

Modelling Landfill Site Suitability in Gauteng Province using GIS

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*A Thesis Submitted to the Department of Ecology and Resource Management in Fulfilment of the Requirements for a
Master of Environmental Management Degree at the University of Venda (School of Environmental Sciences)*

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ABSTRACT

Waste management is an overarching and a topical issue throughout the world; and national, provincial and local governments are facing everyday challenges associated with this. Recently, waste disposal by landfill is being preferred by municipalities as it is said to facilitate control of pollution and waste management. The main objective of the study is to review and modify the minimum requirements for landfill siting to suit conditions in the specified geographical area or study area; assess and outline the environmental attributes and/or biophysical features in Gauteng Province to enable landfill suitability. Geographical Information Systems played a crucial role in data compilation and analysis. Vector data were used as mode of data acquisition. The Multicriteria evaluation (MCE) model was employed for data analysis. Areas suitable for landfill site were determined and classified in two classes: not suitable and suitable. GIS was successfully used in determining potential landfill sites. The research finally recommended a methodology that the municipality could employ in determining potential landfill sites.