



## **WASTE MANAGEMENT PLAN**

NordSpace Atlantic Spaceport Complex

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## 1. Introduction

NordSpace Atlantic Corporation ("NordSpace") is committed to taking all necessary steps to ensure the collection, storage, transportation, and disposal of all wastes generated by project construction and operation will be conducted in a safe, efficient, and environmentally compliant manner. One of the first essential steps toward achieving these goals is the preparation of a Waste Management Plan (WMP) to identify potential wastes generated onsite during construction and operation. The WMP establishes consistent and efficient roles and responsibilities to be undertaken by various site personnel and site contractors. The WMP sets guidelines for collecting, storing, and processing wastes generated on site within the goals and objectives of NordSpace and the Provincial Waste Management Strategy. The intent is to achieve and maintain a high degree of control over the handling of waste to minimize adverse environmental effects.

The fundamental basis of the plan is the practical and positive management of wastes by implementation of a sound waste minimization program. The ideals of the three R's (reduction, recovery/reuse and recycling of wastes) are fundamental parts of this Waste Management Plan. The main objectives of the plan are the creation of a framework for the proper handling and disposal of wastes, minimization of potentially adverse impacts on the environment, and to comply with the regulatory requirements for waste management.

Hazardous waste generation is a "Cradle to Grave" responsibility by the generator. Therefore, it is primarily the site personnel and site contractors who will implement the plan as outlined, in accordance with their contractual and legal obligations, under the direction and supervision of NordSpace's Environmental Department.

NordSpace is proposing to develop, construct, and operate the Atlantic Spaceport Complex (the "Project") near the Town of St. Lawrence on the Burin Peninsula, Newfoundland and Labrador (NL), Figure 1. The total Project Area is approximately 60 hectares.

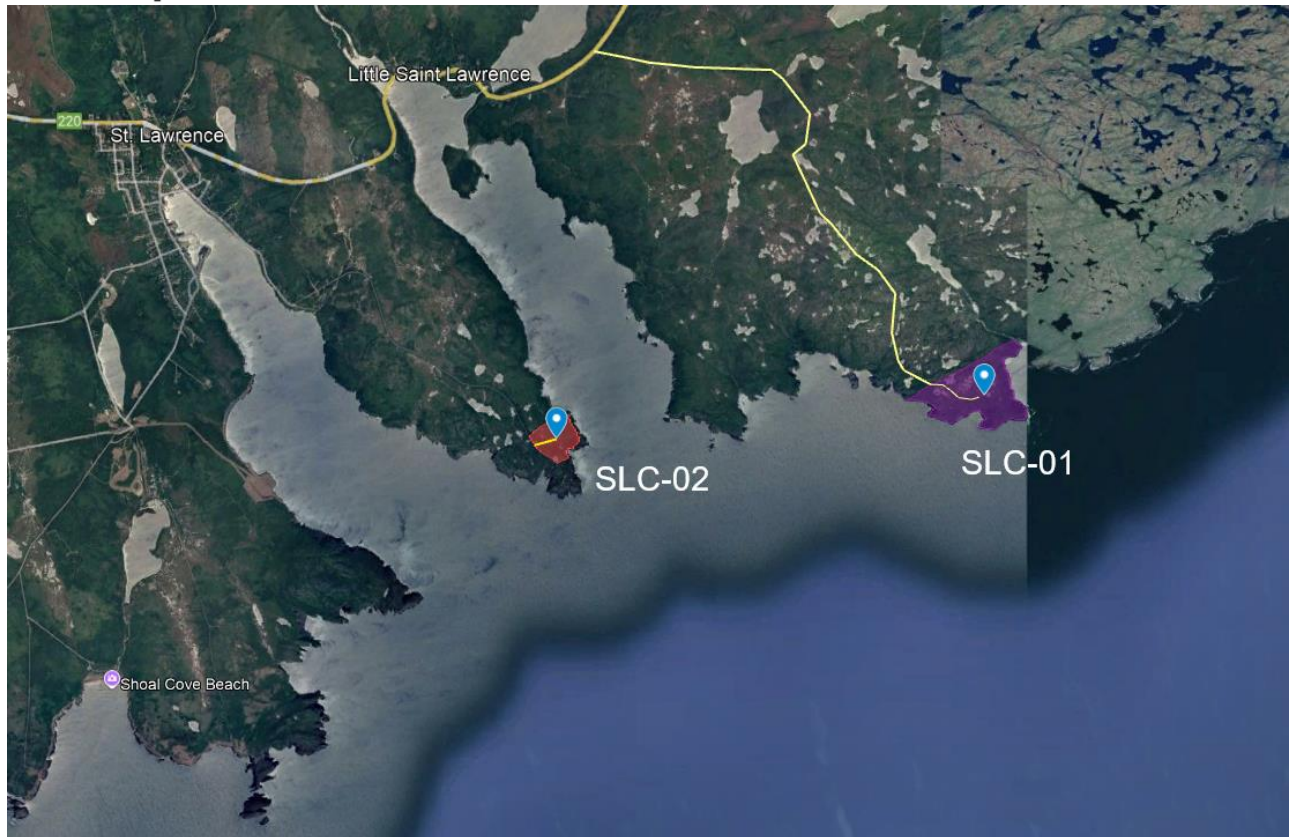


Figure 1

The primary orbital site, approximately 37 hectares located at Sauker Head, serves as the Launch Complex (SLC-01), Figure 2. The complex is currently in the design phase and will feature two orbital-class launch pads, vehicle assembly and integration hangars, propellant storage infrastructure for both fuel and oxidizer, waste storage containers and a high-capacity water deluge and runoff containment system engineered for acoustic suppression, thermal management, and environmental protection, Figure 3.

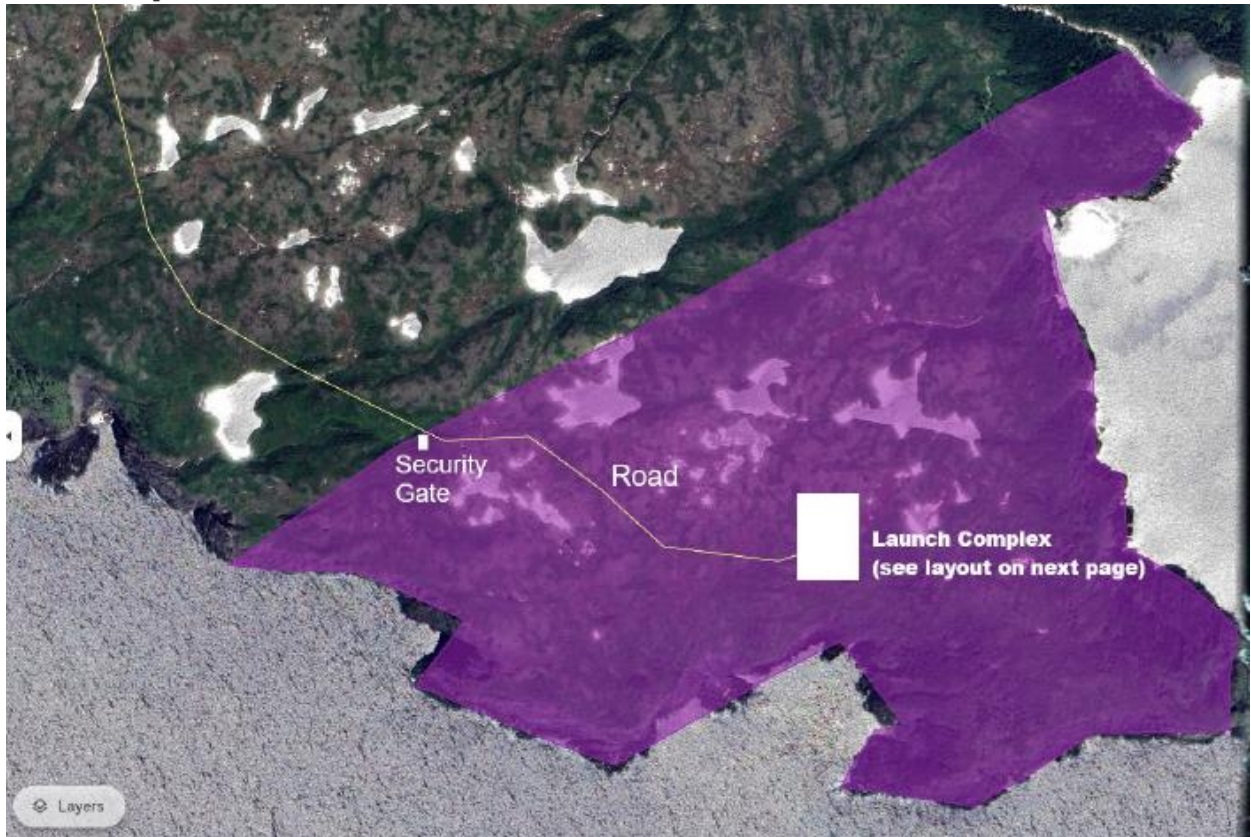


Figure 2

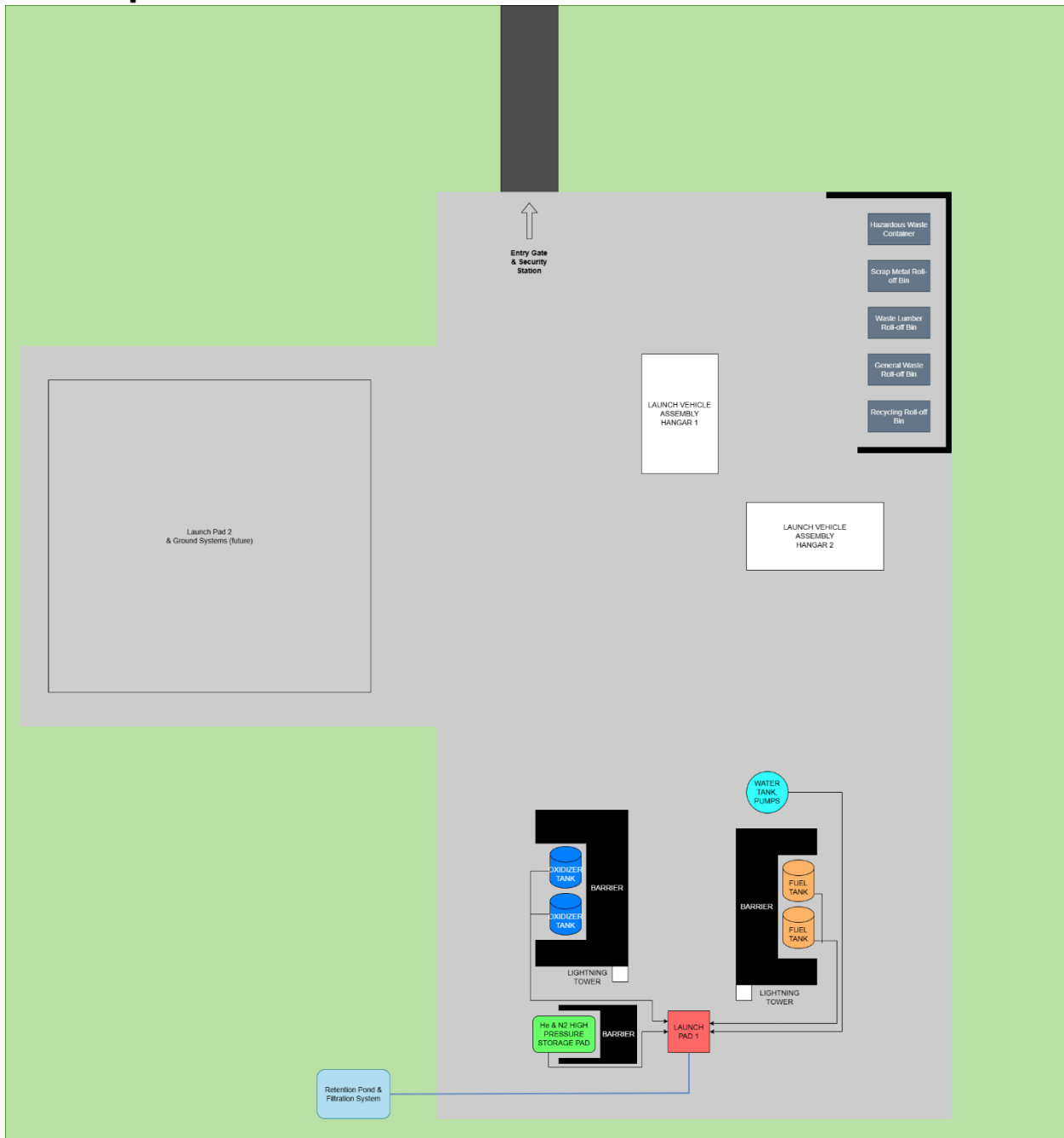


Figure 3

A proposed 5.5-kilometre gravel access road will connect SLC-01 to Provincial Route 220, Figure 1. The Launch Complex is situated on a coastal plateau overlooking the open Atlantic Ocean, selected for its remote and uninhabited setting, relatively flat terrain, and unobstructed ocean exposure that allows safe south-easterly launch trajectories between 136° and 195° true heading, Figure 2.

A secondary support and control site, approximately 11 hectares located at Middle Head, functions as the Mission Control Centre (SLC-02), Figure 4. This site includes mission operations facilities, a customer and visitor centre (future), and ground-based tracking, telemetry, and range safety infrastructure. Three ground-station antennae and a radar array provide real-time communication and vehicle tracking during launch and flight operations. Utilities including waste storage containers, water supply, wastewater management, electrical power, and telecommunications will be integrated to support continuous and autonomous operations, Figure 5.

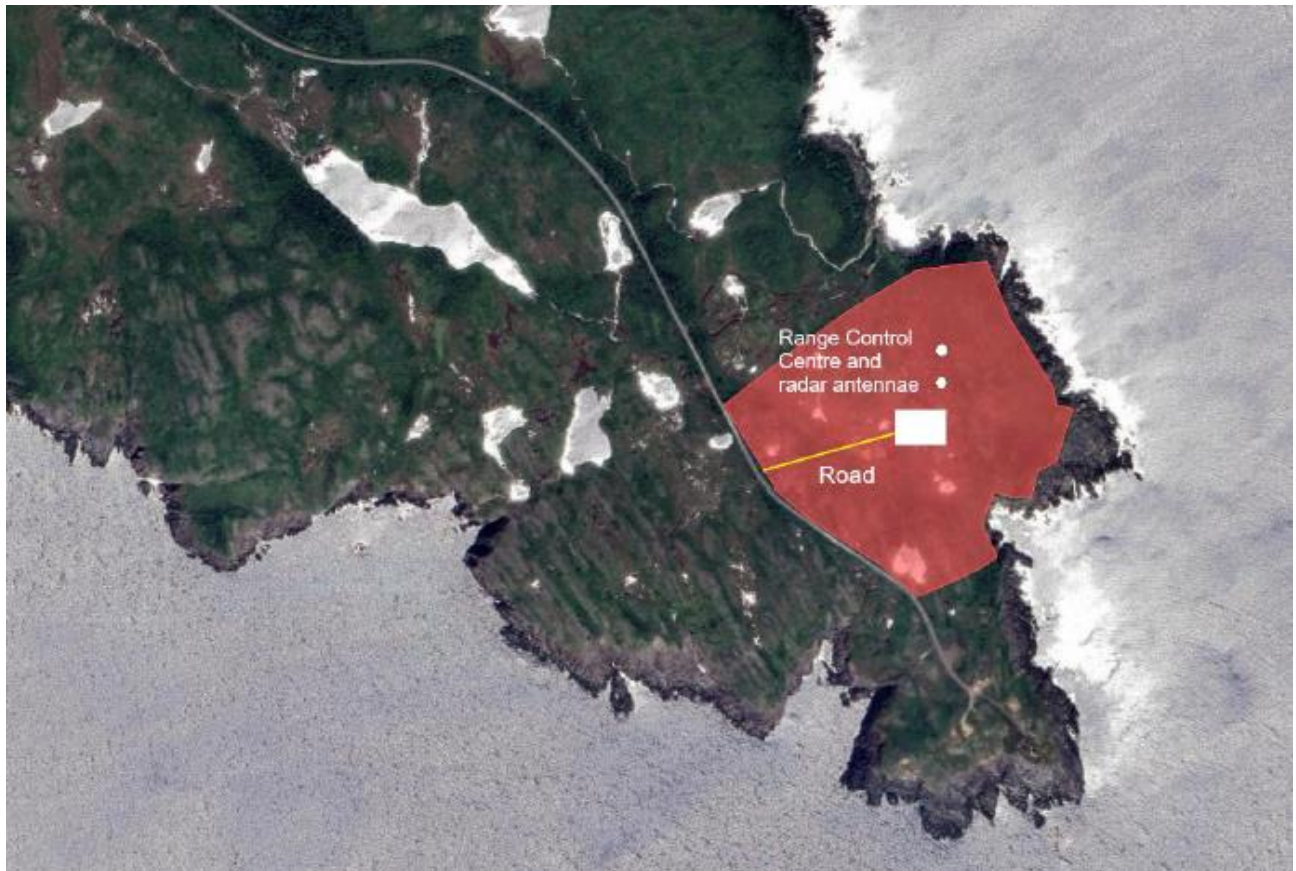


Figure 4

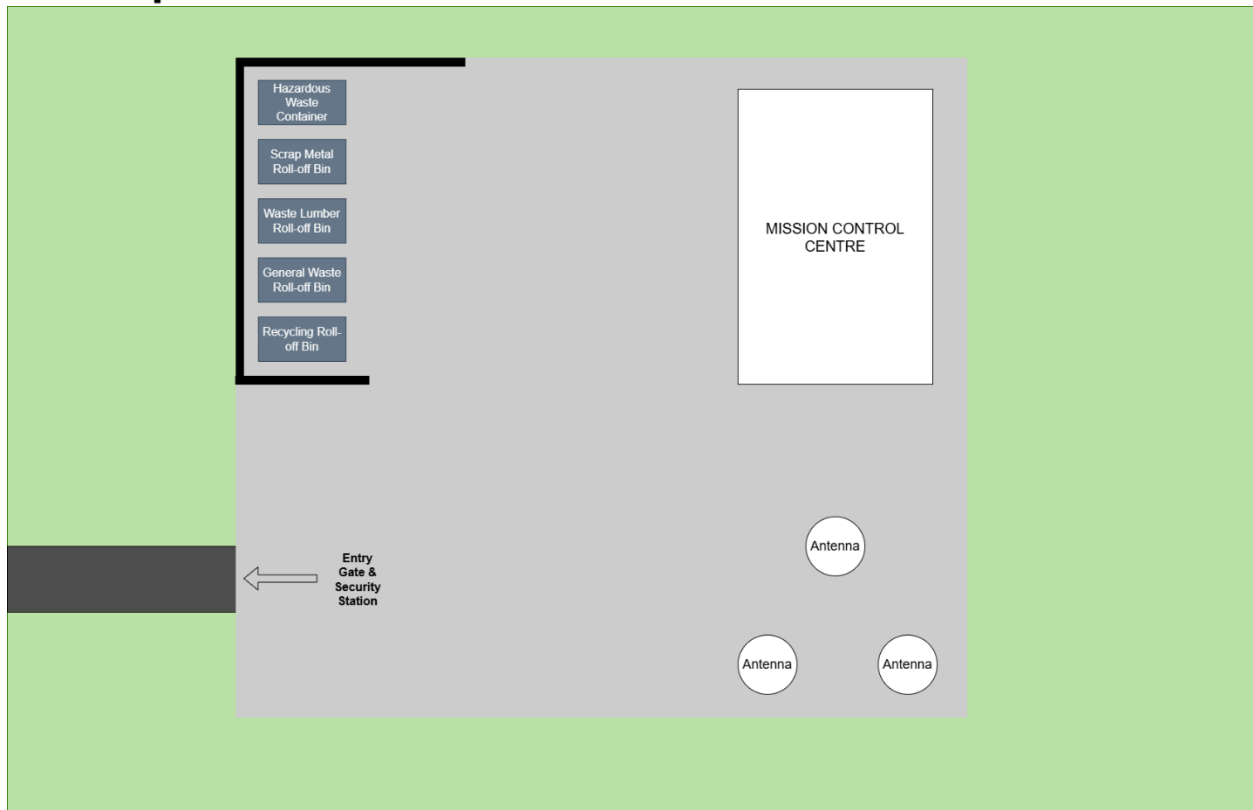


Figure 5

Construction of the Atlantic Spaceport Complex will proceed in a staged manner, beginning with access road development and utility installation, followed by launch pad, control, and support facility construction. All construction and operational activities will be conducted in accordance with applicable federal and provincial permits and environmental protection requirements.

Once operational, the Atlantic Spaceport Complex will support a regular cadence of light and medium-lift orbital and suborbital launch activities, contributing to Canada's sovereign access to space and fostering economic development through job creation, tourism, and technology growth in the Burin Peninsula region. The Project emphasizes environmental stewardship, operational safety, and community partnership, and is intended to serve as a model for sustainable space infrastructure development in Newfoundland and Labrador.

### 1.1 Construction and Operations Phases

This WMP applies to both the construction and operational phases of the Atlantic Spaceport Complex. The waste streams and management strategies differ between phases as follows:



**Construction Phase:** Waste generated during this phase will primarily consist of earthwork spoil, grading material, blasting residues from the 5.5 km access road and launch pad site preparation, construction and demolition (C&D) waste, packaging materials, equipment maintenance waste, and domestic waste from construction personnel. Construction activities will proceed in a staged approach, beginning with access road and utility installation, followed by pad and facility construction. Erosion and sediment control measures will be implemented in accordance with the Environmental Protection Plan (EPP).

**Operations Phase:** Operational waste streams include all construction-phase domestic and maintenance wastes, plus launch-specific waste streams including water deluge wastewater, rocket propellant handling waste, launch pad surface contaminants, retention pond sediments, and marine recovery debris. These launch-specific wastes are detailed in Section 7.4 of this plan.

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## 2. Scope and Objectives

The Waste Management Plan outlines the waste management strategy for the project site. This WMP outlines the various waste streams associated with the construction and operation of the Atlantic Spaceport Complex, the various roles and responsibilities for managing wastes, and adhering to the requirements of properly disposing waste. The WMP has been prepared in accordance with the Provincial Waste Management Strategy (Government of Newfoundland and Labrador 2002) and in fulfilment of commitments made in the Environmental Assessment Registration Document for the Atlantic Spaceport Complex (Strum Consulting, November 2025).

The objectives of the Waste Management Plan are:

- Identify potential waste generation sources for both the construction and operations phases
- Classify generated waste, including launch-specific waste streams
- Provide guidelines for proper segregation and temporary storage, collection and transport for final disposal, and tracking and reporting
- Minimize waste through a commitment to "Reduce, Reuse and Recycle"
- Prevent and reduce adverse impacts on the environment, including wildlife and fish habitat
- Protect the health and safety of site personnel



- Integrate with the Environmental Protection Plan (EPP), Spill Response Plan, Emergency Response Plan, and Contingency Plan
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### **3. Governing Authorities and Reference Documents**

This plan will be compliant with Federal and Provincial regulations, including appropriate sections of the following Acts, Regulations and Guidelines:

#### **Federal:**

- Canadian Environmental Protection Act
- Fisheries Act
- Migratory Birds Convention Act and Regulations
- Species at Risk Act
- Transportation of Dangerous Goods Act and Regulations
- Transport Canada Civil Aviation Regulations (as applicable to licensed launch facilities)

#### **Provincial:**

- Environmental Protection Act
- Water Resources Act
- Environmental Control Water and Sewage Regulations, 2003
- Storage and Handling of Gasoline and Associated Products Regulations
- Used Oil Control Regulations
- Dangerous Goods Transportation Act and Regulations
- Waste Management Regulations
- Management of Greenhouse Gas Act and Regulations
- NL Endangered Species Act
- Guidance Document, Storage of Waste Dangerous Goods/Hazardous Waste (GD-PPD-077), 2015
- Provincial Waste Management Strategy



- Multi-Materials Stewardship Board
- Atlantic Used Oil Management Association (AUOMA)
- Burin Peninsula Waste Management Strategy
- Used Oil and Used Glycol Regulations

**Project-Specific:**

- Environmental Assessment Registration Document – Atlantic Spaceport Complex (Strum Consulting, November 2025)
- Environmental Protection Plan (EPP) for the Atlantic Spaceport Complex
- Spill Response Plan for the Atlantic Spaceport Complex
- Emergency Response Plan for the Atlantic Spaceport Complex
- Contingency Plan for the Atlantic Spaceport Complex

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#### **4. Provincial Waste Management Strategy**

The Province of Newfoundland and Labrador released the "Newfoundland and Labrador Waste Management Strategy" in 2002 with the aim of province-wide modern waste management. The primary goals of the strategy are:

- Diversion of solid waste by 50%
- Reduction in the number of waste disposal sites by 80%
- Elimination of open burning and incineration
- Phase out of unlined landfills
- Province wide implementation

These goals are to be achieved through five primary actions which embody the strategy: increase waste diversion; establish waste management regions; develop modern standards and technology; maximize economic and employment opportunities associated with waste management; and public education.

The Waste Management Strategy is an interdepartmental initiative. The Department of Environment, Conservation and Climate Change is responsible for working with communities to implement the strategy and establish regional governance, as well as environmental policy and standards. Service NL has responsibility for monitoring and



enforcement. The Multi-Materials Stewardship Board has responsibility for public education, research and waste diversion programs.

NordSpace is committed to work within the goals and objectives of the Provincial Waste Management Strategy and aims to reduce the volume of waste generated through sound and effective waste management practices, through the implementation of the WMP. NordSpace will track waste diversion rates and report on progress toward the provincial 50% diversion target as part of the annual waste reporting process described in Section 11 of this plan. NordSpace will register and align with the principles of Multi-Materials Stewardship Board and the Atlantic Used Oil Management Association.

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## 5. Organization and Management

NordSpace will employ the waste management principles of "reduce, reuse and recycle" for all activities at the Operations site and offices. Implementation will be undertaken by the responsible personnel for each department.

### 5.1 Responsibilities

<b>Role</b>	<b>Responsibilities</b>
Chief Executive Officer	Overall responsibility for all operation related issues. Shall provide the necessary resources and personnel for executing this plan.
HSE Manager	Responsible for the environmental compliance activities for the operation, including execution, of this plan. Responsible for development and planning of new waste management system, as well as upgrading existing systems. Provides technical support, auditing, tracking of waste sorting, collection, transport, and final disposition. Oversight of all Waste Contractors.
Environmental Technician/Monitor	Ensuring that the overall environmental concerns or issues are identified and effectively addressed. Ensure that site inspections including the waste storage areas, are conducted and documented.
Supervisors, Superintendents and Contractors	Responsible for coordinating waste removal from local working areas to the centralized storage areas with the assistance of the



**Role**

**Responsibilities**

	Environmental Lead, if required. Ensuring that all project containers are properly managed.
Third-Party Waste Sub-contractors	Licensed contractors selected by NordSpace to remove waste from sites. All sub-contractors will have appropriate licenses, certifications, training, and systems to remove the subject waste. Must provide the client with approved disposal documentation where required.

**5.2 Waste Contractor Specifics**

A licensed waste contractor with adequate experience will be selected based on their competency and familiarity to the owner's requirements. Waste contractors will be needed for:

- Liquid waste disposal services
- Hazardous waste removal
- Non-hazardous waste removal
- Launch operations waste handling (deluge wastewater contaminants, propellant-related waste)

**WDG/HW Generator Registration:** Prior to the first off-site shipment of any Waste Dangerous Goods/Hazardous Waste (WDG/HW), NordSpace shall register as a generator of WDG/HW with the Department of Environment, Conservation and Climate Change., as required under GD-PPD-077. Registration is at no fee and must be completed before transport commences. The HSE Manager is responsible for ensuring registration is obtained and maintained.

**Off-Site Disposal Facilities:** Some approved WDG/HW disposal facilities are located outside Newfoundland and Labrador. Accordingly, off-site hazardous waste shipments outside or inside the province, require advance scheduling and must comply with federal Transportation of Dangerous Goods (TDG) requirements for interprovincial movement of dangerous goods. The HSE Manager shall maintain an up-to-date list of approved disposal facilities and coordinate shipment logistics to ensure on-site storage limits are not exceeded.



The removal of recycling material can be found under Section 10 "Implementing the 3 R's." The scope of waste contractor services includes, but is not limited to the following:

- Provide requested waste advisory services and perform economic evaluations of alternatives to reduce disposal/recycling costs over time
- Provide waste containers complete with labeling consistent with project standards
- Provide waste removal services including all transportation and handling to appropriate licensed disposal sites
- Manage waste once off-site and interface with licensed facilities
- Support tracking, documenting and reporting activities related to waste management, including a waste tracking database consistent with regulatory requirements

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## **6. Training Requirements**

All site personnel shall receive waste management training as part of their site orientation and ongoing employment. Training requirements are aligned with the Environmental Protection Plan (EPP) – Training & Orientation Requirements. Training shall include:

### **6.1 General Site Orientation**

- Overview of the Waste Management Plan and its objectives
- Identification of waste streams and proper segregation procedures
- Location of waste storage areas, recycling bins, and hazardous waste storage areas
- Wildlife interaction prevention (wildlife-proof bin usage and reporting procedures)
- Anti-littering policies and enforcement

### **6.2 Hazardous Waste Handling Training**

Personnel who handle hazardous waste shall receive specialized training including:

- Identification and classification of hazardous wastes
- Safe handling, labelling, and storage procedures including required PPE
- Spill prevention, containment, and response procedures in accordance with the Spill Response Plan



- Transportation of Dangerous Goods (TDG) awareness, as applicable
- Emergency response procedures in accordance with the Emergency Response Plan

### **6.3 Launch Operations Waste Training**

Personnel involved in launch operations shall receive additional training specific to:

- Water deluge wastewater handling, sampling, and filtration system operation
- RP-1 kerosene and liquid oxygen (LOX) handling waste procedures
- Post-launch pad decontamination procedures
- Retention pond maintenance and contaminant removal procedures

### **6.4 Training Records**

Records of all waste management training shall be maintained by the HSE Manager and shall include the date of training, topics covered, trainer name, and attendee signatures. Training records shall be made available to regulatory authorities upon request. Refresher training shall be provided on an annual basis, or when significant changes to waste management procedures occur.

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## **7. Summary of Wastes**

This Waste Management Plan addresses management of solid and liquid wastes, hazardous and non-hazardous wastes generated by the workers and by launch operations. Materials are considered waste when it can no longer be used for its original intended purpose. Waste generated during execution of the work site will be categorized as follows:

- Office/lunchroom waste
- Metals
- C&D waste
- Waste lumber
- Vehicles, equipment and machinery
- Sewage and human waste
- Hazardous and special waste



- Launch operations waste (deluge wastewater, propellant handling waste, launch pad surface contaminants, retention pond sediments)
- Marine recovery waste

## **7.1 Solid Domestic Waste**

Waste generated from the general offices and lunchrooms is expected to have similar waste composition as found in the municipal solid waste stream. This waste stream consists of food waste, recyclable containers, inert non-combustible domestic waste, packaging, corrugated cardboard, paper and paper products.

Estimated domestic waste generation during the operations phase is approximately 2–5 kg per person per day, based on typical industrial site benchmarks. At full operational capacity (up to 100 personnel), this equates to approximately 200–500 kg per day of domestic waste. During construction, domestic waste volumes will vary depending on the number of construction workers on site. All domestic waste shall be disposed to the regional waste management facility/landfill north of Marystown.

### **7.1.1 Office/Lunchroom Waste**

Most of the food wastes will be generated in the lunchroom areas of the work site. All food waste will be collected and disposed of in an enclosed and covered collection bin to minimize the attraction of wildlife and the potential negative impact to wildlife. Gathering and transporting these wastes will be the responsibility of NordSpace or its representative. Littering around site is strictly prohibited and consequences will be enforced.

Bag lunch wastes generated in various work areas are to be collected from each meal in wildlife-proof bins. This material will be placed in a storage bin.

### **7.1.2 Beverage Containers**

Although plastic waste will be included in the garbage stream, bulk purchases and, where possible, beverage containers should be utilized to reduce the overall generation of plastic waste. When required, arrangements can be made to have refundable beverage containers transported to a local recycling depot for refund, with proceeds donated to a local charity. Pull tabs can be collected, recycled, and provided to a local charity for donation to a charity like Ronald McDonald House.



### **7.1.3 Corrugated Cardboard and Paper**

Fibre waste will be included in the garbage stream; however, where possible, paper reduction strategies should be exercised to reduce the overall generation of fibre waste. Used paper is stored on site and collected by a third-party contractor for secure shredding and paper recycling.

### **7.1.4 Printer and Copier Toner Cartridges**

- Used printer and copier toner cartridges will be stored and sent back to the supplier or manufacturer for recycling or shipped offsite to a Regional Waste Management Facility.

## **7.2 Inert Solid Waste**

### **7.2.1 Tires**

Tires have limited life and, when no longer usable, contribute to inert solid waste generation. NordSpace may pursue a tire and exchange program with vendors. Where possible, tires will be utilized on site for road protection in turning areas, and materials storage. Unused or unserviceable tires will be transported to an approved off-site C&D landfill area or shredding facility under the MMSB tire recycling program.

### **7.2.2 Vehicles, Equipment and Machinery**

Vehicles and equipment will be shipped off site for reuse/recycle when they are no longer usable. All fluids will be drained/collected and properly stored. NordSpace's Environmental lead will be responsible for ensuring proper records are maintained.

### **7.2.3 C&D Waste**

C&D waste is defined per the Department of Environment, Conservation and Climate Change guidance as materials not of a hazardous nature normally incorporated in the construction of, or resulting from the demolition of, buildings, structures, walls and landscaping features. During the construction phase, C&D waste volumes will be significant. Earthwork spoil suitable for roadway fill will be deposited in flat waste banks on site. All other C&D waste will be managed in accordance with this plan.

### **7.2.4 Metals**

Metal waste may be generated from scrap metals produced by structural work and piping fabrication. Bulky scrap metals will be shipped off site for salvaging and disposal. Reusable scrap metals will be reused as part of an effective waste reduction program. Recyclable scrap metals will be sent to recycling facilities directly or placed in the metals storage area.



### 7.2.5 Waste Lumber

Small pieces of broken untreated lumber will be collected and disposed of in an approved C&D landfill. Larger pieces of untreated lumber will be stored in a laydown area for potential reuse. Treated lumber shall be segregated from regular wood waste and disposed of at an approved C&D landfill.

## 7.3 Hazardous Waste

Hazardous waste is any waste which contains a hazardous substance in such a quantity liable to cause death, injury or impairment to living beings, pollution of water, air and soil, or unacceptable impact on the environment, if handled, treated or disposed of improperly.

**On-Site WDG/HW Storage Limit:** In accordance with GD-PPD-077, NordSpace is permitted to store, minimum 15 m from an occupied building, and occupied a maximum of 1,000 kilograms (2,200 pounds) of Waste Dangerous Goods/Hazardous Waste (WDG/HW) on site at any one time for a maximum period of six months. The HSE Manager shall monitor accumulated WDG/HW quantities through the waste tracking database (Section 11.1). When total on-site WDG/HW approaches 800 kg, the HSE Manager shall schedule a licensed contractor pickup to ensure the 1,000 kg limit is not exceeded. Propellant-related launch operations waste (Section 7.4.2) shall be tracked separately under TDG requirements, and shipment scheduling for this stream shall account for the regulatory storage limit.

### 7.3.1 Petroleum Waste Stream

Petroleum-based wastes generated at the site will primarily be: used oil, transmission fluid, hydraulic fluid, lubricants, solvents, coolants, used oil filters, oily rags/absorbent pads, and contaminated soils. These wastes will be segregated to render individual waste streams easier to reuse, recycle, or permit recovery. Personnel handling these wastes will be required to have specific training and utilize PPE.

### 7.3.2 Chemical Waste Stream

**Laboratory chemical wastes:** Mixed lab wastes shall be characterized and disposed of in accordance with the Environmental Control Water and Sewage Regulations, 2003. Where laboratory wastes meet applicable discharge standards, they may be disposed of through the on-site wastewater treatment system. Laboratory wastes that do not meet discharge standards shall be collected, stored at the HWSA, and shipped offsite by a licensed hazardous waste contractor.



**Waste batteries:** All non-reusable batteries shall be stored in a plastic container in a central accessible area. Terminals on 9V batteries shall be taped. The hazardous waste disposer will collect full containers during scheduled waste collection visits.

### **7.3.3 Miscellaneous Waste Stream**

- Aerosol cans (may be punctured using an aerosol can disposal system; once punctured, disposed of in general waste stream)
- Biomedical wastes
- Paint
- Electronics
- Fluorescent light bulbs

### **7.4 Launch Operations Waste**

Launch operations at the Atlantic Spaceport Complex generate waste streams unique to spaceport facilities. These wastes arise from rocket propellant handling, the water deluge system, post-launch pad decontamination, and the retention pond filtration system. All launch operations waste shall be managed in accordance with the Environmental Control Water and Sewage Regulations, 2003, the EPP Contaminant Prevention Plan and the Spill Response Plan.

**Spill Reporting:** In the event of any spill or release of WDG/HW during launch operations, the following notification protocol applies:

- Spills or releases greater than 70 litres shall be reported immediately to the National Environmental Emergencies Centre (NEEC) at 1-800-563-9089 on a 24-hour basis, in accordance with GD-PPD-077.
- All reportable spills shall also be reported to the provincial Environmental Emergencies 24-hour line (1-800-563-9089) under the Environmental Protection Act.
- Spill response shall be conducted in accordance with the Spill Response Plan.

#### **7.4.1 Water Deluge Wastewater**

The water deluge system deploys approximately 50,000 to 100,000 litres of water over the concrete launch pad during each rocket launch, rapidly suppressing heat, flames, and residual particulates generated by rocket exhaust. After launch, deluge water is collected



through a drainage system and directed to a specially designed retention pond and filtration system adjacent to the pad.

Deluge wastewater from kerosene (RP-1) and liquid oxygen (LOX) launches may contain combustion residuals and soot, unburned RP-1 and hydrocarbons, and metallic residues from engine hardware erosion.

Deluge wastewater shall be managed as follows:

- All post-launch deluge water shall be collected through the pad drainage system and directed to the retention pond.
- Water in the retention pond shall undergo settling, oil-water separation, and activated carbon filtration prior to recirculation to the water storage tanks.
- Separated contaminants (soot, hydrocarbons, metallic residues) shall be collected, characterized, and stored at the HWSA for disposal by a licensed hazardous waste contractor.
- Post-filtration water quality shall be tested prior to recirculation to verify compliance with the Environmental Control Water and Sewage Regulations, 2003 discharge standards.
- Records of deluge water testing results, contaminant volumes removed, and disposal manifests shall be maintained by the HSE Manager.

Estimated contaminant volumes per launch are expected to be small (order of kilograms of soot and particulate, trace hydrocarbons). Volumes will be tracked from initial launch operations and estimates refined accordingly.

#### **7.4.2 Rocket Propellant Handling Waste**

The NordSpace launch vehicles use kerosene-based fuel (RP-1) and cryogenic liquid oxygen (LOX) as propellants. Each launch consumes approximately 3,500 to 9,000 kg of RP-1 and 9,200 to 23,000 kg of LOX. Propellant handling waste includes: spent or off-specification RP-1 kerosene, contaminated fuelling hoses/gaskets/seals/fittings, absorbent materials and PPE used during propellant loading, propellant line purge residues, and contaminated soils from any propellant spill.

All propellant handling waste shall be classified as hazardous waste and stored at the HWSA in appropriate leak-proof containers with secondary containment. Disposal shall be by a licensed hazardous waste contractor in accordance with TDG requirements. Routine inspections of tanks, containment barriers, and fuelling pathways will be conducted prior to every launch.

### **7.4.3 Launch Pad Surface Contaminants**

Following each launch, the concrete launch pad surface will accumulate deposits including carbon soot and combustion residues, metallic particulate from engine hardware erosion, heat-damaged pad surface materials and coatings, and residual launch infrastructure debris.

Post-launch pad decontamination procedures shall include: visual inspection and photographic documentation; mechanical removal (sweeping, scraping) of loose deposits; pressure washing with water directed to the retention pond; collection and classification of all removed solids; and documentation in the waste tracking system.

### **7.4.4 Retention Pond System Waste**

The retention pond and filtration system collects and treats deluge wastewater and pad runoff. Waste generated includes settled sediments, oil-water separator residues (hydrocarbon sludge), spent activated carbon filter media, and filtration system maintenance waste.

Retention pond sediments shall be removed on a regular schedule determined by the HSE Manager based on launch frequency and pond capacity. All sediments and filter residues shall be characterized and disposed of as hazardous waste by a licensed contractor. The retention pond shall be inspected after each launch event and at minimum quarterly during non-launch periods.

## **7.5 Other Wastes**

### **7.5.1 Sewage and Human Waste**

Toilet and wash facilities will be located throughout the site. Wastewater at SLC-01 and SLC-02 will be treated through on-site septic systems in accordance with the Environmental Control Water and Sewage Regulations, 2003. Portable toilet facilities in remote areas during construction shall be serviced by a licensed septic removal service.

### **7.6 Marine Recovery Waste**

NordSpace launch operations may involve the offshore recovery of expended rocket stages, fairings, and other flight hardware from the Atlantic Ocean. Recovered materials may include metallic and composite structural components, residual propellant or propellant-contaminated components, seawater-saturated materials and marine biofouling, and parachute and recovery system materials.



All recovered materials shall be transported to a designated laydown area at SLC-01 for inspection, classification, and decontamination. Materials contaminated with residual propellant shall be managed as hazardous waste. Recoverable metals and structural components shall be assessed for reuse or sent for recycling. Records of all recovered items, their classification, and disposal pathway shall be maintained by the HSE Manager.

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## **8. Waste Handling**

Wastes generated at the project site will be collected, segregated, labeled, and temporarily stored until transported for reuse, recycling, or disposal.

Before handling any waste, it is imperative to think safety first. All site personnel must be aware of the hazards and risks associated with the chemical, material or product that they intend to use.

Waste may be temporarily stored in laydown areas in proximity to the activities from which the waste is being produced. Laydown areas will have transportable containers such as roll off bins for storage of the various waste streams. Waste streams will be segregated and labelled for the waste type.

Hazardous waste will be stored in designated areas or storage facilities that are appropriately designed for the materials stored. The hazardous waste storage area (HWSA) will have secondary containment and be collected in appropriate leak-proof containers until removed from site by a licensed facility.

See Table 1.0 for Storage and Disposal Plan. See Appendix B for the site plan showing HWSA and waste management facility locations.

### **8.1 Storage on Site**

Laydown areas will be located throughout the site for placement of waste until it can be transported to the appropriate facility for final disposal. All waste streams shall be properly segregated in their designated labelled bins.

**Roll off/on Containers or Dumpster Bins:** These containers will accept waste transferred from small bins. Roll off/on containers hold larger C&D waste, while front-loading dumpster bins hold domestic waste from office buildings and lunchrooms. Bins will be placed in strategic areas around site, especially near buildings and other high-generation areas.



**Recycling Bins:** These containers will be required in lunchrooms and common areas. Employees are encouraged to place recyclable beverage containers in provided blue bins. Collection bags for pull tabs and plastic bottle caps will be placed near all recycling bins.

**Hazardous Waste Storage Area (HWSA):**

The HWSA is the most critical waste management infrastructure on site. The following requirements apply in accordance with GD-PPD-077:

*Siting and Access:*

- The HWSA shall be secured against unauthorized access and wildlife intrusion at all times.
- Ignitable and reactive waste stored at the HWSA shall be sited a minimum of 15 metres from property lines, in accordance with the National Fire Code and GD-PPD-077.
- The HWSA shall be sheltered from weather by a permanent roofed structure. Tarps are not an acceptable substitute.
- No smoking is permitted in or within 15 metres of the HWSA. The HWSA shall be kept cool, dry, and away from direct sources of heat and ignition.
- Signage reading "Hazardous Waste — Authorized Personnel Only" shall be posted at the HWSA entrance in accordance with WHMIS/TDG labelling requirements.

*Floor Surface Requirements:*

- Containers of petroleum-based waste (used oil, solvents, hydraulic fluids, RP-1 propellant waste) shall be stored on concrete surfaces.
- Containers of corrosive waste (laboratory chemicals, acids, bases) shall be stored on a well-sealed, corrosive-resistant epoxy surface.

*Container Management:*

- All containers shall be clearly labelled in accordance with WHMIS/TDG requirements.
- Containers shall be in good condition, free of rust, cracks, or damage.
- Containers shall be stacked no higher than two drums. Sufficient aisle space shall be maintained between rows of containers to permit safe weekly inspection and access.



- Only compatible WDG/HW shall be stored together. Incompatible waste streams shall be physically segregated in separate bays or areas of the HWSA. In particular, flammable propellant waste (RP-1) shall be stored separately from oxidizing, corrosive, and reactive materials. A compatibility matrix shall be maintained by the HSE Manager and posted at the HWSA.
- Special precautions are required for ignitable and reactive waste: open and close drums with a spark-proof bung wrench; do not push, roll, or drag containers; use a funnel or hose to add or transfer materials.

*Secondary Containment:*

- The HWSA shall be equipped with secondary containment with a minimum capacity of 110% of the total volume of all containers stored within it, in accordance with GD-PPD-077.
- Accumulated precipitation and storm water shall be prevented from entering the secondary containment system through use of the roofed structure and appropriate drainage design. Any accumulated waste water within the containment system shall be tested and managed prior to discharge.
- Secondary containment integrity shall be verified during weekly routine inspections (Appendix A-1).

*WDG/HW Storage Limit:*

- In accordance with GD-PPD-077, a maximum of 1,000 kg of WDG/HW may be stored on site at any one time, for a maximum of six months. See Section 7.3 for the monitoring and scheduling protocol.

*Specific Container Storage:*

- Used Oil Filters: stored in 205 L drums with lids and rings at the HWSA.
- Aerosol cans and oily rags: stored in 205 L drums at the HWSA.
- Used Antifreeze: stored in 1,000 L plastic totes at the HWSA.
- Propellant handling waste (RP-1): stored in leak-proof containers with secondary containment in a dedicated bay, separate from other waste streams.

The following products MAY be added to the used oil storage system: crankcase oil (including synthetic), gear oil, transmission fluid, hydraulic (brake and power steering) fluid, and heating oil.



The following products MAY NOT be added to the used oil storage system: gasoline, grease, chemical solvents, radiator coolants, animal or vegetable fats, pesticides, polychlorinated biphenols (PCBs), or RP-1 kerosene (propellant waste — manage separately per Section 7.4.2).

## 8.2 Inspection

**Routine Inspection:** Routine inspections shall be carried out weekly as a visual check to confirm signage is visible, dumpster waste levels are acceptable, proper waste segregation is maintained, HWSA secondary containment integrity is intact, and wildlife-proof bin functionality is confirmed. An inspection form is located in Appendix A-1.

**Waste Management Inspection:** Quarterly inspections shall be carried out to identify areas where waste management reduction can be improved, the effectiveness of current waste management strategies, and the types and amounts of waste being generated. An inspection form is located in Appendix A-2.

**Launch Operations Inspection:** Following each launch event, the HSE Manager or Environmental Technician shall conduct a dedicated inspection of the launch pad surface, retention pond levels and water quality, deluge system drainage and filtration function, and propellant storage and handling areas. An inspection form is located in Appendix A-3.

## 8.3 Collection and Disposal

For the purpose of disposing drums and containers, a triple rinse procedure will be implemented. For facility operational materials delivered in steel drums or 1,000 L plastic totes, a triple rinse per the Safe Work Procedure is acceptable before the container is disposed of, recycled, or reused.

Crushed plastic drums go in general waste; crushed metal drums go in scrap metal. All other waste will be removed from the facility and properly disposed of in accordance with applicable regulatory requirements. Waste stored at the work site shall at regular intervals be transported to licensed facilities by a dedicated waste transport collector holding all required licenses.

## 9. Storage and Disposal Plan

Table 1.0 – Storage and Disposal Plan

<b>Waste Type</b>	<b>Temporary Storage on Site</b>	<b>Final Disposal Strategy</b>
<b>Domestic Wastes</b>		
Food	Collect in garbage bags in covered, enclosed bins. Do not store outside unprotected.	Landfill or compost at Regional Waste Management Facility or approved landfill site.
Paper and Cardboard	Store dry for collection by Site Services Contractor. Ship offsite to licensed recycling facility or Regional Waste Management Facility.	Recycle / Landfill when applicable at the Regional Waste Management Facility or approved landfill site.
Plastics	Non-toxic plastics included with regular waste.	Recycle / Landfill at the Regional Waste Management Facility or approved landfill site.
Beverage Containers	Collect under MMSB Beverage Container Recycling Program and make available to charitable organizations.	Recycle
Printer and Toner Cartridges	Store and send back to supplier or manufacturer, or ship offsite to Regional Waste Management Facility.	Recycle / Landfill at the Regional Waste Management Facility or approved landfill site.
<b>Inert Solid Wastes</b>		
Tires	Remove from site and transport to approved tire storage area. Work within MMSB Used Tire Recycling Program.	Re-use / Recycle / Dispose offsite



<b>Waste Type</b>	<b>Temporary Storage on Site</b>	<b>Final Disposal Strategy</b>
Vehicles, Equipment and Machinery	Drain and collect residual fluids. Store in laydown area. Ship offsite via licensed metals recycler.	Recycle
C&D Waste	Stockpile in designated laydown area. Reuse/recycle where possible. Ship offsite to Regional Landfill Site.	Reuse / Recycle / Dispose offsite
Scrap Steel, Wire, Aluminum	Store recyclable wire or aluminum in metal bins. Store bulk steel at laydown area.	Recycle offsite
Waste Lumber	Stockpile in designated laydown area. Reuse where possible. Ship offsite to Regional Landfill Site.	Reuse / Dispose offsite
<b>Hazardous Waste Stream</b>		
Used Oil	Collect in trays and drums. Transfer to ISO storage tanks. Ship offsite. Max 1,000 kg WDG/HW on site at any time.	Ship offsite to Licensed Facility for recycling or destruction (AUOMA)
Used Oil Filters	Store in separate drums at the HWSA. Ship offsite.	Recovery / Landfill at Licensed Offsite Facility
Aerosol Cans	Collect in drums. Puncture using aerosol can puncturing kit.	Ship contents to Licensed Offsite Facility or Regional Land Fill
Oily Debris (rags, absorbents, PPE)	Collect and store in drums at the HWSA. Ship offsite.	Ship to Licensed Offsite Facility) for recycling or disposal
Used Antifreeze	Collect and store in 1,000 L totes at the HWSA. Ship offsite.	Ship to Licensed Offsite Facility for recycling or disposal



Waste Type	Temporary Storage on Site	Final Disposal Strategy
Laboratory Liquid Wastes	Characterize and test against discharge standards. Compliant wastes via on-site septic; non-compliant stored at HWSA.	Compliant: on-site septic system. Non-compliant: Licensed Offsite Facility
Waste Batteries	Store in designated container accessible to all staff. Ship offsite by licensed Hazardous Waste Contractor per TDG.	Ship to Licensed Offsite Facility for recycling or disposal
Fluorescent Light Bulbs	Store in designated container accessible to all staff. Ship offsite by licensed Hazardous Waste Contractor per TDG.	Ship to Licensed Offsite Facility for recycling or disposal
<b>Launch Operations Waste</b>		
Water Deluge Wastewater Contaminants	Collect via pad drainage to retention pond. Separate via settling, oil-water separator, and activated carbon filtration. Store separated contaminants at HWSA.	Filtered water recirculated to storage tanks. Contaminants shipped to Licensed Offsite Facility
Propellant Handling Waste (RP-1 / LOX)	Collect spent RP-1 and contaminated materials in leak-proof containers with secondary containment at HWSA in dedicated incompatible-waste-segregated bay.	Ship to Licensed Offsite Facility for recycling or destruction per TDG requirements.
Launch Pad Surface Contaminants	Collect via mechanical removal and pressure washing. Direct wash water to retention pond. Store solid contaminants at HWSA.	Characterize and ship to Licensed Offsite Facility disposal.



Waste Type	Temporary Storage on Site	Final Disposal Strategy
Retention Pond Sediments and Filter Media	Remove settled sediments and spent filter media on scheduled basis. Store at HWSA.	Characterize and ship to Licensed Offsite Facility for disposal.
Marine Recovery Debris	Transport to designated SLC-01 laydown area. Inspect, classify, and decontaminate.	Reuse/recycle metals. Propellant-contaminated materials to Licensed Offsite Facility Non-recoverable to approved landfill.
<b>Other Wastes</b>		
Sewage and Human Waste	On-site septic systems at SLC-01 and SLC-02. Portable facilities serviced during construction.	On-site septic treatment per Environmental Control Water and Sewage Regulations, 2003.

## 10. Implementing Three R's

NordSpace is devoted to the successful implementation of the Three R's throughout all works during the operation.

**Reduction Initiatives:** Reducing raw material consumption is the first step to reduce waste generation. At the purchasing stage, the possibility of less hazardous material substitution will be investigated for all materials that are hazardous to handle, generate hazardous wastes, or create environmental problems.

**Reuse/Recovery Initiatives:** All opportunities for onsite reuse of waste materials will be highly encouraged. Discarded wood from construction activities shall be assessed for reusability. Deluge water shall be recirculated through the filtration system for reuse in subsequent launch operations, minimizing freshwater consumption. Recovered rocket stages and structural components from marine recovery operations shall be assessed for reuse or refurbishment before disposal.

**Recycling Initiatives:** Wherever possible, recycling programs for beverage containers, pull tabs, plastic bottle caps, used oil, paper and cardboard, tires, copper and aluminum, etc. shall be implemented. Blue bin recycling containers are recommended for beverage container collection. Scrap metals from launch operations, including metallic residues



from the retention pond and marine recovery components, shall be segregated and sent to a metals recycling facility where feasible.

**Disposal:** Disposal becomes the final option when the three R's are no longer applicable or practical. Hazardous wastes will be stored onsite at the HWSA while arrangements are made for transportation to a licensed facility for possible recovery, treatment, and disposal as required.

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## 11. Reporting and Record-Keeping

NordSpace shall maintain comprehensive waste management records in accordance with provincial regulatory requirements and the commitments made in the Environmental Assessment Registration Document.

### 11.1 Waste Tracking

- A waste tracking database shall be maintained by the HSE Manager, recording the type, quantity, source, storage location, and final disposal pathway for all waste streams.
- The waste tracking database shall include a running total of on-site WDG/HW quantities to monitor compliance with the 1,000 kg on-site storage limit required under GD-PPD-077. The HSE Manager shall review this total no less than weekly.
- Hazardous waste manifests shall be maintained for all hazardous waste shipments in accordance with the Dangerous Goods Transportation Act and Regulations. Copies of all WDG/HW manifests shall be returned to the Department of Environment, Conservation and Climate Change, as required under GD-PPD-077 and the Environmental Protection Act.
- Deluge wastewater testing results shall be recorded after each launch event, including pre-recirculation water quality parameters and contaminant volumes removed.
- Marine recovery operations shall be documented with an inventory of all recovered items, their classification, and disposal or reuse pathway.

### 11.2 Inspection Records

- Weekly routine inspection records (Appendix A-1)
- Quarterly waste management inspection records (Appendix A-2)



- Post-launch inspection records (Appendix A-3)
- All inspection records shall be retained for a minimum of five years and made available to regulatory authorities upon request.

### **11.3 Annual Waste Report**

The HSE Manager shall prepare an annual waste management report summarizing: total waste volumes generated by category; waste diversion rate and progress toward the provincial 50% diversion target; summary of hazardous waste shipments and disposal facilities used; WDG/HW on-site storage limit compliance record; summary of deluge wastewater management and water quality testing results; results of inspections and any corrective actions taken; and recommendations for waste management improvements.

The annual waste report shall be submitted to the NordSpace CEO and retained for regulatory review.

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## **12. Integration with Environmental Management Plans**

This WMP shall be read and implemented in conjunction with the following companion plans, which are currently under development and will form part of the broader suite of Environmental Management Plans for the Atlantic Spaceport Complex:

**Environmental Protection Plan (EPP):** The EPP provides the overarching framework for environmental protection during construction and operations. All waste management activities shall be conducted in accordance with the protective measures outlined in the EPP.

**Spill Response Plan:** In the event of any spill or release of hazardous materials during waste handling, storage, or transport, the Spill Response Plan shall be activated. Spills or releases of WDG/HW greater than 70 litres shall be reported immediately to the National Environmental Emergencies Centre (NEEC) at 1-800-563-9089, in addition to provincial notification through the Environmental Emergencies 24-hour line (1-800-563-9089) under the Environmental Protection Act.

**Emergency Response Plan:** The Emergency Response Plan, developed with the support of the St. Lawrence Town Office and Volunteer Fire Department, addresses emergency



situations that may arise during waste handling or launch operations, including fires, explosions, or major spills.

**Contingency Plan:** The Contingency Plan addresses unforeseen circumstances including failure of waste containment systems, equipment malfunctions during waste handling, or interruption of waste transportation services.

**Rehabilitation and Closure Plan:** The Rehabilitation and Closure Plan addresses decommissioning waste management as outlined in Section 13 of this WMP.

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### 13. Decommissioning Waste Management

In the event of partial or full decommissioning of the Atlantic Spaceport Complex, waste management activities shall be conducted in accordance with the Rehabilitation and Closure Plan and under the direction of the HSE Manager. Decommissioning waste management shall include:

- Safe removal and disposal of all remaining propellant stocks (RP-1 and LOX) from storage tanks and distribution systems by qualified personnel in accordance with TDG requirements.
- Draining, cleaning, and decommissioning of fuel and oxidizer storage tanks, piping, and associated containment systems. Contaminated materials shall be classified and disposed of as hazardous waste.
- Final removal of all retention pond sediments, oil-water separator residues, and spent filtration media. Characterization and disposal as hazardous waste.
- Removal of all hazardous materials from the HWSA, including any accumulated waste batteries, fluorescent bulbs, aerosol cans, and chemical waste.
- Demolition and removal of site structures, with C&D waste managed in accordance with Section 7.2.3.
- Soil sampling and testing in areas of potential contamination to identify any remediation requirements.
- Remediation of any contaminated soils as required by the Department of Environment, Conservation and Climate Change. A post-closure environmental monitoring program will be implemented for a period determined in consultation with provincial regulators.

#### **14. Plan Review and Updates**

This Waste Management Plan shall be reviewed and updated on a regular basis to ensure continued compliance with regulatory requirements and EA commitments. The plan shall be reviewed:

- Annually, as part of the annual waste reporting process (Section 11.3)
- Following any significant change in launch operations cadence that materially affects waste volumes or waste stream characteristics
- Following any change to applicable federal or provincial waste management legislation or regulations
- Following any significant spill, release, or non-compliance event related to waste management
- At the direction of the Department of Environment, Conservation and Climate Change or other regulatory authority

All revisions to the WMP shall be documented with version number, date, and summary of changes. The current version of the WMP shall be maintained on site and made available to all personnel and regulatory authorities.

## Appendix A-1: Routine Inspection Forms and Checklists

### Waste Management Routine Inspection Form

Date: \_\_\_\_\_ Name: \_\_\_\_\_

#### SLC-01 – Launch Complex (Sauker Head)

Waste Category	Capacity
Assembly Hangar – General Waste Bin	
Assembly Hangar – Scrap Metal Dumpster	
Launch Pad Area – Hazardous Waste Sea Can	
Launch Pad Area – General Waste Roll-off Dumpster	
Propellant Storage Area – Hazardous Waste Bin	
Retention Pond – Sediment Level	
Access Road – C&D Waste Laydown	

#### SLC-02 – Mission Control Centre (Middle Head)

Waste Category	Capacity
Operations Building – General Waste Bin	
Operations Building – Recycle Bin	
Operations Building – Confidential Paper Shredding Tote	
Scrap Metal Dumpster	
Scrap Wood Laydown	

### Weekly Inspection Checklist

Waste Management – Waste Storage Areas For the Month of: \_\_\_\_\_

	Date	Time	Initials	Signature
Week 1				
Week 2				
Week 3				
Week 4				
Week 5				

### Hazardous Waste Storage Area (HWSA) Inspection

(If you answer yes to any question, please explain in the comment section)

Answer Yes or No for each question, every week	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5
Is the appropriate signage on or near the HWSA?					
Are containers/totes in good condition (no damage or large rust spots)?					
Is there any waste on the ground near the HWSA?					
Is secondary containment intact and free of accumulated liquids?					
Is the area secured against unauthorized access and wildlife?					

Comments: \_\_\_\_\_



**Recyclable Container Inspection**

(If you answer yes to any question, please explain in the comment section)

Answer Yes or No for each question, every week	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5
Is there signage on or near the container labeled "Recyclable Containers Only"?					
Is the container in good condition (any signs of damage or large rust spots)?					
Is there any garbage on the ground near the container?					

Comments: \_\_\_\_\_

**General Waste Dumpster Inspection**

(If you answer yes to any question, please explain in the comment section)

Answer Yes or No	Wk 1	Wk 2	Wk 3	Wk 4	Wk 5
Is there signage on or near the container labeled "General Waste"?					
Is the container in good condition?					
Is there any garbage on the ground near the container?					

Comments: \_\_\_\_\_



**Scrap Metal Dumpster Inspection**

(If you answer yes to any question, please explain in the comment section)

<b>Answer Yes or No</b>	<b>Wk 1</b>	<b>Wk 2</b>	<b>Wk 3</b>	<b>Wk 4</b>	<b>Wk 5</b>
Is there signage on or near the container labeled "Scrap Metal"?					
Is the container in good condition?					
Is there any metal on the ground near the container?					

Comments: \_\_\_\_\_

## Appendix A-2: Quarterly Waste Management Inspection

### Quarterly Inspection Checklist – Waste Management

Location/Dept: \_\_\_\_\_ Inspection Date: \_\_\_\_\_

Inspected by: \_\_\_\_\_ Signature: \_\_\_\_\_

Type of Inspection:  Compliance Inspection  Re-Inspection

Waste Category	Criteria	YES	NO	N/A	Comments/Remarks
<b>General Waste</b>					
	1. Is waste sorted correctly?				
	2. Is 'General Waste' signage visible on or near the containers?				
	3. Is General Waste being stored in the outside designated areas?				
	4. Are general waste materials being placed properly in waste bins?				
	5. Is there any waste on the ground (i.e. is the dumpster overflowing)?				
<b>Recyclable Material</b>					
	6. Is there a recycling container designated for aluminum cans, plastic bottles etc.?				
	7. Is there a recycling area available for used toner cartridges?				
	8. Is the recyclable materials poster visible near areas where these materials are generated?				
<b>Confidential Paper Waste</b>					

	9. Are lockable shredding totes available for staff?				
	10. Are shredding totes locked?				
	11. Is appropriate signage for 'Shredded Paper Waste' visible?				
<b>Hazardous Waste</b>					
	14. Is hazardous chemical waste stored separately from other waste materials?				
	15. Are battery, fluorescent tube, aerosol can, and used oil filter disposal containers available and labelled?				
	16. Is propellant handling waste (RP-1) stored in appropriate containers with secondary containment at the HWSA?				
<b>Launch Operations Waste</b>					
	17. Is the retention pond operating within capacity (sediment level acceptable)?				
	18. Is the oil-water separator functioning properly?				
	19. Is the activated carbon filtration media within service life?				
	20. Is the launch pad surface free of accumulated contaminant deposits?				



## Appendix A-3: Post-Launch Waste Inspection Form

### Post-Launch Waste Management Inspection Form

Launch Date: \_\_\_\_\_ Launch Designation: \_\_\_\_\_

Inspected by: \_\_\_\_\_ Inspection Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Item	Compliant	Non-Compliant	Comments/Action Required
<b>Launch Pad</b>			
Pad surface inspected and photographed?			
Soot and debris mechanically removed?			
Pad pressure washed and wash water directed to retention pond?			
Solid contaminants collected, classified, and stored at HWSA?			
<b>Retention Pond and Filtration</b>			
Retention pond level within capacity?			
Oil-water separator inspected and functioning?			
Activated carbon filter condition acceptable?			
Post-filtration water quality tested?			
Water quality results within discharge standards?			
<b>Propellant Areas</b>			
Propellant storage area inspected for spills/leaks?			

Fuelling equipment inspected for contamination?			
Propellant waste properly stored at HWSA?			
<b>General</b>			
Waste tracking database updated with launch waste data?			
Any reportable spills during launch operations?			
Environmental Emergencies hotline notified (if applicable)?			

Additional Comments:

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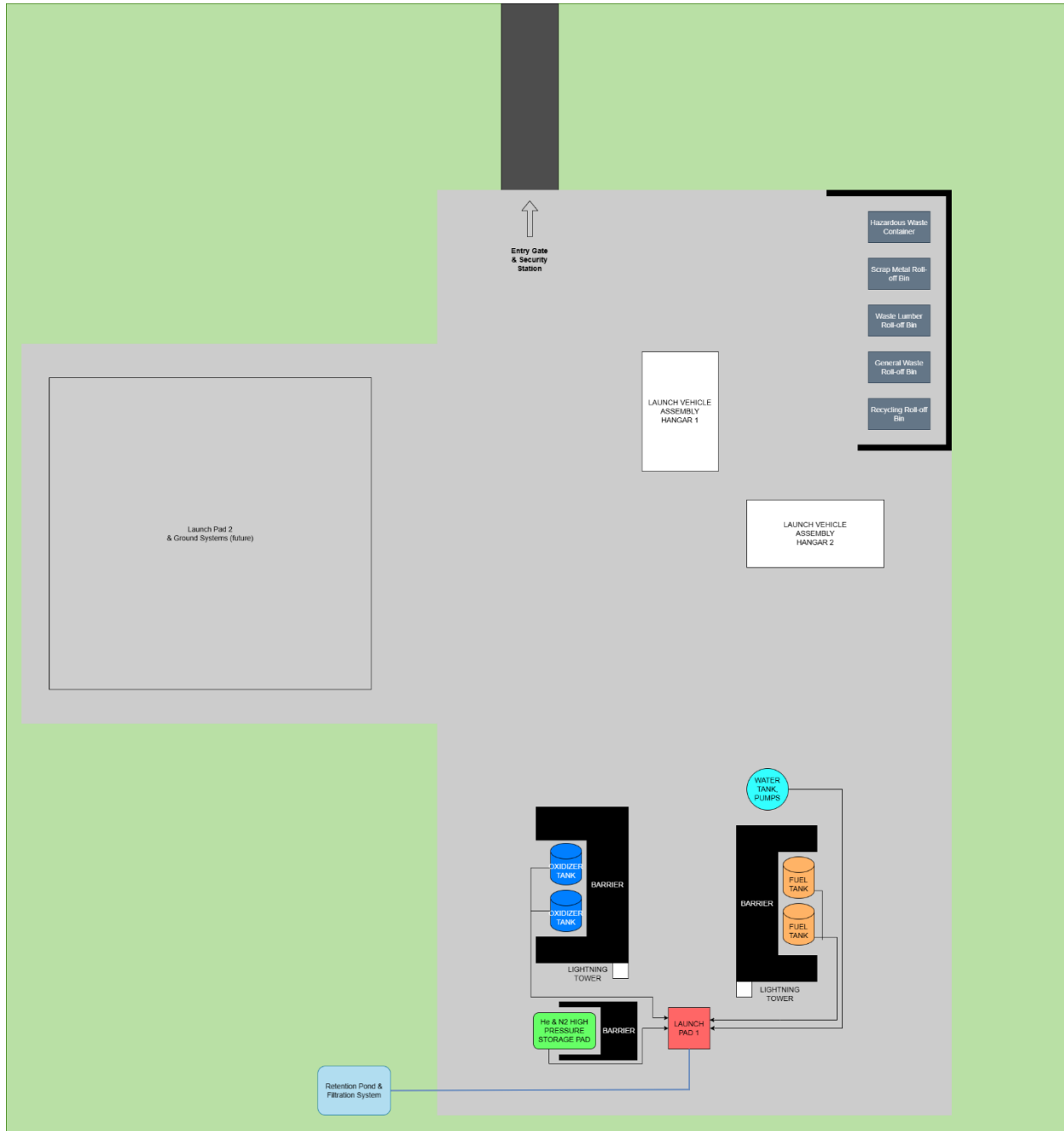


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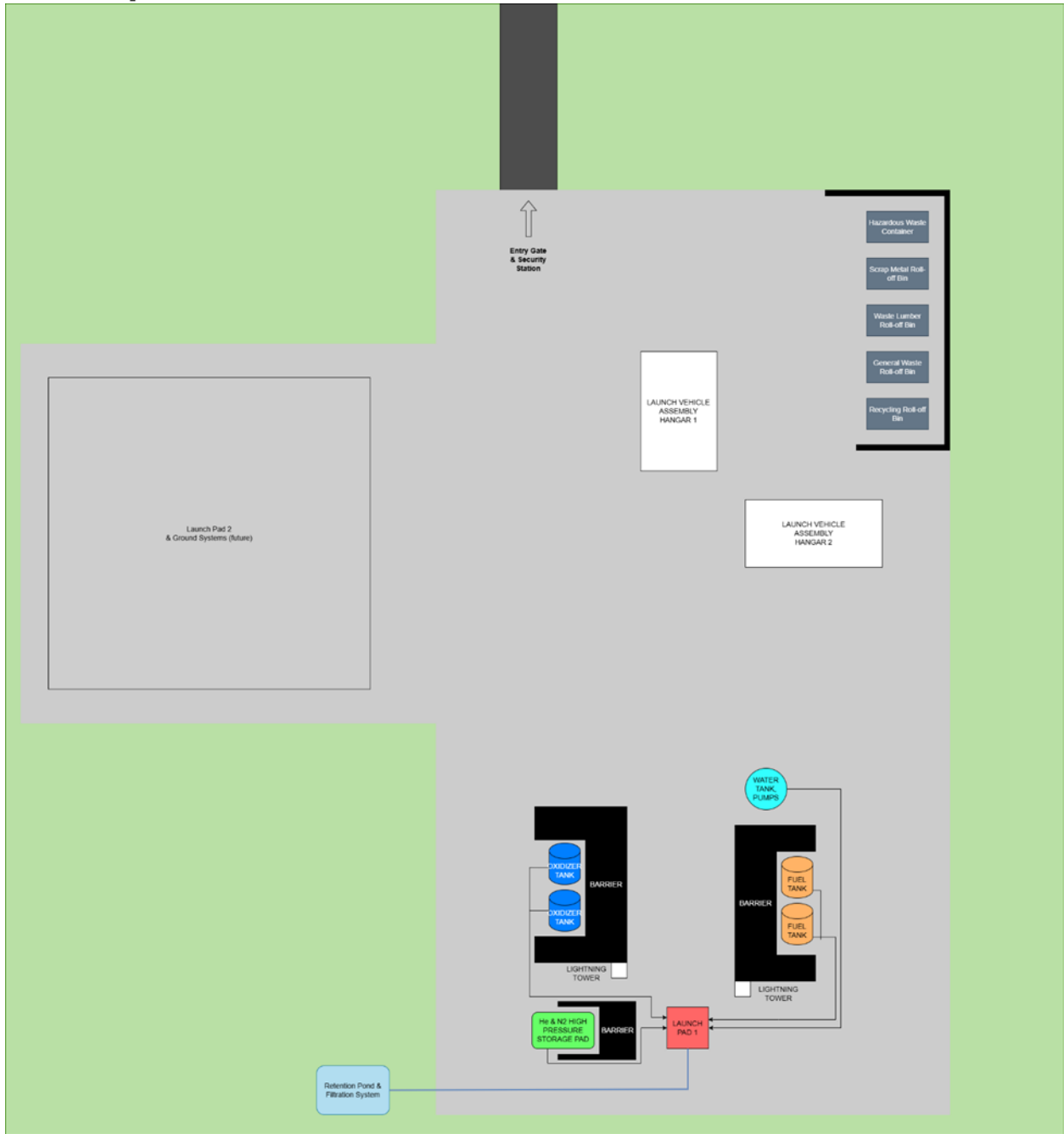


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## Appendix B: SLC 01 and SLC 02 Conceptual Layout



Sauker Head Space Port (SLC 01)



Midde Head Mission Control (SLC 02)