

Erosion and Sediment Management Plan

Type B Water Licence

Porritt Landing

Project	Porritt Landing Dredging
Location	Hay River, NT
Date of Submission	November 2024
Version #	2
Submitted by	Town of Hay River
Submitted to	MVLWB



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1. Introduction and Project Details

The Town of Hay River has developed this Erosion and Sediment Control Plan for The Porritt landing Dredging and Gabion Wall Upgrade Project in accordance with the Mackenzie Valley Land and Water Board's [Standard Outline for Management Plans](#).

1.1. Corporate Contact Information

The following Table 1 presents the key corporate information for The Town of Hay River and this project.

Table 1: Town of Hay River Contact Information

Position	Information
Company (Head Office)	Stephane Millette
	100 – 62 Woodland Dr, Hay River NT.
	(867) 875-8322
	recdirector@hayriver.com
Project Manager	Mark Horton
	11 Smith Trail, Hay River NT.
	(867) 876-0210
	markhorton@dimensionconsulting.net
Contractor	To be determined

1.2. Effective Date

This Erosion and Sediment Control Plan is effective as of November 2024. While this Plan is undergoing a public review, the previous version of the Plan shall take precedence and be acted in accordance with until the Board approves a subsequent Plan version.

1.3. Revisions

The Erosion and Sediment Control Plan is a living document that will be reviewed annually, at a minimum, and prior to the start of any site activities, with additional reviews as warranted. Updates should be made to reflect changes in waste management locations and practices, and new personnel and associated contact information. Table 2 presents a summary of the versions of this Plan and any revisions made; it is updated each time a revision is made to the Plan. This ensures stakeholders have the most current copy of the Plan.

Table 2: Version and Revision History

DOCUMENT HISTORY			
Version #	Revised Section(s)	Description of Revision	Issue Date
V1	Entire document	Prepared first version of Erosion and Sediment Control Plan.	April 2022
V2	Entire Document	Minor administrative updates throughout to reflect Licence renewal	November 2024

1.4. Recipients

Table 3 identifies who the most recent version of the Plan has been distributed to:

Table 3: Recipients of this Version of the Waste Management Plan

Name	Position
Stephane Millette	Town of Hay River- Recreation Director- Project Sponsor
Travis Wright	Town of Hay River- Emergency Services Director
Mark Horton	Dimension Consulting -Project Manager
TBD	Site Supervisor for Contractor

1.5. Copies of Current Version of the Plan

Copies of the most current version of the Waste Management Plan are available on-site at all times at the following locations:

- Supervisors Pick up/Excavator
- Additional copies of the Erosion and Sediment Control Plan can be obtained by contacting the Town of Hay River.

1.6. Purpose and Scope

The purpose of this Waste Management Plan is to outline the management of various waste types at the Porritt landing Dredging Project by The Town of Hay River and all contractors on-site. The Plan identifies the various waste types and characteristics; describes the sources of waste generation; provides estimates of the amounts (volume or mass) of wastes to be produced; and includes consideration of potential environmental effects, social factors, and regulatory factors including compliance with all applicable acts, regulations, authorizations, land use permits, and water licences. The Plan has been prepared to ensure proper disposal of waste.

1.7. Environmental, Health and Safety (EHS)

The Erosion and Sediment Control Plan will be presented to all staff (employees and contractors) during their on-site orientation sessions, including where copies of the Plan can be located on-site.

1.8. Project Description

The aim of the Porritt Landing Project is to ensure there is adequate water depth to safely launch and dock recreational watercraft within this park land area. The current water depth will not allow a safe docking area for watercraft as there have been water levels less than 300mm. The Town of Hay River will be conducting:

- Installation, operation, and maintenance of marina including the boat launch, gabion retaining structure, sheet pile retaining wall, and other structures;
- Dredging;
- Shoreline remediation to address riverbed erosion; and,
- Installation and maintenance of a floating dock.

Figures outlining the area of dredging are presented in Appendix A.

1.9. Site Description

Porritt Landing is currently used as a boat launch and dock for recreational watercraft. It currently has a sheet pile retaining wall that installed many years ago as well as a floating dock system that is installed in the spring and removed in the fall. There is currently a parking lot for vehicle and boat trailers as well a picnic table area with fire pits. Porritt Landing Boat Launch is located on Vale Island and provides access to the Hay River and Great Slave Lake. The facility is operated by the Town of Hay River and is an important recreational infrastructure for the area as it is the only public boat launch available for the Hay River area. New docks were installed in 2018 to improve usability and access for users.

2. Erosion and Sediment Control Management for Dredging

2.1. Turbidity Curtain

As per the original application and conditions of the Type B water license MV2018L7 - 0002 and DFO file 20-HCAA-01520 a turbidity curtain is used during active dredging to contain any disturbed sediments within the working area. A 2m deep turbidity curtain is installed adjacent to the working area for the dredging.

- The turbidity curtain securely fastened to one shoreline
- The curtain is then dragged using a boat to the other shoreline
- Once both sides are securely fastened the curtain can be released to full depth of 2m
 - The curtain is designed to have 30cm of space between the bottom of the curtain and bottom of channel for fish to escape the working area as required by DFO file 20-HCAA-01520
- Floating docks can be used in place behind the turbidity booms as a support against movement from wind.
- Once the turbidity curtain is securely in place and released to full depth dredging can begin.
- Once the dredging is complete the turbidity curtain should not be removed for at least 24 hours to allow any suspended sediments to settle

Figure 1- Turbidity curtain in place for dredging



2.2. Silt Fence

Silt fencing is not required for the dredging works as there is sheet piling installed along the shoreline which will contain any sediment and runoff. Materials will be excavated with a hydraulic excavator from shore and loaded into truck and hauled to stock pile locations as indicated on the maps in the Appendix A. This area will be bermed off with existing materials as not to allow any water runoff from entering the Hay River, if needed silt fencing will also be installed.

3. Erosion and Sediment Control Management for Gabion Upgrades

3.1. Turbidity Curtain

A turbidity curtain will also be used during the installation of the gabion basket upgrades to contain any disturbed sediments within the working area. A turbidity curtain will be installed adjacent to the working area for the gabion upgrades as outlined in Figure 2 below.

- The curtain will be placed as outlined in Figure 2 below using a boat to move the curtain in place.
 - The turbidity curtain will be securely anchored in place.
 - Anchor lines should be at least 2 times longer than the depth
 - Anchor lines can be secured to the other shore if possible
 - Two anchor lines will be placed at the corner pivot point in the water
 - Curtain will be placed minimum 4m from working area to avoid the bottom of the curtain being buried.
- Once both sides are securely fastened the curtain can be released to full depth
 - The curtain will be sized to go all the way to the bottom to ensure fish cannot enter the working area
 - Prior to in water work all fish will be removed from the working area using seine nets and leaving one panel open to direct fish out of the working area without removing them from the water.
- Floating docks can be used in place behind the turbidity booms as a support against movement from wind.
- Once the turbidity curtain is securely in place, released to full depth and netting has removed any fish in-water work can begin.
- Once the in-water work is complete the turbidity curtain should not be removed for at least 24 hours to allow any suspended sediments to settle.

Figure 2- Turbidity curtain and silt fence for gabion upgrades



3.2. Silt Fence

Silt fencing will be installed along the northeast working edge as outlined in Figure 2 and tied into the turbidity curtain to contain any sediment runoff. No silt fence is required on the southeast working edge as the area slopes down to the water way and containment is provided by the turbidity curtain.

3.3. Cleaning Equipment

Any equipment working on the site will be inspected before arrival and any sediment or debris will be removed before entering the working area.

4. Erosion and Sediment Control Monitoring

A detailed in water monitoring program is not required for this project as the Hay River is naturally high in turbidity and TSS and the working area is a dead-end channel with no flow.

To ensure the erosion and sediment control measures are properly functioning erosion and sediment control measures will be inspected daily by the site supervisor which will include:

- Inspection of the silt fence to ensure stability and proper containment
 - If the fence is broken or is not tied into the soil at any point it will be replaced and repaired as required
- Inspection of equipment to ensure sediment from outside locations is not present and that equipment working in or near water is clean of sediment and debris.
- Inspection of the turbidity curtain
- A visual inspection using the boat will occur 3 times a day during in water work
- The boat will travel along the outside edge of the curtain and ensure that no releases of sediment are occurring and that the curtain and anchor points are secure. Action thresholds for turbidity curtain are presented below in table

- **Table 4: Turbidity Curtain Monitoring Thresholds**

Monitoring Threshold	Action
Low Action Threshold	If a sediment release is noted additional resources will be deployed to ensure the curtain is properly anchored and tied in
Medium Action Threshold	If a sediment release is noted in the same location for 2 inspections in a row the in water will stop until the cause can be determined and repaired
High Action Threshold	If a sediment release is noted in the same location for 3 inspections in a row the in water will remain halted until the cause can be determined and repaired. An additional curtain may be brought in if required

- Completion of a short ESC Inspection form to file with the project/WL files. Example form include in Appendix C.

Appendix A: Site Maps for Dredging



Appendix B: Site Map for Gabion Upgrade



Appendix C: Example Erosion and Sediment Inspection Sheet

Project: _____
 Project No./Contract No.: _____
 Permit No.: _____
 Prime Contractor: _____
 Inspector: _____
 Inspector Qualifications: _____
 Verbal/Written Notification given to: _____
 Stage of Construction: _____
 Construction Activities on Site: _____
 Heavy Equipment on Site: _____
 Site Area (ha.): _____
 Receiving Water (i.e. creek, lake): _____

Inspection: _____
 Date: _____
 Time: _____
 Duration (hours): _____
 Reason for Inspection: _____
 Weekly _____
 Rainfall Event _____
 Snowmelt Event _____
 Date of Last Inspection: _____
 Current Weather Conditions: _____
 Previous Weather Conditions for site: _____
 Rainfall amount (mm): _____
 Rainfall duration (hours): _____
 Snowmelt amount (mm): _____
 No. of Days Lost due to Inclement Weather: _____

Erosion and Sediment Control Measure <small>(list measures that appear/should appear on ESC Plan)</small>	ESC Measure Effective			Maintenance of ESC Measure(s) required			Recommended Time for Clean-up of Measure	Inspector's Comments <small>(include location of ESC measure to be repaired)</small>	Action(s) Required
	Yes	No	N/A	Yes	No	N/A			