – 7.7 m/d and the storativity is estimated to be 0.005. The median borehole yield is 0.5 l/s, with yields consistently between 0.1 and 2 l/s. A success rate of between 80 and 90% is commonly achieved by scientifically sited boreholes. The quality of groundwater within these aquifers are generally good with electrical conductivity <100 mS/m.

The Department of Water add Sanitation have characterised South African aquifers based on the rock formations in which they occur together with its capacity to transmit water to boreholes drilled into specific formations. The water bearing properties of rock formations in South Africa can be classified into four classes defined as:

1. **Class A - Intergranular**
    - Aquifers associated either with loose and unconsolidated formations such as sands and gravels or with rock that has weathered to only partially consolidated material.
2. **Class B - Fractured**
    - Aquifers associated with hard and compact rock formations in which fractures, fissures and/or joints occur that are capable of both storing and transmitting water in useful quantities.
3. **Class C - Karst**
    - Aquifers associated with carbonate rocks such as limestone and dolomite in which groundwater is predominantly stored in and transmitted through cavities that can develop in these rocks.
4. **Intergranular and fractured**

- Aquifers that represent a combination of Class A and B aquifer types. This is a common characteristic of South African aquifers. Substantial quantities of water are stored in the intergranular voids of weathered rock but can only be tapped via fractures penetrated by boreholes drilled into it.

Each of these classes is further subdivided into groups relating to the capacity of an aquifer to transmit water to boreholes, typically measured in l/s refer to Figure 34. The groups therefore represent various ranges of borehole yields.

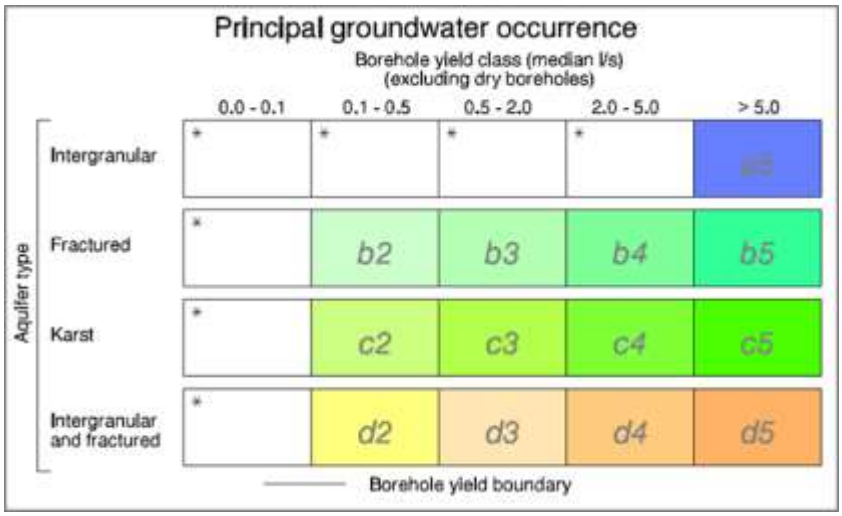


Figure 34: Borehole yield classes

The groundwater occurrence at the study is of a ***Fractured*** nature and is located within a ***b2 aquifer* class** region refer to Figure 35. The groundwater yield potential is classed as low on the basis that boreholes are expected to produce between 0.1 and 0.5 l/s. Good yielding fractures are expected to be largely absent from within the study area given the absence of significant faulting zones. Such faults are generally the favorable areas to explore for good groundwater yields. The presence of significant preferential flow pathways for the movement of groundwater (and pollutants) are expected to be largely absent and matrix flow will dominate. Groundwater movement will therefore be largely confined to micro-fractures and the matrix (seepage), with very low hydraulic conductivity/transmissivity. The aquifer/s underling the study area can therefore be classified as ***minor***.

3.9.2 Fractured aquifers defined

Rocks that behave in a brittle manner under tectonic forces and have limited intergranular properties have been grouped as fractured rock aquifers. Rock fracturing has its greatest expression in the faults along the coastal zone, thereby including the Natal Group, Msikaba Formation and Dwyka Group. Jointing in the rocks is far more common than true fracturing. The above-mentioned rocks respond favourably to jointing and fracturing because of their petrography, which due to their competency tend

to allow the joints and fractures to remain open. Dolerite intrusions into these rocks are also not very common because of the lack of discontinuities, which would allow for extensive intrusions of sills. A few dolerite sills do occur, but dolerite dykes are more common as feeder structures to intrusions into the argillaceous sediments above.

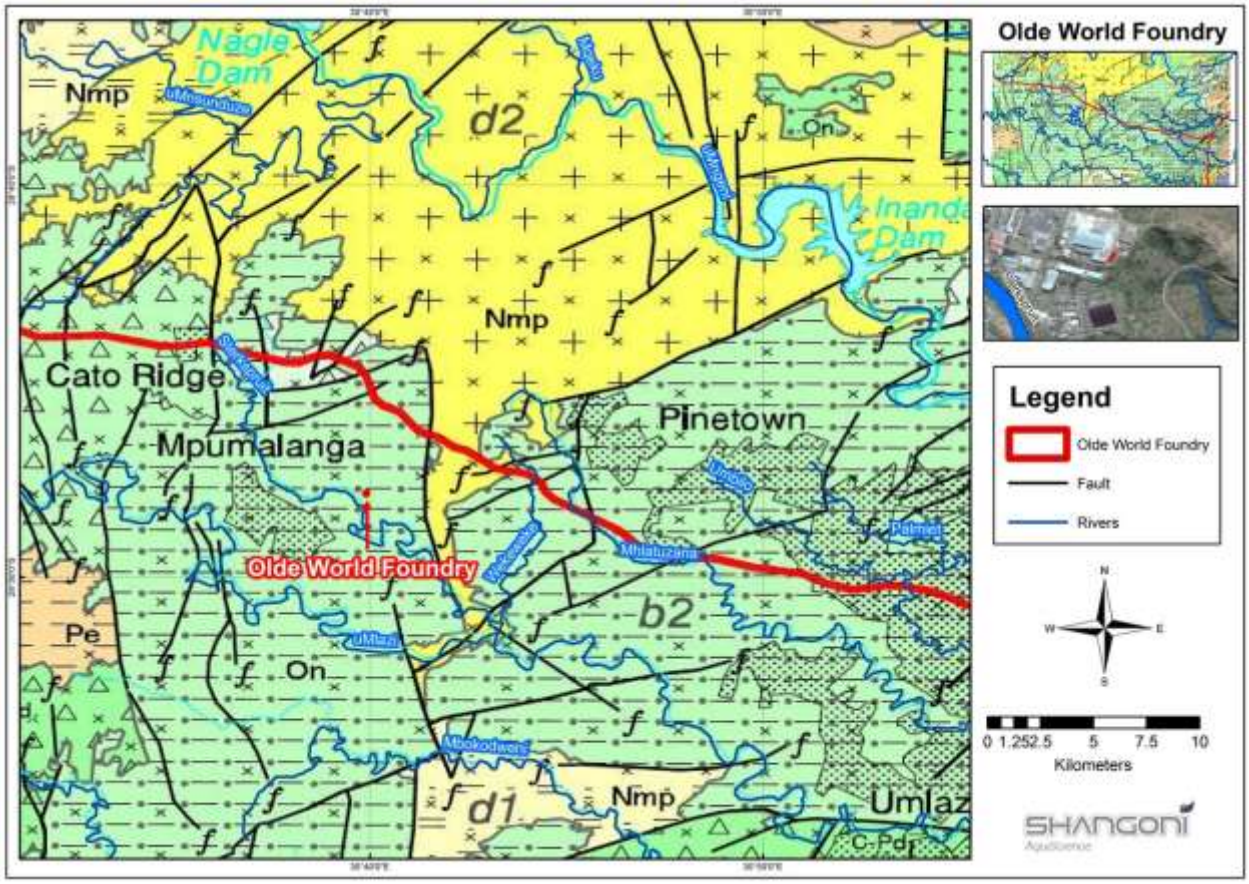


Figure 35: Regional geohydrological map

3.10 Sensitive landscapes

According to the Freshwater ecosystem study that was conducted by Ground Truth, April 2018 "*There was no natural wetland habitat identified within 500m of the OWF that is hydrologically linked to the Old World Foundry (OWF)".*

Two hydrologically linked Riparian B channels were identified and ultimately drain into the Sterkspruit River, which is classified as a low priority system (Nel et al. 2011). The Riparian B channels, which have been labelled as the Northern and Eastern Tributaries for the purposes of this report refer to figure Figure 36, are fed by multiple drainage lines within the upper reaches of their catchments. In addition, a small-scale artificial wetland area was identified within the Eastern Tributary as a result of the impoundment of flow as a result of the railway line crossing.

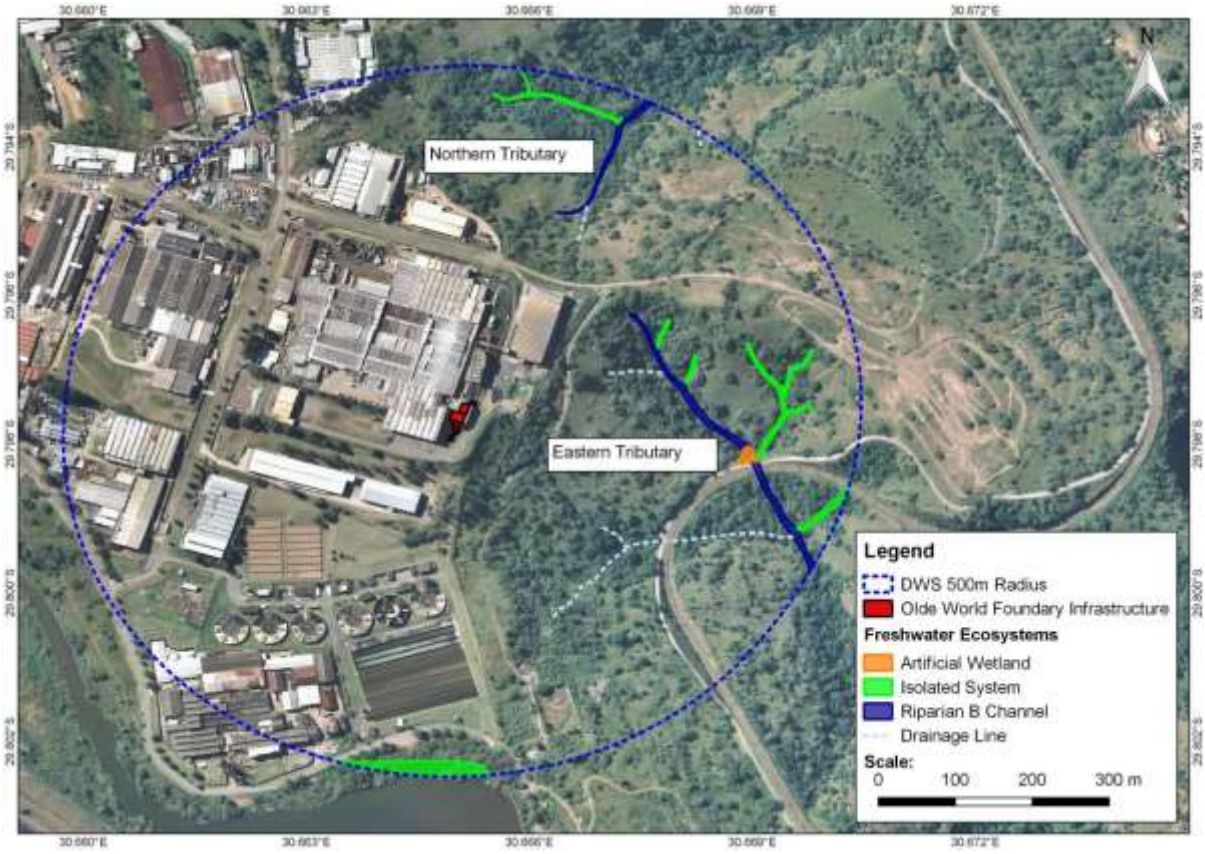


Figure 36: Extent of freshwater ecosystems within a 500m radius of the Olde World Foundry operations

Multiple hydrologically isolated systems were also identified. These systems include riparian habitat (located north and east of the OWF) and the Hammarsdale Dam created wetland (located south of the OWF). These isolated systems occur within different local catchment or watershed areas and therefore are not influenced by the OWF operations. The Hammarsdale created wetland project was implemented as part of the dam decommissioning process in order to improve/enhance the effectiveness of the freshwater ecosystem in supplying water quality enhancement services for downstream portions of the Sterkspruit River.

3.11 Sites of archaeological and cultural interest

Olde World Foundry is located within Spurwing Industrial Park in Hammarsdale, this is a disturbed area. Therefore, there are no sites of archaeological and cultural interest.

3.12 Air Quality

The Catho Ridge ambient air quality monitoring station is located approximately 10.20km northwest (312.57°) of Olde World Foundry and the New Germany ambient air quality monitoring station is located approximately 20.43km east (90.39°) from the site.

The following information was obtained from the Catho Ridge ambient air quality monitoring station for the period 01/07/2014 to 13/04/2016:

- Hourly averages of NO_2 ground level concentrations refer to Figure 37,
- Hourly averages of SO_2 ground level concentrations refer to Figure 38 and
- Daily averages of SO_2 ground level concentrations refer to Figure 39.

The following information was obtained from the New Germany ambient air quality monitoring station for the period 01/07/2014 to 13/04/2016:

- Hourly averages of NO_2 ground level concentrations refer to Figure 40,
- Hourly averages of SO_2 ground level concentrations refer to Figure 41; and
- Daily averages of SO_2 ground level concentrations refer to Figure 42.

All hourly and daily averages for NO_2 and SO_2 were found within the National Ambient Air Quality Standards.

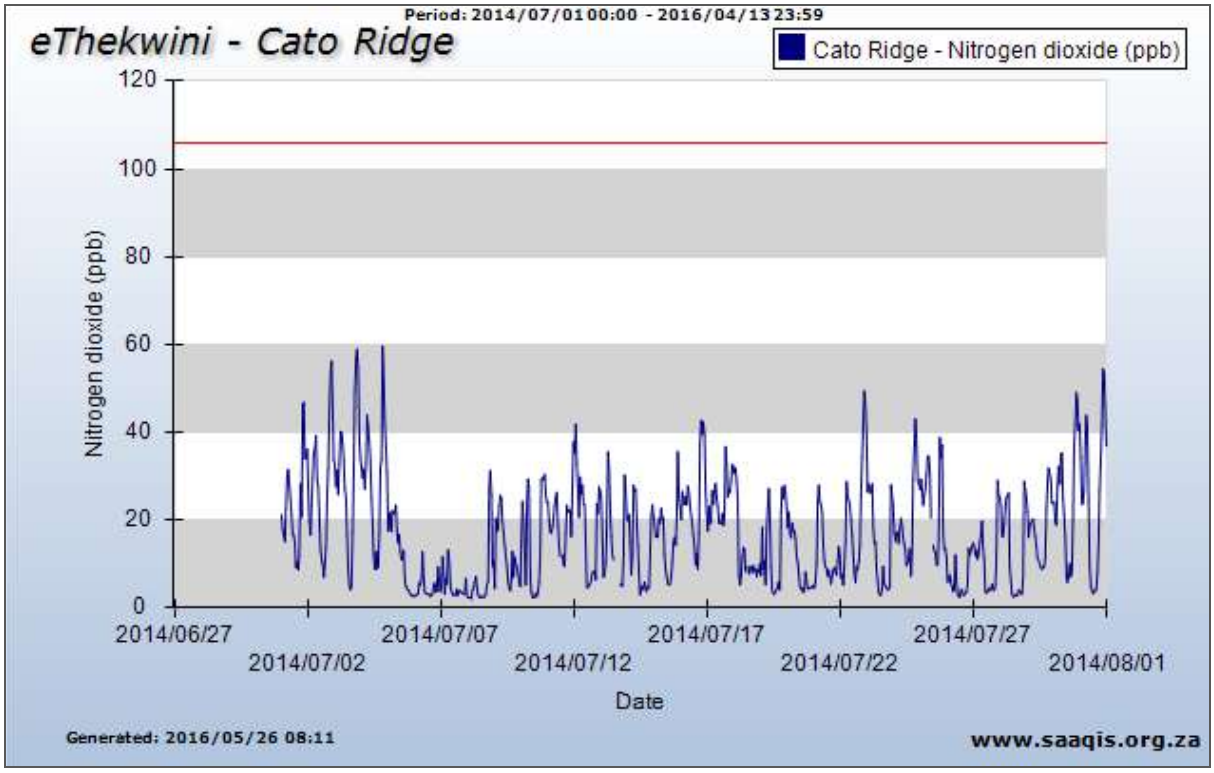


Figure 37: Hourly averages of NO_2 ground level concentrations

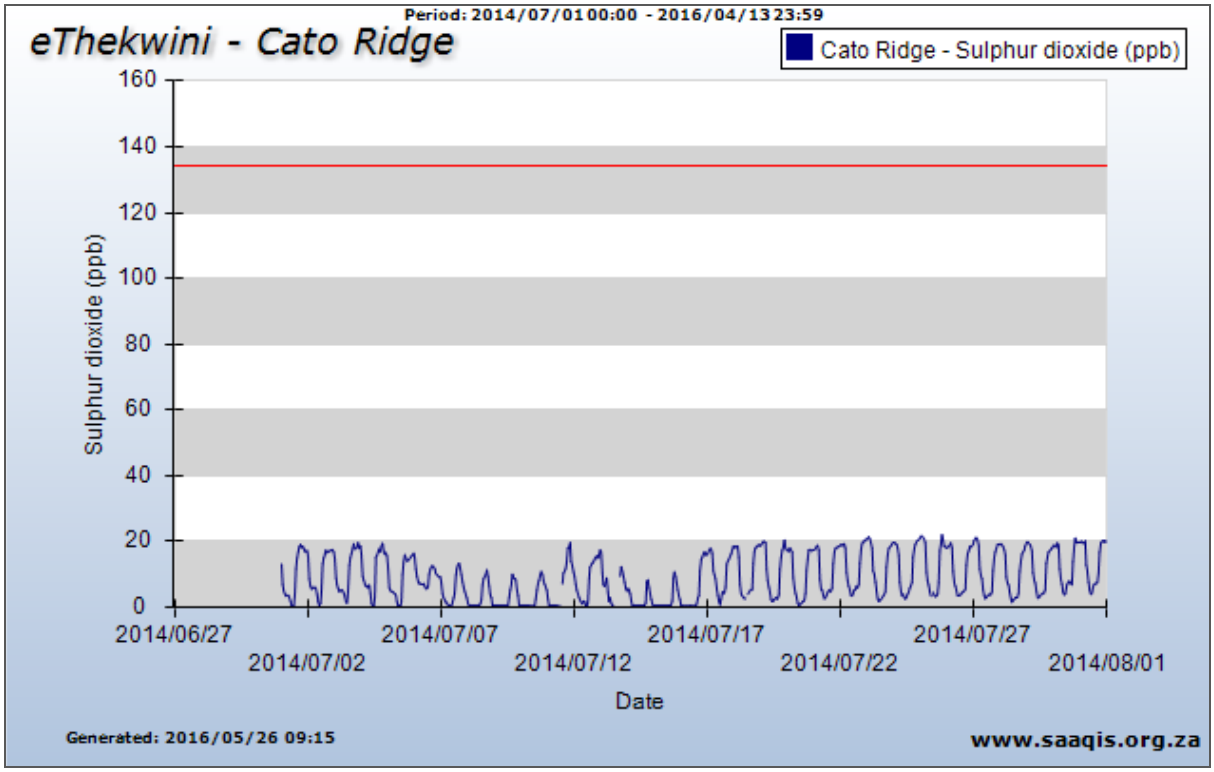


Figure 38: Cato Ridge - Hourly averages of SO_2 ground level concentrations

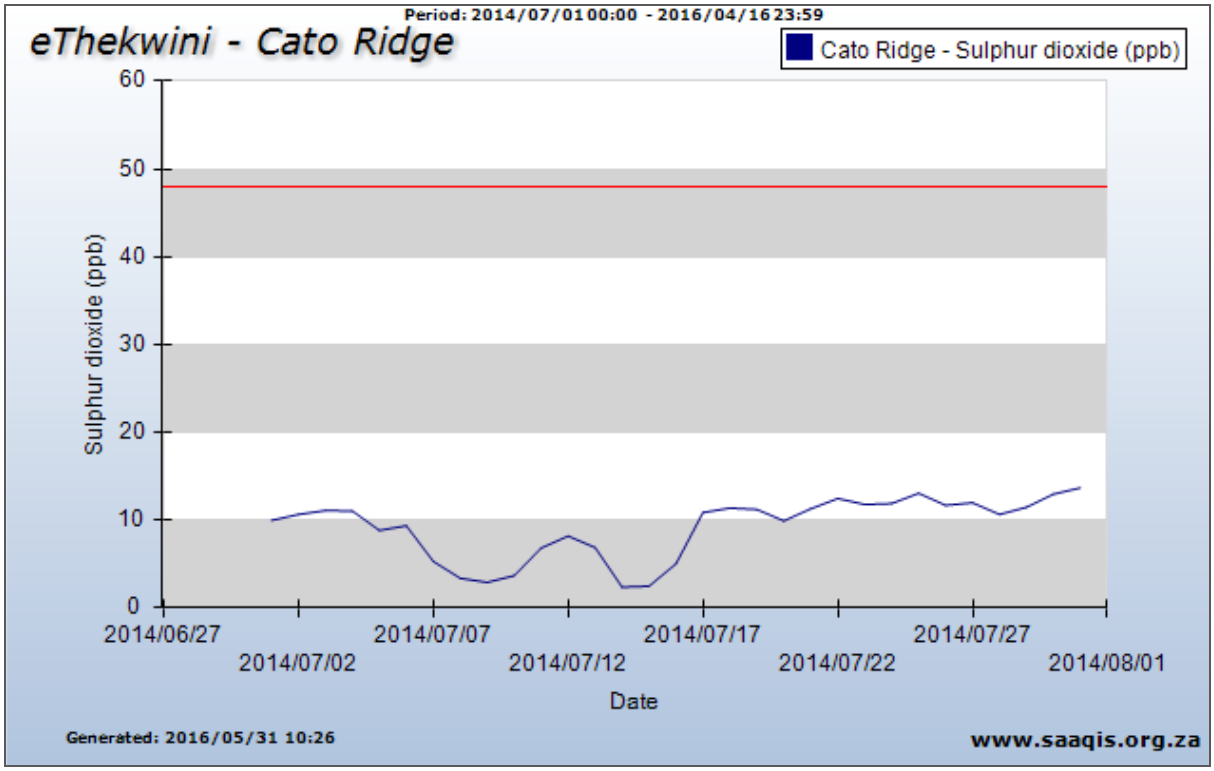


Figure 39: Cato Ridge - Daily averages of SO_2 ground level concentrations

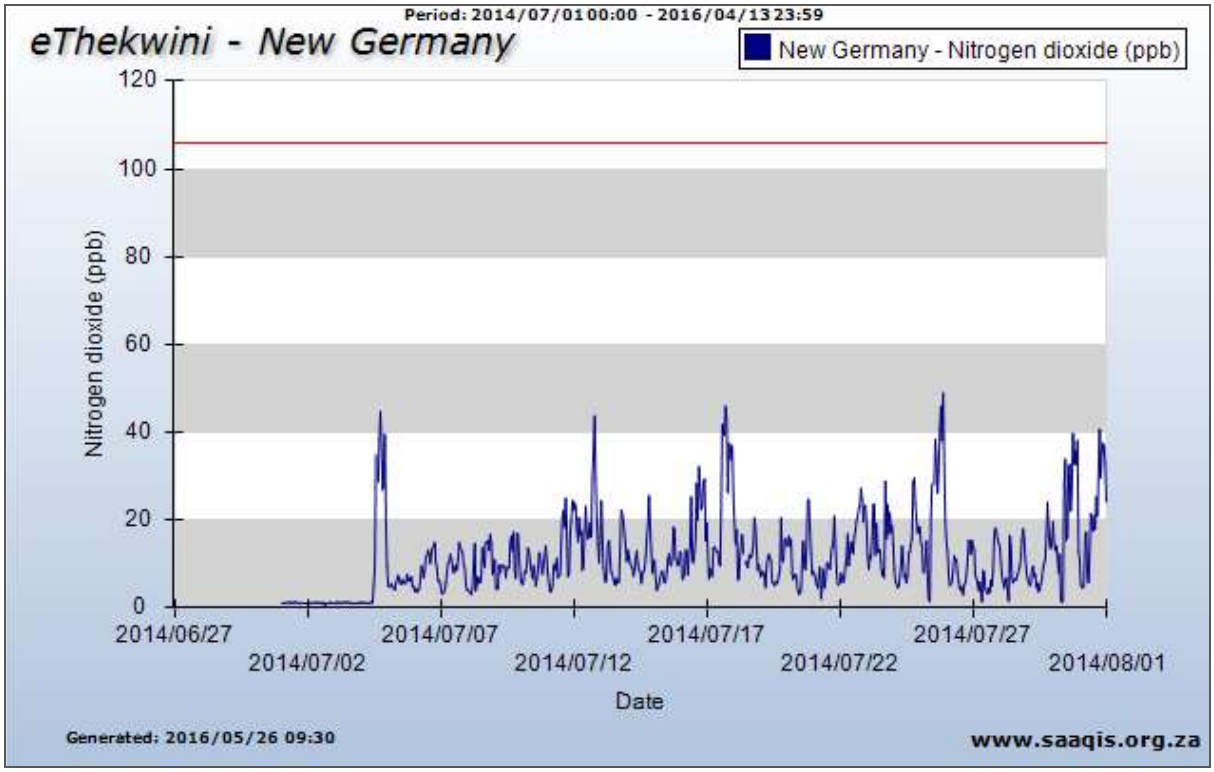


Figure 40: New Germany - Hourly averages of NO_2 ground level concentrations

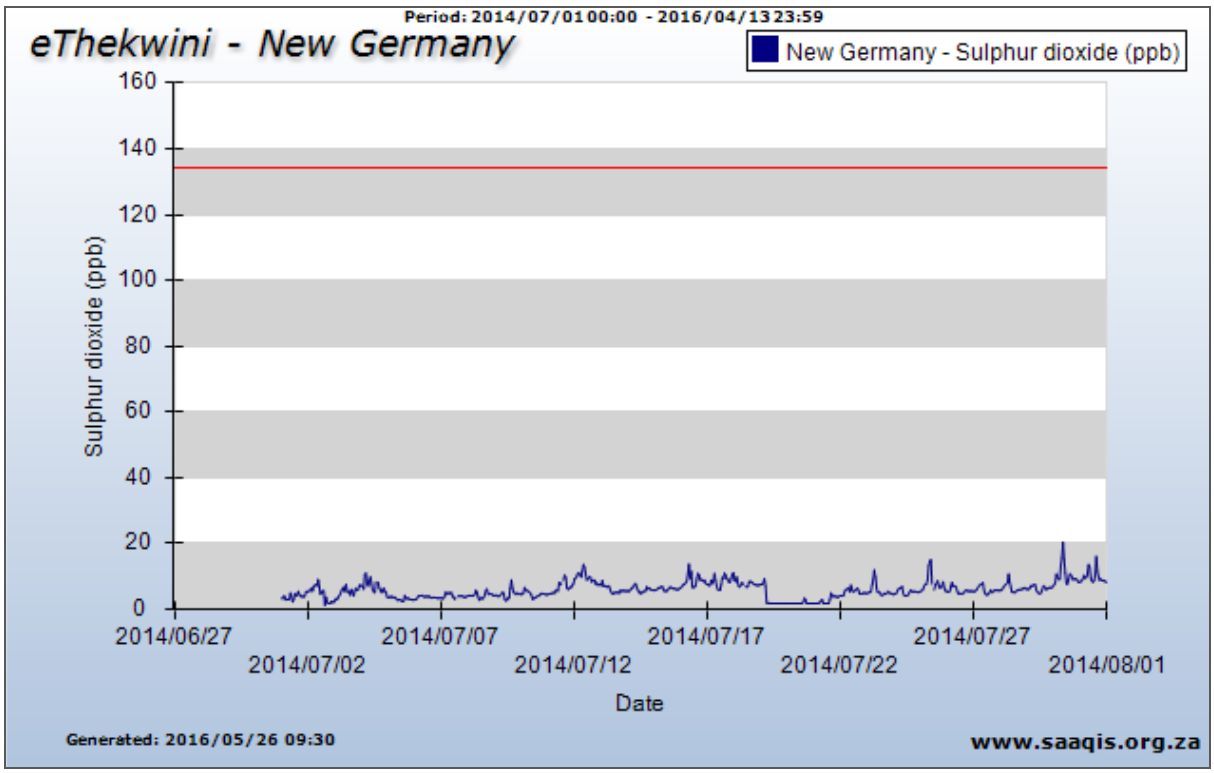


Figure 41: New Germany - Hourly averages of SO_2 ground level concentrations

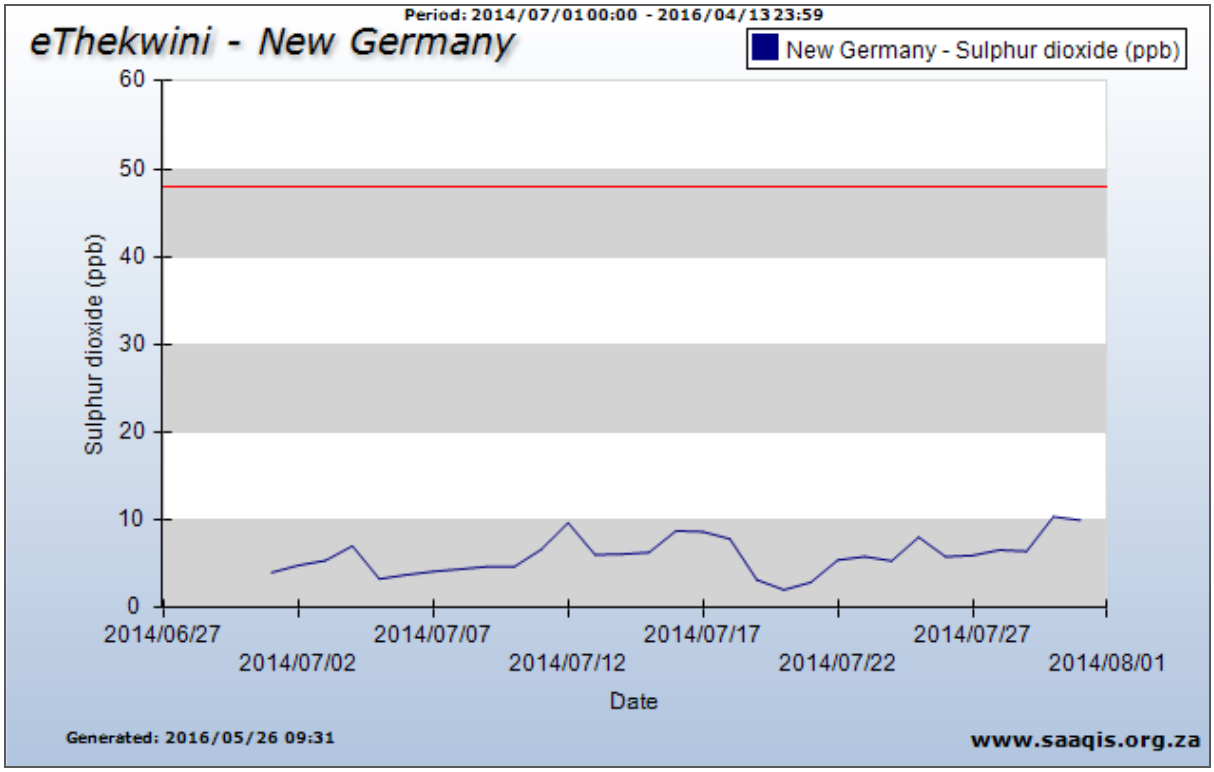


Figure 42: New Germany - Daily averages of SO_2 ground level concentration

The town Mpumalanga is located to the southwest (212.00°) and south southeast (156.83°) of Olde World Foundry. The town Cliffdale is situated to the east northeast (62.06°) of Olde World Foundry. The town Catho Ridge lies approximately 10.13km in a northwesterly direction from Olde World Foundry. The land stretching the 10.13km northwest to Catho Ridge is primarily rural and vacant/unspecified. The following activities associated with towns contribute to atmospheric pollution:

- Traffic - Combustion of fuel in vehicle engines;
- Cooking and heating – Combustion of coal, paraffin and/ or wood;
- Incineration or burning of waste; etc.

The eThekwini Metropolitan Municipality's South Durban Basin occupies the most important harbour, industrial, manufacturing and refining capacity in South Africa. eThekwini Metropolitan Municipality's Air Quality Management Plan identifies the SDB as a major source of atmospheric pollution in the area. The SDB is located 31.71km east southeast (118.37°) from Olde World Foundry.

3.13 Noise

Wilbrink & Associates, conducted a noise survey in December 2016. The following findings were found:

- All readings were taken during normal operational activities. The duration of each sample depended on the type of noise experienced. The Leq (A) reading had to be stable (no fluctuation) before the final reading was taken. The noise generated was very steady in nature.

- Any grinding of / or hammering on metal surfaces should be regarded as a noisy operation and that area should, for the period of the operation, be regarded as a noise zone.

3.14 Visual aspects

Olde World Foundry is located within Spurwing Industrial Park in Hammarsdale, approximately 40 km West of Durban. The foundry occupies approximately 700m^2 of the 56 000m^2 of Spurwing Industrial Park.

3.15 Socio-economic aspects

The following information was extracted from the eThekwini Municipality Integrated Development Plan 5 Year Plan: 2012/13 to 2016/17 Annual Review 2016/2017.

3.15.1 Demography

In 2001 the population of eThekwini was 3.09 million and has grown at an average annual percentage of 1.13% per annum to reach 3.44 million in 2011 (Statistics South Africa 2011).
The major forces that drive population growth are:

- fertility
- mortality
- migration
- HIV prevalence and access to Anti Retro Virals

According to Census 2011 the eThekwini population is young with 66% of the population below the age of 35 years. Individuals within the 0-14 year's old group comprise 25% and the 15-34 age group 41% of the population. The 35 to 59 age group comprises 26% and those 60 and over 8%. The economically active age group from 15 to 59 years includes 67% of the population. The population dependency ratio is 48 / 100 and this indicates that 48 persons either young or old depend on 100 persons of working age.

The population pyramid is indicative of a developing population with high birth and infant mortality rates and a comparatively short life expectancy. In terms of gender the municipal population comprises 49% males and 51% females. In eThekwini females have a longer life expectancy than males as can be seen in the population pyramid which shows that there are greater numbers of females than males in the age groups from 50 years and older. The sex ratio for the eThekwini population is 96 males per 100 females. Refer to Figure 43.

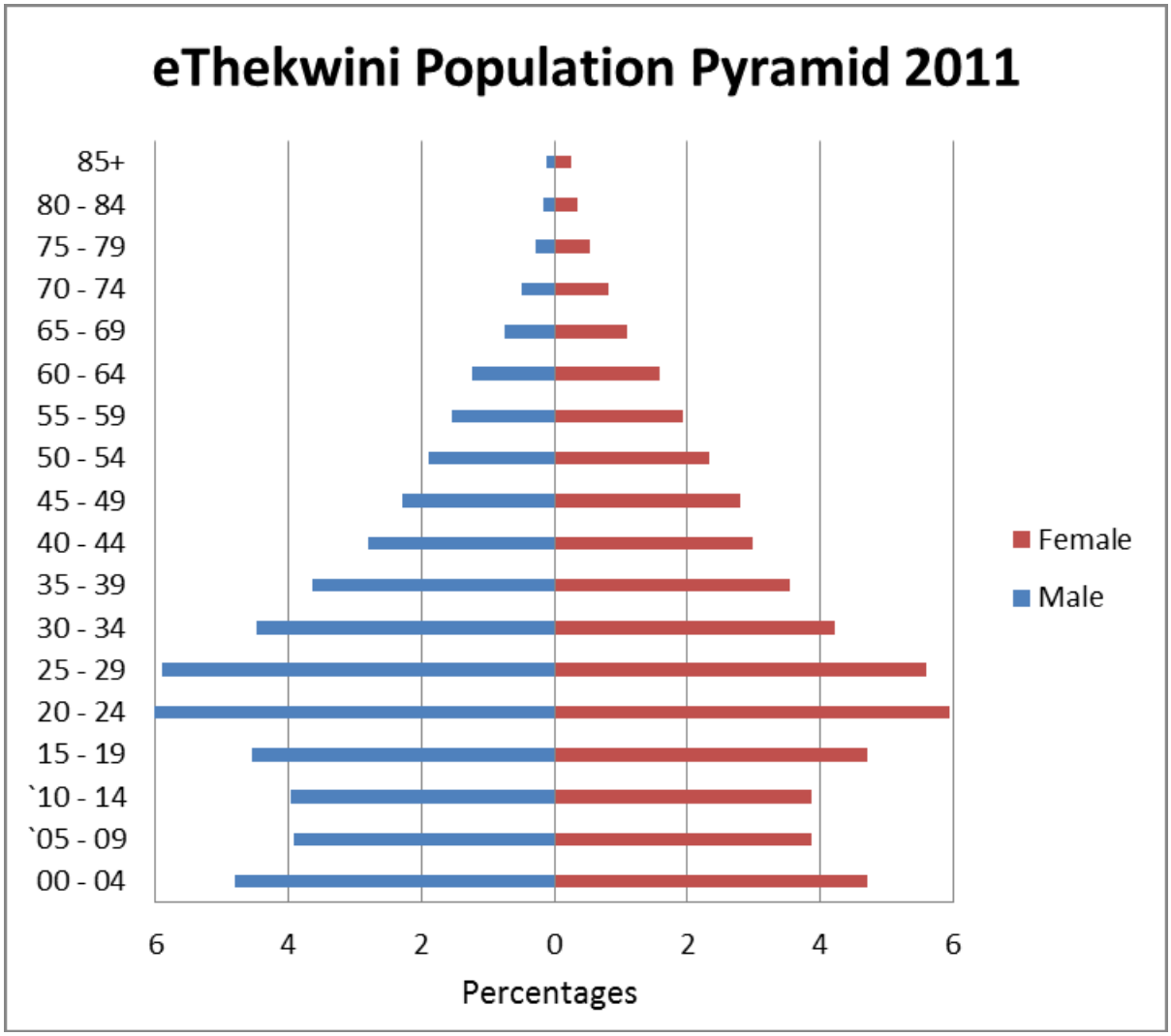


Figure 43: eThekwini Population Pyramid

Source: Census 2011

3.15.2 Major economic activities

The Economic Development and Job-Creation Strategy 2013-2018 which was adopted by the eThekwini Municipality's Executive Council during October 2013 maps out a growth scenario over the next 20 years with an overall framework for the first 5 years. The purpose is to put in place a suite of fundamentals to drive the growth in the future phases. The growth opportunities over the next 20 years will focus on capitalizing on the role of the port, international airport and modern rail, road, infrastructure, information and communication technologies. It also includes promoting the city as a center for trade between Africa and the world. From a tourism perspective it will entail marketing the city as an events and tourism destination. In addition, it seeks to promote the city as the best location for manufacturing activities.

The eThekwini Municipal region is the economic powerhouse of KwaZulu-Natal and also makes a significant contribution to the South African economy. It is a vital link between the regional economies of Pietermaritzburg (and onward to Gauteng) and Richards Bay. EThekwini ranks as the second

largest economic centre and is the second most significant industrial region in South Africa. It is a promising global competitor with a world-class manufacturing sector.

EThekwini is home to Africa's first multimodal logistics platform and international passenger airport, Africa's busiest port, and a global conferencing, sporting and tourist destination. It is also a substantial administrative centre, providing key public services within the Metropolitan area as well as to the wider region. It is both a centre for low cost production, as well as a key logistics hub in the national economy. It is home to 10% of all employment opportunities in South Africa.

The key Issues relating to the economy in eThekwini (as elaborated below) include:
1. Persistently high unemployment;
2. 41,8% of population subject to conditions associated with poverty;
3. Need for greater diversity in the economy.
4. Declining resource base and the impacts of climate change
5. Unreliable electricity supply through Eskom (frequent load shedding)
6. Urbanisation
7. Low foreign direct investment (FDI) and business expansion

FUTURE ECONOMIC GROWTH AND DEVELOPMENT

One of the major highlights in the global economy during most of 2015 has been the unpredictable commodity prices which have influenced key decision-making processes – mostly due to the supply and demand for raw materials. One of the key factors is the slowdown of China's economic growth as well as anticipation of tightening monetary policy in the US. Global growth for 2015 is projected at 3.1% which is 0.2 percentage points below the forecasts in July 2015 by the World Economic Outlook Update. The recovery in advanced economies is expected to improve slightly, while activity in emerging market and developing economies is projected to slow for the 5th year in a row.

Another impact on the global and regional economies may be the effects of El Nino which causes flooding and warm weather, drought and torrential rains depending on where one lives. Presently the impacts are being felt severely in KwaZulu-Natal, which, together with the Free State Province has been declared disaster areas by national government - this will now provide relief to communities and the provincial economy. However, it was noted that the province still needs to use water sparingly because this a global phenomenon that is said to be going to prevail along with the climate change and global warming.

The International Monetary Fund (IMF) has again lowered its growth outlook for South Africa for 2015, projecting in its October World Economic Outlook (WEO) that the economy would expand by only 1.4% in this year and 1.3% in 2016. This is close to the downward revision by National Treasury of 1.5% in the Medium Term Budget Policy Statement. This does not bode well for the country's goal reaching the job target set in the National Development Plan as the unemployment rate increased to

25.5% in the third quarter of 2015 from 25% in the previous period. The number of unemployed rose 3.6% while employment went up at a slower 1.1%. In the same quarter, the not economically active population declined 1.3% to 14.87 million and discouraged work-seekers decreased 8.5% to 2.2 million. The 1.1% increase in employment were observed in trade (+2.6%), construction (+4.2%) and agriculture (+3.2%). In contrast, job losses were recorded in utilities (-6.7%) and transport (-2.6 %). In the third quarter of 2015, the labour force participation rate increased to 58.8% from 58.1% in the previous period. The expanded definition of unemployment, which includes people who have stopped looking for work slowed to 34.4% from 34.9%.

The dismal growth outlook also means that business confidence is likely to remain suppressed over the next 2 years due to weak domestic demand and pressure on costs. In addition to this there's also the uncertainty over private sector property rights which is undermining confidence and private sector fixed investment, leading to slow employment. Along with other commodity exporters, South Africa has faced slower economic growth and a weaker currency as the commodity slump (particularly metals and energy) follows on from a decade of price rises and investment into extraction. However, the fall in the oil price has had a positive impact on SA's current account deficit.

The eThekwini municipal region recently recorded the lowest unemployment rate of 16.5% in the Quarterly Labor Force Survey by Statistics South Africa during the second quarter of 2015. The region employs approximately 9% (approximately 1.3-million) of the national total of 14.4-million people and is currently growing at a rate of 2.2%. Although the unemployment rate is low for eThekwini, the challenge remains to grow employment by more than 4% in order to meet its share of the NDP target.

The Municipality's Industrial Revitalisation Plan for 2015/16 and the update of the industry database will play a useful role in identifying where the manufacturing sectors are growing. This will also enhance the City's efforts in encouraging those sectors experiencing both growth and job creation. The Economic Development and Investment Promotion Unit has also launched some unique innovation initiatives and these include the Youth Innovative Challenge, a partnership with IBM, the Sustainable Enterprise Development Facility and the Government of Flanders with the purpose of supporting youth-driven technology businesses.

The announcement that Durban will host the 2022 Commonwealth Games is expected to catapult the city onto the global platform for the next 7 years from which a multitude of economic and social benefits may be reaped. These benefits include exposure to world markets to attract and enhance tourism and foreign direct investment. The event – which is taking place for the first time on African soil - is expected to generate up to R20 billion to the national economy, translating into an additional R11 billion gross domestic product growth and is expected to add approximately R2-billion to the local economy. The Games will underpin the City's growing reputation as an events capital of the continent and may act as a major boost towards achieving the ambitious visitor targets set in the Municipality's

Tourism Strategy leading up to 2022. In addition, there will be opportunities to showcase the city's on-going initiatives with respect to new tourism products, innovation, poverty alleviation and transformation some of which may be directly linked with the Games.

The Economic Development and Job-Creation Strategy 2013-2018 which was adopted by the eThekwini Municipality's Executive Council in 2013 provides a growth scenario over the next 20 years with an overall framework for the first 5. The purpose is to put in place a suite of fundamentals to drive the growth in the future phases. The growth opportunities over the next 20 years will focus on capitalizing on the role of the port, international airport and modern rail, road, infrastructure, information and communication technologies. It also includes promoting the city as a centre for trade between Africa and the world. From a tourism perspective it will entail marketing the city as an events and tourism destination. In addition, it seeks to promote the city as the best location for manufacturing activities.

The municipality is poised for steady economic growth from several major catalytic projects over the next 20 years creating in excess of a million construction jobs and over 600,000 permanent jobs. Major construction projects such as the Cornubia mixed-use commercial-residential development, the port expansion plans, Kings Estate, Inyaninga Industrial Estate, on-going economic opportunities at Dube TradePort and the development of the dedicated freight route are all expected to contribute towards this growth.

The Strategy also seeks alignment and ensures it is homologous with the relevant Strategies amongst the three spheres of government – most notably the New Growth Path, National Development Plan and the Industrial Policy Action Plan from National government, all of which have identified specific sections of the economy with job-creation potential. The KwaZulu-Natal Provincial Industrial Development Framework and the Growth and Development Strategy also guide the local government initiatives. In compiling the Integrated Development Plan, the Spatial Development Framework and others, the eThekwini Municipality has ensured that the essential principles and focus areas resonate with these reports.

These objectives, however, may be delayed by various socio-economic and other threats such as the lack of appropriate job skills, poor political will, unspectacular economic and employment growth, inadequate foreign direct investment, high cost of doing business, poor infrastructure and a lack of serviced industrial land. In addition to the high-level goals set forth in the Strategy it is also the Municipality's objective to go 'back to basics' in terms of cleaning up the central business district (CBD), rejuvenate the South Durban Basin by offering an attractive industrial and logistics location for investors and also enhance our tourism products in the city centre and surrounds with new branding initiatives.

The Strategy examines trends in the detailed sub sectors in manufacturing noting the comparative and competitive attributes for each after which a choice of industries is selected. These priority sectors include automotive, chemicals, clothing and textiles, food and beverage, furniture, metals, electronics and electrical machinery and green industries. In the services sector tourism, ICT, creative industries (Film and Media; Crafts; Fashion), finance and professional services and transport and logistics were identified.

The Municipality also unveiled the R22 billion transport strategy during November 2013. This will offer Durban commuters a system that would use taxis, buses and trains at a cheaper rate than existing modes of transportation. The Municipality will cover R20 billion of the cost and the balance to be covered by the Passenger Rail Agency of SA. The municipality is the first in the country to roll out a plan that incorporates all modes of transport into a unified network. Phases one and two have started and are expected to be completed by 2016.

The release of the latest 2014 data from Global Insight provides the most recent information on the socio-economy indicators for the municipality. The eThekwini's GDP (in constant 2010 prices) was recorded as R272, 9-billion in 2014. It is forecasted to grow by 1, 9% during 2015. Presently eThekwini's GDP comprises 57, 1% of KwaZulu-Natal's GDP and 9, 1% nationally.

GDP growth in the eThekwini Municipal region increased by 1, 2% between 2013 and 2014 while KwaZulu-Natal and South Africa grew by 1, 7% and 1, 5% respectively. Refer to Figure 44.

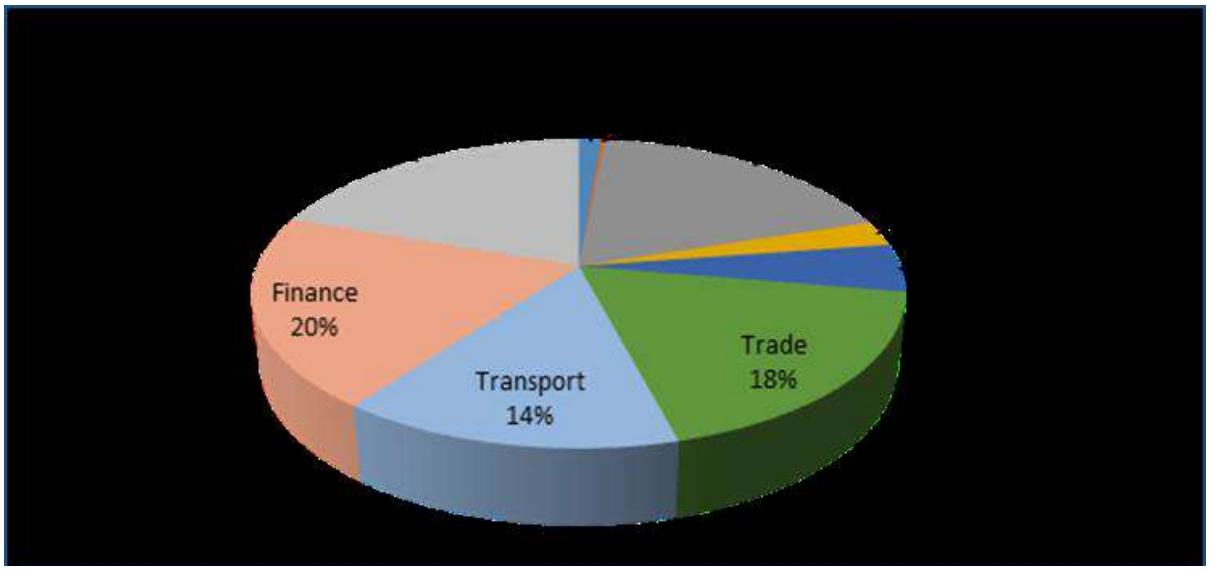


Figure 44: Percentage Contribution to GDP in 2014 (Constant 2010 prices)

Source: Global Insight

3.15.3 Unemployment and employment

According to Census 2011, there were 956,713 households in eThekwini, 65.2% of which were African, 18.7% Asian, 13.5% White, and 2.6% Coloured. In 2011, 38% of the eThekwini population was economically active, decreasing by 2.0% from the economically active population in 2006. EThekwini showed significant improvement with respect to the municipality's unemployment rate, decreasing from 25, 1% in 2004 to 15.5% in 2013, and 15.7% in 2014. When compared to the other metro municipalities in 2013, eThekwini performed the best (Johannesburg 22, 8% and Cape Town 24, 9%) in terms of the unemployment rate.

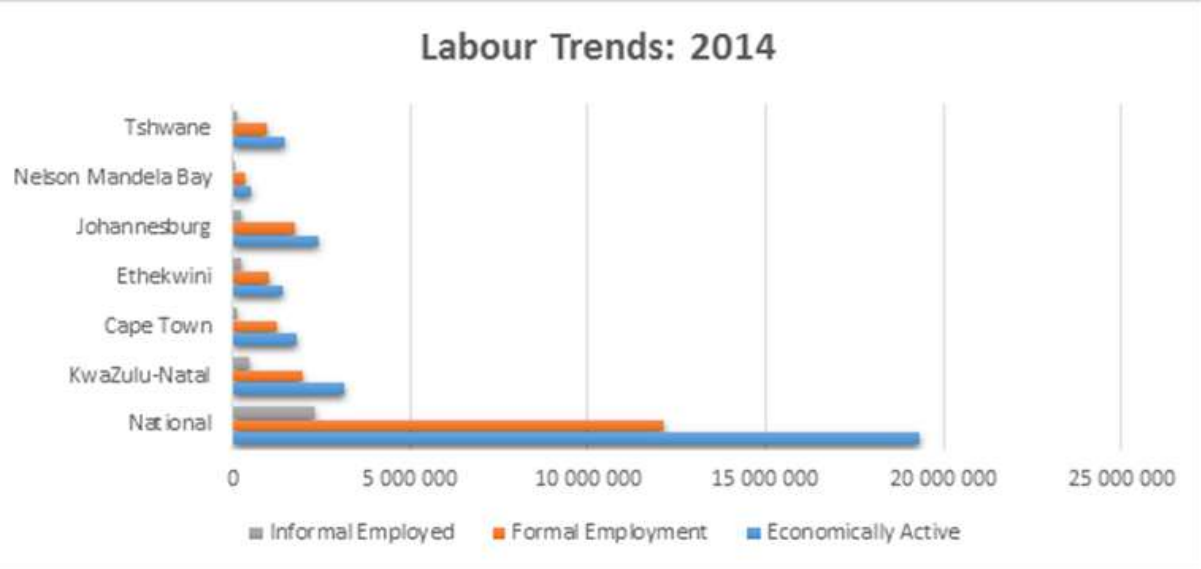


Figure 45: Labour Trends

Source: Global Insight

Figure 45 shows the labour trends for national, KZN and the 5 major local economies for 2014. The big employment sectors in eThekwini was community services, finance, trade and manufacturing. Total employment in 2014 was 1,045,553 (1, 3 million including informal employment). Growth in the past 18 years was 2.3% for formal/informal and 2% over the last 10 years. EThekwini has experienced a decrease in unemployment since 2010 most due to an increase in the 'not economically active persons' which has occurred throughout KwaZulu-Natal.

Real disposable income grew by 3.8% between 2013 and 2014. The graph below shows the trends in the 16 income categories for number of households during these two years. There was a decrease in the number of households earning in 9 of the 16 income categories, mostly in the lower end. The huge drop in the first and second categories may be due to standard population growth.

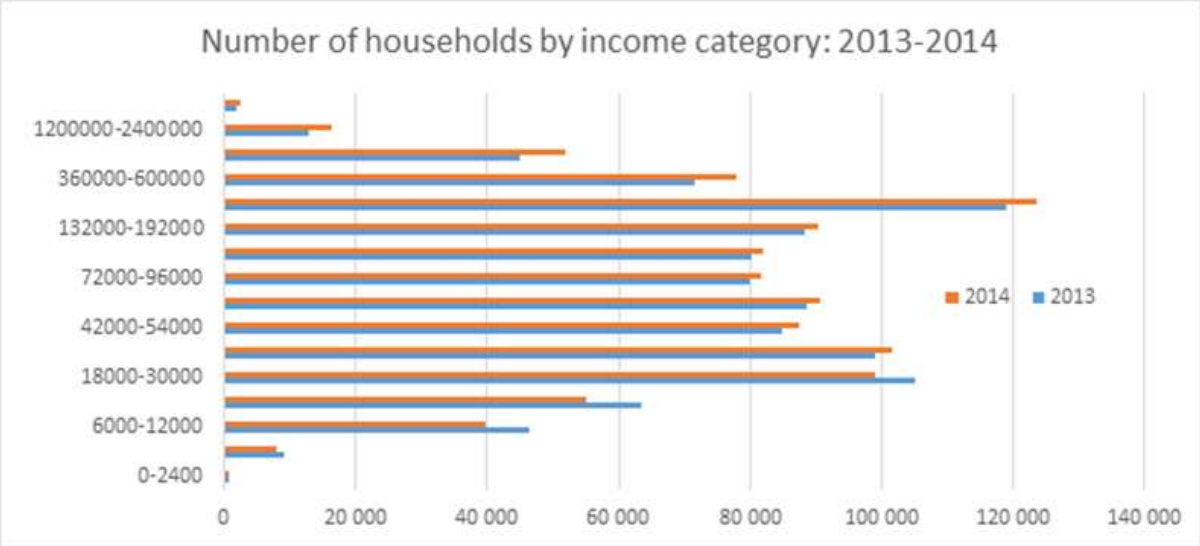


Figure 46: Number of Households by Income Category

Source: EDIPU

In 2014 the per capita income for eThekwini was R55, 727 per annum (increased by 8.6% from 2013). EThekwini has the 6th highest per capita income when compared with other major metros; the highest of which is Tshwane with R71, 710. The overall gini-coefficient in eThekwini was 0.64 in 2014 – a change of 0.01 percentage points from 2013.

Total household expenditure in eThekwini in 2014 amounted to R202,2 billion, up from R184,1 billion in 2013. The majority of household expenditure was on accommodation (14.2%), taxes (12.4%), finance (7.2%), transport (6.8%) and medical schemes (6.0%).

Total retail sales amounted to R57,5 billion in 2014, up from R53,3 billion in 2013. The most retail sales were in perishable and processed products (34.9%), ladies/girls and infants clothing (9.5%), inedible groceries (7.5%) and pharmaceuticals (6.7%). EThekwini accounts for 57% of KZNs total retail sales. In 2014, of the total buying power of the country (100), eThekwini's share (index of buying power) amounted to 9%. Refer to Figure 46.

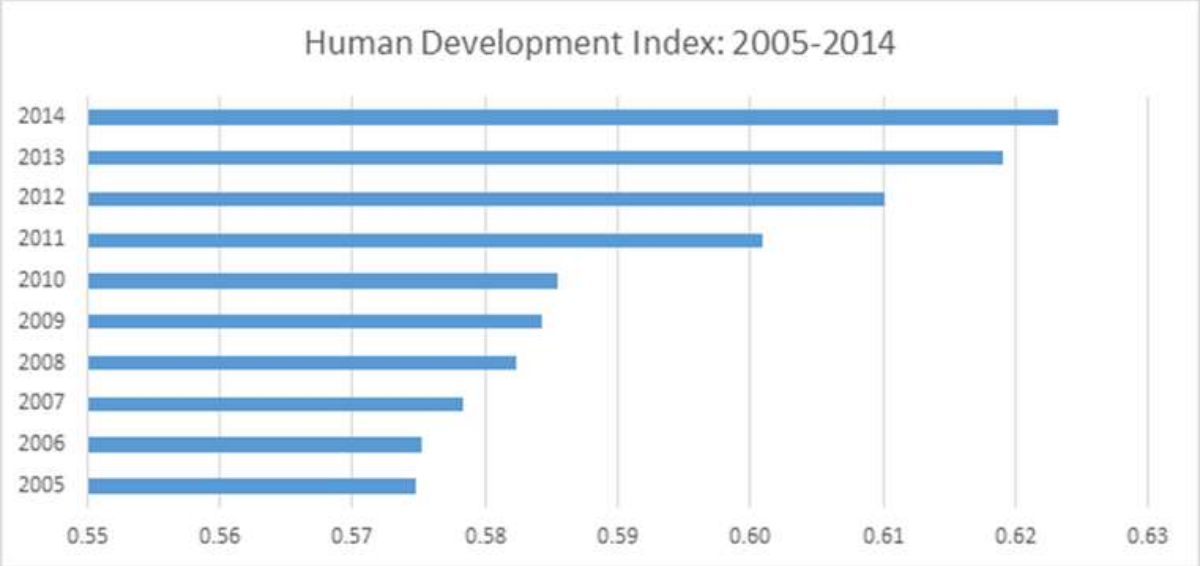
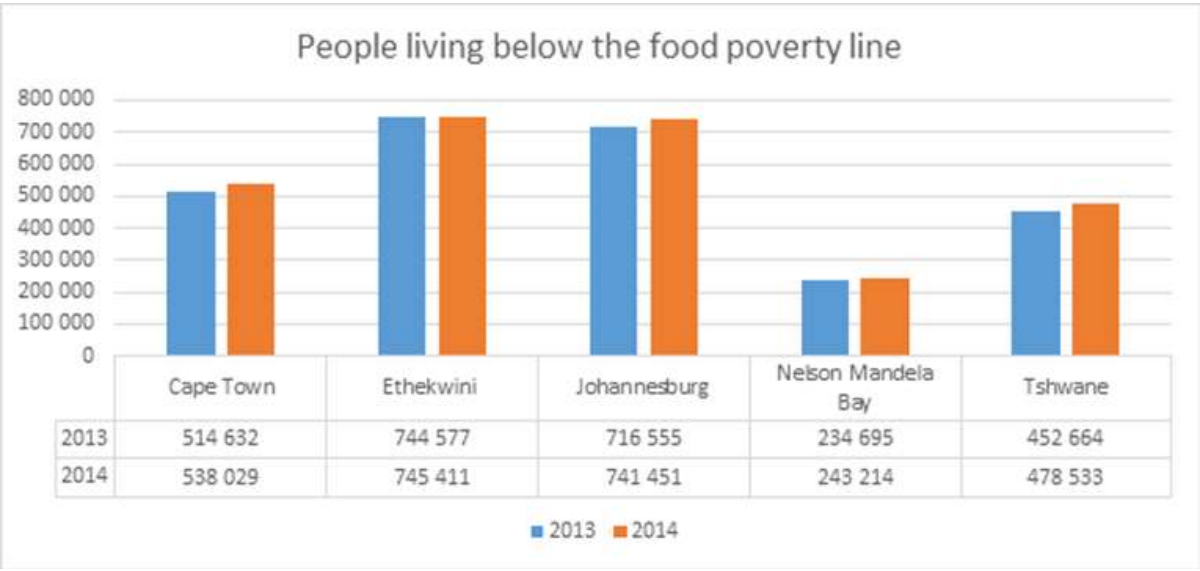


Figure 47: HDI Source

Global Insight

Figure 47 compares the change in the human development index (HDI) for the eThekwini between 2005 and 2014. The change was roughly similar for most of cities; however, eThekwini still has the lowest HDI in 2014 (0.62) when compared with the other major cities (Cape Town 0.72, Johannesburg 0.71, Nelson Mandela Bay 0.65 and Tshwane 0.71).

The percentage of people living below the food poverty line has reduced by 30.1% between 2004 and 2013 and by 0, 12% between 2012 and 2013; however, eThekwini has the highest number compared to the other 4 major cities in the country.



	Cape Town	Ethekwini	Johannesburg	Nelson Mandela Bay	Tshwane
2013	514 632	744 577	716 555	234 695	452 664
2014	538 029	745 411	741 451	243 214	478 533

Figure 48: People living below the food poverty line

Source: Global Insight

Of eThekwini's approximately 744,577 people living below the poverty line in 2013, 98, 8% are African, while 0, 3% are Asian, 0, 8% are coloured and 0.1% white. This means that 28% of the African, 7, 5% of the coloured, 0, 43% of the Asian and 0.05% of the white population are living below the food poverty line. Refer to Figure 48.

3.15.4 Adjacent landowners

Table 8 and Figure 49 illustrates the adjacent landowners.

Table 8: Adjacent landowners

Landowner	Erf a portion number	Title deed number
Soundsprops 132 Pty Ltd	RE/2	T17356/2011
First of the first Property's CC	2/8	T10448/974
Fibertex South Africa Proprietary Limited	4/11	T10899/1973
CHAN Property Inv CC	RE/11	T41040/2008
MCFI International SA Pty Ltd	1/12	T36448/1994
Unknown	230	-
Transnet LTD	2/2627	T2754/1926
Transnet LTD	3/2627	T2754/926
Ethekwini Municipality	9/2627	T18149/2010
	12/2627	

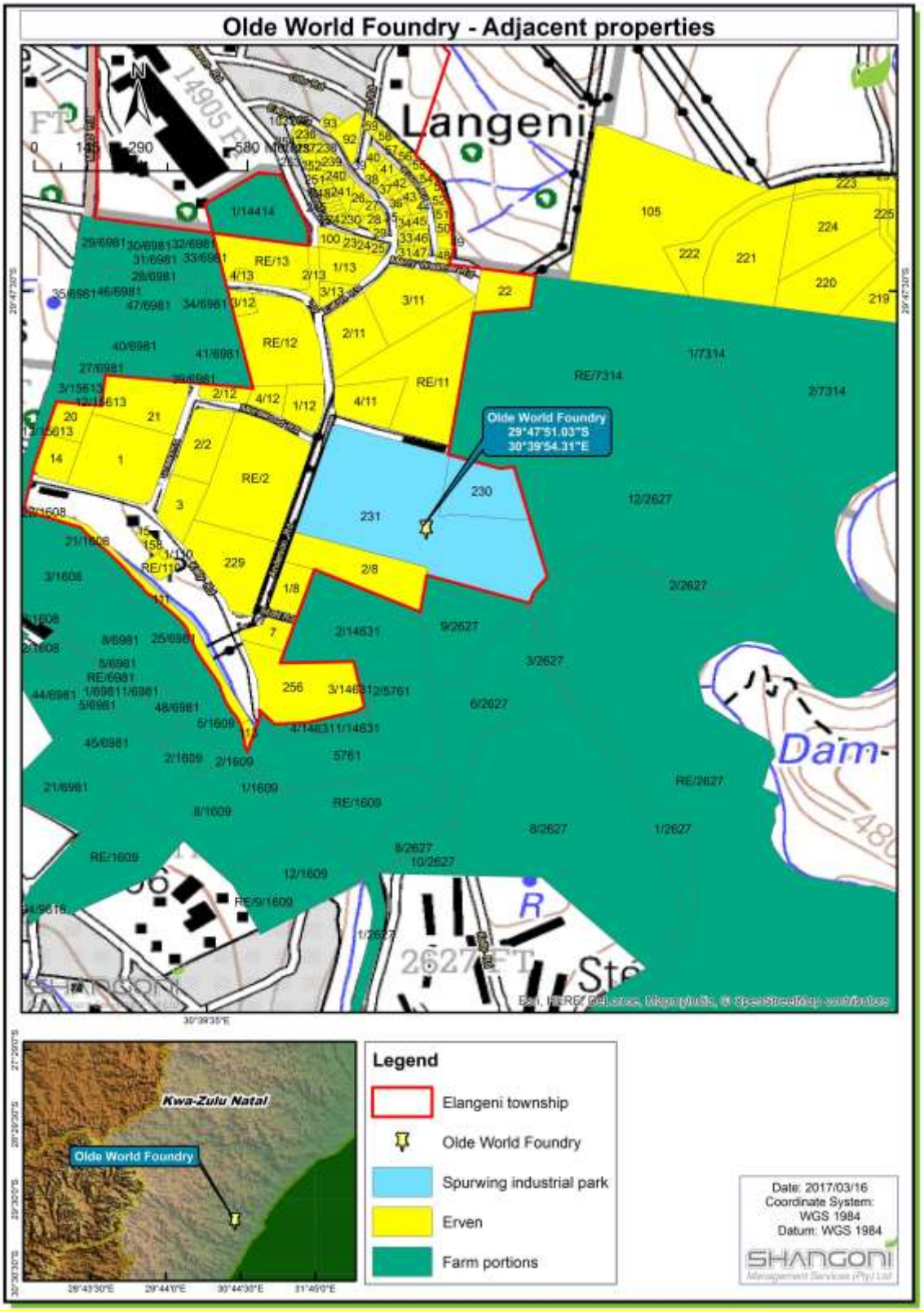


Figure 49: Adjacent landowners

4. ENVIRONMENTAL FRAMEWORK

4.1 Impact assessment methodology

The environmental risk of any aspect is determined by a combination of parameters associated with the impact. Each parameter connects the physical characteristics of an impact to a quantifiable value to rate the environmental risk.

Impact assessments should be conducted based on a methodology that includes the following:

- Clear processes for impact identification, predication and evaluation;
- Specification of the impact identification techniques;
- Criteria to evaluate the significance of impacts;
- Design of mitigation measures to lessen impacts;
- Definition of the different types of impacts (indirect, direct or cumulative); and
- Specification of uncertainties.

After all impacts, have been identified, the nature of each impact can be predicted. The impact prediction will take into account physical, biological, socio-economic and cultural information and will then estimate the likely parameters and characteristics of the impacts. The impact prediction will aim to provide a basis from which the significance of each impact can be determined and appropriate mitigation measures can be developed.

The risk assessment methodology is based on defining and understanding the three basic components of the risk, i.e. the source of the risk, the pathway and the target that experiences the risk (receptor). Refer to Figure 50 below for a model representing the above principle (as contained in the DWA's Best Practice Guideline: G4 – *Impact Prediction.*

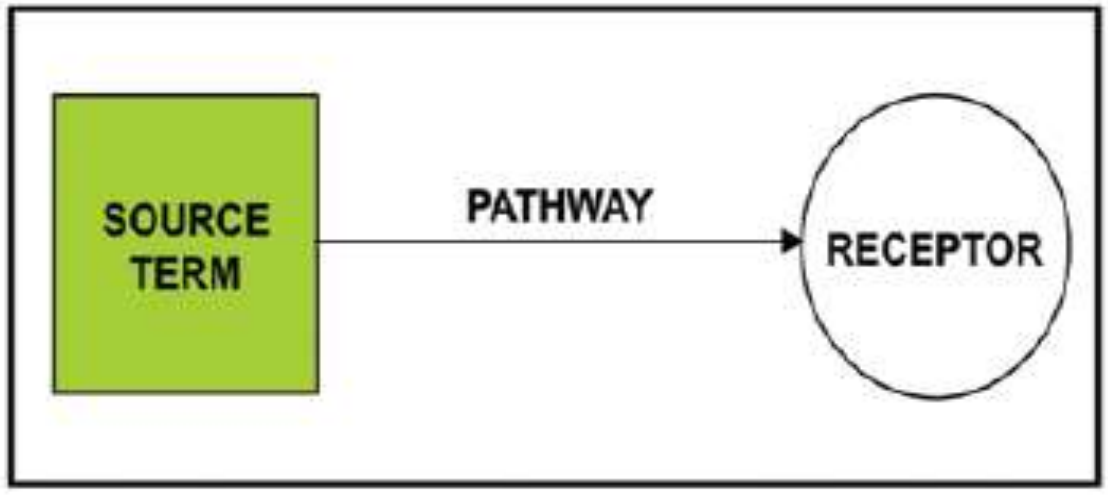


Figure 50: Impact prediction model

PROBABILITY of the impact is determined by calculating the average between the frequency of the aspect and the availability of a pathway to the receptor and the availability of receptor.

Table 9 and Table 10 below indicate the methodology to be used in order to assess the Probability and Magnitude of the impact, respectively, and Table 11 provides the Risk Matrix that will be used to plot the Probability against the Magnitude in order to determine the Severity of the impact.

Table 9: Determination of Probability of impact

Frequency of Aspect / Unwanted Event	Score	Availability of Pathway from the Source to the Receptor	Score	Availability of Receptor	Score
Never known to have happened, but may happen	1	A pathway to allow for the impact to occur is never available	1	The receptor is never available	1
Known to happen in industry	2	A pathway to allow for the impact to occur is almost never available	2	The receptor is almost never available	2
< once a year	3	A pathway to allow for the impact to occur is sometimes available	3	The receptor is sometimes available	3
Once per year to up to once per month	4	A pathway to allow for the impact to occur is almost always available	4	The receptor is almost always available	4
Once a month - Continuous	5	A pathway to allow for the impact to occur is always available	5	The receptor is always available	5

***Step 1**: Determine the **PROBABILITY** of the impact by calculating the average between the Frequency of the Aspect, the Availability of a pathway to the receptor and the availability of the receptor.*

Table 10: Determination of Magnitude of impact

Source								Receptor			
Duration of impact	**Score**	**Extent**	**Score**	**Volume / Quantity / Intensity**	**Score**	**Toxicity / Destruction Effect**	**Score**	**Reversibility**	**Score**	**Sensitivity of environmental component**	**Score**
Lasting days to a month	1	Effect limited to the site. (metres);	1	Very small quantities / volumes / intensity (e.g. < 50L or < 1Ha)	1	Non-toxic (e.g. water) / Very low potential to create damage or destruction to the environment	1	Bio-physical and/or social functions and/or processes will remain unaltered.	1	Current environmental component(s) are largely disturbed from the natural state. Receptor of low significance / sensitivity	1
Lasting 1 month to 1 year	2	Effect limited to the activity and its immediate surroundings. (tens of metres)	2	Small quantities / volumes / intensity (e.g. 50L to 210L or 1Ha to 5Ha)	2	Slightly toxic / Harmful (e.g. diluted brine) / Low potential to create damage or destruction to the environment	2	Bio-physical and/or social functions and/or processes might be negligibly altered or enhanced / Still reversible	2	Current environmental component(s) are moderately disturbed from the natural state. No environmentally sensitive components.	2
Lasting 1 – 5 years	3	Impacts on extended area beyond site boundary	3	Moderate quantities / volumes / intensity (e.g.	3	Moderately toxic (e.g. slimes) Potential to create damage or	3	Bio-physical and/or social functions and/or processes might be notably altered or enhanced / Partially	3	Current environmental component(s) are a mix of disturbed	3

Source								Receptor			
Duration of impact	**Score**	**Extent**	**Score**	**Volume / Quantity / Intensity**	**Score**	**Toxicity / Destruction Effect**	**Score**	**Reversibility**	**Score**	**Sensitivity of environmental component**	**Score**
		(hundreds of metres)		> 210 L < 5000L or 5 – 8Ha)		destruction to the environment		reversible		and undisturbed areas. Area with some environmental sensitivity (scarce / valuable environment etc.).	
Lasting 5 years to Life of Organisation	4	Impact on local scale / adjacent sites (km's)	4	Very large quantities / volumes / intensity (e.g. 5000 L – 10 000L or 8Ha– 12Ha)	4	Toxic (e.g. diesel & Sodium Hydroxide)	4	Bio-physical and/or social functions and/or processes might be considerably altered or enhanced / potentially irreversible	4	Current environmental component(s) are in a natural state. Environmentally sensitive environment / receptor (endangered species / habitats etc.).	4
Beyond life of Organisation / Permanent impacts	5	Extends widely (nationally or globally)	5	Very large quantities / volumes / intensity (e.g. > 10 000 L or > 12Ha)	5	Highly toxic (e.g. arsenic or TCE)	5	Bio-physical and/or social functions and/or processes might be severely/substantially altered or enhanced / Irreversible	5	Current environmental component(s) are in a pristine natural state. Highly Sensitive	5

Source								Receptor			
Duration of impact	**Score**	**Extent**	**Score**	**Volume / Quantity / Intensity**	**Score**	**Toxicity / Destruction Effect**	**Score**	**Reversibility**	**Score**	**Sensitivity of environmental component**	**Score**
										area (endangered species, wetlands, protected habitats etc.)	

*Step 2: Determine the **MAGNITUDE** of the impact by calculating the average of the factors above.*

Table 11: Determination of Severity of impact

Environmental Impact Rating / Priority					
	Magnitude				
Probability	**1 Minor**	**2 Low**	**3 Medium**	**4 High**	**5 Major**
5 Almost Certain	Low	Medium	High	High	High
4 Likely	Low	Medium	High	High	High
3 Possible	Low	Medium	Medium	High	High
2 Unlikely	Low	Low	Medium	Medium	High
1 Rare	Low	Low	Low	Medium	Medium

Step 3: Determine the SEVERITY of the impact by plotting the averages that were obtained above for Probability and Magnitude

4.2 Impacts identified

The impacts identified, are from an operational nature, as Olde World Foundry is operating without an Air Emissions License. The impacts identified are however, focused on air quality.

In identifying suitable mitigation for impact arising from each identified activity, the following must be considered:

- The extent and duration of the activity (e.g. will the activity continue),
- The significance and duration of the impact (e.g. will impact continue after activity has ceased),
- The reversibility of the impact (i.e. can mitigation eliminate impact and restore damage and to what extent).

The suitability and feasibility of all proposed mitigation measures are thus included in the assessment of significant impacts, also providing a comparison of the significance of the impact before and after the proposed mitigation measure is implemented. Please note that the risk rating after mitigation is an indication of the expected or anticipated significance of the impacts, assuming that all proposed mitigation measures are implemented in a correct and thorough manner and are maintained for the duration of the specific phase, such as for the Operational Phase.

Specialist assessment are key in identifying activities that may result in impact, the significance of the impacts arising from these activities and in recommending mitigation measures. The various specialist reports have been applied in compiling the risk assessments for operation and closure phases of the unlawful activities as provided below. Detail specialist reports are attached to this Section 24G EIR as Appendix F.

This sections below provide detail impact assessments as categorised under the various environmental components, and through assessing the various aspects that may result in environmental impact.

The operation forms part of the larger industrial business park called Spurwing Industrial park which was established in the late 1900's. The facility is used by a number of businesses and Olde World Foundry rents the property with limited inputs into infrastructure establishment and maintenance. The following tables present an indication of the impacts related to the activities performed by Olde World Foundry where relevant, considering that Spurwing industrial park has been used for other purposes over the last number of years.

4.2.1 Geology

As the site, has been established in the late 1900's the activities of Ode World Foundry do not impact on the geology of the surrounding area.

4.2.2 Soil

Environmental impact, extent, duration, significance and degree to which impact will cause irreplaceable loss			Risk rating (before mitigation)			Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)		
			Probability	Magnitude	Severity					Probability	Magnitude	Severity
ENVIRONMENTAL COMPONENT: Soil												
ACTIVITY: Operation of Olde World Foundry												
PROJECT PHASE APPLICABILITY	Planning and Construction											
	Operation	X										
	Decommissioning, Closure and Post-Closure											
Impact description: Operation of the Olde World Foundry, can cause possible soil pollution due to ineffective and uncontrolled storage of slag and sand originating from the foundry operations. Extent of impact: Confined to site. Duration of impact: Temporary. Degree to which impact has caused irreplaceable loss: The impact was not significant.			2	2	M	Minimise the impact of soil pollution.	Degree to which impact can be reversed: Reversible, if slag and sand is stored in skips and all waste disposed on open soil areas removed. Proposed mitigation: As volumes are relatively low, it is proposed that the material be temporarily stored on covered hard and bunded surfaces (if possible) or stored within a covered waste skip until dispatched to a designated and licenced landfill site. Remove the waste currently stored on open soil areas and dispose of this material as mentioned above.	Ongoing	Olde World Foundry	2	2	L

4.2.3 Fauna & Flora

As Old World Foundry operations is situated within Spurwing industrial park, which is an existing disturbed site, it is not envisaged that Olde World Foundry have negative impacts on fauna & flora.

4.2.4 Land Use land capability

As Old World Foundry operations is situated within Spurwing industrial park, which is an existing disturbed site, it is not envisaged that Olde World Foundry have negative impacts on the land use and land capability.

4.2.5 Air Quality

Environmental impact, extent, duration, significance and degree to which impact will cause irreplaceable loss			Risk rating (before mitigation)			Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)		
			Probability	Magnitude	Severity					Probability	Magnitude	Severity
ENVIRONMENTAL COMPONENT: Air Quality												
ACTIVITY: Fettling - grinding and cleaning of casts.												
PROJECT PHASE APPLICABILITY	Planning and Construction											
	Operation	X										
	Decommissioning, Closure and Post-Closure											
Impact description: Respiratory health impacts, such as silicosis, on employees. Extent of impact: Effect limited to the activity and its immediate surroundings. Duration of impact: Ongoing through operation. Degree to which impact may cause irreplaceable loss: High.			4	3	H	To minimise the exposure of employees to respiratory dust from the fettling area.	Degree to which impact can be reversed: Since the inhalation of silica dust is known for causing silicosis, it is important that this impact be emphasized. By implementing appropriate mitigation measures the risk of impact on employee health can be reduced from high to medium. Mitigation measures • Employees should wear proper respiratory protective equipment with appropriately assigned protection factors; • Investigate measures to capture particulate emissions at the fettling area. Examples of technologies include: ➢ Shotblast cabinet; and ➢ Extraction booth.	Ongoing	Olde World Foundry	3	3	M
ENVIRONMENTAL COMPONENT: Air Quality												
ACTIVITY: Melting and casting of moulds												
PROJECT PHASE APPLICABILITY	Planning and Construction											
	Operation											
	Decommissioning, Closure and Post-Closure											
Impact description: Respiratory health impacts on employees. Extent of impact: Effect limited to the activity and its immediate surroundings. Duration of impact: Ongoing through operation. Degree to which impact may cause irreplaceable loss: High.						To minimise the exposure of employees to fumes from the HFO & Induction furnaces.	Degree to which impact can be reversed: By implementing appropriate mitigation measures the risk of impact on employee health can be reduced from high to medium. Mitigation measures • Employees should wear proper respiratory protective equipment with appropriately assigned protection factors; • Install an extraction hood over HFO & Induction	]oing	e World Foundry			

Environmental impact, extent, duration, significance and degree to which impact will cause irreplaceable loss	Risk rating (before mitigation)			Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)		
	Probability	Magnitude	Severity					Probability	Magnitude	Severity
					Furnaces and capture the emissions from these furnaces. Should periodic emission sampling show these emissions to be above the permitted emission standard, emission control technologies (e.g scrubber) should be investigated.					
ENVIRONMENTAL COMPONENT: Air Quality										
ACTIVITY: Melting and casting of moulds and fettling of casts.										
PROJECT PHASE APPLICABILITY: Planning and Construction										
PROJECT PHASE APPLICABILITY: Operation										
PROJECT PHASE APPLICABILITY: Decommissioning, Closure and Post-Closure										
Impact description: Health impacts on susceptible groups, such as the elderly, infants, persons with chronic cardiopulmonary disease, -pneumonia, -influenza and -asthma, in the surrounding area. Extent of impact: Effect limited to an area of approximately 3km. Duration of impact: Ongoing through operation Degree to which impact may cause irreplaceable loss: Medium				To reduce exposure of susceptible groups to air quality exceeding the national ambient air quality standards.	Degree to which impact can be reversed: The risk of exposure of susceptible groups to air quality exceeding the national ambient air quality standards can be reduced to a low risk. Mitigation measures • Investigate measures to capture particulate emissions at the fettling area. Examples of technologies include: ➢ Shotblast cabinet; and ➢ Extraction booth. • Install an extraction hood over HFO & Induction Furnaces and capture the emissions from these furnaces. Should periodic emission sampling show these emissions to be above the permitted emission standard, emission control technologies (e.g scrubber) should be investigated.	oing	e World Foundry			
ENVIRONMENTAL COMPONENT: Air Quality										
ACTIVITY: Foundry operations										
PROJECT PHASE APPLICABILITY: Planning and Construction										
PROJECT PHASE APPLICABILITY: Operation			X							
PROJECT PHASE APPLICABILITY: Decommissioning, Closure and Post-Closure										

Environmental impact, extent, duration, significance and degree to which impact will cause irreplaceable loss	Risk rating (before mitigation)			Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)		
	Probability	Magnitude	Severity					Probability	Magnitude	Severity
Impact description: Cumulative impact - Degradation of the ambient air quality. Extent of impact: Effect limited to the activity and its immediate surroundings. Duration of impact: Ongoing through operation. Degree to which impact may cause irreplaceable loss: Medium.	3	3	M	To reduce the foundry's cumulative impact on the ambient air quality.	Degree to which impact can be reversed: Olde World Foundry falls outside any of the declared airshed priority areas. The air quality monitoring results at Catho Ridge (approximately 10km northwest of the site) and New Germany (approximately 20km east of the site) showed all hourly and daily averages for NO_2 and SO_2 to be within the National Ambient Air Quality Standards. eThekwini Metropolitan Municipality's Air Quality Management Plan identifies the SDB as a major source of atmospheric pollution in the area. The SDB is located 31.71km east southeast from the site. It is expected that Olde World Foundry's cumulative impact can be reduced to a low risk should the following mitigation measures be implemented. Mitigation measures: • Develop and maintain an air quality management plan; • Investigate measures to capture particulate emissions at the fettling area. Examples of technologies include: ➢ Shotblast cabinet; and ➢ Extraction booth. • Install an extraction hood over HFO & Induction Furnaces and capture the emissions from these furnaces. Should periodic emission sampling show these emissions to be above the permitted emission standard, emission control technologies (e.g scrubber) should be investigated.	Ongoing	Olde World Foundry	2	2	L

4.2.6 Noise

Environmental impact, extent, duration, significance and degree to which impact will cause irreplaceable loss			Risk rating (before mitigation)			Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)		
			Probability	Magnitude	Severity					Probability	Magnitude	Severity
ENVIRONMENTAL COMPONENT: Noise												
ACTIVITY: Operating of machinery at Olde World Foundry												
PROJECT PHASE APPLICABILITY	Planning and Construction											
	Operation	X										
	Decommissioning, Closure and Post-Closure											
Impact description: Operation of noisy machinery at Olde World Foundry such has grinding of or hammering on metal surfaces. Only one neighbouring activity occurs to the west of the foundry. This is also an industrial activity as the site is an industrial park. No neighbours are found in close proximity to the foundry towards the north, east or south. Therefore, the impact is deemed to be more of a Health and safety impact on employees than surrounding neighbours. Extent of impact: On site. Duration of impact: During operational phase (during operational hours) Degree to which impact will cause irreplaceable loss: No.			3	2	M	To prevent noise nuisance to surrounding environment	Degree to which impact can be reversed: Activities at Olde World Foundry are noisy, if the operation was to cease, the impact can be reversed. Proposed mitigation: The entire operation is well within the requirements of SANS 10103: 2004. Reading at night was not taken as no work is done at night. Appropriate personal protective equipment (PPE) signage is displayed and PPE is provided to employees to minimise the impact on health and safety.	Ongoing	Olde World Foundry	2	2	L

4.2.7 Socio-economic

Environmental impact, extent, duration, significance and degree to which impact will cause irreplaceable loss	Risk rating (before mitigation)			Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)		
	Probability	Magnitude	Severity					Probability	Magnitude	Severity
ENVIRONMENTAL COMPONENT: Socio-economic										
ACTIVITY: Operating of Olde World Foundry										

Environmental impact, extent, duration, significance and degree to which impact will cause irreplaceable loss			Risk rating (before mitigation)			Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)		
			Probability	Magnitude	Severity					Probability	Magnitude	Severity
PROJECT PHASE APPLICABILITY	Planning and Construction											
	Operation	X										
	Decommissioning, Closure and Post-Closure											
Impact description: Number of people employed at Olde World Foundry is 13. Extent of impact: Region Duration of impact: Permanent Degree to which impact will cause irreplaceable loss: Not applicable.			Positive			To enhance the socio-economic impacts in the region.	Degree to which impact can be reversed: Not applicable. Proposed mitigation: No mitigation measures.	Ongoing	Olde World Foundry	Positive		

4.2.8 Traffic

As Old World Foundry operations is situated within Spurwing industrial park and the Olde World Facility makes up approximately 5 % of the surface area and 1x Hyundai H100 vehicle access the park for foundry purposes on a daily basis the impact on traffic is negligible.

4.2.9 Cultural

There are no cultural impacts associated with the Olde World Foundry operations as the foundry is situated within Spurwing Industrial park.

4.2.10 Visual

Olde World Foundry doesn't have any visual impacts on the area, as the foundry is an industrial activity, and the foundry is situated within the Spurwing Industrial park.

4.2.11 Surface water

The aim of this section is to provide information regarding the potential impacts on surface water resources associated with the Olde World Foundry operation. Potential concerns in terms of the separation of clean and dirty water were identified within each of the focus areas. The general topography in the vicinity of the operation slopes towards the Sterkspruit River located approximately 700 m east of the property.

Environmental impact, extent, duration, significance and degree to which impact will cause irreplaceable loss	Risk rating (before mitigation)	Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)

			Probability	Magnitude	Severity				Probability	Magnitude	Severity
ENVIRONMENTAL COMPONENT: Receiving surface water environment											
ACTIVITY: Storing of waste sand and slag											
PROJECT PHASE APPLICABILITY	Planning and Construction										
	Operation	X									
	Decommissioning, Closure and Post-Closure										
Impact description: Current disposal practices of the slag and sand material poses a risk towards pollution of surface and groundwater resources. The waste streams were assessed to be Type 2 wastes with a moderate potential to pollute the environment. Extent: Effect limited to the activity and its immediate surroundings but potentially larger extent in terms of surface water. Duration: Ongoing through operation. Degree to which impact may cause irreplaceable loss: Low			4	2	M	To minimise the extent of pollution or deterioration of surface water resources.	Degree to which impact can be reversed: Polluting potentials can be reduced or reversed if source/s of pollution are removed, proper controlled and managed in an environmentally sustainable manner. Management measures: • According to the waste assessment the slag and sand waste streams are considered as moderate risk wastes with some potential for contaminant release (Type 2). It requires proper control and management to protect health and the environment. • Type 2 waste may only be disposed of at a Class B landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of the Norms and Standards, may be disposed of at a landfill site designed in accordance with the requirements for a GLB+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill. • It is recommended to implement proper housekeeping practises to eliminate any potential for contaminating clean runoff water. • It is proposed that the sand waste be stored in a skip and disposed of at the appropriate waste site on a regular basis. Action plans • As volumes are relatively low, it is proposed that the material be temporarily stored on covered hard and bunded surfaces (if possible) or stored within a covered waste skip until dispatched to a designated and licenced landfill site. • Train staff and implement correct procedures for the handling of any hazardous chemicals or materials. • Hazardous materials used on site should be stored in the	Ongoing	Olde World Foundry	1	1	L

Environmental impact, extent, duration, significance and degree to which impact will cause irreplaceable loss	Risk rating (before mitigation)			Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)		
	Probability	Magnitude	Severity					Probability	Magnitude	Severity
					correct designated and bunded areas that are specially designed and constructed for that purpose. • Train staff on the importance of recycling and sustainable use of waste material. • If recycling is not possible, all efforts should be made to dispose of all waste material in an environmentally friendly manner at designated and licensed landfill sites.					

4.2.12 Erosion

According to the Freshwater ecosystem study that was conducted by Ground Truth, April 2018. Erosion was highlighted as an impact. However, after the risk assessment it was rated as low. Refer to the Freshwater study Table 7.2 Freshwater ecosystem risk assessment activities, impacts and risk ratings.

4.2.13 Groundwater

Environmental impact, extent, duration, significance and degree to which impact will cause irreplaceable loss			Risk rating (before mitigation)			Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)		
			Probability	Magnitude	Severity					Probability	Magnitude	Severity
ENVIRONMENTAL COMPONENT: Receiving surface and groundwater environment												
ACTIVITY: Storage of waste sand and slag												
PROJECT PHASE APPLICABILITY	Planning and Construction											
	Operation	X										
	Decommissioning, Closure and Post-Closure											
Impact description: Current disposal practices of the slag and sand material poses a risk towards pollution of surface and groundwater resources. The waste streams were assessed to be Type 2 wastes with a moderate potential to pollute the environment. Extent of impact: Effect limited to the activity and its immediate surroundings but potentially larger extent in terms of surface water Duration of impact: Ongoing through operation Degree to which impact may cause irreplaceable loss: Low			4	2	M	To minimise the extent of pollution or deterioration of ground- and surface water resources.	Degree to which impact can be reversed: Polluting potentials can be reduced or reversed if source/s of pollution are removed, proper controlled and managed in an environmentally sustainable manner. Management measures • According to the waste assessment the slag and sand waste streams are considered as moderate risk wastes with some potential for contaminant release (Type 2). It requires proper control and management to protect health and the environment.	Ongoing	Olde World Foundry	1	1	L

Environmental impact, extent, duration, significance and degree to which impact will cause irreplaceable loss	Risk rating (before mitigation)			Environmental objective	Degree to which impact can be reversed and the supporting mitigatory action plan	Timeframe	Responsibility	Risk rating (after mitigation)		
	Probability	Magnitude	Severity					Probability	Magnitude	Severity
					• Type 2 waste may only be disposed of at a Class B landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject to section 3(4) of the Norms and Standards, may be disposed of at a landfill site designed in accordance with the requirements for a GLB+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill Action plans • As volumes are relatively low, it is proposed that the material be temporarily stored on covered hard and bunded surfaces (if possible) or stored within a covered waste skip until dispatched to a designated and licenced landfill site. • Train staff and implement correct procedures for the handling any hazardous chemicals or materials. • Hazardous materials used on site should be stored in the correct designated and bunded areas that are specially designed and constructed for that purpose. • Train staff on the importance of recycling and sustainable use of waste material and compile a waste management plan. • If recycling is not possible, all efforts should be made to dispose of all waste material in an environmentally friendly manner at designated and licensed landfill sites.					

4.3 Cumulative Impacts

Cumulative impacts refer to the situation where an activity may in itself not have a significant impact, but may become significant when added to the existing and potential impacts from similar or different activities in the area.

The following potential cumulative impacts have been identified:

Table 12: Cumulative impacts

Environmental component	Impact Description
Air quality	Olde World Foundry falls outside any of the declared airshed priority areas. The air quality monitoring results at Catho Ridge (approximately 10km northwest of the site) and New Germany (approximately 20km east of the site) showed all hourly and daily averages for NO2 and SO2 to be within the National Ambient Air Quality Standards. eThekwini Metropolitan Municipality's Air Quality Management Plan identifies the South Durban Basin (SDB) as a major source of atmospheric pollution in the area. The SDB is located 31.71km east southeast from the site. It is therefore expected that Olde World Foundry's cumulative impact can be reduced to a low risk should the following mitigation measures be implemented.
Economic	With the textile industries that closes in the Hammarsdale Industrial area, the economy was negatively affected. The Department of Trade and Industry (dti), has confirmed that the National Foundry Technology Network (NFTN) is an initiative of the dti aimed at development of the foundry industry. As part of the Industrial Policy Action Plan (IPAP), the dti has prioritised the foundry industry as key in the resuscitation of the local manufacturing sector. Refer to appendix B for the letter from dti.

5. APPLICABLE LEGISLATION AND GUIDELINES

The table below provides an indication of the main legislation, policies and / or guidelines applicable to the rectification application project.

Table 13: Applicable legislation, policies and / or guidelines

Title of Legislation, Policy or Guideline	Administering Authority	Aim of Legislation, Policy or Guideline
Laws of General Application		
The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)		To establish a Constitution with a Bill of Rights for the RSA.
Environment Conservation Act, 1989 (Act 73 of 1989 as amended)	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs	To control environmental conservation.
National Environmental Management Act, 1998 (Act 107 of 1998)	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs	To provide for the integrated management of the environment, and to regulate the 'Duty of Care' Principle.
Promotion of Access to Information Act, 2000 (Act 2 of 2000 as amended)	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs	To give effect to the constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights.
Air Quality and Noise		
National Environmental Management: Air Quality Act (Act No 39 of 2004)	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs Air Quality Office, eThewini Municipality	To reform the law regulating air quality to protect the environment by providing reasonable measures for the prevention of pollution. To provide for national norms and standards regulating air quality monitoring, management and control.
Environmental Impact Assessment Regulations, 2014 (Government Gazette No. 38282 of 4 December 2014)	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs	Regulations pertaining to environmental impact assessments.
Water Management		

Title of Legislation, Policy or Guideline	Administering Authority	Aim of Legislation, Policy or Guideline
National Water Act (NWA), 1998 (Act No 36 of 1998)	Department of Water Affairs	To provide for fundamental reform of the law relating to water resources.
Government Notice (GN) 704, dated 1999 under the NWA, 1998		To control water management aspects.
Biodiversity		
National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs	To provide for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bio prospecting involving indigenous biological resources; the establishment and functions of a South African Biodiversity Institute; and for matters connected therewith.
Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983)	Department of Agriculture	To provide for control over the utilisation of the natural agricultural resources of South Africa in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants.
National Veld and Forest Fire Act, 1998 (Act No 101 of 1998)	Department of Agriculture	To reform the law on veldt and forest fires.
Agricultural Pest Act, 1983 (Act No 36 of 1983 as amended) – GN R276 of 5 March 2004	Department of Agriculture	To regulate plants, plant products and other regulated articles when imported into South Africa.
Soil and Land Management		
National Environmental Management Act, 1998 (Act 107 of 1998). National Environmental Management Amendment Act, 2008 (Act 62 of 2008).	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs	To provide for the integrated management of the environment and to regulate the 'Duty of Care' Principle.
Heritage and Archaeological Resources		

Title of Legislation, Policy or Guideline	Administering Authority	Aim of Legislation, Policy or Guideline
National Heritage Resources Act No 25 of 1999 (Act No 25 of 1999 as amended)	South African Heritage Resources Agency	To introduce an integrated and interactive system for the management of the national heritage resources; to promote good government at all levels, and empower civil society to nurture and conserve their heritage resources so that they may be bequeathed to future generations
Protected Areas		
National Environmental Management: Protected Areas Act, 2003 (Act No 57 of 2003 as amended)	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs	To provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes.
Planning of New Activities		
National Environmental Management Act, 1998 (Act 107 of 1998)	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs	To provide for the integrated management of the environment and to regulate the 'Duty of Care' Principle.
EIA Regulations R982, R 983, R 984, and R 985, dated 4 December 2014 under the NEMA, 1998	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs	To regulate and control the authorisation of certain listed activities.
eThekwini Municipality Integrated Development Plan 5 Year Plan: 2012/13 to 2016/17 Annual Review 2016/2017.	eThewini Municipality	The IDP serves as a tool for transforming local governments towards facilitation and management of development within their areas of jurisdiction. The MSA identifies the IDP a key component in entrenching developmental local government principles.
Rectification of commencement or continuation of listed activities		
Section 24G of the National Environmental Management Act, 1998 (Act 107 of 1998)	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs	To rectify unlawful commencement or continuation of listed activities.

6. NEED AND DESIRABILITY OF THE ACTIVITY

The need for and desirability of an activity must specifically and explicitly be addressed throughout the impact assessment process when dealing with individual impacts and specifically in the overall impact summary by taking into account the answers to inter alia the following questions as per the GN 891 of 2014 integrated environmental management guideline series 9 guideline on need and desirability in terms of the 2014 EIA regulations as published on the 20th of October 2014. Refer to Table 14.

Table 14: Need and desirability table

Requirement	Part where requirement is addressed/response
1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?[7]	The application is for rectification of an illegal activity that took place (hence Olde World Foundry that operated without an air emissions license), therefore this is not seen as a new development. The ecological impacts took place when Spurwing Industrial park was initially constructed in the late 1900's, Olde World Foundry is a tenant and moved into the building in 2005 (after construction of the Spurwing Industrial park). Refer to section 3 of the IAR.
1.1 How were the following ecological integrity considerations taken into account?	
1.1.1 Threatened Ecosystems.[8]	According to the Kwa-Zulu Natal conservation plan version 2, Olde World Foundry is situated on a vulnerable area. Refer to section 3.10 in the IAR.
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.[9]	The Hammarsdale dam, which is considered a wetland is situated 500m from Olde World Foundry. Refer to section 3.10 in the IAR.
1.1.3 Critical Biodiversity Areas ("CBAs") and Ecological	According to the Kwa-Zulu Natal conservation

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

[8] 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).

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

Requirement	Part where requirement is addressed/response
Support Areas ("ESAs").	plan version 2, Olde World Foundry is not situated close to any critical biodiversity area or ecological support area. Refer to section 3.10 in the IAR.
1.1.4 Conservation targets.	The conservation targets for the Dry Coast Hinterland GS19 are 25%
1.1.5 Ecological drivers of the ecosystem.	Statutorily conserved in Oribi Gorge Nature Reserve.
1.1.6 Environmental Management Framework.	Not applicable.
1.1.7 Spatial Development Framework.	According to the Spatial Development Framework Draft Review 2016-2017, Olde World Foundry will fall within other industries as listed below: Manufacturing is the most dominant sector of industrial activities and as can be expected it occupies the most amount of land in the Municipality. Patterns of clustering have occurred usually in mature industrial areas. The following significant clusters appear in the Municipality: • Logistics and Transport – highly concentrated around the Port and in Pinetown • Chemical sector – Pinetown and South Durban Basin • Furniture and Bedding – Pinetown, Hammarsdale and Umbilo Road • Textiles, Clothing, Footwear and Leather – Hammarsdale, UMngeni Road and Pinetown • Other Industrial areas within the EMA include uMbongitwini, Phoenix, River Horse Valley, Tongaat, Canelands and Ottawa.
1.1.8 Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).[10]	According to the Integrated development plan eThekwini Municipality: 2016/2017 IDP, climate change already causes and will continue to cause

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

Requirement		Part where requirement is addressed/response
		a number of challenges for the municipality. The municipality initiated the Municipal Climate Protection Programme (MCPP) in 2004. This is a phased programme, which has focused on climate change adaptation and enhancing the Municipality's ability to cope with climate change impacts. The likely climate change impacts have been assessed and plans, programmes and projects developed to assist the Municipality in dealing with these impacts.
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?[11]	The application is for rectification of an illegal activity that took place (hence Olde World Foundry that operated without an air emissions license), therefore this is not seen as a new development. The ecological impacts took place when Spurwing Industrial park was initially constructed in the late 1900's, Olde World Foundry is a tenant and moved into the building in 2005 (after construction of the Spurwing Industrial park). Refer to section 3 of the IAR.
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?[12]	The application is for rectification of an illegal activity that took place (hence Olde World Foundry that operated without an air emissions license), therefore this is not seen as a new development. The ecological impacts took place when Spurwing Industrial park was initially constructed in the late 1900's, Olde World Foundry is a tenant and moved into the building in 2005 (after construction of the Spurwing Industrial park). Refer to section 3 of the IAR.
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 were explored to minimise, reuse and/or recycle the waste? What measures have	Waste such as scrap steel, waste paper, effluent waste, domestic waste, scrap metal / dross / slag, oil contaminated sand, sand, old drums, old steel bins and old pallets.

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

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

Requirement		Part where requirement is addressed/response
	been explored to safely treat and/or dispose of unavoidable waste?[13]	The scrap metal (dross/slag), residue left behind in the melting process of metals, and the sand/oil contaminated sand are the most significant potential polluting streams. These waste products were subsequently analysed in terms of their polluting risks and disposal requirements. The analyses were performed by the Metal Casting Technology Station of the University of Johannesburg (2016) according to the GN R.635. It is recommended if recycling is not possible, all efforts should be made to dispose of all waste material in an environmentally friendly manner at designated and licensed landfill sites.
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?[14]	There is no cultural heritage at Olde World Foundry.
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?[15]	The rectification application will not have an impact on non-renewable resources.
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	The rectification application will not have an impact on renewable resources.

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

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

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

Requirement		Part where requirement is addressed/response
	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 responsible and equitable use of the resources? What measures were explored to enhance positive impacts?[16]	
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)*	Not applicable.
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?)*	Olde World Foundry uses water which is considered a natural resource, in the cooling process, which is recycled in the process. Olde World Foundry also makes use of electricity, in two of the four furnaces. Electrical optimisation projects are ongoing. The use is justifiable, considering The Department of Trade and Industry (dti), has confirmed that the National Foundry Technology Network (NFTN) is an initiative of the dti aimed at development of the foundry industry. As part of the Industrial Policy Action Plan (IPAP), the dti has prioritised the foundry industry as key in the resuscitation of the local manufacturing sector. Refer to appendix B for the letter from dti.
1.7.3	*Do the proposed location, type and scale of*	Olde World Foundry is situated within the

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

Requirement		Part where requirement is addressed/response
	development promote a reduced dependency on resources?	Spurwing Industrial park, which is a small operation which has access to basic services. Olde World Foundry uses water which is considered a natural resource, in the cooling process, which is recycled in the process. Olde World Foundry also makes use of electricity, in two of the four furnaces. Electrical optimisation projects are ongoing.
1.8	How were a risk-averse and cautious approach applied in terms of ecological impacts?[17]	This is a rectification application; therefore, a risk-averse and cautious approach is followed, through the identification of impacts, and associated mitigation measures, focused on minimizing the impacts.
1.8.1	*What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?*	There are no limits of current knowledge, gaps, uncertainties.
1.8.2	*What is the level of risk associated with the limits of current knowledge?*	Additional waste classification outcomes might change the current storage and disposal methods.
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?*	All specialist studies were conducted by registered and certified specialists in their fields. The mitigation measures proposed by the specialists will be implemented.
1.9	How will the ecological impacts resulting from this development impact on people's environmental right in terms following:[18]	
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?*	The following negative impacts were identified: • Air quality, • Noise, • Surface water • Ground water All identified impacts, have proposed mitigation measures, to minimise the impacts.
1.9.2	*Positive impacts: e.g. improved access to resources,*	The following positive impacts were identified:

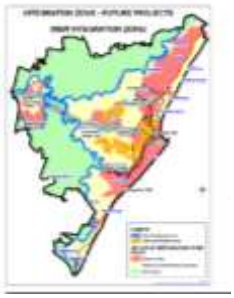
[17] Section 24 of the Constitution and Section 2(4)(a)(vii) of NEMA refer.

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

Requirement		Part where requirement is addressed/response
	improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?	• Resuscitation of the foundry industry, • Employment opportunities, • Growth of the industrial sector.
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.)?	Employees that work at Olde World Foundry, are supplied with all the required personal protective clothing, as work can be considered dangerous. Workers are exposed to noisy equipment and heat. By working at Olde World Foundry, their livelihoods are improved.
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?	Although Olde World Foundry, generates waste, if Recycled and disposed waste material is done in an environmentally friendly manner at designated and licensed landfill sites, the impact is considered low.
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?[19]	There were no alternatives considered, as this is a rectification application.
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?[20]	Positive cumulative impacts are described as socio-economic, and negative cumulative impacts are described as air quality.
2.1	What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?:	
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,*	According to the IDP, National Priorities (State of the Nations Address 2016), the State of the Nation address for the 2016 confirmed the President's commitment to the Nine Point plan to ignite growth and create jobs, item 4 of the plan is more effective implementation of a higher impact

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

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

Requirement	Part where requirement is addressed/response
	Industrial Policy Action Plan.
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.),	 Integration Zone and Alignment with Planning Projects According to the IDP, An evaluation of the spatial location of city expenditure concluded that the projects and programmes supported by the city are largely in alignment with the SDF and Integration Zones. Processes to further refine the details on how to implement the catalytic projects and achieve further integrated and spatially targeted investments are currently underway through the preparation of the Built Environment Performance Plan and recent establishment of a Project Support Team dedicated to the implementation of projects. The BEPP bridges the gap between the IDP & Budget giving effect to the strategic and spatial intent of the SDF and partially fulfilling the requirements of the Capital Investment Framework as required in terms of the MSA (32 of 2000). This will see the translation of the spatial priorities and lower order spatial plans into programmes and projects (many of which are already underway).
2.1.3 Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and	The existing land use is considered industrial.
2.1.4 Municipal Economic Development Strategy ("LED Strategy").	According to the IDP, the negative consequences of the combination of spatial fragmentation, segregation of uses, and low density are due to: • Contribute to economic challenges, especially: Increased trade costs across many sectors of the local economy; Low-density residential

Requirement		Part where requirement is addressed/response
		customer bases creating barriers to local economic development (LED) in residential areas.
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?	The Department of Trade and Industry (dti), has confirmed that the National Foundry Technology Network (NFTN) is an initiative of the dti aimed at development of the foundry industry. As part of the Industrial Policy Action Plan (IPAP), the dti has prioritised the foundry industry as key in the resuscitation of the local manufacturing sector. Refer to appendix B for the letter from dti.
2.2.1	*Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?*	The rectification application is supported by the dti and as part of the IPAP.
2.3	How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?[21]	Olde World Foundry will address the need for retaining employment in the area. A few textile industries have closed down in the area causing job losses.
2.4	Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and longterm?[22] Will the impact be socially and economically sustainable in the short- and long-term?	Olde World Foundry, will result in equitable (intra and inter- generational), impact distribution as the socio-economic impact will be sustainable in the short and long term, as the foundry is supported by the dti and is part of the IPAP.
2.5	In terms of location, describe how the placement of the proposed development will:[23]	
2.5.1	*result in the creation of residential and employment opportunities in close proximity to or integrated with each other,*	Workers stay in Cliffdale / Hammarsdale.
2.5.2	*reduce the need for transport of people and goods,*	Workers are travelling from Cliffdale / Hammarsdale, ±4 km's.
2.5.3	*result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the*	Workers walk to work.

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

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

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

Requirement	Part where requirement is addressed/response
development result in densification and the achievement of thresholds in terms public transport),	
2.5.4 compliment other uses in the area,	Olde World Foundry compliments other uses in the area, as the area is considered to be industrial.
2.5.5 be in line with the planning for the area,	
2.5.6 for urban related development, make use of underutilised land available with the urban edge,	Not applicable, as Olde World Foundry is situated within an urban area.
2.5.7 optimise the use of existing resources and infrastructure,	Spurwing Industrial Park used to be the old DeNim Textiles, which was resuscitated.
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),	Olde World Foundry is in an existing Spurwing Industrial Park, which has all the infrastructure available.
2.5.9 discourage "urban sprawl" and contribute to compaction/densification,	Olde World Foundry, will not contribute to urban sprawl.
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.
2.5.11 encourage environmentally sustainable land development practices and processes,	Not applicable.
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.),	The final product is either collected or delivered by road, using trucks or bakkies, directly to the client. There is no need for access to the port or rail.
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),	The foundry industry has been resuscitated as per the IPAP supported by dti.
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	There will be no impact of the sense of history, as the Spurwing Industiral park used to be the old DeNim Textiles.
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.

Requirement		Part where requirement is addressed/response
2.6	How were a risk-averse and cautious approach applied in terms of socio-economic impacts?:	
2.6.1	*What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?*[24]	There are no limits of current knowledge, gaps, uncertainties.
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?*	The level of risk doesn't relate to the social fabric, livelihoods and vulnerable communities.
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?*	All impacts, were identified and rated, with mitigation measures proposed.
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 skills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?*	The following health and safety studies were conducted: • Ventilation study, • Nosie study, • Illumination study, • Hazardous chemical risk assessment, The conclusion of the above-mentioned studies, that the Health and Safety conditions are compliant.
2.7.2	*Positive impacts. What measures were taken to enhance positive impacts?*	Olde World Foundry, positive impacts relate to employment and the growth of the foundry industry.
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.)?	Olde World Foundry, socio-economic impacts will not result in ecological impacts, if the identified impacts, mitigation measures are implemented.

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

Requirement		Part where requirement is addressed/response
2.9	What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?[25]	Not applicable, as the operation is an existing operation.
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 (who are the beneficiaries and is the development located appropriately)?[26] 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?	Not applicable, as the operation is an existing operation.
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?[27]	Not applicable, as the operation is an existing operation.
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?[28]	Workers are provided with PPE. Environmental impacts are managed according to the EMP.
2.13	What measures were taken to:	
2.13.1	*ensure the participation of all interested and affected parties,*	The public participation process for Olde World Foundry was conducted by Shangoni Management Services in terms of: •The procedures and provisions in terms of the NEMA (as amended), 2008; •Chapter 6 of the EIA Regulations of 2014; •GN 807; Public Participation Guideline in the Environmental Impact Assessment Process,

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

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

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

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

Requirement	Part where requirement is addressed/response
	dated October 2012; and •Other relevant legislation such as the Promotion of Access to Information Act (PAIA), 2000.
2.13.2 *provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation,*[29]	Olde World Foundry was advertised in the Beeld and Isolezwe, site notices were placed on site and in public venues around the site. Letters of notification were sent to all the adjacent landowners, and government departments.
2.13.3 *ensure participation by vulnerable and disadvantaged persons,*[30]	The public participation is open to all parties this including the 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,*[31]	Olde World Foundry will educate their employees on environmental education.
2.13.5 *ensure openness and transparency, and access to information in terms of the process,*[32]	The public participation process for Olde World Foundry was conducted by Shangoni Management Services in terms of: •The procedures and provisions in terms of the NEMA (as amended), 2008; •Chapter 6 of the EIA Regulations of 2014; •GN 807; Public Participation Guideline in the Environmental Impact Assessment Process, dated October 2012; and •Other relevant legislation such as the Promotion of Access to Information Act (PAIA), 2000.
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*[33]*, and*	The public participation, encompasses the needs and values of all interested and affected parties and will recognise any traditional and ordinary knowledge.
2.13.7 *ensure that the vital role of women and youth in*	The public participation will involve women and

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

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

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

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

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

Requirement		Part where requirement is addressed/response
	environmental management and development were recognised and their full participation therein were be promoted?[34]	youth, and their full participation will be promoted.
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)?[35]	Olde World Foundry, will cater for all income brackets, from workers to clients who buy the end products.
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?[36]	All workers attend the following training: Innovative Shared Services • Incident Investigation • Fire Fighting Level 1 • Counter Balanced Truck • Safety, Health & Environmental • First Aid Level 1 • Overhead Crane • Convey Dangerous Goods by Road • Grinding Techniques • Correct Abrasive Use This training will highlight the risks involved in their daily work. Continuous risk assessment processes occur that continuously focus on identifying risks and provide training to all employees in this regard.
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,*	Olde World Foundry, will not create temporary jobs, only permanent jobs.
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),*	Olde World Foundry, use local labour from Cliffdale / Hammarsdale.

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

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

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

Requirement	Part where requirement is addressed/response
2.16.3 the distance from where labourers will have to travel,	±4 km's.
2.16.4 the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), and	The location of jobs opportunities, is located in close proximity to the location of impacts.
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.).	Although Olde World Foundry currently employ 14 people.
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	All applicable environmental legislation was considered and adhered to during the section 24G. Refer to section 5 of the IAR for applicable legislation.
2.17.2 that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	Olde World Foundry, has a complaint register on site.
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?[37]	All mitigation measures proposed as part of the specialist studies have been focussed on minimising the potential impacts associated with the Olde World Foundry activities. This focus is on the protection of the environment through amongst others minimising pollution.
2.19 Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?[38]	The specialists recommended mitigation measures, that are realistic, and that no burden will be left.
2.20 What measures were taken to ensure that he costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?[39]	As part of the Section 24G rectification application, an Environmental management plan attached as annexure E, is implemented on site.
2.21 Considering the need to secure ecological integrity and a healthy bio-physical environment, describe	Not applicable as this is a rectification application, and no alternatives were identified.

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

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

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

Requirement		Part where requirement is addressed/response
	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?[40]	
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?[41]	Job creation, increasing the expenditure of the workers in the area.

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

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

7. PUBLIC PARTICIPATION PROCESS

7.1 Objectives of the Public Participation Process (PPP)

Section 24 of the Constitution of the Republic of South Africa, 1996 guarantees everyone the right to an environment that is not harmful to their health and well-being and to have the environment protected for the benefit of present and future generations. In order to give effect to this right, NEMA came into effect.

In terms of Section 24(4) of NEMA, procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment must, *inter alia*, ensure, with respect to every application:

- Coordination and cooperation between organs of state in the consideration of assessments where an activity falls under the jurisdiction of more than one organ of state.
- That the findings and recommendations flowing from an investigation, the general objective of integrated management laid down in NEMA and the principles of environmental management set out in Section 2 of NEMA are taken into account in any decision made by the organ state in relation to any proposed policy, programme, process, plan or projects, consequences or impacts.
- Public information and participation procedures which provide all integrated and affected parties, including all organs of state in all spheres of government that may have jurisdiction over any aspect of the activity, with a reasonable opportunity to participate in those information and participation procedures.

One of the general objectives of integrated environmental management laid down in Section 23(2) (d) of NEMA is to: “ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment.”

The National Environmental Management Principles as stipulated in NEMA say;

- “Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
- The participation of all interested and affected parties in environmental governance must be promoted, and all people must have an opportunity to develop the understanding, skills and capacity necessary to achieve equitable and effective participation, and participation by vulnerable and disadvantage persons must be ensured”.

7.2 Legislation and guidelines followed for the PPP

The public participation process for this project was conducted by Shangoni Management Services in terms of:

- The procedures and provisions in terms of the NEMA;
- Chapter 6 of the 2014 EIA Regulations;
- GN 807 of 2012; Public Participation Guideline; and
- Other relevant legislation such as the Promotion of Access to Information Act (PAIA), 2000.

7.3 Public Participation Process followed

7.3.1 Identification and registration of I&APs and key stakeholders

Table 15 below lists the landowners and adjacent landowners identified and notified (by means of e-mail, telephone, fax and/or post) of the proposed project. Copies of the notifications to the I&APs have been included in Appendix D2.

Table 15: List of landowners and adjacent landowners identified and notified

Landowner	Erf an portion number	Title deed number	Contact details
Soundsprops 132 Pty Ltd	RE/2	T17356/2011	
First of the first Property's CC	2/8	T10448/974	
Fibertex South Africa Proprietary Limited	4/11	T10899/1973	
CHAN Property Inv CC	RE/11	T41040/2008	
MCFI International SA Pty Ltd	1/12	T36448/1994	
Unknown	230	-	
Transnet LTD	2/2627	T2754/1926	
Transnet LTD	3/2627	T2754/926	
Ethekwini Municipality	9/2627	T18149/2010	
	12/2627		

All organs of state which may have jurisdiction in respect of the proposed project is considered to be registered I&APs.

The following organs of state were notified of the proposed project:

- KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs
- KwaZulu-Natal Department of Water and Sanitation
- Department of Trade and Industry
- Ethekweni Metropolitan Municipality
- Ethekweni Metropolitan Municipality -Ward 4
- South African Heritage Resources Agency
- Kwa-Zulu Natal Department of Agriculture
- Department of Mineral Resources
- National Department of Environmental Affairs
- Transnet Freight Rail
- SANRAL
- Kwa-Zulu Natal Department of Health

Copies of the notifications to the organs of state have been included in Appendix D2, and examples are included in Figure 52 below.

7.3.2 Methods of notification

7.3.2.1 Advertisement(s)

The section 24G rectification application was advertised in a two (2) local newspapers, Beeld and Isolezwe, on 28th of March 2017. The Beeld (English) and Isolezwe (Zulu) was found to be the most appropriate newspaper in terms of its accessibility to the I&APs. A copy of the advertisement and proof of the placement thereof is attached in Appendix D1. Refer also to Figure 53 and Figure 54 below.

7.3.2.2 Placement of site- and public notices

Notice was also given to Interested and Affected Parties (I&APs) by notice boards. Notice boards were placed at 5 different, noticeable and conspicuous places on 31st of March 2017. Refer to Table 16 and Figure 51.

Table 16: Locations of site notices

1. Mpumalanga township Library	-29.810815°, 30.639239°
2. Mpumalanga township Petrol Station	-29.81169°, 30.63878°
3. Hamarsdale Police Station	-29.79598°, 30.65606°
4. Spurwing Industrial Park Security Gate	-29.79688°,30.66238°
5. Old World Foundry Reception	-29.79802°, 30.66503°

1

1

2

2

3

3

4

4

5

5

7.3.2.3 Background Information Document

The Background Information Document (BID) developed for the proposed project provides background information pertaining to the project and is intended to inform I&APs of the proposed project. The BID also includes a registration form which I&APs, stakeholders and organs of state are encouraged to complete in order to register as an I&AP for the proposed project.

The BID was made available on 31st of March 2017 to all landowners within and surrounding the site on which the proposed project will be undertaken, as well as to all organs of state that may have jurisdiction over any aspect of the activity. The BID will also be made available to any other person who becomes involved in the on-going Public Participation Process.

Copies of the BID and proof of distribution of the BID to the adjacent landowners and organs of state have been attached as Appendix D2.

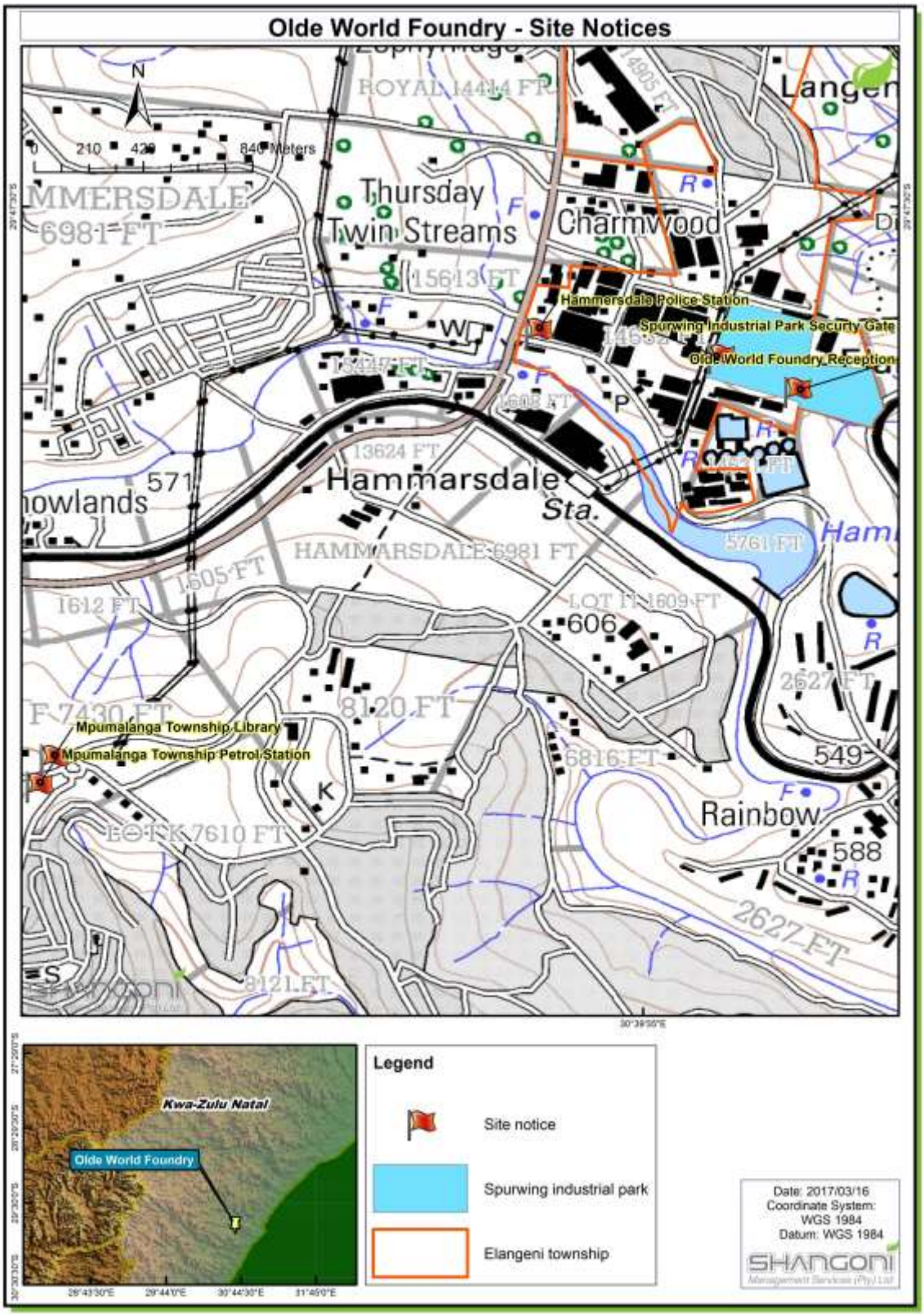


Figure 51: Site notices

SHANGONI
Management Services (Pty) Ltd

1 April 2017

KwaZulu-Natal Department of Water and Sanitation

U50C Quaternary Catchment

Southern life building 88 Joe Slovo

Durban

4000

Attention: Nonku Mokoena

NOTICE OF A SECTION 24G RECTIFICATION APPLICATION AND APPLICATION FOR AN ATMOSPHERIC EMISSION LICENCE BY OLDE WORLD FOUNDRY, KWA-ZULU NATAL REF NO: DM/S24G/0001/2016

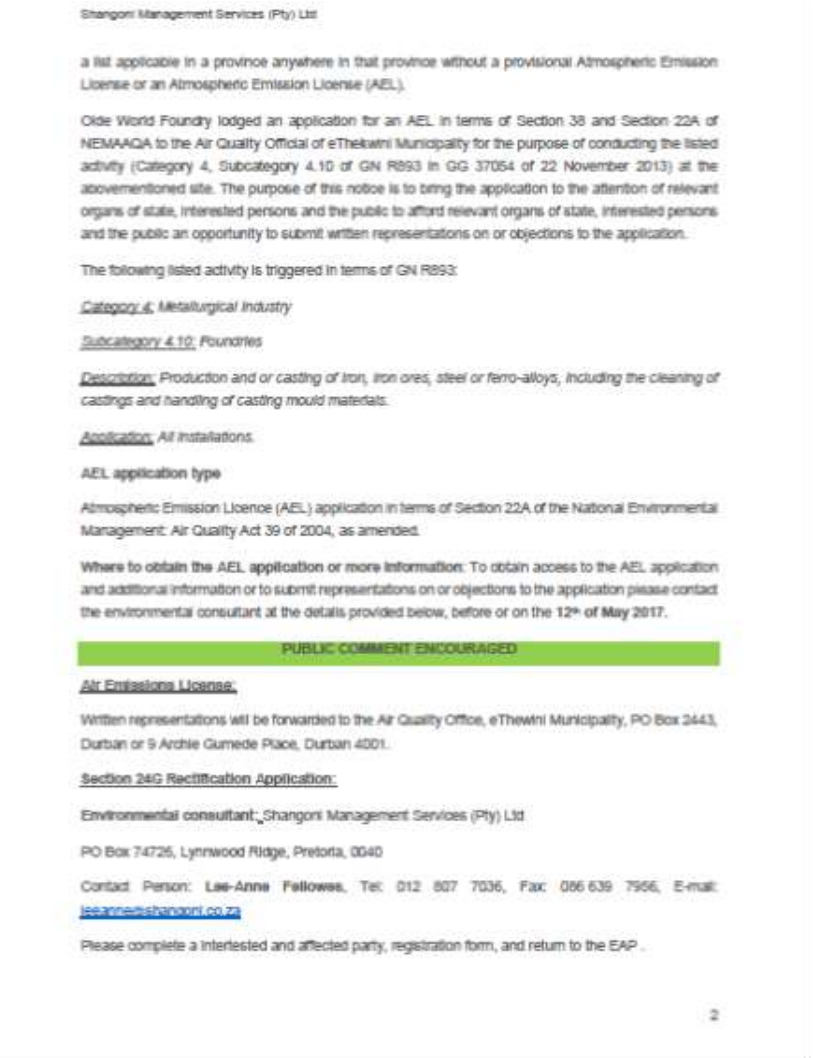
Notice is given, in terms of Section 24(G) read together with sections 24(F) of the National Environmental Management Act 107 of 1998, as amended (NEMA), that the Kwa-Zulu Natal Department of Economic Development, Tourism and Environmental Affairs, is considering an application for rectification for the unlawful commencement of activities listed in terms of the Environmental Impact Assessment Regulations of 2014 (GN R982 in GG 38282 of 4 December 2014) for continuation of the manufacturing of sand moulding of various metals (iron, brass and bronze) and gravity die casting of aluminum.

The following listed activity is triggered in terms of NEMA, Listing Notice 1 of GN R983 in GG 38282 of 4 December 2014:

Activity 36: *Commencing of an activity, which requires an atmospheric emission license in terms of section 21 of the National Environmental Management: Air Quality Act 39 of 2004.*

Olde World Foundry is a non-ferrous and ferrous foundry located within Spurwing Industrial Park in Hammersdale, approximately 40 km West of Durban. Locally it falls under the jurisdiction of the eThekwini Metropolitan Municipality in the Kwa-Zulu Natal Province. The foundry specializes in sand molding of various metals (iron, brass and bronze) and gravity die casting of aluminum.

The production and or casting of iron, iron ores, steel or ferro-alloys, including the cleaning of castings and handling of casting mould materials triggers an activity listed in Government Notice (GN) 893 published in Government Gazette 37054, in terms of the National Environmental Management: Air Quality Act 39 of 2004, as amended (NEMAQA), dated 22 November 2013. In terms of Section 22 of NEMAQA no person may conduct an activity listed on a national list anywhere in Republic or listed on



Shangoni Management Services (Pty) Ltd

a list applicable in a province anywhere in that province without a provisional Atmospheric Emission License or an Atmospheric Emission License (AEL).

Olde World Foundry lodged an application for an AEL in terms of Section 38 and Section 22A of NEMAAQA to the Air Quality Official of eThekwini Municipality for the purpose of conducting the listed activity (Category 4, Subcategory 4.10 of GN R893 in GG 37054 of 22 November 2013) at the abovementioned site. The purpose of this notice is to bring the application to the attention of relevant organs of state, interested persons and the public to afford relevant organs of state, interested persons and the public an opportunity to submit written representations on or objections to the application.

The following listed activity is triggered in terms of GN R893:

Category 4: Metallurgical Industry

Subcategory 4.10: Foundries

Description: Production and or casting of iron, iron ores, steel or ferro-alloys, including the cleaning of castings and handling of casting mould materials.

Application: All installations.

AEL application type

Atmospheric Emission Licence (AEL) application in terms of Section 22A of the National Environmental Management: Air Quality Act 39 of 2004, as amended.

Where to obtain the AEL application or more information: To obtain access to the AEL application and additional information or to submit representations on or objections to the application please contact the environmental consultant at the details provided below, before or on the **12th of May 2017.**

PUBLIC COMMENT ENCOURAGED

Air Emissions License:

Written representations will be forwarded to the Air Quality Office, eThewini Municipality, PO Box 2443, Durban or 9 Archie Gumede Place, Durban 4001.

Section 24G Rectification Application:

Environmental consultant: Shangoni Management Services (Pty) Ltd

PO Box 74726, Lynnwood Ridge, Pretoria, 0040

Contact Person: **Lee-Anne Fellowes**, Tel: 012 807 7036, Fax: 086 639 7966, E-mail: leeanne@shangoni.co.za

Please complete a interested and affected party, registration form, and return to the EAP .

2

Figure 52: Example of registered letters sent to Organs of State

Shangoni Management Services (Pty) Ltd

DRAFT SECTION 24G AND AEL APPLICATION REPORT AVAILABLE FOR PUBLIC REVIEW

A draft Section 24G and an AEL Application Report will be available for public review and comment from **1 April – 12 May 2017** at the following places:

Printed copy
A hard copy of the reports will be available at the Mpumalanga Library, Shezi Main road
Electronic copy
For online participation go to www.shangoni.co.za and click on "*Public Documents*", Olde World Foundry.

Kind regards

Lee-Anne Fellowes

Senior Environmental Consultant

Shangoni Management Services (Pty) Ltd

REGISTRATION FORM

Please complete this form and return it to Shangoni Management Services (Pty) Ltd to ensure that you are registered as an Interested and Affected Party (I&AP).

By answering the questions below, you will help us to develop a better understanding of your information requirements. The form also gives you the opportunity to make comments regarding the project. Additional pages may be attached should this be required.

I&AP Details:

Full name and surname:

Contact details: Tel (w): Tel (h): Fax: Cell: e-mail:

Physical address:

Postal address:

Preferred method of communication: ☐ fax ☐ e-mail ☐ post
Preferred telephone number: ☐ cell ☐ home ☐ work
Organisation/Representative:
Farm name, number and subdivision or Street Address (if applicable):

Questions

1) Where did you get information about the proposed project?
☐ Newspaper advertisement ☐ notice board ☐ flyer ☐ other (please specify)

2) Do you represent a company/organisation or is your interest on behalf of yourself?

3) Do you know of anyone that is affected by the proposed activity who was not informed of the project? (Please provide contact details)

4) Do you have any specific concerns or comments regarding the proposed project?

YES	NO

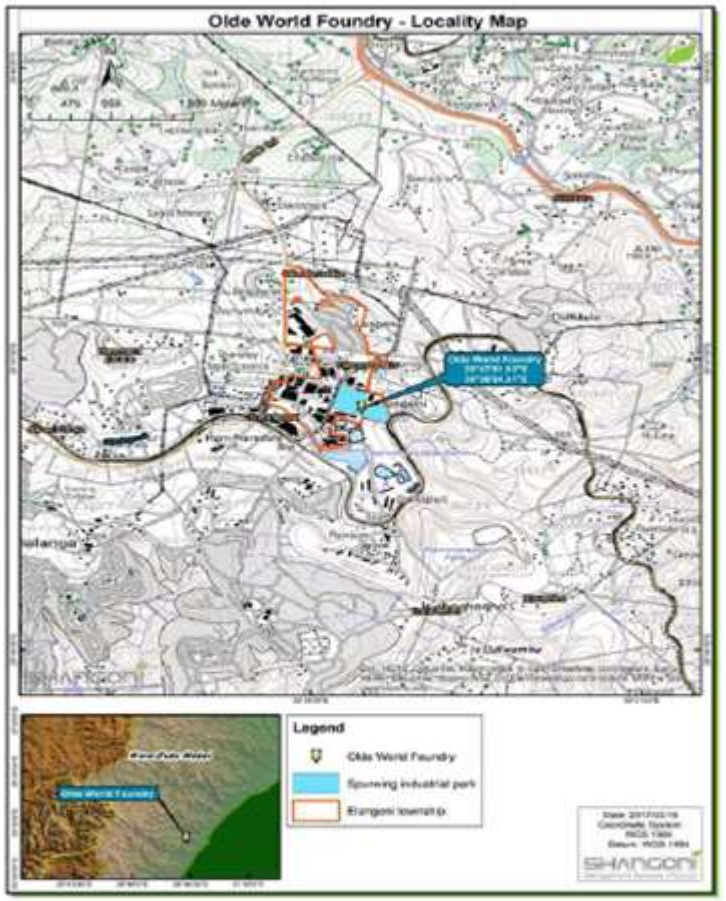
If yes, please indicate what the comments are?

4

Signed _____ Date _____

NOTE:
Please forward completed forms to Shangoni Management Services (Pty) Ltd. by no later than **12 May 2017.**

Environmental Assessment Practitioner: Shangoni Management Services (Pty) Ltd
Contact person: Lee-Anne Fellowes (Meiring)
Tel: 012 807 7036
Mobile: 082 456 3206
E-mail: leeanne@shangoni.co.za
Fax: 086 639 7956
Postal Address: P. O. Box 74726, Lynnwood Ridge, 0040



IKHASI 30 ISOLEZWE March 28, 2017

614 Education & Training

HOSPITALITY TRAINING GROUP
Tel: 031 823 7169 . 076 176 5433 Fax: +27(0)86 608 4419
Address: 1st Floor, 101 Sangro House, 417 Smith Street, Durban
CASHIER SPECIALS
2 WEEKS COMPUTERISED CASHIER COURSE WITH JOB ASSISTANCE DEPOSIT: R500
OFFICE ADMINISTRATION
3 MONTHS WITH FREE FULL COMPUTER TRAINING AND JOB ASSISTANCE
END USER COMPUTER TRAINING
1,2 & 3 MONTHS TRAINING
WEEKEND AND EVENING CLASSES AVAILABLE
REGISTER NOW!! REGISTER NOW!! REGISTER NOW!!

HOSPITALITY TRAINING GROUP
Tel: 031 823 7169 . 076 176 5433 Fax: +27(0)86 608 4419
Address: 1st Floor, 101 Sangro House, 417 Smith Street, Durban
City & Guilds Approved Centre
CHEF COURSE
Internationally Accredited
REGISTRATION NOW OPEN!!

4 Months Skills Foundation & Proficiency Certificate
Knives & Uniforms Included
Dep: R4000
Leaders in Training and Placement

BOOKINGS NOW OPEN!
3 MONTH Certificate SKILLS PROGRAMME
CARE GIVER
START 13/05/2017
For more info / bookings
Call: 031 705 8092 or email: ahmt@aemt.co.za

BOOKINGS NOW OPEN!!!
For HWSETA
1 Year qualification
Ancillary Healthcare
2017 - 2018
START 13/05/2017
For further details
Call: 031 705 8092
Email: ahmt@aemt.co.za

Nursing course 1 Year
- Community health work level 2
- Home-based care
- Practical in hospital
- Professional chef
- Computerised cashier
- Computer course
Job Assistance – Reg R500
58 Field Street, United Building, 3rd Floor
Tel: 031 836 3986 / 073 452 6669
Spring Dan Holdings

PATNET TRAINING COLLEGE
REGISTERED
- IT, Microsoft Office
- Office Admin
- Secretarial Studies
- Computer Literacy
- Pastel Accounting
- Cashier
- Bookkeeping
- Business Managemt
- Office Computing
Registration R350
369 Smith Street, Durban
Next to KFC
☎ 031-3012020 /1124
PMB - next to ABSA
220 Longmarket Street
033-3423705

REQ: UNEMPLOYED STUDENTS
That are artistic with a flair for design. For a 9 month "Introduction to Shoe Design" programme to commence 3rd April. Please send through certified copies of your ID as well as Matric.
Email: info@africanleatherfootwear.co.za
Call Kershnee: 031-4091096.

SIFUNDISA UKUTHUNGA
1YEAR COURSE 3 MONTHS COURSE
☆ TIZZ
078 273 6210 / 082 484 6293

TETA ACCREDITED TRAINING SPECIALS
- HAZCHEM - R750
- FIRST AID - R750
- FIRE FIGHTING - R750
- HEALTH & SAFETY - R750
- CODE 14 DRIVERS UCENCE. FULL COURSE R6 000
- CODE 10 & 14 DIPLOMA - R2 500
- BASIC SAFETY OFFICER - 1 week - R5000 pp
Call 031-464 0862 / 081 270 9156
59 Main Rd, Malvern, Queensburgh

THEMBEKILE WELDING SCHOOL
MerSeta accredited
17/QA/ACC/1132/15
Boiler making
Arc/ CO2 / Argon / Oxy and more
2 Groom str. Verulam
Next to the train station.
3 & 6 MONTH COURSE AVAILABLE
032 8111 386 - 084 064 7404
076 866 9096

620 General

2017 AVAILABLE JOBS
Air Hostesses, Bank Tellers, Chefs, Home Based Care / Nursing Assistants, Cruise Ship, Office Admin, D/ Capturers Bookkeepers, Cashiers etc No exp. needed. Training provided. For more info - Denor Hse, Rm 904, Smith Street, Durban.
031 305 0014
031 825 3980
031 825 4035
Fax: 0864713296
info@wentfordcollege.co.za
www.wentfordcollege.co.za

DATA Capturers R8 000 pm sms "Go" to 42654 www.jobplus.co.za

FREE Computer Course R650 - certificate. Office admin R750 Cashier R600. Hi-Tech 351 West St Salisbury. Ctr 10 flr B. 031-3040998

FURNITURE factory workers / Dischem Cashiers / McDonalds restaurant crew needed. SMS Igama lakho ku - 0611009287

GENERAL Assistant / Sales person / Plumbers. (Umatric awidingeki). SMS Igama lakho ku - 0611009287

STUDY 2 Month computer course R390 x3. 40 Dr AB Xuma St, Commercial City Bldg, 12th Fl, Office 1234. 031-3010499 / 084-8850628 Deadline 01/04 - job assistance

STUDY 2 Weeks Cashier course. R370. (Umatric awidingeki). 40 Dr A B Xuma St, Commercial City Bldg, 12th Flr, Office 1234. ☎ 0848850628. Deadline 3 April.

628 Medical

STUDY HIV Aids Counselling for 3 Weeks. TOTAL COST R760. Call or whatsapp 0848850628. 40 DR AB Xuma Street, Comercial City Bld. 12 Flr, Office 1234. Deadline 3 April.

631 Overseas Opportunities

DRIVERS / SECURITY for UK / USA. 011 391 5660 or 011 391 3633.

640 Security

A-E Training at Dynamic Cash Special. EDC-R550. CIT, AR, B-R550 Firearm R900. Part time. Job assist. 508 Smith St 0313069880

EYABANTU firearm R995 E/D/C from R400. B/A/ CIT/RO from R600. 61 Field Street, Durban. ☎ 031-3040360 & R/Bay 035 789 1538.

SAHARA Firearm Training SAPS No: 4000698 competency and hand gun training for Security Officers. 16th Floor Commercial City, Dbn. 031-3010449

SECURITY Grades Instructor needed for the Phoenix / Ntuzuma areas. Email CV to: p.forcetraining@gmail.com or call (031) 5311444.

Legals

702 Creditors/ Debtors

In the Estate of the late BUYANI WILSON MFEKA, Id. No. 110202 5087 084, Date of death 04/07/1894, Address 11 Figtree Road, Inanda 4309. Estate No. 14749/2012/DBN
Creditors and Debtors in the above Estate are hereby required to file their claims with and pay their debts to the undersigned within 30 days from the date of publicatiob hereof. Dated at Durban this 22nd day of March 2017
Attorneys/ Agents : MAZIBUKO ATTORNEYS NO 5 WALNUT ROAD, SMART EXCHANGE BUILDING, GROUND FLOOR, OFFICE NO 14, DURBAN, 4001
☎ 031- 301 4316

702 Creditors/ Debtors

In the Estate of the late MANTOMBI ODDY WINNIE NGCOBO, Id. No. 560715 0853 080, Date of death 21/08/2015, Address W117 Umlazi Township, Umlazi, 4066. Estate No. 006141/2016/DBN
Creditors and Debtors in the above Estate are hereby required to file their claims with and pay their debts to the undersigned within 30 days from the date of publicatiob hereof. Dated at Durban this 22nd day of March 2017
Attorneys/ Agents : MAZIBUKO ATTORNEYS NO 5 WALNUT ROAD, SMART EXCHANGE BUILDING, GROUND FLOOR, OFFICE NO 14, DURBAN, 4001
☎ 031- 301 4316

711 Public Notices

UMASIPALA MTHONJANENI MUNICIPALITY
MUNISIPALITEIT

NOTICE TO THE PUBLIC
ORDINARY COUNCIL MEETING

Notice is hereby given that the Council meeting that was scheduled for the 30th March 2017 has been rescheduled to take place on the 29th March 2017 at 14H00. We kindly apologise for any inconvenience we might have caused.

MR P.P. SIBIYA
MUNICIPAL MANAGER

711 Public Notices

ISAZISO NGESICELO SOKUCHEZUKISA ESIFAKWA NGOKWESIGABA 24G KANYE NESICELO SELAYISENSE YESIQHUMANI SASEMOYENI ESIFAKWA I-OLDE WORLD FOUNDRY, INO. EYINKOMBA YAKWAZULU-NATALI:DM/524G/0001/2016

Kukhishwa isaziso, ngokweSigaba 24(G) sifundwa ndawonye nesigaba 24(F) soMthetho Wokuphathwa Kwezemvelo Kuzwelonke 107 ka 1998, njengoba uchitshiyelwe (National Environmental Management Act (NEMA)), sokuthi uMnyango Wezokuthuthukiswa Komnotho, Ezokuvakasha kanye Nezemvelo KwaZulu-Natali, ucubungula isicelo sokuchezukiswa kokugala kwemisebenzi okungekho emthethweni esohlwini ngokweziNqubomgomo Zokuhlolwa Komthelela Kwezemvelo 2014 (Isaziso Sikahulumeni R983 kuGazethi Kahulumeni 38282 yamhlaka 4 Disemba 2014) wokuthi kughutshekwe nokubumba izinhlobo zensimbi ezahlukene ngesihlabathi (insimbi, ithusi kanye nensimbi eyinhlanganisela yezinsimbi kanye nokushisela i-alirniniyamu.
Imisebenzi elandelayo esohlwini olungezansi iqubuke ngenxa ye-NEMA, Isaziso Sokufaka Ohlwini 1 seSaziso Sikahulumeni R983 kuGazethi Kahulumeni 38282 yamhlaka 4 Disemba 2014:
Umsebenzi 36: Ukuqalisa umsebenzi, okudinga ilayisense yokughumisa emoyeni ngokwesigaba 21 soMthetho Wokuphathwa Kwezemvelo Kuzwelonke: Igophelo Lomoya 39 ka 2004.
I-Olde World Foundry iyindawo yokushisela okusansimbi kanye nensimbi ese-Spurwing Industrial Park eHammersdale, endaweni elinganisela kuma-40km eNtshonalanga yaseThekwini. Ngokwendawo ingena ngaphansi kwendawo kaMasipala Wedolobhakazi laseThekwini Esifuridazweni iKwaZulu-Natali. Indawo yokusebenzela yenza umsebenzi wokubumba izinhlobo zensimbi ezahlukene ngesihlabathi (insimbi, ithusi kanye nensimbi eyinhlanganisela yezinsimbi) kanye nokushisela i-alirniniyamu.
Ukukhiqiza kanye noma ukushiswa kwensimbi, amatshe angakhiqiza insimbi, insimbi noma insimbi eyakhiwe ngokuhlanganiswa kwezinye izinsimbi, okubandakanya ukuhlanzwa kwamatshe angakhiqiza insimbi kanye nokulawulwa kwempahla yokubumba insimbi qalisa umsebenzi osohlwini olukwiSaziso Sikahulumeni (GN) 893 esishicilelwe kuGazethi Kahulumeni 37054, ngokoMthetho Wokuphathiwa Kwezemvelo Kuzwelonke: Igophelo Lomoya 39 ka 2004, njengoba uchitshiyelwe (NEMAQA), yamhlaka 22 Novemba 2013. NgokweSigaba 22 se-NEMAQA akekho umuntu ongenza umsebenzi osohlwini kuhlu lukazwelonke noma kuphi kuRiphabhulikhi noma ohlwini olusohlwini olusebenzayo esifundazweni noma kuphi esifundazweni ngaphandle kweLayisense Yokughumisa Emoyeni yesikhashana noma iLayisense Yokughumisa Emoyeni (Atmospheric Emmission Licence (AEL)).
I-Olde World Foundry yafaka isicelo se-AEL ngokweSigaba 38 neSigaba 22A se-NEMAQA kuMisebenzi Wezeqophelo Lomoya wakuMasipala waseThekwini ngenhloso yokwenza umsebenzi osohlwini (Uhlobo 4, Ingxenye yohlobo 4.10 ye-GN R893 ku-GG 37054 yamhlaka 22 Novemba 2013) endaweni ebaluliwe ngenhla. Inhloso ngalesi saziso ukudlulisela isicelo ezinhlakeni zikahulumeni ezifanele, abantu abanentshisekelo kanye nasemphakathini ukuze izinhlaka zikahulumeni, abantu abanentshisekelo kanye nomphakathi babe nethuba lokwethula izethulo ezibhaliwe mayelana nesicelo noma basiphikise.
Umsebenzi olandelayo osohlwini ugqubukile ngokwe-GN R893:
Isigaba 4: Imboni ye-Melallurgical
Isigatshana 4.10: Foundries
Incazelo: Ukukhiqiza kanye noma ukushisa insimbi, amatshe angakhiqiza insimbi, insimbi noma insimbi eyakhiwe ngokuhlanganiswa kwezinye izinsimbi, okubandakanya ukuhlanzwa kwamatshe angakhiqiza insimbi kanye nokulawulwa kwempahla yokushisa insimbi.
Iscelo: Konke okufakelwayo.
Uhlobo lwesicelo se-AEL
Iscelo selayisense Yokughumisa Emoyeni (AEL) ngokweSigaba 22A soMthetho Wokuphathwa Kwezemvelo Kuzwelonke: Igophelo Lomoya 39 ka 2004, njengoba uchitshiyelwe.
Isicelo se-AEL noma eminye imininingwane kutholakala kuphi: Ukuze uthole isicelo se-AEL kanye neminye imininingwane noma ukuthumela izethulo mayelana nesicelo noma ukuze usiphikise kucelwa uthintane nochwepheshe bezemvelo ngokusebenzisa imininingwane ehlinzekwe ngezansi, ngaphambi noma mhlaziyi-12 kuMeyi 2017.
UKUGQUGQUZELWA KWEZIMVO ZOMPHAKATHI
Ilayisense Yeziqhumani Eziqhuma Emoyeni:
Iziphakamiso ezibhaliwe kumele zithunyelwe eHhovisi Lezeqophelo Lomoya i-Air Quality Office, eThekwini Municipality, PO Box 2443, Durban noma 9 Archie Gumede Place, Durban 4001.
Isicelo Sokuchezukisa Esingokwesigaba 24G:
Uchwepheshe Wezemvelo: Shangoni Management Services (Pty) Ltd, PO Box 74726, Lynnwood Ridge, Pretoria, 0040. Umuntu Othintwayo: Lee-Anne Fellowes. Ucingo: 012 807 7036, Ifeksi: 086 639 7956, I-imeyli : leeanne@shangoni.co.za
UHLAKA LWESIGABA 24G KANYE NOMBIKO WESICELO SE-AEL LUYATHOLAKALA UKUZE LUBUKEZWE UMPHAKATHI
Uhlaka LweSigaba 24G kanye Nombiko Wesicelo se-AEL luyatholakala ukuze umphakathi ulubukeze futhi uphawule kusukela mhlaka 1 Ephreli - 12 Meyi 2017 ezindaweni ezilandelayo:
Ikhophi ephrintiwe
Ikhophi ephrintiwe yemibiko ingatholakala eMtapowolwazi waseMpumalanga, emgwaqweni uShezi Main
Ikhophi kagesi
Ukuze ubambe iqhaza ngokuxhuma ku-inthanethi iya ku-www.shangoni.co.za bese uchofe amagama athi "Public Documents", Olde World Foundry.

711 Public Notices

ISAZISO SOMHLANGANGO WESIGUNGU SIKAMASIPALA

Umzumbe

Umasipala waseMzumbe ukhipha le sazizo ulawulwa isigaba -20 (2) somthetho olawula ukusebenza komasipala esingu nombolo - 32 ka - 2000 (Municipal Systems Act 32 of 2000) oyalela umasipala ukuba umbandakanye izinhlaka zomphakathi okungaba amalunga omphakathi nabezindaba ekuhlaleni kwemihlangano yoMkhandlu.

Umasipala waseMzumbe wazisa amalunga omphakathi nabezindaba ngokuhlala komhlangano woMkhandlu waseMzumbe lapho kuzobe kudingidwa izindaba zikaMasipala waseMzumbe.

Usuku : oLwesine,30 March 2017
Indawo : Ward 8 MPCC eNyavini
Isikhathi: 10h00 Ekuseni

Lo mhlangano uzophakamisa isabelo mali sika 2017/2018. Umphakathi uyacelwa ukuba ungayifaki imifaniswano yezepolitiki. Mayelana neminye imininingwane ungaxhumana nehhovisi lezokuxhumana noMnu Trevor Khanyile 0399720005

Cllr M Shozi
uSomlomo

715 Tenders

KwaDukuza Municipality

TENDER NO. MN 32/2017

PROPOSAL FOR THE COMPLETE FINANCING, PROVISION, INSTALLATION, OPERATION AND MAINTENANCE OF AN ON-STREET AND GENERAL MUNICIPAL PARKING MANAGEMENT SYSTEM, INCLUDING RELATED SIGNAGE AND ROAD MARKINGS, WITHIN THE KWADUKUZA MUNICIPAL AREA.

In terms of Chapter 11 of the Municipal Finance Management Act No 56 of 2003, tenders are hereby invited for the above.

The physical address for collection of tender documents is: Room 35, Community Safety, Lavoipierre Building, No 2 Industria Crescent, KwaDukuza upon presentation of a receipt proving prior payment of a non-refundable fee of R200.00 (inclusive of VAT), having been made at the Municipal Finance Directorate, General Justice Mpanza Building, 104 Mahatma Gandhi Street, KwaDukuza. (Cash or bank guaranteed cheques only). **Tender documents will be available from 10h00 on 31 March 2017 until 09h00 on 11th April 2017. The cut-off time for selling of tender documents is 09h00 on the 11 April 2017. Documents to be collected from Zasembo Mkhize at Room 35, Community Safety, 2 Industria Crescent, Lavoipierre Building, KwaDukuza. (0324375095). Technical queries contact Mr. Sithembiso Zungu – 0829488949.**

A compulsory clarification meeting, with representatives of the Employer, will take place at the KwaDukuza Municipality: PMU Building, 2 Industria Crescent starting at **10h00 on 11th April 2017**. Failure to attend the compulsory clarification meeting will disqualify the tender. Only those contractors who are in possession of a tender document shall be permitted to attend and participate in discussion at the compulsory clarification meeting. Doors to the venue will be closed at **10h00**.

The Municipality is pursuing a 'two stage' tender process and proposals shall be completed in accordance with the conditions stated in the tender specifications. Tenders shall be placed in two sealed envelopes, clearly marked envelopes one Marked **"Stage 1: Technical Proposal- "TENDER NO. MN 32 / 2017: PROPOSAL FOR THE COMPLETE FINANCING, PROVISION, INSTALLATION, OPERATION AND MAINTENANCE OF AN ON-STREET AND GENERAL MUNICIPAL PARKING MANAGEMENT SYSTEM, INCLUDING RELATED SIGNAGE AND ROAD MARKINGS, WITHIN THE KWADUKUZA MUNICIPAL AREA"** and **"Stage 2: Financial Proposal- "TENDER NO. MN 32 / 2017: PROPOSAL FOR THE COMPLETE FINANCING, PROVISION, INSTALLATION, OPERATION AND MAINTENANCE OF AN ON-STREET AND GENERAL MUNICIPAL PARKING MANAGEMENT SYSTEM, INCLUDING RELATED SIGNAGE AND ROAD MARKINGS, WITHIN THE KWADUKUZA MUNICIPAL AREA"** as outlined in the tender specifications and shall be placed in the tender box at the KwaDukuza Municipal Offices, 14 Chief Albert Luthuli Street, KwaDukuza, not later than **12h00 9 May 2017** at which time the tenders will be opened in public. Tenders are to be submitted on the tender documentation provided by the Municipality. Late, electronic or faxed tenders will not be accepted.

Tenders will be evaluated and adjudicated according to the following criteria: • 80/20 preference points system will apply in terms of the Preferential Procurement Regulation, 2017 (B-BBEE Status Level of Contribution - an original or certified copy of the certificate is required) • Contractor shall be registered on the National Treasury's Central Supplier Database • Council's Supply Chain Management Policy • Prices tendered must be firm and inclusive of VAT • The service provider shall provide the Municipality with a compliance clearance PIN to verify your tax compliance status • A certified copy of the most recent municipal account in which the business is registered. District municipality (water) and Local municipality (rates, electricity and other) or if the bidder is a tenant then a letter or certificate from the landlord indicating that the levies are not in arrears • Certificate of Attendance at the clarification meeting • Tenders shall be valid for a period of 90 days.

All prospective tenderers will be screened in accordance with the National Treasury's Defaulters Database. Council does not bind itself to accept the lowest tender or any tender and reserves the right to accept any part or the whole of any tender and preference will be given to Affirmative Business Enterprises. The Municipality also reserves the right to call on preferred bidders to form a joint venture with a BEE company. Canvassing in any form in the gift of Council is strictly prohibited and will lead to the disqualification of the tender. No bids will be considered from persons in the services of any organ of the state.

NJ MDAKANE - Municipal Manager

Figure 53: Copy of notice in Isolezwe newspaper

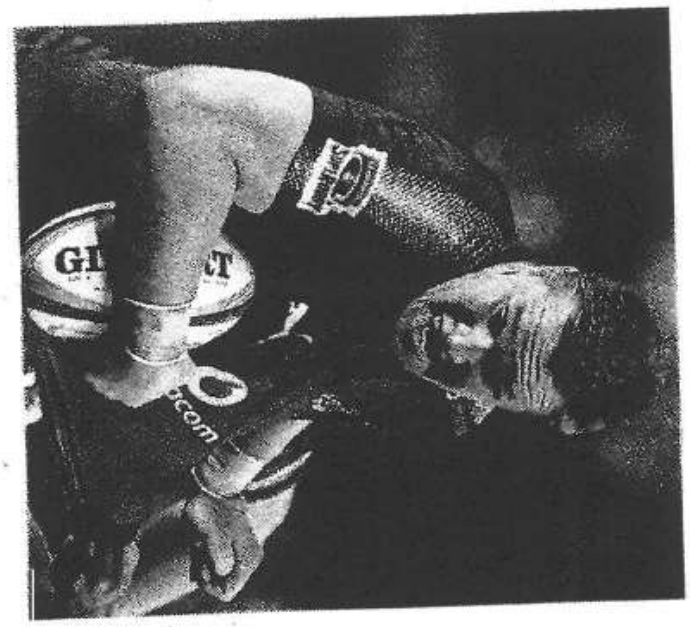
e kopseer

groep ingesluit is
a se skorsing, kan
oorweeg word.

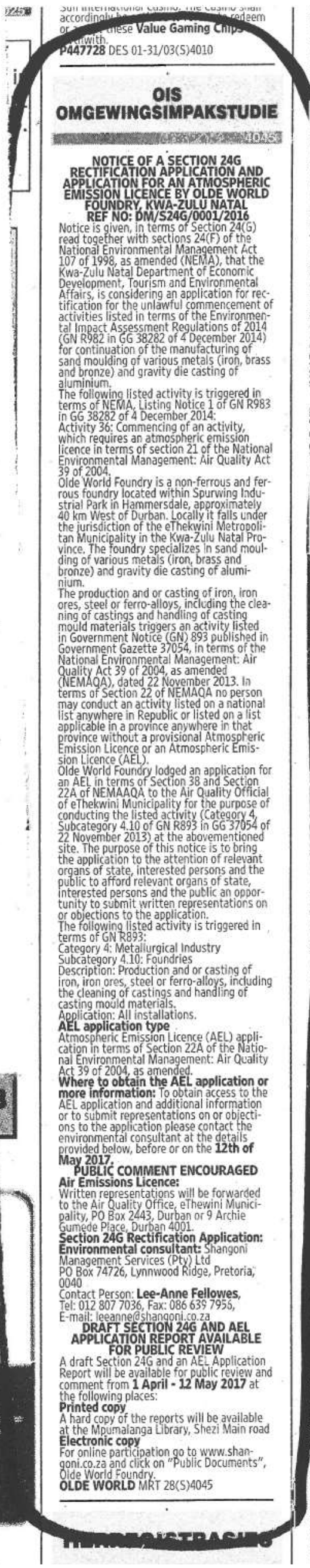
use sou wees om
agtsteman in te
Kirsten op flank

aangewys.
Die senterkombinasie van Jes-
se Kriel en Jan Serfontein het
gemengde welslae behaal.
Hulle het goed verdedig in die
eerste helfte, maar het op die
aanval nie veel van 'n bedrei-
ging ingehou nie.
Die Bulle speel hul laaste toer-
wedstryd op 8 April teen die
Sunwolves in Tokio.

Hanro Liebenberg



Sport Dinsdag 28 Maart 2017



accordingly ... redeem
or ... these **Value Gaming Chips**
therewith.
P447728 DES 01-31/03(S)4010

OIS OMGEWINGSIMPAKSTUDIE

NOTICE OF A SECTION 24G RECTIFICATION APPLICATION AND APPLICATION FOR AN ATMOSPHERIC EMISSION LICENCE BY OLDE WORLD FOUNDRY, KWA-ZULU NATAL REF NO: DM/S24G/0001/2016

Notice is given, in terms of Section 24(G) read together with sections 24(F) of the National Environmental Management Act 107 of 1998, as amended (NEMA), that the Kwa-Zulu Natal Department of Economic Development, Tourism and Environmental Affairs, is considering an application for rectification for the unlawful commencement of activities listed in terms of the Environmental Impact Assessment Regulations of 2014 (GN R982 in GG 38282 of 4 December 2014) for continuation of the manufacturing of sand moulding of various metals (iron, brass and bronze) and gravity die casting of aluminium.

The following listed activity is triggered in terms of NEMA, Listing Notice 1 of GN R983 in GG 38282 of 4 December 2014:

Activity 36: Commencing of an activity, which requires an atmospheric emission licence in terms of section 21 of the National Environmental Management: Air Quality Act 39 of 2004.

Olde World Foundry is a non-ferrous and ferrous foundry located within Spurwing Industrial Park in Hammersdale, approximately 40 km West of Durban. Locally it falls under the jurisdiction of the eThekwini Metropolitan Municipality in the Kwa-Zulu Natal Province. The foundry specializes in sand moulding of various metals (iron, brass and bronze) and gravity die casting of aluminium.

The production and or casting of iron, iron ores, steel or ferro-alloys, including the cleaning of castings and handling of casting mould materials triggers an activity listed in Government Notice (GN) 893 published in Government Gazette 37054, in terms of the National Environmental Management: Air Quality Act 39 of 2004, as amended (NEMAQA), dated 22 November 2013. In terms of Section 22 of NEMAQA no person may conduct an activity listed on a national list anywhere in Republic or listed on a list applicable in a province anywhere in that province without a provisional Atmospheric Emission Licence or an Atmospheric Emission Licence (AEL).

Olde World Foundry lodged an application for an AEL in terms of Section 38 and Section 22A of NEMAAQA to the Air Quality Official of eThekwini Municipality for the purpose of conducting the listed activity (Category 4, Subcategory 4.10 of GN R893 in GG 37054 of 22 November 2013) at the abovementioned site. The purpose of this notice is to bring the application to the attention of relevant organs of state, interested persons and the public to afford relevant organs of state, interested persons and the public an opportunity to submit written representations on or objections to the application.

The following listed activity is triggered in terms of GN R893:

Category 4: Metallurgical Industry
Subcategory 4.10: Foundries
Description: Production and or casting of iron, iron ores, steel or ferro-alloys, including the cleaning of castings and handling of casting mould materials.
Application: All installations.

AEL application type

Atmospheric Emission Licence (AEL) application in terms of Section 22A of the National Environmental Management: Air Quality Act 39 of 2004, as amended.

Where to obtain the AEL application or more information: To obtain access to the AEL application and additional information or to submit representations on or objections to the application please contact the environmental consultant at the details provided below, before or on the **12th of May 2017.**

PUBLIC COMMENT ENCOURAGED

Air Emissions Licence:
Written representations will be forwarded to the Air Quality Office, eThewini Municipality, PO Box 2443, Durban or 9 Archie Gumede Place, Durban 4001.

Section 24G Rectification Application:
Environmental consultant: Shangoni Management Services (Pty) Ltd
PO Box 74726, Lynnwood Ridge, Pretoria, 0040
Contact Person: **Lee-Anne Fellowes**,
Tel: 012 807 7036, Fax: 086 639 7956,
E-mail: leeanne@shangoni.co.za

DRAFT SECTION 24G AND AEL APPLICATION REPORT AVAILABLE FOR PUBLIC REVIEW

A draft Section 24G and an AEL Application Report will be available for public review and comment from **1 April - 12 May 2017** at the following places:

Printed copy
A hard copy of the reports will be available at the Mpumalanga Library, Shezi Main road

Electronic copy
For online participation go to www.shangoni.co.za and click on "Public Documents", Olde World Foundry.

OLDE WORLD MRT 28(S)4045

gedoen vir die die wysiging van d
planningskema, bekend as die Tl
beplanningskema, 2015, deur die
ring van Gedeelte 1 van Erf 1042,
stroom, Registrasie Afdeling I.Q.,
gelee te Esselenstraat 46, vanaf
sieel 1" na "Residensieel 3" vir re
eenhede.
IENAAR: KAPEKA TRUST Reg N
65/2013
PLIKANT: KW Rost van TOWN
NNING SOLUTIONS Reg Nr:
/045930/23
ES: Dahliastraat 5, Potchefst
Posbus 20831, NOORDBRU
C: 082 662 1105
gewingnommer: 36/2017
Emily Blaai-Mokgethi
MUNISIPALE BESTUURD
MRT 28, APR 04(T)402

AA OEK OM WYSIGING VAN T
DO SBEPLANNINGSKEMA, 201
TE E VAN ARTIKEL 62 VAN H
VA DIE TLOKWE STADSRAAD
BE ANNING EN GRONDGEBRUI
ST R VERORDENING, 2015 SA
M DIE WET OP RUIMTELIKE B
N EN GRONDGEBRUIKSBEST
(N F 16 VAN 2013): **RESTERE**
EELTE VAN GEDEELTE 2
GELEE IN DIE DORP PO
OOM, REGISTRASIE AFDEL
NSVAAL
TLOKWE WYSIGINGSKEN
his geskied hiermee in terme
van die Tlokwe Ruimtelike Be
ndgebruiksbestuur Verordeni
ergemelde aansoek deur die
dsraad ontvang is en ter insa
edurende gewone kantoorure
toor van die Departement Me
dersettings en Beplanning, Tl
d, Kantoor 210, Tweede Vloer,
ome Kompleks, op die hoek va
sstraat en Sol Plaatjielaan, P
com. Enige beswaar/vertoë m
of mondelings, indien nie kan
of tot die Munisipale Bestuur
sluitingsdatum vir die indieni
sware/vertoë by bovermelde a
sbus 113, Potchefstroom, 252
gerig word, met vermelding va
emde opskrif, die beswaarmak
lang in die saak, die grond(e)
swaar/vertoë, die beswaarmak
telefoonnommers en adres.
BLIKASIE DATUMS: 21 MAAR
MAART 2017
UITINGSDATUM VIR DIE INDI
SWARE/VERTOË: 20 APRIL 2
RD VAN AANSOEK:
N.J. Blignaut (I.D. 681211 50
elwyn Stads- en Streekbeplan
98/005829/23, synde die gema
ent van die eienaar, doen aans
kwe Stadsraad in terme van
n die Tlokwe Ruimtelike Bepla
ndgebruiksbestuur Verordeni
die dorpsbeplanningskema w
an as die Tlokwe Dorpsbeplan
5, te wysig, deur die hersone
sterende Gedeelte van Gedeel
368, Registrasie Afdeling I.Q.
eë te Spruitstraat 70, Potchef
af "Residensieel 1" na "Besi
aag 1726 vir "Restaurant" (Te
NAAR: Mev. Lombaard (Appe
491101 0125 08 0
PLIKANT: N.J. Blignaut (I.D. 6
4) van Welwyn Stads- en Str
BK (Reg. No 1998/005829/
RES: Holtzhausenlaan 39, Bai
en/of Posbus 20508, Noord
NO.: (018) 290 5611 / 082 5
NISIPALE BESTUURDER: DR.
GETHI
nisgewingnommer: 32/2017
6-32 MRT 21,28 (W)4025

ENNISGEWING INGEVOLGE AF
) VAN DIE RUSTENBURG PLA
UNISIPALITEIT RUIMTELIKE B
N GRONDGEBRUIKBESTUURS
NG, 2015 VIR 'N VERANDERI
RONDGEBRUIKSREGTE BEKEN
ERSONERING.
USTENBURG WYSIGINGSK
ie firma NE Town Planning BK
08/2492644/23), synde die ge
gent van die eienaar van **Erf 1**
ark Uitbreiding 1, Registras
.Q., Noord-Wes Provinsie, g
ngevolge, Artikel 18(1)(d) van
urg Plaaslike Munisipaliteit Ru
Beplanning en Grondgebruikbest
ening, 2015 kennis dat ek by R
Plaaslike Munisipaliteit aansoek
ir die verandering van die gron
e, ook bekend as die hersonerin
iendom hierbo beskryf, **geleë t**
Straat 250, Protea Park Uitb
Rustenburg, vanaf "Residensie
"Inrigting" beperk tot 'n verplee
huis sorgsentrum, afree eenheid
ehuis soos omskryf in Bylae 19
Skema. Hierdie aansoek behels
iendom gebruik mag word vir a
soos bo vermeld. B) die aangren
domme asook eiendomme in die
kan kan moontlik hierdeur geraa
C) Die hersonering van "Residen
"Inrigting" soos bo vermeld, beh
beteringe aan die bestaande geb
bring sal word en gebruik sal wo
doeleindes soos hierbo genoem
volgende ontwikkelingsparamet
vat in Bylaag 1984 van die Skem
Hoogte: 2 verdiepings, Max dekk

Figure 54: Copy of notice in Beeld newspaper

7.3.3 I&AP's register

Once all landowners, adjacent landowners, organs of state and the public were notified of the proposed project, an I&AP's register (as provided in Appendix D3) was compiled. Table 17 below provides an extract of the I&AP's Register indicating the organs of state and other I&AP's that have been registered.

Table 17: Registered I&AP's

No.	Name	Department
Organs of State		
1	Yugeshni Govender	KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs
2	Nonku Mokoena	KwaZulu-Natal Department of Water and Sanitation -
3	Jimmy Kekana	Department of Trade and Industry
4	Lucky P. Mkhize	eThekwini Municipality Environmental Management Inspector Atmospheric Emission Licensing Unit
5	Municipal Manager	Ethekweni Metropolitan Municipality
6	Petros Hella Nxumalo	Ethekweni Metropolitan Municipality -Ward 4
7	Nokukhanya Khumalo	South African Heritage Resources Agency
8	Kholani Mulalo	Department of Mineral Resources
9	Vannesa Maclou	KwaZulu-Natal Department of Economic Development & Tourism and Environmental Affairs
10	Busisiwe Mlambo	SANRAL
11	Siphiwe Ngcobo	Kwa-Zulu Natal Department of Health
12	Vicky Madonsela	Transnet
No.	**Name**	**Interest**
Registered I&AP's		
1	Bata SA (Pty) Ltd - Sue Jagesur	Owner of business within Spurwing Industrial park
2	Canteen - Patience	Owner of business within Spurwing Industrial park
3	CG Casket and Coffin Manufacturers - Tracy Rita Cahn	Owner of business within Spurwing Industrial park
4	Chinco Fireside Treatment CC - Thomas Peter Roberts / Ritesh	Owner of business within Spurwing Industrial park
5	Cylinder Revalidation Services CC - Thomas Lenzen- Janet	Owner of business within Spurwing Industrial park
6	Dabbs - David and Susan Warneke	Owner of business within Spurwing

No.	Name	Department
		Industrial park
7	DOORTEC (PTY) LTD - Warren Henfrey	Owner of business within Spurwing Industrial park
8	Ecowize (Pty) Ltd - Johannes Van Onslin	Owner of business within Spurwing Industrial park
9	G and Sons Packaging (Pty) Ltd - Ahmed Sohail	Owner of business within Spurwing Industrial park
10	Ihlobo Footwear CC - Shaum Chetty	Owner of business within Spurwing Industrial park
11	Lawson Engineering and Consulting CC - David Graeme Lawson	Owner of business within Spurwing Industrial park
12	Nicholas Claude Hammond - Nicholas Claude Hammond	Owner of business within Spurwing Industrial park
13	Occuwell Health Care CC - Wendy Lewis	Owner of business within Spurwing Industrial park
14	Presidential Furniture - Lounette	Owner of business within Spurwing Industrial park
15	Pressboard (Pty) Ltd - Andrew Marshall / Rose	Owner of business within Spurwing Industrial park
16	Pyratrade (Pty) Ltd - Amita Patel	Owner of business within Spurwing Industrial park
17	Rhotech Manufacturing (Pty) Ltd - Stanley / Belinda	Owner of business within Spurwing Industrial park
18	Robert Henman Cory Els - Robert Henman Els	Owner of business within Spurwing Industrial park
19	Santon Workwear (Pty) Ltd - Sandra Ann Pechey / Greg	Owner of business within Spurwing Industrial park
20	South Pole Trading and Logistics (Pty) Ltd - Veni and Alastair	Owner of business within Spurwing Industrial park
21	vacated - Boxer Superstores (Pty) Ltd - Marek Adam Masojada	Owner of business within Spurwing Industrial park
22	Soundsprops 132 Pty Ltd	Adjacent landowner
23	First of the first Property's CC	Adjacent landowner
24	Fibertex South Africa Proprietary Limited	Adjacent landowner
25	CHAN Property Inv CC	Adjacent landowner
26	MCFI International SA Pty Ltd	Adjacent landowner

7.3.5 Access and opportunity to comment on written submissions

The IAR was made available to the public for review for a period of thirty (30) days, from 1 April to 12 May 2017. Hard copies of the mentioned document have been made available at the Mpumalanga Library, Shezi Main road (see figures below) for the I&APs to view and loaded onto the Shangoni Management Services website, www.shangoni.co.za and click on "Public Documents", Olde World Foundry. Hard copies were also submitted to DTI, Ethekweni Metropolitan Municipality, National Department of Environmental Affairs, Kwa-Zulu Natal Department of Agriculture and DWA for review.

A reminder e-mail was sent on the 8th of May 2017, reminding the interested and affected parties of submitting comments by the 12th of May 2017.

A register and comment sheet accompanied the hard copies at the public viewing station. An electronic copy of the IAR was also posted on the Shangoni Management Services' website (www.shangoni.co.za) for public comment for the same period of 30 days.

All the registered I&APs were notified of the availability of the IAR for public review by 31st of March 2017. The I&APs were also informed to complete the register subsequent to reviewing the IAR and also to submit any comments to Shangoni Management Services to the contact person below by no later than 12th of Mary 2017.

EAP contact details: Lee-Anne Fellowes, Shangoni Management Services, P.O. Box 74726, Lynnwood Ridge, 0040, Cell: 082 456 3208 Tel: 012 807 7036 Fax 086 639 7956, e-mail: leeanne@shangoni.co.za.

7.3.6 Consultation with the relevant Authorities

7.3.6.1 Application form in terms of the NEMA

The amended section 24G rectification application form under NEMA was submitted to the KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs on 17th of March 2017. A reference number DM/S24G/0001/2016 was issued by 27th of June 2016. The letter of acknowledgement indicating the above-mentioned reference number is attached as Appendix B.

7.3.6.2 Authorities meeting(s)

A pre-application meeting was held on 13th of February 2017 at the Department of KwaZulu-Natal Department of Economic Development Tourism and Environmental Affairs in Durban to provide background of the project to the KZN Department of Economic Development, Tourism, and Environmental Affairs to obtain the inputs from the Department with regards to the Section 24G Rectification Application. The minutes of the meetings and attendance register are attached hereto as Appendix D4**.**

7.3.8 Comments and responses

All issues, comments and questions received from the I&APs up to date have been summarised in Table 18 below. Where responses are already available as part of the section 24G rectification process, these have been included in the IAR in the table below. Refer to Appendix D5 for comments received.

Table 18: Comments and responses

Name of contact person	Company	Date	Method of comment	Issue raised	Response
Stan Whitney	Rhotech Manufacturing	30 March 2017	E-mail	No comments	Dear Belinda, We hereby, acknowledge your registration form. You are now registered as an Interested and Affected party. Regards Lee-Anne Fellowes
Alastair Whitfield	South Pole Trading and Logistics (Pty) Ltd	30 March 2017	E-mail	Hi Ayanda We do not have anything to contribute on this matter. Kind regards Alastair	Good day Alastair, We hereby acknowledge your response to the email, and we note that you do not have anything to contribute to the rectification application. Thank you so much. Kind Regards
Canteen	Patience	30 March 2017	E-mail	I do not understand what this e-mail is about, could you please simplify it for and send a message my pdf has a	Morning Patience,

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				problem cannot open attachment. Thanks for clarity	Please see the attached word version of the notification letter. To simplify the letter, Olde World Foundry situated in the Spurwing Industrial Park, has applied for rectification (this means that they are legalising the activity that they carried out without authorisation). This was due to operation of the foundry without an Air Emissions License. The rectification process involves, identifying the impacts and proposing mitigation measures (thus the document for review), and public participation process (advert, letters etc.). Hope this clarifies the letter. Regards Lee-Anne Fellowes
Nonkululeko Mokoena	Pongola-Umzimkulu Proto CMA	30 March 2017	E-mail	Hi Ayanda	

Name of contact person	Company	Date	Method of comment	Issue raised	Response
	Department of Water and Sanitation Environmental officer			Received. Regards	
Edward Oupa Mahosi	Directorate Air Quality Authorisation in the Department of Environmental Affairs	12 April 2017	E-mail	Good day Leeanne, Our telephonic conversation yesterday refers. The Directorate Air Quality Authorisation in the Department of Environmental Affairs acknowledges the above-mentioned application. However, DEA only provide comments when requested to do so internally and when requested by the Licensing Authority. In that regard, DEA AQA will only comment on the application if requested to do so by the Licensing Authority, eThekwini Metropolitan Municipality. Regards,	Dear Edward, We hereby acknowledge receipt of your comments, and take note that DEA will only provide comments when requested to do so internally and when requested by the Licensing Authority. Regards

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				Edward Oupa Mahosi	
Nonkululeko Mokoena	Pongola-Umzimkulu Proto CMA Department of Water and Sanitation Environmental officer	29/06/2017	Letter via e-mail	1. It is understood that Olde World Foundry rents premises located within Spurwing Industrial Park. The Applicant must note that according to Section 19 of the National Water Act No. 36, 1998; An owner of land, a person in control of land or a person who occupies or uses the land on which — (a) any activity or process is or was performed or undertaken; or (b) any other situation exists, which causes, has caused or is likely to cause pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.	This comment is noted; Olde World Foundry is a tenant at the Spurwing Industrial Park. The applicant is aware of section 19 of the National Water Act No. 36, 1998 and the responsibilities related to this section.
				2. According to Section 19 of NWA stated above, Olde World Foundry is responsible for the pollution that may arise due to the activities occurring within	Olde World Foundry takes note of this comment and will apply Sections 19 & 20 of the National Water Act No. 36, 1998.

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				the property from the undertakings of the foundry. Olde World Foundry is advised to apply the principles of Section 19 and 20 of NWA (i.e. 'prevention and remedying effects of pollution' and 'control of emergency incidents' respectively) in case of pollution incidents.	
				3. This Department requests that all wetlands in close proximity of the project site be delineated according to the Department's guidelines: "A practical field procedure for and delineation of wetlands and riparian areas" and indicate the proposed activity location in relation to the riparian area, the 1:50 and 1:100 year floodlines on a map of appropriate scale. The Applicant will require an authorisation from this Department for any activity within the riparian habitat or	The Freshwater ecosystem study compiled by Groundtruth dated April 2018, states that "there was no natural wetland habitat identified within 500m of the Old World Foundry (OWF) that is hydrologically linked to the OWF". Refer to the attached Freshwater ecosystem study. Although no specific delineation of the floodline has taken place, the site is at an elevation of 620 meters above sea level. The Hammarsdale dam, which is more than 500m away from the site and 55m lower

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				1:100 year floodline, whichever is the greatest distance from the watercourse.	at an elevation of 565 meters above sea level, is unlikely to influence the site due to the elevation. Furthermore, the Sterkspruit is 150m below the site and more than 700m away and is also unlikely to affect the site. No activities will be conducted in close proximity to those drainage lines and will remain within the sites current footprint. We are therefore of the opinion that determining the flood lines for the above-mentioned drainage lines will add little benefit to the project.
				4. Please note that commencing with any water use activity without a Water Use Authorisation is unlawful and constitute a criminal offence in terms of Section 151 of the NWA, 1998 (Act No. 36 of 1998.) and the applicant may be liable to a fine or imprisonment not exceeding five years or to both a fine and imprisonment.	The Freshwater ecosystem study compiled by Groundtruth dated April 2018, states "*apart from the presence of the artificial wetland area within the Eastern Riparian Tributary, there was no wetland habitat linked to the OWF identified within 500m of the OWF. As such, the OWF poses a low risk to wetland habitat. Two Riparian B channels were identified as being hydrologically linked to the OWF,*

Name of contact person	Company	Date	Method of comment	Issue raised	Response
					which are located approximately 280m and 340m from the OWF respectively. The risk assessment determined that the OWF poses a medium risk to the riparian habitat, however, should the OWF adopt the mitigation measures recommended in Section 7.5 of the report, the risk would be reduced to low. The mitigation measures have been recommended to minimise the risks associated with the mobilisation of toxic contaminants from the OWF into the downstream riparian systems. The risk posed by the stormwater generated from the OWF was assessed and considered to be low. This is largely due to the distance of the riparian systems from the OWF, the extent and quality of the buffer that exists between the riparian systems and the OWF and the relatively limited extent of hardened surface area associated with the OWF infrastructure"

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				5. The report indicates that the rainfall ingress may contaminate ground water resources through leaching of the waste-sand material. The Applicant must ensure that the stored waste and/or material is prevented from leaching into the environment (i.e. includes surface and groundwater resources). All stockpiles must be placed in a dedicated bunded area with firm waterproof base.	As per section 4.2.11 Surface water and 4.2.12 Groundwater, risk assessment refers: Polluting potentials can be reduced or reversed if source/s of pollution are removed, proper controlled and managed in an environmentally sustainable manner. The management measures are focussed on addressing the risk. **Management measures** • According to the waste assessment the slag and sand waste streams are considered as moderate risk wastes with some potential for contaminant release (Type 2). It requires proper control and management to protect health and the environment. • Type 2 waste may only be disposed of at a Class B landfill designed in accordance with section 3(1) and (2) of these Norms and Standards, or, subject

Name of contact person	Company	Date	Method of comment	Issue raised	Response
					to section 3(4) of the Norms and Standards, may be disposed of at a landfill site designed in accordance with the requirements for a GLB+ landfill as specified in the Minimum Requirements for Waste Disposal by Landfill. **Action plans** • As volumes are relatively low, it is proposed that the material be temporarily stored on covered hard and bunded surfaces (if possible) or stored within a covered waste skip until dispatched to a designated and licenced landfill site. **Subsequent to the final EIR being submitted to the department Olde World Foundry has been disposing spent sand at Marian hill landfill site. Disposal certificates are kept for record purposes. However, Olde World Foundry will be purchasing a**

Name of contact person	Company	Date	Method of comment	Issue raised	Response
					continuous mixer shake-out sand reclaimer by the end of August, that will recycle most of the sand. The spent sand that cannot be recycled will be disposed of at Marian hill. • Train staff and implement correct procedures for the handling any hazardous chemicals or materials. • Hazardous materials used on site should be stored in the correct designated and bunded areas that are specially designed and constructed for that purpose. • Train staff on the importance of recycling and sustainable use of waste material and compile a waste management plan. • If recycling is not possible, all efforts should be made to dispose of all waste material in an environmentally friendly manner at designated and licensed landfill sites.

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				6. Please note, that all waste material prior to being collected for safe disposal, must be stored under cover and within a designated waste collection/storage area. Access control to this area must be properly managed.	As listed above in point 5 as volumes are relatively low, it is proposed that the material be temporarily stored on covered hard and bunded surfaces (if possible) or stored within a covered waste skip until dispatched to a designated and licenced landfill site.
				7. Removal and disposal of solid waste to a permitted waste disposal site is required. Should private contractors be used, all solid waste must be disposed of at a permitted landfill site and proof of this must be made available to this Department.	As listed above in point 5 as volumes are relatively low, it is proposed that the material be temporarily stored on covered hard and bunded surfaces (if possible) or stored within a covered waste skip until dispatched to a designated and licenced landfill site.
				8. Contaminated/hazardous materials are to be disposed of at a permitted hazardous landfill site that is authorised to accept such waste material.	As listed above in point 5 as volumes are relatively low, it is proposed that the material be temporarily stored on covered hard and bunded surfaces (if possible) or stored within a covered waste skip until dispatched to a designated and licenced landfill site.
				9. All waste generated at the development should be	Olde World Foundry, takes note that all waste generated at the

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				disposed of in a suitable manner so as not to cause any surface and groundwater pollution or a health hazard.	development must be disposed of in a suitable manner, not to cause surface and groundwater pollution or a health hazard. The specialist proposed that the material be temporarily stored on covered hard and bunded surfaces (if possible) or stored within a covered waste skip until dispatched to a designated and licenced landfill site.
				10. The recycling of suitable material (i.e. glass, paper, plastic, etc) is encouraged by this Department, provided it is properly managed.	As listed above in point 5 if recycling is not possible, all efforts should be made to dispose of all waste material in an environmentally friendly manner at designated and licensed landfill sites.
				11. This Department objects the manner in which waste sand is currently stored, since it could potentially result in pollution of clean water runoff and ground water resource. It is of great concern that there are currently no storm water management	This is noted, a storm water management plan was compiled by Shangoni Management Services and included in the final EIR as appendix F2. The final EIR and appendixes were sent to the local municipality during the public participation process, but no

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				measures implemented to isolate the dirty water areas from clean downstream environment at the Olde World Foundry. Therefore, this Department requests that a Storm Water Management Plan is developed and sent to the local Municipality for approval.	comments were received. As previously mentioned subsequent to the final EIR being submitted to the department Olde World Foundry has been disposing spent sand at Marian hill landfill site. Disposal certificates are kept for record purposes. However, Olde World Foundry will be purchasing a continuous mixer shake-out sand reclaimer by the end of August, that will recycle most of the sand. The spent sand that cannot be recycled will be disposed of at Marian hill.
				12. It is requested that; the area is contoured to ensure free flow of runoff and to prevent ponding of water.	Current situation: There are two areas where waste sand is stored that could potentially result in the pollution of clean water runoff. The first area is outside of the melting and casting of moulds facility. Currently the waste sand is stored on a small dump. Runoff generated during a rainfall event will

Name of contact person	Company	Date	Method of comment	Issue raised	Response
					flow according to the direction of the blue arrows depicted in Figure 8 and could become polluted when flowing past area 1. The second area is located across the road from area 1 on a man-made terrace. Potential contamination of clean surface water runoff may take place during rainfall events. Contaminated surface runoff may drain down the slope towards the downstream clean water environment eventually reaching a drainage line. Rainfall ingress may also contaminate groundwater resources through leaching of the waste-sand material. Problem statement: The two dirty water areas identified could potentially result in the mixing of clean and dirty water and lead to the contamination of clean runoff water. Refer to figure 1. However, a skip and with a drip tray has been

Name of contact person	Company	Date	Method of comment	Issue raised	Response
					purchased and installed. Refer to figure 2b. Waste is subsequently stored in the skip until final disposal at Marian hill landfill site. Recommendation: (1) It is recommended to implement proper housekeeping practises to eliminate any potential for contaminating clean runoff water. (2) It is proposed that the sand waste is continued to be stored in a skip and disposed of at Marian hill landfill site. Olde World Foundry have purchased a continuous mixer shake-out sand reclaimer, that will recycle most of the sand. The spent sand that cannot be recycled will be disposed of at Marian hill.
				13. Drainage must be controlled to ensure that runoff from the project area does not culminate	This is noted, the following recommendations were made by the specialist:

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				in off-site pollution or result in damage to properties downstream of any stormwater discharge.	There are currently two sites where the sand-waste product is being stored, these areas could potentially lead to the contamination of clean runoff water with various metals and silica according to the waste classification conducted by the client. • The first site has the potential to result in contaminated runoff water that could reach the Sterkspruit River. • The second site also has the potential to contaminate clean runoff water that could pollute the clean water environment and Sterkspruit River. An additional risk at the site is the potential of rain water seeping into the soil and contaminating groundwater with various metals and silica. • There are currently no storm water management measures implemented to isolate the dirty

Name of contact person	Company	Date	Method of comment	Issue raised	Response
					water areas from the clean downstream environment at the Olde World Foundry at both sand-waste storage areas. Clean and dirty water must be separated according to, amongst others, the National Water Act (No. 36 of 1998). It is proposed that Olde World Foundry acquire a skip for the temporary storage of the sand-waste product in order to isolate the dirty water areas from the clean water environment. The waste must be disposed of at the designated waste site. Furthermore, employees should be trained to conduct proper housekeeping on a regular basis.
				14. Clean water (e.g. rainwater) must be kept clean and be routed to a natural watercourse by a system separate from the dirty water system. The Applicant must ensure that clean water is prevented from running or entering into dirty	This is noted, the following recommendations were made by the specialist: Apart from the two dirty water areas discussed in the previous comment, the rest of the project site is classified as clean water

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				water systems.	environment. If the measures discussed in the previous comment is followed, there is no risk in clean water being contaminated and runoff will drain into the clean water environment.
				15. Dirty water must be collected and contained in a system separate from the clean water system. The applicant must ensure that dirty water is prevented from entering or seeping into clean water systems.	This is noted, the following recommendations were made by the specialist: As discussed in comment 13, there are two sites with the potential to contaminate the clean water environment. However, if the proposed storm water measures are implemented, i.e. proper housekeeping be conducted and waste be stored in a skip, there is no risk of dirty water entering the clean water environment.
				16. Storage of material, chemicals, fuels, etc. must not pose a risk to the surrounding environment and this includes surface and groundwater. Such storage	Olde World Foundry are aware of hazardous materials used on site should be stored in the correct designated and bunded areas that are specially designed and

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				areas must be located outside the 1:100 year floodline of any watercourse and must be fenced to prevent unauthorised access into the area. Temporary bunds must also be constructed around chemical or fuel storage areas to contain possible spillages.	constructed for that purpose. Hazardous material is currently being stored in skips and disposed of at Marian hill landfill site. Disposal certificates are kept for record purposes.
				17. A Spill Contingency or Emergency Response Plan must be drawn up and should include the following actions that need to be taken into account in the event of a spill: • Stop the source of the spill; • Contain the spill; • All significant spills must be reported to this Department and other relevant authorities; • Remove the spilled product for treatment or authorised disposal; • Determine if there is any soil, groundwater or other	Olde World Foundry do currently not have a spill contingency or emergency response plan. This will be compiled and submitted to DWS for review. Refer to attached emergency response plan.

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				environmental impact; • If necessary, remedial action must be taken in consultation with this Department and • Incident must be documented and reported to this Department and other relevant authorities.	
				Notwithstanding the above, the responsibility rests with the Applicant to identify any source or potential sources of pollution from his undertaking and to take appropriate measures to prevent any pollution of the environment. Failure to comply with the requirements of the National Water Act (Act 36 of 1998) could lead to legal action being instituted against the Applicant.	Olde World Foundry is aware of their responsibility towards the environment.
Diane van Rensburg	Ethekwini Municipality Development Environment & Management Unit Land Use	10 August 2017	Letter via e-mail	1. eThekwini Electricity Department 1.1. The applicant must consult eThekwini Electricity's mains records (held in the drawing office at eThekwini Electricity	The applicant will consult with eThekwini Electricity Headquarters, Jelf Taylor Crescent for the presence of underground electrical services if new projects are

Name of contact person	Company	Date	Method of comment	Issue raised	Response
	Management Branch			Headquarters, Jelf Taylor Crescent, for the presence of underground electrical services. In addition, should any overhead line and/or servitude be affected, the specific permission of the Head: Electricity must be sought regarding the proposed development. 1.2. The relocation of MV/LV electrical services, if required in order to accommodate the proposed development, will be carried out at the expense of the applicant	undertaken. However, this is not anticipated as this is an existing development. The applicant is aware that if relocation of the MV/LV electrical services is required they applicant will do so at their own expense.
				2. Environmental Planning and Climate Protection Development. The Section 24G Rectification Final Impact Assessment Report for the Olde World Foundry refer; The Section 24G Rectification Final Impact Assessment Report identified	Noted, see attached the final EMPr. The mitigation measures have been addressed in the Final EMPr in consultation with the various technical specialists.

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				measures that will be taken to avoid or minimise any potential adverse effects on the biophysical environment. These mitigation measures have been addressed in the Draft Environmental Management Programme (EMPr) in consultation with the various technical specialist.	
				3. Land Use Management Branch The activity falls in a General Industry 2 zone and is in an industrial park surrounded by other industrial activities. The operation is detailed as one that can operate with minimal impact (within legal standards) if all mitigation measures for that too. No negative comments were raised by interested and affected parties. Accepting the report's findings and recommendations this Branch accordingly does not deem the use	We take note that the activity falls in General Industry 2 zone and is situated in an industrial park surrounded by other industrial activities. It is noted that the operation is detailed as one that can operate with minimal impacts (with legal standards) and if all mitigation measures are adhered to the impacts will be low. It is also noted that the Branch accordingly doesn't deem the use of noxious since it has been demonstrated to not impact other

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				noxious since it has been demonstrated to not impact on other properties or public. The use is thus considered one that can operate within the General Industrial 2 zone.	properties or public.
				4. Strategic Spatial Planning Branch This Branch cannot ascertain the property description for the site, from which the operations of the activities of Olde World Foundry are carried out. The GIS records depict the physical address for the site indicated in the locality plan as 20 Moreland Road, which is not the same address (26 Anderson Road) provided in the report. In light thereof, this application cannot be supported as this Branch's response on applications will be linked to the application site description from which land uses or operations are carried out. Accordingly, the applicant is	See attached letter (Appendix B) from the landlord Collins Property Projects, confirming that Spurwing Industrial Park address is the corner of Morewood and Anderson roads.

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				requested to provide a full description of the site from which the activities in terms of this application are carried out. Notwithstanding the above, according to eThekwini GIS, the area in which Olde Word Foundry is located is identified for General Industrial development in terms of the Mpumalanga Local Area Plan (2014). A full range of industrial uses will be allowed in that area, provided that such uses comply with the Outer West Town Planning Scheme and other line Department requirements, including Environment, Health, and Water and Sanitation Departments.	
				5. Coastal, Stormwater and Catchment Management. This Department has no objection.	Noted.
				6. Parks, Leisure and Cemeteries. No comment received	Noted.

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				7. Pavement and Geotechnical Engineering No geotechnical objection provided all due caution taken to ensure no contamination of the ground or surface water.	Noted.
				8. eThekwini Transport Authority. No objection however the following should be noted: 8.1. The development is currently an existing industrial site, within and industrial area of Hammarsdale. 8.2. The EIA application has no traffic related issues.	Noted. Noted.
				9. Environmental Health Department. The Environmental Health Department approves the application in principle, subject to: 9.1. The application needs to apply	Olde World Foundry applied for a Schedule Trade Permit with the Health Department (refer to Appendix B).

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				for a Schedule Trade Permit with the Health Department. In this regard please contact Nozipho Magwaza on 031-3116956.	
				10. eThekwini Water and Sanitation Department. Comment from Wastewater Planning: The industry is located within the Hammarsdale wastewater catchment. It should be noted that this plant is struggling to cope due to the nature of the incoming flows containing high levels of COD and conductivity. It is evident from the type of activities conducted at the Olde World Foundry that this could be contributing to the high organic load at the plant. Therefore, it is imperative to ensure that proper pre-treatment is carried out prior to discharging into the sewer. This Department is to be kept informed in terms of what the plans are to manage the wastewater	This is noted, the following recommendations were made by the specialist: There are two sites with the potential to contaminate the clean water environment. However, if the proposed storm water measures are implemented, i.e. proper housekeeping be conducted and waste be stored in a skip, there is no risk of dirty water entering the clean water environment.

Name of contact person	Company	Date	Method of comment	Issue raised	Response
				discharge a this has huge implications on the Municipality, in this regard please liaise with Noelene Chellan, 0313118166 or email Noelene.chellandurban.gov.za.	
				11. Durban Solid Waste Whilst the management of solid waste (waste sand) is covered in the EMPr for completeness mention should be made of all solid waste generated, including rejected metal and office waste.	The final EMPr makes reference to all solid waste generated, including rejected metal and office waste.
				12. Disaster Management No comment received.	Noted.
				13. Fire Safety No comment received.	Noted.

7.3.9 Conclusions of the PPP

In conclusion, the Public Participation exercise has provided adequate information to enable an understanding of what the Olde World Foundry activities would entail and to address the concerns and comments received during the section 24G rectification process.

8. CONCLUSION

This Section 24G Application has been carried out in accordance with the EIA Regulations R.982 (in terms of the National Environmental Management Act, 1998) and EIA Regulations R.983 / R.984 / R.985 of the National Environmental Management Amendment Act (Act No. 62 of 2008).

Anticipated significant impacts

Table 19 provides a summary of impacts of Olde World Foundry associated activities. Details on such impacts are discussed in Part 4 of this Section 24G EIR, with further discussions for suitable mitigation measures.

Mitigation measures as proposed within this report were developed in consideration of the significance of impact and in consultation with the various technical specialists. Appropriate mitigation measures will assist in minimising the potential impacts on the surrounding environment during operations of the Olde World Foundry.

Way forward

Based on the above-mentioned information and the identification of the potential environmental impacts as a result of the Olde World Foundry, it is concluded that Olde World Foundry should be legalised, as the impacts are manageable and Olde World Foundry has received support from the Department of Trade and Industry (dti), to resuscitate the local manufacturing sector.

Table 19: Summary of impacts

Potential Impact	Environmental Significance Pre-Mitigation			Environmental Significance Post Mitigation		
	P[42]	M[43]	S[44]	P	M	S
Soil						
Operation of the Olde World Foundry, can cause possible soil pollution due to ineffective and uncontrolled storage of slag and sand originating from the foundry operations.	2	2	M	2	2	L
Air Quality						
Respiratory health impacts, such as silicosis, on employees.	4	3	H	3	3	M
Respiratory health impacts on employees.	4	3	H	3	3	M
Health impacts on susceptible groups, such as the elderly, infants, persons with chronic cardiopulmonary disease, -pneumonia, -influenza and -asthma, in the surrounding area.	3	3	M	2	2	L
Degradation of the ambient air quality.	3	3	M	2	2	L
Noise						
Operation of noisy machinery at Olde World Foundry such has grinding of or hammering on metal surfaces. Only one neighbouring activity occurs to the west of the foundry. This is also an industrial activity as the site is an industrial park. No neighbours are found in close proximity to the foundry towards the north, east or south. Therefore, the impact is deemed to be more of a Health and safety impact on employees than surrounding neighbours.	3	2	M	2	2	L
Socio-economic						
Number of people employed at Olde World Foundry is 13.	Positive			Positive		
Surface Water						
Current disposal practices of the slag and sand material poses a risk towards pollution of surface and groundwater resources. The waste streams were assessed to be Type 2 wastes with a moderate potential to	4	2	M	1	1	L

[42] Probability
[43] Magnitude
[44] Severity

Potential Impact	Environmental Significance Pre-Mitigation			Environmental Significance Post Mitigation		
	P[42]	M[43]	S[44]	P	M	S
pollute the environment.						
Ground Water						
Current disposal practices of the slag and sand material poses a risk towards pollution of surface and groundwater resources. The waste streams were assessed to be Type 2 wastes with a moderate potential to pollute the environment.	4	2	M	1	1	L