

**PSAB GAAP**  
for  
**Manitoba Municipalities**

**Reference Manual:**  
**Obligations, Environmental Liabilities,  
and Landfills**

**March 31, 2008**

**This Manual has been developed in partnership between the  
Association of Manitoba Municipalities and Manitoba Intergovernmental Affairs**

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# PREFACE

This manual has been prepared as a useful and practical reference to help CAOs in Manitoba recognize, measure, and disclose their municipality's environmental liabilities. This includes Public Sector Accounting Board recommendations on liabilities (PS3200), contingent liabilities (PS3300), contractual obligations (PS3390) and solid waste landfill closure and post closure liabilities (PS3270).

This manual has been prepared by the Environmental Liabilities Working Group and approved by the PSAB Implementation Steering Committee. This manual is not meant to be the final authoritative source on obligations, environmental liabilities and landfill closure and post closure costs. The CICA Handbook is the final authoritative source.

The manual is divided into 3 main sections:

## **Section 1 - Obligations**

Section 1 provides an overview of the various types of obligations:

1. Liabilities;
2. Contingent liabilities; and
3. Contractual obligations.

This section describes the basic characteristics of a liability and what makes a liability different from a contingent liability or a contractual obligation. Finally the section covers the accounting and disclosure requirements for contingent liabilities and contractual obligations. Examples are provided to illustrate the disclosure requirements.

## **Section 2 - Environmental Liabilities**

Section 2 describes the approach a municipality should use to evaluate if it is responsible for the remediation of a contaminated site. Then, if the municipality is responsible for the contaminated site, how should it account for and disclose the environmental liability. Examples of the accounting treatment and required disclosures are provided. The section also provides guidance on the measurement of the environmental liability as well as examples of the common types of contaminated sites found in municipalities.

## **Section 3 - Landfill Closure and Post Closure Liabilities**

Section 3 provides an overview of the accounting standards for solid waste landfill closure and post closure liabilities (PS3270). The section will review waste disposal ground regulations in Manitoba, and with numerous examples, demonstrate how landfill liabilities should be measured. Finally the section covers the disclosure requirements for landfill closure and post closure cost and provides two examples.

# Critical Dates

## March 15, 2009:

- Municipalities should have identified all their potential environmental liabilities at December 31, 2008.
- An Environmental Liability Checklist should be completed for each potential contaminated site and filed with the Department of Intergovernmental Affairs by no later than March 15, 2009.

## March 15, 2010:

- Municipalities should have estimated the remediation cost of all their environmental liabilities as at December 31, 2007, 2008 and 2009.
- Municipalities should have estimated their liabilities for all their closed and operating landfills as at December 31, 2007, 2008 and 2009.
- Your financial information returns for December 31, 2009, which are due March 15, 2010, should include all your environmental liabilities including landfill closure and post closure costs.

Training sessions on environmental liabilities will be made available to all municipalities through the spring and summer of 2008.

Check the AMM web-site at <http://www.amm.mb.ca/PSAB.html> for dates, locations and registration.

If you are uncertain about any issue, users of this manual are encouraged to contact:

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## Section 1 – Obligations

Obligations embody a duty or responsibility to others leaving the government little or no choice to avoid, the settlement of which is expected to decrease the available assets of the government.

The difference between liabilities, contingent liabilities and contractual obligations can be summarized as follows:

- Liabilities are **present obligations**;
- Contingent liabilities are possible obligations that **may become** liabilities; and
- Contractual obligations are obligations that **will become** liabilities in the future.

### 1.1 Liabilities (PS3200)

It is critical to understand the definition of a liability. There are currently no specific PSAB recommendations on environmental liabilities yet federal, provincial, territorial and municipal governments across Canada have been accruing environmental liabilities for many years. Governments do so because “environmental liabilities” meet the definition of a liability.

#### Definition of a Liability (PS3200.04)

*Liabilities are present obligations of a government to others arising from past transactions or events, the settlement of which is expected to result in the future sacrifice of economic benefits. Liabilities have three essential characteristics:*

- a) They embody a duty or responsibility to others, leaving a government **little or no discretion to avoid settlement of the obligation**;*
- b) The duty or responsibility to others entails settlement by **future transfer or use of assets, on occurrence of a specified event**; and*
- c) The transactions or **events obligating the government have already occurred**.*

Obligations are not liabilities unless they meet all three characteristics of a liability.

Discretion is the ability to make choices. **Little or no discretion to avoid settlement** means that a government has no realistic alternative but to settle the obligation.

Through by-laws, councils establish reserve funds for general and specific purposes. The obligation to contribute to a reserve is **not** a liability because municipalities do have discretion to avoid settlement. Councils can simply revoke the by-law rather than contribute to the reserve fund.

Sacrificing economic resources embodies a duty or responsibility to others to a **future transfer or use of assets on the occurrence of a specified event**. The obligation must be to a third party but it is not necessary to know the specific identity of the party or parties involved. The timing of the sacrifice of economic benefits in the future must be specified such as a date in time or on the occurrence of a specified event.

“Due to other funds” are **not** liabilities because the obligations are not due to third parties. Further there is normally no specified time set as to the settlement of the obligation.

Consequently “Due from other funds” are not assets. When preparing financial statements, “due to” and “due from” accounts should always be eliminated against each other.

The occurrence of an **obligating event** before the financial statement date distinguishes a present obligation from a future obligation. For most liabilities the obligating event usually occurs at the point of exchange (i.e. delivery of goods or services).

Purchase commitments or open purchase orders at year end are **not** liabilities, and should not be accrued, because there is no obligating event requiring the sacrifice of future assets.

Payment in advance for goods and services not received as of the year end date are prepaid expenses.

### Recognition Criteria (PS3200.03)

*Liabilities should be recognized in the financial statements when:*

- a) *There is an appropriate basis of measurement; and*
- b) *A reasonable estimate can be made of the amount involved.*

Information on liabilities that cannot be recognized should be disclosed along with the reason(s) why a reasonable estimate cannot be made of the amount involved.

### Examples of Liabilities

	<b>Delivery of culverts to a municipality by a supplier (i.e. accounts payable)</b>	<b>Holiday time/pay earned by a municipal employee (i.e. accrued liability)</b>
<b>Obligating event has occurred?</b>	<ul style="list-style-type: none"> <li>• Delivery of culverts is the obligating event</li> </ul>	<ul style="list-style-type: none"> <li>• Employee has worked the required number of hours to earn time or pay for holidays</li> </ul>
<b>Sacrifice of assets on a specific date or on the occurrence of a specified event</b>	<ul style="list-style-type: none"> <li>• Payment of invoice by cheque or cash</li> <li>• Payment due within 30 days of the receipt of invoice</li> </ul>	<ul style="list-style-type: none"> <li>• Pay out holiday time accrued when the employee leaves</li> <li>• Provide time off with pay when the employee chooses to take holidays</li> </ul>
<b>Duty or responsibility with little or no discretion to avoid the obligation</b>	<ul style="list-style-type: none"> <li>• Supplier will repossess the culverts and in the future will only do business on a cash basis</li> </ul>	<ul style="list-style-type: none"> <li>• Provincial regulations require employers to pay for holidays</li> <li>• Employee will quit and/or may threaten legal action</li> </ul>

## 1.2 Contingent Liabilities (PS3300)

### Definition of a Contingent Liability (PS3300.03)

*Contingent liabilities are possible obligations that may result in the future sacrifice of assets from existing conditions or situations involving uncertainty. That uncertainty will ultimately be resolved when one or more future events, not wholly within the government's control, occurs or fails to occur. Resolution of the uncertainty will confirm the incurrence or non-incurrence of a liability.*

Contingent liabilities are distinct from liabilities as there is a degree of uncertainty as to whether a present obligation exists at the financial statement date. There are two distinct characteristics of contingent liabilities:

- a) There must be an **existing condition or situation**; and
- b) There must be an **expected future event that will resolve the uncertainty** as to whether a present obligation exists.

For a contingent liability to exist there must be an **existing condition or situation** such as a loan guarantee or ongoing lawsuit. There must also be an **expected confirming future event that will end the uncertainty**. The confirming future event will settle whether a liability exists at the balance sheet date. A government may be involved in a lawsuit but it is only the settlement of the suit (i.e. future event) that will confirm that the government has a liability.

### Levels of Uncertainty

The existence of a liability at the financial statement date depends on the probability of the future event occurring or not occurring.

The level of uncertainty can be expressed by a range of probabilities:

- a) **Likely** – the probability of the confirming future event occurring is high.

Legal counsel has advised that a settlement should be reached with a litigant because they have a strong case.

- b) **Unlikely** – the probability of the confirming future event occurring is slight.

A lawsuit is viewed by legal counsel to be frivolous and has no basis in law.

- c) **Not determinable** – the probability of the confirming future event occurring cannot be determined.

Legal counsel views the lawsuit as possibly being settled in favour of either party.

Assessing the likelihood of future confirming events is a matter of judgment. Consideration should be given to all information available prior to the completion of the financial statements. This includes the period subsequent to the date of the financial statement to the date of the auditor's report.

## **Recognition of Contingent Liabilities (PS3300.15)**

*A contingent liability should be recognized in the financial statements when:*

- a) It is likely that a future event will confirm that a liability has been incurred at the date of the financial statements; and*
- b) The amount can be reasonably estimated.*

PSAB does not allow for the recognition or accrual of a contingent gain. Gains must be realized to be recognized in the financial statements.

## **Disclosure**

*PS3300.27:*

*The existence of a contingent liability at the date of the financial statements should be disclosed in the notes to the financial statements when:*

- a) The occurrence of the confirming future event is likely but the amount of the liability cannot be reasonably estimated;*
- b) The occurrence of the confirming future event is likely and an accrual has been made, but there exists an exposure in excess of the amount accrued; or*
- c) The occurrence of the future event is not determinable.*

In current financial statements, some municipalities have disclosed employee holidays' payable as a contingent liability. This treatment of holidays' payable will not be acceptable under PSAB.

Holidays' payable should be accrued as a liability because:

1. The occurrence of the confirming future event is likely. Everyone takes holidays eventually and even if they don't, holiday balances have to be paid out when the employee leaves or retires.
2. The amount can be reasonably estimated.

*PS3300.28*

*The following information should be disclosed in notes or schedules relative to a contingent liability, unless its occurrence is unlikely:*

- a) The nature;*
- b) The extent, except in those cases where the extent cannot be measured or disclosure of the extent would have an adverse effect on the outcome;*
- c) The reasons for any non-disclosure of the extent; and*
- d) When an estimate of the amount has been made, the basis for that estimate.*



## **Loan Guarantees (PS3310)**

A loan guarantee is a promise to pay all or part of the principal and/or interest on a debt obligation in the event of default by the borrower. Loan guarantees are commonly used by governments to achieve policy objectives such as supporting regional development or giving economic assistance to certain industries.

### **A loan guarantee is a contingent liability of the municipality.**

*PS3310.05*

*Government loan guarantees should be accounted for and reported as contingent liabilities in the government's summary financial statements.*

*PS3310.08*

*A provision for losses on loan guarantees should be established when it is determined that a loss is likely, and should be accounted for as a liability and an expenditure.*

The provision for losses on loan guarantees should include the principal amount outstanding, accrued and unpaid interest if it is guaranteed. Amounts recoverable from the borrower and from the sale of assets pledged as security should be deducted from the provision. The provision should be determined using the best estimates available in light of past events, current conditions, and all the circumstances known at the date of preparation of the financial statements.

Under PSAB, municipalities will be required to consolidate organizations under their control and their proportionate share of government partnerships. See the reference manual on the Municipal Reporting Entity and Consolidations.

Only loan guarantees to organizations and individuals that are outside the municipal reporting entity need to be disclosed in the consolidated financial statements.

When preparing the consolidated financial statements it is not necessary to disclose the guarantees to controlled organizations and government partnerships. Upon consolidation, the organization or partnership's loans will already be included in the consolidated financial statements of the municipality.

The provision for loan losses should be reviewed on an ongoing basis. Any changes in the provision should be charged or credited to current year's expenditures.

### **Guaranteed Loans to be Repaid From Future Municipal Assistance:**

Sometimes governments guarantee a loan and then provide a funding commitment to the borrower to repay the guaranteed loan. In effect the government has assumed the obligation for repayment of all or a portion of the guaranteed loan. This is often commonly referred to as third party loans.

Guaranteed loans that will be repaid from future funding from the municipality have to be accounted for as a liability and expense of the municipality in the period the funding commitment is provided, unless it can be established that the borrower can repay the loan from its own existing revenues.

PSAB's recommendations on third party loans need only be applied if the borrower is outside the municipal reporting entity. If the borrower is part of the municipal reporting entity then the loan will be included in the consolidated financial statements anyway.

If a municipality has a third party loan they should contact the Project Manager, PSAB Implementation or the Supervisor of Municipal Accounting for further advice.

On March 15, 2009 a local council voted to guarantee the \$200,000 mortgage of the local community development corporation (CDC). In addition the council elected to commit funding of \$20,000 a year over the next 10 years to the CDC to repay the loan. The first grant to the CDC is due October 31, 2009. The municipality does not control or have shared control in the CDC. Without the assistance from the municipality, the CDC does not have significant revenues of its own to repay the mortgage.

Under PSAB the 2009 accounting entries for the loan would be:

Dr. Expense – Economic Development Grant	\$200,000	
Cr. Liability – Funding to CDC		\$200,000

*To record future government assistance to CDC for guaranteed loan at March 15/09*

Dr. Liability – Funding to CDC	\$ 20,000	
Cr. Cash		\$ 20,000

*To record 2009 grant payment to CDC at October 31/09*

### Contingent Liabilities – Recognition/Disclosure Matrix

The following table summarizes the accounting treatment for contingent liabilities.

Probability of the confirming future event	Amount of the liability can be reasonably estimated	Amount of the liability cannot be reasonably estimated
Likely	Accrue in the F/S	Disclose in the notes
Not Determinable	Disclose in the notes	Disclose in the notes
Unlikely	No action required	No action required

## Examples of Note Disclosure for Contingent Liabilities:

Below are examples of disclosure for contingent liabilities taken from actual financial statements:

Probability	Amount of the liability can be reasonably estimated	Amount of the liability cannot be reasonably estimated
Likely	<p><u>Dec 31/06 – City of Swift Current</u></p> <p>A provision for unsettled disputes, in the amount, of \$75,000 has been set up. This is based on independent advice and is the best estimate of total settlements.</p> <p><u>March 31/07 – Province of Manitoba</u></p> <p>The provision for losses on guaranteed loans are determined by a review of individual guarantees. The provision represents the best estimate of probable claims against the guarantee. Where circumstances indicate the likelihood of claims arising, provisions are established for these loan guarantees. Provisions for future losses on guarantees in the amount of \$20 million (2006 – \$20 million) has been recorded in the accounts.</p>	<p><u>Dec 31/06 – City of Medicine Hat</u></p> <p>The City has not recognized a liability for certain legal obligations, primarily special handling for the removal and disposal of encapsulated asbestos from facilities and equipment. The fair value cannot be reasonably estimated.</p> <p><u>March 31/07 - Province of Manitoba</u></p> <p>A provision has been made at March 31, 2007 for all flood claims and other disaster financial assistance. The final amount of the Government's share of these costs under shared cost agreements is uncertain at the date these financial statements were issued.</p>
Not Determinable	<p><u>Dec 31/06 – City of Medicine Hat</u></p> <p>Various claims have been made against the City as at December 31, 2006. If proven, it is possible that these claims may have a material adverse effect on the financial position of the City. The City is disputing the claims and as the outcome is not determinable at this time, no amount has been accrued in the financial statements.</p> <p><u>Dec 31/06 – City of Winnipeg</u></p> <p>The City has unconditionally guaranteed the payment of principal and interest on capital improvement loans for several organizations. The outstanding balance on these loans as at December 31, 2006 is \$6.3 million (2005 - \$7.3 million).</p> <p><u>Dec 31/06 – Town of Plum Coulee</u></p> <p>The Town has agreed to guarantee \$75,000 of a loan that the Plum Coulee Sports Committee has obtained from the Heartland Credit Union to pay for the purchase of an ice-resurfacer for the arena</p>	<p><u>Dec 31/06 – City of Lethbridge</u></p> <p>The City of Lethbridge owns properties that may contain environmental contamination and require site reclamation. The amount of any such obligation has not been determined.</p> <p><u>Dec 31/06 – Rural Municipality of St. Andrews</u></p> <p>Lawsuits have been filed against the municipality for incidents which arose in the ordinary course of operations. In the opinion of management and legal counsel, the outcome of the lawsuits, now pending, is not determinable. Should any loss result from the resolution of these claims, such loss will be charged to operations in the year of resolution.</p> <p><u>Dec 31/06 – Rural Municipality of Rhineland</u></p> <p>The municipality has entered into an agreement with the Towns of Altona, Gretna and Plum Coulee to jointly fund any annual operating deficit incurred by Sunbelt Development Group Inc.</p>
Unlikely	No action required.	No action required.

### 1.3 Contractual Obligations (PS3390)

Contractual obligations are obligations of the government **that will become liabilities** in the future when the terms of the contracts and agreements are met. Contractual obligations are distinct from liabilities as there has been no past transaction or event obligating the government at the balance sheet date.

Contractual obligations are distinct from contingent liabilities as **there is no uncertainty** to the obligations existence. Contractual obligations are often commonly referred to as commitments.

Contractual obligations do not include a municipality's obligations related to provide services such as police, fire protection, waste collection, and water and sewer services.

#### Disclosure

Disclosure of contractual obligations relates to the unperformed portion of the contracts.

*PS3390.08*

*Information about a government's contractual obligations that are significant in relation to the current financial position or future operations should be disclosed in the notes or schedules to the financial statements and should include descriptions of their nature and extent and the timing of the related expenditures.*

Determining what represents a significant contractual obligation is a matter of professional judgment. What would be considered significant by one municipality could be viewed as insignificant by a larger municipality.

For municipalities there are two key factors to consider:

1. Is the level of the expenditures significant when compared to the overall operations of the municipality?
2. How long is the commitment?

The leasing of office space for the next 10 years would likely represent a significant commitment for most municipalities. The leasing of a photocopier for 3 years may not.

Contractual obligations that would be disclosed include, but are not limited to, contractual obligations that:

- a) Involve a high degree of speculative risk;
- b) Involve expenditure levels that are abnormally large to the usual government operations;  
and
- c) Commit the government for a considerable period of time in the future.

## Examples of Contractual Obligations and Note Disclosure for Contractual Obligations

### **Operating Obligations**

#### Dec 31/06 – City of Medicine Hat

The City of Medicine Hat is committed to purchase natural gas and electrical energy under existing purchase contracts. The commitment for 2006 is \$7,985,000 (Gas) and \$7,267,000 (Electric).

#### Dec 31/05 – City of Kingston

The City of Kingston has negotiated a non-exclusive long-term contract with Waste Management of Canada for handling and disposal of garbage. The contract was extended to January 31, 2009. Annual charges under the contract are determined by reference to certain waste volumes handled. Payments made under the contract for the year 2005 were approximately \$1,782,557 (2004 - \$1,814,638).

#### Dec 31/05 – County of Lanark

The County is committed to a rental lease for property on Abott Street, Smith Falls. The minimum future lease commitments are:

2006	\$36,855
2007	\$36,855
2008	\$15,355

### **Capital Obligations**

#### Dec 31/06 – R.M. of Rhineland

The municipality in conjunction with six other municipalities and towns in the area has entered into a ten year agreement with the Pembina Valley Water Cooperative Inc. to provide additional funding to the Co-operative to enable it to finance the construction of water pipelines and ancillary equipment. The agreement covers the period 2001 to 2010.

The amount of funding in the first five years of the agreement is the lesser of the municipality's proportionate share of the actual interest cost incurred on a \$2,000,000 loan taken out by the Co-operative to complete construction and its proportionate share of \$140,000. In the second five years of the agreement the amount of the funding is the lesser of the municipality's proportionate share of one half of the actual interest cost on the loan and its proportionate share of \$140,000.

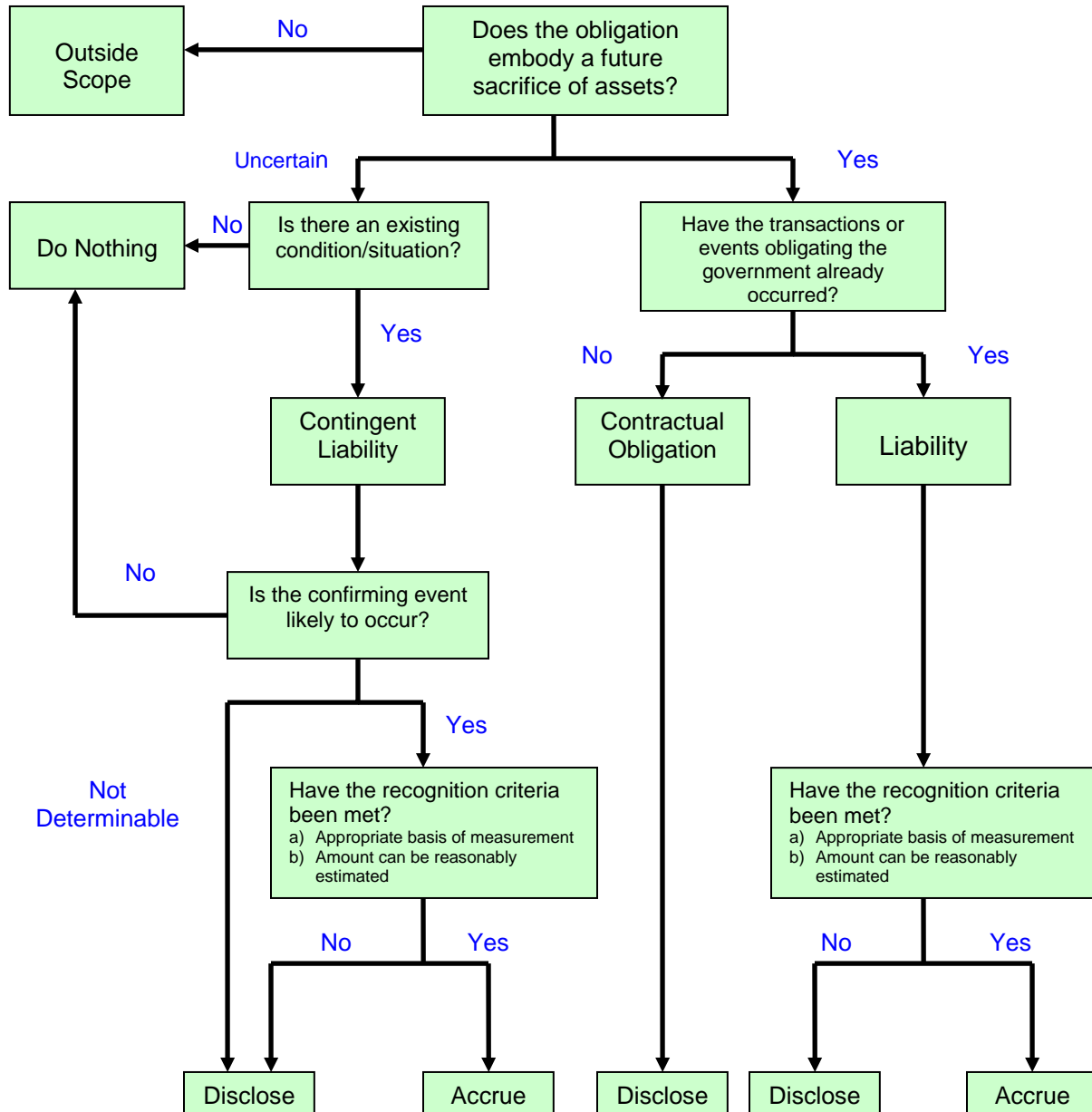
#### March 31/07 – Province of Manitoba

The Government has undertaken to expand the Red River Floodway. Through the Manitoba Floodway Authority, the Government is a party to a funding agreement with the Government of Canada for a \$324 million (2006 - \$240 million) expansion project and has agreed to provide \$162 million (2006 - \$120 million) toward the expansion project. During the 2007 fiscal year, both parties announced \$341 million additional funding for the project, bringing the total funding to \$665 million.

## 1.4 PSAB's Obligations Decision Tree

PSAB has designed a decision tree to help financial statement preparers decide if:

- an obligation is a liability, contingent liability or contractual obligation; and
- whether the obligation should be accrued or disclosed in the notes to the financial statements.



## Section 2 – Environmental Liabilities

All municipalities in Manitoba should report their environmental liabilities in their financial statements in accordance with PSAB's recommendations for liabilities and contingent liabilities effective January 1, 2009.

**The accounting for environmental liabilities is independent from the decisions surrounding the funding of these liabilities.** The determination of the liability amounts should not be influenced by the availability of funding. Under PSAB you have to record all your liabilities regardless of whether you have funded/budgeted for the liabilities.

### 2.1 Background

The Department of Conservation is responsible for the administration of all environmental programs covered by the:

- a) **Contaminated Sites Remediation Act (CSRA);**
- b) **Dangerous Goods Handling and Transportation Act (DGHTA)** and its related regulations; and the
- c) **Storage and Handling of Petroleum Products and Allied Products Regulation (Petroleum Products Regulation).**

All acts and regulations can be downloaded from the Statutes of Manitoba web-site at [http://web2.gov.mb.ca/laws/statutes/index\\_ccsm.php#D](http://web2.gov.mb.ca/laws/statutes/index_ccsm.php#D) .

The key act is the CSRA. The principal purpose of the Act is to provide for the remediation of contaminated sites in order to mitigate the risks of further damage to human health, or the environment, and where practicable, to restore the site to use. The CSRA provides:

- a) A system for identifying and registering contaminated sites in Manitoba;
- b) A system for determining appropriate remedial measures; and
- c) A fair and efficient process for apportioning responsibility for the remediation of the contaminated site.

**Under the CSRA the principal of “polluter pays” applies to ensure, where possible, the party responsible for the contamination bears the cost of site remediation.** Therefore if a municipality is the polluter it may be responsible for the remedial action.

In cases where the “polluter” cannot be located, or has no financial resources, the site becomes an orphaned and abandoned (O&A) site. The Province is not legally responsible for the remediation of O&A sites. However, in the absence of a responsible party, the Province will, in all likelihood, be responsible for site remediation.

Having title to the contaminated property does not always equate to having responsibility for site remediation. The CSRA specifically excludes municipalities from responsibility for the remediation of sites they acquired through tax sales:

*9(2) A person is not responsible under this Act for the remediation of a contaminated site if it is demonstrated that his or her involvement with the site or its contamination is that*

*(b) the person is a municipality that became the owner of the site as a result of a tax sale proceeding or under circumstances prescribed by regulation;*

The municipality may however be responsible for site assessment costs.

The Department of Conservation differentiates contaminated sites between impacted and designated.

### **Impacted Site**

An impacted site refers to a site where contaminants are present in concentrations above background levels, but which do not pose a threat to human health or safety or the environment.

### **Designated Site**

Refers to sites where contaminants are present at a level which poses or may pose a threat to human health or safety or the environment.

### **Assessment of Risk**

The potential for risk to human health is the main criteria used by Department of Conservation to assess the seriousness of contamination.

For a site to be “designated” as a contaminated site there must be a “pathway” for the contaminant to come into contact with humans which could have an adverse effect on their health. The model is:

### **Contamination > Pathway > Receptor**

The contamination could be caused by a spill of toxic material or discarded materials. The pathway could be ingestion, physical contact or inhalation and the receptor could be people, plants or animals.

In the analysis of the Contamination > Pathway > Receptor relationship, the main risk factor is the pathway. Remediation efforts may involve interrupting the pathway to a receptor. Remediation in this manner could involve containment as opposed to clean-up.

If the risk to human health is immediate, the Department of Conservation will take immediate remedial action on its own, including contaminated sites on private properties. The issue of responsibility for the contamination will be assigned after the threat to human health is dealt with.

### **National Classification System for Contaminated Sites**

The National Classification System for Contaminated Sites (NCSCS) is an environmental contamination risk rating system developed by the Canadian Council of Ministers of the Environment (CCME). The NCSCS is commonly used to estimate environmental liabilities and set remediation priorities.



Risk Rating	Description
<b>Class 1</b> High Priority for Action NCSCS score $\geq 70$	<ul style="list-style-type: none"> <li>An environmental site assessment has indicated that <b>action is required</b> to address existing concerns for public health and safety.</li> <li>The threat to human health is imminent.</li> </ul>
<b>Class 2</b> Medium Priority for Action $50 \geq$ NCSCS score $\leq 69.9$	<ul style="list-style-type: none"> <li>An environmental site assessment has indicated that <b>action is likely required</b> to address existing concerns for public health.</li> <li>There is a high potential for adverse impacts although the threat to human health and the environment is not imminent.</li> </ul>
<b>Class 3</b> Low Priority for Action $37 \geq$ NCSCS score $\leq 49.9$	<ul style="list-style-type: none"> <li>An assessment has indicated that the site is not a high concern.</li> <li>Additional information may be carried out to confirm the site classification.</li> </ul>
<b>Class N</b> Not a Priority for Action NCSCS score $< 37$	<ul style="list-style-type: none"> <li>An assessment indicated that there is probably no significant environmental impact or any human health threats.</li> <li><b>there is likely no remedial action required</b> unless new information becomes available indicating greater concerns</li> </ul>
<b>Class INS</b> Insufficient Information $>15\%$ of responses are "Do not know"	<ul style="list-style-type: none"> <li>An assessment has been performed but <b>there is insufficient information to classify the site.</b></li> <li>Additional information is required.</li> </ul>

In 2006, the Office of the auditor General conducted a survey of contaminated sites and landfills at Manitoba municipalities. All 199 municipalities were mailed a survey; 156 municipalities responded. There were 70 contaminated sites reported by 62 municipalities. The breakdown was as follows:

Class 1	5
Class 2	9
Class 3	14
Class N	41
Class INS	1
	<hr/>
	70

## 2.2 Environmental Liabilities Decision Tree

There is a logical thought process that all municipalities need to follow in order to evaluate if they have an environmental liability:

1. Do we have any potential contaminated sites?
2. Is remediation required?
3. Is the municipality obligated to accept responsibility for the remediation costs?
4. Can the liability be reasonably estimated?

A decision tree has been designed to illustrate the thought process in dealing with potential environmental liabilities.

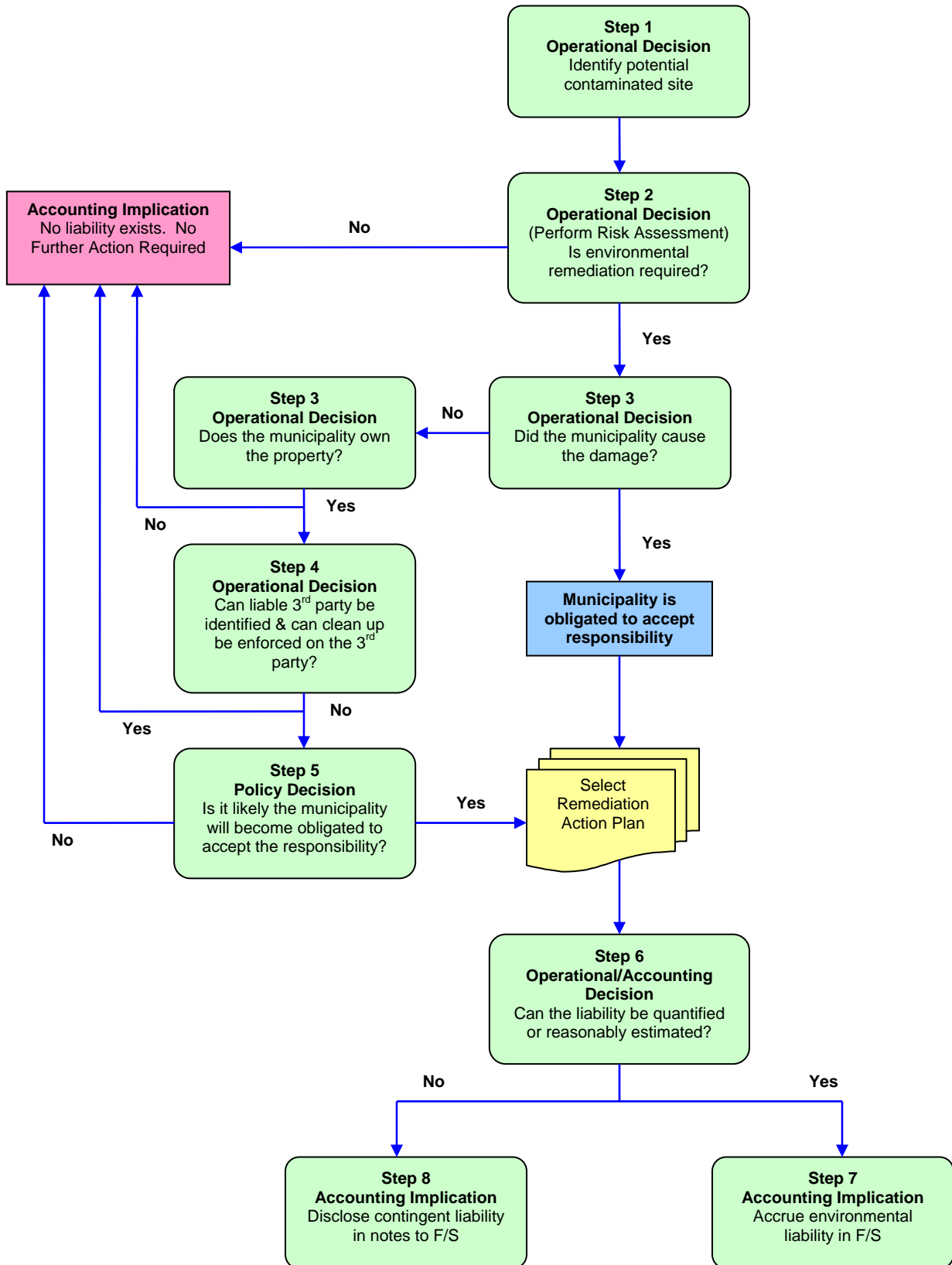
### **Obligating Event**

As with all liabilities, there must be an obligating event before a municipality is deemed to be responsible for remediation of the environment. The date of the obligating event is significant because it determines which accounting period the remediation costs should be accrued.

For environmental liabilities, **the obligating event occurs when the municipality accepts responsibility** for the remediation cost. The municipality may have to accept responsibility because it is either the polluter or it has elected to accept responsibility anyway. See steps 3 to 5 in the decision tree.

The obligating event **is not when the pollution occurs**. Even if a site has been contaminated for 20 years prior to its discovery, the municipality is not obligated for remediation cost until it has accepted responsibility.

## Decision Tree: Environmental Liabilities



## **2.3 Identify Potential Contaminated Site – Step 1**

There are 4 common sites at municipalities where potential environmental liabilities can potentially be found:

### **1. Petroleum Storage Facilities:**

Petroleum products are either stored in above ground or below ground tanks. Petroleum storage facilities could include past or present storage facilities or gas stations. The facilities could be on municipal land or properties acquired through tax sales. Soil contamination can occur from the transfer of petroleum into and out of the storage tanks. Soil contamination can also occur from leaky tanks. The damage caused by underground tanks can be quite serious because the leak may not be noticed for some time.

As per Section 28 of the DGTHA, contamination of soil is required to be reported to conservation when it occurs, or immediately after the occurrence of the environmental accident.

### **2. Buildings:**

Asbestos and mold can pose serious damage to human health. Asbestos is commonly found in older buildings as insulation for pipes. Asbestos is not viewed as an environmental liability as long as it is properly wrapped and not disturbed. However when renovations or repairs are needed, the asbestos may have to be removed and properly disposed. If the building is being demolished the asbestos must again be properly disposed.

### **3. Landfills:**

Soil contamination from landfills can be the result of improper handling and disposal of solid waste. Municipalities are required to regularly test the groundwater around Class 1 landfills for contamination. Landfill closure and post closure costs are a separate environmental liability from contamination caused by landfills.

### **4. Lagoons:**

A municipality could have a potential environmental liability upon the decision to decommission a sewage lagoon. A municipality with a lagoon operation does not necessarily have an environmental liability until council decides to shut down the lagoon. A municipality with a lagoon could have an environmental liability if there is leachate contamination.

Other potential contaminated sites could include fertilizer and chemical storage facilities and properties with intensive livestock operations (past or present).

## **2.4 Is Environmental Remediation Required? – Step 2**

Environmental site assessments (ESA) should be conducted by qualified professionals on all properties that have been exposed to contaminants. The sites should be classified and prioritized according to their risk or potential risk to human health. When contamination is identified, it should be reported to Conservation.

There are 3 levels of ESA:

### **Phase I Environmental Site Assessment:**

A Phase I ESA is also known as a non-intrusive ESA. A Phase I ESA is normally undertaken to examine the existence or potential for contamination. A Phase I ESA consists of the following at a minimum:

- Review of property history through the use of time lapse aerial photographs, insurance maps, land title searches, regulatory agency records, previous ESA reports, geological and hydro geological reports and maps.
- Interviews with past and present site occupants, government officials, neighbours, etc.
- Site visits to inspect site conditions, hazardous materials, dangerous goods storage and handling procedures.

### **Phase II Environmental Site Assessment:**

A Phase II ESA is also referred to as an intrusive site assessment or a subsurface investigation. A Phase II ESA is normally undertaken to characterize the degree, nature, media and estimated extent of the contamination. Some of the activities conducted may include:

- Sampling of potentially impacted media (soil, soil gas, groundwater, surface water); and
- Analysis of potentially impacted media (field test, lab analysis).

### **Phase III Environmental Site Assessment:**

Phase III is a further study or delineation of the impact identified in the Phase II ESA.

## **2.5 Is the Municipality Obligated to Accept Responsibility? – Steps 3 to 5**

Under the CSRA, the polluter is the party responsible for the remediation of the contaminated site. In some cases it may be difficult to assess blame. However in circumstances where the municipality is clearly the polluter, the municipality will be required to pay the remediation cost.

The municipality is not necessarily obligated because it owns or occupies the contaminated site. The polluter may be the previous owner. Remember that the CSRA specifically excludes municipalities from responsibility for the remediation of sites they acquired through tax sales. The municipality may however feel obligated to remedy the contaminated site if the polluter cannot be located or does not have adequate resources.

## **2.6 Can the Liability be Reasonably Estimated? – Step 6**

### **Remedial Action Plan**

Remediation involves the development and application of a planned approach that monitors, removes, destroys, contains or otherwise reduces the availability of contaminants to the receptors. Often more than one remediation action plan or RAP is available to choose from. Your choice of RAP or remediation strategy will have a direct effect the costs involved.

### **Calculation of Remediation Costs**

Remediation costs involved should be consistent with your RAP. Remediation cost should be determined on a site by site basis.

Cost to be included in your estimate should include all incremental direct operating costs associated with the remediation. This could include legal fees, site assessment costs, consulting and engineering fees, and contractors. Only operating expenditures should be included in the estimate of the liability. Capital expenditures should not be included in the liability.

If there is more than one acceptable remediation strategy being considered, a range of remediation costs should be provided.

### **Time Value of Money**

Many RAP could take several years before they are started or completed. If the timing and future amounts of remediation payments can be estimated, the measurement of the liability should be discounted for the time value of money.

If the environmental liability is recorded at a net present value the accrued amount should be revalued annually. Any changes in the value of the liability should be recorded as a current period cost.

### **Recoveries From 3<sup>rd</sup> Parties**

Remediation costs should be reduced by any recoveries by identified 3<sup>rd</sup> parties as long as they can be convinced to accept responsibility for the obligation and have the resources available.

Remediation costs can be reduced by any partial or complete recoveries from insurance.

Remediation costs should not be reduced by any anticipated recoveries through lawsuits. Remediation costs should only be reduced when the proceeds from lawsuits have been received.

## **2.7 Accounting for Environmental Liabilities – Steps 7 & 8**

By using the characteristics of liabilities and contingent liabilities, and the NCSCS risk rating system, a very simple matrix on how to account for environmental liabilities can be designed.

Remember that the criteria for accruing a liability are:

- a) There is an appropriate basis of measurement; and
- b) A reasonable estimate can be made of the amount involved.

**Environmental Risk/Accounting Matrix:**

<b>NCSCS Risk Rating</b>	<b>Remediation Costs <u>Can</u> be Reasonably Estimated</b>	<b>Remediation Costs <u>Cannot</u> be Reasonably Estimated</b>
<b>Class 1:</b> High priority; action is required	<b>Liability</b> – accrue in the F/S	<b>Contingent Liability</b> – Disclose condition in the notes to F/S
<b>Class 2:</b> Medium priority; action is likely required	<b>Liability</b> – accrue in the F/S	<b>Contingent Liability</b> – Disclose condition in the notes to F/S
<b>Class 3:</b> Low priority for action; action may be required	<b>Contingent Liability</b> – Disclose condition & amount in the notes to F/S	<b>Contingent Liability</b> – Disclose condition in the notes to F/S
<b>Class N:</b> No priority for action.	Do nothing	Do nothing
<b>Class INS:</b> Insufficient information	<b>Contingent Liability</b> – Disclose condition & amount in the notes to F/S	<b>Contingent Liability</b> – Disclose condition in the notes to F/S

**2.8 Remediation Costs Schedule - Petroleum Contamination**

Contamination at petroleum storage sites will be a common environmental liability for many municipalities. The Department of Conservation has a list of standard costs. The Department uses the list to prepare their initial estimate for the remediation of inactive petroleum sites. The list is being provided to municipalities to help them estimate their remediation cost for petroleum contaminated sites.

Phase I ESA:	All sites	\$3,000
Phase II ESA:	Small site – soil impact only	\$25,000
	Medium site – soil & groundwater impact	\$35,000
	Large industrial site	\$100,000
	Northern Manitoba	Add 25%
Phase III ESA:	All regions	\$40,000
RAP Design:	Simple site	\$3,000
	Complex site	\$6,000
	Industrial site	\$25,000
Underground storage tank pull:	Cities	\$35,000
	Rural Manitoba	\$40,000
	Northern Manitoba	\$50,000

Monitoring wells for hydrocarbons:	4 wells once a year	\$5,000
	4 wells twice a year	\$10,000
	10 wells once a year	\$8,000
	10 wells twice a year	\$16,000
	Decommissioning 4 wells	\$10,000

## 2.9 Critical Dates for Identifying Contaminated Sites

Municipalities will be recording and/or disclosing their environmental liabilities in accordance with PSAB recommendations on contingent liabilities for the first time in fiscal 2009. The accrual of environmental liabilities is a change in accounting policy. PSAB allows governments to restate the balances of prior periods for changes in accounting policies.

Any municipality that has environmental liabilities to record at January 1, 2009 would prefer to charge the remediation cost to their opening surplus at January 1, 2009, rather than to their operations for 2009.

**All municipalities will have until March 15, 2009 to identify all their potential environmental liabilities as of December 31, 2008.** Municipalities will be able to charge the remediation cost for these contaminated sites to fiscal periods prior to 2009.

**Contaminated sites identified after March 15, 2009 will be an expense of the period even though the contamination may have existed prior to December 31, 2008.** Municipalities will not be able to restate prior fiscal periods for any environmental liabilities discovered after March 15, 2009.

**Municipalities will report their potential environmental liabilities at December 31, 2008 by filing an environmental checklist for each contaminated site to the Department of Intergovernmental Affairs by March 15, 2009. You will then have until March 15, 2010 to estimate the remediation costs.**

Given the time constraints, it may be difficult for municipalities to obtain the services of an environmental consultant to complete an environmental site assessment by the March 15, 2009 filing date. Therefore there is no downside to reporting a **potential** environmental liability even if an environmental site assessment has not been completed. Reporting a potential environmental liability does not mean that your municipality is accepting responsibility. If it eventually turns out that no remedial action is required, then nothing has been lost. If your reported site does require future remedial action, and your municipality accepts responsibility, then the remediation costs can be charged to periods prior to January 1, 2009.

There is however a definite risk in not reporting a potential environmental liability. If you don't report a potential liability with the Department by March 15, 2009, then any future remediation cost required will be an expense of fiscal 2009 or later. The restatement of prior year balances will not be acceptable.

## 2.10 Environmental Liabilities Checklist

The Provincial Committee on Environmental Liabilities has designed an environmental liabilities checklist. The checklist assists in assessing whether the Province has a liability for environmental remediation. The Environmental Liabilities Working Group has prepared a modified checklist for municipalities.



The checklist is designed around the decision tree for environmental liabilities in **Section 2.2**. The checklist also includes an Annual Cost Estimate Worksheet and a Net Present Value Calculation Worksheet to discount the liability.

The Environmental Liabilities Checklist can be downloaded from the AMM PSAB web-site at <http://www.amm.mb.ca/PSAB.html> .

All municipalities should complete an Environmental Liabilities Checklist for each potential contaminated site. A copy of each checklist should be sent to the Department of Intergovernmental Affairs. Filing the checklist with the Department will signify that the municipality has a contaminated site which may require future potential remediation costs. **Filing the checklist with the Department does not signify that the municipality has accepted responsibility (i.e. the obligating event) for future remediation cost.**

## 2.11 Comparative Summary of Provincial and Municipal Approaches

The approach used by municipalities to recognize and record their environmental liabilities for the first time is very similar to the approach used by the Province of Manitoba. A comparative summary of the two approaches has been prepared.

Province of Manitoba	Municipalities
Effective April 1, 2009 the obligating event occurs when the Province accepts responsibility for the remediation cost.	Effective January 1, 2009 the obligating event occurs when the municipality accepts responsibility for the remediation cost.
<p>The Province is responsible for remediation cost, net of recoveries from responsible third parties, if the Province:</p> <ol style="list-style-type: none"> <li>1. Is the polluter; or</li> <li>2. Owns the property; or</li> <li>3. Is likely to become obligated for remediation cost.</li> </ol>	<p>The municipality is responsible for remediation cost, net of recoveries from responsible third parties, if the municipality:</p> <ol style="list-style-type: none"> <li>1. Is the polluter; or</li> <li>2. Is likely to accept the responsibility.</li> </ol> <p>If the municipality owns the property, but is not the polluter, it may be responsible for site assessment cost.</p>
The fiscal year ended March 31, 2006 was the first year the Province recorded environmental liabilities.	The fiscal year ended December 31, 2009 will be the first year municipalities will record environmental liabilities.
<p>To record the liabilities to prior periods:</p> <ol style="list-style-type: none"> <li>1. The contamination has to have occurred on or before March 31, 2005; and</li> <li>2. The Province is obligated for the remediation cost.</li> </ol>	<p>To record the liabilities to prior periods:</p> <ol style="list-style-type: none"> <li>1. The contamination has to have occurred on or before December 31, 2008; and</li> <li>2. The municipality is obligated for the remediation cost.</li> </ol>
The Province has until March 31, 2009 to identify and value all their contaminated sites at March 31, 2005.	<p>Municipalities will have until March 15, 2009 to file an environmental checklist and report their contaminated sites at December 31, 2008.</p> <p>Municipalities will then have until March 15, 2010 to estimate the remediation cost for their financial statements.</p>
<p>The Province has been adjusting their environmental liability balance for periods prior to April 1, 2005 and can do so until fiscal 2008/09:</p> <ol style="list-style-type: none"> <li>1. 2005/06 - \$142M</li> <li>2. 2006/07 - \$ 20M</li> <li>3. 2007/08 - ?</li> <li>4. 2008/09 - ?</li> </ol>	If a municipality identifies a contaminated site after March 15/09, and it is obligated or likely to become obligated, the cost of remediation is an expense of the period, even if the contamination occurred prior to December 31, 2008.

## **2.12 Accounting Entries for Environmental Liabilities**

An environmental liability should be accrued for all contaminated sites where:

1. Remediation action is required (Class 1) or likely required (Class 2);
2. The municipality is responsible for the contamination or feels obligated for the cost of the remediation; and
3. The cost of remediation could be reasonably estimated.

Under PSAB, it is only permissible to restate the opening surplus if:

1. For an accounting error; or
2. For a change in accounting policy.

The initial recording of environmental liabilities is a change in accounting policy. Municipalities will be permitted to record an environmental liability as an adjustment to the opening surplus at January 1, 2009 if:

1. The site was identified as having potential contamination at December 31, 2008; and
2. An environmental liability checklist was filed with the Department of Intergovernmental Affairs by March 15, 2009.

Environmental liabilities discovered after March 15, 2009 will have to be recorded as a current cost of the period, even if the contamination existed before January 1, 2009. Environmental liabilities which arose from environmental damage occurring during 2009 would be an expense of 2009.

Contingent environmental liabilities disclosed in the notes to the December 31, 2009 financial statements, and will be accrued at a later date when more information is available, have to be charged to the operations in the year of the accrual.

As time passes, estimates for remediation costs will have to be adjusted. Changes in the valuation of the liability should be treated as a change in accounting estimate. Changes in accounting estimates should be recorded as a current expense or gain of the period.

## 2.13 Examples

### **Example 1: Liability Exists and Was Identified at Dec 31/08**

Linda Anderson, the CAO for the R.M. of Assiniboia, is in the process of identifying potential environmental liabilities in her municipality. PSAB comes in force starting January 1, 2009 therefore Linda must identify all her potential contaminated sites and file an Environmental Liability Checklist (ELC) with the Department by March 15, 2009.

Linda believes that the old abandoned fuel storage site may be contaminated. Linda hires an environmental consultant, who performs an ESA, and confirms that the property has soil contamination. Remediation action is required. The consultant prepares a RAP. Remediation cost is estimated to be \$100,000. Linda prepares and files an ELC at March 15, 2009.

It is now April 2009 and Linda wants to record the environmental liability. Her entry is:

Dr. Opening surplus	\$100,000	
Cr. Environmental liabilities – Fuel Storage Site		\$100,000

*To record the liability for remediation cost at January 1/09*

There were no changes to the estimate during 2009.

In December/10 Linda is informed that the estimate for the remediation cost of the old fuel storage site was too low. It is now estimated to be \$125,000.

Linda's entry at December 31/10 is:

Dr. Expense - Environmental Health Services	\$25,000	
Cr. Environmental liabilities – Fuel Storage Site		\$25,000

*To increase the liability to \$125,000 at December 31/10*

### **Example 2: Liability Exists But Was Not Identified at Dec 31/08**

Linda Anderson, the CAO for the R.M. of Assiniboia, is in the process of identifying potential environmental liabilities in her municipality. PSAB comes in force starting January 1, 2009 therefore Linda must identify all her potential contaminated sites and file an Environmental Liability Checklist (ELC) with the Department by March 15, 2009.

Linda believes that there are no contaminated sites in her municipality. She was however unaware that the R.M. owns a property with an abandoned fuel storage site. Linda discovered the abandoned fuel storage site in the summer of 2009. Linda hires an environmental consultant, who performs an ESA, and confirms that the property has soil contamination. Remediation action is required. The consultant prepares a RAP. Remediation cost is estimated to be \$100,000.

Linda's entry to record the environmental liability is:

Dr. Expense - Environmental Health Services	\$100,000	
Cr. Environmental liabilities – Fuel Storage Site		\$100,000

*To record the liability for remediation cost at December 31/09*

**Example 3(a): Contingent Liability Was Identified at Dec 31/08**

Linda Anderson, the CAO for the R.M. of Assiniboia, is in the process of identifying potential environmental liabilities in her municipality. PSAB comes in force starting January 1, 2009 therefore Linda must identify all her potential contaminated sites and file an Environmental Liability Checklist (ELC) with the Department by March 31, 2009.

Linda believes that the old abandoned fuel storage site may be contaminated. Linda hires an environmental consultant, who performs an ESA, and confirms that the property has soil contamination. However more work will be required to determine if there is a threat to human health and the environment. If remediation action is required it is estimated the cost will be \$100,000. Linda prepares and files an ELC at March 31, 2009.

**December 31/09 F/S - No Confirmation of Liability**

By the spring of 2010 it is still not determinable if remediation of the site is required.

Linda therefore discloses the contingent liability in the notes to the financial statements at December 31, 2009.

**December 31/10 – Confirmation of Liability**

It is now the summer of 2010 and the December 31, 2009 financial statements have been released. The consultant has determined that remediation action is required for the fuel storage site. At December 31/10, Linda wants to record the environmental liability. Her entry is:

Dr. Expense - Environmental Health Services	\$100,000	
Cr. Environmental liabilities – Fuel Storage Site		\$100,000

*To record the liability for remediation cost at December 31/10*

**Example 3(b): Contingent Liability Was Identified at Dec 31/08**

Example is the same as 3(a) but instead of getting confirmation of the liability after the release of the 2009 financial statements, the liability is confirmed before the release of the 2009 financial statements.

**December 31/09 F/S - Confirmation of Liability**

It is the early spring of 2010. The December 31, 2009 financial statements have not yet been released. The consultant has determined that remediation action is required for the fuel storage site. At December 31, 2009. Linda records the liability.

Dr. Opening surplus	\$100,000	
Cr. Environmental liabilities – Fuel Storage Site		\$100,000

*To record the liability for remediation cost at January 1/09*

## Section 3 – Landfill Closure and Post Closure Costs (PS3270)

A landfill site is an area of land or excavation that receives household, commercial and industrial solid waste. Provincial regulations set out an environmental approval process for landfill sites. Landfill operators (i.e. municipalities) agree to certain obligations for closure and post closure care of the site after it stops accepting waste.

PS3270 does not apply to the:

- a) Development and construction cost of opening a new landfill site;

In order to put a licensed landfill into operation, a municipality spent \$400,000 on capital improvements. This included a new access road, fence, gate, scales and a small office. These capital expenditures should be capitalized as TCA – roads, land improvements, equipment, building, etc.

- b) End use transformation costs (i.e. converting a closed landfill site into a park or transfer station); and

After closing its landfill, a municipality used the property for a transfer station. The estimated total expenditures for closing of the landfill were \$500,000. The purchasing of equipment and the cost of land improvements for the transfer station was \$250,000. The landfill liability should only include the closure costs. The transformation of the property into a transfer station should be capitalized as TCA – land improvements, equipment, etc.

- c) Unforeseen and catastrophic events such as leachate contamination.

A municipality estimated that the total expenditures for closing its new landfill was \$250,000. During year 10 of the landfill operation, it was discovered that the neighboring wells were contaminated and the water was unfit for human consumption. It was later discovered that the source of the contamination was the landfill. The remediation plan to prevent the leachate from continuing would cost \$600,000.

Therefore in year 10 of the landfill operation, the municipality not only has a landfill closure liability but it also has an environmental liability of \$600,000.

Any contamination from a landfill site should be treated as a potential environmental liability as described in **Section 2**.

The PSAB recommendations on landfill closure and post closure costs **apply to all operating and closed landfill sites** of municipalities, entities under their control of municipalities or municipal government partnerships.

### 3.1 What are Closure Costs?

Closure cost includes all activities related to closing the landfill site:

- a) Final cover and vegetation; and  
b) The completion of facilities for:

- Drainage
- Leachate monitoring
- Water quality monitoring
- Monitoring and recovery of gas

### 3.2 What are Post Closure Costs?

Post closure costs include all activities related to monitoring the site after it no longer accepts waste:

- a) Acquisition of additional land for buffer zone
- b) Treatment and monitoring of leachate
- c) Monitoring of ground and surface water
- d) Gas monitoring and recovery
- e) Ongoing maintenance of control and monitoring systems and final cover

The list of closure and post closure activities is not exhaustive and may not apply in all circumstances. Closure and post closure activities vary from province to province and even within various landfill sites in Manitoba. The legislative and regulatory requirements should determine which activities to include in closure and post closure costs.

### 3.3 Waste Disposal Ground Regulations in Manitoba

The Department of Conservation is responsible for the oversight of landfills. The oversight of landfills comes under the:

- a) **Environmental Act (EA)**; and related
- b) **Waste Disposal Grounds Regulation (WDGR)**.

All acts and regulations can be downloaded from the Statutes of Manitoba web-site at [http://web2.gov.mb.ca/laws/statutes/index\\_ccsm.php#D](http://web2.gov.mb.ca/laws/statutes/index_ccsm.php#D) .

The WDGR groups landfills by the population served by the site at the time the site was built:

- **Class 1** landfills serve populations of more than 5,000
- **Class 2** landfills serve populations of more than 1,000 but less than 5,000
- **Class 3** landfills serve populations of less than 1,000

The closure and post closure requirement for each landfill class is as follows:

	<b>Class 1</b>	<b>Class 2</b> (Schedule C)	<b>Class 3</b> (Schedule D)
<b>Closure Activities</b>	<p>Closure requirements are normally specified in the license agreement.</p> <p>Within 1 year of the issuance of the license, the licensee must submit a preliminary closure and post closure plan.</p> <p>Within 1 year of imminent closure of the landfill, the licensee must submit a formal detailed closure and post closure plan.</p> <p>Final cover and the construction of leachate, ground water and landfill gas monitoring facilities are the major closure requirements.</p>	<p>Within 12 months of the termination of an active area in excess of 0.5 hectares, or upon closure of the waste disposal ground, a final cover of earth compacted to a thickness of at least 0.5 metres must be applied to the surface of the active area, and the area graded to minimize the ponding of water on the surface.</p> <p>Re-vegetation of the active area must be undertaken within 1 year of the closure.</p>	<p>Within 12 months, a final cover of earth compacted to a thickness of at least 0.5 metres must be applied to the surface of the active area, and the area graded to minimize the ponding of water on the surface.</p> <p>Re-vegetation of the active area must be undertaken within 1 year of the closure.</p>
<b>Post Closure Activities</b>	<ul style="list-style-type: none"> <li>• Maintenance of leachate detection</li> <li>• Groundwater monitoring</li> <li>• Landfill gas monitoring</li> </ul>	None required by the WDGR.	None required by the WDGR.

### 3.4 Recognition and Measurement

Given the requirements of the WDGR, there is no question that municipalities with closed or operating landfills have a liability:

1. The municipality has little or no discretion to avoid settlement of the obligation.
  - WDGR requires operators to properly close and monitor landfills.
2. There will be a future transfer of assets on the occurrence of a specified future event.
  - Municipality will incur expenditures after the landfill is closed.
3. The transactions or events obligating the government have already occurred.
  - Municipality is obligated once the site starts accepting waste.

It is improper to disclose the closure and post closure liability as a contingency or a contractual obligation as the existence of the liability is known with certainty.



PS3270.13

*Financial statements should recognize a liability for closure and post-closure care as the landfill site's capacity is used. Usage should be measured on a volumetric basis (e.g., cubic meters).*

If the site is operated on a phase basis, the closure and post-closure liability associated with that phase would be fully recognized when the phase stops accepting waste.

The change in the liability and the annual expense for the site or phase would be calculated as follows:

$$\text{NPV of Estimated Total Expenditure} \times \frac{\text{Cumulative Capacity Used}}{\text{Total Estimated Capacity}} - \text{Expenditures Previously Recognized}$$

The closure and post closure costs may not be incurred for 20 - 40 years. The estimated total expenditure should be discounted to their net present value (NPV) of the future cash flows. The municipality's long term average borrowing rate may be appropriate to use as the discount rate. The discount rate used should only be changed for significant long term changes in the municipality's borrowing rate. The discount rate should not be changed for short term fluctuations in the borrowing rate.

The Discounted Future Cash Flows Worksheet has been designed to help municipalities calculate their estimated total expenditure for landfills. The worksheet is an Excel spreadsheet with net present value formulas. Users simply input the discount rate and cash flows by year to arrive at the discounted cash flows. The spreadsheet can be downloaded from the AMM PSAB web-site.

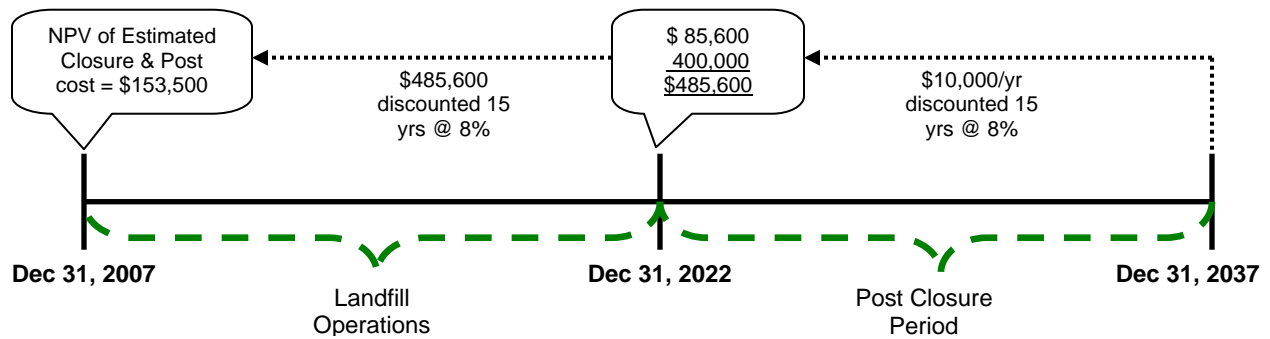
Since Excel can only discount cash flows for 29 years, for periods longer than 29 years you will be required to discount the cash flows in stages. For example, at December 31, 2007 cash flows to 2036 can be discounted. To discount longer period, cash flows will have to be discounted to 2036 and then that cash flow will then have to be discounted again to 2007.

The capacity used would be estimated based on a rational and systematic method and on the best available information. The available remaining capacity should be periodically reviewed (e.g. every 3 years) to ensure that the total estimated capacity and cumulative capacity used are reasonable.

### **3.5 How Should You Estimate the NPV of Total Expenditures?**

The NPV of total expenditures is the total closure and post closure costs at the date of closing, discounted to the current date.

An illustration is provided for the accrual of a closure and post closure liability at December 31, 2007 for a landfill that will close at December 31, 2022 (i.e. 15 years). Closure costs at December 31, 2022 are expected to be \$400,000. Post closure care period is expected to be 15 years (i.e. until 2037) at \$10,000 per year. The discount rate is 8%.



You can imagine that it would be difficult for the average municipality in Manitoba to estimate their closure costs 15 years into the future. It is possible to estimate your closure cost in the present (i.e. at December 31, 2007) and project the cost fifteen years into the future. However such a projection would have a very high level of uncertainty.

Many will wonder whether it would be acceptable to simply estimate the closure cost at the time of the accrual rather than estimating the closure cost in the future and discounting it to the present. Such an approach would not be technically correct but the end result would likely not be materially different. If the discount rate exceeds the rate of increase in construction cost then your liability will be overstated. If the rate of increase in construction cost exceeds the discount rate then your liability will be understated.

Using the previous example, if the landfill was full, and had to be closed at December 31, 2007, closure costs are estimated to be \$150,000. The NPV of the total estimated expenditures would then be:

- \$10,000/yr discounted for 15 years @ 8% = \$85,600
- \$85,600 discounted for 15 years @ 8% = \$27,000
- Total NPV of Estimated Costs (\$27,000 + \$150,000) = \$177,000

Municipalities with class 1 landfills may have the expertise on staff to estimate their closure costs. But many will still hire an independent consultant (i.e. environmental engineer) to arrive at their estimated total expenditures for their landfill.

Municipalities with Class 2 or 3 landfills could possibly come up with a proper estimate of their total expenditures however they may also still prefer to hire an environmental engineer. Depending on the size of the landfill the cost of an environmental engineer is in the area of \$5,000 for the initial estimate and \$3,000 for revisions about every 3 years. If a municipality chooses to estimate their liability on their own they will need documented support for their estimate.

### 3.6 Examples

#### **Example 1: Closed Landfill**

The R.M. of Assiniboia closed its old landfill in 1998. The municipality was required to drill test wells and monitor the groundwater for 20 years after the landfill is closed. It is now December 31, 2008. Testing of the wells costs \$6,000 per year. For PSAB, Linda Anderson (CAO) must accrue her landfill liabilities at January 1, 2008 and December 31, 2008 and 2009. The R.M.'s long term average cost of borrowing is 6.5%.

#### **Answers:**

See Appendix 1 for the landfill liability balances at December 31, 2007, 2008 and 2009.

1. Dr. Opening Surplus	\$46,134	
Cr. Landfill Liability #1		\$46,134

*To accrue the opening landfill liability at January 1, 2008 (i.e. 11 years remaining)*

2. Dr. Landfill liability #1 (\$6,000 – interest)	\$3,001	
Dr. Interest – landfill (\$46,134 x 6.5%)	\$2,999	
Cr. Cash		\$6,000

*To adjust the landfill liability for the 2008 payment (\$46,134 - \$43,133 = \$3,001)*

3. Dr. Landfill liability #1 (\$6,000 – interest)	\$3,196	
Dr. Interest – landfill (\$43,133 x 6.5%)	\$2,804	
Cr. Cash		\$6,000

*To adjust the landfill liability for the 2009 payment (\$43,133 - \$39,937 = \$3,196 )*

### **Example 2: Operating Landfill**

The R.M. of Assiniboia operates a Class 2 landfill operation. The landfill opened January 1, 1999 and is expected to be closed by December 31, 2016. The CAO, Linda Anderson, has an engineering report that estimates the total capacity of the landfill at 120,000 tonnes. Linda estimates that the total capacity used to December 31, 2007 is 50,000 tonnes. The landfill received an additional 5,000 tonnes for the year ended December 31, 2008 and 5,000 more for the year ended December 31, 2009.

Linda estimates that closure costs in 2017 for final cover, re-vegetation, and drilling of 4 test wells would be \$225,000. In addition, the municipality would have to test the wells for 20 years after the landfill is closed. Testing of the wells would cost an additional \$6,000 per year. The R.M.'s long term average cost of borrowing is 6.5%.

1. What is the estimated total expenditure?
2. What is the landfill liability at December 31, 2007?
3. What is the landfill liability at December 31, 2008?
4. What is the landfill liability at December 31, 2009?
5. What is the landfill cost for the year ended December 31, 2008?
6. What is the landfill cost for the year ended December 31, 2009?
7. What journal entries would Linda have to record for 2008 and 2009?

### **Answers:**

1. Total estimated expenditures – See Appendix 2  
Dec 31/07 - \$157,372  
Dec 31/08 - \$167,601  
Dec 31/09 - \$178,495
2. Landfill liability at Dec 31/07 = 50,000 tonnes/120,000 tonnes x \$157,372 = \$65,572
3. Landfill liability at Dec 31/08 = 55,000 tonnes/120,000 tonnes x \$167,601 = \$76,617
4. Landfill liability at Dec 31/09 = 60,000 tonnes/120,000 tonnes x \$178,495 = \$89,248
5. Landfill costs for the y/e Dec 31/08 = \$76,617 – \$65,572 = \$11,045
6. Landfill costs for the y/e Dec 31/09 = \$89,248 - \$76,617 = \$12,631
7. 

Dr. Environmental Health - Landfill closure costs	\$11,045	
Dr. Opening Surplus	\$65,572	
Cr. Landfill Liability #2		\$76,617

*To record opening landfill liability at January 1, 2008 and landfill costs for the year ended December 31, 2008*

Dr. Environmental Health - Landfill closure costs	\$12,631	
Cr. Landfill Liability #2		\$12,631

*To record landfill costs for the year ended December 31, 2009*

The reported liability may be affected by changes in the estimated total expenditures, estimated total capacity, cumulative capacity, interest rates or regulatory requirements.

**Example 3: Change in Cost Estimates**

It is now December 31, 2010. The landfill received an additional 6,000 tonnes for the year ended December 31, 2010. Because of rising construction costs, Linda estimates that the current cost for the final cover, re-vegetation and construction of the wells has increased to \$300,000.

1. What are the total estimated expenditures?
2. What is the landfill liability at December 31, 2010?
3. What is the landfill closure cost for the year ended December 31, 2010?
4. What journal entries would Linda have to record?

**Answers:**

1. Total estimated expenditures – See Appendix 3: \$238,360
2. Landfill liability at December 31, 2010:  $\$238,360 \times 66,000 \text{ tonnes} / 120,000 \text{ tonnes} = \$131,098$
3. Closure costs for the y/e December 31, 2010:  $\$131,098 - \$89,248 = \$41,850$

4. Dr. Environmental Health – Landfill Closure Costs	\$41,850	
Cr. Landfill Liability #2		\$41,850

*To accrue landfill closure costs for the year ended December 31, 2010*

**Units of Measure – Cubic Metres, Tonnes or Years**

PSAB recommends that capacity and usage should be measured on a volumetric basis such as cubic metres. Many cities in Canada use either cubic metres or tonnes to estimate their total capacity and usage.

Most landfill sites in Manitoba are either Class 2 or Class 3 sites. Most landfills currently weigh the garbage coming in and charge a tipping fee. However there are still some small unattended landfill sites in Manitoba. These landfill operators or municipalities would not have records to determine the usage on an annual basis. They do however know the year they opened their landfill and can make a reasonable estimate of how long they expect to operate. For these landfill sites there may be no other choice than to estimate their total capacity and usage in terms of years.

**Example 4: Operating Landfill (Capacity and Usage Estimated in Years)**

The R.M. of Assiniboia operates a Class 2 landfill operation. The landfill opened January 1, 1999 and is expected to be closed by December 31, 2016.

Linda Anderson (CAO) estimates that closure costs in 2017 for final cover, re-vegetation, and drilling of 4 test wells would cost \$225,000. In addition, the municipality would have to test the wells for 20 years after the landfill is closed. Testing of the wells would cost an additional \$6,000 per year. The R.M.'s long term average cost of borrowing is 6.5%.

1. What is the estimated total expenditure?
2. What is the landfill liability at December 31, 2007?
3. What is the landfill liability at December 31, 2008?
4. What is the landfill liability at December 31, 2009?
5. What is the landfill cost for the year ended December 31, 2008?
6. What is the landfill cost for the year ended December 31, 2009?
7. What journal entries would Linda have to record for 2008 and 2009?

**Answers:**

1. Total estimated expenditures – See Appendix 2  
Dec 31/07 - \$157,372  
Dec 31/08 - \$167,601  
Dec 31/09 - \$178,495
2. Landfill liability at Dec 31/07 = 9 yrs/18 yrs x \$157,372 = \$78,686
3. Landfill liability at Dec 31/08 = 10 yrs/18 yrs x \$167,601 = \$93,112
4. Landfill liability at Dec 31/09 = 11 yrs/18 yrs x \$178,495 = \$109,080
5. Landfill costs for the y/e Dec 31/08 = \$93,112 – \$78,686 = \$14,426
6. Landfill costs for the y/e Dec 31/09 = \$109,080 - \$93,112 = \$15,968

7. Dr. Environmental Health - Landfill closure costs           \$14,426  
Dr. Opening Surplus   \$78,686  
Cr. Landfill Liability #2   \$93,112

*To record opening landfill liability at January 1, 2008 and landfill costs for the year ended December 31, 2008*

- |   |          |          |
|---|----------|----------|
| Dr. Environmental Health - Landfill closure costs | \$15,968 |          |
| Cr. Landfill Liability #2                         |          | \$15,968 |

*To record landfill costs for the year ended December 31, 2009*

### **Example 5: Change in Estimate (Years & Costs)**

It is now December 31, 2010. In the 12 years since the landfill has opened, the site has received far less garbage than was anticipated. Linda Anderson estimates that the R.M. will be able to use the landfill till 2019 or an additional 3 years.

Linda estimates that closure costs in 2019 for final cover, re-vegetation, and drilling of 4 test wells would be \$250,000. In addition, the municipality would have to test the wells for 20 years after the landfill is closed. Testing of the wells would cost an additional \$6,000 per year for 2019 to 2033 and \$7,000 for 2035 to 2038. The R.M.'s long term average cost of borrowing is 6.5%.

1. What are the total estimated expenditures at December 31, 2010?
2. What is the landfill liability at December 31, 2010?
3. What are the landfill costs for the year ended December 31, 2010?
4. What journal entries would Linda have to record?

### **Answers:**

1. Total estimated expenditures at Dec 31/10 – See Appendix 4: \$171,607
2. Landfill liability at December 31/10:  $\$171,607 \times 12 \text{ yrs} / 21 \text{ yrs} = \$98,061$
3. Landfill costs for the y/e Dec 31/10 =  $\$98,061 - \$109,080 = \$(11,919)$
4. 

Dr. Landfill liability #2	\$11,919	
Cr. Environmental Health – Landfill closure costs		\$11,919

*To adjust the landfill liability for the additional 3 years of use and change in cost estimate.*

## **3.7 Disclosure Requirements**

PS3270.21

*The notes to the financial statements should disclose:*

- a) The nature and source of landfill closure and post closure care requirements;*
- b) The basis of recognition and measurement of the liability for closure and post closure care;*
- c) The reported liability for closure and post-closure care, and the amount remaining to be recognized;*
- d) The remaining capacity of the site and the estimated remaining landfill life in years;*
- e) How any requirements for closure and post-closure care financial assurance are being met, e.g. performance bonds;*
- f) The amount of assets designated for settling closure and post-closure care liabilities; and*
- g) The estimated length of time needed for post-closure care.*

**City of Regina – December 31/06 (in thousands of dollars)**

Legislation requires closure and post-closure care of solid waste landfill sites. Closure cost includes final covering and landscaping of the landfill and implementation of drainage and gas management plans. Post-closure care requirements include cap maintenance, groundwater monitoring, gas management system operations, inspections and annual reports.

	<b>2006</b>	2005
Estimated closure and post-closure cost over the next 40 years	<b>34,670</b>	27,410
Discount rate	<b>5.00%</b>	4.71%
<b>Discounted cost</b>	<b>22,292</b>	17,629
Expected year(s) capacity will be reached	<b>2009-2010</b>	2009-2010
Capacity (tonnes):		
Used to date	<b>9,600,000</b>	9,300,000
Remaining	<b>900,000</b>	1,200,000
Total	<b>10,500,000</b>	10,500,000
<b>Percent utilized</b>	<b>91.43%</b>	88.57%
<b>Liability</b> based on the percentage utilized	<b>20,381</b>	15,614

The liability recognized in the financial statements is subject to measurement uncertainty. The recognized amounts are based on the City's best information and judgment. Amounts could change by more than a material amount in the long term.

**R.M. of Assiniboia – December 31, 2009 (examples 1 & 2)**

The municipality owns and operates one open landfill site and one closed landfill site. The active landfill site was opened in 1999 covering 5.5 acres with a capacity of 120,000 tonnes. As at December 31, 2009 the remaining capacity of the site is estimated at 60,000 tonnes, representing 50% of the total capacity. The open site is expected to reach its capacity and close in 2016.

The closure and post closure costs for the open landfill site, and the post closure costs for the closed site, are based upon best estimates by management. Post closure care for the open landfill site is estimated to be required for 20 years from the date of closure. Post closure care for the closed landfill site is estimated to be required until 2018.

The liability of **\$129,185** (2008 - \$119,750) for closure and post closure cost of the active site and the post closure costs of the closed site, has been reported on the consolidated statement of financial position.

$$\$129,185 = (39,937 + 89,248)$$

$$\$119,750 = (43,133 + 76,617)$$



**R.M. of Assiniboia - Example 1: Closed Landfill  
Discounted Future Cash Flows - Landfill Liabilities  
December 31, 2007, 2008 & 2009**

Discount Rate:

6.50%

**Discounted Future Cash Flows**

<u>31-Dec-07</u>		<u>31-Dec-08</u>		<u>31-Dec-09</u>	
\$	46,134	\$	43,133	\$	39,937
<u>Cash Flow</u>		<u>Cash Flow</u>		<u>Cash Flow</u>	
<b>2008</b>	\$ 6,000	<b>2009</b>	\$ 6,000	<b>2010</b>	\$ 6,000
<b>2009</b>	\$ 6,000	<b>2010</b>	\$ 6,000	<b>2011</b>	\$ 6,000
<b>2010</b>	\$ 6,000	<b>2011</b>	\$ 6,000	<b>2012</b>	\$ 6,000
<b>2011</b>	\$ 6,000	<b>2012</b>	\$ 6,000	<b>2013</b>	\$ 6,000
<b>2012</b>	\$ 6,000	<b>2013</b>	\$ 6,000	<b>2014</b>	\$ 6,000
<b>2013</b>	\$ 6,000	<b>2014</b>	\$ 6,000	<b>2015</b>	\$ 6,000
<b>2014</b>	\$ 6,000	<b>2015</b>	\$ 6,000	<b>2016</b>	\$ 6,000
<b>2015</b>	\$ 6,000	<b>2016</b>	\$ 6,000	<b>2017</b>	\$ 6,000
<b>2016</b>	\$ 6,000	<b>2017</b>	\$ 6,000	<b>2018</b>	\$ 6,000
<b>2017</b>	\$ 6,000	<b>2018</b>	\$ 6,000	<b>2019</b>	\$ -
<b>2018</b>	\$ 6,000	<b>2019</b>	\$ -	<b>2020</b>	\$ -
<b>2019</b>	\$ -	<b>2020</b>	\$ -	<b>2021</b>	\$ -
<b>2020</b>	\$ -	<b>2021</b>	\$ -	<b>2022</b>	\$ -
<b>2021</b>	\$ -	<b>2022</b>	\$ -	<b>2023</b>	\$ -
<b>2022</b>	\$ -	<b>2023</b>	\$ -	<b>2024</b>	\$ -
<b>2023</b>	\$ -	<b>2024</b>	\$ -	<b>2025</b>	\$ -
<b>2024</b>	\$ -	<b>2025</b>	\$ -	<b>2026</b>	\$ -
<b>2025</b>	\$ -	<b>2026</b>	\$ -	<b>2027</b>	\$ -
<b>2026</b>	\$ -	<b>2027</b>	\$ -	<b>2028</b>	\$ -
<b>2027</b>	\$ -	<b>2028</b>	\$ -	<b>2029</b>	\$ -
<b>2028</b>	\$ -	<b>2029</b>	\$ -	<b>2030</b>	\$ -
<b>2029</b>	\$ -	<b>2030</b>	\$ -	<b>2031</b>	\$ -
<b>2030</b>	\$ -	<b>2031</b>	\$ -	<b>2032</b>	\$ -
<b>2031</b>	\$ -	<b>2032</b>	\$ -	<b>2033</b>	\$ -
<b>2032</b>	\$ -	<b>2033</b>	\$ -	<b>2034</b>	\$ -
<b>2033</b>	\$ -	<b>2034</b>	\$ -	<b>2035</b>	\$ -
<b>2034</b>	\$ -	<b>2035</b>	\$ -	<b>2036</b>	\$ -
<b>2035</b>	\$ -	<b>2036</b>	\$ -	<b>2037</b>	\$ -
<b>2036</b>	\$ -	<b>2037</b>	\$ -	<b>2038</b>	\$ -

**R.M of Assiniboia - Examples 2 & 4: Open Landfill  
Discounted Future Cash Flows - Landfill Liabilities  
December 31, 2007, 2008 & 2009**

Discount Rate:

6.50%

**Discounted Future Cash Flows**

31-Dec-07		31-Dec-08		31-Dec-09	
\$ 157,372		\$ 167,601		\$ 178,495	
Cash Flow		Cash Flow		Cash Flow	
2008	\$ -	2009	\$ -	2010	\$ -
2009	\$ -	2010	\$ -	2011	\$ -
2010	\$ -	2011	\$ -	2012	\$ -
2011	\$ -	2012	\$ -	2013	\$ -
2012	\$ -	2013	\$ -	2014	\$ -
2013	\$ -	2014	\$ -	2015	\$ -
2014	\$ -	2015	\$ -	2016	\$ -
2015	\$ -	2016	\$ -	2017	\$ 231,000
2016	\$ -	2017	\$ 231,000	2018	\$ 6,000
2017	\$ 231,000	2018	\$ 6,000	2019	\$ 6,000
2018	\$ 6,000	2019	\$ 6,000	2020	\$ 6,000
2019	\$ 6,000	2020	\$ 6,000	2021	\$ 6,000
2020	\$ 6,000	2021	\$ 6,000	2022	\$ 6,000
2021	\$ 6,000	2022	\$ 6,000	2023	\$ 6,000
2022	\$ 6,000	2023	\$ 6,000	2024	\$ 6,000
2023	\$ 6,000	2024	\$ 6,000	2025	\$ 6,000
2024	\$ 6,000	2025	\$ 6,000	2026	\$ 6,000
2025	\$ 6,000	2026	\$ 6,000	2027	\$ 6,000
2026	\$ 6,000	2027	\$ 6,000	2028	\$ 6,000
2027	\$ 6,000	2028	\$ 6,000	2029	\$ 6,000
2028	\$ 6,000	2029	\$ 6,000	2030	\$ 6,000
2029	\$ 6,000	2030	\$ 6,000	2031	\$ 6,000
2030	\$ 6,000	2031	\$ 6,000	2032	\$ 6,000
2031	\$ 6,000	2032	\$ 6,000	2033	\$ 6,000
2032	\$ 6,000	2033	\$ 6,000	2034	\$ 6,000
2033	\$ 6,000	2034	\$ 6,000	2035	\$ 6,000
2034	\$ 6,000	2035	\$ 6,000	2036	\$ 6,000
2035	\$ 6,000	2036	\$ 6,000	2037	\$ -
2036	\$ 6,000	2037	\$ -	2038	\$ -

**R.M of Assiniboia - Example 3: Change in Cost Estimates  
Discounted Future Cash Flows - Landfill Liabilities  
December 31, 2010**

Discount Rate:

**6.50%**

**Discounted Future Cash Flows**

<u>31-Dec-10</u>		<u>31-Dec-11</u>		<u>31-Dec-12</u>	
\$ 238,360		\$ -		\$ -	
<u>Cash Flow</u>		<u>Cash Flow</u>		<u>Cash Flow</u>	
2011	\$ -	2012	\$ -	2013	\$ -
2012	\$ -	2013	\$ -	2014	\$ -
2013	\$ -	2014	\$ -	2015	\$ -
2014	\$ -	2015	\$ -	2016	\$ -
2015	\$ -	2016	\$ -	2017	\$ -
2016	\$ -	2017	\$ -	2018	\$ -
2017	\$ 306,000	2018	\$ -	2019	\$ -
2018	\$ 6,000	2019	\$ -	2020	\$ -
2019	\$ 6,000	2020	\$ -	2021	\$ -
2020	\$ 6,000	2021	\$ -	2022	\$ -
2021	\$ 6,000	2022	\$ -	2023	\$ -
2022	\$ 6,000	2023	\$ -	2024	\$ -
2023	\$ 6,000	2024	\$ -	2025	\$ -
2024	\$ 6,000	2025	\$ -	2026	\$ -
2025	\$ 6,000	2026	\$ -	2027	\$ -
2026	\$ 6,000	2027	\$ -	2028	\$ -
2027	\$ 6,000	2028	\$ -	2029	\$ -
2028	\$ 6,000	2029	\$ -	2030	\$ -
2029	\$ 6,000	2030	\$ -	2031	\$ -
2030	\$ 6,000	2031	\$ -	2032	\$ -
2031	\$ 6,000	2032	\$ -	2033	\$ -
2032	\$ 6,000	2033	\$ -	2034	\$ -
2033	\$ 6,000	2034	\$ -	2035	\$ -
2034	\$ 6,000	2035	\$ -	2036	\$ -
2035	\$ 6,000	2036	\$ -	2037	\$ -
2036	\$ 6,000	2037	\$ -	2038	\$ -
2037	\$ -	2038	\$ -	2039	\$ -
2038	\$ -	2039	\$ -	2040	\$ -
2039	\$ -	2040	\$ -	2041	\$ -

**R.M of Assiniboia - Example 5**  
**Discounted Future Cash Flows - Landfill Liabilities**  
**December 31, 2010**

Discount Rate:

6.50%

**Discounted Future Cash Flows**

<u>31-Dec-10</u>		<u>31-Dec-11</u>		<u>31-Dec-12</u>	
\$	171,607	\$	-	\$	-
<u>Cash Flow</u>		<u>Cash Flow</u>		<u>Cash Flow</u>	
2011	\$ -	2012	\$ -	2013	\$ -
2012	\$ -	2013	\$ -	2014	\$ -
2013	\$ -	2014	\$ -	2015	\$ -
2014	\$ -	2015	\$ -	2016	\$ -
2015	\$ -	2016	\$ -	2017	\$ -
2016	\$ -	2017	\$ -	2018	\$ -
2017	\$ -	2018	\$ -	2019	\$ -
2018	\$ -	2019	\$ -	2020	\$ -
2019	\$ -	2020	\$ -	2021	\$ -
2020	\$ 256,000	2021	\$ -	2022	\$ -
2021	\$ 6,000	2022	\$ -	2023	\$ -
2022	\$ 6,000	2023	\$ -	2024	\$ -
2023	\$ 6,000	2024	\$ -	2025	\$ -
2024	\$ 6,000	2025	\$ -	2026	\$ -
2025	\$ 6,000	2026	\$ -	2027	\$ -
2026	\$ 6,000	2027	\$ -	2028	\$ -
2027	\$ 6,000	2028	\$ -	2029	\$ -
2028	\$ 6,000	2029	\$ -	2030	\$ -
2029	\$ 6,000	2030	\$ -	2031	\$ -
2030	\$ 6,000	2031	\$ -	2032	\$ -
2031	\$ 6,000	2032	\$ -	2033	\$ -
2032	\$ 6,000	2033	\$ -	2034	\$ -
2033	\$ 6,000	2034	\$ -	2035	\$ -
2034	\$ 6,000	2035	\$ -	2036	\$ -
2035	\$ 7,000	2036	\$ -	2037	\$ -
2036	\$ 7,000	2037	\$ -	2038	\$ -
2037	\$ 7,000	2038	\$ -	2039	\$ -
2038	\$ 7,000	2039	\$ -	2040	\$ -
2039	\$ 7,000	2040	\$ -	2041	\$ -

## Glossary of Terms and Acronyms

### Terms:

#### **Closure Costs:**

Closure costs are all costs related to the closing of a landfill site.

#### **Contaminant:**

A contaminant is any product, substance or organism that is foreign or in excess of the natural levels of the environment.

#### **Contaminated Site:**

A contaminated site is any site that has been exposed to contaminants.

#### **Contingent Liabilities:**

Contingent liabilities are possible obligations to others arising from conditions or situations involving uncertainty not within the control of the government. The uncertainty will be resolved when one or more future events occur or fail to occur. The resolution of the uncertainty will confirm the existence or non-existence of a liability.

#### **Contractual Obligation:**

A contractual obligation is an obligation that will eventually become a liability when terms of contracts or agreements are met.

Contractual obligations are different from liabilities as there has been no event obligating the government at the balance sheet date.

Contractual obligations are different contingent liabilities as there is no uncertainty to the existence of an obligation.

#### **Designated Site:**

Under the CSRA, any site where contaminants are at a level which pose a threat to human health or the safety of the environment.

#### **Environmental Site Assessment:**

An environmental site assessment is a comprehensive report detailing the nature, severity, and extent of contamination.

#### **Impacted Site:**

A site where contaminants are above the natural levels in the environment but do not pose a threat to human health or safety or the environment.

#### **Landfill Site:**

A landfill site is an area of land or excavation that receives household, commercial and industrial solid waste.

#### **Leachate:**

A leachate is a substance that contaminates by leaching or draining through the earth.

#### **Liabilities:**

Liabilities represent present obligations of a government to others arising from past transactions or events, the settlement of which is expected to result in the future sacrifice of assets or economic benefits.

## Glossary of Terms and Acronyms

### **National Classification System:**

The National Classification System is a risk rating system developed by the Canadian Council of Ministers of the Environment.

### **Obligating Event:**

An obligating event is a past transaction or event that distinguishes a present obligation from a future obligation.

### **Post Closure Costs:**

Post closure costs include all the costs related to the monitoring of a landfill site for contaminants after the landfill has been closed.

### **Remedial Action Plan:**

A remedial action plan is a detailed written proposal for the improvement of a contaminated site.

### **Remediation:**

The improvement of a contaminated site to prevent, minimize or mitigate damage to human health or the environment.

### **Acronyms:**

<b>CCME</b>	-	Canadian Council of Ministers of the Environment
<b>CSRA</b>	-	Contaminated Sites Remediation Act
<b>DGHTA</b>	-	Dangerous Goods Handling and Transportation Act
<b>EA</b>	-	Environmental Act
<b>ELC</b>	-	Environmental Liabilities Checklist
<b>ESA</b>	-	Environmental Site Assessment
<b>NCSCS</b>	-	National Classification System for Contaminated Sites
<b>O&amp;A</b>	-	Orphaned and abandoned (site)
<b>RAP</b>	-	Remedial Action Plan
<b>WDGR</b>	-	Waste Disposal Grounds Regulation