

**TERMS AND CONDITIONS ATTACHED TO APPROVAL**

- (A) the *Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout*, Environment Canada, Environmental Protection Series 1/RM/13, December 2000, as amended,
  - (B) the *Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Daphnia Magna*, Environment Canada, Environmental Protection Series 1/RM/14, December 2000, as amended,
  - (C) the *Biological Test Method: Growth Inhibition Test Using the Freshwater Alga Selenastrum capricornutum*, Environment Canada, Environmental Protection Series, November 1992, as amended,
  - (D) the *Biological Test Method: Test of Reproduction and Survival Using the Cladoceran Ceriodaphnia dubia*, Environment Canada, Environmental Protection Series 1/RM/21, February 1992, as amended,
  - (E) the *Biological Test Method: Test of Larval Growth and Survival Using Fathead Minnows*, Environment Canada, Environmental Protection Series 1/RM/22, February 1992, as amended, and
  - (F) the *Biological Test Method: Toxicity Test Using Luminescent Bacteria (Photobacterium phosphoreum)*, Environment Canada, Environmental Protection Series, 1/RM/24, November 1992, as amended;
- (iv) for soil:
- (A) the *Soil Monitoring Directive*, Alberta Environment, May 2009, as amended, and
  - (B) the *Soil Quality Criteria Relative to Disturbance and Reclamation*, Alberta Agriculture, March 1987, as amended;
- (v) for waste:
- (A) the *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, USEPA, SW-846, September 1986, as amended,
  - (B) the *Methods Manual for Chemical Analysis of Water and Wastes*, Alberta Environmental Centre, Vegreville, Alberta, 1996, AECV96-M1, as amended,



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- (C) the *Toxicity Characteristic Leaching Procedure (TCLP)* USEPA Regulation 40 CFR261, Appendix II, Method No. 1311, as amended, or
  - (D) the *Standard Methods for the Examination of Water and Wastewater*, published jointly by the American Public Health Association, American Water Works Association, and the Water Environment Federation, 2012, as amended.
- 2.3.2 The approval holder shall analyse all samples that are required to be obtained by this approval in a laboratory accredited pursuant to ISO/IEC 17025, as amended, for the specific parameter(s) to be analysed, unless otherwise authorized in writing by the Director.
- 2.3.3 The term sample used in 2.3.2 does not include samples directed to continuous monitoring equipment, unless specifically required in writing by the Director.
- 2.3.4 The approval holder shall comply with the terms and conditions of any written authorization issued by the Director under 2.3.2.

### SECTION 2.4: OTHER

- 2.4.1 The terms and conditions of this approval are severable. If any term or condition of this approval or the application of any term or condition is held invalid, the application of such term or condition to other circumstances and the remainder of this approval shall not be affected thereby.
- 2.4.2 Any conflict between the Standards and the terms and conditions of this approval shall be resolved in favour of this approval.
- 2.4.3 *Environmental Protection and Enhancement Act* Approval No. 18701-01-00, as amended, is cancelled.
- 2.4.4 All tanks shall conform to the *Guidelines for Secondary Containment for Above Ground Storage Tanks*, Alberta Environmental Protection, 1997, as amended, unless otherwise authorized in writing by the Director.
- 2.4.5 All above ground storage tanks containing liquid hydrocarbons or organic compounds shall conform to the *Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks*, Canadian Council of Ministers of the Environment, PN 1180, 1995, as amended.

### PART 3: LANDFILL CONSTRUCTION

#### SECTION 3.1: GENERAL

- 3.1.1. The approval holder shall construct the landfill as described in the application, unless otherwise specified in this approval.



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3.1.2 At least three months prior to the commencement of construction of any of the following:

- (a) a new landfill cell;
- (b) a landfill cell final cover;
- (c) a run-off control system;
- (d) a run-on control system;
- (e) a landfill gas collection system;
- (f) a leachate pond; or
- (g) a leachate collection system for any closed landfill cell

the approval holder shall submit to the Director, the following documents for the proposed construction, signed and stamped by a professional registered with APEGA:

- (i) a Detailed Construction Plan and Specifications prepared in accordance with the application and this approval,
- (ii) a Construction Quality Assurance Plan, and
- (iii) a Construction Quality Control Plan.

3.1.3 If any Detailed Construction Plan and Specifications in 3.1.2 is found deficient by the Director, the approval holder shall correct all deficiencies as outlined in writing by the Director, within the timeline specified in writing by the Director.

3.1.4 The approval holder shall implement the Detailed Construction Plan and Specifications in 3.1.2 as authorized in writing by the Director.

3.1.5 During construction of any of the items listed in 3.1.2, the approval holder shall not deviate from the Detailed Construction Plan and Specifications, as authorized in 3.1.4, unless the following conditions are met:

- (a) the deviation results in a minor adjustment to the Detailed Construction Plan and Specifications in order to suit field conditions encountered; and
- (b) the deviation will result in an equivalent design performance of the landfill.

3.1.6 The approval holder shall submit to the Director a summary report of the Construction Quality Assurance and Construction Quality Control results, signed and stamped by a professional registered with APEGA, in accordance with the following schedule:

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- (a) for a new landfill cell, at least one month prior to commencing the operation of the landfill cell, excluding the placement of waste as a protective layer; and
- (b) for any items in 3.1.2 other than a new landfill cell, within three months after the completion of construction.

3.1.7 The summary report in 3.1.6 shall contain the following information, at a minimum:

- (a) confirmation that the landfill has been constructed according to:
  - (i) the Construction Quality Assurance Plan,
  - (ii) the Construction Quality Control Plan, and
  - (iii) the Detailed Construction Plan and Specifications subject to the deviations as per 3.1.5;
- (b) a description of any deviations as per 3.1.5;
- (c) confirmation by the professional registered with APEGA, that deviations as per 3.1.5 will result in an equivalent design performance of the landfill;
- (d) record drawing/document; and
- (e) any other information as required in writing by the Director.

3.1.8 The Detailed Construction Plan and Specifications in 3.1.2 for any new landfill cell shall include, at a minimum, all of the following:

- (a) an industrial landfill cell composite liner or a municipal landfill cell composite liner;
- (b) a leachate collection system capable of meeting the maximum acceptable leachate head;
- (c) liner elevations;
- (d) a run-off control system to collect and store run-off for events up to at least the peak discharge from a 1 in 25 year – 24 hour duration rainfall event; and
- (e) a run-on control system to prevent flow onto the active landfill area for events up to at least the peak discharge from a 1 in 25 year – 24 hour duration rainfall event.

3.1.9 The Detailed Construction Plan and Specifications in 3.1.2 for any landfill cell final cover shall include, at a minimum, all of the following:

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- (a) a geometry of the final cover, which shall have a slope at a minimum of 5 percent and a maximum of 30 percent;
  - (b) a barrier layer that:
    - (i) has been compacted to achieve an in-place hydraulic conductivity of  $1 \times 10^{-7}$  metres/second or less, and
    - (ii) has a minimum thickness of 0.6 metres at all points, measured perpendicular to the slope;
  - (c) a subsoil layer that overlying the clay barrier with a minimum thickness of:
    - (i) 0.35 metres for pasture or recreational use, or
    - (ii) 0.80 metres for cultivated land use or forestry;
  - (d) a topsoil layer overlying the subsoil layer with a minimum thickness of 0.20 metres; and
  - (e) vegetation establishment that meets the land end use plan
- unless otherwise authorized in writing by the Director.

- 3.1.10 The Detailed Construction Plan and Specifications in 3.1.2 for any leachate pond shall include, at a minimum, all of the following:
- (a) a primary liner constructed with high density polyethylene geomembrane that has a minimum thickness of 60 mil;
  - (b) a secondary liner constructed with high density polyethylene geomembrane that has a minimum thickness of 60 mil;
  - (c) a secondary leachate collection system; and
  - (d) a prepared clay subgrade suitable to protect the integrity of the liner systems in 3.1.10 (a) and 3.1.10 (b).

**SECTION 3.2: SOIL CONSERVATION**

- 3.2.1 The approval holder shall not use:
- (a) topsoil; or
  - (b) upper subsoil
- for the daily cover.

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3.2.2 The approval holder shall:

- (a) salvage; and
- (b) conserve

all topsoil from disturbed land at the landfill for reclamation of the landfill.

3.2.3 The approval holder shall:

- (a) salvage; and
- (b) conserve

sufficient upper subsoil from the disturbed land at the landfill for reclamation of the landfill.

3.2.4 The approval holder shall:

- (a) conserve; and
- (b) stockpile

all topsoil separately from the upper subsoil.

3.2.5 The approval holder shall place all:

- (a) topsoil stockpiles; and
- (b) upper subsoil stockpiles

at the landfill.

3.2.6 The approval holder shall stockpile all topsoil as follows:

- (a) on stable foundations; and
- (b) on undisturbed topsoil.

3.2.7 The approval holder shall stockpile all upper subsoil as follows:

- (a) on stable foundations; and
- (b) on areas where the topsoil has been removed.

3.2.8 The approval holder shall take all steps necessary to prevent erosion, including but not limited to, all of the following:

- (a) revegetating the stockpiles; and

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(b) any other steps as authorized in writing by the Director.

3.2.9 The approval holder shall immediately suspend conservation of:

(a) topsoil; and

(b) upper subsoil

when

(i) wet or frozen conditions will result in mixing, degradation or compaction of topsoil or upper subsoil, and

(ii) high wind velocities, any other field conditions or landfill operations will result in mixing, degradation, or loss of topsoil or subsoil.

3.2.10 The approval holder shall recommence conservation of:

(a) topsoil; and

(b) upper subsoil

only when conditions in 3.2.9 no longer exist.

**PART 4: LANDFILL OPERATIONS, LIMITS, MONITORING AND REPORTING**

**SECTION 4.1: GENERAL**

4.1.1 The approval holder shall limit the perimeter boundary of the landfill to the land located within W 1/2 of Section 8, Township 7, Range 1, West of the 5<sup>th</sup> Meridian, as described in the application.

4.1.2 The approval holder shall limit the maximum designated waste elevation to no more than 1244 metres above sea level.

4.1.3 The approval holder shall:

(a) operate; and

(b) maintain

the following at the landfill:

(i) class II municipal landfill cells,

(ii) class II industrial landfill cells,

(iii) leachate collection systems,

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- (iv) municipal landfill cell composite liner,
- (v) industrial landfill cell composite liner,
- (vi) leachate ponds,
- (vii) run-on control systems,
- (viii) run-off control systems,
- (ix) groundwater monitoring systems,
- (x) subsurface landfill gas monitoring systems,
- (xi) groundwater control underdrain systems,
- (xii) recycling drop-off area,
- (xiii) recyclables and hazardous recyclables storages,
- (xiv) household hazardous waste storages,
- (xv) weigh scale,
- (xvi) site entrance, and
- (xvii) fences along the entire perimeter of the operational footprint of the landfill.

4.1.4 The approval holder shall take all steps necessary to restrict wildlife from the landfill.

**LANDFILL OPERATOR CERTIFICATION**

4.1.5 The operation of the landfill shall be supervised by a Certified Operator in accordance with:

- (a) the *Waste Control Regulation* (AR192/96), as amended; and
- (b) the *Alberta Landfill and Composting Facility Operator Certification Guideline*, Government of Alberta, 2016, as amended.

**CLOSED LANDFILL CELL MANAGEMENT**

4.1.6 The approval holder shall manage the closed landfill cells to:

- (a) maintain the integrity of the landfill cell final cover;
- (b) take all steps necessary to prevent erosion;



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- (c) take all steps necessary to prevent surface water ponding;
- (d) remediate areas affected by subsidence and differential settlement; and
- (e) take all steps necessary to prevent leachate break out.

**SECTION 4.2: OPERATIONS PLAN**

4.2.1 The approval holder shall:

- (a) maintain; and
- (b) implement

the Operations Plan in accordance with:

- (i) this approval,
- (ii) the Standards, and
- (iii) the application.

4.2.2 The approval holder shall:

- (a) review the Operations Plan annually, at a minimum; and
- (b) update the Operations Plan when there is any:
  - (i) change in site operation and equipment,
  - (ii) change in the Standards, or
  - (iii) update as required in writing by the Director.

4.2.3 The approval holder shall retain a copy of the up-to-date Operations Plan at the landfill.

4.2.4 The approval holder shall submit to the Director an up-to-date Operations Plan when requested in writing by the Director.

4.2.5 The approval holder shall correct all deficiencies in the Operations Plan as outlined in writing by the Director, within the timeline specified in writing by the Director.

**SECTION 4.3: WASTE ACCEPTANCE**

4.3.1 The approval holder shall develop waste acceptance policies and procedures in accordance with all of the following:

- (a) the *Waste Control Regulation* (AR192/96), as amended;

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- (b) this approval; and
- (c) as specified in writing by the Director.

4.3.2 The approval holder shall obtain, at a minimum, a detailed chemical and physical representative analysis of all industrial solid waste prior to disposing it into the landfill at the following times:

- (a) the first time an industrial solid waste is received from a different process;
- (b) the first time an industrial solid waste is received from a different location; or
- (c) when the nature or composition of the industrial solid waste that was previously characterized changes.

4.3.3 The approval holder shall not dispose of the following at the landfill:

- (a) hazardous waste;
- (b) bulk liquid;
- (c) container(s) containing liquid waste greater than 5 litres;
- (d) domestic wastewater;
- (e) explosive(s);
- (f) radioactive materials as defined under the *Transportation of Dangerous Goods Regulations* as Class 7;
- (g) dangerous oilfield waste;
- (h) untreated biomedical waste;
- (i) NORM waste; and
- (j) ozone depleting substances.

4.3.4 Except as provided for 4.3.5, if any waste listed in 4.3.3 is received at the landfill, the approval holder shall remove it from the landfill within:

- (a) seven days of receipt; or
- (b) another time period as authorized in writing by the Director.

4.3.5 The approval holder shall remove the following from designated storage areas within 365 days of acceptance:

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- (a) hazardous recyclables;
- (b) household hazardous waste; and
- (c) ozone depleting substances.

4.3.6 The approval holder shall store:

- (a) hazardous recyclables; and
- (b) household hazardous waste

in accordance with the *Hazardous Waste Storage Guidelines*, Alberta Environment, June 1988, as amended.

4.3.7 The approval holder shall release waste that the landfill is not authorized to dispose of:

- (a) to facilities holding a current Approval or Registration under the Act;
- (b) to facilities approved by a local environmental authority outside of Alberta; or
- (c) as otherwise authorized in writing by the Director.

4.3.8 The approval holder shall take all steps necessary to prevent direct contact of incompatible waste with one another.

### **SPECIAL WASTES**

4.3.9 The approval holder shall dispose of asbestos wastes in accordance with *Guidelines for the Disposal of Asbestos Waste*, Alberta Environment, 1989, as amended.

4.3.10 The approval holder shall dispose of contaminated sulphur and sulphur containing wastes in accordance with *Guidelines for Landfill Disposal of Sulphur Waste and Remediation of Sulphur Containing Soils*, Alberta Environmental, 2011, as amended.

4.3.11 The approval holder shall cover the following immediately with waste or soil after disposal of:

- (a) dead animals;
- (b) animal parts; and
- (c) meat and bone meal

at the landfill.

4.3.12 The approval holder shall only use hydrocarbon contaminated soil as alternative daily cover or intermediate cover if hydrocarbon contaminated soil:

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