
Terrestrial Plant Species Compliance Statement

As per the procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for environmental authorisation.

Erf 511

PREPARED FOR:

Sillito Environmental Consulting

DATED:

4 May 2021

PREPARED BY:

Sean Altern

M • 083 643 2105

E • seana@ncc-group.co.za

1 SPECIALIST DETAILS

NCC Environmental Services (Pty) Ltd

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Reg No: 2007/023691/07 | VAT No. 4450208915

26 Bell Close | Westlake Business Park | Westlake | Cape Town

- **Sean Altern**

Consultant: BCS

Biodiversity Conservation Services (BCS)

P: 083 643 2105

E: seana@ncc-group.co.za

- Experience: 8 years botanical (search and rescue, assessments, rehabilitation & management plans) excluding 5 years landscaping
- Curriculum vitae attached.

- **Ronaldo Retief *Pr.Sci.Nat 005636. Pr. EAP***

Professional EAP and Ecologist

P: 072 666 6348

E: ronaldor@ncc-group.co.za

- Experience: 17-years ecological (zoological, water, wetlands, botanical, and ecological assessments, including visual and air quality assessments)
- Curriculum vitae attached.

2 STATEMENT OF INDEPENDENCE

DECLARATION BY THE SPECIALIST

I, Sean Altern, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- In terms of the general requirement to be independent:
 - other than fair remuneration for work performed in terms of this application, have no business, financial, personal, or other interest in the development proposal or application and that there are no circumstances that may compromise my objectivity; or
 - am not independent, but another specialist (the 'Review Specialist') that meets the general requirements set out in Regulation 13 has been appointed to review my work (Note: a declaration by the review specialist must be submitted);
- in terms of the remainder of the general requirements for a specialist, have throughout this EIA process met all the requirements.
- have disclosed to the applicant, the EAP, the Review EAP (if applicable), the Department and I&APs all material information that has or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of Regulation 48 of the EIA Regulations, 2014 (as amended).

A handwritten signature in black ink, appearing to read 'Sean Altern', with a horizontal line drawn through it.

Sean Altern - Consultant

NCC Environmental Services (Pty) Ltd

4 May 2021

VERIFICATION STATEMENT

This communication serves to verify that the Proposed Development report compiled by Sean Altern has been reviewed and I have verified the contents thereof.

Declaration of independence: I, Nico-Ronaldo Retief Pr. Sci. Nat. with reg. no. 005636 declare that I:

- am committed to biodiversity conservation, but concomitantly recognize the need for economic development. Whereas I appreciate the opportunity to also learn through the processes of constructive criticism and debate, I reserve the right to form and hold my own opinions and therefore will not willingly submit to the interests of other parties or change my statements to appease them.
- abide by the Code of Ethics of the S.A. Council of Natural Scientific Professions.
- am contracted as specialist consultant to review the contents of this report.
- have no financial interest in the proposed development.
- have or will not have any vested or conflicting interests in the proposed development.

undertake to disclose to NCC, the applicant and authority any material information that have or may have the potential to influence the decision of the competent authority required in terms of the Environmental Impact Assessment Regulations, 2014 as amended.

A handwritten signature in black ink, appearing to read 'Nico-Ronaldo Retief', is written over a faint, light-colored signature line.

Nico-Ronaldo Retief Pr.Sci.Nat.

NCC Environmental Services (Pty) Ltd

4 May 2021

2.1 Structure of the Report

Even though the protocol **for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for environmental authorisation (by which this report has been done)** replaces the requirements of Appendix 6¹ of the Environmental Impact Assessment Regulations¹ the Table 1 below provides an overview of Appendix 6 together with information on how these requirements have been met. Appendix 6 of GN 706 of 13 July 2018 which provides the requirements for specialist reports undertaken as part of the environmental authorisation process.

Table 1: Specialist Report Requirements.

Requirement from Appendix 6 of GN 326 of 7 April 2017	Fulfilment
(a) Details of- (i) the specialist who prepared the report; and (ii) the expertise of that specialist to compile a specialist report including a curriculum vitae	Refer to Section 1 & 9
(b) Declaration that the specialist is independent in a form as may be specified by the competent authority	Refer to Pages 3 and 4
(c) Indication of the scope of, and the purpose for which, the report was prepared	Refer to Section 3
(c A) An indication of the quality and age of base data used for the specialist report	Field Work conducted 2021, Google Earth data from 1985 - 2021
(c B) A description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change.	Existing negative impacts include: Removal of fire as a vegetation driver through fragmentation and surrounding urbanisation. Invasion of exotic species (<i>Populus × canescens</i> and <i>pennisetum clandestinum</i>) causing unnatural shading (change in micro climatic conditions). Litter and dumping. Pollinator minimisation through habitat fragmentation reducing in

¹ The Environmental Impact Assessment Regulations, 2014, as amended, and as promulgated under Section 24(5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998).

	depletion of seedbank and species diversity.
(d) the duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment	Refer to Section 4
(e) Description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used.	Refer to Section 5
(f) details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure inclusive of a site plan identifying site alternatives	There are no site alternatives and the entire site will be completely destroyed for the housing development comprising the vast majority of the surface area
(g) Identification of any areas to be avoided, including buffers	No areas requiring avoidance are noted for terrestrial plant species sensitivities and none would be possible owing to full and complete development of the site as required.
(h) Map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers	N/A, the entire site is to be developed and there are no terrestrial plant species on the site.
(I) Description of any assumptions made and any uncertainties or gaps in knowledge	Refer to Section 6.1
(j) Description of the findings and potential implications of such findings on the impact of the proposed activity, or activities	Refer to Section 6.2
(k) Mitigation measures for inclusion in the EMPr	Refer to Section 7
(l) Conditions for inclusion in the environmental authorisation	N/A
(m) Monitoring requirements for inclusion in the EMPr or environmental authorisation	N/A
(n) Reasoned opinion- <ul style="list-style-type: none"> (i) whether the proposed activity, activities or portions thereof should be authorised; (iA) regarding the acceptability of the proposed activity or activities; and (ii) if the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan 	Refer to Section 8
(o) Description of any consultation process that was undertaken during the course of preparing the specialist report	Internal Peer Review was undertaken as a standard operating procedure when submitting reports

(p) A summary and copies of any comments received during any consultation process and where applicable all responses thereto	N/A
(q) Any other information requested by the competent authority	N/A

3 INTRODUCTION

NCC Environmental Services has been contracted by Sillito Environmental Consultants and requested to provide a botanical compliance statement for Erf 511, Wetton, Cape Town.

As per the protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Plant Species as published in Government Notice No. 1150 in Government Gazette 43855 on 30 October 2020 by which this report is compiled the stipulated screening tool result generated a 'Medium' sensitivity plant theme.

The site sensitivity verification finds the site to be of 'Low' sensitivity and the resultant Terrestrial Plant Species Compliance Statement is produced.

4 SITE INSPECTION DETAILS

- Date: 22 April 2021.
- Duration: Approximately 4 hours.
- Season: Autumn.
- Season Relevance: Botanical surveys are usually best undertaken in spring in the Western Cape (September) as many bulbs are only visible then. Due to the highly transformed nature of the PAOI, and the negative present ecological drivers responsible for this state (habitat fragmentation, invasive species proliferation and lack of positive vegetation drivers) which provide strong inference that any SCC are not present, seasonality of the survey was not considered to be an important factor for the detection of terrestrial SCC.

5 METHODOLOGY

5.1 Desktop Study

- Historical satellite imagery was obtained (courtesy Google Corporation) to investigate historical land use for the study area. The site appears to have gone through periods of various anthropogenic influence including management mowing (around the year 2004) and seems to have been somewhat

abandoned since where-after densification through invasive alien species proliferation and the increased presence of wetland flora (colloquial pioneer species including *Thypha capensis*) have occurred.



Figure 1: Erf 511 in the years 2000 and 2021 (Google Earth).

- Further desktop analysis was conducted through the perusal of the November 2016, Proposed Rezoning, Departures and Site Development Plan Erf 511 Wetton prepared by Jono Trust Professional Planners which includes the October 2016 Freshwater Assessment for the Proposed Development of Erf 511, Wetton in Cape Town by Ms Toni Belcher and Mr Stuart Barrow of BlueScience.
- Report framework and subsequent content delivered is in accordance with the suggested example of a Terrestrial Animal/ Plant Species Compliance Statement as per the Version 1.2020, October 2020, Guidelines for the implementation of the Terrestrial Fauna and Terrestrial Flora Species Protocols for environmental impact assessments in South Africa produced for the Department of Environment, Forestry and Fisheries by the South African National Biodiversity Institute and BirdLife South Africa which is stipulated within the Protocol for the Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Plant Species as published in Government Notice No. 1150 Government Gazette 43855 30 October 2020.
- No modelling was required.

5.2 Field Survey

- The specialist and assistant physically traversed the study area on foot during a single day (22 April 2021).
- Sample points were not taken with the entire site being characterised into two (2) sample 'areas' due to the level of site transformation, the largely ubiquitous nature of the project areas of influence PAOI and the relatively small size of the overall site (4363 sqm).

- The habitat and any variance in this were characterised, photographs were taken and the likelihood of any SCC being present was assessed.
- Sample flora observed during the site survey was photographed using a Xiaomi Redmi note 8.

6 RESULTS


6.1 Assumptions and Limitations


- It is assumed that all third-party information used (e.g. reports, GIS data and satellite imagery) are correct at the time of generating this report.
- The survey was restricted to a single season (autumn), but it is not considered necessary to perform any additional surveys (refer Section 3: Seasonal Relevance).
- Owing to the dense vegetation and depth of water beneath this in certain sections of the site not all areas of the were physically accessible. Despite this visual assessment was still possible from a slight distance and indicated identical habitat to the rest of the study area.

6.2 Sampling

- A total of two site ‘areas’ (4 363 sqm combined) was investigated across the study area resulting in a sampling density of one sample area per 0.2 ha approx.
- Habitat characteristics and likelihood of SCC being found at each sample site is provided in Table 2.

Table 2: Sample area descriptions.

Name	Habitat	Likelihood of SCC	Image
Central Wet Zone	Isolated sand fynbos (historically based) depression wetland (+- 1500m ²) fed by stormwater and comprising seasonally wet areas of colloquial wetland species (<i>Thypha capensis</i>) along with patches of exotic grasses (<i>Pennisetum clandestinum</i>) and interspersed with woody invasive alien plants (<i>Acacia saligna</i>).	Low	

Name	Habitat	Likelihood of SCC	Image
Perimeter Dry Zone	Tall swathes of dense exotic grasses (<i>Pennisetum clandestinum</i>) and woody invasive alien plants (<i>Acacia saligna</i> and <i>Populus x canescens</i>) or relatively flat terrain with isolated earth mounds and perimeter vibracrete walls.		

7 PROPOSED IMPACT MANAGEMENT ACTIONS

- No specific mitigation measures are suggested in terms of managing terrestrial plant species loss.
- The site must be kept clear of NEMBA listed invasive alien plant species as per the regulations.
- Recommendations prescribed in Section 12 of the October 2016 Freshwater Assessment for the Proposed Development of Erf 511, Wetton in Cape Town by Ms Toni Belcher and Mr Stuart Barrow of BlueScience relating largely to the management of water are further endorsed.

8 CONCLUSION

- This compliance statement is applicable to the study area as described in the BA/EIA documentation and shown in Figure 2;
- Due to its transformed habitat along with existing negative influence and lack of positive appropriate vegetation drivers the study area is deemed to be of a '**low sensitivity**' for terrestrial plant species;
- The proposed development will therefore not have any impact on terrestrial plant SCC; and
- There are no conditions to which this compliance statement is subjected.

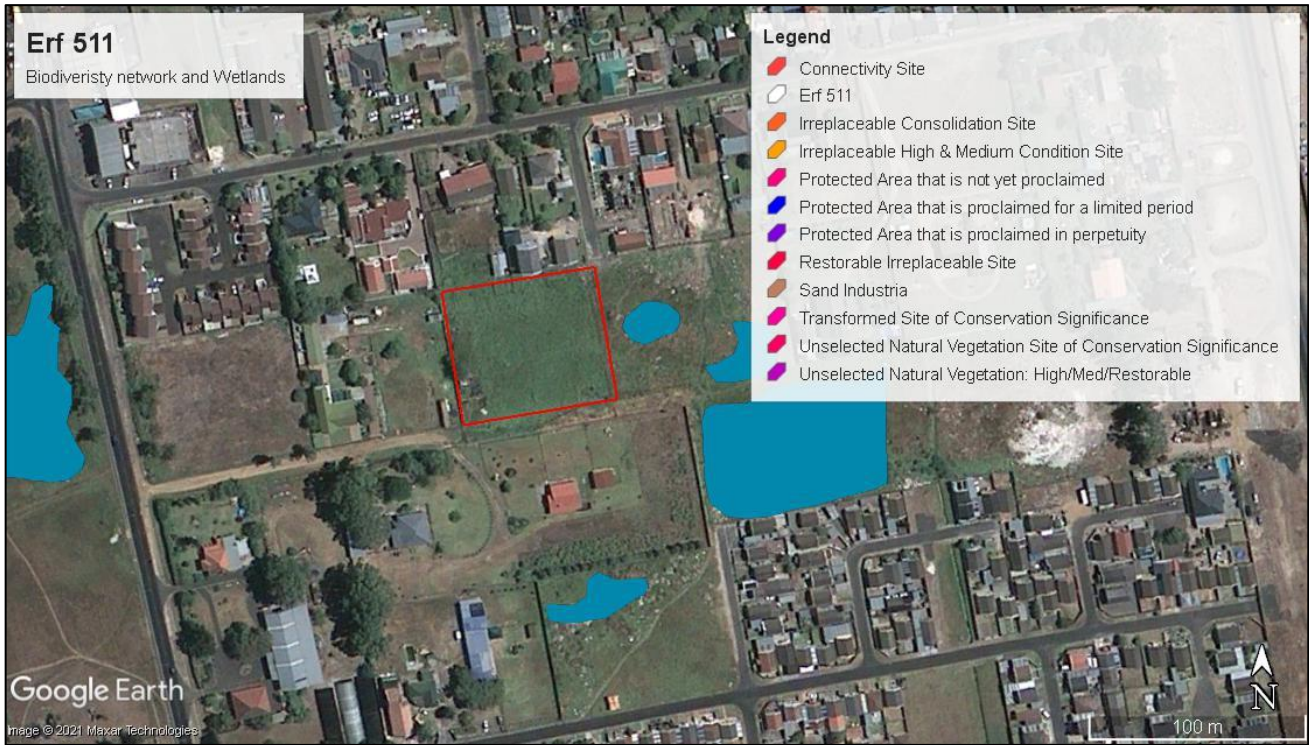


Figure 2: Location of the site in relation to listed wetlands and the City of Cape Town 2018 biodiversity network.

9 CURRICULUM VITAE

Curriculum Vitae - Sean Altern

Sean Altern

4 May 2021

PERSONAL DETAILS	
Name	Sean Altern
Profession Title	Consultant: BCS
Date of Birth	20 February 1985
Nationality	South African
Gender	Male
Identity Number	8502205184085
Marital Status	Not married
Drivers Licence	Code B
Languages	English, Afrikaans

QUALIFICATIONS
Tertiary Education
<ul style="list-style-type: none"> National Diploma: Landscape Technology <i>Cape Peninsula University of Technology, 2003 – 2005</i> BTH: Community Leadership <i>Cornerstone Institute, 2008 – 2010</i>

Accredited SACNASP Memberships
<p>Current</p> <ul style="list-style-type: none"> South African Association of Botanists (SAAB) 713 International Association for Impact Assessment South Africa (IAIASa) 6456 Land Rehabilitation Society of Southern Africa (LaRSSA) 33720 <p>Former</p> <ul style="list-style-type: none"> Southern African Wildlife Management Association (SAWMA) South African Wetland Society (SAWS) 974144 Southern African Society for Horticultural Sciences (SASHS) National Association of Clean Air (NACA) Society of Wetland Sciences (SWS)
Short Courses

- Background to Beekeeping: Start with Why. *UDEMY* (2020)
- SASS5 Accreditation. *WRC, Water and Sanitation Environmental Affairs* (2019).
- Wetland Delineation Training. *WCWF* (2019)
- Communication Intelligence for Sales. *2Interact* (2019)
- Waterfunds: Introduction and Feasibility Phase, *The Nature Conservancy* (2018)
- ICS 300 Overview, *Dynamic Incident Management* (2017)
- ICS Division/Group Supervisor: All Hazards, *Dynamic Incident Management* (2017)
- ICS 200 & Division Supervisor, *Dynamic Incident Management* (2017)
- Wildland Firefighting, *Rocky Mountain Fire Company* (2017)
- Pest Control Operator: License Number **P38906** (2017)
- Helicopter Trooping, *SANParks Newlands Fire Base* (2016)
- Crew Leader Training, *Enviro Wildfire Services* (2016)
- ICS 100&200, *Dynamic Incident Management* (2016)
- Invasive Species Consultant Training, *SAGIC* (2015) No. SAWC **1135**
- Weed Control Skills Course, *PCSIB* (2015)
- Basic Wildfire Suppression Workshop, *Enviro Wildfire Services* (2015)
- First Aid, Level 1, *Professional Emergency Care PEC* (2015)
- Snake Handling Course, *Cape Reptile Institute* (2013)
- Small group 101, *King of Kings Baptist Centre* (2007)

WORK EXPERIENCE

Company	NCC Environmental Services (Pty) Ltd, Westlake Business Park, Cape Town.
Current Position	Consultant: BCS
Current Duties	Botanical and Conservation Projects and Consulting - Assessments, - Management Plans, - Rehabilitation, - Search and Rescue Human Wildlife Conflict - Management Plans and Project Supervision
Duration	Feb 2019 - present

Company	NCC Environmental Services (Pty) Ltd, Westlake Business Park, Cape Town.
Previous Position	Conservation and Senior Landscape Technician
Previous Duties	<ul style="list-style-type: none"> • Botanical:- Assessments, - Appraisals, - Search and Rescue, - Rehabilitation & Erosion Plans & Implementation & Monitoring, - IAP Control plans, Implementation & Herbicide Application, - River Embankment Rehabilitation plans, - Tree Mapping and Planting, - Landscaping, - Vegetable Gardens.

	<ul style="list-style-type: none"> • Human Wildlife Conflict: Faunal Search and Rescue, Urban Human Wildlife Conflict Predator Management Plan and Project Management (In conjunction with UCT ICWild). • Project Technician - Various (Avifaunal Breeding Habitats, Floating Islands etc). • Member of WCDM Type 1 Hotshot Fire Fighting and Fire Agent Crews,
Duration	Sep 2014 - Jan 2019

Company	NCC Environmental Services (Pty) Ltd
Past Position	Estate Manager at Bokkemenskloof Estate, Hout Bay, Cape Town
Past Duties	<ul style="list-style-type: none"> • Management including: General, Security, Finance, Staff, Infrastructure, Communication and Environment (Forest rehabilitation, grounds etc), • Project lead on MID cleaning and greening and Capricorn Park garden maintenance.
Duration	June 2013 - Sep 2014

IN SHORT

I am an Environmental and Conservation generalist but specialise in botanical work. I am adaptable and competent in a variety of functions and projects both in the field or office based.

ACHIEVEMENTS

- NCC 2015 'Environment' - Runner Up
- NCC 2016 'Environment' - Winner
- NCC 2017 'Real Growth Top Award' - Winner
- NCC 2018 'Environment' - Runner Up
- NCC 2019 'Environment' - Runner Up
- NCC 2020 'Environment' - Winner
- Comrades Ultra Marathon finisher - 2015, 2016, 2017 & 2018.
- Sent to the United States of America as part of a NCC subcontracted wildland fire fighting crew to assist the Rocky Mountain Fire Company during their 2017 and 2018 seasons.

Presentations Given

- Western Cape Wetlands Forum, 2015, Kirstenbosch – Floating Islands
- WWF's Sustainable Agriculture Producer Day, 2015, Infruitec Stellenbosch – Floating Islands

- National Wetland Indaba, 2015, Goudini Spa – Floating Islands

- Society for Ecological Restoration 8th World Conference, 2019, Paul Cluver Wines – Renosterveld Restoration

RELEVANT BOTANICAL EXPERIENCE

BOTANICAL EXPERIENCE			
Employer	Project	Type of work undertaken/role	Date undertaken and location
CHAND Environmental Consultants	IRT Feeder	Botanical Statements E05 & E07	March 2021, Cape Town
Hydro Organic Holdings Pty. Ltd.	Klein Dassenberg Hydroponic Production Facilities	Conservation Management Plan	March 2021, Cape Town
Hydro Organic Holdings Pty. Ltd.	Klein Dassenberg Hydroponic Production Facilities	Rehabilitation Plan	March 2021, Cape Town
Eskom	Gromis-Juno 400 kV transmission line Section C between towers 391 to 409 in the Northern Cape and towers 410 - 587 in the Western Cape Province.	Botanical Search and Rescue	Vredendal, February -
Mkhulu EDP	Ankerlig Sterrekus 400kV Powerline	PCO (Pest Control Operator for Herbicide Application)	October 2020, Melkbos, Western Cape
Mulilo Prieska PV (Pty) Ltd	Mulilo Prieska PV	Vegetation Rehabilitation Monitoring	September 2020, Copperton, Northern Cape
Mulilo Sonnedix Prieska PV (Pty) Ltd	Mulilo Sonnedix Prieska PV	Vegetation Rehabilitation Monitoring	September 2020, Copperton, Northern Cape
CHAND Environmental Consultants	Clifton Apartments, Erven 83 and 563	Terrestrial Biodiversity Compliance Statement	September 2020, Clifton, Cape Town
Vergelegen Wine Estate	Vergelegen Farm Watercourse Stabilization	Botanical Search and Rescue (13000 plants)	September 2020, Somerset West
Umvoto	Melkbos Return Flow Capability	Rehabilitation Plan	September 2020, Melkbos, Western Cape
David Hellig Abrahamse Professional land Surveyors	50 Main Road Urban Development	Riparian Delineation and Impact Assessment	August, 2020, Newlands, Cape Town
Ezulu Game Ranch	Fire Management Plan Section	Vegetation Descriptions and Associated Fire Threat	August 2020, Eastern Cape
Umvoto	Melkbos Return Flow Capability	Botanical Search and Rescue	August 2020, Melkbos, Western Cape
Umvoto	Melkbos Return Flow Capability	Botanical Search and Rescue Site Assessment	July 2020, Melkbos, Western Cape
CHAND Environmental Consultants	Azalea Housing Development	Terrestrial Biodiversity Compliance Statement	July 2020, Clifton, Cape Town
Private	IAP Management and Landscaping	Plot Clearance and Landscape Design and Installation	June 2020, Noordhoek, Cape Town
Chand Environmental Consultants	IRT Bus Depot Wynberg	Botanical Impact Assessment	February 2020, Kenilworth, Cape Town
AfriSam (Pty) Ltd	AfriSam Saldanha Mine	Vegetation Rehabilitation Report	February 2020, Saldanha, Western Cape
AECOM SA (Pty) Ltd	Kayamandi Northern Extension Water Supply Pipeline	Botanical Impact Assessment	December, 2019. Stellenbosch, Western Cape
ALE-Heavylift	Rehabilitation of T1 Transport Incident Site Piekenierskloof Pass,	Vegetation Rehabilitation and Erosion Control	December 2019, Citrusdal, Cederberg, Western Cape, South Africa

Sinapi biomedical (Pty) Ltd	Kolkiesrivier Aanwysings Gypsum Mine	Vegetation Rehabilitation Assessment	November, 2019, Tankwa, Western Cape
Mulilo Prieska PV (Pty) Ltd	Mulilo Prieska PV	Vegetation Rehabilitation Monitoring	November 2019, Copperton, Northern Cape
Mulilo Sonnedix Prieska PV (Pty) Ltd	Mulilo Sonnedix Prieska PV	Vegetation Rehabilitation Monitoring	November 2019, Copperton, Northern Cape
Monster Energy	Dark Fest BMX Route	Rehabilitation Assessment and Plan	November 2019, Vuurberg Estate, Stellenbosch
Nordex Energy South Africa	Roggeveld Wind Energy Facility	Botanical Search and Rescue	October 2019, Sutherland, Northern Cape, South Africa
ALE-Heavylift	Emergency Recovery of T1 Transport Combination Piekienerskloof Pass,	Botanical Search and Rescue Assessment	October 2019, Citrusdal, Cederberg, Western Cape, South Africa
Hoal Contracting	Brackenfell Development	Botanical Survey	October 2019, Brackenfell, Western Cape, South Africa
Rigamani Construction (Pty)Ltd	Expansion of Komsberg Substation	Fauna and Flora Search and Rescue	October 2019, Sutherland, Northern Cape
SANParks	BSP	Alien Vegetation density Assessment	September, 2019, TMNP, Western Cape, South Africa
Greenenergyconsulting	Noblesfontein Wind Farm	Vegetation Monitoring	September 2019, Victoria West, Northern Cape
Rigamani Construction (Pty)Ltd	Expansion of Komsberg Substation	Fauna and Flora Search and Rescue	July 2019, Sutherland, Northern Cape
Kudumane Manganese Resources	Biodiversity Assessment	Flora and Fauna Biodiversity Assessment	May 2019, Hotazel, Northern Cape
Rigamani Construction (Pty)Ltd	Extended Expansion of Komsberg Substation	Fauna and Flora Search and Rescue Assessment	April 2019, Sutherland, Northern Cape
Rigamani Construction (Pty)Ltd	Expansion of Komsberg Substation	Fauna and Flora Search and Rescue Assessment	March 2019, Sutherland, Northern Cape
Atlantic Beach Estate	Fynbos Corridors	Botanical Appraisal: Condition, Management and Fire Risk.	March 2019
Rigamani Construction (Pty)Ltd	Expansion of Komsberg Substation	Fauna and Flora Search and Rescue	October 2019, Sutherland, Northern Cape
Department of Defense	Fort Ikapa	Botanical Impact Assessment	February 2019 Goodwood, Cape Town
Paul Cluver Wines	Renosterveld Rehabilitation	Vegetation Rehabilitation	February 2019
Mosselbay Municipality: Conservation Personnel Capacity Building & Training	Conservation Personnel Capacity Building & Training	Lecturing - IAP and Fire	February 2019 -Mosselbay
Sillito Environmental Consulting	Erf 164232	Botanical Impact Assessment	February 2019, Muizenberg, Cape Town
Mulilo Prieska PV (Pty) Ltd	Mulilo Prieska PV Solar Farm	Rehabilitation Monitoring	November 2018, Copperton, Northern Cape
Mulilo Sonnedix Prieska PV (Pty) Ltd	Mulilo Sonnedix Prieska PV Solar Farm	Rehabilitation Monitoring	November 2018, Copperton, Northern Cape
Grandstand Management	Fernkloof Nature Reserve, Cape Epic Potential Route	Vegetation and Route Suitability Assessment	October 2018, Hermanus, Western Cape
Mkhulu EDP	Ankerling Sterrekus 400kV Power Line Atlantis	Alien Vegetation Assessment	September 2018
Chand Environmental Consultants	Erf 91191, Kenilworth	Botanical Baseline Assessment	September 2018, Wynberg, Cape Town
Matabane Communal Property Association	Matabane Community Land Claim	Motivation for Declaration as Nature Reserve	July 2018, Limpopo Province
Abseil Africa	Assessment of Abseil Africa's impact on the flora of the Upper Cable Way	Botanical Assessment	March 2018. Table Mountain National Park
Sarel Bester Ingenieurs	Enlargement of the Rivierdam	Rivierdam Rehabilitation & Erosion and Sedimentation plans.	March 2018, Ceres
AfriSam	Integrated Wildfire Management Plan	Alien Vegetation Control Programme	February 2018, Saldanha Bay
Monster Energy	Dark Fest BMX Route	Rapid Ecological Appraisal	December 2017, Vuurberg Estate, Stellenbosch
RTD	Grey Water Disposal	Rapid Ecological Appraisal	October 2017 Cloof Wine Estate
UWT	The upgrade of 33.7 km of National Route N2, between	Alien Vegetation Management and Monitoring Plan & River Rehabilitation Plan	November 2017 Mtunzini, Kwa-Zulu Natal

	Mtunzini toll plaza (Section 28, km 42.7) and Empangeni T-junction (Section 29, km 13.0)		
Chand Environmental Consultants	Portion - Cape Town Film Studios	Botanical Assessment.	July 2017 Somerset West
Terramanzi Group (Pty) Ltd	Noblesfontein Windfarm Invasive Alien Plants APO	Design and Implementation of IAP Annual Plan of Operations.	June 2017 Victoria West
Paul Cluver Wines	De Rust Dam Fynbos Rehabilitation	Fynbos Rehabilitation: Method Statements and Training.	May 2017 Grabouw
MKHULU EDP	Ankerling Sterrekus 400kV Power Line	Botanical Search and Rescue - Project Lead.	May 2017 – March 2018 Atlantis
Motion Projects	Erf 5497 Century City	Rapid Ecological Appraisal - Project Lead.	February 2017 Century City
ACED	Lower Maguduza Hydro Power Scheme: Swaziland	Tree Mapping and Consultation - Project Lead.	Dec 2016 Swaziland
ESKOM	Tulbagh Portion: 765kV Power Line	Botanical Search and Rescue - Primary Assistant.	August 2016 Tulbagh
Terramanzi Group (Pty) Ltd	Noblesfontein Windfarm IAP Clearing and Veld Rehabilitation	Herbiciding and Re-seeding - Project Lead.	July 2016 Victoria West
Longyuan Mulilo	De Aar 1 & 2 Windfarms	Botanical Search and Rescue - Primary Assistant.	October 2015 De Aar/Philips Town
Department of Environmental Affairs	Laingsburg Prosperity Project	Town Greening and Community Vegetable Nursery Design, Construction & Training.	August 2015 Laingsburg
Table Mountain Fund	Vergenoegd Waterbird Habitat and Water Quality Project	Floating Island Pilot Project - Project Lead.	April 2015 Boland/Overberg
Muizenberg Improvement District	Royal Road Landscaping	Landscaping - Project Lead	January 2015 Muizenberg
Sasol Fuels Research Laboratory	SASOL FRL Landscaping	Landscaping and Garden Maintenance - Project Lead.	October 2014 Muizenberg
Bokkemannskloof HOA	Ravine Forest Rehabilitation	Implementation of Indigenous Forest Rehabilitation plan.	July 2014

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FAUNAL PROJECTS

Employer	Project	Type of work undertaken/role	Date undertaken and location
Cape Point Ostrich Farm	Departure Permit for Cape Point Ostrich Farm Upgrade	Faunal Impact Assessment	November 2020, Cape Town
Umvoto	Melkbos Return Flow Capability	Faunal Search and Rescue	August 2020, Melkbos, Western Cape
Umvoto	Melkbos Return Flow Capability	Fauna Search and Rescue Site Assessment	July 2020, Melkbos, Western Cape
Baronetcy Estate	Fish Assessment	Freshwater Fish Sampling	September 2019. Cape Town, Western Cape
Rigamani Construction (Pty)Ltd	Expansion of Komsberg Substation	Fauna and Flora Search and Rescue	July 2019, Sutherland, Northern Cape
Atlantic Beach Estate	Predator Management	Human Wildlife Conflict - Staff Management, Predator Management Plan, Co-Existence Booklet, Research Assistance, Predator	September 2018 – October 2019
Cape Bird Club	Bird Breeding Walls	Faunal Habitat Creation – Birds and Butterflies	June 2018, False Bay Nature Reserve, Strandfontein Birding Area
Sarel Bester Ingenieurs	Enlargement of Rivier Dam	Faunal Search and Rescue	March 2018, Ceres

Group 5	Faunal Relocation	Assistant: Small Mammal Relocation	July 2017 Atlantis
Various Estates, Hotels, Residents, CCT Reserves	Problem Animal Relocation	Assistant: Relocation of Egyptian Geese, Mallard Ducks, Porcupine, Eastern Grey Squirrel, Snakes, Guttural Toad.	2015 - Current

FIRE PROJECTS

Employer	Project	Type of work undertaken/role	Date undertaken and location
Rocky Mountain Fire Company	Firefighting	Member of 20 person hand crew	September 2018, Montana, USA
Rocky Mountain Fire Company	Firefighting	Member of five person engine crew	September 2017, Montana, USA
Various Landowners	Fire Agent	Standby First Responder to various Estates and Landowners	January 2017 - Current Cape Peninsula
Western Cape Government Disaster Management	Hotshot Fire Fighting Crew	Elite Wild Fire Firefighting Crew Member and Driver	November 2016 Western Cape
Cape Nature	Hotshot Fire Fighting Crew	Elite Wild Fire Firefighting Crew Member and Driver	December 2016 Western Cape

OTHER PROJECTS

Employer	Project	Type of work undertaken/role	Date undertaken and location
AfriSam	AfriSam Dust fallout Monitoring	Dust Fallout Protocol compilation and monthly Monitoring and report	May 2019, Saldanha, Western Cape.

RECENT CONFERENCE ATTENDED

What	Organization	Topic	When
IAIAsa National Workshop -The Significance of Significance	International Association for Impact Assessment South Africa	Methodologies for ascribing significance ratings in environmental impact assessments	19 November 2020

Curriculum Vitae - Nico-Ronaldo Retief

NAME	Nico-Ronaldo Retief
DATE OF BIRTH	07 February 1982
PROFESSION/SPECIALISATION	Ecological specialist studies, Wetland specialist studies, Aquatic specialist studies; Mining specialist studies; Visual Impact specialist studies; Professional Environmental Assessment Practitioner
NATIONALITY	South African
YEARS' EXPERIENCE	17 years
<p>KEY QUALIFICATIONS: I have 17 years' experience in the environmental consulting industry. My key interest falls within the water and mining industry. I completed my Masters in Zoology in February 2007 and since August 2010 I have been registered as a Professional Natural Scientist in Zoological Science, Ecological Science & Environmental Science. I have considerable experience in the writing of EIA reports and have managed a variety of small- to large-scale EIA projects ranging from electrical power lines to housing developments. I have completed over 100 EIA projects, more than 55 Water Use License Applications, more than 20 mining related applications and more than 65 specialist input assessments.</p> <p>I have vast experience as an Environmental Assessment Practitioner with expertise in: Water Quality Management, GIS mapping (in particular, PlanetGIS and ArcGIS software packages) and Surface Water Management.</p> <p>I have valuable practical experience in the following EIA fields: bulk service infrastructure, water pipelines, sewage pipelines, road projects and upgrades; residential developments; renewable energy, mining applications and water use license applications. I am also proficient in conducting aquatic, wetland and ecological assessments. I have undertaken a variety of Visual Impact Assessments and utilise GIS and onsite first-hand experience when compiling the reports.</p> <p>I believe that I am an asset in any environmental industry owing to my experience, knowledge and expertise. I have the ability to lead, train and inspire staff to be enthusiastic and goal orientated. I am self-motivated and maintain an organised efficient work habitat.</p> <p>I am registered as a professional environmental assessment practitioner with EAPASA 2019/181.</p> <p>My Career Specialist skills include:</p> <ul style="list-style-type: none"> • Biomonitoring; 	

- EIA guidance;
- Environmental Compliance Monitoring (ECO)
- Ecological Assessments and environmental identification and mapping;
- Drafting and Preparing Environmental Management Plans (EMPs);
- Undertaking Public Participation;
- Preparing Strategic guideline documents and training material;
- Compiling EIA reports;
- EIA guidance and recommendations;
- Mentoring junior staff;
- Project Procurement;
- Project Invoicing and Billing; and
- Water Quality Management;
- Wetland Delineations;
- GIS mapping and map production;
- Environmental Impact Assessments;
- Water Use License Applications;
- Mining applications and Guidance;
- Water Quality Management;
- Petroleum (Filling Stations) Groundwater Monitoring;
- Filling Stations Gas Monitoring;
- Aquatic Impact Assessments;
- Visual Impact Assessments;
- SASS5 & Biomonitoring;
- Conduct and manage Environmental Impact Assessments (EIAs) and other environmental investigations according to the new EIA legislation.
- Providing input for strategic assessment, policy development and reporting.
- Interpreting and applying environmental legislation.
- Develop, plan, co-ordinate and facilitate Public Participation Processes (PPP).
- Client and authority liaison.
- Compiling, reviewing and approving project proposals and environmental reports.
- Developing and implementing Environmental Management Plans (EMP's).
- Conducting environmental monitoring, reviews and audits.
- Mentoring of junior staff.
- Manage project budget and programme.
- Provision of ongoing assistance and support to line managers and rest of the environmental team.

EMPLOYMENT RECORD:

March 2020 - Present	NCC Group – Professional EAP and Ecologist
June 2018 – March 2020	Delta Built Environment Consultants – Professional Environmental Assessment Practitioner
December 2017 – June 2018	Bokamoso Landscape Architects and Environmental Consultants
May 2015 – November 2017	PRISM Environmental Management Services, Position
September 2014 – April 2015	DMT-Kai Batla

June 2014 – August 2014	Kantey and Templer
September 2013 – May 2014	GladAfrica Environmental Management
August 2012 – April 2013	African Innovative Solutions and Projects
May 2011 – July 2012	Lidwala Consulting Engineers
March 2010 – April 2011	Strategic Environmental Focus
May 2009 – February 2010	Savannah Environmental
April 2007 – April 2009	Nemai Consulting
<u>PROFESSIONAL EXPERIENCE:</u>	
<u>Environmental Impact Assessments: Electricity</u>	
<ul style="list-style-type: none"> • Eskom – Dunnottar 88kV substation and power lines – 2011; • Eskom – Koeberg Integration Project – 2009; • Eskom – Tshwane Strengthening Project. Report – 2009; • Mulilo – Wind Monitoring Masts – 2009; • Mulilo – Siting exercise for a solar energy facility – 2009; • Exxaro – Wind Monitoring Mast near Brand-se-Baai – 2009; • Biotherm – Wind monitoring masts on farms within the Overberg – 2009; • Eskom – Majuba Power Station Ash Dump Expansion project 2012; • Eskom – Tabor-Nzhelele 400kV power line between Polokwane and Musina – 2012; • Zimbabwe Power Company – expansion of the power station, Hwange – 2014R 	
<u>Environmental Impact Assessments: Mining</u>	
<ul style="list-style-type: none"> • Lonmin – Karee 4 Mine EMPR amendment – 2010; • Frankfort Mineral Resources – Priority East Prospecting Right Application – 2010; • BHP Billiton – Klipspruit Mining Colliery – 2010; \ • Sound Mining Solutions – Proposed Prospecting in the Northern Cape near Kuruman – 2011; • Exarro Resources – Inyanda Coal Mine – 2012; • Sebilong – Sebilong Chrome Retreatment Works – 2013; 3 • Kumba Iron Ore – Sishen mine borehole monitoring for the DMR – 2012; • Northam Platinum Limited Production Works Expansion Zondereinde division for Northam Platinum – 2015; • Section 24G Rectification Application for the BP Wiggill Engineering Foundry in Boksburg North – 2016; • Maroeloesfontein AEL monitoring and audit report in Thabazimbi, Limpopo Province 2016; 	
<u>Environmental Impact Assessments: Residential / Commercial Infrastructure</u>	
<ul style="list-style-type: none"> • Highlands Estate – Mixed-Use Development – 2010; • Limpopo Department of Health – Limpopo Academic Hospital in Polokwane – 2010; • Mogale City Local Municipality – Munsieville Extension 6 Township Development – 2011; Olivier Construction – Kuruman Development – 2012; 	

- Thaba Ya Batswana – Stone River’s Arch Mixed-Use Development Klipriver Drive – 2014; World Bank – ASIDI Schools Development in Mthatha (Development of EMPrs and ECO monitoring) – 2014;
- Village Green Township Development – 2016;
- Roodekrans Ext 26 Township Development – 2015;
- Nederburg Mixed-use Development – 2016;
- Greengate Ext 70 – 2016, 2017;
- Greengate Ext 69 – 2016, 2017;
- Greengate Ext 68 Curro School – 2016, 2017;
- Olievenpoort Ext 47 Development – 2017;
- Portion 96 Lindley Township Development – 2017;
- Ptn 71 of Knopjeslaagte housing development, 2017;
- Dr. Yusaf Dadoo Hospital Expansion, EIA, Ecological Reporting, 2017
- Wesgro Locale & Master Plan Cape Health Technology Park, Wesgro, 2018,
- Review of Tubatse Business Plan, Limpopo Economic Development Agency, 2018
- JDA Central Fire Station Environmental, JDA, 2018,
- West Rand Agro-Processing HUB, GIFA, 2018;
- DBSA Town Planning Human Settlement, Wayo Consulting, 2018;
- Umzimkhulu LM, Umzimkhulu LM, 2018;
- EIA and Township Establishment for Musina Makhado SEZ, Limpopo Economic Development Agency; 2017;
- DPW Oshoek Site Clearance; 2017;
- Upgrading of Roads in Devon; 2017;
- KZN DOHS Serviced Sites Programme – Bellair; 2016;
- DPW Site Clearance DOJ Umlazi; 2016;
- DPW Site Clearance DOJ Grassy Park; 2016;
- EMM Roads and Stormwater Norkem Park;
- DPW Site Clearance Sterrewag; 2015;
- Lesotho Border Road; 2014;

Environmental Impact Assessments: Infrastructure

- Heartland Properties – Marlboro Road Extension (M60) – 2010;
- Sanral – Road Upgrades – Hendrina along the N11 to Ermelo (Work Package 2); Amersfoort to Majuba Power Station (Work Package 3) & Bethal to D622 (Work Package 4) – 2012; Sanral – Notwane River Bridge upgrade between South Africa & Botswana – 2009;
- City of Tshwane Metropolitan Municipality – Upgrade of Charles Street – 2008;
- Gautrans – Upgrade of the R103 between van Dyk & Diana Roads – 2009
- Gautrans – Upgrade of Moore Street – 2009;
- Passenger Rail Agency of Southern Africa – Doornfontein Railway Station – 2008;
- Sanral – N11 Section 10 Road Rehabilitation and Upgrade between Middelburg and Loskop Dam – 2012;
- City of Tshwane Metropolitan Municipality – Rehabilitation of the Apies River between Wonderboom junction and Rosslyn Road – 2014;
- Onderstepoort Biological Products – DEC- Development of a vaccination plant at the existing Onderstepoort Veterinary plant – 2015;
- Gautrans – Rose Interchange – 2016;
- Boukorp (Pty) Ltd – Greengate Electrical Powerline – 2016;
- Transnet Freight Rail, Erection of a fence around City Deep Terminal, Kascon Yard and Kaserne Marshall Yard, 2020.

Environmental Impact Assessments: Bulk Services Infrastructure

- Mogale City Local Municipality – Munsieville Bulk Sewer Pipeline – 2011;
- Johannesburg Property Company – Pimville Golf Course – 2007;
- Johannesburg City Parks and Zoo – Upgrade of Regional Parks within Soweto – 2008-09;
- Rand Water – Zuikerbosch Central Sludge Pipeline – 2007;
- Ekurhuleni Metropolitan Municipality – Kempton Park Eastern Outfall Sewer – 2008;
- Ekurhuleni Metropolitan Municipality – Signal Hill Reservoir – 2008;
- City of Johannesburg Metropolitan Municipality – Bruma Lake Desiltation – 2009;
- Moses Kotane Local Municipality – Ledig Water Supply Project – 2008; Sun International – Sun City Recreational Dam – 2008;
- Dr Ruth Segomotsi Mompati District Municipality – Pomfret and Bray Wastewater Treatment Works, Waste licenses, environmental licences and Water Use Licenses – 2013;

Environmental Impact Assessments: Water Quality Guidelines

- National Department of Health – Water Quality Monitoring Training and Training Manual Development for Domestic Use – 2012;
- Strategic Environmental Focus – Environmental Opinion for the Mine Waste Solutions Reclamation Project – 2012;
- Heartland Properties – Modderfontein Conservation Park – 2012;
- Department of Water and Sanitation – Wise use of Wetlands. Compilation of a Wise Use of Wetlands and Best Practise Guideline for the Department of Water Affairs (DWA) – 2008;
- Department of Water and Sanitation – Agricultural Research Project for Wineries. Preparation of posters, pamphlets and a T-Shirt for the research project. The topics for the project consisted of wineries, eutrophication, agricultural strategies and a communication framework in agriculture – 2008;
- Department of Water and Sanitation – Resource Directed Measures. Preparation of user-friendly material for Resource Directed Measures including the Spatial and Time Series Information Modelling Software (SPATSIM), Groundwater Resources Directed Measures (GRDM) and Teacha (Tool for Ecological Aquatic Chemical Habitat Assessment) software packages. A layman’s pocket guide and a poster were also prepared. This material was work-shopped throughout South Africa – 2007-08;
- Department of Water and Sanitation – Resource Directed Management of Water Quality: Attended a workshop at the CSIR International Conference Centre where the training material, posters etc. were discussed. Amending the posters and pamphlets with Corel Draw Graphics suite – 2008.
- Steyn City Water Quality Monitoring reports for in-situ and monthly water quality reporting, 2017;

Environmental Impact Assessments: Ecological Assessments

- Umgeni Water – Mhlabatshane Dam: Preparing a specialist study report as well as conducting a site visit on the feasibility of the site for the construction of the Mhlabatshane Dam. The report consisted of the feasibility and general characteristics of the area while also discussing the water quality of the site – 2008;
- City of Tshwane – Capital Park Feasibility study. Compiled a feasibility report for the proposed housing development in Capital Park. This was accomplished with the aid of PlanetGIS map overlays – 2008;

- Kumba Iron Ore – Sishen mine development of a Biodiversity Action plan, Ecological Baseline study and Monitoring protocol for the expansion of the mine towards the west from the current site 2012.
- Honeydew Grove Ext 15 development, Ecological Scan report to identify the sensitivity and importance of the proposed site’s development, ongoing.
- Steyn City Water Quality Monitoring reports for in-situ and monthly water quality reporting, 2017;
- Randpark Ridge Water Quality monitoring reporting and assessment of the water quality onsite, 2017;
- Maroeloesfontein Mine, Air Quality monthly reporting and report development 2017;
- Dr Yusuf Dadoo Hospital Ecological Assessment, Phase 1, 2017;
- Olievenpoort Ext 47. Ecological Impact Assessment, 2017;
- Greengate Ext 70, 68 and 69 Ecological Assessments, 2017;
- Temple development along Malibongwe Road in Northgate area, Ecological Assessment, 2017;
- Erand Gardens Ext 15, Ecological Assessment and site inspection, 2017.
- Olympus AH 72 site inspection with search-and-rescue for orange listed and red listed plant species, Bronberg, Tshwane, 2017;
- Glenvista Fauna and Flora amendment assessment, 2017;
- Jukskei View Mixed-Use Development in Midrand Ecological Assessment and Scan (Waterfall Ridge), 2017;
- La Montagne Ecological Assessment, 2018;
- Kameeldrift Voere (Pty) Ltd, Alien Eradication Plan and Plant Species Map, 2018;
- Chamdor X4 Mixed Use Development Ecological Assessment, 2018;
- PWV18 Ecological Assessment, 2018;
- TUT Ga-Rankuwa Sports Precinct Ecological Assessment, 2018;
- Berea Park, City of Tshwane marking and tagging of oak trees, 2018;
- Knopjeslaagte x19 Ecological Assessment, 2018;
- Equestria residential development, ecological scan and wetland delineation, 2018;
- Carnival City Dalpark Ecological Assessment, 2018;
- Cayman Academy ecological assessment, 2018;
- Hazeldean Road ecological assessment, 2018;
- Faerie Glen Ecological Scan, 2018;
- Secunda filling station ecological opinion, 2018;
- Mooibosch development ecological opinion, 2018;
- Peach Tree x25 residential development ecological assessment, 2018
- SA Defence Force ecological opinion, 2018;
- Kudube rising main and pump station ecological assessment, 2018
- Kudube pump station ecological assessment, 2018;
- Tonga Retail ecological weed eradication plan, 2018;
- Welgedacht filling station ecological assessment, 2018;
- DPW Oshoek Site Clearance; 2019;
- Eastleigh Culvert Upgrade, 2019.
- Kliprivier Kleinboere (Pty) Ltd. Romansrivier, Western Cape, 2019
- Transnet Freight Rail City Deep Terminal, Kascon Yard and Kaserne Marshall Yard Fence, 2020.
- Centurion Aerospace Village, Water Pipeline 2020
- Ekurhuleni Metropolitan Municipality, Malvern East Pipelines, 2020

Environmental Impact Assessments: Wetland Assessments

<ul style="list-style-type: none"> • Eskom – Majuba Power Station Ash Dump Expansion Project – Wetland Delineation and Functional Assessment 2012; • Lekwa-Teemane Municipality – Mamusa Bulk Pipeline Project between Bloemhof and Schweizer-Reneke – Wetland Delineation and Functional Assessment and Water Use License – 2012; • DPW Oshoek Site Clearance; 2019; • Eastleigh Culvert Upgrade Wetland Assessment, 2019 • Kliprivier Kleinboere (Pty) Ltd. Romansrivier, Western Cape, 2019 • Malvern East Pipelines, Ekurhuleni, 2020
<p><u>Environmental Impact Assessments: Air Quality Assessments</u></p>
<ul style="list-style-type: none"> • Maroeloesfontein Mine, development of a Monitoring Programme based on the Approved Air Emissions License issued by LEDET, 2016, 2017 with dust monitoring reports.
<p><u>Environmental Impact Assessments: Waste / landfill site</u></p>
<ul style="list-style-type: none"> • Kgatelopele Municipality – Danielskuil Domestic Waste Site EIA – 2011;
<p><u>Environmental Impact Assessments: Filling Stations, Gas monitoring & Groundwater Monitoring</u></p>
<ul style="list-style-type: none"> • Engen Petroleum – 72 groundwater monitoring boreholes around Gauteng, Free State, North West and Mpumalanga – 2014; • Engen Petroleum – Removal of storage tanks at the Bellavista Service Station – 2014; • Engen Petroleum – Upgrade / removal of the fuel storage tanks at the Rustenburg Depot – 2014; • Engen Petroleum – Proposed installation of 1 x 5 000m³ aboveground fuel storage tank and associated handling infrastructure at Engen Rustenburg Depot – 2014; • Volkswagen SA – Borehole assessment report for Volkswagen SA, Port Elizabeth plant, Eastern Cape for Volkswagen SA, Port Elizabeth plant, Eastern Cape – 2014; • Volkswagen SA – Borehole assessment report for Volkswagen SA, Uitenhage plant, Eastern Cape for Volkswagen SA, Uitenhage plant, Eastern Cape – 2014; • Engen Petroleum – Tank removal, groundwater monitoring, gas testing, level 1 and 2 assessment and Permit to Work for 72 Engen Filling Stations around Gauteng, Mpumalanga, Free State and Northwest 2014. • Groblersdal filling station EIA and establishment, 2018; • Greenstone filling station EIA, 2018; • Dennehof filling station EIA, 2018; • Selby ext. 19 filling station EIA, 2018;
<p><u>Environmental Impact Assessments: Visual Impact Assessments:</u></p>
<ul style="list-style-type: none"> • Nkosi City Integrated Human Settlement, Mpumalanga province visual impact assessment, 2018; • Dalpark Ext 32 Mixed-Use Development visual impact assessment, 2018; • La Montage Reservoir and access road visual impact assessment, 2018; • Glenvista Residential Development visual impact assessment, 2018; • DPW Oshoek Site Clearance; 2017;
<p><u>Environmental Impact Assessments: Water Use License Applications & General Authorisations</u></p>
<ul style="list-style-type: none"> • Heartland Properties – Westlake View WULA. Compilation of this Integrated Water Use License Application for the proposed project – 2009;

- Heartland Properties – Marlboro Road Extension (M60). Compilation of this Integrated Water Use License Application for the proposed project – 2009;
- Heartland Properties – Highlands Estate Ext 5, 6 & 7: Compilation of the Integrated Water Use License Application for this project – 2009;
- Mooinooi Chrome Processing Plant – Compilation of this Integrated Water Use License Application – 2011;
- Sanral – N14 WULA. Compilation of this Integrated Water Use License Application – 2009; Minco Mineral Holdings - Compilation of the Integrated Water Use License Application – 2009;
- Sebilong – Sebilong Chrome Retreatment Plant – 2012;
- Dr Ruth Municipality – Bray and Pomfret Waste Water Treatment Works – 2013;
- Franskraal Bowling Club – Water Use License – 2013;
- Transvaal Gold Mining – Tailings Water Use License – 2013;
- Tamboekiesfontein – Compilation of an Integrated Water Use License Application – 2015;
- Vista Park Extension 10 – Compilation of an Integrated Water Use License Application – 2015;
- SAFDEV SSDC (Pty) Ltd – K6 Road Upgrade – Compilation of an Integrated Water Use License Application – 2015;
- Summerset Ext. 25 – Compilation of an Integrated Water Use License Application – 2015;
- Rose Interchange – Compilation of an Integrated Water Use License Application – 2016;
- Randpark Ridge Extensions – Compilation of an Integrated Water Use License Application – 2015;
- Greengate Electrical line – Compilation of General Authorisation – 2016;
- Willowbrook Integrated Water Use License Application – 2016;
- Wilgeheuwel Ext 60 Water Use License Application – 2016;
- Nederburg Mixed-Use Development Water Use License Application – 2016, 2017;
- The Village X10 Residential Development – Water Use License Application – 2016, 2017;
- P39-1 (N14) Diepsloot Interchange – General Authorisation – 2017;
- Rietvlei Farm Village Sewage Treatment Works – Water Use License Application – 2018;
- Oshoek Land Port of Entry – Water Use License Application, 2019

Environmental Impact Assessments: Aquatic Assessments

- Johannesburg Water – Biomonitoring on numerous urban rivers (including the Jukskei River, Harrington Spruit and Klip River) to obtain baseline data to detect disturbance and non-compliance of various construction activities on aquatic ecosystems. This includes the Northern Wastewater Treatment Works, Goudkoppies Wastewater Treatment Works, Bushkoppie Wastewater Treatment Works and Olifantsvlei Wastewater Treatment Works – 2008;
- Johannesburg Water – Zandspruit Sewage Spill: Investigation for the Northern Wastewater Treatment Works on foot from its effluent discharge point to the City of Johannesburg sampling point (J5). This was done to identify possible causes of higher dissolved oxygen levels at J5 compared to the control site DWJ27 in the Jukskei River – 2008
- Johannesburg Water – Zandspruit Pump Station Sewage Spill. Biomonitoring in the Klein Jukskei River above the pump station and below the pump station. Physical water quality variables were also taken while onsite – 2008;

- City of Johannesburg – Upper Klipspruit Catchment Framework: Determine any sources of pollution and to identify impacts or anthropogenic stresses on the upper Klipspruit system. This was done for improving both river systems for the 2010 Soccer World Cup. A comprehensive report was compiled called the “Sustainable Urban River Management Plan for the Upper Klipspruit Catchment”. Co-author for the report and also compiled the water quality data – 2008;
- City of Johannesburg – Bruma Lake Rehabilitation: Undertaking the biomonitoring of the Jukskei River at the inlet to the Bruma Lake at UJ5 (DWA water sampling point) and below Bruma Lake at the DWA sampling site UJ6. The results were included as a specialist study for an environmental Impact assessment for the Rehabilitation of Bruma Lake – 2009.
- CASIDRA – Klein Boere – Romansrivier Aquatic Assessment to assist with the basic assessment report for the Kleinboere Vereniging - 2019

Environmental Impact Assessments: Amendment Applications

- Wilgeheuwel Ext 60 Amendment Application Phase 1 and Phase 2, GDARD, 2017;
- Strubensvallei x10 Amendment Application Phase 1, GDARD, 2017;

Environmental Impact Assessments: International Projects

- Upgrade of the Notwane river bridge crossing at the Swartkopfontein Border Post between South Africa and Botswana, EIA, 2009.
- Zimbabwe Power Company, Mining and EIA for the supply of coal to the Hwange Coal fired power station, 2014

Carbon Footprint

- Lanseria International Airport, Airport Carbon Accreditation, 2019

EDUCATION:

Rand Afrikaans University (2001-2003)	B.Sc.
Rand Afrikaans University (2004)	B.Sc. Honours
University of Johannesburg (2005-2007)	M.Sc.

CAREER ENHANCING COURSES:

GDARD - 14, 15 April 2008	Basic Wetlands
Lexis Nexis Sandton - 12 October 2009	Lexis Nexis
FET Water - Dept. Water Affairs 08 March 2010	Risk Management of Aquifers

Strategic Environmental Focus- 13 August 2010	NEMA Legislation 2010		
Dept. Water Affairs - 08, 09 September 2010	Section 21 c & i		
ProjectLink - 20 & 21 June 2011	Microsoft Project Professional		
Prowalco 6-8 June 2014	Engen Permit to Work		
2014:	Health and Safety (Level 1 & 2 First Aid)		
2014:	Firefighting		
2004:	Advanced 4 x 4 driving course		
2019:	Mine Closure and Case Law Development Workshop 20 June 2019 by Imbewu		
<u>PROFESSIONAL AFFILIATIONS:</u>			
Registration No: 005636	Professional Ecological, Environmental and Zoological Scientist: South African Council for Natural Scientific Professions		
N/A	Member of the Zoological Society of Southern Africa		
N/A	Member of the International Association for Impact Assessment South Africa		
N/A	Member of the Water Institute for Southern Africa (MWISA)		
Registration No: 2019/181	Professional Environmental Assessment Practitioner with Environmental Assessment Practitioners of South Africa (EAPASA)		
<u>LANGUAGE:</u>			
LANGUAGE	SPEAKING	READING	WRITING
English	Fluent	Fluent	Fluent

Afrikaans	Fluent	Fluent	Fluent
<u>PUBLICATIONS:</u>			
<ul style="list-style-type: none"> • Retief, N.-R., Avenant-Oldewage, A., du Preez, H.H. 2006. The use of cestode parasites from the largemouth yellowfish, <i>Labeobarbus kimberleyensis</i> (Gilchrist and Thompson, 1913) in the Vaal Dam, South Africa as indicators of heavy metal bioaccumulation. <i>Physics and Chemistry of the Earth</i> 31, 840-847. • Retief, N.-R., Avenant-Oldewage, A., du Preez, H.H. 2007. Ecological aspects of the occurrence of Asian tapeworm, <i>Bothriocephalus acheilognathi</i> Yamaguti, 1934 infection in the Largemouth yellowfish, <i>Labeobarbus kimberleyensis</i> Gilchrist and Thompson, 1913 in the Vaal Dam, South Africa. <i>Physics and Chemistry of the Earth</i> 32(15-18), 1384-1390. • Retief, N.-R., Avenant-Oldewage, A., du Preez, H.H. 2009. Seasonal study on <i>Bothriocephalus</i> as indicator of metal pollution in yellowfish, South Africa. <i>Water SA</i> 35 (3) 315-322. 			