



**ED 166**

**Comment due by 30 November 2018**

## **ACCOUNTING STANDARDS BOARD**

# **GUIDELINE ON ACCOUNTING FOR LANDFILL SITES**

**Issued by the**

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**ACCOUNTING FOR LANDFILL SITES**

**Standards of Generally Recognised Accounting Practice (GRAP)**



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The Accounting Standards Board (the Board) is required in terms of the Public Finance Management Act, Act No. 1 of 1999, as amended (PFMA), to determine generally recognised accounting practice referred to as Standards of Generally Recognised Accounting Practice (GRAP).

The Board must determine GRAP for:

- (a) departments (including national, provincial and government components);
- (b) public entities;
- (c) trading entities (as defined in the PFMA);
- (d) constitutional institutions;
- (e) municipalities and boards, commissions, companies, corporations, funds or other entities under the ownership control of a municipality; and
- (f) Parliament and the provincial legislatures.

The above are collectively referred to as “entities”.

The Board has approved the application of International Financial Reporting Standards (IFRS Standards) issued by the International Accounting Standards Board for:

- (a) public entities that meet the criteria outlined in the Directive on *The Selection of an Appropriate Reporting Framework by Public Entities*; and
- (b) entities under the ownership control of any of these entities.

Financial statements should be described as complying with Standards of GRAP only if they comply with all the requirements of each applicable Standard and any related Interpretations of the Standards of GRAP. Any limitation of the applicability of specific Standards or Interpretations is made clear in those Standards or Interpretations.

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## **Authority of this Guideline**

In accordance with section 89 of the Public Finance Management Act, Act No. 1 of 1999, as amended (PFMA), the Accounting Standards Board's (ASB) functions include the preparation and publication of directives and guidelines on the Standards of GRAP. While Standards of GRAP set out the recognition, measurement, presentation and disclosure requirements for financial reporting in the public sector, guidelines explain the existing principles in the Standards to a specific transaction or arrangement. Guidelines do not replace or amend any of the principles in the Standards of GRAP.

## **Objective of this Guideline**

The Constitution of South Africa, Act No. 108 of 1996 (the Constitution), gives local government the executive authority over the functions of cleaning, refuse removal, refuse dumps and solid waste disposal. Even though waste disposal activities are mainly undertaken by municipalities, other public sector entities may also be involved in these activities from time to time.

Concerns were raised by preparers about the inconsistent accounting practices for landfill sites and the related rehabilitation provision where entities undertake waste disposal activities. The objective of the Guideline is therefore to provide guidance to entities that manage and operate landfill sites. The guidance will improve comparability and provide the necessary information to the users of the financial statements to hold entities accountable and for decision making.

The principles from the relevant Standards are applied in accounting for the landfill site and the related rehabilitation provision. Where appropriate, the Guideline also illustrates the accounting for the landfill site and the related rehabilitation provision.

## **Scope of this Guideline**

The environment within which landfill sites are managed and operated is highly regulated, with a number of different role players, each with different roles and responsibilities.

The legislative requirements that are applicable to landfill site assets are the National Management Waste Act, Act No. 59 of 2008 (Waste Act), the Environmental Conservation Act, Act No. 73 of 1989, and related regulations, norms and standards (hereafter referred to collectively as legislation) that regulate the licencing, operation management, monitoring and closure of landfill sites. The Guideline outlines the accounting for transactions and events that impact the accounting for landfill sites and



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the related rehabilitation provision in so far as they apply to general and hazardous waste.

The Guideline applies to entities that are required to comply with the legislative requirements applicable to landfill sites. The Guideline can, by analogy, be applied by entities that recognise rehabilitation provisions other than those that arise from landfill sites regulated in terms of the Waste Act. When applying the Guideline by analogy, entities should be mindful of the specific legislation governing those rehabilitation obligations and provisions.

## **OVERVIEW OF THE LEGISLATIVE REQUIREMENTS THAT GOVERN LANDFILL SITES**

### **Introduction**

- 1.1 The operation, licencing, management and closure of landfill sites in South Africa is highly regulated. The objective of the legislation is to minimise the potential impact that landfill sites can, or may have, on the environment.
- 1.2 This chapter provides an overview applicable to the South African environment in so far as the legislation impacts on the accounting of landfill sites and the related rehabilitation provision. The overview is not a comprehensive assessment of all aspects of the legislation. Accordingly, other obligations may result from compliance with the legislation which are not considered in this Guideline.
- 1.3 Annexure A is included to explain some of the terms used in the Guideline.

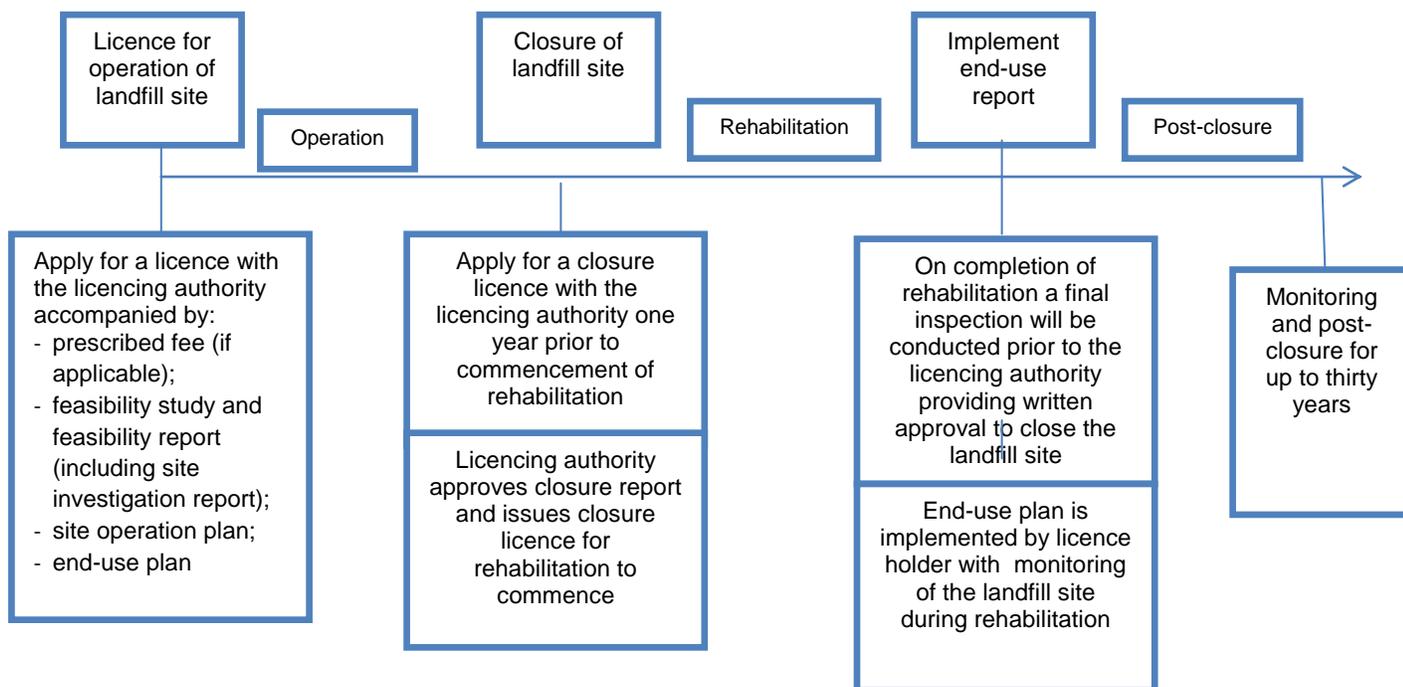
### **Legislative and other requirements that govern landfill sites in South Africa**

- 1.4 The Constitution provides the foundation for environmental regulation and policy in South Africa. It creates a fundamental right to an environment that is not harmful to citizens' health or well-being. This constitutional right ensures that legal and other obligations are imposed by government to ensure that the environment is protected for present and future generations. In terms of the Constitution, local government has the executive authority over the functions of cleansing, refuse removal, refuse dumps and solid waste disposal.
- 1.5 Currently, landfill sites are regulated under the National Environmental Management Waste Act, Act No. 59 of 2008 (Waste Act), that is binding on all spheres of government, and any person that undertakes an activity that produces waste or involves the handling of waste. The Waste Act should be read with the National Environmental Act, Act No. 107 of 1998 that provides the legislative framework for environmental protection.
- 1.6 Prior to the Waste Act being enacted, the Environmental Conservation Act, Act No. 73 of 1989 established the requirements for the permitting of landfill sites and set out permit (hereafter referred to as licence) conditions that had to be complied with in relation to the design, operation, monitoring and closure of landfill sites. The following sets of specifications and requirements, that deal with the design, operation, monitoring, and closure of landfill sites, were issued in terms of the Environmental Conservation Act:

- (a) Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste;
  - (b) Minimum Requirements for Waste Disposal by Landfill; and
  - (c) Minimum Requirements for Water Quality Monitoring at Waste Disposal Facilities.
- 1.7 Even though the Minimum Requirements for Waste Disposal by Landfill (hereafter referred to as Minimum Requirements) is a guideline, the licence conditions issued in terms of the Waste Act, require compliance with the Minimum Requirements. As such, the Minimum Requirements are given legal status through the licencing conditions. All licence holders that operate landfill sites under the Waste Act therefore need to adhere to the Minimum Requirements.
- 1.8 In August 2013, the Minister of Environmental Affairs issued the Waste Classification and Management Regulations in terms of the Waste Act. Entities that have been granted a licence after the promulgation of the Regulations in 2013 are still required to adhere the Minimum Requirements on aspects that involve the operation, management, rehabilitation and closure of a landfill site.

### **Lifecycle of a landfill site**

- 1.9 The Minimum Requirements establish a framework for all technical aspects of the licencing, operation, management, rehabilitation, monitoring and closure of the landfill site. The following diagram illustrates the lifecycle of a landfill site:



### Licencing requirements to operate a landfill site

- 1.10 The Waste Act indicates that no person or entity may operate a landfill site without a valid licence. Any landfill site that was not licenced under the Environmental Conservation Act has to be licenced in terms of the Waste Act if the landfill site is still in operation.
- 1.11 An administration fee is payable to the licencing authority to process an entity's application. Licences are granted for periods between ten to twenty years. Should the landfill site still be in use at the end of this period then the entity needs to re-apply for a licence. If the entity wants to renew its licence, it must apply for the renewal to the licencing authority, before expiry, and within the period specified in the licence.
- 1.12 As the purpose of the licencing requirements is to ensure that the specific conditions that regulate the operation and management of the landfill site are adhered to, further requirements over and above those in the Minimum Requirements, may be imposed in the licence conditions.
- 1.13 In addition to the prescribed administration fee that is payable, where appropriate, the application to operate and manage a landfill site must be accompanied by the

documentation and other information prescribed by the licencing authority. These documents include, among others, a feasibility study and a feasibility report, a design and operating plan for the landfill site, and an end-use plan.

### **Feasibility study, feasibility report and the licence application report**

- 1.14 An entity that intends to operate a landfill site can only commence with its application for a licence once:
- (a) a site has been identified; and
  - (b) after the licencing authority has, on the basis of a feasibility report, confirmed the feasibility of the identified site to be developed.
- 1.15 To compile a feasibility report, the entity must undertake a feasibility study. The objective of the feasibility study is to assess whether the identified site is both technically feasible and acceptable, and to ensure that no critical factors were overlooked.
- 1.16 After considering the completed licence application form and the supporting documentation, the licencing authority visits the site and notify the entity of its decision regarding the feasibility and future of the landfill site.
- 1.17 If the licencing authority deems the site feasible for the operation of a landfill site, the licencing authority will grant approval to the entity to commence with the next phase. This phase involves the compilation of the licence application report. The purpose of the licence application report is for the licencing authority to assess whether a licence should be issued to the entity.

### **Closure, rehabilitation and end-use**

- 1.18 Closure is the final step in the operation of the landfill site. When the entity intends to close the landfill site, it must inform the licencing authority at least one year prior to closure to enable the licencing authority to inspect the landfill site.
- 1.19 Based on the results of the inspection, a closure or upgrade design is drawn up and presented in a closure report. The closure report must be approved by the licencing authority before rehabilitation can commence.
- 1.20 The entity needs to pay an administration fee to the licencing authority to obtain a closure licence when it intends to close the landfill site. Additional closure, rehabilitation and monitoring requirements, over and above those in the Minimum Requirements, may be imposed by the licence conditions.

- 1.21 The rehabilitation of the landfill site is required to ensure that the site is environmentally acceptable after the landfill site has stopped receiving waste. In terms of the licence requirements, the entity has a set number of years in which to commence rehabilitation. If rehabilitation does not commence within the stipulated timeframe, or if the entity does not request an extension of the licence period, the closure licence will expire. On expiry of the closure licence or when the time to apply for a licence has lapsed, the entity will be required to re-apply for a closure licence.
- 1.22 Prior to the licencing authority granting approval that rehabilitation of the landfill site can commence, the entity needs to ensure that the necessary preparations for the final rehabilitation of the landfill site have been completed. These preparations need to be included in the end-use plan, which entails a re-assessment and refinement of the initial end-use plan submitted. The end-use plan indicates how the land will be developed after closure, and how the rehabilitated area and closed landfill site will be used after rehabilitation.
- 1.23 Once the site has been closed, it may no longer receive any waste. The entity must then commence with the implementation of its end-use plan and with the monitoring and inspection of the landfill site following its closure.

#### ***Monitoring and inspection after closure***

- 1.24 In terms of the Minimum Requirements the entity remains responsible for monitoring the landfill site for up to thirty years after closure. The period may, however, be shortened or extended at the discretion of the licencing authority.
- 1.25 Monitoring and inspection after closure is outlined in the closure, rehabilitation and end-use report.

#### **Accounting considerations**

- 1.26 Following the high level overview of the legislation, the following accounting aspects will be considered in the chapters to follow:
- Accounting for the land in the landfill and landfill site asset.
  - Costs to be capitalised as part of the landfill site asset and how these should be depreciated and tested for impairment.
  - Costs to be included in the rehabilitation provision, including the treatment of monitoring and inspection expenses to be undertaken after the closure of the landfill site.



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- Accounting for changes in costs, discount rates, other estimates in relation to the rehabilitation provision, and changes in future events such as legislation, and how these changes impact the initial measurement of the landfill site asset.

## 2. ACCOUNTING FOR LAND IN A LANDFILL

### Introduction

- 2.1 The Minimum Requirements require that, prior to the granting of a licence by the licencing authority to operate a landfill site, the entity that intends to operate a landfill site must identify a feasible site to be used as a landfill site.
- 2.2 The objective of this chapter is to explain what the entity should consider when concluding that it controls the land in a landfill. This chapter also provides guidance on how to classify, recognise and measure the land after the definition and the recognition criteria have been met.

### Distinction between land in the landfill and the landfill site asset for accounting purposes

- 2.3 In accordance with the Standard of GRAP on *Property, Plant and Equipment* (GRAP 17), land and buildings are separate assets that should be accounted for separately, even when they are acquired together. This is because the future economic benefits or service potential embodied in the land differs from that included in buildings and other structures.
- 2.4 The land in the landfill, and the landfill site asset itself, should therefore be accounted as separate assets.

### Recognition of the land in a landfill by the entity

- 2.5 The land is recognised by the entity when the definition and recognition criteria of an asset are met. One of the key considerations to assess if the definition of an asset is met is to assess whether control exists.
- 2.6 The entity considers the criteria in the Interpretation of the Standards of GRAP on *Recognition and Derecognition of Land* (IGRAP 18) to assess control of the land. IGRAP 18 requires the entity to apply the following control criteria:
  - legal ownership; and/or
  - the right to direct access to land, and to restrict or deny the access of others to the land.

- 2.7 The entity separately applies the control criteria to assess control of the land in the landfill and the landfill site asset itself. If the entity concludes that it controls the land after applying the principles in IGRAP 18, the land is accounted for as its asset.
- 2.8 In exceptional circumstances, entities can operate a landfill site from a regional or central area along with a number of other entities. Even though the entity is using the land in the landfill jointly with other entities in these circumstances, it can still conclude that it controls the total land.
- 2.9 To assess joint control of the land at the regional or central landfill site, the entity applies the principles in the Standard of GRAP on *Interests in Joint Ventures* (GRAP 8). When the entity, after applying the principles in GRAP 8, concludes that it has joint control of the land at the regional or central landfill site, it applies the principles in GRAP 8 to account for the jointly controlled land.
- 2.10 If the entity concludes that it does not control or jointly control the land, no land is recognised in its financial statements (also refer to Chapter 5 that explains the accounting for arrangements under joint control).
- 2.11 When the definition of an asset is met, the entity recognises the land in the landfill in its statement of financial position when:
- (a) it is probable that the future economic benefits or service potential will flow to the entity; and
  - (b) the land has a cost or value that can be measured reliably.

### **Classification of land in a landfill**

- 2.12 GRAP 17 defines property, plant and equipment as tangible items that:
- (a) are held for use in the production or supply of goods or services, for rental to others, or for administrative purposes; and
  - (b) are expected to be used during more than one reporting period.
- 2.13 The land in the landfill meets the definition of property, plant and equipment, as:
- (a) it will be used to provide waste disposal activities; and

- (b) the landfill site is expected to be used during more than one reporting period.
- 2.14 The land can either be existing land owned and/or controlled by the entity, or can be acquired through purchase, donation or transfer from a third party.
- 2.15 When the land is already controlled by the entity, it recognises the land as its asset in its financial statements. When management, for example, through a Council resolution, takes the decision to use existing land in a landfill, the land is classified as property, plant and equipment following management's decision.
- 2.16 If the existing land is not classified as property, plant and equipment following management's decision to use the land in a landfill, the entity applies the principles in the relevant Standards of GRAP to reclassify the land to property, plant and equipment.
- 2.17 Where the entity specifically acquires land for the landfill, the land is classified as property, plant and equipment on acquisition.

## Measurement of land in a landfill at recognition

### Existing land controlled by the entity

- 2.18 As noted in paragraph 2.15, existing land controlled by the entity is already accounted for as its asset in the financial statements. The entity will therefore only have to reclassify the land if it is not already classified as property, plant and equipment following management's decision to use the land in a landfill. The applicable Standards of GRAP are applied to reclassify existing land in these circumstances.
- 2.19 The Standards of GRAP on *Impairment of Non-cash Generating Assets* (GRAP 21) and *Impairment of Cash Generating Assets* (GRAP 26) indicate that one of the indicators for impairment is when a significant long-term change has taken place that will have an adverse effect in the extent to which, or manner in which, the asset is used, or is expected to be used in the near future.
- 2.20 When a decision is taken by management to use existing land in a landfill, an entity assesses the land for impairment by applying the principles in GRAP 21 or GRAP 26.

### **Land acquired, or donated or transferred from a third party**

- 2.21 Land acquired by the entity for the landfill is measured at cost when it qualifies for recognition. Land received by the entity through a non-exchange transaction, i.e. where the land is donated or transferred by a third party, is measured at its fair value when it qualifies for recognition. The entity applies the principles in GRAP 23 to account for land received through a non-exchange transaction.
- 2.22 When land is acquired in a transfer of functions, the entity applies the Standards of GRAP on *Transfer of Functions Between Entities Under Common Control* (GRAP 105), *Transfer of Functions Between Entities Not Under Common Control* (GRAP 106) or *Mergers* (GRAP 107) to account for the land in its financial statements.

### **Measurement of land in a landfill after initial recognition**

- 2.23 The entity can either apply the cost model or the revaluation model for the subsequent measurement of land.
- 2.24 If the land is measured at cost, it is carried at cost less accumulated impairment losses.
- 2.25 Under the revaluation model, land is carried at a revalued amount, being its fair value at the date of the revaluation less any accumulated impairment losses. The frequency of the revaluation depends on changes in the fair value of the land being revalued. The entity applies the principles in GRAP 17 to account for any increases or decreases as a result of the revaluation.
- 2.26 Land generally has an unlimited useful life, and is not depreciated although there may be exceptions. The land in a landfill usually has an unlimited useful life as, after the landfill site stops receiving waste, the land needs to be rehabilitated and the end-use plan implemented. However, an entity applies judgement to assess if the land in a landfill will have a limited useful life. This may be, for example, where the land is not rehabilitated when the landfill stops receiving waste, and the land has no alternative use following the closure of the landfill site.
- 2.27 The principles in GRAP 21 are applied to designate land as either cash-generating or non-cash-generating. An entity needs to make this designation on initial recognition and when there is a change in the expected use of the asset.

2.28 At each reporting date, the entity assesses whether there is any indication that the land may be impaired, or whether an impairment loss recognised in prior periods no longer exists or has decreased. Based on this assessment, an entity either applies GRAP 21 or GRAP 26 to account for any impairment losses, or the reversal thereof.

### **Change in use of the land in a landfill**

2.29 When landfill operations have stopped, the licencing authority endorses the entity's end-use plan prior to granting a licence to the entity to close the landfill site.

2.30 When the entity implements the end-use plan, the principles in the Standards of GRAP are applied to account for the land's change in use as indicated in the end-use plan. If, in accordance with the end-use plan, the land does not meet the definition of property, plant and equipment the land should be reclassified to:

- inventory (see the Standard of GRAP in *Inventories*);
- investment property (see the Standard of GRAP on *Investment Properties*); or
- heritage assets (see the Standard of GRAP on *Heritage Assets*).

### **Disclosure requirements**

2.31 The entity applies the disclosure requirements in GRAP 17, GRAP 21 or GRAP 26 and other relevant Standards of GRAP.

### **3. ACCOUNTING FOR THE LANDFILL SITE ASSET**

#### **Introduction**

3.1 The objective of this chapter is to explain the recognition and measurement of the landfill site asset when the entity concludes that the definition and recognition criteria for an asset are met.

#### **Recognition of the landfill site asset**

3.2 In accordance with the Standards of GRAP, an entity recognises an asset when the definition and recognition criteria of an asset are met. Assets that are acquired or constructed as part of the landfill site should meet the definition and recognition criteria of an asset if the entity is able to demonstrate that:

- it has an enforceable right to the landfill site asset and it is probable that future economic benefits or service potential will be generated by providing waste disposal activities to residents;
- it can determine the nature, type and volume of the waste disposal activities to be provided with the landfill site asset, to whom the services will be provided, and at what price;
- it can direct the use of the landfill site asset and can either use the landfill site asset itself, or can direct another party to provide waste disposal activities on its behalf; and
- the cost or fair value of the landfill site assets acquired or constructed can be measured reliably.

#### **Classification of the landfill site asset**

3.3 A landfill site asset meets the definition of property, plant and equipment as:

- (a) it will be used to provide waste disposal activities; and
- (b) the landfill site asset is expected to be used during more than one reporting period.

## **Measurement of the landfill site asset during development and construction**

- 3.4 When the landfill site asset qualifies for recognition, it is measured at its cost or fair value at acquisition where the landfill site asset is acquired through a non-exchange transaction. The entity applies the principles in GRAP 23 to account for landfill site assets received through non-exchange transactions.

### **Accounting for costs during development and construction of the landfill site asset**

- 3.5 In developing and constructing the landfill site asset, the entity incurs costs to bring the asset to its location and condition necessary for it to operate in the manner intended by management. These costs can either be expensed or capitalised to the carrying amount of the landfill site asset.
- 3.6 Paragraphs 3.7 to 3.11 provide guidance with the assessment of whether costs incurred during development and construction should be expensed or capitalised. A distinction is made between costs incurred by the entity:
- (a) prior to receiving approval from the licencing authority to commence with the compilation of the licence application report (see paragraphs 3.7 to 3.9 ); and
  - (b) after approval is received from the licencing authority to commence with the compilation of the licence application report (see paragraph 3.10).

### ***Costs incurred by the entity prior to receiving approval from the licencing authority***

- 3.7 Chapter 1 indicates that only if the licencing authority deems the site feasible for the operation of a landfill site, will it grant approval to commence with the compilation of the licence application report. The licence application report will enable the entity to apply for a licence to operate a landfill site.
- 3.8 If the licencing authority is of the view that the potential site is not feasible, the entity needs to identify another feasible site if it intends to continue with its application for a licence.
- 3.9 In applying its accounting policies and the criteria in paragraph 3.11, an entity is likely to conclude that it should expense these costs as it is unlikely to

demonstrate that the landfill site is feasible for development, and that it will generate future economic benefits or service potential prior to the approval to compile the licence application report. Therefore, any costs to undertake the feasibility study and costs incurred to compile the feasibility report are likely to be expensed.

***Costs incurred by the entity after receiving approval from the licencing authority***

3.10 The entity needs to apply judgement to assess whether the costs incurred after approval from the licencing authority to commence with the compilation of the licence application report, should be expensed or capitalised using its accounting policies and the criteria in paragraph 3.11.

***Criteria that may be considered to decide whether costs incurred during development and construction of the landfill site should be expensed or capitalised***

3.11 To assess whether costs incurred during the development and construction of the landfill site asset should be expensed or capitalised to the asset, the entity applies its accounting policies based on the principles in the Standard of GRAP. The following may also be considered in deciding whether to expense or capitalise costs:

- (a) it is probable that the landfill site will generate future economic benefits or service potential;
- (b) it is technically feasible that the licencing authority will approve the licence for the operation of the landfill site so that the landfill site will be available for use;
- (c) the entity has, or will have, the ability to complete the landfill site and use it for waste disposal activities once the approval for such operation is obtained;
- (d) the entity has adequate technical, financial and other resources available to complete the development and construction of the landfill asset, and to undertake the rehabilitation and monitoring and inspection of the landfill site after closure, so that it can operate in accordance with the licence conditions; and
- (e) the entity is able to measure reliably the expenditure and other costs attributable to the landfill site asset during development and construction.

### Elements of cost of the landfill site asset

3.12 In accordance with GRAP 17, the cost of an item of property, plant and equipment comprises:

- (a) its purchase price, including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates (paragraphs 3.13 to 3.16);
- (b) any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management (paragraph 3.17 to 3.20); and
- (c) the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located, the obligation for which an entity incurs either when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories during that period (paragraphs 3.21 to 3.23).

**(a) *Purchase price, including import duties and non-refundable purchase taxes, after deducting trade discounts and rebates***

3.13 Currently most entities develop or construct, rather than acquire, landfill site assets. This practice may, however, change in future. A landfill site asset can also be acquired in a transfer of functions. In this case the entity applies GRAP 105, GRAP 106 or GRAP 107.

3.14 Costs incurred to acquire, develop and construct the landfill site asset comprise the cash price equivalent of the assets acquired at recognition date. The costs acquired for the development and construction of the landfill site asset are discussed in paragraphs 3.17 to 3.20.

3.15 If payment to acquire the assets is deferred beyond normal credit terms, the entity recognises the difference between the cash price equivalent of the assets acquired, or the items acquired for the development and construction of the landfill site asset, and the total payment for these assets or items, as interest over the period of credit.

3.16 The entity's accounting policy can require it to recognise borrowing costs that are directly attributable to the acquisition, development, construction or production of qualifying assets as part of the cost of the asset. In these circumstances the entity

recognises the difference between the cash price equivalent of assets acquired, or the items acquired for the development and construction of the landfill site asset, and the total payment of these assets or items, in the carrying amount of the landfill site asset.

**(b) *Costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management***

3.17 The Minimum Requirements indicate that there must be specific assets to operate a landfill site asset in accordance with the licence conditions applicable. This is necessary to ensure that the landfill site operates effectively and that the service provided fulfils anticipated expectations.

3.18 The entity needs to apply judgement to assess which costs incurred, or assets acquired:

(a) are directly attributable to the landfill site asset; or

(b) should be accounted for as separate assets.

3.19 Costs that are directly attributable to bringing the landfill site asset to the location and condition necessary for it to operate in the manner intended by management include, among others:

(a) costs that related directly to the landfill site asset, for example,

- internal and external site labour costs;
- costs of materials used in the development and construction of the landfill site asset. These include, among others, materials to develop and construct the bottom-liner, leachate collection system, the trench or cell, the stormwater drainage and groundwater monitoring stations, etc.;
- depreciation of plant and equipment used during the development and construction of the landfill site asset;
- costs of hiring plant and equipment during the development and construction of the landfill site asset;

- costs of design and technical assistance that are directly related to the landfill site asset;
  - inspection costs and costs related to the supervision during the development and construction of the asset; and
- (b) general costs that can be allocated to the development and construction of the landfill site asset as it is directly attributable to the landfill site asset, for example,
- insurance costs; and
  - development and construction overheads.

3.20 Assets that are used with the landfill site and that may be accounted for as separate assets include, for example, a guard house, recycling and material recovery facilities, and signage.

**(c) *The initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located***

3.21 In accordance with GRAP 17, the estimate of the costs of dismantling and removing the item and restoring the site (hereafter referred to as the landfill rehabilitation provision) on which the landfill site is located, is part of cost of the landfill site asset.

3.22 The costs to be included in the landfill rehabilitation provision are discussed in chapter 4.

3.23 The initial estimate of the landfill rehabilitation provision may include an estimate of the costs to be incurred for the development or construction of assets that are required for the final rehabilitation. The accounting of these assets is discussed in paragraphs 3.56 and 3.57.

**Assessing the cost of the landfill site asset for impairment during development and construction**

3.24 During the development and construction of the landfill site asset, the asset is classified as an asset under construction.

- 3.25 During the development and construction of the landfill site asset, the asset will not be depreciated. However, the entity assesses the landfill site asset under construction for impairment by applying the principles in GRAP 21 or GRAP 26. GRAP 21 and GRAP 26 explain that, among others, (a) a decision to halt the development and construction of an asset before it is complete or in a usable condition, or (b) evidence of physical damage to an asset, are indications that the asset may be impaired. These indicators are considered by the entity during the development and construction of the landfill site asset to assess if it is impaired.
- 3.26 The capitalisation of costs to develop and construct the landfill site asset ceases when the asset is in the location and condition necessary for it to operate in the manner intended by management. When the development and construction of the landfill site is completed and it is in the location and condition necessary to operate in the manner intended by management, it is reclassified from an asset under construction to a completed asset in property, plant and equipment.

### **Measurement of the landfill site after development and construction**

- 3.27 An entity can either apply the cost model or the revaluation model as its accounting policy for landfill site assets under GRAP 17.
- 3.28 If the landfill site asset is measured at cost, it is carried at cost less accumulated depreciation and any accumulated impairment losses.
- 3.29 Under the revaluation model, the landfill site asset is carried at a revalued amount, being its fair value at the date of the revaluation less any accumulated depreciation and accumulated impairment losses. The frequency of the revaluation depends on changes in the fair value of the landfill site asset being revalued. The entity applies the principles in GRAP 17 to account for any increases and decreases as a result of the revaluation.

### **Accounting for costs incurred after development and construction**

- 3.30 In accordance with GRAP 17, an entity does not recognise the costs of the day-to-day servicing of the item in the carrying amount of an item of property, plant and equipment. Such costs are recognised in surplus or deficit as incurred. Subsequent costs incurred can only be capitalised to the carrying amount of an item of property, plant and equipment, if the following recognition criteria are satisfied:

- (a) it is probable that future economic benefits or service potential associated with the item will flow to the entity; and
- (b) the cost of fair value of the item can be measured reliably.

***Monitoring and inspection costs incurred during the operation of the landfill site***

- 3.31 In accordance with the entity's licence conditions, and as required by the Minimum Requirements, the entity needs to undertake monitoring and inspection activities while the landfill is operational. These activities include, among others, water and gas monitoring. This is to ensure proper management of any gas emanating from the site, or contamination of underground water, and that timely action is taken if this is the case.
- 3.32 Monitoring and inspection costs to be undertaken while the landfill is operational will only be capitalised to the carrying amount of the landfill site asset if the recognition criteria in paragraph 3.30 are satisfied. Monitoring and inspection costs incurred during the operation of the landfill site that do not result in an improvement or enhancement of the landfill site asset's future economic benefits or service potential, are expensed when incurred.
- 3.33 For example, while undertaking monitoring and inspection during the operation of the landfill site, the entity concludes that corrective action needs to be undertaken to restore a leak in the stormwater drainage system to prevent the site from contaminating the underground water. Only if the monitoring and inspection costs incurred contributed to the enhancement of the future economic benefits or service potential associated of the landfill site asset, can the costs be capitalised to the carrying amount of the landfill site asset. In addition, the entity also needs to assess whether the costs incurred to undertake correction action following the monitoring and inspection, meet the recognition criteria in paragraph 3.30.
- 3.34 The extent of the monitoring and inspection to be undertaken during the operation of the landfill site will depend on the site classification and the entity's licence conditions. These costs are incurred to assess the impact of the operation of the landfill site and surrounding environment.

### **Depreciation of the landfill site asset**

- 3.35 Depreciation of the landfill site asset commences when the landfill site asset is available for use, i.e. when it is in the location and condition necessary for it to be capable of operating in the manner intended by management.
- 3.36 Depreciation of the landfill site asset, or part thereof, ceases on the date that the landfill site asset, no longer receives any waste.
- 3.37 The entity recognises the depreciation charge for the landfill site asset for each period in surplus or deficit.

### ***Determining the landfill site asset's useful life and the depreciation period***

- 3.38 Each part of the landfill site asset with a cost that is significant in relation to the total cost of the asset, is depreciated separately by allocating the amount initially recognised in respect of the landfill site asset, to its significant parts. For example, the entity may conclude that the bottom-liner and stormwater drainage system are two significant parts of the landfill site asset that need to be depreciated separately over their respective useful lives. A trench or cell can also be accounted for as a significant part of the landfill site asset.
- 3.39 After identifying the significant parts of the landfill site asset separately, the remainder of the landfill site asset, i.e. those parts that are individually insignificant, are grouped together for depreciation purposes.
- 3.40 The useful life of the landfill site will be the period that the landfill site is in operation and receives waste. The useful life of the different parts of the landfill site asset may be different to the useful life of the landfill site.
- 3.41 As the parts of the landfill site asset will only generate future economic benefits or service potential while the landfill site is in operation, the useful lives of the significant parts and the individually insignificant parts that are grouped together, cannot exceed the useful life of the landfill site asset.
- 3.42 The entity should, at each reporting date, assess whether there is any indication that its expectations about the landfill site asset's useful life have changed since the preceding reporting date. The entity applies the principles in GRAP 17 to make this assessment.

## Example 1

### Determining the depreciation period of a significant part of the landfill site asset

The operational period of a landfill site is sixteen years. One of the significant parts of the landfill site asset is the bottom-liner. After the tenth year in operation, Entity A replaces the bottom-liner due to physical damage. The useful life of the new bottom-liner is nine years.

#### *Determining the depreciation period of the bottom-liner*

The bottom-liner was initially depreciated over a period of twelve years which is the part's useful life. This period is shorter than the useful life of the landfill site that is sixteen years.

After replacing the bottom-liner, the new cost part is depreciated over a remaining period of six years (sixteen less ten years), even though the economic life of the new bottom-liner is nine years.

#### ***Depreciable amount***

3.43 In accordance with GRAP 17, the depreciable amount of the landfill site asset comprises its cost after deducting the residual value.

3.44 The residual value of a landfill site is likely to be nil as the entity needs to rehabilitate the landfill site and cannot re-use the parts.

#### ***Depreciation method***

3.45 The depreciation method that is applied to the parts of the landfill site asset should reflect the pattern in which the part of the landfill site asset's future economic benefits or service potential are expected to be consumed during the operation of the landfill site. The entity applies judgement in selecting the most appropriate depreciation method, which can either be the straight-line method, the diminishing balance method or the units of production method.

3.46 In accordance with GRAP 17, the entity is required to review the depreciation method for the landfill site asset at least at each reporting date. If there is a significant change in the expected pattern of consumption of the future economic

benefits or service potential of the landfill site, the depreciation method is changed to reflect the changed pattern.

- 3.47 The entity accounts for the change in the depreciation method as a change in an accounting estimate in accordance with the Standard of GRAP on *Accounting Policies, Changes in Accounting Estimates and Errors* (GRAP 3).

### **Impairment of the landfill site asset**

- 3.48 The entity applies the principles in GRAP 21 to designate the landfill site asset as either non-cash-generating or cash-generating. The entity assesses, at each reporting date, whether there is any indication that the landfill site asset may be impaired, or whether an impairment loss recognised in prior periods for the landfill site asset may no longer exist, or has decreased. Based on this assessment, the entity either applies GRAP 21 or GRAP 26 to account for any impairment losses, or the reversal thereof.

### **Accounting for changes in the estimate of the landfill rehabilitation provision**

- 3.49 In accordance with the Standards of GRAP, an entity needs to review all provisions at each reporting date and adjust the provision to reflect the current best estimate.
- 3.50 Paragraph 3.21 explains that the estimate of the landfill rehabilitation provision is a cost of the landfill site asset on initial recognition. Any changes to the estimate of the landfill rehabilitation provision will therefore affect the cost of the landfill site asset.
- 3.51 Chapter 4 explains and illustrates how an entity should account for the adjustment to the landfill site asset as a result of changes in the estimate of the landfill rehabilitation provision.

### **Derecognition of the landfill site**

- 3.52 In accordance with GRAP 17, the entity derecognises the landfill site asset when no future economic benefit or service potential is expected from its use.
- 3.53 Most landfill sites operate on the basis of a series of trenches or cells that are prepared to receive waste. Trenches or cells are used to deposit waste received in a designated area. At smaller landfill sites the whole area is normally used for

landfilling. In terms of the licence conditions and the Minimum Requirements, the entity will commence with rehabilitation in the form of capping in the areas where no further waste disposal can take place.

- 3.54 An entity applies judgement to assess when the landfill site asset, or a part thereof, is no longer expected to generate future economic benefits or service potential. The entity can only derecognise a part of the landfill site asset if it was recognised as a separate part of the landfill site asset.
- 3.55 The landfill site asset should be fully derecognised when the landfill site is closed and the entity commences with its final rehabilitation.

### **Construction of assets for use in rehabilitation**

- 3.56 In accordance with the entity's licence conditions and as required by the Minimum Requirements, certain assets need to be in place as part of the final rehabilitation, for example gas or water monitoring infrastructure. The initial estimate of the landfill rehabilitation provision includes an estimate of the costs to be incurred for the development or construction of assets that are required for the final rehabilitation (see paragraph 3.23).
- 3.57 Any assets developed or constructed for rehabilitation are recognised in accordance with the applicable Standards of GRAP. Guidance on the accounting for changes in the landfill rehabilitation provision after closure of the landfill site is included in paragraphs 4.48 and 4.49.

### **Implementation of the end-use plan**

- 3.58 With the implementation of the end-use plan, the entity applies the principles in the Standards of GRAP to account for the asset, if any, that will be developed and constructed on the land that was previously used as a landfill site as indicated in the end-use plan.

### **Disclosure requirements**

- 3.59 The entity applies the disclosure requirements in GRAP 17, GRAP 21 or GRAP 26 and other relevant Standards of GRAP.

## 4. ACCOUNTING FOR THE PROVISION FOR REHABILITATION, CLOSURE, END-USE AND MONITORING

### Introduction

4.1 Paragraphs 1.18 to 1.25 explain the Minimum Requirements an entity needs to adhere to in relation to the rehabilitation, closure, end-use, and monitoring and inspection of the landfill site after its closure. The objective of this chapter is to explain the accounting of:

- the costs incurred to adhere to the rehabilitation, closure, end-use, and related monitoring and inspection requirements; and
- adjustments to the landfill site asset as a result of changes in the estimate of the landfill rehabilitation provision.

### Recognition of the landfill rehabilitation provision

4.2 Paragraph 3.21 explains that GRAP 17 requires the entity to include an estimate of the landfill rehabilitation provision as a cost of the landfill site asset.

4.3 In applying the principles in the Standard of GRAP on *Provisions, Contingent Liabilities and Contingent Assets* (GRAP 19), the entity needs to recognise a liability for the landfill rehabilitation provision as there is:

- (a) a present obligation (legal or constructive) as a result of a past event;
- (b) probability that an outflow of resources embodying economic benefits or service potential will be required to settle the obligation; and
- (c) a reliable estimate that can be made of the amount of the obligation.

4.4 At larger landfill sites that are operated on a basis of trenches or cells, the entity has a present obligation to rehabilitate and restore the damaged land when the construction of the trench or cell commences. In terms of the entity's licence conditions and the specifications set out in the Minimum Requirements, the entity is required to dismantle any trench or cell that it has constructed on the landfill site, irrespective of whether any waste was received.

- 4.5 For smaller landfill sites that do not make use of trenches or cells, a present obligation will arise when the entity commences with landfilling. At this point, the entity has no realistic alternative but to rehabilitate the land.
- 4.6 Based on the type of landfill site that is operated by the entity, the past event that gives rise to the liability is either when the construction of the trench or cell commences, or when the entity commences with landfilling.
- 4.7 Costs incurred to rehabilitate and restore the damaged land will result in an outflow of resources embodying economic benefits or service potential. The entity will be able to make a reliable estimate of the costs to be incurred to settle the obligation as the entity will be able to determine a range of possible outcomes in estimating the obligation.
- 4.8 When the definition of a provision in GRAP 19 is met, the entity recognises a landfill rehabilitation provision in its statement of financial position.
- 4.9 When a landfill rehabilitation provision is acquired in a transfer of functions, the entity applies GRAP 105, GRAP 106 or GRAP 107 to account for the provision in its statement of financial position.

### **Cash flows to be included in the landfill rehabilitation provision**

- 4.10 GRAP 19 requires that the provision should be measured at the best estimate of the expenditure required to settle the present obligation at the reporting date.
- 4.11 The best estimate of the expenditure required to settle the present obligation is the amount that an entity would rationally pay at that time to settle the obligation at the reporting date or to transfer it to a third party.
- 4.12 The estimate of the expenditure that is required to settle the present obligation should reflect any future events that may affect the amount required to settle the landfill rehabilitation provision. Future events can only be considered if there is sufficient objective evidence that the future event will occur. For example, if there is evidence that legislation is likely to change to require the use of new technology associated with the cost of monitoring gas at the landfill site, the provision should include an estimation of the costs to be incurred to adhere to the new technological requirements.

- 4.13 In accordance with GRAP 19, where the effect of the time value of money is material, the amount of a provision should be the present value of the expenditure expected to be required to settle the obligation. As a result of the long operational life of landfill sites, in general, time value of money is material and therefore considered in the calculation of the landfill rehabilitation provision.
- 4.14 In determining the best estimate of the expenditure required to settle the obligation, the expenditure can be expressed in either current prices (excluding inflation) or expected future prices (including inflation).
- 4.15 The cash flows that are likely to relate to the landfill rehabilitation provision may include:
- costs to dismantle, remove and restore on an ongoing basis and on closure of the landfill site, the land in the landfill;
  - pre-closure planning and approval costs;
  - final rehabilitation and closure costs; and
  - monitoring and inspection costs to be undertaken after the closure of the landfill site.
- (a) *Costs to dismantle, remove and restore on an ongoing basis and on closure of the landfill site, the land in the landfill***
- 4.16 As noted in paragraph 4.4, the entity is required to dismantle any trench or cell that it has constructed on the landfill site, irrespective of whether it received any waste. Costs incurred to dismantle the constructed trench or cell are aimed at restoring the land on which the landfill site asset is constructed. These costs therefore need to be included in the landfill rehabilitation provision.
- 4.17 The approved operational plan requires the entity to commence with rehabilitation in the form of capping in the areas where no further waste deposition will take place.
- 4.18 The landfill rehabilitation provision should therefore also include an estimate of the costs to restore the land used in the operation of the landfill site, on an ongoing basis and on closure of the landfill site.

**(b) Pre-closure planning and approval costs**

4.19 Paragraph 1.18 explains the Minimum Requirements for the pre-closure planning and compilation of the final closure report that needs to be undertaken by the entity.

4.20 To adhere to these requirements, the entity carries out specific investigations to identify the causes of any existing problems at the landfill site and to identify remedial actions to be taken before its closure. In addition, the entity also needs to consider variations to the closure design prior to submitting the final closure report to the licencing authority for approval.

4.21 In order to undertake the necessary investigations, to

(a) draw up the closure or upgrade design;

(b) compile the final closure report; and

(c) analyse the variations to the closure design and the impact thereof,

an estimate of the costs to be incurred needs to be included in the landfill rehabilitation provision. This includes the costs to re-assess and refine the end-use plan prior to commencement of the final rehabilitation, and to ensure that the preparations for the rehabilitation are completed for inclusion in the end-use plan.

4.22 The landfill rehabilitation provision should include an estimate of the costs that the entity will undertake to investigate the landfill site for closure, and to determine all the end-use requirements in adhering to the Minimum Requirements prior to commencing with the final rehabilitation of the landfill site.

**(c) Final rehabilitation and closure costs**

4.23 Rehabilitation and closure costs represent those costs that the entity incurs in the year of closure and during the period of final rehabilitation of the landfill site.

4.24 The Minimum Requirements explain that the final rehabilitation of the landfill site includes the final cover, capping, topsoil and vegetating. Any long term leachate, gas, stormwater and erosion control systems required should also be in place and in a working condition before the landfill site can be closed. An estimation of these costs needs to be made for inclusion in the landfill rehabilitation provision.

4.25 Typical rehabilitation costs that need to be estimated for inclusion in the landfill rehabilitation provision involve, among others:

- costs to clear, shape and do the final compacting of the landfill site;
- landscaping costs, such as costs to test soils and costs for compost, top soiling and vegetating;
- capping costs, such as such costs to clear, and dig the soil shallowly in uncapped areas, to do earthworks, and shaping and co-acting the surface for final shaping of the landfill site;
- costs to implement (if appropriate) and maintain long term leachate, gas, stormwater and erosion control systems;
- costs to divert stormwater and groundwater drainage infrastructure, including costs to repair and maintain existing infrastructure; and
- an estimation of the closure costs that will be necessary to carry out all the recommendations as per the closure report.

**(d) *Monitoring and inspection to be undertaken after closure of the landfill site***

4.26 Monitoring and inspection of the landfill site after its closure is a licence condition and. It is also required in the Minimum Requirements to ensure any post-closure problems are identified and addressed in a timely manner. The monitoring and inspection after the closure of the landfill site must be carried out at regular intervals to monitor cover integrity, subsidence, fires, vegetation, drainage, erosion, etc. of the closed site.

4.27 Monitoring and inspection costs to be incurred after closure of the landfill site involve, among others:

- water monitoring;
- gas monitoring;
- rehabilitation monitoring;
- maintenance of cover, subsidence and drainage;

- fire control and vegetation maintenance;
  - leachate management; and
  - gas management.
- 4.28 As the entity has an obligation in terms of the Minimum Requirements to undertake monitoring and inspection after the closure of the landfill site, the entity needs to include an estimate of the costs to be incurred after its closure when estimating the landfill site rehabilitation provision.
- 4.29 Even though the Minimum Requirements indicate that the entity remains responsible for monitoring of the landfill site after its closure for a period of up to thirty years, the entity must also consider its specific licence conditions to estimate the monitoring and inspection costs.

### **Discount rate applied to calculate the landfill rehabilitation provision**

- 4.30 The discount rate to be used in calculating the landfill rehabilitation provision is a pre-tax rate (or rates) that reflect(s) current market assessments of the time value of money and the risks specific to the liability. The discount rate should not reflect risks for which future cash flow estimates have already been adjusted.
- 4.31 The Standards of GRAP do not prescribe one specific discount rate that should be applied in calculating a provision. These Standards clarify that the discount rate applied should represent a rate that is specifically associated with the risk of the liability.
- 4.32 The discount rate should also be adjusted for any other factors relevant to the landfill site. In determining the appropriate discount rate to be applied in the calculation of the landfill rehabilitation provision, the following alternatives can be considered:
- (a) a government bond rate; and
  - (b) a corporate bond rate.
- 4.33 The discount rate applied to calculate the landfill rehabilitation provision should be consistent with the estimated term of the landfill rehabilitation provision.

4.34 When the cash flows are expressed as a future price, they are discounted at a discount rate that includes inflation. When the cash flows are expressed as a current price, the discount rate applied will not include the effects of inflation.

## **Risks and uncertainties**

4.35 In accordance with GRAP 19, the risks and uncertainties that inevitably surround many events and circumstances should be taken into account in reaching the best estimate of a provision. As a result, the entity can either adjust its future cash flows or the discount rate to consider the risks and uncertainties specific to the landfill rehabilitation provision<sup>1</sup>.

4.36 The entity cannot adjust the discount rate and the future cash flows for the same risks as this will result in double counting of risks and uncertainties.

4.37 The entity applies judgement to adjust the future cash flows or the discount rate to ensure that expenses are not over, or understated.

4.38 In adjusting for risks and uncertainties in cash flows, the entity can, among others, consider the:

- location of the landfill site, for example, whether the landfill located in a water-surplus area or is the landfill site close or near a residential area;
- availability of suitable capping material and/or top-soiling and vegetating material on-site and/or in the vicinity of the landfill site;
- anticipation of gas and air quality problems that may occur in the future;
- extent to significant leachate problems are foreseen in future; and
- existence and condition of the fence.

## **Use of the landfill rehabilitation provision**

4.39 A landfill rehabilitation provision can only be used for expenditures for which the provision was originally recognised.

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<sup>1</sup> Even though the Standards of GRAP allows the licence holder to either adjust its cash flows or the discount rate, the Board encourages entities to adjust the cash flows from a practical perspective.

- 4.40 As expenditure in relation to the rehabilitation provision is incurred, the expenditure is recognised by reducing the provision.
- 4.41 When all or part of the landfill rehabilitation provision is no longer needed, the provision should be derecognised and the effect recognised in the statement of financial performance. For example, as an estimate of the costs to be incurred for the development or construction of assets required for final rehabilitation are included in the landfill rehabilitation provision, this provision is derecognised for actual costs incurred during the development and construction of these assets (see paragraphs 3.56 and 3.57).

### **Change in estimate of the landfill rehabilitation provision**

- 4.42 In accordance with GRAP 19, a provision should be reviewed at each reporting date and adjusted to reflect the current best estimate.
- 4.43 Paragraph 3.21 explains that the estimate of the landfill rehabilitation provision is a cost of the landfill site asset. The entity applies the Interpretation of the Standards of GRAP on *Changes in Existing Decommissioning, Restoration and Similar Liabilities* (IGRAP 2) to account for changes in the landfill rehabilitation provision that results from changes in:
- (a) the estimated timing or amount of the outflow of resources embodying economic benefits or service potential required to settle the obligation;
  - (b) a change in the discount rate; and
  - (c) an increase that reflects the passage of time.
- 4.44 A change in the estimated future cash flows or service potential required to settle the landfill rehabilitation provision, or a change in the discount rate as a result of changes in the time value for money, or the risks specific to the landfill rehabilitation provision, is added or deducted from the landfill site asset.
- 4.45 If the entity applies the cost model to measure the landfill site asset, the change in the landfill rehabilitation provision is adjusted against the cost of the landfill site asset.
- 4.46 If the entity applies the revaluation model to measure the landfill site asset, a decrease in the change in the landfill rehabilitation provision is adjusted against

the revaluation surplus in net assets, except to the extent that it reverses a revaluation deficit on the landfill site asset. An increase in the landfill rehabilitation provision is recognised in surplus or deficit, except when it is debited directly to the revaluation surplus in net assets.

4.47 After accounting for the change in the landfill rehabilitation provision, the entity adjusts the depreciable amount of the landfill site asset over its remaining useful life.

4.48 The licence holder recognises the periodic unwinding of the discount in surplus or deficit as a finance cost as it occurs.

### **Example 1**

#### **Accounting of landfill rehabilitation provision**

Entity A is granted a licence for the operation of a landfill site on 1 August 20X0. Entity A commences with the construction of the first cell on 1 February 20X1.

On 1 February 20X1 it is estimated that the cost to dismantle, remove and restore the land at the end of the useful life of the landfill site will be R1 148 000. Entity A also estimates that monitoring and inspection costs to be undertaken during the operation of the landfill site up to the end of landfill site's useful life, will be R63 500. The monitoring and inspection costs are insignificant to the total cost of the landfill site asset.

On 1 February 20x1, Entity A also makes an estimation of the other costs to be included in the landfill rehabilitation provision to undertake the required closure and rehabilitation of the landfill site at the end of its useful life, and to ensure the required monitoring and inspection is undertaken after the closure of the landfill site.

The landfill site will operate for fifteen years. Monitoring and inspection to be undertaken by Entity A after the closure of the landfill site is required for a period of thirty years.

The following is an estimation for closure of the landfill site and the monitoring and inspection to be undertaken after the closure of the landfill site. The costs are inflated annually with an estimated inflation rate of 5.7%. Where appropriate, the cash flows were adjusted for risk and uncertainties. The costs estimation includes an estimate of future events that may affect the settlement of the landfill rehabilitation provision.

Entity A applies the government bond rate to discount the cash flows. The discount rate, that is consistent with the estimated term of the landfill rehabilitation provision, is 11.48%, and takes into account inflation.

Entity A's year-end is 30 June.

For purposes of the calculation, amounts are rounded. Assume that there is no change in the landfill rehabilitation provision for the period ending 30 June 20X2.

The example only illustrates the provision for the monitoring and inspection costs to be incurred after the closure of the landfill site, for the first year after closure.

**The cash flows, already adjusted for inflation, that relates to the landfill rehabilitation provision are summarised below:**

***Pre-closure planning and approval costs***

	<b>R</b>
Basic assessment for closure	27 000
Develop and finalise end-use plan	35 000
Closure or upgrade design	4 000
Professional fees	45 000
<b>TOTAL</b>	<b>111 000</b>

***Final rehabilitation and closure costs***

	<b>R</b>
Costs to undertake remedial action prior to closure	512 000
Shaping, landscaping, compacting and re-vegetation	10 736 000
Top-soiling and vegetating	3 360 000
Final cover and capping	24 296 000



Stormwater diversion and control system	5 630 000
Leachate control system	3 612 000
Gas control system	492 000
Erosion control system	52 000
Fencing	60 000
Steel and/or reinforcement	21 700
Inspection costs	1 000 000
<b>TOTAL</b>	<b>49 771 700</b>

***Monitoring and inspection to be undertaken after closure, for the first year after closure:***

	R
Water monitoring	45 000
Gas monitoring	30 000
Leachate monitoring	50 000
Rehabilitation monitoring	80 000
Maintenance of cover, subsidence and drainage	10 000
Erosion maintenance	18 000
Fire control and vegetation management	7 500
Water, gas and leachate monitoring	30 500
<b>TOTAL</b>	<b>271 000</b>



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	Total estimated costs (FV)	Discount rate	Unwinding period	Present value
Landfill rehabilitation provision other than monitoring and inspection	51 094 200 (1 148 000 + 63 500 + 111 000 + 49 771 700)	11.48%	15 years	10 009 611  FV = 51 094 200  N = 15 years  i = 11.48%  Pmt = nil
Landfill rehabilitation provision - monitoring and inspection	271 000	11.48%	16 years	47 623  FV = 271 000  N = 16 years  i = 11.48%  Pmt = nil
Total				10 057 234

Accounting for the landfill rehabilitation provision

<i>1 February 20X1</i>		
Dr	Landfill site asset	10 057 234
Cr	Landfill rehabilitation provision	10 057 234
<i>(Recognising the parts and present value of the landfill rehabilitation provision to the landfill site asset)</i>		
<i>30 June 20X1</i>		
Dr	Finance cost	481 071

Cr	Landfill rehabilitation provision	481 071
<p>(10 057 234 x 11.48% x 5/12 months)</p> <p><i>(Recognising increase in the landfill rehabilitation provision due to unwinding of discount)</i></p>		
Dr	Deprecation	279 367
Cr	Accumulated depreciation: Landfill site asset	279 367
<p>(10 057 234 x 5/12months of 15yrs)</p> <p><i>Recognising depreciation of the landfill site asset)</i></p>		
30 June 20X2		
Dr	Finance cost	1 209 797
Cr	Landfill rehabilitation provision	1 209 797
<p><math>((10\,057\,234 + 481\,071)) \times 11.48\% \times 12/12\text{ months}</math></p> <p><i>(Recognising increase in the landfill rehabilitation provision due to unwinding of discount)</i></p>		
Dr	Deprecation	670 482
Cr	Accumulated depreciation: Landfill site asset	670 482
<p>(10 057 234 x 12/12 months of 15yrs)</p> <p><i>Recognising depreciation of the landfill site asset)</i></p>		

## Example 2

### Accounting for changes in the landfill rehabilitation provision

Assume the following additional information to example 1:

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Due to changes in the estimated outflow of resources embodying economic benefits or service potential required to settle the landfill rehabilitation provision, the present value of the remaining landfill rehabilitation provision is calculated as R13 304 500 at 30 June 20X3. The carrying amount of the landfill rehabilitation provision as at 30 June 20X2 is R11 748 102 (10 057 234 + 481 071 + 1 209 797). Assume that the discount rate stayed the same and that no changes occur during the reporting period ending 30 June 20X4.

Assume the landfill site asset is measured under the cost model.

<i>30 June 20X3</i>		
Dr	Finance cost	1 348 682
Cr	Landfill rehabilitation provision	1 348 682
$((10\,057\,234 + 481\,071 + 1\,209\,797)) \times 11.48\% \times 12/12 \text{ months}$ <i>(Recognising increase in the landfill rehabilitation provision due to unwinding of discount)</i>		
Dr	Deprecation	670 482
Cr	Accumulated depreciation: Landfill site asset	670 482
$10\,057\,234 \times 12/12 \text{ months of } 15\text{yrs}$ <i>(Recognising depreciation of the landfill site asset on value as at 30 June 20X3)</i>		
Dr	Landfill site asset	207 716
Cr	Landfill rehabilitation provision	207 716
$(13\,304\,500 - (11\,748\,102 + 1\,348\,682))$ <i>(Recognition of the change in the rehabilitation landfill provision at 30 June 20X3 against the landfill site asset)</i>		
<i>30 June 20X4</i>		
Dr	Finance cost	1 527 356

Cr	Landfill rehabilitation provision	1 527 356
$(13\,304\,500) \times 11.48\% \times 12/12 \text{ months}$ <i>(Recognising increase in the landfill rehabilitation provision due to unwinding of discount)</i>		
Dr	Deprecation	733 210
Cr	Accumulated depreciation: Landfill site asset	733 210
$(10\,057\,234 + 207\,716) \times 12/12 \text{ months of } 14 \text{ yrs}$ <i>(Recognising depreciation of the landfill site asset)</i>		

### Example 3

#### Accounting for changes in the landfill rehabilitation provision

Assume the following additional information to example 1:

Due to changes in the estimated outflow of resources embodying economic benefits or service potential required to settle the landfill rehabilitation provision, the present value of the remaining landfill rehabilitation provision is calculated as R13 304 500 at 30 June 20X3. The carrying amount of the landfill rehabilitation provision as at 30 June 20X2 is R11 748 102 (10 057 234 + 481 071 + 1 209 797). Assume that the discount rate stayed the same and that no changes occur during the reporting period ending 30 June 20X4.

The balance of the revaluation reserve is R280 000 on 30 June 20X3.

Assume the landfill site asset is measured under the revaluation model.

<i>30 June 20X3</i>		
Dr	Finance cost	1 348 682
Cr	Landfill rehabilitation provision	1 348 682
$((10\,057\,234 + 481\,071 + 1\,209\,797)) \times 11.48\% \times 12/12 \text{ months}$		

<i>(Recognising increase in the landfill rehabilitation provision due to unwinding of discount)</i>		
Dr	Revaluation reserve: landfill site asset	67 048
Cr	Accumulated depreciation: Landfill site asset	67 048
10 057 234 x 12/12 months of 15yrs		
<i>(Recognising depreciation of the landfill site asset on value as at 30 June 20X2)</i>		
Dr	Landfill site asset	207 716
Cr	Landfill rehabilitation provision	207 716
(13 304 500 – (11 748 102 + 1 348 682))		
<i>(Recognition of the change in the rehabilitation landfill provision at 30 June 20X3 against the landfill site asset)</i>		
30 June 20X4		
Dr	Finance cost	1 527 356
Cr	Landfill rehabilitation provision	1 527 356
(13 304 500) x 11.48% x 12/12 months)		
<i>(Recognising increase in the landfill rehabilitation provision due to unwinding of discount)</i>		
Dr	Revaluation reserve: landfill site asset	212 952
Dr	Change in landfill rehabilitation provision	520 258
Cr	Accumulated depreciation: Landfill site asset	733 210
(10 057 234 + 207 716) x 12/12months of 14yrs)		

*(Recognising depreciation of the landfill site asset against the revaluation reserve and balance in surplus or deficit) (280 000 – 67 048)*

### **Accounting for changes in the landfill rehabilitation provision after closure of the landfill site**

- 4.49 The landfill rehabilitation provision included in the cost of the asset is recognised over the useful life of the landfill site asset as it will only generate future economic benefits or service potential while still in operation. Any changes to the landfill rehabilitation provision, while in operation, are adjusted against the related landfill site asset.
- 4.50 When the landfill site asset has reached the end of its useful life, the entity recognises any subsequent changes in the landfill rehabilitation provision in surplus or deficit as they occur. This applies irrespective of whether the entity measured the landfill site asset under the cost model or the revaluation model.

### **Disclosure requirements**

- 4.51 The entity applies the disclosure requirements in GRAP 19 and other relevant Standards of GRAP.

## 5. OTHER CONSIDERATIONS

### Introduction

5.1 This chapter explains the accounting considerations for:

- funding provided by the licencing authority or another entity specifically for the rehabilitation of the landfill site, either directly to the entity or to a third party to undertake rehabilitation on the entity's behalf;
- arrangements entered into by an entity with other parties to perform waste disposal activities; and
- the alignment of existing accounting policies for landfill sites to the principles in this Guideline.

### Accounting for funding received to rehabilitate a landfill site

#### Funding received by the entity itself

- 5.2 In accordance with GRAP 23, resources received by an entity where the recipient receives value from another entity without directly giving approximately equal value in exchange, or gives value to another entity without directly receiving approximately equal value in exchange, constitutes revenue from a non-exchange transaction.
- 5.3 When the licencing authority or another entity provides funding directly to the entity for the rehabilitation of a landfill site, the funding received is within the scope of GRAP 23 as the entity received resources without directly giving approximate equal value in exchange.
- 5.4 The entity recognises the funding received from the licencing authority or another entity when it controls the resource received. The entity will have control of the resource when it has the ability to exclude or regulate the access of others to the benefits of the received resource. If the entity has entered into an arrangement with the licencing authority, or another entity that provided the funding, the binding arrangement is likely to indicate when control exists.

- 5.5 The funding received is measured at the fair value of the resource received on initial recognition. The fair value of the resource is the amount allocated to the entity for the rehabilitation of the landfill site.
- 5.6 The entity recognises revenue from the non-exchange transaction when there are no conditions attached to the funding received. This will be when the binding arrangement does not specify that resources need to be returned if they are not used in a certain way for the rehabilitation of the landfill site, or for another purpose, as set out in the binding arrangement.
- 5.7 If there are conditions attached to the resource received, the entity will recognise a liability, rather than revenue. The amount recognised as a liability is the best estimate of the amount required to settle the present obligation at the reporting date. As the entity satisfies the conditions in terms of the binding arrangement, the carrying amount of the liability will be reduced, and non-exchange revenue, equal to the liability reduction, will be recognised in the statement of financial performance.

**Funding by the licencing authority or another party to rehabilitate the landfill site**

- 5.8 In some instances, the licencing authority or another entity can provide funding to a third party to undertake the rehabilitation of a landfill site. In these cases, the entity will receive a service in kind when the third party undertakes the rehabilitation of the landfill site.
- 5.9 In accordance with GRAP 23, an entity should recognise services received in-kind that are significant to its operations and/or service delivery objectives. Services received in-kind are recognised as an asset and the related revenue is recognised when:
- (a) it is probable that the future economic benefits or service potential will flow to the entity; and
  - (b) the fair value of the assets can be measured reliably.
- 5.10 If the services received in-kind:
- (a) are not significant to the entity's operations and/or service delivery objectives; and/or

(b) do not satisfy the recognition criteria,

GRAP 23 requires the entity to disclose the nature and type of recognised and unrecognised services in-kind received during the reporting period.

### **Disclosure requirements**

5.11 The entity applies the disclosure requirements in GRAP 23 and other relevant Standards of GRAP.

### **Entity enters into an arrangement with other parties to undertake waste disposal activities**

5.12 The entity can enter into an arrangement with another party to provide waste disposal activities. In other instances, two or more entities can operate a landfill site from a regional or central area, or enter into an arrangement to collectively provide waste activities.

5.13 The entity needs to assess if it is a party to a principal-agent arrangement and, if so, whether it is the principal or the agent in the arrangement. The principles in the Standard of GRAP on *Accounting by Principals and Agents* are applied to make this assessment.

5.14 Where the entity has entered into an arrangement with another party to undertake waste disposal activities, the entity needs to assess its interest in the arrangement. This will determine the appropriate accounting, which can constitute control, significant influence, or joint control. Alternatively, the arrangement between the entity and the other party can constitute a service concession arrangement, or involve the appointment of a service provider to undertake waste disposal activities.

5.15 To determine the nature of the relationship between itself and the other party the entity assesses the nature of its relationship along with its rights and obligations in the arrangement. The entity applies judgement to determine the nature of the interest with the other entity.

### **Control is established in the other entity**

5.16 The entity applies the principles in the Standard of GRAP on *Consolidated and Separate Financial Statements* (GRAP 6) to assess whether its interest in the

arrangement establishes control over the other entity. The entity will have control of another entity if it has the power to govern the financial and operating policies of the other entity so as to benefit from its activities. GRAP 6 provides guidance to assist entities to determine whether control exists for financial reporting purposes.

- 5.17 When the entity concludes that it has control based on the nature of the relationship with the other entity, the consolidation principles and procedures in GRAP 6 are applied to prepare consolidated financial statements.

### **Significant influence in the other entity**

- 5.18 The entity applies the principles in the Standard of GRAP on *Investments in Associates* (GRAP 7) where it concludes that it has significant influence in the other entity. For the entity to have a significant influence, it needs to demonstrate that it has the power to participate in the financial and operating policy decisions of the activities in the other entity, but not have control or joint control over those policies.
- 5.19 The entity applies the equity method to account for its investment in the associate where it concludes that it has a significant influence in the other entity.

### **Joint control**

- 5.20 The entity applies the principles in the Standard of GRAP on *Interests in Joint Ventures* (GRAP 8) where it concludes that the arrangement constitutes a joint venture. A joint venture is a binding arrangement whereby two or more parties are committed to undertake an activity that is subject to joint control. An example is where two or more entities operate a landfill site from a regional or central area, or jointly provide waste disposal activities.
- 5.21 Joint control is the agreed sharing of control over the activities in the other entity in terms of a binding arrangement. Joint control will only exist when the strategic financial and operating decisions in relation to the activities undertaken by the other entity require the unanimous consent of the parties sharing control.
- 5.22 The joint venture can take the form of a:
- (a) jointly controlled operation, that involves the use of asset and other resources rather than the structure of an entity, corporation or partnership;

- (b) a jointly controlled asset where the entities have joint control of one or more assets, for example where two or more entities collectively construct a landfill site asset to provide waste disposal activities; and
- (c) a jointly controlled entity that involves the establishment of an entity, corporation or partnership in which the jointly controlled entity has an interest.

5.23 The entity accounts for its interest in a joint venture by applying the principles in GRAP 8.

#### **Service concession arrangements**

5.24 The entity applies the principles in the Standard of GRAP on *Service Concession Arrangements: Grantor* (GRAP 32) where it concludes that it has entered into an arrangement with an operator, where the operator uses a service concession asset to provide a mandated function on its behalf. The mandated function is provided for a specified period of time and the operator is compensated for its services.

5.25 The entity applies the following criteria in GRAP 32 to assess whether it should recognise the landfill site asset as a service concession asset, along with the related liability:

- (a) it controls or regulates what services must be provided with the landfill site asset, to whom it must provide the services and at what price; and
- (b) it controls – through ownership, beneficial entitlement or otherwise – any significant residual interest in the landfill site asset at the end of the term of the arrangement.

5.26 The entity applies the principles in GRAP 32 to account for the landfill site asset and the related liability when the criteria are met.

#### **Appointment of a service provider**

5.27 Where the entity appoints a service provider to undertake waste disposal activities, payments for the rendering of the services by the service provider are accounted for as and when the services are provided, or in accordance with the arrangement between the parties.

### **Disclosure requirements**

5.28 The entity applies the disclosure requirements in GRAP 6, 7, 8 or 32 and other relevant Standards of GRAP.

### **Accounting for fines and penalties**

5.29 The non-compliance by an entity with its licence conditions and/or the Minimum Requirements can result in the payment of fines and penalties. Fines and penalties that become payable as a result of the non-compliance with any legal requirement are accounted for in terms of GRAP 19 and/or the applicable Standards of GRAP.

### **Aligning existing accounting policies and/or estimates with the principles in the Guideline**

5.30 If the entity is not accounting for the landfill site asset, the land in the landfill, and the landfill rehabilitation provision as outlined in this Guideline, it applies the principles in GRAP 3 to align its accounting policies and/or estimates with those outlined in this Guideline. The entity applies judgement to assess if this constitutes a change in an accounting policy, a change in an accounting estimate or a correction of an error.

## Annexure A – Terminology

The following is a summary of the most commonly terms used in the Guideline with an explanation of their meaning:

Term used	Explanation of term
Cell or trench	The landfill unit of compacted solid waste which, when completed at the end of each day, is entirely contained by cover material, such as soil, but may comprise builders' rubble, ash or other suitable material.
Closure	The act of terminating the operation of a landfill. Closure is preceded by rehabilitation and followed by end-use and post-closure monitoring.
Closure requirements	Those measures that must be taken to address problem areas and to render a landfill environmentally acceptable once it is closed.
Development plan	The plan indicating the phasing of the development of a landfill from the landfill preparation, through the operation (which is usually divided into areal phases), to the final closure, rehabilitation and end-use. The phasing, and hence the development plan, forms part of the landfill site design.
End-use plan	The purpose for which the area of the rehabilitated and closed landfill is used. This may be as a park, playing fields, or other suitable land use.
End-use requirements	The measure required to upgrade or rehabilitate a landfill site to render it suitable for the proposed end-use.
Entity	An entity that is required to apply the Standards of GRAP and who is involved, or intends to be involved, in the operation of a landfill site.



Term used	Explanation of term
General waste landfill site	A landfill site receiving waste that, because of its composition and characteristic, does not pose a significant threat to public health or the environment if properly managed.
Hazardous waste	Waste that may, by circumstances of use, quantity, concentration or inherent physical, chemical or infectious characteristics, cause ill-health or increase mortality in humans, fauna and flora, or adversely affect the environment when improperly treated, stored, transported or disposed of.
Hazardous waste landfill site	A landfill site that receives hazardous waste.
Landfill	The waste body created by landfilling.
Landfilling	The depository of waste on land, and involves the filling in, excavation, or the compaction of waste on the landfill site.
Landfill site	This comprises the landfill site asset and the land on which the landfill site asset is developed.
Landfill site asset	A physical, designed structure constructed on a site (land) that is used for the disposal of waste materials.
Licencing authority	The Minister of Environmental Affairs, or at provincial level, the Member of the Executive Committee (MEC) responsible for environmental management in the province, who grants a licence to the entity to undertake waste activities in terms of the Waste Act.
Leachate	An aqueous solution with a high pollution potential, arising when water is permitted to percolate through decomposing waste. It contains final and intermediate products of decomposition, various solutes and waste residues. It may also contain carcinogens and/or pathogens.



Term used	Explanation of term
Licence	The licence issued by the licencing authority to operate and/or close a landfill site.
Licence procedure	The procedure to be followed and the necessary investigations to provide the licencing authority with the necessary information so that a licence can be issued.
Liner	A layer of low permeability material placed beneath a landfill and designed to direct leachate to a collection drain or sump, or to contain leachate. It may comprise natural materials, synthetic materials, or a combination of these.
Minimum Requirements	Minimum Requirements for Waste Disposal by Landfill (Second edition 1998). It comprises a standard by means of which environmentally acceptable waste disposal practices can be distinguished from environmentally unacceptable waste disposal practices.
Operating plan	A landfill site-specific document which describes the way in which the landfill is operated. The operating plan commences at the level and detail of daily cell construction and continues through to the development and excavation sequence, access and drainage within a given phase of the development plan.
Rehabilitation	The restoration of a landfill site to a state which is public and environmentally acceptable, and which is suitable for the implementation of the agreed end-use plan. Rehabilitation involves the process of reshaping and re-vegetating land to restore it to a stable condition with a land use that is appropriate for the particular location.



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<b>Term used</b>	<b>Explanation of term</b>
Waste	An undesirable or superfluous by-product, emission, or residue of any process or activity which has been discarded, accumulated or stored for the purpose of discarding or processing. It may be gaseous, liquid or solid or any combination of these, and may originate from a residential, commercial or industrial area. This definition excludes industrial waste water, sewage, radioactive substances, mining, metallurgical and power generation waste.
Waste disposal	The act of disposing of waste. In the context of this document, only waste disposal on land is addressed.

## Annexure B – Summary of guidance from other standard setters

This Annexure includes a summary of guidance from other standard setters on costs to be included in the calculation of the rehabilitation provision

Pronouncement	Guidance included in pronouncement
<p>GASB Statement no 18 <i>Accounting for Solid Waste Landfill Closure and Post closure care costs</i></p>	<p>Prescribes that the estimated total current cost for the municipal solid waste landfill closure and post closure should include:</p> <ul style="list-style-type: none"> <li>- The cost of equipment expected to be installed and facilities expected to be constructed near, or after the date that the landfill stops accepting solid waste, and during the post closure period. Equipment and facilities considered should be limited to items that, once installed or constructed, will be used exclusively for the landfill. These may include gas monitoring and collection systems, stormwater management systems, underground monitoring wells and, if appropriate, leachate treatment facilities.</li> <li>- The cost of final capping or cover expected to be applied near and after the date that the landfill stops accepting solid waste.</li> <li>- The cost of monitoring and maintaining the expected usable landfill area during the post closure period. Post closure activities may include maintaining the final cover, monitoring groundwater, monitoring of collecting methane and other gases, collecting, treating and transporting leachate, repairing or</li> </ul>



	<p>replacing equipment and facilities, and remedying or containing environmental hazards.</p> <p>The pronouncement notes that where equipment and/or facilities are shared between more than one landfill, costs should be assigned to each landfill based on the percentage of use by each.</p>
<p>Canadian Standard PS 3260 <i>Liability for Contaminated Sites</i></p>	<p>Requires that the estimate of a liability should include costs directly attributable to remediation activities, as well as costs in relation to post-remediation operation, maintenance and monitoring that are an integral part of the remediation strategy for a contaminated site.</p> <p>The estimate will also include costs of assets acquired as part of remediation activities to the extent those assets have no alternative use.</p> <p>Directly attributable costs would include, but are not limited to payroll and benefits, equipment and facilities, materials, and legal and other professional services. Costs related to natural resource damage (for example, re-vegetation outlays) are included only if incurred as part of an environmental standard.</p>
<p>Canadian Standard PS 3270 <i>Solid Waste Landfill Closure and Post-closure Liability</i></p>	<p>PS 3270 lists the closure and post-closure activities related to the closing of the landfill site. Closure activities include all activities related to closing the landfill site, as well as final cover and vegetation, and completing facilities for:</p>



	<ul style="list-style-type: none"> <li>(a) drainage control features;</li> <li>(b) leachate monitoring;</li> <li>(c) water quality monitoring; and</li> <li>(d) monitoring and recovery of gas.</li> </ul> <p>Post closure care activities include all activities related to monitoring the site once it can no longer accept waste, which may include:</p> <ul style="list-style-type: none"> <li>(a) acquisition of any additional land for buffer zones;</li> <li>(b) treatment and monitoring of leachate;</li> <li>(c) monitoring ground water and surface water;</li> <li>(d) gas monitoring and recovery; and</li> <li>(e) ongoing maintenance of various control systems, drainage systems, and final cover.</li> </ul> <p>The pronouncement requires that the liability should be provided for when the landfill starts accepting waste.</p>
<p>ED Canada PS 3280 <i>Asset Retirement Obligations</i></p>	<p>Estimate of the liability should include costs directly attributable to asset retirement activities, and costs that are an integral part of the retirement. Directly attributable costs would include payroll equipment and benefits, materials, legal and other professional fees and overhead costs directly attributable to asset</p>



	<p>retirement activities.</p> <p>Routine replacement of a tangible capital asset is not a retirement obligation unless there is a particular agreement, contract, legislation or other circumstance that obligates the public sector entity to incur retirement costs. For example, infrastructure assets such as roads, sewer systems and bridges are normally not permanently removed from service.</p> <p>The measurement of a liability for an asset retirement obligation would be based on the best estimate at the financial statement date of the expenditures required to complete the retirement. The estimate of expenditures would require professional judgment and could be supplemented by experience, third-party quotes and, in some cases, reports of independent experts.</p>
<p>New Zealand <i>Landfill Full Cost Accounting Guide</i></p>	<p>Typical closure activities include:</p> <ul style="list-style-type: none"> <li>• Construction of the final cover and maintenance.</li> <li>• Gas management system completion and maintenance.</li> <li>• Leachate management system completion and maintenance.</li> <li>• Surface water management system completion and maintenance.</li> <li>• Environmental monitoring.</li> </ul> <p>Post closure costs include all costs</p>



	<p>associated with the maintenance and monitoring of a landfill after it has stopped accepting solid waste. These costs include:</p> <ul style="list-style-type: none"><li>• Administration.</li><li>• Site inspection.</li><li>• Council liaison.</li><li>• Final cover – maintenance and vegetation maintenance.</li><li>• Gas management system – maintenance, replacement and electricity.</li><li>• Environmental monitoring system – groundwater, landfill gas, leachate and stormwater.</li><li>• Removal of remaining facilities.</li><li>• End post closure certification.</li></ul>
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## **Annexure C – References to pronouncements used in this Guideline**

Constitution of the Republic of South Africa, Act No. 108 of 1996

Department of Water Affairs and Forestry: Minimum Requirements for Waste Disposal by Landfill, Second Edition, 1998

National Environmental Management Waste Act, Act No. 59 of 2008 (Waste Act)

Environmental Conservation Act, Act No. 73 of 1989

Waste Classification and Management Regulations in terms of the Waste Act, 2013

A critical analysis of current quantum models to calculate closure costs for municipal waste landfill sites in the North West Province – Frederick Hendrik Smith

Integrated Waste Management Plans (IWMPs) from various metropolitan and other municipalities (City of Cape Town, Drakenstein, Tshwane, Nelson Mandela Metro)

The Conceptual Framework for General Purpose Financial Reporting

Standard of Generally Recognised Accounting Practice on *Accounting Policies, Changes in Accounting Estimates and Errors* (GRAP 3)

Standard of Generally Recognised Accounting Practice on *Consolidated and Separate Financial Statements* (GRAP 6)

Standard of Generally Recognised Accounting Practice on *Investments in Associates* (GRAP 7)

Standard of Generally Recognised Accounting Practice on *Interests in Joint Ventures* (GRAP 8)

Standard of Generally Recognised Accounting Practice on *Revenue from Exchange Transactions* (GRAP 9)

Standard of GRAP on *Construction Contracts* (GRAP 11)

Standard of GRAP on *Inventories* (GRAP 12)



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Standard of Generally Recognised Accounting Practice on *Investment Properties* (GRAP 16)

Standard of Generally Recognised Accounting Practice on *Property, Plant and Equipment* (GRAP 17)

Standard of GRAP on *Provisions, Contingent Liabilities and Contingent Assets* (GRAP 19)

Standard of Generally Recognised Accounting Practice on *Impairment of Non-cash Generating Assets* (GRAP 21)

Standard of Generally Recognised Accounting Practice on *Revenue From Non-exchange Transactions (Taxes and Transfers)* (GRAP 23)

Standard of Generally Recognised Accounting Practice on *Impairment of Cash Generating Assets* (GRAP 26)

Standard of Generally Recognised Accounting Practice on *Service Concession Arrangements: Grantor* (GRAP 32)

Standard of GRAP on *Heritage Assets* (GRAP 103)

Standard of GRAP on *Transfer of Functions Between Entities Under Common Control* (GRAP 105)

Standard of GRAP on *Transfer of Functions Between Entities Not Under Common Control* (GRAP 106)

Standard of GRAP on *Mergers* (GRAP 107)

Standard of GRAP on *Accounting by Principals and Agents* (GRAP 109)

IGRAP on the *Recognition and Derecognition of Land* (IGRAP 18)