



March 1, 2011

Tracking Number: 150513
Authorization Number: 15821

REGISTERED MAIL

Columbia Shuswap Regional District
Box 978
781 Marine Park Drive NE
Salmon Arm, BC V1E 4P1

Dear Operational Certificate Holder:

Enclosed is Amended Operational Certificate 15821 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the operational certificate. An annual fee will be determined according to the Permit Fees Regulation.

This operational certificate does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the operational certificate holder. It is also the responsibility of the operational certificate holder to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

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Administration of this operational certificate will be carried out by staff from the Kootenay Region. Plans, data and reports pertinent to the operational certificate are to be submitted to the Regional Manager, Environmental Protection, at Ministry of Environment, Regional Operations, Kootenay Region, 401 - 333 Victoria St., Nelson, BC V1L 4K3.

Yours truly,



Chris Stroich, M.Sc., P.Ag.
for Director, *Environmental Management Act*
Kootenay Region

Enclosure

cc: Environment Canada



MINISTRY OF
ENVIRONMENT

OPERATIONAL CERTIFICATE

15821

Under the Provisions of the Environmental Management Act

**Columbia Shuswap Regional District
Box 978
781 Marine Park Drive NE
Salmon Arm, BC V1E 4P1**

is authorized to manage waste and recyclable material from the Columbia Shuswap Regional District and environs at the Columbia Shuswap Regional District in Revelstoke landfill located near Revelstoke, British Columbia, subject to the conditions listed below. Contravention of any of these conditions is a violation of the *Environmental Management Act* and may result in prosecution.

This Operational Certificate supersedes all previous versions of the Operational Certificate MR-15821 issued under the authority of the *Environmental Management Act*.

1. **AUTHORIZED DISCHARGE**

This authorization applies to the discharge of SOLID WASTE TO A SANITARY LANDFILL known as the REVELSTOKE LANDFILL.

- 1.1 The authorized works are a sanitary landfill and related appurtenances approximately located as shown on Site Plan A.
- 1.2 The maximum quantity of waste discharges shall not exceed the design capacity of the landfill as specified in the approved Design and Operations Plan. The final footprint and profile of the discharges waste shall be within that specified in the Design and Operations Plan, and roughly as shown on the attached Site Plan A.
- 1.3 The authorized discharge is municipal solid waste as defined in the *Environmental Management Act* and other waste as may be authorized by the Director.

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- 1.4 The legal description of the location of the authorized landfill facility is Block A, Section 4, Township 24, Range 2, Meridian 6, Kootenay Land District, Lease# 402091.
- 1.5 The site is located approximately 3.2 kilometres travelling north on Westside Road as shown in Site Plan B.

2. DESIGN AND PERFORMANCE REQUIREMENTS

2.1 Design and Operating Plan

The Operational Certificate holder shall prepare and maintain a current Design and Operations Plan prepared by a qualified professional. The Plan shall be reviewed and updated as needed at least once every five years. The Plan must address, but not be limited to, each of the subsections in the Landfill Criteria for Municipal Solid Waste including performance, siting, design, operational, closure and post-closure criteria. The facilities must be developed, operated and closed in accordance with the Plan. Should there be any inconsistency between this Operational Certificate and the Plan, this Operational Certificate shall take precedence.

Written authorization from the Director shall be obtained prior to implementing any changes to the approved plans. Based on any information obtained in connection with this facility, the Director may require revision of, or addition to, the design, operating and closure plans.

2.2 Qualified Professionals

All facilities and information, including works, plans, assessments, investigations, surveys, programs and reports, must be certified by Qualified Professionals.

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2.3 **Maintenance of Works and Emergency Procedures**

The authorized works shall be inspected regularly and maintained in good working order. In the event of an emergency or condition beyond the control of the Columbia Shuswap Regional District including, but not limited to, unauthorized fires arising from spontaneous combustion or other causes, or detection of leachate on the property, the Columbia Shuswap Regional District shall take appropriate remedial action and notify the Director immediately. The Director may reduce or suspend operations to protect the environment until the authorized works has been restored, and/or corrective steps taken to prevent unauthorized discharges.

2.4 **Additional Facilities or Works**

The Director may require investigations, surveys, and the construction of additional facilities or works. The Director may also amend any information requirements of this Operational Certificate including plans, programs, assessments and reports.

2.5 **Public Health, Safety and Nuisance**

The landfill shall be operated in a manner such that it will not create a public nuisance or become a significant threat to public health or safety with respect to landfill gas, unauthorized access, roads, traffic, airport activity, noise, dust, litter, vectors, or wildlife attraction.

2.6 **Ground and Surface Water Quality Impairment**

The landfill shall be operated in a manner such that ground or surface water quality does not decrease beyond that specified by the British Columbia Water Quality Guidelines, or other appropriate criteria as may be specified by the Director, at or beyond the landfill property boundary.

These measures include but are not limited to:

- a) Prohibiting the discharge of municipal solid waste into water.
- b) Ensuring that no new waste is landfilled within 1.2 m of the highest groundwater level.
- c) Ensuring that adequate surface water and groundwater diversion works are constructed and maintained to minimize surface water run-off and groundwater seepage from entering the landfill.

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- d) Ensuring that the management systems for surface water that has not come in contact with waste are hydraulically separate from those for managing impacted surface water.
- e) Ensuring that the landfill is operated in a manner that prevents the exceedance in surface water and groundwater of anticipated leachate indicators or parameters distinctive of leachate or those specified by the Director at the landfill boundary.
- f) Ensuring that the indicators in e) above, at specified groundwater monitoring wells within the property boundary are in accordance with those predicted by design and that suitable measures are taken to address the cause of any exceedances above the trigger levels identified in the design.
- g) Ensuring that the landfill is operated in accordance with a Design & Operations Plan which specifies measures to prevent decreases in groundwater and surface water quality at and beyond the property boundary.

If exceedances to the specified water quality criteria occur as a result of landfill operations, the Director may require that leachate management control measures or works be undertaken. Terms of reference for any leachate management study and/or design work shall be submitted to the Director for review prior to conducting the work.

2.7 Landfill Gas Management

The Landfill shall not cause combustible gas concentrations to exceed the lower explosive limit in soils at the property boundary or 25% of the lower explosive limit at or in on-site or off-site structures.

The Operational Certificate holder shall ensure that the facility is in compliance with the requirements of the Landfill Gas Management Regulation under the *Greenhouse Gas Reduction (Emissions Standards) Statutes Amendment Act*, 2008 on or before applicable dates specified in the regulation. The requirements of the regulation and its guideline documents shall be incorporated by the Operational Certificate holder into the Design and Operation Plan revisions as they come into effect and as applicable.

2.8 Buffer Zone

No material shall be landfilled within 50 metres of the property boundary.

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3. OPERATIONAL REQUIREMENTS

3.1 Waste Compaction and Coverage

The Operational Certificate holder shall ensure that waste deposition and compaction meets or exceeds the requirements of the BC Landfill Criteria or its most current version for daily, intermediate and final cover. Control must be exercised to ensure keeping freshly deposited refuse in a well defined and small / manageable working face.

3.2 Prohibited Wastes

The disposal of the following types of wastes is strictly prohibited:

- (a) Hazardous Wastes other than those specifically approved for disposal to authorized landfills in the Hazardous Waste Regulation under the *Environmental Management Act*.
- (b) Biomedical wastes as defined in the Guidelines for the Management of Biomedical Wastes in Canada (Canadian Council of Ministers of the Environment, February 1992),
- (c) Bulk liquids and semi-solid wastes, which contain free liquids, as determined by US EPA Method 90954 Paint Filter Liquids Test, Test Methods for Evaluating Solid Wastes-Physical/Chemical Methods (EPA Publication No. Sw-846),
- (d) Release of ozone depleting substances from the storage, handling and disposal of used appliances, equipment, or any material containing ozone depleting substances is prohibited in accordance with the requirements of the Ozone Depleting Substances Regulation. Onsite removal or evacuation of Ozone Depleting Substances (ODS) from appliances and the subsequent storage of appliances on site is permitted subject to both activities being in compliance with the Ozone Depleting Substances Regulation.

3.3 Waste Asbestos

Waste asbestos is authorized for disposal subject to compliance with the requirements of section 40 of the Hazardous Waste Regulation and the following conditions:

- (a) The asbestos waste may not be mixed with any other hazardous waste.

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- (b) The Regional District must approve the disposal before disposal takes place.
- (c) All other applicable requirements of the Hazardous Waste Regulation, including but limited to manifesting and waste record keeping, must also be complied with.

3.4 **Contaminated Soil**

Soil that contains contaminants in concentrations less than "hazardous waste" as defined by the Hazardous Waste Regulation may be disposed of at the landfill site. Disposal includes monofilling, co-disposal with other wastes, use as a refuse cell berm material and use as a refuse cell cover material. Disposal does not include use as final cover material.

3.5 **Wildlife and Vector Control**

Vectors (carriers capable of transmitting a pathogen from one organism to another including, but not limited to flies and other insects, rodents, and birds) shall be controlled by the application of cover material at the required frequency or by such additional methods as specified by the Director. Wildlife control fencing shall be maintained around the perimeter of the landfill site and shall be electrified for at least the active bear season of each year.

This landfill shall be operated so as to minimize the attraction of wildlife such as bears and birds by applying cover at required frequencies and instituting a good housekeeping program.

3.6 **Site Access and Supervision**

A landfill operator that has received BC Qualified Landfill Operator training, is familiar with the requirements of the Operational Certificate and the specifications of the Design and Operations Plan, shall be present at all times during operating hours.

Locking gates shall be maintained at all access routes to the landfill site. Gates, perimeter fencing and/or barriers shall be installed where necessary to prevent unauthorized access to the site by vehicles. Gates shall be locked during non-operating hours.

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3.7 **Dust Control**

Dust created within the landfill property shall be controlled, using methods and materials acceptable to the Director, such that it does not cause a public nuisance.

3.8 **Litter Control**

The best practical means shall be used to prevent the scatter of litter. Any litter scattered into the neighbouring property, along access roads, in drainage ditches, along litter-control fences, into surrounding trees or elsewhere on the landfill site shall be cleaned up. The frequency of clean up and other additional requirements for refuse scatter control shall be determined by the Director.

3.9 **Waste Reduction and Alternate Disposal**

The Provincial Government has developed policies to promote the reduction, reuse and recycling of wastes. The Operational Certificate holder is encouraged to segregate for recycling and reuse, where possible, materials destined for disposal at this site.

Public scavenging shall not be permitted at the landfill. The controlled salvaging of waste by the landfill operator or persons authorized by the Operational Certificate holder is encouraged if areas or facilities for separation and storage of recyclable or reusable materials are provided.

In certain landfill environments, some construction and demolition debris or other wastes may create specific air and water quality concerns. If problems arise at this site that are attributable to specific wastes, the Director may require that alternate disposal/storage procedures be implemented.

3.10 **Operations and Maintenance Manual**

The Operational Certificate holder shall prepare an Operations and Maintenance Manual to be reviewed and updated as necessary on at least an annual basis.

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4. MONITORING AND REPORTING REQUIREMENTS

4.1 Landfill Monitoring

A monitoring program shall be developed by a Qualified Professional and identify potential environmental impacts of the authorized facility and shall address but not be limited to the Landfill Criteria for Municipal Solid Waste and Guidelines for Environmental Monitoring. The monitoring program shall be submitted to the satisfaction of the Director. Monitoring must be conducted in accordance with the monitoring program.

The program must be designed to assess and identify:

- The design performance of the landfill as per the Design & Operations Plan including but not limited to compliance with water quality performance standards at the landfill boundary.
- Landfill leachate as a contaminant source.
- Residential well water quality.
- Surface water quality.

The monitoring program shall address, but not be limited to relevant sections of the Landfill Criteria for Municipal Solid Waste and the Guidelines for Environmental Monitoring at Municipal Solid Waste Landfills. The Environmental Monitoring Program must take into consideration results from previous monitoring programs and any other investigations conducted at the site to ensure that early detection of potential impacts is possible.

4.2 Sampling Techniques

Sampling shall be carried out in accordance with the procedures described in the most recent edition of the "British Columbia Field Sampling Manual for Continuous Monitoring Plus the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples", or by suitable alternative procedures as authorized by the Director. A copy of the above manual may be purchased from the Queen's Printer Publications Centre, P.O. Box 9452, Stn. Prov. Gov't., Victoria, British Columbia, V8W 9V7

4.3 Analysis

Analyses are to be carried out in accordance with procedures described in the most recent edition of the "British Columbia Environmental Laboratory Manual for the Analysis of Water, Wastewater, Sediment and Biological Materials", or

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by suitable alternative procedures as authorized by the Director. A copy of the above manual may be purchased from the Queen's Printer Publication Centre, P.O. Box 9452, Stn. Prov. Govt., Victoria, British Columbia, V8W 9V7 (1-800-663-6105 or (250) 387-6409).

4.4 Quality Assurance

The Operational Certificate holder shall produce, within 60 days on the request of the Regional Manager Environmental Protection, 'Field and Laboratory Quality Protocols and Quality Assurance Criteria' acceptable to the Director. The 'Laboratory Quality Protocols' shall include the procedures used to assess precision, accuracy and blank quality, including frequency of application of those procedures, the procedures for sampling, handling (e.g. preservation, hold times) and corrective measures to be initiated when deficiencies are indicated. The 'Quality Assurance Criteria' shall include the acceptance criteria for accuracy (based on recoveries for reference samples/spikes), for precision (based on deviation in field and lab duplicates) and method blanks (designed to indicate false positives).

5. LANDFILL REPORTING

5.1 Annual Report

The Operation Certificate Holder shall submit an Annual Report to the Director on or before April 30th each year for the previous calendar year. The report shall contain at least the following information:

- (a) an executive summary;
- (b) the type and tonnage of waste received, recycled, stored on-site and discharged / landfilled for the year;
- (c) Any proposed changes to the Design and Operations Plan and the environmental monitoring program (EMP), with rationale for the changes; a description of unanticipated occurrences and any changes to the closure or post-closure plans and funds;
- (d) A review of the preceding year of operation or an operations update which summarizes landfill development work completed in the subject reporting year and work planned for the subsequent year. A summary of any new information or changes to the facilities and plans, assessments, surveys,

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programs and reports;

- (e) Occurrences or observations of wildlife (medium and large carnivores) at the facility;
- (f) A statement regarding the facility's progress in reducing the regional solid waste stream being landfilled and the objectives of the Regional Solid Waste Management Plan;
- (g) An outline of the current Environmental Monitoring Program and a compendium of all environmental monitoring data in accordance with requirements specified in the most recent version of Guidelines for Environmental Monitoring at Municipal Solid Waste Landfills and Landfill Criteria for Municipal Solid Waste. The annual report must document any effect of the discharge on the quality of the receiving environment using appropriate statistical and graphical analysis. Trend analyses, as well as an evaluation of the impacts of the discharges on the receiving environment must be included;
- (h) A list of training programs completed for landfill operators during the previous year; and
- (i) Any additional information requested by the Director.

All reports must be submitted, suitably formatted and tabulated in both print and electronic format (portable document format).

5.2 **Five Year Report**

The Operation Certificate Holder shall submit a Five Year Report to the Director on or before April 30th on the five year anniversary of the last submission. The report shall contain at least the following information:

- (a) An executive summary;
- (b) An updated Design and Operations Plan;
- (c) A detailed hydrogeological assessment;
- (d) The type and tonnage of waste received, recycled, stored on-site and discharged / landfilled for the year;

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- (e) A current topographic map detailing airspace consumption, on-site borrow pit changes and future developments;
- (f) Volume and density analysis or an in-place material summary, updated estimates for the remaining capacity, site life, revised closure date (for the current phase or sequence and revised closure date for the current landfill footprint);
- (g) An outline of the current Environmental Monitoring Program and a compendium of all environmental monitoring data in accordance with requirements specified in the most recent version of Guidelines for Environmental Monitoring at Municipal Solid Waste Landfills and Landfill Criteria for Municipal Solid Waste. The annual report must document any effect of the discharge on the quality of the receiving environment using appropriate statistical and graphical analysis. Trend analyses, as well as an evaluation of the impacts of the discharges on the receiving environment must be included;
- (h) An update on the financial assurance mechanism including a statement of the current dollar value of the Closure Fund and the amount earmarked for the Landfill site; and
- (i) Any additional information requested by the Director.

6. LANDFILL CLOSURE PLAN

6.1 Closure Plan and Post Closure

The Operational Certificate holder shall perform closure and post-closure care in accordance with all applicable requirements of the BC Landfill Criteria for Municipal Solid Waste. This Operational Certificate is issued on the condition that a Closure Plan and Final Cover Design that meets or exceeds the requirements of the criteria will be submitted to the Director during the operating life of the landfill. The Closure Plan shall be reviewed every five years throughout the operating life of the landfill.

A certification by a Qualified Professional attesting that all closure works have been completed in accordance with the Closure Plan and Final Cover Design is to be submitted to the Director no later than 60 days after the implementation of the Final Cover Design.

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The Operational Certificate Holder shall submit a Post Closure or Aftercare Plan to the Ministry at least one year prior to the anticipated closure date of the landfill.

6.2 Closure Fund

The Operational Certificate holder shall provide for the funding of progressive closure operations, final closure and operations beyond closure by maintaining a closure fund. The value of the closure fund shall meet or exceed the estimated closure and post-closure costs as established in the approved Design and Operations Plan and updated in the annual report, plus a reasonable contingency for any remediation which may be required. Reported costs must be adjusted for inflation annually. Alternately, a closure and post-closure financial security acceptable to the Director may be built over time.

The Operational Certificate holder shall determine and ensure that the closure fund is adequate by preparing annually a financial statement of the fund which shall be made available to the Director upon request. The financial statement shall report the accrued capital, interest and additions to the fund for the previous year and review the sufficiency of the fund and the rate of accrual in consideration of the projected costs of closure and post-closure obligations.

6.3 Site Decommissioning

In accordance with Section 40 of the *Environmental Management Act* and Part 2 of the Contaminated Sites Regulation, the Operational Certificate holder shall submit a site profile to the manager at least ten days prior to decommissioning the facilities authorized in Section 1.

6.4 Declaration of Landfill

Landfills sited on titled land must register a covenant that the property was used for the purpose of waste disposal as a charge against the title to the property as provided for under Section 215.1 of the *Land Title Act*. Landfills located on crown land are to have a "notation on file" registered that the property was used for the purpose of waste disposal.

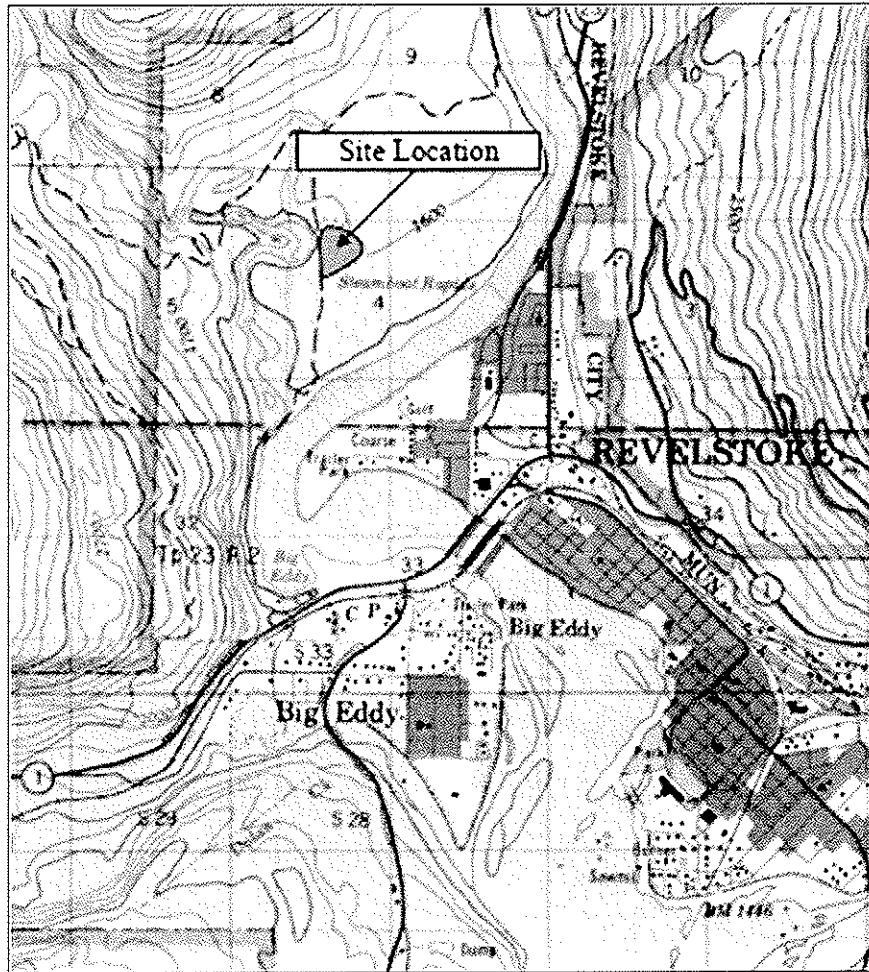
The Operational Certificate holder shall, upon closure of the landfill, register a charge against the property title, or provide other legal notification acceptable to the Director, that the property described in Section 1 was used for the purpose of waste disposal. The Director must be notified of the charge or legal notification.

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Location Map



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Site Plan A



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