# Spill Contingency Plan

## Sewage Lagoon Facility and Solid Waste Facility

## Hamlet of Paulatuk, NT

*Prepared for: Hamlet of Paulatuk, NT*
*Prepared by: Dillon Consulting Limited*

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# 1 INTRODUCTION AND PROJECT DETAILS

This spill contingency plan applies to the sewage lagoon and solid waste facilities currently in operation within the municipal boundaries of the Hamlet of Paulatuk (the Hamlet). The spill contingency plan was developed for these facilities as required for a water licence application for the Hamlet.

Under the Northwest Territories Waters Regulations (SOR/93-303, current to June 22, 2015; Section 6(g)), licence applications must include "where the undertaking involves the handling or storage of petroleum products or hazardous materials, (i) a plan for the safe handling, storage and disposal thereof, and (ii) a contingency plan for their containment and for the clean-up thereof in the event of a spill".

This spill contingency plan is based on the Inuvialuit Water Board's Spill Contingency Plan Template and the Water Resources Division Indian and Northern Affairs Canada document titled, "Guidelines for Spill Contingency Planning" (2007). Both documents can be found on the Inuvialuit Water Board's website.

## 1.1 Company Name, Location and Mailing Address

This Spill Contingency Plan provides for the prompt and coordinated response of the Hamlet of Paulatuk, NT located 69°21'03" N latitude and 124°04'16" W longitude.

Hamlet of Paulatuk
Box 98
Paulatuk, NT
X0E 1N0
Phone: 867-580-3531
Fax: 867-580-3703
Email: hopaulatuk@gmail.com

Main Contact: Mr. Greg Morash (Supervisor)
Alternate Contact: Mr. Keith Dodge (Hamlet Foreman)

## 1.2 Effective Date of Spill Contingency Plan: July 2015

## 1.3 Last Revisions to Spill Contingency Plan: July 2015

## 1.4 List of Revisions

Table 1. List of revisions

| Date | Revisions |
|---|---|
| July 2015 | Preparation of the Spill Contingency Plan for submission with water licence application. |

## 1.5 Purpose and Scope

The purpose of this plan is to outline response actions for potential spills. The plan identifies key response personnel and their roles and responsibilities in the event of a spill, as well as the equipment and other resources available to respond to a spill. It details spill response procedures that should help to reduce potential health and safety hazards, environmental damage, and clean-up requirements. The plan has been prepared with the intent to help provide quick access to information required in responding to a spill.

## 1.6 Environmental Policy

The Hamlet should, as part of its environmental policy for the operation of the sewage lagoon and solid waste disposal facilities:

- Comply with existing legislation and regulations for water and the environment;
- Provide protection of the environment as is technically feasible and economically practical;
- Cooperate with other relevant groups on the protection of the environment; and
- Keep employees, government officials, and the general public informed.

The Hamlet should be committed to operating in an environmentally sensitive manner, and comply with the requirements of the Inuvialuit Water Board (IWB). All staff that are associated with these facilities (e.g., current and new employees) and contractors should be made aware of the Spill Contingency Plan, the location of spill kits, and spill response procedures.

The Hamlet should commit to updating the plan if conditions change at the facilities, when technical advancements are available and/or there are updates to legislative/regulatory requirements.

## 1.7 Project Description

The Hamlet operates under a Type B water licence (N7L3-1619) for the extraction of water from New Water Lake, the disposal of sewage at a local facility, and the disposal of solid waste within a landfill facility.

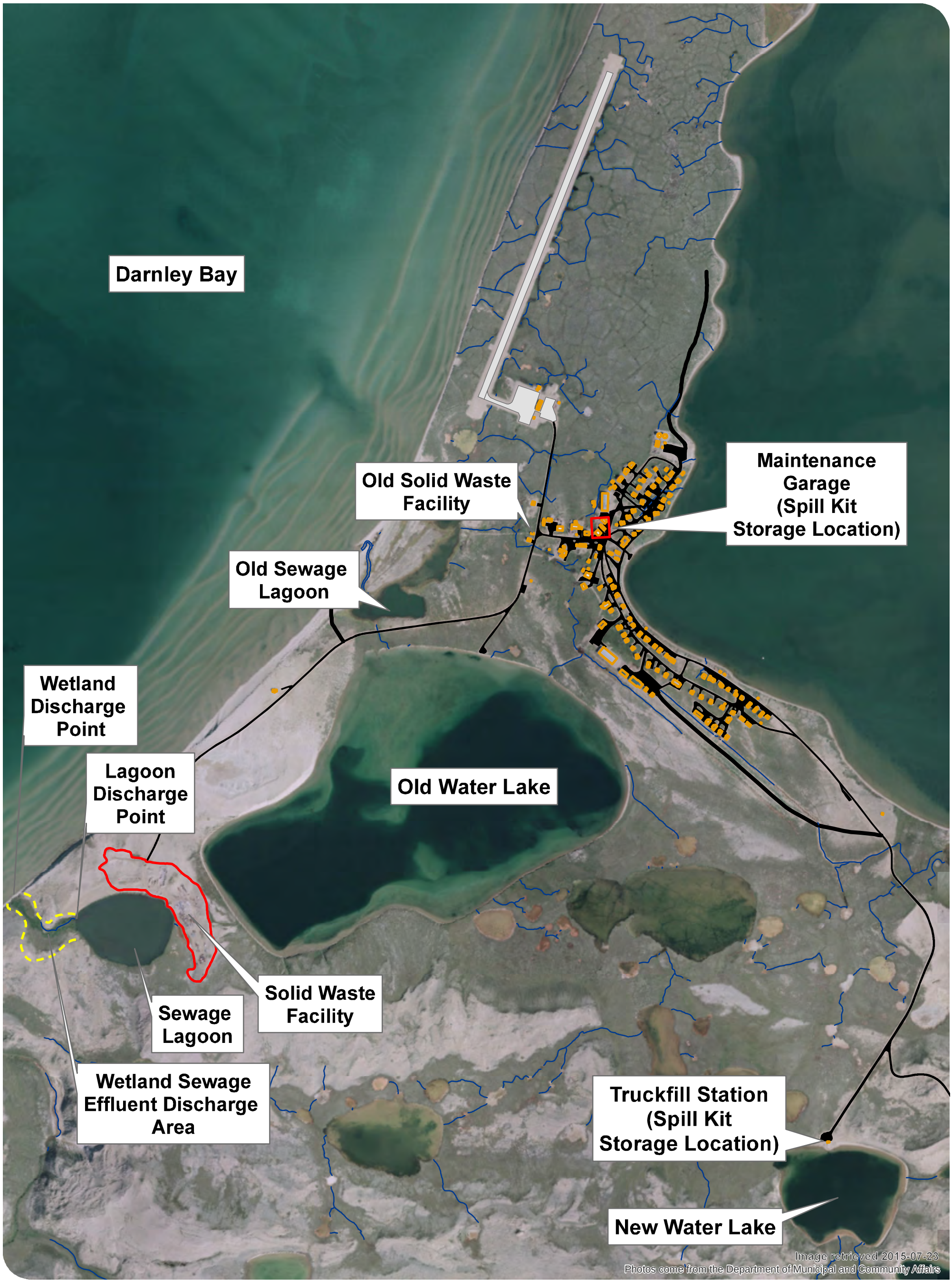
## 1.8 Site Description

The Hamlet is located on the south end of Darnley Bay in the Northwest Territories (Figure 1). The population of the Hamlet is 313 based on the 2011 Census, (http://www.statsnwt.ca/census/2011/). The areas pertaining to this spill contingency plan are the sewage lagoon facility and the solid waste disposal facility (Figure 1). The drinking water source for the Hamlet is New Water Lake, which is located approximately 2.2 km from the community and approximately 2.3 km from the sewage and solid waste disposal facilities (Figure 1).

The sewage lagoon facility is a natural lake located approximately 2 km from the community. The lagoon has a natural outflow through with a vegetated corridor that is approximately 300 m long and empties into Darnley Bay.

The hamlet's solid waste disposal site is located adjacent to the sewage lagoon approximately 2 km from the community and approximately 2.3 km west of New Water Lake (i.e., Hamlet's drinking water supply). The facility includes a municipal solid waste disposal area and a bulky waste disposal area. The facility is located approximately 500 m from Darnley Bay.
Hazardous wastes are disposed of at the maintenance garage, which is located within the community (Figure 1).

Based on drainage patterns and facility locations, areas in the vicinity of the Hamlet that may be immediately affected by a potential spill include the wetlands in proximity to the sewage lagoon, Old Water Lake, and Darnley Bay. In addition, areas within the community may be affected if a spill were to occur during sewage and waste disposal removal activities from within the community.




**PAULATUK**
SPILL CONTINGENCY PLAN

**STORAGE AND SPILL KIT LOCATIONS**
FIGURE 1 AREA MAP

BUILDING FOOTPRINT
ROADS
AIRSTRIP
DRAINAGE PATHS
POTENTIAL SPILL LOCATIONS
WETLAND AREA

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY GNWT

MAP CREATED BY: PMH
MAP CHECKED BY: AC
MAP PROJECTION: NAD 1983 UTM Zone 10N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\SASKATOON\CAD\GIS\151920 WATER LICENCE RENEWAL\PAULATUK\PAULATUK FIG1 SPILL CONTINGENCY PLAN.MXD

SCALE 1:12,500

0 0.1 0.2 0.4 km

N W E S

PROJECT: 151920 STATUS: DRAFT DATE: 2015-07-24

## 1.9 Hazardous Materials Stored on Site

The hazardous materials listed within this section are related to materials stored at the sewage lagoon facility and the solid waste disposal facility within the Hamlet of Paulatuk, NT. Hazardous materials disposed of at the solid waste facility are currently stored within the maintenance garage located off-site within the community.

Table 2. List of hazardous materials stored on-site, type of storage container, the normal and maximum storage quantities, and storage locations

| Material | Storage container | Average on-site* | Maximum on-site | Storage location and uses |
|---|---|---|---|---|
| Waste oils | 45 gallon barrel | 5 | Until shipped off-site | Maintenance Garage |
| Batteries | pallet | 4 pallets full | Until shipped off-site | Maintenance Garage |
| Fluids/solvents/waste liquids | 45 gallon barrel | 10 | Until shipped off-site | Maintenance Garage |
| Waste oils | 45 gallon barrel | 6 | Until shipped off-site | Maintenance Garage |
| Propane Tanks | 90 pound canisters | 8 | Until shipped off-site | Bulky waste site |
| Raw Sewage | Sewage Lagoon | Unknown | Unknown | Disposal of sewage waste from community |

*Quantities are subject to change depending on the quantities disposed of at the solid waste facility.

At the solid waste facility, hazardous wastes due to the disposal of vehicles and/or indiscriminate waste disposal by community residents may also be present. Empty propane tanks that are collected are stored at the solid waste facility (bulky waste site) and not at the maintenance garage. These propane tanks may contain residual propane.

The Material Safety Data Sheets (MSDS) for hazardous materials should be kept at the maintenance garage, updated as required and available for reference.

## 1.10 Preventive Measures

The community is concerned about the environment and the possibility of a spill; therefore, precautions should be taken when working with hazardous materials. In order to prevent spill occurrences, the Hamlet should take the following spill prevention measures and general precautions at the various facilities:

- Operators should be trained in safe handling and disposal procedures;
- Operators should ensure that the collection trucks are not filled beyond capacity;
- Truck and equipment inspections should be performed on a regular basis;

- Leaks checks should be performed for motorized vehicles and other equipment on a regular basis;
- Berms and containment measures should be inspected regularly on a scheduled basis;
- Secondary containment measures should be in place at required locations;
- Personal protective equipment (PPE) should be worn at all times when handling hazardous waste;
- MSDS should be readily available for all hazardous waste present on-site;
- Spill kits should be readily available for all spill types;
- Schedules for the various inspections should be prepared and followed by appropriate personnel; and
- Inspection checklists should be prepared and followed by appropriate personnel.

The proposed location for the storage of spill kits is provided in Figure 1. In addition, the probable location of spills as related to the sewage lagoon and solid waste facility activities are shown in Figure 1.

## 1.11 Additional Copies

Several copies of the most recent version of the plan should be kept at the Hamlet office and maintenance garage at all times. Additional copies can be obtained by contacting the Hamlet by email, phone, or fax (Section 1.1).

## 1.12 Media and Public Inquiries

Media and public inquiries should be directed to the SAO for the Hamlet, using the contact information presented in Section 1.1. Reportable spills should be available to view online at: http://www.enr.gov.nt.ca/node/3002 and/or using the contact information provided on the NT Hazardous Materials Spills website.

# 2 RESPONSE ORGANIZATION

The flow chart depicted in Figure 2 identifies the response organization, as well as the chain of command for responding to a spill or release. The duties of various response personnel are summarized, and contact information is provided in Section 4.2 (including 24-hour phone numbers).

An immediately reportable spill is defined as a release of a substance that is likely to be an imminent human health or environmental hazard or meets or exceeds the volumes outlined on the NT Hazardous Spills website[1]. It will be reported to the NT 24-Hour Spill Report Line at 867-920-8130. Any spills that do not pose an imminent human health or environmental hazard and are less than the quantities outlined on NT Hazardous Spills website will not be reported immediately to the spill reporting line. Rather, these minor spills will be tracked and documented by the Hamlet Foreman and submitted to the Hamlet SAO either immediately upon request or at a pre-determined reporting interval. If there is any doubt that the quantity spilled exceeds reportable levels, the spill will be reported to the NT 24-Hour Spill Report Line.

In the event of a spill that endangers human life, telephones or CB radios will be used to contact emergency response personnel. The spill will be immediately reported by personnel to the Hamlet Foreman, Hamlet SAO and the NT 24-Hour Spill Report Line.

[1] NT Hazardous Spills website: http://www.enr.gov.nt.ca/programs/hazardous-materials-spills/reporting-spills

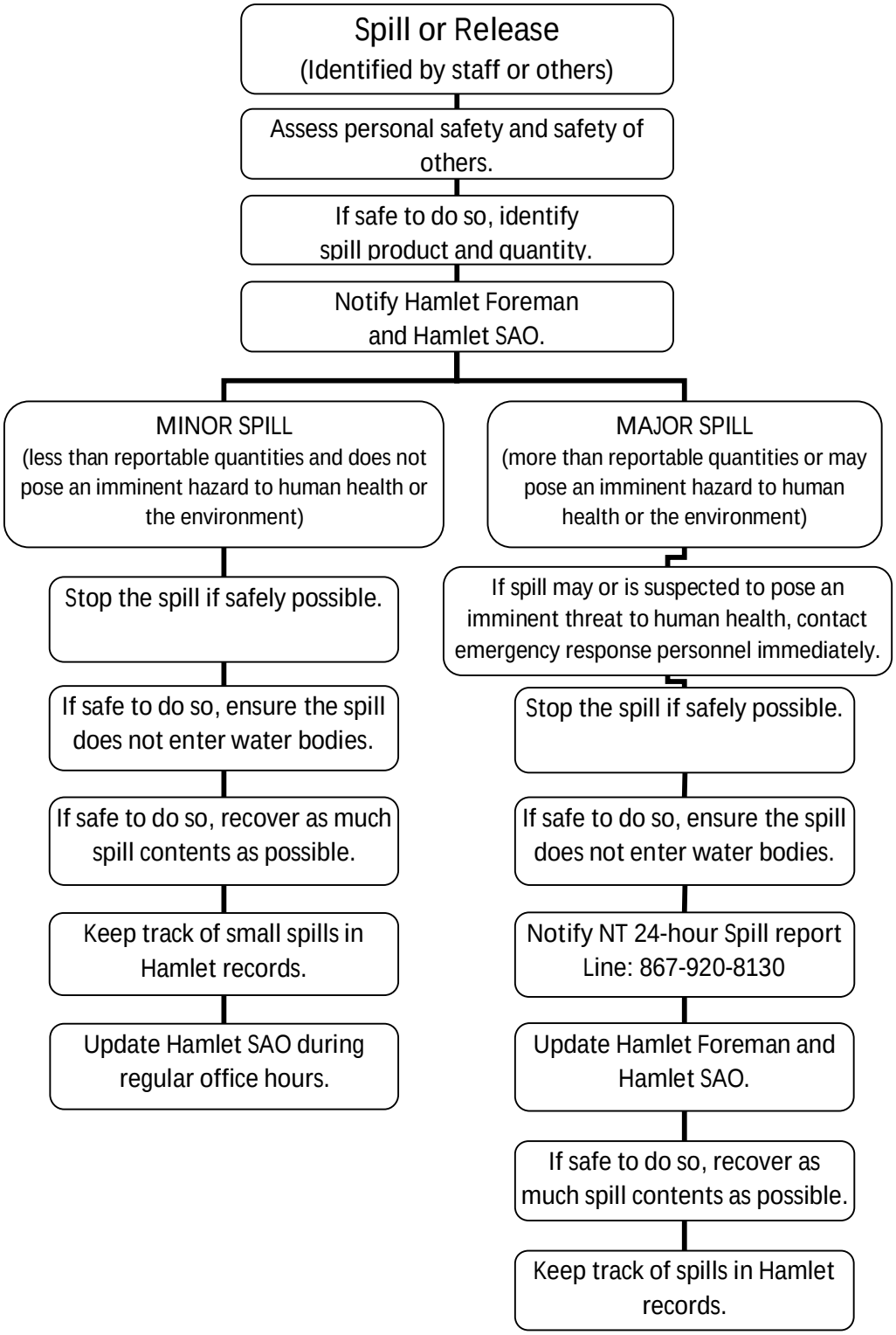



Figure 2. Flow chart of response organization in the event of a spill

Reportable quantities for hazardous spills are defined on the NT Hazardous Spills Database website: http://www.enr.gov.nt.ca/programs/hazardous-materials-spills/reporting-spills

# 3 ACTION PLAN

## 3.1 Potential Spill Sizes and Sources

In this section the potential spill event and spill volume are presented for the primary hazardous materials stored at the sewage lagoon and solid waste facilities located in the Hamlet of Paulatuk. The most likely spill discharge volume is indicated and the spill clean-up procedures will focus on spills of this quantity. A worst case scenario is also presented.

### *3.1.1 Sewage Spills from Sewage Holding Tanks and Trucks*

Sewage holding tanks could fail from hairline cracks, corrosion, collision and/or wear and tear due to the environment. Routine inspections consist of looking for leaks from cracks/failures of the tank wall and connections. Owners should visually inspect their tanks several times a year. Failure of a sewage truck or any equipment used while pumping sewage into the truck and/or out of the truck can be prevented by routine inspections by the appropriate personnel. Proper training of truck operators will also provide additional preventive measures for sewage leakage.

The Hamlet is responsible for cleaning and reporting sewage spill events. The Hamlet will be using one sewage truck with a capacity of 1600 gallons or 6057 L. A worst case scenario would involve the release of a complete truck full of sewage waste during one event.

The direction of potential discharge within the community is likely toward Darnley Bay. The direction of potential discharge at the sewage lagoon facility is toward the adjacent wetland.

### *3.1.2 Sewage Spills from Sewage Disposal Facilities*

The truck turn-around pad and sewage discharge chute associated with sewage disposal facility structures and drainage courses are inspected on an annual basis by the Hamlet. In addition, during the open water months (mid-June to late October) the integrity of the structure is visually checked by Hamlet personnel.

The Hamlet is responsible for cleaning and reporting sewage spill events. The potential discharge volume is unknown as the depth of the lagoon is not known. A worst case scenario would involve the natural lake to overfill and there is a release of sewage into the wetland system or the surrounding area of the lagoon.

The direction of potential discharge at the sewage lagoon facility is toward the adjacent wetland. The wetland eventually drains into Darnley Bay.

### *3.1.3 Spills from Fuel Storage*

Waste fuel is stored at the maintenance garage located with the community in drums and barrels. Potential spills could result from minor leakages and/or larger punctures in drums or barrels located within the fuel storage areas.

In the event of a spill, the Hamlet is responsible for the cleaning (if safe to do so) and reporting the spill. The individual capacity of the fuel storage drums/barrels are approximately 45 gallons. The number of drums/barrels stored at the maintenance garage is dependent on the quantity of disposed waste fuel. A worst case scenario would involve the release from all drums/barrels present at the maintenance garage during one spill event.

The direction of potential discharge would be toward Darnley Bay, potentially through the community.

### *3.1.4 Fuel Spill from Sewage Trucks / Waste Disposal Trucks Equipment*

Fuel spills can occur during re-fuelling of trucks, as a result of over-filling trucks and improper hose connections to fuel storage tanks. Fuel spills can also occur from accidents involving sewage/waste collection vehicles within the community and at the facilities. In addition, fuel spills may occur due to the disposal of old vehicles at the solid waste facility, and timely removal of the fuel from disposed vehicles should be undertaken. Regular maintenance and oil checks of all trucks should be undertaken to avoid preventable leaks.

In the event of a spill due to facility operations, the Hamlet is responsible for the cleaning (if safe to do so) and reporting the spill. The discharge of a fuel related spill is likely to be under 300 L. A worst case scenario would involve the complete loss of fuel from a truck, an uncontrolled discharge of fuel from a storage tank, and an untimely removal of fuel from disposed vehicles.

The direction of potential discharge at the sewage lagoon is toward the adjacent wetland and subsequently Darnley Bay. The direction of potential discharge at the solid waste facility is toward Darnley Bay and/or Old Water Lake. Similarly, the direction of potential discharges within the community is likely toward Darnley Bay, potentially through the community.

### *3.1.5 Propane Spill*

There are no known active uses of propane at the sewage lagoon and solid waste facilities. Used propane tanks are deposited at the solid waste facility. As a result, only residual amounts of propane are expected to be present at the solid waste facility.

Propane is extremely volatile and is one of the most flammable material stored on-site; thus, the Fire Department should be the first responder in all spill/release cases involving propane. All non-responders must be kept well away from the area.

A propane spill/release can occur when the cylinder has a leak in or outside fuel storage areas, when propane lines not properly connected to equipment (i.e. kitchen stove, dryer). The complete volume of propane within a cylinder will be released if a leak develops; therefore, safety during emergency response to a propane spill/release is of utmost concern. The propane tanks stored in the solid waste facility are approximately 90 pounds in size and the number of tanks stored at the solid waste facility varies depending on the disposed quantities. A worst case scenario would involve the release of all propane amounts from all tanks present at the solid waste facility during one spill/release event.

### *3.1.6 Used Waste Oil or Lubricating Oil Spill*

Sources of used waste oil at the facilities include the storage of used oil at the maintenance garage and waste oil contained within vehicles disposed at the solid waste facility.

In the event of a spill due to facility operations, the Hamlet is responsible for the cleaning (if safe to do so) and reporting the spill. The discharge of a potential spill is unknown as the amount of used oil stored at the maintenance garage is dependent on the quantity disposed of at the facility. A worst case scenario would involve the complete release of used oil from all storage drums during one spill event.

The direction of potential discharge would be toward Darnley Bay, potentially through the community. At the solid waste facility, discharge would be towards Darnley Bay.

## 3.2 Procedures for Initial Action

1. Be alert and consider your personal safety first.
2. Assess the hazard to persons in the vicinity of the spill and where possible take action to control danger to human life (ensure safety of everyone).
3. Assess the situation and make arrangements for first aid and removal of injured personnel.
4. Take the necessary action where possible to secure the site to protect human safety.
5. Assess spill hazards and risks.
6. Identify the material or products involved in the spill.
7. If applicable and only if it is safe to do so, remove or shut off all ignition sources.
8. If safe, try to take the appropriate action to stop the spill (e.g., shut off pump, replace cap, tip drum upward, patch leaking hole, create a ditch to stop flow etc.).
9. Use the contents of the nearest spill kit to aid in stopping the spill if it is safe to do so.
10. Take all necessary action (if safe to do so) to contain or prevent the spread of the spilled contents (e.g., use contents of spill kits to place sorbent material on the spill, or use shovel to dig dike to contain spill. Methods will vary depending on the nature of the spill).
11. Gather information on the status of the situation.
12. Regardless of the spill volume, contact the Hamlet Foreman and Hamlet SAO.
13. As soon as possible and if required, contact the NT 24-Hour Spill Report Line at 867-920-8130.
14. If required, complete a spill report form (Appendix A).

## 3.3 Procedures for Containing and Cleaning up the Spill

If safe to do so, follow these steps:

- First, initiate spill containment by first determining what will be affected by the spill.
- Second, assess speed and direction of spill and cause of movement (water, wind and slope).
- Third, determine best location for containing spill, avoiding any water bodies.
- Have a contingency plan ready in case spill worsens beyond control or if the weather or topography impedes containment.

### *3.3.1 Sewage Infrastructure*

1. Any person who sees a liquid flowing or seeping from a sewage holding tank, a sewage truck or a connection from the truck to a hose or the lagoon should report this to the Hamlet Foreman, the Hamlet SAO, and the homeowners.
2. The Hamlet Foreman should, upon notification, determine the extent and size of the spill. Therefore, the Hamlet Foreman is responsible to take the appropriate action and use the reporting procedures to notify the proper authorities. Since spills of sewage involve an infectious substance that may cause health problems, the local nursing station and Environmental Health Officer should be notified of the spill.
3. If the area in which the spill occurred is accessible to the public or domestic pets, the contaminated area must be clearly marked or cordoned off to restrict access. Keep children and interested bystanders away from clean-up activities.
4. If the spilled material can't be recovered using hand tools, a commercial vacuum/pump truck should be called to remove all visible liquid and solid material. Any spill resulting from the failure of a sewage truck or its connections would necessitate the procurement of vacuum trucks to contain the sewage while any soil or ground material contaminated by the spill is recovered and properly disposed of according to an Environmental Health Officer.
5. Protective clothing (at a minimum, rubber or latex gloves, safety goggles and rubber boots) should be worn when cleaning up a sewage spill. (Dispose of gloves and wash rubber boots and safety goggles when leaving spill site.)
6. When the area is visibly clean, lime will be spread on the ground where the spill took place under the instructions of an Environmental Health Officer. Lime can be obtained from a variety of hardware stores. Please note that hydrated lime is a caustic material and can be dangerous to handle and apply. Lime should only be used or applied by people experienced in using this material.
7. If no lime is available, a chlorine/water solution (bleach) should be applied to the spill area to disinfect. To make a 5% chlorine solution, add 3/4 cup (180 mL) Clorox bleach to one (1) gallon of water. Only use bleach that has "sanitizes" or "kills germs" on the label. Do not mix cleaning/disinfecting products or chemicals. Cleaning products can react with one another to produce toxic vapor or liquid substances.
8. Notify the Hamlet foreman when the clean-up is done.
9. When the spill area has been cleaned (24 hours after the chlorine solution or hydrate lime has been spread), the barriers can be removed and access to the area restored.
10. Any repairs or replacement of the failed tank should take place under acceptable engineering standards.

### *3.3.2 Lagoon Structure*

The lagoon is designated as an exfiltration lagoon. Liquid flows continuously through and is directed toward further polishing in the wetlands.

1. Any person who sees a liquid overflowing from the lagoon should report this to the Hamlet Foreman.

2. The Hamlet Foreman should, upon notification, determine the extent and size of the problem. Therefore, the Hamlet Foreman is responsible to take the appropriate action and use the reporting procedures to notify the proper authorities.
3. Any spill resulting from the lagoon overfilling would likely necessitate the permission from ENR to pump out excess effluent to the wetland until a permanent solution can be developed.
4. The permanent solution might be to construct a new cell to use in conjunction with the current cell or construct a new larger cell capable of holding the community's wastewater effluent. A qualified engineer and contractor would be engaged to undertake the work.

### *3.3.3 Containment of Spill on Open Water*

Spills on water such as rivers, streams or lakes are the most serious types of spills as they can negatively impact water quality and aquatic life. All measures need to be undertaken to contain spills on open water.

For spills in open water, containment procedures will vary depending on whether the material floats or sinks, and whether the water is flowing or standing.

1. In the event of a spill, any person who found it should report this to the Hamlet Foreman.
2. The Hamlet Foreman should, upon notification, determine the source, the extent and size of the spill. Therefore, the Hamlet Forman is responsible to take the appropriate action and use the reporting procedures to notify the proper authorities.
3. If the area in which the spill occurred is accessible to the public or domestic pets, the contaminated area must be clearly marked or cordoned off to restrict access. Keep children and interested bystanders away from cleanup activities.
4. Protective clothing (at a minimum, rubber or latex gloves, safety goggles and rubber boots) should be worn when cleaning up a spill. (Dispose of gloves and wash rubber boots and safety goggles when leaving spill site.)
5. Assess speed and direction of spill.
6. Determine best location for containing spill.
7. For floating materials, a surface boom shall be deployed. Booms are commonly used to recover fuel floating on the surface of a lake or slow moving streams. They are released from the shore of a water body to create a circle around the spill. If the spill is away from the shoreline, a boat will need to be used to reach the spill and the boom can be set out. More than one boom may be used at once. Booms may also be used in streams and should be set out at an angle to the current. Booms are designed to float and some have sorbent materials built into them to absorb fuels at the edge of the boom. Fuel contained within the circle of the boom will need to be recovered using sorbent materials or pumps (be sure to use a proper hose and pump rated for the specific type of contaminant) and placed into barrels for disposal. If a boom cannot be installed, weirs may be constructed, especially in shallow areas.

8. Weirs can be used to contain spills in streams and to prevent further migration downstream. Plywood or other materials found on-site can be placed into and across the width of the stream, such that water can still flow under the weir. Spilled fuel will float on the water surface and be contained at the foot of the weir. It can then be removed using sorbents, booms or pumps (be sure to use a proper hose and pump rated for the specific contaminant) and placed into barrels.
9. The On-Scene Coordinator will have to judge whether the impact of the spill will be most reduced by carrying out a containment procedure or by immediately attempting to remove any contaminant from the water. This will depend on the equipment available and how long it will take for additional equipment to arrive. Removed contaminants should be placed on an impermeable contained surface (example poly liner in a depression) or an overpack drum to prevent further seepage.

### *3.3.4 Containment of Spills on Ice*

Spills on ice are generally the easiest spills to contain due to the predominantly impermeable nature of the ice.

For spills on ice, containment procedures will vary depending on whether the material stays on the ice or sinks into it.

1. In the event of a spill, any person who found it should report this to the Hamlet Foreman.
2. The Hamlet Foreman should, upon notification, determine the source, the extent and size of the spill. The Hamlet Foreman is responsible to take the appropriate action and alert the necessary people.
3. Use the reporting procedures to notify the proper authorities.
4. If the area in which the spill occurred is accessible to the public or domestic pets, the contaminated area must be clearly marked or cordoned off to restrict access. Keep children and interested bystanders away from cleanup activities.
5. Protective clothing (at a minimum, rubber or latex gloves, safety goggles and rubber boots) should be worn when cleaning up a spill. (Dispose of gloves and wash rubber boots and safety goggles when leaving spill site.)
6. Assess speed and direction of spill.
7. Determine best location for containing spill.
8. Spills on ice can be affected by the strength of the ice and the floating or sinking characteristics of the materials. The safe bearing capacity of ice has to be carefully assessed.
9. If the spill does not penetrate the ice, and the ice is safe to work on, sorbent materials can be used to soak up spilled fuel. Remaining contaminated ice/slush can be scraped and shoveled into a barrel. However, all possible attempts should be made to prevent spills from entering ice covered waters as no easy method exists for containment and recovery of spills if they seep under ice.
10. If the spill penetrates the ice, dykes can be used to contain fuel spills on ice. By collecting surrounding snow, compacting it, mounding it and watering it down to form a dyke down slope of the spill, a barrier is created thus helping to contain the spill. The collected fuel can then be

pumped (be sure to use a proper hose and pump rated for the specific contaminant) into barrels or collected with sorbent materials.

11. For significant spills on ice, trenches can be cut into the ice surrounding and/or down slope of the spill such that fuel is allowed to pool in the trench. It can then be removed via pump (be sure to use a proper hose and pump rated for the specific contaminant) into barrels, collected with sorbent materials, or mixed with snow and shoveled into barrels.

### *3.3.5 Containment of Spills on Snow*

Snow is a natural sorbent; thus, as with spills on soil, spilled contents can be more easily recovered. Therefore, snow should be used as much as possible when it is available.

1. In the event of a spill, any person who found it should report this to the Hamlet Foreman.
2. The Hamlet Foreman should, upon notification, determine the source, the extent and size of the spill. The Hamlet Foreman is responsible to take the appropriate action and alert the necessary people.
3. Use the reporting procedures to notify the proper authorities.
4. If the area in which the spill occurred is accessible to the public or domestic pets, the contaminated area must be clearly marked or cordoned off to restrict access. Keep children and interested bystanders away from cleanup activities.
5. Protective clothing (at a minimum, rubber or latex gloves, safety goggles and rubber boots) should be worn when cleaning up a spill. (Dispose of gloves and wash rubber boots and safety goggles when leaving spill site.)
6. Assess speed and direction of spill.
7. Determine best location for containing spill.
8. Small spills on snow can be easily cleaned up by raking and shoveling the contaminated snow into empty barrels, and storing these at an approved location.
9. Dykes can also be used to contain fuel spills on snow. By compacting snow down slope from the spill, mounding it to form a dyke and watering it down, a barrier is created thus helping to contain the spill. The collected fuel/snow mixture can then be shoveled into barrels, or collected with sorbent materials.

### *3.3.6 Containment of Spills on Land*

Spills on land include spills on rock, gravel, soil and/or vegetation. It is important to note that soil is a natural sorbent; thus, spills on soil are generally less serious than spills on water as contaminated soil can be more easily recovered. Generally spills on land occur during the late spring, summer or fall when snow cover is at a minimum. It is important that all measures be undertaken to avoid spills reaching open water bodies.

1. In the event of a spill, any person who found it should report this to the Hamlet Foreman.
2. The Hamlet Foreman should, upon notification, determine the source, the extent and size of the spill. The Hamlet Foreman is responsible to take the appropriate action and alert the necessary people.
3. Use the reporting procedures to notify the proper authorities.

4. If the area in which the spill occurred is accessible to the public or domestic pets, the contaminated area must be clearly marked or cordoned off to restrict access. Keep children and interested bystanders away from cleanup activities.
5. Protective clothing (at a minimum, rubber or latex gloves, safety goggles and rubber boots) should be worn when cleaning up a spill. (Dispose of gloves and wash rubber bootsand safety goggles when leaving spill site.)
6. Assess speed and direction of spill.
7. Determine best location for containing spill.

8. In all cases of liquid spills, the initial containment step is to prevent further dispersion. This is done with cut-off ditches and dyking with soil as needed around the spill utilizing mobile heavy equipment. If necessary, absorbents (e.g., Zorbal, Hazorb Pillows, peat moss, sawdust) or gelling agents (e.g., Chemgel) should be spread to prevent further spread or seepage.
9. Dykes can be created using soil surrounding a spill on land. These dykes are constructed around the perimeter or down slope of the spilled fuel. A dyke needs to be built up to a size that will ensure containment of the maximum quantity of fuel that may reach it. Fuels that pool up can be removed with sorbent materials or by pump (be sure to use a proper hose and pump rated for the specific contaminant) into barrels. If the spill is migrating very slowly a dyke may not be necessary and sorbents can be used to soak up fuels before they migrate away from the source of the spill.
10. If you cannot build a dyke, trenches can be dug out to contain spills as long as the top layer of soil is thawed. Shovels, pick axes or a loader can be used depending on the size of trench required. It is recommended that the trench be dug to the bedrock or permafrost, which will then provide containment layer for the spilled fuel. Fuel can then be recovered using a pump (be sure to use a proper hose and pump rated for the specific contaminant) or sorbent materials. Once the soil has been removed, it should be replaced with clean soil to avoid slumping.

### *3.3.7 Fire or Explosion*

1. In all cases, the first step is to clear people from the surrounding area. Particular care must be taken to prevent inhalation of vapors that are products of combustion.
2. When fire is associated with a spill of hazardous material, the local fire department must be the first responder to fire and explosion occurrence in all cases.
3. The fire department will take all the necessary measures to extinguish the fire.
4. If necessary, the fire department will construct dykes down slope from liquid spills, to minimize spreading of fire and contain unburned fluid. Foam, $CO_2$ or water will then be used as appropriate for the fire.

## 3.4 Procedures for Transferring, Storing, and Managing Spill-Related Wastes

Loose material should be scooped up (using equipment appropriate to the spill size) and transferred into containers. Any soil beneath the spill, which may have been contaminated, should also be removed where possible, and disposed of with the recovered material.

In most cases, spill clean-ups are initiated at the far end of the spill and contained moving toward the source of the spill. Sorbent socks and pads are generally used for small spill clean-up. A pump with attached fuel transfer hose can suction spills from leaking containers or large accumulations on land or ice, and direct these larger quantities into empty drums. Be sure to use a proper hose and pump rated for the specific fuel/contaminant. Hand tools such as cans, shovels, and rakes are also very effective for small spills or hard to reach areas. Heavy equipment can be used if deemed appropriate and necessary, and given space and time constraints.

Used sorbent materials are to be placed in barrels for future disposal. Materials mentioned in this section should be available in the spill kits located at maintenance garage. Following clean-up, any tools or equipment used will be properly washed and decontaminated, or replaced if this is not possible.
For most of the containment procedures outlined in Section 3.3, spilled petroleum products and materials used for containment will need to be placed into containers such as empty waste oil/fuel containers and sealed for proper disposal at an approved disposal facility.

## 3.5 Procedures for Restoring Affected Areas, Providing Inspectors with Status Updates and Clean-up Completion

Once a spill of reportable size has been contained, the Hamlet will consult with the regulatory authorities to determine the level of clean-up required. The Regulator may require a site specific study to ensure appropriate clean-up levels are met. Criteria that may be considered include natural biodegradation of oil, replacement of soil and re-vegetation. Also, the soil will be remediated to meet Government of Northwest Territories (GNWT) soil criteria and water will be addressed so that it meets the Canadian Council of Ministers of the Environment (CCME) requirements.

# 4 RESOURCE INVENTORY

## 4.1 On-Site Resources

The proposed spill kit location is indicated in Figure 1 (i.e., maintenance garage). The proposed content of the spill kit is described below. In addition, earth moving and other equipment is listed below.

### *4.1.1 Proposed Content of Spill Kit*

The spill kit should contain the following:

- 30 socks/booms (3" x 4');
- 30 pillows (2 L);
- 24 dispersal bags;
- 4 pairs gloves;
- 2 pairs goggles;
- 6 pairs Tyvek coveralls;
- 4 shovels;
- 2 spill signs;
- 2 repair putty;
- 1 Emergency Response Guidebook;
- 1 Safety and Compliance Directory; and
- 1 Spill Response Pocket Guide.

This response kit should be designed to contain and collect up to 56 gallons of spilled oil. Additional volumes should be accommodated with the use of absorbent products that should be maintained in inventory in sufficient quantities.

### *4.1.2 Earth Moving and Other Equipment*

Hamlet loader, grader, dump truck, fuel truck and trucks should be made available where appropriate in the event of a spill.

### *4.1.3 Contents of Tool Kit*

Table 3. Tools currently owned by the Hamlet of Paulatuk

| Tool | Quantity |
|---|---|
| Shovels | 6 |
| Rake | 2 |
| Wheelbarrow | 1 |
| PPE equipment sets | 4 |
| Protective Tyvek coveralls | 6 |
| Safety glasses | 2 |
| Ear plugs | 1 box |
| First aid kits | 2 |

## 4.2 Off-site Resources

Table 4. Off-site resource information

| Organization | Location/Contact | Number |
|---|---|---|
| Environment Canada | Prairie and Northern Region<br>Edmonton Office | 780-951-8600 |
| Department of Fisheries and Oceans | Inuvik Office | 867-777-7500 |
| GNWT Environment and Natural Resources | Inuvik Region<br>Paulatuk Office | 867-580-3021 |
| NWT Emergency Measures Office | Emergency Number | 867-920-2303* |
| Hamlet of Paulatuk | SAO | 867-580-3531 |
| Hamlet of Paulatuk | Foreman | 867-580-3039 |
| Hamlet of Paulatuk | Health Care Centre | 867-580-3231 |
| Inuvialuit Land Administration | Tuktoyaktuk, NT | 867-977-7100 |
| NT 24-Hour Spill Report Line | | 867-920-8130* |
| NWT Emergency Services Division-MACA | 24 h – Emergency line | 867-873-7554* |
| RCMP | | 867-580-1111 |
| Environmental Health | Inuvik | 867-777-4840/4841 |
| Tele-Care NWT Health Line | | 888-255-1010 |
| NWT Fire Marshal Office | Emergency Number | 867-920-2303* |
| Volunteer Fire Hall | Fire Chief | 867-580-3091 |

*24-hour phone line

# 5 TRAINING PROGRAM

The Department of Environment and Natural Resources schedules a few training sessions each year for spill contingency. Selected members from the community works department can attend these training sessions. Once key personnel have the fundamental information, training sessions may be conducted as a part of the normal operation of the sewage and waste disposal facilities. Training will be conducted on an as-needed basis. Records will be kept in the office of the Hamlet of Paulatuk.

# 6 REFERENCES

Inuvialuit Water Board. *Spill Contingency Plan Template*. Retrieved July 2015, from http://www.nwtwb.com/applicationforms.html

Water Resources Division Indian and Northern Affairs Canada. (2007). *Guidelines for Spill Contingency Planning*. Retrieved July 2015, from http://www.nwtwb.com/guidelines.html

# APPENDIX A
## Spill Report Form

# 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

| | | | | |
|---|---|---|---|---|
| A | REPORT DATE: MONTH – DAY – YEAR | REPORT TIME | ☐ ORIGINAL SPILL REPORT, OR ☐ UPDATE # | REPORT NUMBER - |
| B | OCCURRENCE DATE: MONTH – DAY – YEAR | OCCURRENCE TIME | | |
| C | LAND USE PERMIT NUMBER (IF APPLICABLE) | WATER LICENCE NUMBER (IF APPLICABLE) | | |
| D | GEOGRAPHIC PLACE NAME OR DISTANCE AND DIRECTION FROM THE NAMED LOCATION | REGION ☐ NT ☐ NUNAVUT ☐ ADJACENT JURISDICTION | | |
| E | LATITUDE DEGREES MINUTES SECONDS | LONGITUDE DEGREES MINUTES SECONDS | | |
| F | RESPONSIBLE PARTY OR VESSEL NAME | RESPONSIBLE PARTY ADDRESS OR OFFICE LOCATION | | |
| G | ANY CONTRACTOR INVOLVED | CONTRACTOR ADDRESS OR OFFICE LOCATION | | |
| H | PRODUCT SPILLED | QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES | U.N. NUMBER | |
| | SECOND PRODUCT SPILLED (IF APPLICABLE) | QUANTITY IN LITRES, KILOGRAMS OR CUBIC METRES | U.N. NUMBER | |
| I | SPILL SOURCE | SPILL CAUSE | AREA OF CONTAMINATION IN SQUARE METRES | |
| J | FACTORS AFFECTING SPILL OR RECOVERY | DESCRIBE ANY ASSISTANCE REQUIRED | HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT | |
| K | ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS | | | |

| | | | | | |
|---|---|---|---|---|---|
| L | REPORTED TO SPILL LINE BY | POSITION | EMPLOYER | LOCATION CALLING FROM | TELEPHONE |
| M | ANY ALTERNATE CONTACT | POSITION | EMPLOYER | ALTERNATE CONTACT LOCATION | ALTERNATE TELEPHONE |

REPORT LINE USE ONLY

| | | | | | |
|---|---|---|---|---|---|
| N | RECEIVED AT SPILL LINE BY | POSITION Station operator | EMPLOYER | LOCATION CALLED Yellowknife, NT | REPORT LINE NUMBER (867) 920-8130 |

LEAD AGENCY ☐ EC ☐ CCG/TCMSS ☐ GNWT ☐ GN ☐ ILA ☐ AANDC ☐ NEB ☐ OTHER:_____

SIGNIFICANCE ☐ MINOR ☐ MAJOR ☐ UNKNOWN

FILE STATUS ☐ OPEN ☐ CLOSED

| AGENCY | CONTACT NAME | CONTACT TIME | REMARKS |
|---|---|---|---|
| LEAD AGENCY | | | |
| FIRST SUPPORT AGENCY | | | |
| SECOND SUPPORT AGENCY | | | |
| THIRD SUPPORT AGENCY | | | |

INUVIALUIT SIVUNNIUQPAIT IMAKKUN

INUVIALUIT WATER BOARD

# SCHEDULE C

*(Subsection 5(1))*

APPLICATION FOR LICENCE, AMENDMENT OF LICENCE, OR RENEWAL OF LICENCE

**APPLICATION NO:** N7L3-1619

***(amendment or renewal only)***

## 1. NAME AND MAILING ADDRESS OF APPLICANT

Hamlet of Paulatuk Box 98 Paulatuk, NT X0E 1N0

**TELEPHONE:** (867) 580-3531 **FAX:** (867) 580-3703

## 2. ADDRESS OF HEAD OFFICE IN CANADA IF INCORPORATED

**TELEPHONE:** _____ **FAX:** _____

## 3. LOCATION OF UNDERTAKING

The Hamlet of Paulatuk, Northwest Territories is located at the south end of Darnley Bay on the Arctic Coast. It is located approximately 400 km east of Inuvik and 855 km northwest of Yellowknife

**Latitude:** 69º21'N **Longitude:** 124º04'W

## 4. DESCRIPTION OF UNDERTAKING (describe and attach plans)

The Hamlet of Paulatuk is applying for Renewal of Water Licence #N7L3-1619, which expires on November 20, 2015, for providing water delivery, sewage collection and disposal and solid waste management service to the hamlet