The City of Iqaluit

City of Iqaluit Landfill Operations and Maintenance Manual

Date:

December 2018



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The City of Iqaluit City of Iqaluit Municipal Landfill Operations and Maintenance Manual





Table of Contents

Statement of Qualifications and Limitations Distribution List Revision Log

_			page
1.		Purpose	
	1.1 1.2	Reference	
	1.3	Content	
	1.4	Due Diligence	
	1.5	Site Description	
	1.5	1.5.1 Location	
2.	Orga	anizational Structure	
	2.1	Duties and Responsibilities	
		2.1.1 Director of Public Works	
		2.1.2 Superintendent of Public Works	
		2.1.3 Landfill Foreman	
		2.1.4 Landfill Operator	
	2.2	Organization Structure	
	2.3	Contact List	
	2.4	Personnel Training	
3.	Gove	ernance	10
	3.1	City of Iqaluit Solid Waste Bylaw	
	3.2	City of Iqaluit Water License	
	3.3	Acts, Regulations and Guidelines	10
		3.3.1 Acts and Regulations	10
		3.3.2 Guidelines	10
4.	Site	Facilities	11
	4.1	Recycling Storage Facilities	11
	4.2	Hazardous Waste Area	12
	4.3	Landfill Disposal Operating Area	12
	4.4	Equipment	12
	4.5	Surface Water Management	12
5.	Site	Security and Control	12
	5.1	Supervision	12
	5.2	Hours of Operations	13
	5.3	Gate Controls	13
	5.4	End-of-the-Day Closure	13
6.	Cust	tomer Service	14
	6.1	Guiding Principles for Customer Service	14
	6.2	Assisting Customers with Vehicle Problems	
	6.3	Public Inquiries	



7.	Wast	e Acceptance Pr	ocedures	16
	7.1	Accepted and No	n-Accepted Wastes	16
		7.1.1 Accepted	l Waste	16
		7.1.2 Non-Acce	epted Waste	16
	7.2		aterials	
	7.3	Waste Acceptance	e Screening Procedure	17
8.	Wast	e Handling		20
	8.1	Overview		20
	8.2	Recyclable Mater	ials	20
	8.3	Hazardous Waste		21
		8.3.1.1	Hazardous Waste Definition	21
		8.3.1.2	Hazardous Waste Collection	22
		8.3.1.3	Hazardous Waste Storage	
		8.3.1.4	Transport and Disposal	
	8.4			
	8.5		les	
	8.6	General Guide		27
9.	Oper		es	
	9.1		les	
	9.2			
	9.3			
		0 0		
			ontrol at the Entrance	
			ontrol at the Working Face	
	9.4	•		
	9.5	•	d Working Face	
	9.7		t Procedures	
	9.8		anagement	
10.		_	nt	
	10.1			
	10.2			
	10.3			
	10.4			
	10.5			
	10.6		t Controls	
	10.7			
11.	Surfa	ce Water Manag	ement	42
12.				
	12.1			
	12.2	•		
	12.3	•	ers	
	12.4		round Public Vehicles	
	12.5		Operations	
	12.6		ve Equipment	
	12.7	• •	n	
	12.8	Landfill Accidents	3	



	12.9	Landfill Emergencies	46
	12.10	Personal Decontamination Procedures	46
	12.11	Contacts	
	12.12	Telephone Numbers	47
13.	Land	fill Closure	49
	13.1	Closure	49
14.	Reco	rd Keeping and Reporting	50
	14.1	Daily Operator Log	50
	14.2	Load Records	50
	14.3	Annual Report	50
	14.4	Engineering Reports	51
	14.5	Corrective Action Report	51
	14.6	Spill Reporting	51
	14.7	Water License Reporting Requirements	51
	14.8	Health and Safety Program Records	54
List o	of Figu	ıres	
	_		
Figure	2-1. Org	I res ganization Chart - City of Iqaluit Landfill	
Figure	2-1. Org	ganization Chart - City of Iqaluit Landfill	
Figure Figure	2-1. Org	ganization Chart - City of Iqaluit Landfill	
Figure Figure	2-1. Org 11-1 Co	ganization Chart - City of Iqaluit Landfill	37
Figure Figure List (2-1. Org 11-1 Co of Tabl 1. Lis	ganization Chart - City of Iqaluit Landfill ompaction Procedures	
Figure Figure List (Table	2-1. Org 11-1 Co of Tabl 1. Lis 2. Co	ganization Chart - City of Iqaluit Landfill	

Appendices

Appendix A	Policies
Appendix B	Forms
Appendix C	Guideline for the General Management of Hazardous Waste in Nunavut
Appendix D	End-of-Life Vehicle Hazardous Materials Recovery Program Manual Operation
Appendix E	2006 Drainage Improvements
Appendix F	Decommissioning Plan
Appendix G	Solid Waste By-law
Appendix H	Iqaluit Water License
Appendix I	Landfill Emergency Response Plan
Appendix J	Spill Contingency Plan
Appendix K	Leachate Treatment and Spill Contingency Plan
Appendix L	Monitoring Locations Plan



1. Introduction

1.1 Purpose

The purpose of the City of Iqaluit Landfill (the landfill) Operations and Maintenance Manual (the Manual) is to provide the landfill management and operating staff with a guidance document to carry out operations of the in a practical and reasonable manner and for maintaining regulatory compliance. The Manual provides a basis for:

- Involving operating staff in decision making for daily activities;
- Policy and procedure reference document for operating staff;
- Employee training; and
- Orientation of new employees.

Given that there are no standards or guidelines for operations and maintenance of landfills in Nunavut, the Guidelines from Northwest Territories are used as reference of this manual. Therefore, this Manual is consistent with the requirements set out in the *Guidelines for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories*, April 2003. This document will serve as the Guidelines for the purpose of the Manual.

1.2 Reference

Reference information that should be reviewed by operating staff includes the following:

- Guidelines for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories, April 2003. (Available online at http://www.maca.gov.nt.ca/?page_id=1765).
- Guideline for the General Management of Hazardous Waste in Nunavut (2010). (see Appendix C)
- End-of-Life Vehicle Hazardous Materials Recovery Program Manual Operation (2011) (see Appendix D)

1.3 Content

This Manual provides an overview of the landfill design, operating plan and specific site features. In addition, this manual provides recommended procedures and "appropriate or best practices" for site operations and management. Updates to this manual are to be recorded in Table 1.

1.4 Due Diligence

Due diligence can be defined as: "the taking of all reasonable steps as part of the due care and attention to prevent the occurrence of an accident or mishap, as well as having a contingency plan to control an incident and limit any consequential damage".

Due diligence includes policy development, planning and goal setting, implementation of "best management" practices, checking and corrective action, and management review. Best management principles include:



- · Good housekeeping;
- Preventative maintenance;
- Inspections and record keeping;
- Security;
- Employee hiring and training;
- Incident reporting;
- Operations procedures;
- Emergency response planning;
- Risk identification and assessment; and
- Review and corrective action.

Table 1. List of Manual Revisions

Section	Date of Revision	Replaces (Date)	Purpose of Revision
1	November 2018	January 2014	Up date
2			



1.5 Site Description

1.5.1 Location

Iqaluit is a rapidly growing Baffin Island community and is the Capital of Nunavut Territory. It is located at the south end of Baffin Island, on Frobisher Bay at 64 ° 31' N latitude and 68 ° 31' W longitude. Access is provided by commercial aircraft year round, and sea-lift from the port of Montreal in the summer. Annual precipitation in the Iqaluit area is approximately 255 cm of snowfall and 19.2 cm of rainfall. Average annual temperatures range from a low in January of approximately -29.7 °C to a high of approximately 11.4 °C in July.

Iqaluit has developed into the eastern Arctic's largest community. In order to minimize the impact of the community on this environment, it is imperative that the solid wastes produced by the community are carefully managed.

The location of the solid waste disposal facility relative to the community is shown in Figure 1.1.

The solid waste disposal site is located in West 40. This site was built in 1995 and was intended as an interim landfill site until the location of a long term operating site could be identified and implemented. In 2001 and 2006, the landfill was expanded to extend its lifespan and a water surface water management system was installed. Waste disposal techniques at that landfill include compaction and covering with soil materials wood waste when available.



2. Organizational Structure

In the City of Iqaluit, the Department of Public Works is responsible for municipal solid waste (MSW) management which includes collection of residential and commercial waste and the management of the landfill.

2.1 Duties and Responsibilities

2.1.1 Director of Public Works and Engineering

The Director of Public Works and Engineering (Director) is responsible for solid waste management of the City. Duties of the Director for landfill management include:

1. Administration

- Preparation of operating budgets;
- Maintenance of operating records and administrative reports;
- Environmental monitoring and Reporting;
- Meeting and administrative reports;
- Monthly and annual reports, as required by the Nunavut Water Board License and Chief Administrative Officer (CAO)
- Staffing;
- Authorize policies pertaining to landfill operations; and
- Report to Council, as required by the CAO.

2. Planning and Development:

- Work with Engineering Department to oversee capital development projects;
- Review the overall operations to monitor that development is according to current engineering plans; and
- Review and implement plans for reclamation of completed portions of the site.

3. Regulatory Compliance:

- Sampling required under the City's Water License;
- Review and submit required monitoring reports;
- · Review landfill audits; and
- Work with Engineering Department to review and submit other landfill related documentation to Nunavut Water Board (NWB).

4. Public Communication:

- · Respond to public and media inquiries; and
- Address any complaints.

5. Policies

Responsible to review and update all Landfill policies



6. Safety

Make safety training available to staff

2.1.2 Superintendent of Public Works

The Superintendent of the Department of Public Works is responsible for the management of the landfill and reports to the Director of Public Works. Duties of the Superintendent include the following:

1. Planning and Development of the landfill:

- Coordinate the overall operations to ensure development is according to the current engineering plans;
- Plan for reclamation of completed portions of the site
- Schedule and coordinate shipment of hazardous materials to accredited southern waste management facilities; and,
- Schedule and coordinate shipment of non-hazardous materials to southern recycling facilities as required.

2. Regulatory Compliance:

- Oversee the completion of the monitoring program and the preparation of required monitoring reports; and
- Prepare and submit to the Director other related documentation required by the NWB.

3. Safety

- Ensure staff receive applicable safety training
- Ensure staff are familiar with the site safety plan

2.1.3 Landfill Foreman

The Landfill Foreman reports to the Superintendent and is responsible for overseeing vehicular traffic and day-to-day operations of the landfill. At the site entrance, the Landfill Foreman provides the first level of contact with the landfill customer and must provide all initial waste screening requirements. Duties of the Landfill Foreman include:

1. Gate Operations:

- Control vehicles entering and exiting the landfill and record the amount of waste received for disposal and recycling;
- Identify wastes entering the landfill and screen for prohibited wastes;
- Direct site users to appropriate disposal or storage location;
- Communicate with other Landfill Operators to assist in their waste screening responsibilities;
- Report to Superintendent in cases of rejecting waste; and
- Collect tipping fees as per the City's Solid Waste Bylaw



2. Vehicle Spotting and Waste Inspection:

- Direct site users to appropriate disposal or storage areas;
- Direct vehicles to safe area for unloading; and
- Visually inspect wastes and spot prohibited wastes.

3. Site Maintenance:

- Carry out winter and summer maintenance of roads and drainage ditches; and
- Collect spilled and wind-blown debris and litter.

4. Equipment Operations:

- Pile wood;
- Spread and compact wastes on the working face;
- Maintain the tipping pad free of debris and hidden obstacles; and
- Maintain equipment.

5. Planning and Development of the landfill:

- Plan daily working face operations to comply with the overall landfill fill plan;
- Work with Superintendent to plan disposal area construction;
- Work with Superintendent to conduct landfill audits/inspections;
- Coordinate the overall operations to ensure development is according to the current engineering plan; and
- Manage storage compounds.

6. Regulatory Compliance:

- Maintain landfill operations within regulatory requirements;
- Complete landfill audits as required;
- Take corrective action for minor issues of non-compliance and notify the Superintendent; and
- Recommend corrective action to the Superintendent for major items of non-compliance.

7. Monitoring of surface water and waste disposal including:

- Maintain drainage system and manage surface water as required under Water Licence No.3AM-IQA1626;
- Oversee the overall operations of surface water management to ensure no water is pounding on site and run-off outside the landfill area; development is according to the current engineering plans;
- Perform and document regular visual inspections of the landfill perimeter berms; and
- Complete monitoring required under the Water License No.3AM-IQA1626.

8. Planning and Development of the landfill:

- Plan daily working face operations;
- Work with Superintendent and Landfill Operator to plan disposal area expansion and soil cover supply; and
- Work with Superintendent and Landfill Operator to conduct landfill audits/inspections.



9. Administrative Duties:

- Schedule delivery of fuel, oil, and supplies;
- Maintain daily operating records;

10. Safety:

- Administer the Site Safety Plan; and
- Conduct Safety Orientation for Visitors and Contractors.

2.1.4 Landfill Operator

The Landfill Operator (Operator) is responsible for performing duties as assigned by the Landfill Foreman. These positions would typically address both ongoing and periodic general site operation and maintenance requirements. Duties of the Operator include:

1. Vehicle Spotting and Waste Inspection:

- Direct site users to appropriate disposal or storage areas;
- Direct vehicles to safe area for unloading; and
- Visually inspect wastes and spot prohibited wastes.

2. Site Maintenance:

- Carry out winter and summer maintenance of roads and drainage ditches; and
- Collect spilled and wind-blown debris and litter.

3. Equipment Operations:

- Pile wood;
- Place and compact cover soil;
- · Maintain the tipping pad free of debris and hidden obstacles; and
- Maintain equipment.

4. Safety

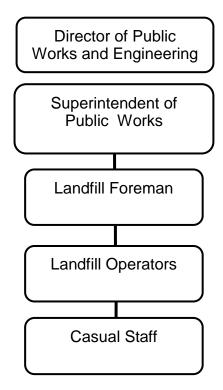
• Familiarise and adhere to the facility safety plan



2.2 Organization Structure

The organization structure for the City of Iqaluit landfill is illustrated in Figure 2.1.

Figure 2-1. Organization Chart - City of Iqaluit Landfill





2.3 Contact List

The individuals responsible for the operation of the solid waste facility in Iqaluit are listed in the following table:

Table 2. Contact List

Title	Phone Number
Landfill Foreman	(867) 222 - 2946
Superintendent of Public Works	(867) 979-5637
Director of Public Works and Engineering	(867) 979-5653

2.4 Personnel Training

Every landfill employee must be trained to perform his or her job in a safe and environmentally responsible manner, in accordance with applicable regulations. Employees will be kept current with changes in regulations and technology through ongoing applicable training courses as regulations and the technical aspects of landfill operation require. Specific training topics may include hazardous waste management, surface water control, spill prevention, first aid and safety.

Continued on-the-job training will be provided to all employees. The training will emphasize the safe and environmentally sound operation of the landfill. A review of this Operations and Maintenance Manual will be a prerequisite for any employee before being declared eligible for work at the Landfill. All employees will be provided with safety training covering all equipment and systems, with which they will be expected to operate on a daily basis. The use of protective equipment, and the handling and precautions associated with hazardous wastes, will also be included in the safety training.

A training program for more specific tasks, such as those of mobile equipment operators will be documented with written records of meetings and types of instruction. This instruction will include identification of hazardous wastes and unacceptable wastes; emergency procedures in case of fire, spill or injury; confined space entry; respirator use; and other issues that may periodically arise. As required, individuals must be trained in Confined Space Entry, Transportation of Dangerous Goods (TDG) and/or Hazardous Waste Management, WHMIS, and practice proper safety procedures in accordance with applicable legislation and the requirements of the Workers Safety and Compensation Commission (WSCC). Documentation will also be kept on file at the Site Owners office and reviewed annually for any necessary updates.



3. Governance

3.1 City of Iqaluit Solid Waste Bylaw

The landfill operator and staff must adhere to the City's waste management By-law identified in Appendix G.

3.2 City of Igaluit Water License

The City of Iqaluit landfill must operate within the terms and conditions set out in the <u>Licence No. 3AM-IQA1626/Type "A"</u> issued by the NWB to the City of Iqaluit. This Licence is effective June 17, 2016 and expires June 16, 2026. Under this licence, the City is entitled "to use water and disposes of waste associated for municipal undertakings". Appendix H includes a copy of Water License No. 3AM-IQA1626.

3.3 Acts, Regulations and Guidelines

3.3.1 Acts and Regulations

In addition to the Water Licence, the landfill must be operated within the *Nunavut Environmental Protection Act (1998)* (EPA) and its associated Regulations, *Environmental Right Act. (1988)*. The EPA was amended in 1998 and came into force in April 1, 1999. It creates a framework for an integrated approach to protect the environment including air, land, water, and all organic and inorganic matter and living organisms.

The operations of the landfill must also comply with *Nunavut Safety Act and Regulations* to protect landfill operators, visitors, customers, or anyone at the landfill site.

3.3.2 Guidelines

Relevant Government of Nunavut guidelines that may be used as additional reference information in the operation and maintenance of the City of Iqaluit Municipal Landfill are listed below. These documents can be viewed on the Nunavut Department of Environment (DOE) website https://www.gov.nu.ca/environment/information/documents/195%2C184

- Waste Lead and Lead Paint (2014)
- Used Oil and Waste Fuel
- Biomedical and Pharmaceutical Waste
- Waste Batteries (2011)
- Waste Solvent (2011)
- Waste Paint (2010)
- Waste Asbestos (2011)
- Waste Antifreeze (2011)
- Ozone Depleting Substances (2011)
- General Management of Hazardous Wastes (2010)
- <u>Dust Suppression</u>
- Mercury-Containing Products & Waste Mercury (2010)



- Guideline for Burning and Incineration of Solid Waste (2012):
- Environmental Guideline for Used Oil and Waste Fuel
- Environmental Guideline for Used Oil and Waste Fuel

The document *End-of-Life Vehicle Hazardous Materials Recovery Program Manual* 2011) prepared for the DOE may be used as a reference for End of Life Vehicles operational procedures. It is available on the DOE's website at https://www.gov.nu.ca/sites/default/files/final_-_elv_program_manual_-_jan_10_2011_0.pdf

The guideline for managing landfills in the NWT can also be used as a reference for managing waste disposal facilities in Nunavut. This guideline is "Guidelines for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories (2003)". This guideline promotes effectiveness and efficiency of municipal solid waste landfills. It is available for download on the NWT MACA Solid Waste Management webpage https://www.enr.gov.nt.ca/sites/enr/files/guidelines/solidwaste guidelines.pdf

4. Site Facilities

All solid waste management facilities associated with the landfill are located within the limits of the site development, with the exception of the offsite runoff retention pond and leachate treatment pond. These facilities include:

- A site office located near the entrance to the landfill site;
- Garage;
- Scrap metal area;
- Scrap tire collection area;
- Hazardous waste depot;
- On-site runoff collection ponds;
- White metal collection.
- E-waste collection
- End-of Life vehicle decontamination area
- Cardboard burn facility

4.1 Recycling Storage Facilities

The site includes storage areas for recycling of bulky materials including:

- Scrap metals;
- Car bodies:
- Appliances/refrigerators and freezers; and
- Scrap tires.



E-waste

Public sorting of waste or scavenging is not permitted within the disposal area of the landfill.

4.2 Hazardous Waste Area

This site includes storage areas for household hazardous waste (HHW) including:

- Paints and Solvents;
- Batteries;
- Cleaning Products;
- Automotive Products (antifreeze, motor oil, car batteries, brake fluid, transmission fluid); and
- Small propane tanks and cylinders.

4.3 Landfill Disposal Operating Area

The existing municipal waste operating area is operated using the area method and functions as a natural attenuation system without a liner. The site is underlain by bedrock, silty sand and permafrost.

4.4 Equipment

The list of landfill equipment includes:

- Cat 816F Land Compactor
- Cat 928G Loader
- Ford F250 With tidy tank for refueling
- Ford F250

4.5 Surface Water Management

Surface water is managed within Landfill by a series of perimeter berms that collects contains on-site within the landfill. On-site runoff is pumped to an off-site retention pond for storage. It is then treated prior to discharged to Koojesse Inlet.

5. Site Security and Control

5.1 Supervision

At least one employee will remain at the site during all hours that the facility gates are open for public access.



Upon arrival, all vehicles entering the landfill site shall report to the Landfill Operator. Following load check, and documenting the waste load landfill customers will be directed to the appropriate disposal or storage area for disposal of the waste.

5.2 Hours of Operations

The City of Iqaluit establishes the operating hours of the landfill and posts these hours, at the entrance. The Hours of Operations Policy is subject to change and is included within the Policy Section of this manual.

In the event of an emergency or as deemed necessary, the Landfill Operator may provide access to the site at alternate times with prior arrangement and approval.

5.3 Gate Controls

Traffic enters and exits the landfill via the existing access road approximately 4 km from the city center. The landfill is surrounded by a chain link fence and has controlled access through one gate at the landfill entrance. Access to the landfill is gained through the main entrance gate located at the west side of the site. The gates will be closed and locked outside of the normal operating hours.

Public sorting of waste or scavenging is not permitted within the disposal area of the landfill.

Gate Control - Landfill Foreman is responsible for ensuring the gates are locked and secure after hours. The Foreman will ensure that no persons remain in the landfill before the gates are locked.

Key Control - Access keys are assigned to the Superintendent and Landfill Operator, and potentially to other authorized personnel, to limit circulation of keys.

Emergency access keys are kept at the office of the Department of Public Works and are under the control of the Superintendent and Director of Public Works.

5.4 End-of-the-Day Closure

At the scheduled closing time, the Landfill Operator will secure the site by closing and locking the main entrance gate. "End-of-the-day closure" includes:

- Checking for customers and visitors that may be remaining on the site;
- The Landfill Operator will remain at the gate to allow exit of any customers or visitors remaining at the site;
- Closing and locking the entrance gate once all customers and visitors have left the site;
- Conducting backup for collected data;
- Checking site building to ensure there is no one present and that all doors are locked;
- Conducting a final check of the working face to ensure the area is secure and there is no evidence of fires; and



Closing and locking the access road gate.

6. Customer Service

6.1 Guiding Principles for Customer Service

Customers of the landfill will form opinions on what they see and how they are treated. A positive experience builds trust and confidence in the site operations and will assist in gaining co-operation on future visits.

To meet this objective, the following are guiding principles to assist the landfill employees:

- Be positive and enthusiastic;
- Keep the site, facilities, and equipment in a clean and orderly fashion;
- Be involved in decision making and support the decisions of co-workers;
- Be open-minded to compromises and ideas;
- Be flexible with customers with reasonable discretion;
- Show respect for the customer:
- Assist the customer within reasonable limits;
- Communicate and educate the customer;
- Provide effective and efficient service;
- Create "win/win" solutions that satisfy the customer, with consideration for public safety, financial considerations, and landfill operations; and
- Treat the customer as we would want to be treated at their place of business.

6.2 Assisting Customers with Vehicle Problems

In the event that a customer experiences problems with their vehicle, the Landfill Operator should provide assistance so that the vehicle and driver are:

- In a safe situation;
- · Out of the way of other customers; and
- Looked after so that appropriate help is provided.

Assistance for vehicle problems may include:

- Assisting the vehicle driver to phone a tow truck; or
- Either assisting or arranging for someone to assist the driver to change a flat tire.

Vehicle drivers must be informed of any risks or liabilities that may be involved in providing assistance, such as towing vehicles. Any actions taken are to be at the discretion of the Landfill Operator, with customer satisfaction and safe operation of the landfill in mind.



6.3 Public Inquiries

The public, regulating agencies, or the media may ask questions to the Director, either directly or by phone. The Director should politely request any individual making an inquiry to identify themselves in order that the questions may be appropriately responded to.

The following are general guidelines for responding to inquiries:

- 1. If questions are of a general nature (i.e. hours of operations), the employee should provide these answers along with any relevant printed information that may help.
- 2. Inquiries should be referred to the Superintendent if the questions are related to the following:
 - a. Technical issues;
 - b. Regulatory issues; or
 - c. Financial issues.
- 3. Inquiries received from regulatory agencies or the media should be referred to the Director.
- 4. If a question is asked and the employee does not know the answer, the employee should say so and refer the person to the Superintendent.
- 5. If an employee is unable to take the time to answer a question because of a heavy work load during peak periods, the employee should:
 - a. Explain the situation; and
 - **b.** Ask the person to leave their name and phone number so that someone may call back at a less busy time.



7. Waste Acceptance Procedures

7.1 Accepted and Non-Accepted Wastes

7.1.1 Accepted Waste

Any waste disposal operation has limitations with respect to the waste streams which may be handled in an environmentally safe manner. Limits must be placed on the types of waste accepted at a disposal site in order to protect the environment, the employees, the users and neighbours, as well as the equipment from damage, while simultaneously providing adequate levels of service.

The Site Owner shall allow only those materials to be deposited at the Iqaluit Landfill for which the facility has been designed for with the exception of unique circumstances reviewed in consultation with regulatory agencies.

Acceptable wastes are listed below:

- Plastic, metal, and paper wastes; packaging; cardboard; newsprint; food; rubber; leather; glass; wood; from residential, commercial or industrial premises;
- Animal and vegetable (organic) waste material
- Sweepings, clothing and textiles, consumer electronics, and discarded household utensils.
- Furniture and major appliances.
- Non-salvageable metals.
- Tires
- Construction & Demolition wastes (provided the waste is not a hazardous or banned material).

Household Hazardous Waste Streams such as:

- Cleaning Products (oven cleaners, drain cleaners, bleach, spot remover);
- Paints and Solvents (oil-based paints, thinners, paint stripper);
- Automotive Products (antifreeze, motor oil car batteries, brake fluid, transmission fluid);
- Pesticides and herbicides;
- Small propane tanks & cylinders (Barbeque tanks);
- Miscellaneous Hazardous Materials (household batteries, photographic chemicals, pharmaceuticals, aerosol sprays); and
- Biomedical wastes/ash that have been incinerated, and cooled prior to disposal.

7.1.2 Non-Accepted Waste

Wastes which present a danger at the Landfill Site, require special disposal techniques, or may interfere with the level of service to the public, are not acceptable for disposal. In some cases, wastes which are acceptable in small quantities may not be acceptable in large quantities from a single generator because they may cause the level of service to other users to deteriorate and cause handling problems at the site and increased environmental liability. To some extent, the acceptability of large quantity wastes must be at the Site Owners discretion, depending on the ability to accommodate disposal without deterioration in the level of



service. In cases where unacceptable wastes are identified, site staff will attempt to identify allowable management alternatives to material haulers.

All wastes which pose potential safety or environmental problems cannot be listed in their entirety. The Site Owner and site personnel in general must be wary of accepting wastes which could cause future operational problems and must watch for the inclusion of unacceptable wastes in regular loads of refuse.

A list of materials which MAY NOT be accepted for placement in the landfill is as follows:

- Contaminated soils;
- Explosives or highly combustible materials of any nature;
- Large volumes of waste oil & fuel (more than 5 Litres per load);
- Gas cylinders, unless the valve has been removed and the cylinder properly drained by a professional trained in handling gas cylinders;
- Radioactive materials:
- Mercury;
- Industrial/Commercial Hazardous Waste
- Drums with unidentified contents;
- Large volumes of fuel tank sludges from tank farms;
- Hot ashes;
- Any liquids, or liquid waste, of a quantity greater than five Litres in any one load;
- Biomedical wastes that are not incinerated or autoclaved prior to disposal;
- · Waste pharmaceuticals;
- PCBs or PCB contaminated materials; and
- Any other materials not listed as acceptable or conditionally acceptable with the approval of the Site Owner.

7.2 Segregation of Materials

Materials accepted at the landfill for recycling that require segregation from general waste include:

- Appliances containing CFCs;
- Automobile batteries;
- End of Life Vehicles;
- Paint;
- E-waste:
- Propane tanks; and
- Scrap tires.

7.3 Waste Acceptance Screening Procedure

Among the most important duties of the Landfill Operator are to ensure that wastes are properly and thoroughly screened, and if any unacceptable wastes are found, that they are safely managed. The community must be aware of the screening activities and their results.

Screening the Waste



Vehicles delivering waste to the landfill are required to report to the Landfill Operator. The first point of onsite contact is at the gate, which allows for an initial screening process. It is not possible to screen the contents of packer trucks and transfer vans at the gate. Screening of these vehicles' contents must be done at the working face.

The second point of on-site contact is at the disposal area where vehicles are unloaded. The Landfill Operator will visually inspect loads. The Landfill Operator should look for any waste that does not fall within any of the acceptable waste types as listed in Section 7.

Hazardous or other waste that has received prior approval for shipment to the landfill should be inspected to verify that it fits the description provided by the generator. The waste load should be inspected and clearly classified prior to being pushed or compacted.

Know Your Generators and Haulers

It is important to know the potential sources of prohibited wastes from the service area. Some examples are:

- The automotive repair industry generates solvents, paint wastes, lead acid batteries, grease and oil;
- Medical and dental clinics generate bio-medical wastes; and
- Individuals may bring in batteries, paint, oils, spent fuel, etc.

Be cautious in accepting wastes from unknown, unlicensed, or otherwise questionable haulers.

The Landfill Operator will also identify suspicious wastes based upon visual and odor characteristics. Indicators of suspicious wastes may include:

- Hazardous signage or markings;
- Liquids:
- Powder or dusts;
- Sludge;
- Bright or unusual colours;
- Drums or commercial size containers:
- · Chemical odours; and
- Smoke.

General information obtained from the waste hauler shall include:

- Time and date of visit to the landfill;
- Vehicle identification/license number; and
- Source and nature of the waste disposed of.

Inspection Safety Considerations

The City of Iqaluit
City of Iqaluit Municipal Landfill
Operations and Maintenance Manual



The Waste Inspector will wear the following safety clothing during inspection:

- Coveralls;
- Safety boots;
- Gloves;
- Safety vest;
- Face mask as required; and
- Eye protection.

Where a load is rejected and turned away from the landfill, Landfill Operator will attempt to secure the following information:

- Vehicle type and license number;
- Identifying company names or addresses;
- The source of the waste:
- Name and description of the vehicle driver; and
- Details of the load inspection and reasons for rejection.

Emergency Handling

Should an emergency situation occur such as a spill, procedures outlined in Appendix I – Landfill Emergency Response Plan will be implemented. A copy of the Emergency Response Plan will be kept on site.

Procedures (beyond spill response) in such events involve:

- 1. Place notification call to the Environment Protection Division of the Department of Environment, NU.
- 2. Confirm and record the name and phone number of the contact person.
- 3. Obtain and record the name and address of the company responsible for the emergency disposal or storage.
- 4. Determine the nature of the material, handling procedures and necessary precautions to be taken.
- 5. Contact the Superintendent.
- 6. Arrange for the Landfill Operator to remain after hours, if required.
- 7. If material requires covering or handling with landfill equipment, contact the Landfill Operator.
- 8. If the responsible company does not have an account, information and collection of fees for the service will be done by the Public Works Department of the City of Iqaluit.



8. Waste Handling

8.1 Overview

The nature of wastes accepted at a landfill requires that different types of materials be handled in different ways. Although there are special cases where the Landfill Operator must make a "best judgment" on how to handle a particular material, there are accepted procedures for most products in the waste stream. If the type of waste is unknown, then the operator should not accept the waste material until it can be verified.

8.2 Recyclable Materials

Procedures for managing recyclable materials delivered to the landfill are outlined below.

Bulky Metals

Metals are stored in the designated storage area. Alternative storage areas may be designated by the Landfill Operator for temporary storage and should be located where there is available room to unload vehicles and load recycling transport vehicles.

Metal piles should be sorted and organized to improve marketing potential. Metals may be sorted as cast iron, pared metals, tin, wire/cable, car bodies, and appliances.

Appliances that may contain CFCs (refrigerators, freezers, and air conditioning units) are to be set aside so that the CFC contents can be purged by a qualified individual as outlined in the Guideline for Ozone Depleting Substances.

Tires

Tires will be loaded and stored on-site in a designated shipping container in the recycling area. Tires hauled by individuals will be accepted for storage in the recycling area. Once a shipping container is full it will be sealed and prepared for shipping to a tire recycler The Superintendent will contact tire haulers/processors in the NU, if available, or in another provinces to arrange for recycling

E-Waste

All e-waste will be accepted and loaded and stored on-site in a designated shipping container in the recycling area. Once a shipping container is full it will be sealed and prepared for shipping to an e-waste recycler. The Superintendent will arrange with local haulers/processors to arrange for recycling.

Paint

All waste paint will be loaded and stored in a designated shipping container in the recycling area. Once the container is full the container shall be sealed and arrangements made with the local processor to arrange for



proper disposal and recycling. Any paint cans that are empty, and the paint is film dry, can be disposed of in the landfill.

Automotive Batteries

All automotive batteries are to be accepted, loaded and stored in acceptable shipping containers. The batteries must be stored off the ground in weather proof containers or storage building. Superintendent shall make arrangements to have all stored batteries shipped to an approved recycler on an annual basis. Refer to Automotive Battery Policy

Propane Tanks

Only propane tanks that are empty and valves open shall be accepted. Any accepted propane tanks shall then have the valves removed. Once the valves have been removed the tanks can then be stored in the scrap metal storage compound. Refer to Propane Bottle Policy for proper management.

8.3 Hazardous Waste

Hazardous waste materials which are household in origin are to be treated or stored in the hazardous waste disposal area. Hazardous wastes from commercial/industrial sectors will not be accepted at the landfill. In accordance with the Nunavut Waste Guidelines, all hazardous waste generated by commercial and industrial activities are to be demobilized south by the waste generator.

The hazardous waste storage area has sea lift containers for storage of wastes. This area is surrounded by fence and has a separate gated entrance from the main road.

Due to the danger of handling hazardous wastes, the handling, packaging, storage, treatment of the wastes should only be completed by personnel trained in Transportation of Dangerous Goods (TDG) and/or Hazardous Waste Management and WHMIS (Workplace Hazardous Material Information System).

8.3.1.1 Hazardous Waste Definition

Hazardous wastes as those wastes which, due to their nature and quantity, are potentially hazardous to human health and/or the environment and which require special handling and disposal techniques to eliminate the hazard. A hazardous waste includes products, substances or organisms which, by their nature, satisfy the requirements of being a dangerous good as defined in the Federal Transportation of Dangerous Goods Act.

The Transportation of Dangerous Goods Act recognizes nine classes of dangerous goods which are considered hazardous.

Those products, substances, or organisms that would be considered hazardous generally include the following Classes of waste as defined in the Transportation of Dangerous Goods Act.



- Class 1 Explosives
- Class 2 Compressed gases
- Class 3 Flammable and combustible liquids
- Class 4 Flammable solids
- Class 5 Oxidizing substances
- Class 6 Poisonous, toxic and infectious substances
- Class 7 Nuclear substances
- Class 8 Corrosives
- Class 9 Miscellaneous products, substances or organisms that may pose a risk to life, health, property or the environment

Typical household hazardous waste which can be expected to be stored at the landfill includes:

- Cleaning Products (oven cleaners, drain cleaners, bleach, spot remover)
- Paints and Solvents (oil-based paints, thinners, paint stripper)
- Automotive Products (antifreeze, motor oil, car batteries, brake fluid, transmission fluid)
- Pesticides and herbicides
- Small propane tanks & cylinders (Barbeque tanks)
- Miscellaneous Hazardous Materials (household batteries, photographic chemicals, pharmaceuticals, aerosol sprays)

8.3.1.2 Hazardous Waste Collection

Household hazardous waste can be dropped off at the landfill during operating ours, this allows the Landfill Foreman to ensure that the hazardous waste entering the landfill is residential and not commercial.

Any known hazardous wastes spotted in the general refuse area of the landfill will be relocated to the hazardous waste area by trained personnel.

8.3.1.3 Hazardous Waste Storage

The accumulated household hazardous wastes shall be placed in the on-site storage containers by trained personnel. Once the wastes have accumulated a significant volume, they will be prepared and shipped to a southern disposal facility.

The site operator should be trained in WHMIS and Transportation of Dangerous Goods (TDG) and/or Hazardous Waste Management. The current Material Safety Data Sheets (MSDS) must be kept on site for all products stored at the site. Supplier or workplace labels must be placed on all containers which hold a hazardous waste.

Factors to be considered when storing hazardous waste include compatibility, segregation, ventilation, climate/environment, handling, security, labeling, record keeping, and emergency response. The following summarizes some of the factors that will considered when dealing with hazardous wastes.

Compatibility



The compatibility between different types of hazardous wastes stored in the same storage container must be considered before storage. The compatibility of wastes with materials and equipment which is stored nearby is also very important, particularly when dealing with flammable wastes. The compatibility of wastes with their storage containers must also be considered. The site operator will review the WHMIS for this information.

Segregation

The final destination of hazardous wastes will be considered before storage. If future recovery may be possible, storage of the material will allow for such recovery.

Ventilation

Hazardous wastes may present a serious health hazard in storage and will therefore be well ventilated. Volatile materials in particular will be considered. Since sealift containers do not accommodate proper ventilation, the site operator will ventilate the storage container before entering.

Ventilation will consist of opening the access doors one hour prior to entering. An observer will be present upon entering to ensure that the operator is not overcome by fumes. The observer must have access to communication in the event of an emergency.

Climate/Environment

Contact between hazardous wastes and rainwater and soil will be prevented, and wastes should not be exposed to direct sunlight. For outside storage of hazardous wastes, containers will be covered by a tarpaulin and placed on an impermeable base. This will also facilitate and reduce the cost of clean-up for any spills or leaks. The containment area will be curbed and diked to collect spills, leaks and precipitation.

Handling

Handling of hazardous wastes will be in accordance with WHMIS guidelines. The site operator will obtain WHMIS information for materials accepted at the site. The Transportation of Dangerous Goods Regulations will be followed when transporting the wastes off site.

Security

Security precautions will be taken to avoid theft, accidental discharge, and any possible harm to the public. The gate to the hazardous waste storage area will be locked at all times except when the operator is working in the hazardous waste area. Sealift containers will be closed and locked when access is not required.

Record Keeping



A record of the types and quantities of hazardous wastes must be maintained in a log book to ensure safe storage. Containers must be properly labeled during the entire time in storage. If this is not carefully completed then there could be problems identifying the waste when it is time to ship it south for disposal.

Record keeping will also include ongoing quantity totals and dates received. Since relatively small quantities of materials are expected to be delivered to the site, individual lists for each material will be worthwhile.

As a minimum record keeping should include the following:

- type of waste received
- quantity received
- o dates received
- o name of person/company who disposed the waste if available
- o method of storage/disposal
- o on-going total quantity for each type of waste

Emergency Response Plan

An emergency response plan has been developed in case of a significant spill, fire, or other emergency (See Appendix I). The depot will also be equipped with an emergency spill kit and fire suppression equipment.

8.3.1.4 Transport and Disposal

Hazardous waste collected and stored by the City will be shipped to a receiver or hazardous waste management facility located outside of Nunavut. As per the Department of Environment, Government of Nunavut *Environmental Guideline for the General Management of Hazardous Waste*:

- Hazardous waste will only be shipped to a receiver or facility that has been registered in the receiving province or territory to accept that waste.
- Waste manifests will accompany each shipment of waste in accordance with the Transport
 Authorities' requirements and in compliance with the Interprovincial Movement of Hazardous Waste
 Regulations.
- The Landfill Foreman will work with the carrier to ensure that any hazardous waste shipped is packaged, documented, labeled and placarded in compliance with the method of transport used.
- The Landfill Foreman will receive all documentation stating that the Hazardous Waste has been received by a registered facility (manifest).

8.4 Sewage Sludge

Dewatered sewage sludge from the Waste Water Treatment Plant is accepted for direct disposal into the active working face. Prior to delivery of the sludge a small "disposal pit" shall be prepared at the active working face. A load of waste from one of the commercial City waste collection trucks shall be dumped close



to the area prepared for the sludge. Once the sludge is dumped it shall be immediately covered with the reserved waste load. The Waste Water Treatment Plant must call ahead and make prior arrangements with the landfill to allow the landfill adequate time to make necessary preparations for the acceptance of the sludge. Arrangements for sludge acceptance should not be early in the morning and ideally would occur later in the day and prior to the last waste collection truck arriving at the landfill.

8.5 End of Life Vehicles

The New Hampshire Department of Environmental Services identified a number of best practices with respect to dismantling end-of-life vehicles, including:

- Prior to removing parts and dismantling vehicle components, completely drain all vehicle fluids, including antifreeze, brake fluids, engine oils, transmission fluids, windshield washer fluid, power steering fluid, rear axle housing fluids, etc. Do this over an impervious surface.
- Do not mix the fluids. Recycle, reuse, or dispose of fluids in an appropriate manner.
- Dismantle and drain vehicles, parts, scrap, and cores in one centralized location that is under a roof and over an impervious surface (for example, concrete). Make sure there are no open drains or cracks in the surface.
- Use drip pans when unclipping hoses, unscrewing filters and removing parts.
- Replace drain plugs when done draining.
- Fully drain parts and cores on a drain table or drip rack before moving them to a storage area.
- Keep spill control equipment nearby. Clean up spills immediately.
- Seal all fluid lines after draining to prevent leaks. Metal lines can be crimped or bent; rubber hoses can be plugged with clamps, balls, or golf tees.
- Remove and separate recyclable and potentially hazardous components, including the fuel tank, radiator, tires, battery, catalytic converter, air bag units, and mercury switches.
- Remove and capture air conditioning refrigerants (R-12 and R-134a). Qualified persons, using certified
 equipment, must perform this work.
- Remove engines through the hood. Do not tip vehicles on their sides, because this allows fluids to run out and spill on the ground.
- Establish a good routine for dismantling vehicles and stick with it.
- At "you-pull-it" facilities (where customers are allowed to remove parts), make sure the flu-ids are drained from vehicles before customers are allowed to remove parts. Instruct customers on proper procedures to prevent leaks during removal of parts, and provide spill control supplies for convenient customer use.
- Store engines, transmissions, and other oily, greasy parts off the ground, over an impervious surface, and under cover to prevent soil, groundwater, and storm water contamination. Have spill controls, including drip pans and absorbents handy.
- Keep an inventory of the vehicles and parts stored at the facility.²

² New Hampshire Department of Environmental Services. N.H. Green Yards BMP Guide Sheet #11. May 2003.



In Canada, the Automotive Recyclers of Canada recently prepared the *National Code of Practice for Automotive Recyclers Participating in the National Vehicle Recycling Program* for Environment Canada³. The document describes the environmental considerations of related to managing end-of-life vehicles and reviews the national code of practice for reuse and resale, administration, spills, dealing with hazardous materials, automotive recycler processing areas, and equipment and infrastructure. The document is available for download at www.certifiedautorecycler.ca/rescources.html.

As noted previously, the document *End-of-Life Vehicle Hazardous Materials Recovery Program Manual Operation* (2011) prepared for the DOE may be used as a reference for End of Life Vehicles operational procedures. It is available on the DOE's website at http://env.gov.nu.ca/sites/default/files/final_-_elv_program_manual_-_jan_10_2011_0.pdf.

8.6 Burn Box Operation

The landfill utilizes an Airburners S-220 Refractory Walled Air Curtain Burner with a Kubota V2403-TE Diesel Engine to burn cardboard. Cardboard can be burned when conditions allow and the S-220 burner is to be operated according to the Operating Manual provided in Appendix K. The burn box is generally used to burn baled cardboard. **The burn box cannot be used when the wind speed exceeds 30 kilometers per hour (kp/h).** The site operating procedures, read in conjunction with the Operating Manual, are as follows.

1. Engine Start

- Perform pre start checks Oil, coolant, fuel and air filter
- Check weather to ensure the winds are blowing under the 30KM/H limit
- Ensure that the power take-off clutch lever is disengaged.
- If needed, turn key switch counter clockwise to the PREHEAT position for a few seconds
- warm up the engine at idle 1000RPm for 5-10 mins

2. Cold lighting

- Load box with dry material if possible
- Spray 5-10 gallons of diesel fuel
- Using propane torch light the material from under the rear doors and from the access door in the forward panel on the manifold side of the unit.
- Start fan when there is a good flame
- Engage fan clutch after turning RPMs to 1400 (engage clutch handle slowly until it locks in place)

3. Hot lighting

Load box with dry material if possible

- Wait until there is good flame then start fan (if not too hot can assist by using torch)
- Engage fan clutch after turning RPMs to 1400 (engage clutch handle slowly until it locks in place)

4. Loading box

Using either bucket or grapple place material in box

³ Automotive Recyclers of Canada. National Code of Practice for Automotive Recyclers Participating in the National Vehicle Recycling Program. March 2010.



- Place material gently into box -avoid dumping material
- Alternate ends to avoid overloading
- Never overload box load to only 1/2 to 3/4
- Loading slowly will burn faster than loading large quantities

5. Shut down

- Stop loading 1 to 2 hours prior to end of shift
- DO NOT stop fan when flames are closer than 24" from manifold
- If there is still significant material in box leave the fan engaged for the night at 1400 RPM
- If material is almost gone reduce RPM to 1400 and disengage PTO
- Allow engine to cool off then shut down

6. Cleaning

- Open back doors and check temps
- If they are over 100C the rake must be used and pull material out
- If pulling out change over to bucket to clear pile by back doors
- If temps are cooler then can unload using the bucket and material piled to the side of box

8.7 General Guide

A general guide for the handling of various waste materials is provided in Table 3.0. This guide is only intended for reference; specific circumstances may dictate handling requirements and procedures.

Table 3. General Guide to Waste Handling

GENERAL GUIDE TO WASTE HANDLING						
Type of Waste	Examples	Special Concerns	Handling Procedures			
Asbestos	insulation, coated pipes	airborne particles post a health risk to landfill employees and customers	DO NOT ACCEPT asbestos for disposal refer to site policies and Guidelines for the General Management of Hazardous Waste in NWT for acceptance and handling of asbestos			
Bulk Liquids (except for select sump waste)	oils, sump liquids, industrial liquids	bulk liquids are prohibited from disposal	Do not accept liquid wastes for disposal			



GENERAL GUIDE TO WASTE HANDLING					
Type of Waste	Examples	Special Concerns	Handling Procedures		
Bulky Metals	appliances, culverts, sheets, equipment parts	 consumes landfill space recyclable materials difficult to incorporate into working face appliances may contain CFCs 	 divert to metal storage area for recycling apply Ozone Depleting Substances Management Policy 		
CFC's	Refrigerators, Freezers	Contains CFC's	 remove cfc's and store for shipping move white goods to recycle area 		
Clean Fill	uncontaminated soil	suitable for cover material on the landfill	divert to soil stockpile at working face for use as cover material		
Combustibles	carbide, metal dust, hot lime	 combustible with water and air risk to site employees and customers 	 apply hazardous waste acceptance procedure separate from other waste and cover with soil 		
Compressed Gas Canisters	propane bottles/tanks, industrial canisters, CFC canisters	 may be hazardous may contain CFCs may be dangerous to site employees and customers 	 Do not accept for disposal if containers hold any contents do not compact store for recycling if appropriate 		
Construction and Demolition Wastes (Inerts)	concrete, rocks, wood, glass, metals, asphalt, plastics	 bulky materials may be difficult to spread and compact consumes landfill space may contain hazardous wastes such as asbestos 	 dispose mixed inert loads in landfill operating area where practical, divert asphalt to a storage area for reuse 		
Electronic Waste	Televisions, radio, computers	• na	 store separately in shipping containers ship south for recycling when practical 		



GENERAL GUIDE TO WASTE HANDLING					
Type of Waste	Examples	Special Concerns	Handling Procedures		
Empty Containers	45 gallon drums, 20 litre pails, etc.	 may contain prohibited wastes (liquids, hazardous products) may burst upon compaction and pose danger to site employees or customers some "empty" containers may be still classed as hazardous wastes unless properly cleaned 	 apply contaminated solids acceptance procedures do not accept containers unless contents are known to be non-hazardous solids do not compact sealed containers determine original contents of the containers look at container labels for original contents or warnings 		
End of Life Vehicles	Hazardous waste e.g. fluids such as gasoline and oil.	 Proper handling of hazardous materials 	Adhere to proper handling procedures outlined in this manual		
Explosives	shells, dynamite	 prohibited from landfills may indicate criminal activities high risk to site employees and customers 	 Do not accept if unloaded, isolate the area from site employees and customers contact RCMP 		
Fire Place or Barbecue Ash	ash	 easily airborne if hot ashes exist, may ignite fires when unloaded 	 accept with caution do not unload directly on the working face unload away from working face or other burnable items and only unload onto soil ensure there are no hot coals present before incorporating onto the working face 		



GENERAL GUIDE TO WASTE HANDLING					
Type of Waste	Examples	Special Concerns	Handling Procedures		
Fluorescent Light Bulbs	Light bulbs	 contains mercury can break easily 	 store in a secure location (garage) put fluorescent light bulbs through the Bulb Eater store contained mercury for shipping broken glass can be added to the municipal waste pile 		
Household Hazardous Waste	paints, solvents, oils, cleansers, pesticides, etc.	 Public is encouraged to separate HHW from municipal waste stream HHW is to be dropped off at the landfill by the Public 	 HHW has to be stored in a shipping container Ship south for proper disposal or recycling 		
Industrial Solids	powders, shavings, granules, sands, or dry chemicals	 dust is easily airborne may pose health risks to site employees and customers may be abrasive or corrosive to equipment may have hazardous properties 	The facility does not accept industrial waste		
Land Clearing Debris	soil, rocks, roots, , vegetation	 may be difficult to incorporate with refuse if it contains large solid materials primarily clean soils (i.e. with limited vegetation) may be suitable as cover material 	 determine if suitable for cover material if material is suitable as cover material, direct it to soil stockpile at working face for use as cover material if material is unsuitable as cover material, dispose of it as inert waste 		



GENERAL GUIDE TO WASTE HANDLING					
Type of Waste	Examples	Special Concerns	Handling Procedures		
Lead Acid Batteries	automobile, truck, and equipment batteries	 wet cell batteries contain acids contain lead may spark upon compaction and ignite fires 	 store on wooden pallets in recycling compounds place batteries into battery bags for shipment south to recyclers Provide secure storage using a sea Can Store as per Transportation of Dangerous Goods 		
Mattresses	mattresses, box springs	 difficult to handle in working face box springs may bind up in equipment 	 dismantle mattresses place steel springs into scrap metal storage area and remaining material can be disposed of at the working face. 		
Municipal Solid Waste (MSW)	household refuse, commercial refuse including paper, food wastes, yard wastes, metals, plastics, glass, and other refuse	 bulky items may bridge over other wastes thereby reducing compaction potential for odours and attraction of vectors potential for blowing litter 	 spread in thin layers on the working face and compact apply cover material 		
Organic Waste	household organic waste, gardening residue, soil	potentially compostable material	place in working face		



GENERAL GUIDE TO WASTE HANDLING					
Type of Waste	Examples	Special Concerns	Handling Procedures		
Paint and Paint Cans		 paint cans may not be empty paint may not be dry 	 if paint cans are empty and dry, direct to working face for landfilling paint cans that are not empty and/or that contain wet pain must be placed in the shipping container nad shipped south for recycling may solidify paint by drying or adding cement powder before landfilling 		
Sewage Sludge	Municipal Sewage Sludge from the Wastewater Treatment Plant	heavy metals	 treatment should make prior arrangements for disposal at the end of the day prior to arrange delivery time prepare a location in the working face for disposal, set aside a waste collection truck load of waste sludge to be placed in the prepared disposal area and immediately covered with the waste that was set aside. 		
Used Oil (incl. filters, oil containers)	engine and transmission oil	liquid waste possibly flammable	direct customers to used oil drop facility		



GENERAL GUIDE TO WASTE HANDLING					
Type of Waste	Examples	Special Concerns	Handling Procedures		
Used Tires	passenger car and small truck tires (15 inch or less), medium truck (up to 19 inch), OTR tires (large equipment tires)	bulky and consume landfill space tires do not tend to stay buried but work their way to top of disposed waste material	 all tires accepted tires are not to be disposed of at the working face tires to be immediately loaded into a shipping container when shipping container filled arrange fo rshippment south to recycler 		
Wood Waste	scrap lumber	 difficult to incorporate into general refuse consumes landfill space divert treated wood to construction and demolition material area 	 incorporate into the working face wood waste can be crushed with the compactor and mixwd with soil material and used as cover material 		



9. Operational Procedures

9.1 Operating Principles

The landfill is to be operated by the following principles:

- Appropriate staff are on-site during operations hours;
- Access to the landfill is controlled;
- Only approved or authorized waste is accepted for storage or disposal;
- The landfill is developed according to the engineering plans and fill plans;
- Wastes are compacted to the greatest practical density;
- Wastes are covered as necessary to control nuisances;
- Surface water is managed and controlled within the requirements of the City's Water License;
- Safe operating practices are followed and all landfill personnel are encouraged to improve their skills and knowledge;
- Records are maintained with respect to operations activities and site development; and
- Landfill operations are managed by a Landfill Operator.

9.2 Landfill Staging

Refer to the fill plans and Landfill Decommissioning Plan for detailed landfill staging and fill sequencing.

9.3 Traffic Control

9.3.1 Signage

Signs should be posted throughout the landfill to inform and provide directions to customers for the appropriate locations for unloading. See the following table for recommended signs and placement.



Table 4. Recommended Signs and Placement

Location	Purpose	Туре
At Highway	Direction Board	Permanent
At Gate	Name of Site; Operating Hours; Emergency Numbers; Safety Notices; Prohibited Waste	Permanent
Waste Oil Storage	Accepted Products	Permanent
Tire Storage	Sign boards for passenger tires, truck tires, and off road tires	Portable
Metal Storage	Acceptable Metals	Permanent
Working Face	Direction Signs; Safety Signs	Portable
Access Roads	Direction Signs; Speed Signs	Permanent
Battery Storage	Sign Board	Permanent
E-Waste: monitors, TV, computers, etc.	Sign Board	Permanent
White Goods: refrigerators, stoves, dishwasher, etc.	Sign Board	Permanent

9.3.2 Traffic Control at the Entrance

The Landfill Foreman should provide directions to landfill customers upon entrance to the landfill. Directions should include:

- General directions to the proper location for unloading vehicles;
- To follow direction signs to the appropriate location;
- To follow the instructions of operating staff; and
- Any special instructions that apply to the particular load carried.

All loads of waste delivered by self-haul customers are to be inspected and the waste screening form completed.

All City waste collection trucks are to be log in using the Waste Truck Load Record form

9.3.3 Traffic Control at the Working Face

During hours of operation, it may be necessary to direct traffic at the working face. When directing traffic, the Landfill Operator should:

- Always ensure his/her own personal safety when directing traffic;
- Always face the movement of traffic;
- Coordinate the flow of traffic to the working face including holding vehicles at a "staging" area until space is available for unloading;



- Direct vehicles to an area where it is safe to unload;
- Direct vehicles to areas where landfill equipment is not operating (at least 3 metres separation from operating equipment);
- Direct trailer units into an area where they have room to manoeuvre into position, without jack-knifing, for dumping;
- Direct customers with hand signals, when appropriate, for safety reasons;
- Encourage customers to unload quickly and in a safe manner to allow access to other site users; and
- Direct vehicles that will take more time to unload to an area where they will not interfere with other vehicles and will not cause delays to other customers.

9.4 Tipping Fees

Rates are outlined by the Solid Waste Bylaw (see Appendix G).

9.5 Disposal Area and Working Face

The municipal solid waste disposal area is the largest area at the landfill. Residential, restaurant, institutional, commercial and construction wastes are placed here. The site is surrounded by drainage ditches which contains runoff on-site until the run-off is pumped to the off-site retention pond. This area is also surrounded by berms and fencing to minimize windblown debris.

Part of the disposal area is working face area and is defined as the active portion of the landfill where wastes are disposed of by spreading and compacting with landfill equipment. The landfill is designed and constructed using the area fill concept. The working face shall be kept to a minimum. A narrow daily disposal area will help reduce litter and cover material (mulch of wood, furniture, mattresses and plastic) use. The width of the working face depends primarily on the traffic volume and should be wide enough to allow the day's maximum number of trucks to unload. Allow 4.5 to 5 metres (15 to 18 feet) per truck.

For efficient operations of compaction equipment, the working face should generally be constructed on a 25% (4H:1V) to 35% (3H:1V) slope. Typically, vehicles are to be unloaded at the bottom of the working face and waste is to be pushed up the slope.

Only one working face for municipal solid waste should be active at any one time, except where the Landfill Operator may designate additional working faces, as necessary, for the following reasons:

- Allow access during adverse weather (e.g. the active working face may become inaccessible);
- Manage higher-than-normal traffic volumes;
- Provide adequate separation of commercial and public vehicles for safety purposes; and/or
- Ensure the safe handling of hazardous wastes.



9.7 Waste Placement Procedures

The landfill shall be developed in accordance with landfill site development as provided by the fill plans which are updated on a regular basis.

The working face area shall be compacted regularly to maximize density (thereby minimizing the disposal area), minimize cover requirements, and reduce bird attraction and odour. The compacted waste area is then covered with cover material to minimize the problems of odour, birds, and flies. Material cover also provides surface drainage from the finished surface, thereby reducing infiltration and subsequent leachate production.

To monitor filling and monitoring airspace usage, the landfill management can conduct topographic surveys to calculate the amount of airspace consumed. The landfill management may also conduct random audits throughout the year.

Compaction of solid waste is required to:

- Maximize waste density to optimize utilization of the landfill airspace;
- Minimize daily cover by providing an even surface on which cover is placed; and
- Reduce the potential for wind-blown litter.

Figure 11.1 illustrates typical compaction procedures.

SPREAD WASTE UPHILL IN THIN LAYERS (O.5 M)

COMPACT EACH LAYER WITH 3 - 5 PASSES





Once compaction is complete, cover material should be placed to cover the wastes on a regular basis. Cover the compacted waste with a minimum 150 mm of the cover material (mulch of wood, furniture, mattresses and plastic). Ideally cover waste once per month during the summer months. Due to frozen soil during winter months regular placement of cover soil is not practical, however the waste deposited during winter months should be covered as early in spring as practical. Each layer of solid waste and cover material will be sloped towards the collection ditches to allow drainage. A compaction and covering cycle is to be completed in the fall to prepare for the onset of winter.

Cover applications at the landfill include:

- A cover once per month during the summer months;
- Cover prior to winter freeze up and early in the spring; and
- A final cover when the landfill is closed.

9.8 Cover Material Management

Properly placed cover material at a landfill is important to a well-run landfill. Improperly placed cover material results in increased operational costs and in the needless loss of valuable airspace.

Factors that affect soil consumption include:

- Compaction of the wastes;
- Thickness of cover material;
- Surface of the wastes; and
- Working face and operating area dimension.



10. Nuisance Management

10.1 Litter Control

The *first level of litter control* involves actions to monitor that loads on vehicles hauling to the site are secured to prevent waste from falling or blowing onto roads leading to the site.

The **second level of control** is applied at the working face by directing vehicles to sheltered areas where possible, and by compacting and covering wastes.

.

The *third level of control* is retrieving litter that accumulates in site fencing, along roads leading to the site, on the site, or on adjacent lands.

The Landfill Foreman is responsible for patrolling and either cleaning or arranging for cleaning of:

- The access road and road leading to the site;
- On-site permanent and temporary roads;
- The landfill property; and
- Adjacent lands around the perimeter of the landfill.

Should any loads be "illegally" unloaded along roads leading to the site or at entrance gates or fence lines along the property, the waste load should be inspected for any identifying wastes (i.e. addressed envelopes, utility bills, etc.) and the City of Iqaluit Municipal Enforcement Officer should be contacted. This waste must be cleaned up immediately to comply with operating and approval requirements..

10.2 Dust

Dust is generated by:

- Traffic dust on access roads;
- Unloaded powdery or fine grained wastes; and
- Soil blowing from stockpiles or soil cover.

Dust blowing from wastes may be controlled by:

- Unloading in a sheltered area away from the public disposal areas;
- Requiring the waste generator/hauler to moisten or wrap the waste prior to delivery to the landfill; and
- Covering the waste with other waste or cover material as soon as possible after unloading.

Traffic dust may be minimized by:



- Reducing vehicle speed limits on gravel roads; and
- Applying water or dust suppressant to gravel road surfaces in hot dry weather.

Soil stockpiles should be maintained to prevent blowing soil.

10.3 Noise

The landfill is located in an isolated location away from any residential development and off-site noise is not anticipated to be of concern. Noise caused by operating equipment and vehicles may affect employee hearing, therefore, employees are encouraged to wear ear protection when working on or around equipment.

10.4 Odours

Odour issues can result in public complaints, negative public perception of the landfill operations, and nuisances to those who are most affected. Odours are more common in warm weather, during temperature inversions, and with breezes that carry odours from the site.

Odours are caused by:

- Decomposition of organic wastes;
- Disposal of waste products with strong odours (dead animals, sludges, etc.);
- Chemical reactions in the landfill; and
- Stagnant water.

Odours may be controlled through:

- Applying intermediate soil cover with the advance of the working face;
- Immediately covering any wastes that, by their nature, emit strong odours (cover either with soil or other wastes);
- Working with waste generators to reduce odours at the source; and
- Immediately correcting any runoff seepage that may develop.



10.5 Animals

An fence has been constructed around the perimeter of the site. This fence should be inspected on a regular basis to determine if there has been any breach of the fence. Any breach of the perimeter fence should be reported and arrangements made to repair.

10.6 Animal and Insect Controls

Following are "best management" approaches to minimizing the potential of an animal and insect infestation:

- Eliminate areas of ponded water other than designated retention ponds (insects and animals require water):
- Maintain a small working face;
- Continue compaction of wastes;
- Apply intermediate cover as the working face advances; and
- Apply soil or alternative cover where wastes once per week during the summer months, or more frequently as required.

Should the Landfill Operator notice any signs that may indicate a rodent infestation or bear activity, he/she shall take action immediately. If a rodent extermination program is necessary, expert advice should be consulted. In the event of bear issues, the Department of Environment Wildlife Office should be contacted at (867) 975 - 7780.

10.7 Fires

Fires are included as a nuisance because of issues with safety, air quality, property damage, and general nuisances to site employees, customers, and neighbours. Fires are caused by:

- Hot loads unloaded at the working face;
- Chemical reactions with a particular type of waste;
- Intentional ignition;
- Smoking (cigarette butts tossed onto the working face);
- Flammable debris on hot parts of the landfill equipment; or
- Sparking from compacting wastes such as automobile batteries.

Should a fire occur, procedures outlined in Section 16.2 - Fire Management, should be implemented.



11. Surface Water Management

In 2011, the City of Iqaluit retained an engineering consulting firm to complete a West 40 Landfill Drainage Management Review that discusses the collection of the run-off within the landfill, different treatment options and discharge criteria that should be followed. Please see Appendix E for a copy of the report.

12. Landfill Leachate Management and Treatment

Leachate and surface water run-off from the landfill is collected in a collection ditch/catchment pond that is constructed along the east and south perimeter of the landfill in accordance with the surface water management plan developed in 2011. All run-off from the landfill is tp be diverted to this ditch/pond. On a regular basis the collected water is to be pumped from this collection ditch to the retention pond constructed on the west side of Akilliq Drive. The leachate is retained in this pond and on an as needed basis, once volume in the pond reaches capacity, The City contracts for the leachate to be treated.

In 2016 the City of Iqaluit through Qikiqtaaluk Environmental submitted an amendment to the Nunavut Water Board an amendment to the licence to treat leachate generated at the landfill. The details of this treatment process and related spill Contingency Plan is provided in Appendix K.

13. Landfill Safety Plan

This section is to be read in conjunction with the City of Igaluit safety requirements.

13.1 Introduction

Due to the nature of the facility, safety precautions should be taken by those personnel involved in the operation and maintenance of the landfill. All personnel should be familiar and abide by the City of Iqaluit Occupation Health and Safety Program, which contains information such as training requirements, personal protective equipment requirements, WHMIS & Transportation of Dangerous Goods, Chemical Storage & Fire Protection, and First Aid. All personnel should be familiar and abide by the Nunavut Safety Act and Regulations.

Some of the safety precautions which landfill personnel should follow include:

- Water and puncture proof gloves, coveralls, and safety boots are to be worn at all times,
- Eye Protection and hard hats are recommended;
- Work clothes should not be worn home;
- Hands are to be washed frequently, as a minimum after work and before eating;
- An appropriate fire extinguisher and a No. 1 First Aid Kit should be available at the site operators buildings;
- Personnel should receive appropriate vaccinations and ensure they are kept up to date;
- Proper lifting techniques should be exercised, lift with your legs and not your back;



Only personnel trained to handle hazardous materials should do so.

Management is responsible to maintain an effective health and safety program, and provide the equipment, materials and training necessary to promote safe work practices and environments.

Supervisors are responsible to ensure that workers are supplied with the proper equipment and materials to conduct work safely, and to ensure that workers are trained in and follow established safe work procedures.

It is the duty of every worker to assume responsibility for their own safety by complying with legislative, company and industrial standards as well as the prompt reporting of all unsafe acts or conditions to supervisors to ensure immediate action and resolution.

13.2 Purpose

The City of Iqaluit Municipal Landfill Safety Plan is intended to:

- Provide guidance and instructions for Landfill Operator on safety-related matters; and
- Aid Landfill Operator in identifying potentially dangerous situations and taking appropriate action.

The safety of site operating staff and the public is of prime importance at all times. Site employees shall not endanger themselves or others on the site. Employees are obligated to report unsafe practices and are empowered to notify other employees or site users acting in an unsafe manner. All accidents, injuries, or near misses are reported to the Landfill and the following steps are taken:

- Investigate the incident immediately;
- Determine the cause:
- Complete the accident/incident report;
- Take immediate measures to correct the cause and prevent it from reoccurring; and
- Have a safety meeting with employees as soon as possible after the incident.

13.3 Safety of Site Users

By the very nature of its business, a landfill can be a very busy place with continual movement of various types of vehicles. It is the Landfill Operator's responsibility to maintain the safety of the site users by informing users of the landfill rules and monitoring that the rules are conformed to. To protect the safety of site users, the following basic rules shall apply:

- Children, pets, and individuals not unloading waste must remain in vehicles;
- Only adults are allowed to unload vehicles in areas as directed by Landfill Operator;
- Wastes shall be unloaded to the rear of vehicles and not strewn about;
- Smoking at the unloading area is not allowed the site is non-smoking in all areas;
- No scavenging is allowed; and
- Users must leave unloading area immediately after unloading vehicles, unless advised to stay for inspection.



To protect the safety of site users, the Landfill Operator shall:

- Control access to the site:
- Inform users of the rules upon reporting to the office;
- Post and maintain adequate directional signs;
- Enforce the site speed limit;
- Maintain an orderly site; and
- Immediately inform users of unsafe practices.

13.4 Working Safely Around Public Vehicles

Important considerations for working around the public include:

- The actions of the public are unpredictable;
- Never stand/go/run behind vehicles. Keep the tipping area clear and level so vehicles can have easy
 access;
- Potentially dangerous loads may include lumber, pipe, brush, or other materials; when unloaded without
 care these could harm persons or vehicles. If possible, spot these loads for unloading in a separate area
 away from other landfill users. If space does not allow this, do not allow these loads to unload until the
 area is safely clear of any other users;
- Avoid pushing waste around the unloading vehicles; and
- Keep the working area free of glass, pipe, wire, wood, and other debris that could cause tripping hazards, and/or foot puncture hazards.

13.5 Safe Equipment Operations

- Machines shall be operated only by individuals who are properly trained and fully understand the machine;
- Perform a pre-check walk-around every time you get on the equipment near the working face;
- Check breaking system;
- Always use seat belt;
- Clean windows and adjust mirrors for best vision;
- No machine shall be operated unless all safety devices are operational and in good repair, i.e. brakes, backup alarms, fire extinguishers, lights, horn, etc.;
- Check site for unsafe operating conditions such as large bulky items that will cause equipment instability;
- Ensure area around the machine is clear before moving;
- Use stepping points and handholds when mounting and dismounting equipment;
- Do not crush sealed containers with unknown contents;
- Always use caution around site users who may not be aware of dangers; and
- When parking the equipment always:
 - Park on a level surface;
 - Lower blades, buckets;
 - Move transmission lever to park; and



Apply the parking break.

13.6 Personal Protective Equipment

Appropriate personal protective equipment (PPE) for landfill site work includes the following:

- Approved safety boots;
- Coveralls;
- Gloves;
- Safety goggles;
- Earplugs (when around loud equipment);
- Safety vest,; and
- Dust masks (when in dusty surroundings).

Special safety equipment may be required for dealing with fires and other incidents.

13.7 Safety Supervision

Site safety at the landfill is coordinated through the Landfill Operator. All operations are to be conducted with safety as a priority at all times.

The safety of site operating staff and the public is of prime importance at all times. Site employees shall not endanger themselves or others on the site. Employees are obligated to report unsafe practices and are empowered to notify other employees or site users acting in an unsafe manner. All **accidents**, **injuries**, or **near misses** are reported to the Landfill Foreman, the Director of Public Works and the City's Safety Officer, and the following steps are taken:

- Investigate the incident immediately;
- Find out the cause:
- Make a complete accident report;
- Take immediate measures to correct the cause and prevent it reoccurring; and
- Have a safety meeting with employees as soon as possible after the incident.
- Submit report to WSCC

13.8 Landfill Accidents

Accidents

Accident frequency for landfills tends to be higher than for most other construction industries. This is generally due to the nature of the waste and the fact that garbage is unpredictable and potentially dangerous.



All accidents at the landfill will be investigated and an Accident Report Form for the incident will be completed. Complete the form providing as many facts as possible; provide only the facts. Do not place blame or fault, and include the following information as required on the form:

- Who was involved?
- Which vehicles were involved?
- · Were there any personal injuries?
- What property was damaged?
- Which agencies or individuals responded to the accident?
- Date, time, weather conditions, witnesses, and other pertinent information.

13.9 Landfill Emergencies

Landfill Emergencies should be dealt with according to the Landfill Emergency Response Plan (see Appendix I) which sets out appropriate procedures to address foreseeable emergencies. The key elements of this plan are:

- 1. What is the nature and severity of the emergency?
- 2. What is to be done?
- 3. Who does it?

The emergency response plan addresses the following items:

- Fires,
- Accidents and Medical Emergencies, and
- Environmental and Operational Emergencies.

During any landfill emergency, the press will likely become aware and cover the story. NOTE: Do not make any statement or comment to the press without approval of the Director of Public Works. The Director will be the only spokespersons for the City of Iqaluit Waste Management (Department of Public Works).

13.10 Personal Decontamination Procedures

In instances where workers accidentally come in contact with unknown substances, the following procedures are to be followed.

Skin Contact

Wash with water for approximately 15 minutes. See a physician if any sign of irritation occurs.

Eye Contact



Flush eye(s) with a gentle stream of water for 15 minutes. See physician immediately...

Ingestion

• Contact emergency services immediately and provide them with as much information as possible about the product that was ingested. Do not induce vomiting unless instructed to do so.

Inhalation

 Remove person to fresh air. If discomfort persists, take victim to physician. Provide physician with as much information on the inhaled material as possible.

13.11 Contacts

This section provides a list of those individuals to be contacted under various conditions. NOTE: In all accidents that involve injuries and/or alcohol, call the RCMP.

If an accident occurs on-site, contact:

- Landfill Foreman;
- Emergency and Protective Services of the City;
- Department of Public Works;
- Any employees which may be impacted; and
- Nearby employees who are trained to respond to this type of emergency.

If there are injuries, contact:

- Iqaluit Emergency Services;
- The RCMP (fatality);
- Landfill Foreman; and
- Superintendent.

13.12 Telephone Numbers

- Emergency Services Dispatch/Ambulance/Fire Department: (867) 979-4422
- Fire Fighters (general): (867) 979-5650
- RCMP: (867) 979-1111
- Public Works Administration: (867) 979-5630
- Spill Line 24 hours
 - Tel: (867) 920-8130Fax: (867) 873-6924
 - •

E-mail: spills@gov.nt.ca

The City of Iqaluit City of Iqaluit Municipal Landfill Operations and Maintenance Manual



The City of Iqaluit
City of Iqaluit Municipal Landfill
Operations and Maintenance Manual



14. Landfill Closure

14.1 Closure

When a new solid waste management facility is opened and this facility closes, it will be decommissioned according to the City of Iqaluit West 40 Landfill Decommissioning Plan (2014), see Appendix F. While the landfill is still open, the final decommissioning plan should be considered as the landfill is developed. As each area is completed, the perimeter slopes and surfaces are reclaimed. In this way the landfill is closed and reclaimed progressively throughout the active landfill life.

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15. Record Keeping and Reporting

Landfill management must establish and maintain an operating record and prepare required reports. Record keeping and reporting is an important part of landfill operations.

15.1 Daily Operator Log

The Landfill Foreman will maintain a record of daily operating activities. The log will be maintained in the landfill site building/office and submitted to the Superintendent at the end of the month. Daily records include, but are not limited to:

- Weather conditions (i.e. precipitation, wind speed and direction, temperature);
- Operating staff on-site;
- Equipment on-site;
- Operations activities (waste placement, compaction, sorting, recycling, site clean-up, etc);
- Monitoring (visual or measured); and
- On-site issues encountered and response or corrective action taken.

15.2 Load and Load Inspection Records

Load records are maintained at the site and kept on file at the Landfill Foreman's Office.

Local records generally include:

- Time and date of delivery;
- Waste hauler or customer:
- Volume of waste:
- Type of waste; and
- Fees collected.

15.3 Annual Report

The annual operations report will be prepared by the Superintendent and will include:

- A record of the amounts and types of wastes received, disposed, stored, or recycled at the landfill;
- Major incidents, and corrective actions taken, if applicable;
- Locations of waste disposal;
- Record of public complaints and response actions;
- Annual environmental compliance audits;
- Current operations and design plans;
- As-built drawings and survey records;
- · Environmental monitoring results; and



· Spill Reports.

The environmental annual report, which includes groundwater monitoring report, shall be submitted to the Engineering Department for inclusion in the Department's annual report to the NWB. The annual operations report must meet the requirements prescribed in the City of Iqaluit Water License.

15.4 Engineering Reports

Engineering reports will be developed where new construction activities occur and will include:

- As-built drawings and records;
- Current design plans and reports; and
- Construction QA/QC procedures, results, and survey records.

All Engineering reports will be submitted to the NWB as per Water License requirements.

15.5 Corrective Action Report

In the event that a corrective action is undertaken, the corrective action shall be documented and maintained in the operating record. A corrective action report may include:

- A description of the problem;
- A description of activities and results; and
- A description of the monitoring and effectiveness of the corrective action.

15.6 Spill Reporting

In the event of a substance release, the Landfill Foreman shall immediately notify the Superintendent and the City's Spill Contingency Plan should be implemented (see Appendix J). The spill must be reported to the 24 – Hour Spill Report Line. The Foreman must call and fill out the spill response forms as provided by Nunavut Environment at the following web page: https://www.gov.nu.ca/environment/documents/spill. The NT-NU Spill Report is also provided in Appendix B.

15.7 Monitoring

The City of Iqaluit is required to provide monitoring at the West 40 Landfill as per The Type "A" Water Licence No. 3AM-IQA1626, Part I and Schedule I.

The landfill is to be monitored at three (3) locations:

IQA-08: Discharge from the leachate discharge location in the landfill run-off detention pond/ditch;

IQA-08A: Station located up-gradient of the landfill;

IQA-08B: Station located down gradient of the landfill.



A plan showing the monitoring locations is provided in Appendix L.

15.7.1.1 Monitoring Station IQA-08

Monitoring Station IQA-08 is located in the landfill run-off detention pond which is used to collect landfill onsite runoff. Any water collected in this pond is pumped on a regular basis, as required, to the storage and treatment ponds located across Akillig Drive.

Testing of this water is to occur:

- once prior to discharge to the storage and treatment ponds,
- · once during discharge, and
- once prior to discharge.

The samples are to be collected mid-depth in the ponded water. Testing results are to be provided in the Annual Report. The following table provides the testing requirements.

Table 15.1 Water Testing Parameters

Test Group	Analytical Parameters	Units
Biological (B)	Biochemical Oxygen Demand	Mg/L
	Total and Fecal Coliform	CFU/100mL
Effluent (E)	Total Suspended Solids (TSS)	Mg/L
	Temperature (field)	°C
	Conductivity (field and lab)	uS/cm
	pH (field and lab)	pH units
Nutrients (N)	Ammonia-N, Nitrate-N, Nitrite-N	mg N/L
	Total Phosphorus, Orthophosphate	Mg/L
ICP-Metals Scan (Total)	Al, Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, PB, Li, Mn, Mo, Ni, Se, Sn, Ag, Sr, Tl, Ti, U, V, Zn, Hg	Mg/L
Flow (F)	Volume	M^3
Landfill Specific (LS)	Polychlorinated Biphenyls (PCBs)	Mg/L
	Benzene, Toluene, Ethylbenzene and Xylene (BTEX)	

As per Licence Part E (4) the water within the pond is to meet the following criteria

Parameter	Maximum Average	Maximum Concentration of Any	
	Concentration	Grab Sample	



Total Suspended Solids (TSS)	50.0 mg/L	100.0 mg/L
рН	Between 6 and 9	

15.7.1.2 Monitoring Stations IQA-08A and IQA-08B

Monitoring Station IQA-8A is located in the road ditch up stream of the landfill, and IQA-08B is in the road ditch downstream of the landfill. Water is to be sampled at these locations once per year, in the spring, when there is run-off flowing in the ditches.

Testing results are to be provided in the Annual Report. The following table provides the testing requirements.

Table 15.2 Water Testing Parameters

Test Group	Analytical Parameters	Units
Biological (B)	Biochemical Oxygen Demand	Mg/L
	Total and Fecal Coliform	CFU/100mL
Effluent (E)	Total Suspended Solids (TSS)	Mg/L
	Temperature (field)	°C
	Conductivity (field and lab)	uS/cm
	pH (field and lab)	pH units
Nutrients (N)	Ammonia-N, Nitrate-N, Nitrite-N	mg N/L
	Total Phosphorus, Orthophosphate	Mg/L
ICP-Metals Scan (Total)	Al, Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, PB, Li, Mn, Mo, Ni, Se, Sn, Ag, Sr, Tl, Ti, U, V, Zn, Hg	Mg/L
Flow (F)	Volume (low estimated)	M^3
Landfill Specific (LS)	Polychlorinated Biphenyls (PCBs)	Mg/L
	Benzene, Toluene, Ethylbenzene and Xylene (BTEX)	

15.8 Water License Reporting Requirements

The City's Water License has specific reporting requirements for the West 40 Landfill (see Appendix H for the Water Licence). This reporting includes:

• Water monitoring reports,



- Emergency discharge reports,
- Engineering design reports (for planned work) and as-built drawing (for completed work),
- Annual Operation and Maintenance Manual revisions,
- Follow up on Water Inspector orders/directives,
- Shipping of recyclables ,
- · Shipping of hazardous waste, and
- Abandonment and restoration.

15.9 Health and Safety Program Records

Health and Safety Program Records must be maintained as per the City's Health and Safety Program, the Nunavut Health and Safety Act and Regulations, and WSCC requirements. These include but are not limited to the following types of records:

- · Daily vehicle/equipment inspections,
- Safety meetings,
- Incident reports (accidents/near misses),
- Site safety inspections, and
- Equipment maintenance.



Appendix A - Policies

Contaminated Rags Policy

Automobile Batteries Policy

Key and Gate Lock Policy

Administrative Record Policy

Visitor Record Policy

Tipping Fees Policy

Prohibited Waste Policy

Wash Up Policy

Vehicle Accident Response Policy

Treated Wood Policy

Spill Contingency Policy

Ozone Depleting Substances Management Policy

Litter Control Policy

Last Man Out Policy

Key Policy

Hours of Operations Policy

Empty Container Policy

Fire Policy

Safe Work Policy

Random Load Checking Program Policy

Propane Bottle Policy

City of Iqaluit Health and Safety Program

City of Iqaluit Accident Investigation Program



CITY OF IQALUIT

		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effectiv	/e Date:
Policy: Contaminated Rags Policy	Page: 1	of 1

PURPOSE:

To define acceptable procedures for acceptance and disposal of oily rags.

POLICY:

- 1. Contaminated rags generally means cloth materials that have been used in industrial applications for cleaning or spill cleanup purposes.
- 2. This policy does not apply to small quantities of rags that are normally deposited in waste receptacles at a household or business, but applies to large quantities that are generated as a result of a spill clean-up or that have been stored at an industry or business separately from the normal waste stream.
- 3. The waste generator must provide a full and complete description of the contaminant and include a waste analysis.
- 4. If the contaminated rags contain a prohibited waste (i.e. hazardous waste), then they must not be accepted at the landfill.

1	The Director	of Public Works	will be rest	onsible for	reviewing and	dundating this i	nolicy

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effectiv	ve Date:
Policy: Automobile Batteries Policy	Page: 1	1 of 1

PURPOSE:

To establish the storage and management of automobile batteries for recycling.

POLICY:

- 1. Automobile and lead batteries will be accepted at the landfill from residents for recycling purposes.
- 2. Batteries will be placed at the hazardous wastes temporary storage area.
- 3. Batteries will not be accepted at the landfill from commercial businesses.
- 4. All efforts will be made to encourage landfill customers to separate batteries from other waste.
- 5. Batteries accepted for recycling will be stored:
 - a. On wooden pallets placed over a lime pad;
 - b. In a sheltered area; and
 - c. Covered with a tarp or plastic or placed in a weather-proof structure.
- 6. Recycling of automobile batteries will be coordinated by the Superintendent in accordance with contractual agreements.

1	The Director of Public	Works will be	responsible f	or reviewing	and updating	this policy
1	The Director of Public	Works will be	responsible f	or reviewing	and updating	this polic

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Key and Gate Lock Policy	Page:	1 of 1

PURPOSE:

To maintain control of access to the site after hours in order to minimize liabilities to the landfill.

POLICY:

- 1. Customers requesting access to the landfill outside of the established operating hours shall arrange for the time of access with the Landfill Foreman.
- 2. The Landfill Foreman shall be present at all times, when after hours access is provided, they will remain on-site until the customer has left the site.
- 3. Customers requesting after hours access shall pay an hourly rate of \$ _____ to the Landfill Foreman for the period of time the employee is required at the site, with a minimum charge of 1 hour per entry, and shall pay the landfill tipping fee as set out in the Tipping Fees Policy.
- 4. The customer shall notify the Landfill Foreman at least **4 hours** in advance of requiring access to the site outside the established operating hours.

- 1. The Landfill Foreman will be responsible for scheduling any after hour access times with the customer and shall maintain a record of the customer and time incurred.
- 2. The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Visitor Record Policy	Page:	1 of 1

PURPOSE:

To maintain a record of site visitors for site safety.

POLICY:

- 1. In this Policy "visitors" means those persons that are non-customers and may include:
 - a. City employees and councillors;
 - b. Consultants;
 - c. Environmental Protection Service Inspector;
 - d. NWB Officer;
 - e. Scheduled tour groups; or
 - f. Other non-customers.
- 2. All visitors will report to the Landfill Foreman at the landfill office and will sign a visitor registry that includes the person's name, time of entry, and purpose of the visit.
- 3. All visitors will report to the Landfill Foreman upon leaving the site and will initial and enter the time of departure on the visitor registry.
- 4. Prior to departure from the site, the Landfill Foreman will check the visitor registry to make sure all visitors have signed out.

- 1. The Landfill Foreman will maintain the visitor registry.
- 2. The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



	Policy No.
Facility: City of Iqaluit Municipal Landfill	Effective Date:
Policy: Tipping Fees Policy	Page: 1 of 2

PURPOSE:

To establish tipping fees charged to commercial customers for use of the landfill.

POLICY:

City of Iqaluit shall establish the tipping fee.

RESPONSIBILITIES:

1. The Director of Public Works will be responsible to review tipping fees and recommend alternate tipping fees to the CAO.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Prohibited Waste Policy	Page:	1 of 1

PURPOSE:

To define waste that is prohibited from disposal at the landfill.

POLICY:

Prohibited waste is all substances and materials listed below:

- Any waste defined as "oilfield waste";
- Biomedical waste that is not rendered inert;
- · Radioactive waste;
- Combustible waste;
- Explosives; and
- Bulk liquids.
- 1. The Foreman reserves the right to determine if a waste is acceptable at the landfill for storage or disposal. The prohibited waste may include soils or materials containing non-hazardous materials, such as those containing high concentrations of chlorides or other such constituents.

- 1. The Landfill Foreman shall be responsible to inspect loads for prohibited debris and to take necessary actions to prevent such waste from entering the landfill site.
- 2. The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Wash Up Policy	Page:	1 of 1

PURPOSE:

To establish appropriate hygiene for operations staff at the landfill.

POLICY:

Hands **MUST BE** thoroughly washed before handling or consuming **ANY FOOD OR BEVERAGE**. Food and beverage is to be consumed only in the Building, another area designated by the Landfill Foreman, or **OFF-SITE**.

Hands MUST BE thoroughly washed before **SMOKING**.

Hands must be thoroughly washed **BEFORE LEAVING** the landfill site for any reason, except in the case of an emergency when the site must be quickly evacuated.

Exterior clothing worn while working around any hazardous wastes, MUST BE removed prior to leaving the site.

1.	The Director of	f Public Works	will be responsible	for reviewing and	d updating t	his poli	су

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effectiv	re Date:
Policy: Vehicle Accident Response Policy	Page: 1	of 1

PURPOSE:

To establish appropriate response in the event of a vehicle accident at the landfill site.

POLICIES:

All vehicle accidents should be reported and an investigation into the cause of the accident should be carried out. In the event of a vehicle accident, the following actions should be taken:

- 1. Alert the Landfill Foreman of the accident.
- 2. If the damage to the vehicle(s) is minor, the Landfill Foreman may instruct the individual(s) involved in the accident to report to the RCMP station.
- 3. If the damage is major, the Landfill Foreman is to call the RCMP.
- 4. Secure the site for safety and for follow-up investigation.
- 5. Traffic is to be directed around the scene of the accident.
- 6. If the vehicle accident results in any injuries, the injured person(s) should be provided with any assistance required as set out in the Medical Emergencies Response Policy.
- 7. Assist the RCMP with any investigation that is undertaken.
- 8. Complete the Incident Accident Form.

1.	The Director of Publi	c Works will be	responsible for reviewing	g and updating	this c	olicy

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Treated Wood Policy	Page:	1 of 1

PURPOSE:

To outline acceptance and handling of treated lumber.

POLICY:

- 1. Treated lumber generally includes
 - Used railway ties;
 - Used power and telephone poles; or
 - Used fence posts.
- 2. Acceptance of treated lumber is to be done in accordance with the contaminated solid acceptance procedures outlined in the operations procedures manual.
- 3. Only non-processed (or whole units that have not been cut, shredded, or chipped) will be accepted for disposal.
- 4. Commercial volumes of treated lumber will not be accepted for disposal, whereby a commercial volume is more than five rail ties or five fence posts, and no more than one power pole or telephone pole.
- 5. Treated wood is not to be deliberately burned.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effectiv	ve Date:
Policy: Spill Contingency Policy	Page: 1	1 of 1

PURPOSE:

To establish appropriate procedures to follow in the event of a spill that occurs on the landfill site including the active operations area, storage areas, compost facility, or in buildings or parking areas. This Spill Contingency Policy shall be reviewed annually and revised as necessary to reflect changes in regulations, operations, and technology. Any proposed revisions shall be submitted to the NWB for approval.

POLICY:

- 1. Immediately close off and isolate (with a barricade if appropriate) the area of the spill to the public and site employees who are not directly involved in the clean-up of the spill.
- Identify, if possible, the material involved in the spill. If the material cannot be clearly identified, take note of the nature of the material (i.e. liquid or solid, colour, odour, original container, approximate amount, presence of vapours or fumes, or any other distinguishing features).
- 3. Direct traffic away from the spill area.
- 4. The Landfill Foreman shall coordinate the clean-up of the spill.
- Control the source of the spill first then work on containing the spill using earth berms or other appropriate means.
- 6. For large spills, berm drainage ditches in the vicinity of the spill to prevent release of the material off-site.
- Recover the spilled material and contaminated soils and deposit into an appropriate container for proper disposal. DO NOT HANDLE CHEMICALS.
- 8. Conduct personal decontamination if a chemical is spilled upon a person:
 - Remove and dispose of contaminated outer coveralls or personal clothing;
 - Utilize emergency eye wash and shower station if required;
 - Re-dress in cloth coveralls or a change of clothes that is kept on hand; and
 - If contaminated clothing cannot be washed safely, discard it.
- 9. If uncomfortable or hazardous fumes, bioinfectious, or radioactive materials are involved, follow evacuation procedures immediately and call Department of Public Works at (867)979-5653. Explain to the emergency operator the situation, identify the material (if possible) and provide as much information about the substance as possible such as liquid, solid, colour, quantity, or odours, and the location of the material on the site.
- 10. If outside fuel or oil storage tanks leak, contact a vacuum truck operator to vacuum up the free liquid product and use a spill kit to clean up any residue. Oil or fuel soaked soil should be excavated and properly handled through the biodegradation facility or other proper disposal.
- 11. Contact the Environmental Protection Division of the Department Environment, NU at (867) 975-7700.

- 1. The Director of Public Works shall be responsible for the review and update of this policy.
- 2. The Landfill Foreman shall be responsible for carrying out spill containment in the active landfill operating area.
- 3. The Superintendent shall be responsible for advising Environmental Protection Division, as necessary.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effectiv	ve Date:
Policy: Ozone Depleting Substances Management Policy	Page: 1	of 1

PURPOSE:

To prevent the uncontrolled release of Ozone Depleting Substances from appliances and equipment stored at the landfill.

POLICY:

- 1. In this policy, the term "units" applies to all household and commercial appliances and equipment that may contain Ozone Depleting Substances (i.e. CFC's) and may include refrigerators, freezers, and air conditioning equipment, and may also include automobile air conditioners.
- All units will be inspected prior to acceptance for storage or disposal at the landfill, and only those units that are tagged by a qualified technician indicating that the CFC's have been purged, may be accepted for storage and recycling.
- 3. Units that are NOT tagged by a qualified technician indicating that the ozone depleting substances are not purged, the site supervisor may:
 - Refer the customer to a qualified technician for purging of the ozone depleting substance and tagging of the unit; or
 - b) May accept the unit for storage and assess a tipping fee in accordance with the rate set out by the Superintendent for all untagged units accepted for storage at the landfill.
- 4. All untagged units accepted for storage at the landfill will be stored in an area separate from tagged units and will not be crushed, recycled, or disposed until they are inspected and purged by a qualified technician in accordance with the Ozone Depleting Substances Regulations and appropriately tagged.
- 5. Units that have been improperly deposited at the working face or at other locations at the landfill will be separated and inspected for appropriate tags and moved and stored in the appropriate area. In all cases where an untagged unit is identified, attempts will be made to identify the customer and if identified, the appropriate fee will be assessed.

- 1. The Landfill Foreman will be responsible for inspecting all units delivered to the site.
- 2. The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Litter Control Policy	Page:	1 of 1

PURPOSE:

To define litter control methods and responsibilities.

POLICY:

In summary, the following litter control methods are to be followed:

- All delivered loads should be secured;
- Compact waste as soon as practical after being deposited;
- Position wind catchment fences according to the location and configuration of the working face and wind direction;
- Retrieve litter as soon as practical following high wind events:
- Collect litter twice a year, once in the spring and once in the fall, as required in the Water Licence;
- Immediately clean up and, if safe to do so, dispose of in the landfill waste dumped illegally at the entrance gates or along access roads; and
- Regularly check ditches along adjacent roads and site access roads and pick up and dispose of spilled or blown litter
 as required.

- 1. The Landfill Foreman is responsible for controlling and litter retrieval of litter escaping from the working face and cleanup of litter on the north side along roads.
- 2. The Landfill Foreman is responsible for litter control and cleanup of litter in the recycling compounds.
- 3. The Foreman is responsible for inspecting the landfill to monitor litter control and cleanup.
- 4. The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Last Man Out Policy	Page:	1 of 1

PURPOSE:

To maintain site control and the safety of site employees, customers, and visitors.

POLICY:

- At the end of the day closure of the landfill, a "last man out" procedure shall be followed. The Landfill Foreman shall:
 - a. Remain at the site until all other employees, customers, and site visitors have left;
 - b. Close and lock the entrance gates;
 - c. Complete a complete drive through of the recycling compounds, working face, composting area, inert disposal area, and equipment area;
 - d. Check all buildings to make sure no one remains inside and to make sure all doors and windows are closed and locked; and
 - e. Check the working face and inert disposal area to make sure the area is secure and that no fires or other issues are present.
- 2. The Landfill Foreman shall check the visitor registry to make sure all visitors have signed out.
- 3. Every effort will be made to make sure that no unauthorized vehicles or individuals remain at the site after it is closed for the day.

- 1. The Landfill Foreman will be responsible to carry out this policy.
- 2. The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Key Policy	Page:	1 of 1

PURPOSE:

To maintain control of key distribution for the City of Iqaluit Municipal Landfill

POLICY:

- 1. Keys for access to the landfill will be distributed to:
 - The Landfill Foreman, and
 - The Superintendent.

- 1. The Superintendent will be responsible for controlling distribution and use of keys.
- 2. The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Hours of Operations Policy	Page:	1 of 1

PURPOSE:

To control public access to the landfill is limited to a specified period of time.

POLICY:

- 1. The landfill gates will only be open for public access during the hours of operations as set out in this policy.
- 2. The hours of operations are:

Tuesday to Saturday

08:00 - 12:00 P.M. and 1:00 P.M. - 5:00 P.M.

The Landfill is closed on the following holidays:

- New Year's Day;
- Good Friday;
- · Easter Monday
- Toonik Tyme Day
- Nunavut Day;
- Victoria Day;
- · Canada Day;
- Civic Holiday (First Monday in August);
- Labour Day;
- Thanksgiving;
- Remembrance Day;
- · Christmas Day; and
- Boxing Day.

- 1. The Landfill Foreman will be responsible for opening and closing landfill gate to the prescribed hours of operations.
- 2. The Director of Public Works will be responsible for the reviewing and updating this policy.
- 3. The hours of operations will only be set by the Superintendent.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Environmental Policy	Page:	1 of 1

PURPOSE:

To apply "best management" practices with regards to environmental protection.

POLICY:

- 1. The Director of Public Works will manage the landfill using due diligence towards development and operations of the landfill in accordance with regulatory requirements and best management principles.
- 2. Utilities and Environment employees and Contractors will endeavour to work according to the operating principles as set out in this policy.
- 3. "Due diligence" is defined as "the taking of all reasonable steps as part of the due care and attention to prevent the occurrence of an accident or mishap, as well as having a contingency plan to control an incident and limit any consequential damage". This includes: policy development, checking and corrective action, and management review.
- Best management practices include:
 - a. Good housekeeping;
 - b. Preventative maintenance;
 - c. Inspections and record keeping;
 - d. Security;
 - e. Employee hiring and training;
 - f. Reporting of incidents;
 - g. Operations procedures;
 - h. Emergency response planning;
 - i. Identification and assessment of risks; and
 - Review and corrective action.

- 1. The Superintendent will be responsible to conduct, or arrange for, routine inspections of the landfill, operating procedures, and records in regards to this policy
- The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Empty Container Policy	Page:	1 of 1

PURPOSE:

To provide direction to the Landfill Foreman for acceptance and management of empty containers.

POLICY:

- 1. Empty containers include:
 - a. 45 gal drums;
 - b. Grease and oil containers; and
 - c. Other industrial containers.
- Empty containers will only be accepted if:
 - a. The top of the container has been removed; and
 - b. The container has not been sealed.
- 3. Containers will not be accepted that:
 - a. Are closed and sealed; and
 - b. The container holds any liquids.
- 4. The waste generator or hauler must provide a description of the previous contents of the container and identify if the container has been properly rinsed in accordance with the Guidelines. The Landfill Foreman may refuse acceptance of any container if the previous contents are not known or if the container has not been properly cleaned.
- 5. Empty containers that are recyclable will be stored in appropriate storage areas.
- 6. Empty containers that are not recyclable may be disposed in the landfill.

RESPONSIBILITIES:

1. The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



	Policy No.
Facility: City of Iqaluit Municipal Landfill	Effective Date:
Policy: Fire Policy	Page: 1 of 1

PURPOSE:

To set out emergency procedures for responding to a fire.

POLICY:

- 1. Upon discovery of fire at the landfill, the Landfill Foreman shall call:
 - The Fire Department at (867) 979-4422 immediately to report the fire, its location, and the materials that are burning.
 - The Landfill Foreman shall call the Superintendent immediately.
 - Contact adjacent property owners, particularly if it appears the fire will go off-site.
- 2. Remove all operating and non-operating persons to a safe location. All non-operating persons shall be escorted to the gates, and the entrance gates are to be closed.
- Maintain access to the site for Emergency Vehicles throughout the duration of the emergency.
- 4. Clear the Fire area of all persons, vehicles, and equipment with due consideration to safety.
- 5. For small fires (i.e. little or no flame present and capable of being extinguished by a portable fire extinguisher), if safe to do so, isolate the burning material from other waste, then extinguish or otherwise contain the fire to one area.
- 6. If the fire is isolated from other wastes, the fire may be extinguished by either covering it with sand or other soils, or by dousing it with water and covering it with soils.
- 7. If safe to do so, move flammable materials and wastes away from the fire **OR** cover these materials with sand or other soils to minimize the potential for the fire to spread to these materials.
- 8. Do not bury any fire into the working face under any circumstances.
- 9. Upon arrival of emergency response vehicles (Fire Truck, Ambulance) the senior staff members, e.g. Landfill Foreman, on-site shall identify themselves to the Emergency Commander and offer full assistance as requested. Once the Fire Department arrives, the Fire Commander in is full control and landfill staff takes instructions from the Fire Commander.
- 10. The landfill operating staff are to remain at the site unless otherwise evacuated or released by the Fire Commander.
- 11. Following a fire, an incident report is to be completed and an investigation into the cause of the fire is to be conducted by the Solid Waste Manager.
- 12. Once the fire is extinguished and it is safe to do so, the waste and debris is to be cleaned up and the site operations returned to normal conditions.

RESPONSIBILITIES:

The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Safe Work Policy	Page:	1 of 1

PURPOSE:

To protect employees from flying debris, dust, heat, noise, traffic, and other potential hazards.

POLICY:

- 1. Employees are to be aware of safe work practices and must know how and when to use personal protective equipment.
- Employees working at the landfill shall wear appropriate personal protective equipment for specific duties undertaken and in accordance with specific circumstances such as windy conditions, high dust conditions, or other situations that may arise.
- 3. Personal Protective Equipment to be worn by employees in accordance with the above includes:
 - a. Steel toed safety boots (for all field duties);
 - b. Safety vest (in the field when out of vehicles or landfill equipment);
 - g. Hard hat (where appropriate to specific duties);
 - h. Eye protection (in high wind or dusty conditions);
 - i. Ear protection (when operating or working around equipment);
 - j. Long pants and shirts (for all field duties); and
 - k. Hat (in hot weather).
- 4. In the event of dirt or dust in eyes, the eye wash station at the scale house is to be used with assistance from the Landfill Foreman, if required. If there is any doubt about debris in the eyes (i.e. metals, glass, or other materials) immediately see a Doctor.
- 5. All near misses and accidents must be reported and documented on the Accident and Incident Report Form.

- 1. All employees must take responsibility for their own safety and the safety of other employees, customers, and visiting pubic.
- 2. The Landfill Foreman shall provide input into the Policy and is responsible for enforcing the Policy.
- 3. The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effecti	ve Date:
Policy: Random Load Checking Program Policy	Page: '	1 of 2

PURPOSE:

- 1. To randomly inspect loads of waste being disposed at the landfill;
- 2. To detect hazardous or other prohibited waste material and avoid their disposal in the landfill; and
- 3. To identify potentially recyclable material which could be diverted from the landfill in the future.

POLICY:

- 1. Randomly select a load for inspection and ask the driver to stop in a designated area.
- Record the following information on a Waste Inspection Form prior to allowing the driver to dump the load (see Waste Inspection Form):
 - Name of hauler;
 - Name of waste generator;
 - Type of waste;
 - · License plate number;
 - Truck number;
 - · Name of the driver; and
 - Signature of the driver.
- 3. Ask the driver to dump the load in the designated area. The driver is not required to stay on-site while the load is being inspected.
- 4. Spread out the waste, using a rake or front-end loader if required.
- 5. Record any potentially recyclable materials.
- 6. Inspect the load for hazardous or prohibited waste materials. If such materials are found, then do the following:
 - Isolate the waste and contact the Landfill Foreman if the waste material poses an immediate risk to human health or the environment;
 - Record the information on the Waste Inspection Form;
 - Take photographs of the material;
 - Attempt to confirm information on the generator of the waste;
 - Contact the hauler or generator of the waste material and require them to remove the material from the Landfill Facility:
 - If the waste materials are considered hazardous, contact the Environmental Protection Division Department of Environment at (867) 975-7700.
- 7. Complete and sign the Waste Inspection Form.
- 8. Send a letter to the generators of the recyclable materials advising that the material could be recycled in the future.



	Policy No.	
Facility: City of Iqaluit Municipal Landfill	Effective Date:	
Policy: Random Load Checking Program Policy	Page: 2 of 2	

RESPONSIBILITIES:

Record Keeping

- A Waste Inspection Form will be completed for each load inspected and will be kept on file at the landfill and administrative offices.
- 2. If hazardous waste materials are identified, the Waste Inspection Form and a summary of the action taken will be forwarded to NWB, and the Environmental Protection Division Department of Environment.
- 3. Photographs of hazardous waste materials will be filed with the appropriate Waste Inspection Form.

Safety Considerations

- 1. The Waste Inspector will wear the following safety clothing during inspections:
 - Coveralls;
 - Safety boots;
 - Gloves;
 - Safety vest;
 - · Face mask as required; and
 - Eye protection.

Inspection Frequency

- 1. One in every 300 loads, a minimum of two loads per month will be inspected.
- 2. The Director of Public Works will be responsible for reviewing and updating this policy.

Approved By:	Date Approved:
Approved By:	Date Approved:



		Policy No.
Facility: City of Iqaluit Municipal Landfill	Effectiv	ve Date:
Policy: Propane Bottle Policy	Page: 1	1 of 1

PURPOSE:

To provide guidance for the acceptance and handling of propane bottles.

POLICY:

- 1. Propane bottles will not be accepted at the landfill unless the container has been purged or emptied of its contents and the operating valve is in an open position, or if it has been removed from the bottle.
- 2. If the operating valve is closed, the propane bottle will not be accepted.
- 3. Empty propane bottles will be stored in the designated propane bottle storage area.
- 4. Propane bottles will not be offered, given, or sold to any person for use, unless that person is qualified to refurbish and certify the propane bottle.
- 5. All valves will be removed from propane bottles for recycling.
- 6. Empty propane bottles with removed valves will be recycled through scrap metal dealers if possible, but will otherwise be disposed in the landfill.

 The Director of Public Works will be responsible for reviewing and upda 	ting this policy

Approved By:	Date Approved:
Approved By:	Date Approved:



Appendix B - Forms





Canadä NT-NU SPILL REPORT

OIL, GASOLINE, CHEMICALS AND OTHER HAZARDOUS MATERIALS

NT-NU 24-HOUR SPILL REPORT LINE

TEL: (867) 920-8130 FAX: (867) 873-6924 EMAIL: spills@gov.nt.ca

REPORT LINE USE ONLY

Α	REPORT DATE: MONTH - DAY	– YEAR		RE			□ ORIGINAL SPILL	. REPORT,	REPORT NUMBER		
В	OCCURRENCE DATE: MONTH	– DAY – YE	EAR			□ UPDATE # TO THE ORIGINAL	SPILL REPORT				
С	LAND USE PERMIT NUMBER	(IF APPLICA	ABLE)	WATER LICENCE NUMBER (IF A		(IF APPLICABLE)	APPLICABLE)				
	GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM NAMED LOCATION REGION										
D						□NWT	□ NUNAVU	T □ ADJACEN	JURISDICTION	OR OCEAN	
Е	LATITUDE	l				ONGITUDE					
	DEGREES RESPONSIBLE PARTY OR VE	MINUTES SSEL NAME		LE PAR		RESS OR OFF	FICE LOCATION	MINUTES	S	ECONDS	
F											
G	ANY CONTRACTOR INVOLVED)	CONTRACTO	R ADD	RESS	OR OFFICE LO	CATION				
	PRODUCT SPILLED		QUANTITY II	I LITRE	S, KILO	GRAMS OR C	UBIC METRE	S U.N. NUMBER			
Н	SECOND PRODUCT SPILLED	(IF APPLICA	ABLE) QUANTITY IF	I LITRE	S, KILO	GRAMS OR C	UBIC METRE	S U.N. NUMBER			
ı	SPILL SOURCE		SPILL CAUS					AREA OF COM	NTAMINATION IN	SQUARE METRES	
	FACTORS AFFECTING SPILL (OR RECOVI	ERY DESCRIBE A	NY ASS	SISTAN	CE REQUIRED)	HAZARDS TO	PERSONS, PRO	PERTY OR ENVIRONMENT	
J			S, ACTIONS PROPOSED OR TAKE								
K	K										
L	REPORTED TO SPILL LINE BY	POS	ITION	EM	IPLOYE	R		LOCATION CALLIN	G FROM	TELEPHONE	
Ν.Λ	ANY ALTERNATE CONTACT	POS	ITION	EM	IPLOYE	R		ALTERNATE CONT	ALTERNATE CONTACT ALTERNATE TELEPHONE		
M								LOCATION			
		155	REPORT	1							
Ν	RECEIVED AT SPILL LINE BY		ITION TION OPERATOR	EM	IPLOYE	Н		LOCATION CALLED YELLOWKNIFE, NT		(867) 920-8130	
LEAD	AGENCY CCC CCC		GN ILA INAC NEB T		SIGNIF	FICANCE M		JOR UNKNOWN		US OPEN CLOSED	
AGE	NCY	CONTACT	NAME		CONTA	ACT TIME		REMARKS	1	2000-2	
LEAD) AGENCY										
FIRS	T SUPPORT AGENCY										
SEC	OND SUPPORT AGENCY										
THIR	D SUPPORT AGENCY	ORT AGENCY									



Step 1: Fir	e Hazard Assessment Checklist						
Facility:	Facility:,, Date:,						
Priority for Corrective Action # 1 high risk #2 moderate risk #3 low risk #4 no risk #5 not applicable							
N	110000 111000	O(a(aa (Da'aa'(a)	Safety Hazard and				
Item	Identified Hazard	Status (Priority)	Location				
Fire Safety		T					
1	Employee training						
2	Employee knowledge						
3	On-site communications						
4	Off-site communications						
5	Water supply						
6	Site security						
7	Fire safety plan						
8	Fire drills						
Storage of Materials							
1	Compressed Gases						
2	Aerosols						
3	Dangerous goods						
5	6 m clearance of stored materials. From uncontrolled grass or weeds						
6	Fire Dept. access						
7	Fencing/Security						
8	Access to water						
9	Lumber storage						
10	Wood chips, hogged materials.						
11	Used Tire Storage						
12	Compressed gases						
13	Fire Dept. Access						
14	Fire breaks						



Facility:	Salety Hazaru	Assessment Corrective Action	Date	
Assessment	Team	Persons	Position	
			Fol	llow-up
ltem	Priority	Recommended Action	Action take Date/Time	n
Superintend	ent Signature:		Date:	



Step #3	Health and Safe	ety Hazard Assessmo	ent Checklist				
Facility		Date/Time:					
Priority St	#2 haza #3 low r #4 O.K.	hazardous, previous accident of high potential ardous with moderate risk					
Item #	Identified Hazards Status/Priority Safety Hazard and Location						
1	Housekeeping						
2	Material Storage						
3	Waste disposal						
4	Lighting						
5	Ventilation						
6	Extreme Temperature						
7	Radiation exposure						
8	Gas (toxic or non-life supporting)						
9	Flammables (Fire/Explosion)						
10	Dangerous Pressure						
11	Chemicals						
12	Hazardous Materials (WHMIS)						
13	High Risk Positioning						
14	Electrical Hazards						
15	Overhead Hazards						
16	Underground Hazards						
17	Confined Space Entry						
18	Excavations						
19	Restricted Access/Egress						



Step #3	Health and S	Safety Hazard Assessm	ent Checklist			
Facility		Date/Time:				
Priority St	#2 ha #3 lo #4 O	very hazardous, previous accident of high potential hazardous with moderate risk low risk O.K.				
ltem #	Identified Hazards		Safety Hazard and Location			
20	Ladders					
21	Work at Heights					
23	Work over water					
24	Major lifts (hoisting)					
25	Vehicles					
26	Mobile equipment					
27	High traffic					
28	Power tools					
29	Permits					
30	Communications					
31	First Aid					
32	Personal Protection Equipment					
33	Other items					
Superinte	endent Signature:	1	Date:			



CITY OF CITY OF IQALUIT CITY OF IQALUIT MUNICIPAL LANDFILL ACCIDENT/NEAR MISS REPORT

Incident Date:			Time:		
Location:					
Name and Position of Persor	n Making Report _				
Name of individual(s) involve					
Drivers License No.(s) if requ					
Individual or Company		Phon	e No		
Did the Incident Result in Per	sonal Injury?	Yes	N	lo	
Injury report attached (i.e. Worker's Safety and Cor	mpensation Comr		Nother applies)
Did the incident cause damagor other property?	ge to Landfill		Yes	No	
Who investigated the Inciden	t?				
Supervisor R	CMP	Special Co	mmittee		_ HS&S
Contact Person(s)					
Details of Equipment/Prope	erty Damage if A	pplicable			
Damage was to: Vehicle	Equipment	Property			
Description:					
Unit No. Year	Make	Model			
Estimated Value of Vehicle/E	auinment/Proper				



Estimated Damage to Vehicle/Equipment/	Property
Description of Incident (use attachment if r	necessary)
Incident Cause (use attachment if necessar	ary)
Sketch of Incident Where Applicable (use	attachment if necessary)
Recommendation to Prevent Re-occurrence	ce (use attachment if necessary)
Comments (use attachment if necessary)	
Name: S	Signature:
Report Date	
Distribution List:	

Tires Drywall

Glycol

Oils or greases

Paints/Solvents Pesticides

Cleaning Products Ozone Depleting Substances

Electrical Equipment

Other (NOTE TYPE)



CITY OF CITY OF IQALUIT CITY OF IQALUIT MUNICIPAL LANDFILL **RANDOM LOAD VISUAL INSPECTION REPORT**

Date:	Haule Vehic	a.m. /p.m. er cle Description eral Description of the V	Source of the Waste
		Estimated Percent	
Composition		of Total Volume	Actions or Follow-up Taken
Food Waste			
Cardboard			
Paper Products			
Plastics			
Textiles/Rubber/Leathe	er		
Metals			
Ceramics/Bricks			
Dirt and rocks			
Ashes			
Yard wastes			
Wood wastes			
Glass			

The City of Iqaluit
City of Iqaluit Municipal Landfill
Operations and Maintenance Manual



CITY OF IQALUIT CITY OF IQALUIT MUNICIPAL LANDFILL VISITOR LOG

Date	Name	Representing	Time In	Time Out	Signature	Reason for Visit



CITY OF IQALUIT CITY OF IQALUIT MUNICIPAL LANDFILL MONTHLY SITE OPERATIONS INSPECTION

Date:	Ins	pect	or: _	
A: Acc	ceptable, U: Unacceptable			
No	Item	Α	U	COMMENTS
4.0				
1.0	PERMITS AND APPROVALS		1	
1.1	Municipal Development Permit			
1.2	Land Titles, Lease Agreements			
1.3	SAHTU Land and Water Board Approvals Other			
1.4	Other			
2.0	RECORDS			
2.1	Survey and Site Plans			
2.2	Waste Volumes			
2.3	Special Waste Records			
2.4	Daily Operating Logs			
2.5	Monitoring Reports			
3.0	PERSONNEL TRAINING AND CERTIFICA	TION		
3.1	Landfill Foreman			
3.2	First Aid			
3.3	Work Place Safety (OH&S)			
3.4	WHMIS			
3.5	Other			
4.0	DESIGN AND OPERATIONS AND MAINTENANCE PLAN			
4.1	Site Development Plan current			
4.2	Operations Procedures & Policies Current			
4.3	Construction/As-built records			
5.0	PERSONNEL, OPERATING EQUIPMENT	AND I	ACIL	ITIES
5.1	Landfill Foreman			
5.2	Support Personnel			
5.3	Staff Facilities			
5.4	Equipment Facilities			
5.5	Communication equipment			
5.6	Fuel Storage			



No	Item	Α	U	COMMENTS
6.0	ENTRANCE AND ROADWAYS			
6.1	Site Appearance			
6.2	Entrance Road			
6.3	On-site Access Roads			
6.4	Road Surfacing			
0.1	read candonig			
7.0	SITE DEVELOPMENT			
7.1	Construction			
7.2	Cover Soils			
7.3	Borrow Areas			
7.4	Topsoil/Subsoil Salvaged/Stockpiled			
8.0	ACTIVE WORKING FACE			
8.1	Vehicle Staging/Safety			
8.2	Working Face			
8.3	Waste Compaction Density			
8.4	Cover Frequency			
8.5	Surface Water Controls			
8.6	Litter Controls			
8.7	Other			
9.0	INACTIVE SLOPES			
9.1	Intermediate Cover (300 mm)			
9.2	Vegetation Cover			
9.3	Drainage and Grading			
9.4	Erosion Controls			
40.0	001101 5750 40540			
10.0	COMPLETED AREAS			
10.1	1000 mm Compacted Shale Layer			
10.2	150 mm Topsoil Layer			
11.0	SURFACE WATER MANAGEMENT			
11.1	Working face controls			



	,			
No	Item	Α	U	COMMENTS
12.0	ENVIRONMENTAL MONITORING AND CO	NTRO	DLS	
12.1	Groundwater Monitoring			
	Annual Report on file			
	Wells protected and secure	-		
12.2	Litter Management	-		
12.3	Animal Management			
12.4	Dust Management			
13.0	CONTROLLED BURNING AREA		1	
13.1	Materials accepted	-		
13.2	Site maintenance	-		
13.3	Burning controls			
13.4	Notification to Department of Environment and			
	Natural Resources Northwest Territories,			
	Neighbours, Fire Dept.	1		
14.0	RECYCLING FACILITIES			
14.1	Tires			
14.2	Metals			
14.3	Appliances			
14.4	Batteries			
14.5	Plastics			
15.0	SAFETY			
15.1	Employee Safety Practices/Issues			
15.2	Customer Safety Practices/Issues			
15.3	Equipment Backup Alarms			
15.4	Documentation			
16.0	EMERGENCY RESPONSE			
16.1	Medical Emergency Response			
16.2	Fire Response			
16.3	Environmental Response			



CITY OF IQALUIT CITY OF IQALUIT MUNICIPAL LANDFILL DAILY OPERATIONS LOG

DATE:	Day Mo	nth	Year				
WEATHER:	Precipitation	mm Temp	·	°C	Wind:		km from
DAILY WAS	TE RECORD:						
	Received (in-bound)		m3				
R	ecycled (out-bound)		m3				
	Compost Materials		m3				
CI	ean Wood Materials		m3				
STAFF:							
	Landfill Foreman	Start:				Leave:	
EQUIPMENT	T:						
	Compactor	Hours:				Activity:	
		Hours:				Activity:	
SITE MAINT	ENANCE:		<u>Activities</u>				<u>Comments</u>
(i.e. litter, f	ences, roads, other)						
CONTROLL	ED BURN:	Time start:				Time end:	
SITE INSPE	CTIONS:		Observations			Action	on Taken or Required
	Litter						
	Surface Water						
	Intermediate Cover						
	Final Cover						
	Compaction						
MONITORIN	G:						
	Groundwater	Ву	Record				
SITE MAINT	ENANCE:						
OTHER:			(Use h	ack o	f form to r	note other a	ctivities)
			(000 00	~O.\ O		cirioi a	·····

The City of Iqaluit City of Iqaluit Municipal Landfill Operations and Maintenance Manual



CITY OF IQALUIT CITY OF IQALUIT MUNICIPAL LANDFILL WASTE SCREENING FORM

GENERAL INFORMATION

Date and Time:			
Transporter Name:			
License Plate No.:			
Source of Waste:			
Transporters Waste Description: WASTE INSPECTION OBSERVATION	(Completed by Land	dfill Personnel)	-
Observation	Yes or No	If yes, explain	
Hazardous Waste Labels or Placards			
PCB Transformers, Labels or Placards			
Unrinsed Pesticide Containers			
Bulk or Containerized Liquids			
Free Liquids Present (i.e. oil)			
Sludges, Pastes or Slurries			
Powders, Dust, Smoke or Vapours			
Petroleum Odours			
Lead-Acid Batteries			
Unusual Odours			
Cylinders			
Paint			
Freon Items (fridge, freezer)			
Metal			
Wood (for the burn pile)			
E-Waste			
Other Suspicious Items			
Waste Accepted			
If waste was rejected, explain why:			
What happened to rejected waste: Signature of Landfill Personnel		Date	



CITY OF IQALUIT CITY OF IQALUIT MUNICIPAL LANDFILL HAZARDOUS MATERIAL LOAD CHECK FORM

ocation				
Date				
ime				
ehicle Description & I.I	D			
/ehicle Operator				
Vaste Source				
The following noteworth	y items were found	during this inspection:		
Material Description	Container (i.e. Drum)	Quantity (i.e. kg/litre)	Remove to (Location)	Removed by (Name)
Comments and follow-u	p:			
_andfill Foreman's conta	acted: Time	[Date	
Name of person conduc				



Appendix C - Guideline for the General Management of Hazardous Waste in Nunavut



Appendix D - End-of-Life Vehicle Hazardous Materials Recovery Program Manual Operation



Appendix E - 2006 Drainage Improvements



Appendix F – Decommissioning Plan



Appendix G: Solid Waste By-Law



Appendix H: Iqaluit Water License



Appendix I: Landfill Emergency Response Plan



Appendix J: Spill Contingency Plan