Visual Impact Assessment
Screening Report

A-Thermal Retort Technologies Plant Upgrade Olifantsfontein, Gauteng Province

Graham A Young **Landscape Architect**

2 March 2020

A-THERMAL RETORT TECHNOLOGIES PLANT UPGRADE

OLIFANTSFONTEIN, GAUTENG PROVINCE

Submitted to:

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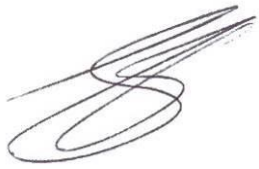
Prepared By:	Graham Young PrLArch, FILASA
Reviewed By:	Graham Young PrLArch, FILASA
Reference:	A-Thermal Retort Technologies Upgrade – Visual Impact Assessment Screening Report

EXPERTISE OF SPECIALIST

Name:	Graham A Young
Qualification:	BL (Toronto)
Professional Registration:	South African Council for the Landscape Architectural Profession (SACLAP) Fellow Institute of Landscape Architects of South Africa (FILASA)
Experience in Years:	40 years
Experience	Graham is a landscape architect with forty years' experience. He has worked in Southern Africa and Canada and has valuable expertise in the practice of landscape architecture, urban design and environmental planning. He is also a senior lecturer, teaching urban design and landscape architecture at post and under graduate levels at the University of Pretoria. A specialty of his is Visual Impact Assessment for which he was cited with an ILASA Merit Award in 1999. He has completed over 275 specialist reports for projects in South Africa, Canada and other African countries. He was on the panel that developed the *Guideline for Involving Visual and Aesthetic Specialists in EIA Processes* (2005) and produced a research document for Eskom, *The Visual Impacts of Power Lines* (2009). In 2011, he produced '*Guidelines for involving visual and aesthetic specialists'* for the Aapravasi Ghat Trust Fund Technical Committee (they manage a World Heritage Site) along with the *Visual Impact Assessment Training Module Guideline Document.*

I, Graham Young, declare that –

- I am contracted as the Visual Impact Assessment Specialist for Chloorkop Landfill Expansion Project;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the National Environmental Management Act (Act 107 of 1998), 2014 Environmental Impact Assessment Regulations (as amended on 7 April 2017), and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I will consider, to the extent possible, the matters listed in Regulation 13;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing – any decision to be taken with respect to the application by the competent authority; and – the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 16 (1)(b)(iii).



Graham A. Young FILASA PrLArch Reg. No. 87001

02 March 2020

Acronyms & Abbreviations	
EIA	Environmental Impact Assessment
EMPR	Environmental Management Programme Report
GYLA	Graham A Young Landscape Architect
NEMA	National Environmental Management Act
SACLAP	South African Council for the Landscape Architectural Profession
VAC	Visual Absorption Capacity
VIA	Visual Impact Assessment

Glossary	
Aesthetic Value	Aesthetic value is the emotional response derived from the experience of the environment with its natural and cultural attributes. The response can be either to visual or non-visual elements and can embrace sound, smell and any other factor having a strong impact on human thoughts, feelings and attitudes (Ramsay, 1993). Thus, aesthetic value encompasses more than the seen view, visual quality or scenery, and includes atmosphere, landscape character and sense of place (Schapper, 1993).
Aesthetically significant place	A formally designated place visited by recreationists and others for the express purpose of enjoying its beauty. For example, tens of thousands of people visit Table Mountain on an annual basis. They come from around the country and even from around the world. By these measurements, one can make the case that Table Mountain (a designated National Park) is an aesthetic resource of national significance. Similarly, a resource that is visited by large numbers who come from across the region probably has regional significance. A place visited primarily by people whose place of origin is local is generally of local significance. Unvisited places either have no significance or are "no trespass" places. (after New York, Department of Environment 2000).
Aesthetic impact	Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Mere visibility, even startling visibility of a project proposal, should not be a threshold for decision making. Instead a project, by its visibility, must clearly interfere with or reduce (i.e. visual impact) the public's enjoyment and/or appreciation of the appearance of a valued resource e.g. cooling tower blocks a view from a National Park overlook (after New York, Department of

	Environment 2000).
Cumulative Effects	The summation of effects that result from changes caused by a development in conjunction with the other past, present or reasonably foreseeable actions.
Landscape Character	The individual elements that make up the landscape, including prominent or eye-catching features such as hills, valleys, woods, trees, water bodies, buildings and roads. They are generally quantifiable and can be easily described.
Landscape Impact	Landscape effects derive from changes in the physical landscape, which may give rise to changes in its character and how this is experienced (Institute of Environmental Assessment & The Landscape Institute 1996).
Study area	For the purposes of this report the Project Study area refers to the proposed project footprint / project site as well as the 'zone of potential influence' (the area defined as the radius about the centre point of the project beyond which the visual impact of the most visible features will be insignificant) which is a 10,0km radius from the approximate centre of the proposed project footprint.
Project Footprint / Site	For the purposes of this report the Project *site* / *footprint* refers to the actual layout of the project as described. Incorporating all alternatives to the WRD, Stockpiles and Plant sites.
Sense of Place (genius loci)	Sense of place is the unique value that is allocated to a specific place or area through the cognitive experience of the user or viewer. *A genius locus literally means* 'spirit of the place'.
Sensitive Receptors	Sensitivity of visual receptors (viewers) to a proposed development.
Viewshed analysis	The two-dimensional spatial pattern created by an analysis that defines areas, which contain all possible observation sites from which an object would be visible. The basic assumption for preparing a viewshed analysis is that the observer eye height is 1,8m above ground level.
Visibility	The area from which project components would potentially be visible. Visibility depends upon general topography, aspect, tree cover or other visual obstruction, elevation and distance.
Visual Exposure	Visibility and visual intrusion qualified with a distance rating to indicate the degree of intrusion and visual acuity, which is also influenced by weather and light conditions.
Visual Impact	Visual effects relate to the changes that arise in the composition of available views because of changes to the landscape, to people's responses to the changes, and to the overall effects with respect to visual amenity.
Visual Intrusion	The nature of intrusion of an object on the visual quality of the environment resulting in its compatibility (absorbed into the landscape

	elements) or discord (contrasts with the landscape elements) with the landscape and surrounding land uses.
Visual absorption capacity	Visual absorption capacity is defined as the landscape's ability to absorb physical changes without transformation in its visual character and quality. The landscape's ability to absorb change ranges from low capacity areas, in which the location of an activity is likely to cause visual change in the character of the area, to high capacity areas, in which the visual impact of development will be minimal (Amir & Gidalizon 1990).
Worst-case Scenario	Principle applied where the environmental effects may vary, for example, seasonally to ensure the most severe potential effect is assessed.
Zone of Potential Visual Influence	By determining the zone of potential visual influence, it is possible to identify the extent of potential visibility and views which could be affected by the proposed development. Its maximum extent is the radius around an object beyond which the visual impact of its most visible features will be insignificant primarily due to distance.

Graham A Young Landscape Architect (GYLA) was commissioned by Exigo Sustainability (Pty) Ltd to carry out a visual impact assessment screening report as per the National Environmental Screening Tool for the proposed of the A-Thermal Retort Technologies Upgrade project, Olifantsfontein, Gauteng ("the Project").

General

A-Thermal Retort Technologies (Pty) Ltd currently operates a waste management facility in the industrial area of Clayville for the treatment of various hazardous, general and municipal waste streams. Refer to Figure 1 for its location and contextual situation.

The proposed upgrade of the current facility is required to allow for the installation of additional and international best available abatement technologies for gas cleaning, that will also allow for the energy recovery, and is in line with government policy[1] relating to the recovery / beneficiation of products from wastes and hazardous wastes. For the feasibility of power generation, the treatment capacity will be increased by 200 tons per day of general and hazardous wastes through a combustion process with heat recovery. The use of fossil fuels (gas, coal, oils) may be required for start-up and when the calorific value requirement for stable plant operation cannot be met due to variable waste material supply.

The energy recovered from the treatment of waste will be used to power the facility, process equipment and potentially allow the distribution surplus energy to local industry. This is in line with the move towards power supply by the private sector to assist in the easing the power shortfall currently taking place in South Africa. Waste-to-energy initiatives are robust and effective alternative energy options to reduce CO_2 emissions and replace the use of fossil fuels.

In addition to the above, the establishment of facilities for sorting and recycling (Materials Recovery Facility) of Municipal Waste Solid Waste (MSW) and for the manufacture of refuse derived fuel (RDF) from the various waste streams is proposed.

[1] National Policy on the Thermal Treatment of General and Hazardous Waste GNR 777 of 2009; Municipal Waste Sector Plan: Challenges with Waste Service Provision in South Africa GNR 270 of 2012; National Waste Management Strategy GNR 344 of 2012

Figure 01: LOCALITY: A-THERMAL RETORT TECHNOLOGIES PLANT UPGRADE

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Context

The Project site with its associated, proposed infrastructure is surrounded by industrial activities within a landscape type rated *low* in visual appeal (Figure 1). These activities include:

- Olifantsfontein sewage treatment plant to the west;
- Olifantsfontein industrial areas to the immediate south;
- Industrial land and quarry and brickworks to the east;
- And an industrial area to the immediate north east.

Immediately north of the site is Sunlawns Agriculture Holdings and potentially sensitive residential viewing areas, Midlands Estate (eastern extreme of the estate) and Clayville, occur to the north west and south west of the site, respectively.

Visual Absorption Capacity

Due to the nature of land uses immediately adjacent and in the general vicinity of the site, the landscape setting has a high visual absorption capacity (VAC). This landscape type would be able to absorb all visual changes caused by project activities as the proposed activities are compatible with existing land uses.

Visual Exposure and Visibility

Views towards the site from sensitive viewing areas would occur primarily in the middle ground (over 1,0km) to background (over 3,0km). However, views from Clayville, south west of the site, would be blocked by a low ridgeline located between Clayville and the project site, or by existing industrial activities south of the site. Although, the Midlands Estate is slightly elevated relative to the project site, views to it would be blocked by the high boundary wall along the eastern edge of the estate and trees that occur between the estate and the site. All views towards the site from the north of it, will be blocked by existing trees and industrial activities. Views from east of the site (including the M18 and M57 roads) would be blocked by existing industrial activities.

Conclusion

These factors result in a greatly diminished potential of the Project to cause major negative impacts that would significantly change the visual character or sense of place of the area. It is the opinion of the author that the Project, would therefore not cause a significant visual impact on the environment and that a full specialist visual impact report need not be considered for the A-Thermal Retort Technologies expansion project.

****GYLA****

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Visual Impact Assessments

Graham is a registered landscape architect with interest and experience in landscape architecture, urban design and environmental planning. He holds a degree in landscape architecture from the University of Toronto and has practiced in Canada and Africa, where he has spent most of his working life. He has served as President of the Institute of Landscape Architects of South Africa (ILASA) and as Vice President of the Board of Control for Landscape Architects.

During his 40 years plus career he has received numerous ILASA and other industry awards. He has published widely on landscape architectural issues and has had projects published both locally and internationally in, scientific and design journals and books. He was a being a founding member of Newtown Landscape Architects and is also a senior lecturer, teaching landscape architecture and urban design at post and under graduate levels, at the University of Pretoria. He has been a visiting studio critic at the University of Witwatersrand and University of Cape Town and in 2011 was invited to the University of Rhode Island, USA as their Distinguished International Scholar for that year. Recently, Graham resigned from NLA and now practices as a Sole Proprietor.

A niche specialty of his is Visual Impact Assessment for which he was cited with an ILASA Merit Award in 1999. He has completed over 250 specialist reports for projects in South Africa, Canada and other African countries. He was on the panel that developed the *Guideline for Involving Visual and Aesthetic Specialists in EIA Processes* (2005) and produced a research document for Eskom, *The Visual Impacts of Power Lines* (2009). In 2011, he produced '*Guidelines for involving visual and aesthetic specialists'* for the Aapravasi Ghat Trust Fund Technical Committee (they manage a World Heritage Site) along with the *Visual Impact Assessment Training Module Guideline Document.*

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