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310 CMR: DEPARTMENT OF ENVIRONMENTAL PROTECTION

310 CMR 19.000: SOLID WASTE MANAGEMENT

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## 310 CMR: DEPARTMENT OF ENVIRONMENTAL PROTECTION

### 19.001: Authority

310 CMR 19.000 is promulgated by the Commissioner and the Department of Environmental Protection pursuant to the authority granted by St. 1987, c. 584, M.G.L. c. 21A, §§ 2 and 8 and c. 111, § 150A.

### 19.002: Purpose

310 CMR 19.000 is intended to protect public health, safety and the environment by comprehensively regulating the storage, transfer, processing, treatment, disposal, use and reuse of solid waste in Massachusetts. Protection of public health, safety and the environment is primarily the prevention of pollution from the site, but also encompasses the operation of the facility within an integrated solid waste management system which maximizes material reuse and the conservation of energy.

### 19.003: Applicability

310 CMR 19.000 shall apply to all solid waste management activities and facilities including, without limitation, landfills, dumping grounds, transfer stations, solid waste combustion facilities, solid waste processing and handling facilities, recycling facilities, refuse composting facilities and other works or sites for the storage, transfer, treatment, processing or disposal of solid waste and the beneficial use of solid waste.

### 19.004: Severability

It is hereby declared that the provisions of 310 CMR 19.000 are severable, and if any provision hereof or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions of 310 CMR 19.000, and the application thereof to persons or circumstances which can be given effect without the invalid provision or application.

### 19.005: Computation of Time

Unless otherwise specifically provided by law or 310 CMR 19.000, any determination issued pursuant to 310 CMR 19.000, or any time period prescribed or referred to in 310 CMR 19.000 shall begin with the first day following the act which initiates the running of the time period, and shall include every calendar day, including the last day of the time period so computed. If the last day is a Saturday, Sunday, legal holiday, or any other day in which the Department's offices are closed, the deadline shall run until the end of the next business day. If the time period prescribed or referred to is six days or less, only days when the offices of the Department are open shall be included in the computation.

### 19.006: Definitions

For purposes of 310 CMR 19.000, the following words and phrases shall have the following meanings unless the content clearly indicates otherwise:

Abutter means the owner of land sharing a common boundary or corner with the site of the proposed activity in any direction, including, but not limited to, land located directly across a street, way, creek, river, stream, brook or canal.

Access Road means a roadway or course providing access to a facility, or areas within a site assigned area, from a public way or other road that is not under the control of the operator.

Action Leakage Rate (ALR) means the quantity of liquid collected from a the leak detection system of a double liner system over a specified period of time which, when exceeded, requires certain actions to be taken as described in a plan approved by the Department.

Adverse Impact means an injurious impact which is significant in relation to the public health, safety, or environmental interest being protected.

Agricultural Waste means discarded organic materials produced from the raising of plants and animals as part of agronomic, horticultural or silvicultural operations, including, but not limited to, animal manure, bedding materials, plant stalks, leaves, other vegetative matter and discarded by-products from the on-farm processing of fruits and vegetables.

19.006: continued

Airport means any air navigation facility certificated by the Massachusetts Aeronautics Commission (MAC) under provisions of M.G.L. c. 90, and airports operated by the Massachusetts Port Authority.

Airport Zone means the area surrounding an airport that is within 10,000 feet (3,048 meters) of any airport runway used by turbojet aircraft or within 5,000 feet (1,524 meters) of any airport runway used by only piston type aircraft.

Applicant means the person named in the application as the owner of a property interest in the site or the operator of the proposed facility where the owner has entered into an agreement with an operator at the time the application is filed.

Aquifer means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

Asbestos Waste means Asbestos-containing Material and Asbestos-containing Waste Material as defined in 310 CMR 7.00: *Air Pollution Control*. As of October 7, 2005 Asbestos-containing Material is defined at 310 CMR 7.00 as follows: friable asbestos and any material containing 1% or more asbestos by area as determined by a laboratory using USEPA approved methods. This term includes, but is not limited to, sprayed-on and troweled-on materials applied to ceilings, walls, and other surfaces, insulation on pipes, boilers, tanks, ducts, and other equipment, structural and non-structural members, tiles, shingles or asbestos-containing paper. As of October 7, 2005 Asbestos-containing Waste Material is defined at 310 CMR 7.00 as follows: any friable asbestos-containing material removed during a demolition/ renovation project and anything contaminated in the course of a demolition/renovation project including asbestos waste from control devices, bags or containers that previously contained asbestos, contaminated clothing, materials used to enclose a work area during a demolition/renovation operation, and demolition/renovation debris.

Ash means the residual by-product of a thermal combustion/reduction process, including all ash fractions (bottom, fly, boiler and economizer ash).

Asphalt Pavement, Brick and Concrete means asphalt pavement, brick and concrete from construction activities and demolition of buildings, roads and bridges and similar sources.

Backyard Composting means the composting of organic solid waste, such as grass clippings, leaves or brush generated by a homeowner or tenant of a single or multi-family residential unit or an apartment complex unit, where composting occurs at that dwelling place.

Bedrock means cemented or consolidated earth materials exposed on the earth's surface or underlying unconsolidated earth materials.

Beneficial Use means the use of a material as an effective substitute for a commercial product or commodity.

Bird Hazard means a hazard to aircraft created by an increase in the likelihood of bird/aircraft collisions.

Board of Health means the legally designated health authority of the city, town or other legally constituted governmental unit within the Commonwealth having the usual powers and duties of the board of health of a city or town, or its authorized agent or representative; provided, that in any case in which a waste disposal facility extends into the geographic areas of two or more boards of health, said boards may coordinate activities in effecting compliance with 310 CMR 19.000 for the management of solid wastes.

Bulky Wastes means waste items of unusually large size including but not limited to large appliances, furniture, large auto parts, stumps, trees, branches, brush.

19.006: continued

Cathode Ray Tube (CRT) means any intact, broken, or processed glass tube used to provide the visual display in televisions, computer monitors and certain scientific instruments such as oscilloscopes.

Cell means a discrete portion of a landfill that contains or is designed to contain compacted solid waste enclosed by natural soil or other non-waste materials.

Closure means the act or process of deactivating a facility in compliance with the approved facility final closure plan and applicable closure requirements.

Combustion Facility means a facility employing an enclosed system using controlled flame combustion, the primary purpose of which is to thermally break down solid wastes, producing ash that contains little or no combustible materials.

Commercial Products means of or relating to goods. Commercial products are often unrefined, produced and distributed in large quantities for use. A commercial product may be solid like a concrete block, or loose like aggregate drainage material. A commercial product may be manufactured or produced using solely secondary materials.

Commercial Solid Waste means all types of solid waste generated by stores, offices, institutions, restaurants, warehouses, and other non-manufacturing activities, or similar types of solid waste generated from manufacturing operations. Commercial Solid Waste does not include solid waste generated in a residence or in a manufacturing or industrial process.

Commissioner means the Commissioner of the Department of Environmental Protection or his or her designee.

Compostable Material means an organic material, excluding waste water treatment residuals, that has the potential to be composted, which is pre-sorted and not contaminated by significant amounts of toxic substances.

Composting means a process of accelerated biodegradation and stabilization of organic material under controlled conditions yielding a product which can safely be used.

Composite Liner means a groundwater protection system that is composed of two or more low permeability layers where, typically, the upper layer consists of FML (flexible membrane liner) or Geomembrane in direct contact with the lower layer consisting of a low permeability soil and/or a geosynthetic clay liner (GCL).

Construction and Demolition (C&D) Processing Facility means a handling facility where construction and demolition waste is brought, stored and processed (usually by sorting, crushing, shredding, screening, *etc.*) prior to reuse or transport to a solid waste disposal facility or to other types of facilities for recycling, recovery or reuse.

Construction and Demolition Waste means the waste building materials and rubble resulting from the construction, remodeling, repair or demolition of buildings, pavements, roads or other structures. Construction and demolition waste includes but is not limited to, concrete, bricks, lumber, masonry, road paving materials, rebar and plaster.

Cover Material means soil or other materials that can be placed in one or more layers over solid waste for control of vectors, fires, odors, percolation of water into a landfill, grading, support of vegetation and related environmental or engineering purposes.

Critical Contaminant of Concern (CCC) means contaminants identified by the Department to be of particular concern due to their toxicity, persistence, ability to bio-accumulate, or widespread occurrence.

19.006: continued

Cumulative Receptor Cancer Risk means that risk as defined in the Massachusetts Contingency Plan, 310 CMR 40.0000. As of October 7, 2005 Cumulative Receptor Cancer Risk is defined at 310 CMR 40.0000 as follows: the sum of the estimated excess lifetime cancer risks associated with exposure to all oil and/or hazardous material at or from a disposal site at all exposure points for a given receptor.

Cumulative Receptor Non-cancer Risk means that risk as defined in the Massachusetts Contingency Plan, 310 CMR 40.0000. As of October 7, 2005 Cumulative Receptor Non-cancer Risk is defined at 310 CMR 40.0000 as follows: a calculation of the possibility of non-cancer health effects associated with exposure to all oil and/or hazardous material at or from a disposal site at all exposure points identified for a given receptor. The Hazard Index is a measure of the Cumulative Receptor Non-cancer Risk.

Current Operations means those areas of a solid waste management facility which had been filled with refuse, were in active use for management of solid wastes or were under construction as of July 1, 1990.

Department means the Department of Environmental Protection.

Destructive Practices means any process that requires the demolition of commercial products that were manufactured using secondary materials.

Discharge means the accidental or intentional spilling, leaking, pumping, emitting, emptying, dumping or placement of any solid waste into or on any land or water so that such solid waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwater.

Disposal means the final dumping, landfilling or placement of solid waste into or on any land or water or the incineration of solid waste.

Disposal Facility means any solid waste combustion facility rated by the Department at more than one ton per hour or any landfill.

Double Liner means a groundwater protection system that is comprised of two liners that are separated by a drainage layer that provides a leak detection function by collecting any leachate that leaks through the primary liner.

Downgradient means:

- (a) in reference to surface water, the direction perpendicular to lines of equal elevation over a distance in which elevation continuously decreases, measured from the point or area in question; or
- (b) in reference to groundwater, the direction perpendicular to lines of equipotential over a distance in which total head continuously decreases, measured from the point or area in question.

Dumping Ground means a facility or place used for the disposal of solid waste from one or more sources which is not established or maintained pursuant to a valid site assignment or permit in accordance with M.G.L. c. 111, § 150A, 310 CMR 16.00 or 310 CMR 19.000.

Equipment means any item of machinery or implement used in the operation or maintenance of a facility.

Existing Facility means a facility which, pursuant to a valid site assignment and Departmental approval, was either:

- (a) in operation prior to July 1, 1990 and was not closed in a manner approved by the Department, or
- (b) under construction on or before July 1, 1990. "Under construction" means that the owner or operator had obtained all necessary Federal, state and local permits and either:

19.006: continued

1. a continuous, physical, on-site construction program had begun; or
2. the owner or operator had entered into contractual obligations, which could not be canceled or modified without substantial loss, for the construction of the facility to be completed within a reasonable time.

Expansion means, in the case of combustion facilities and handling facilities, an increase in the waste handling, treatment or processing capacity beyond the tonnage limits approved in the permit; and, in the case of landfills, a horizontal or vertical increase in the size of a facility beyond the horizontal or vertical limits specified or approved in the permit.

Exposure means exposure as defined in the Massachusetts Contingency Plan, 310 CMR 40.0000. As of October 7, 2005 Exposure is defined at 310 CMR 40.0000 as follows: any contact with or ingestion, inhalation or assimilation of oil and/or hazardous material, including, without limitation, irradiation.

Exposure Pathway means exposure as defined in the Massachusetts Contingency Plan, 310 CMR 40.0000. As of October 7, 2005 Exposure is defined at 310 CMR 40.0000 as follows: The mechanism by which human or environmental receptors inhale, consume, absorb, or otherwise take in oil and/or hazardous material at an exposure point.

Exposure Point means that point as defined in the Massachusetts Contingency Plan, 310 CMR 40.0000. As of October 7, 2005 Exposure Point is defined at 310 CMR 40.0000 as follows: a location of potential contact between a human or environmental receptor and a release of oil and/or hazardous material. An Exposure Point may describe an area or zone of potential exposure, as well as a single discrete point.

Exposure Point Concentration means that concentration as defined in the Massachusetts Contingency Plan, 310 CMR 40.0000. As of October 7, 2005 Exposure Point Concentration is defined at 310 CMR 40.0000 as follows: the concentration of oil or hazardous material in a specific medium which a human or environmental receptor may contact at an Exposure Point.

Facility means an established site or works, and other appurtenances thereto, which is, has been or will be used for the handling storage, transfer, processing, treatment or disposal of solid waste including all land, structures and improvements which are directly related to solid waste activities.

Factor of Safety means the ratio of the breaking stress of a structure to the estimated maximum stress in ordinary use.

Fault means a fracture or a zone of fractures in any material along which strata on one side have been displaced with respect to those on the other side.

Flexible Membrane Liner (FML) or Geomembrane Liner means a continuous layer of low-permeability flexible polymeric material beneath, on the sides and/or on the top of a landfill or landfill cell.

Floodplain means an area which floods from a rise in a bordering waterway or waterbody and is the maximum lateral extent of flood water which will result from the statistical 100 year frequency storm. This boundary shall be determined using the data available through the National Flood Insurance Program (NFIP) as administered by the Federal Emergency Management Agency (FEMA), except where the Department determines that more accurate information is available.

Geologic Formation means the basic stratigraphic unit which is a mappable lithologic entity characterized by a particular rock type or types.

Geonet or Geocomposite means a synthetic material with its primary function designed to facilitate drainage.



19.006: continued

Geosynthetic Clay Liner (GCL) means a liner material that is comprised of a layer of sodium bentonite clay (or similar low permeability clay) either sandwiched and mechanically secured between two materials (typically synthetic) or chemically bonded to a synthetic material to create a continuous low permeability layer or liner.

Geotextile means a permeable synthetic material that can be a woven, nonwoven, composite, or knitted product, *etc.* that fulfills several functions in civil engineering, especially separation, filtration, drainage and protection.

Ground Water means water below the land surface in a saturated zone.

Groundwater Protection System means an engineered system that may include without limitation, liners and barrier structures; leachate collection, storage and disposal systems; drainage systems and/or other technologies intended to prevent the migration of leachate into and contamination of the groundwater.

Handling Area means an area used for the transfer, storage, processing or treatment of solid waste, excluding weigh stations or access roads.

Handling Facility means any facility that is not a disposal facility, for example transfer stations, storage facilities and other facilities used primarily for the storage, processing or treatment of solid waste. (Handling Facility includes recycling facilities and composting facilities that are required to obtain a site assignment pursuant to 310 CMR 16.05.)

Hazardous Material means that material as defined in the Massachusetts Contingency Plan, 310 CMR 40.0000. As of October 7, 2005 Hazardous Material is defined at 310 CMR 40.0000 as follows: material, including, but not limited to, any material in whatever form which, because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment, when improperly stored, treated, transported, disposed of, used, or otherwise managed. The term shall not include oil, but shall include waste oil and all those substances which are included under 42 U.S.C. § 9601(14), but it is not limited to those substances. The term shall also include, but is not limited to, material regulated as hazardous waste or recyclable material under 310 CMR 30.000.

Hazardous Waste means any waste that is defined and regulated under 310 CMR 30.000: *Hazardous Waste*.

Holocene means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch to the present.

Household Hazardous Waste means hazardous waste generated by households but which is not subject to the Hazardous Waste Regulations pursuant to 310 CMR 30.104(6), except as provided in 310 CMR 30.390.

Hydrogeologic Study means a detailed study designed to define and assess the geologic and hydrologic character of a given area focusing on existing or potential water quality impacts.

Infectious Waste Means "Infectious Waste or Physically Dangerous Medical or Biological Waste" as defined in 105 CMR 480.000, Department of Public Health, State Sanitary Code and includes: blood and blood products; pathological waste; cultures and stocks of infectious agents and associated biologicals; contaminated animal carcasses, body parts and bedding; sharps; and biotechnological by-product effluents.

19.006: continued

Interim Wellhead Protection Area (IWPA) means that area defined by 310 CMR 22.00: *Drinking Water*. As of October 7, 2005 Interim Wellhead Protection Area is defined at 310 CMR 22.00 as follows: for public water systems using wells or wellfields that lack a Department approved Zone II, the Department will apply an interim wellhead protection area. This interim wellhead protection area shall be a ½ mile radius measured from the well or wellfield for sources whose approved pumping rate is 100,000 gpd or greater. For wells or wellfields that pump less than 100,000 gpd, the IWPA radius is proportional to the approved pumping rate which may be calculated according to the following equation: IWPA radius in feet = (32 x pumping rate in gallons per minute) + 400. A default IWPA radius or an IWPA radius otherwise computed and determined by the Department shall be applied to transient non-community (TNC) and non-transient non-community (NTNC) wells when there is no metered rate of withdrawal or no approved pumping rate.

Landfill means a facility or part of a facility established in accordance with a valid site assignment for the disposal of solid waste into or on land.

Leachate means a liquid that has passed through or emerged from solid waste and which may contain soluble or suspended material from such waste.

Leak Detection System means a secondary leachate collection system or other means that can both detect the presence of leachate which has leaked through the primary liner and identify the area of the primary liner through which the leachate has leaked.

Liner means an engineered layer or layers of recompacted soils and/or synthetic materials designed to restrict the movement of leachate into ground water and to facilitate the collection of leachate. "Liner" may refer to one or more low permeability layers in a ground water protection system.

Lithified Earth Material means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil or regolith lying at or near the earth surface.

Lower Explosive Limit (LEL) means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25°C and atmospheric pressure.

Maintain means to establish, keep or sustain the presence of a facility on a site, whether or not such facility is in operation or has been closed.

Maximum High Groundwater Table means the highest seasonal elevation of the surface of the Zone of Saturation that has been historically documented or calculated.

Maximum Horizontal Acceleration in Lithified Earth Material means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90% or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

MEPA means the Massachusetts Environmental Policy Act, M.G.L. c. 30, §§ 61 through 62H.

MEPA Process means an environmental review process required for projects subject to 301 CMR 11.00: *MEPA Regulations*.

Metal means ferrous and non-ferrous metals derived from used appliances, building materials, industrial equipment, transportation vehicles, and manufacturing processes.

Monitor means to systematically measure, inspect and/or collect data on the performance of a facility or on its existing or potential impact on the land, air, ground and surface waters.

19.006: continued

Monitoring Well means a well designed to facilitate the down-hole measurement of groundwater and/or gas levels and the collection of groundwater and/or gas samples.

Municipal Solid Waste means any residential or commercial solid waste.

New Facility means any solid waste management facility which had not commenced construction prior to July 1, 1990. (See also Existing Facility and Facility)

No Significant Risk means that risk as defined in the Massachusetts Contingency Plan, 310 CMR 40.0000. As of October 7, 2005 No Significant Risk is defined at 310 CMR 40.0000 as follows: a level of control of each identified substance of concern at a site or in the surrounding environment such that no such substance of concern shall present a significant risk of harm to health, safety, public welfare or the environment during any foreseeable period of time.

Open Burning means burning under such conditions that the products of combustion are emitted directly to the ambient air space and are not conducted thereto through a stack, chimney, duct, or pipe. Open burning includes above or underground smoldering fires.

Open Dump means a facility which is operated or maintained in violation of the Resource Conservation and Recovery Act (42 U.S.C. 4004(a)(b)), or the regulations and criteria promulgated thereunder relative to solid waste disposal.

Operator means any person who has care, charge or control of a facility subject to 310 CMR 19.000, including without limitation, an agent, lessee of the owner or an independent contractor.

Opportunity to Recycle or Compost means financial or operational participation in a coordinated recycling or composting program between the applicant and the applicant's waste sources.

Owner means any person who alone or in conjunction with others has legal ownership, a leasehold interest, or effective control over such property interests, the real property upon which a facility is located, or the airspace above said real property; "owner" does not mean persons holding bare legal title for the purpose of providing security for financing.

Person(s) means any individual, partnership, association, firm, company, corporation, department, agency, group, public body (including a city, town, district, county, authority, state, federal, or other governmental unit) or any other entity responsible in any way for an activity subject to 310 CMR 19.000.

Pollution means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of any material which, because of its quantity, concentration or other characteristics, does or may result in an adverse impact to human, plant or animal life or to property, or may unreasonably interfere with the comfortable enjoyment of life or property.

Post-closure means a finite period of time commencing after the closure of a facility has been completed and approved by the Department, during which the Department may require site monitoring, care and maintenance.

Post-consumer Recyclables means the following materials which have served their intended end use and have been pre-sorted:

- (a) containers, films and wraps and other forms of packaging made from metal, glass, plastic or paper; and
- (b) newspaper, office paper, cardboard and other grades of paper.

19.006: continued

Potential Private Water Supply means a Class I aquifer as defined in 314 CMR 6.03: *Establishing Ground Water Classifications*, capable of yielding water of sufficient quality and quantity which is located under a parcel of land that at the time of the earlier of the following two filings, the Site Assignment Application or, where applicable, the Massachusetts Environmental Policy Act Environmental Notification Form, is:

- (a) zoned residential or commercial;
- (b) not served by a public water supply; and
- (c) subject to a subdivision plan or a building permit application approved by the appropriate municipal authority.

Potential Public Water Supply means a drinking water source which, at the time of the earlier of the following two filings, the Site Assignment Application, or where applicable, the Massachusetts Environmental Policy Act Environmental Notification Form, has been determined to be capable of yielding water of sufficient quality and quantity for future development as a public water supply, and either:

- (a) has been designated and received Departmental approval under the *Guidelines and Policies for Public Water Systems*; or
- (b) has had the necessary documentation submitted on its behalf for determination as a Potential Public Water Supply as defined by the Department's Division of Water Supply.

Pre-sort means to segregate a material for reuse, recycling or composting by preventing the material from being commingled with solid waste at the point of generation or to separate and recover the material from solid waste at a processing facility. Pre-sorting does not require the recovery or separation of non-recyclable components that are integral to a recyclable product (e.g. insulation or electronic components in white goods).

Primary Composite Liner means a composite liner that is the uppermost liner in a double liner system.

Primary Leachate Collection System means the uppermost leachate collection system.

Primary Liner means the uppermost liner in a ground water protection system composed of two or more liners.

Private Water Supply means a well used as a source of drinking water supplying a non-public water system with any volume of groundwater from any source.

Processing means the use of any method, technique or process to reduce the volume or alter the physical characteristics of solid waste or recyclable or compostable materials through any means, including, without limitation, separating, baling, shredding, crushing or reworking.

Public Water Supply means a source of drinking water supplying a public water system as defined in 310 CMR 22.00: *Drinking Water*.

QA/QC means quality assurance/quality control.

Recharge Area means an area through which water enters an aquifer. See "Zone II".

Recyclable or Recyclable Material means a material that has the potential to be recycled and which is pre-sorted and not contaminated by significant amounts of toxic substances.

Recycle means to recover materials or by-products which are:

- (a) reused; or
- (b) used as an ingredient or a feedstock in an industrial or manufacturing process to make a marketable product; or
- (c) used in a particular function or application as an effective substitute for a commercial product or commodity.

"Recycle" does not mean to recover energy from the combustion of a material.

Refuse means solid waste.

19.006: continued

Residue means all solid waste remaining after treatment or processing and includes, without limitation, ash, material which is processed for recycling or composting but is unmarketable or speculatively accumulated due to its inferior quality and other solid waste which is not recovered. Non-recyclable material which is integral to a pre-sorted recyclable product shall not constitute residue for the purpose of calculating residue generation rates.

Restricted Materials means any material subject to a waste restriction under 310 CMR 19.017.

Saturated Zone or Zone of Saturation means the area beneath the land surface in which the voids in the rock or soil are filled with water.

Secondary Composite Liner means a composite liner that is the lowest liner in a double liner system.

Secondary Leachate Collection System means the leachate collection system lying between the uppermost or primary liner and the secondary liner and is designed to collect leachate which has leaked through the primary liner.

Secondary Liner means the liner that is below the uppermost or primary liner and is separated from the primary liner by a leachate collection system in a ground water protection system composed of two or more liners.

Secondary Material means a waste material that has characteristics that make it an effective substitute for an ingredient in an existing or new product or commodity.

Secretary means the Secretary of the Executive Office of Environmental Affairs.

Seismic Impact Zone means an area with a 10% or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull, will exceed 0.10g in 250 years.

Site means any building, structure, place or area where solid waste is or will be stored, transferred, processed, treated, disposed, or otherwise come to be located.

Site Assignment means a determination by a board of health or by the Department as specified in M.G.L. c. 111, § 150A that:

- (a) designates an area of land for one or more solid waste uses subject to conditions with respect to the extent, character and nature of the facility that may be imposed by the assigning agency after a public hearing in accordance with M.G.L. c.111, § 150A; or
- (b) establishes that an area of land was utilized as a site for the disposal onto land of solid waste or as a site for a refuse disposal incinerator prior to July 25, 1955, as provided in St. 1955, c. 310, § 2. The area of land assigned under this subsection shall be limited to the lateral limits of the waste deposition area ("the footprint"), or the area occupied by the incinerator, as they existed on July 25, 1955, except as otherwise approved by the Department in approved plans. Said assignment shall apply only to uninterrupted solid waste disposal activities within the footprint or plan approved area and shall have no legal force or effect at any time after the cessation of disposal activities except as otherwise provided at 310 CMR 16.21.

Sludge means the accumulated solids and/or semisolids deposited or removed by the processing and/or treatment of gasses, water or other fluids.

Sole Source Aquifer means an aquifer so designated by the U.S. Environmental Protection Agency, or by the Department under the authority of a state program as may be established, that supplies 50% or more of the drinking water for the aquifer service area, and the volume of water which could be supplied by alternative sources is insufficient to replace the petitioned aquifer should it become contaminated.

19.006: continued

Solid Waste or Waste means useless, unwanted or discarded solid, liquid or contained gaseous material resulting from industrial, commercial, mining, agricultural, municipal or household activities that is abandoned by being disposed or incinerated or is stored, treated or transferred pending such disposal, incineration or other treatment, but does not include;

- (a) hazardous wastes as defined and regulated pursuant to 310 CMR 30.000;
- (b) sludge or septage which is land applied in compliance with 310 CMR 32.00;
- (c) waste water treatment facility residuals and sludge ash from either publicly or privately owned waste water treatment facilities that treat only sewage, which is treated and/or disposed at a site regulated pursuant to M.G.L. c. 83, §§ 6 & 7 and/or M.G.L. c. 21, §§ 26 through 53 and the regulations promulgated thereunder, unless the waste water treatment residuals and/or sludge ash are co-disposed with solid waste;
- (d) septage and sewage as defined and regulated pursuant 314 CMR 5.00: *Ground Water Discharge Permit Program*, and regulated pursuant to either M.G.L. c. 21, §§ 26 through 53 or 310 CMR 15.00: *The State Environmental Code, Title 5: Standard Requirements for the Siting, Construction, Inspection, Upgrade and Expansion of On-site Sewage Treatment and Disposal Systems and for the Transport and Disposal of Septage*, provided that 310 CMR 19.000 do apply to solid waste management facilities which co-dispose septage and sewage with solid waste;
- (e) ash produced from the combustion of coal when reused as prescribed pursuant to M.G.L. c. 111, § 150A;
- (f) solid or dissolved materials in irrigation return flows;
- (g) source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended;
- (h) those materials and by-products generated from and reused within an original manufacturing process; and
- (i) compostable or recyclable materials when composted or recycled in an operation not required to be assigned pursuant to 310 CMR 16.05(2) through (5).

Solid Waste Management Facility (*See Facility*)

Special Waste means any solid waste that is determined not to be a hazardous waste pursuant to 310 CMR 30.000 and that exists in such quantity or in such chemical or physical state, or any combination thereof, so that particular management controls are required to prevent an adverse impact from the collection, transport, transfer, storage, processing, treatment or disposal of the solid waste.

Storage means the temporary containment of solid waste or compostable or recyclable materials in a manner which does not constitute disposal.

Storage Facility means a handling facility where solid waste is temporarily stored in a manner not constituting disposal.

Surface Water means all bodies of water natural or artificial, inland or coastal, fresh or salt, public or private within the territorial limits of the Commonwealth of Massachusetts.

Tires means a continuous solid or pneumatic rubber covering intended for use on a motor vehicle.

Transfer Station means a handling facility where solid waste is brought, stored and transferred from one vehicle or container to another vehicle or container for transport off-site to a solid waste treatment, processing or disposal facility.

Treatment means the use of any method, technique or process to change the chemical, or biological character or composition of any solid waste; to neutralize such waste; to render such waste safer to transport, store or dispose; or make such waste amenable to recovery, storage or volume reduction.

Upgradient means:

- (a) in reference to surface water, the direction perpendicular to lines of equal elevation over a distance in which elevation continuously increases, measured from the point or area in question; or

19.006: continued

(b) in reference to groundwater, the direction perpendicular to lines of equipotential over a distance in which total head continuously increases, measured from the point or area in question.

Upper Concentration Limits means ceiling concentrations established for hazardous materials when contained in secondary material intended for beneficial use.

Unsaturated Zone means the zone between the land surface and the nearest saturated zone.

Unstable Area means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas include, but are not limited to, areas providing inadequate foundation support and areas of mass movement including landslides, avalanches, debris slides and flows, block sliding and rock fall.

Vector means an organism that is capable of transmitting a pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds, and vermin.

Water Table means the upper elevation of the surface of the saturated zone.

Watershed means that area defined by 310 CMR 22.00: *Drinking Water*. As of October 7, 2005 Watershed is defined at 310 CMR 22.00 as follows: the area contained within geomorphic or topographic boundaries of higher elevations which cause surface water and/or groundwater to drain or flow to lower elevations into water used as a public water system source.

Wetlands means any land or water area subject to M.G.L. c. 131, § 40 or resource areas regulated pursuant to 310 CMR 10.00.

White Goods means appliances employing electricity, oil, natural gas or liquified petroleum gas to preserve or cook food; wash or dry clothing, cooking or kitchen utensils or related items; or cool or heat air or water.

Wood means treated and untreated wood, including woodwaste.

Wood Waste means discarded material consisting of trees, stumps, and brush, including but not limited to sawdust, chips, shavings and bark. Wood waste does not include new or used lumber or wood from construction and demolition waste and does not include wood pieces or particles containing or likely to contain asbestos, chemical preservatives such as creosote or penta-chlorophenol, or paints, stains or other coatings.

Yard Waste means deciduous and coniferous seasonal deposition (*e.g.*, leaves), grass clippings, weeds, hedge clippings, garden materials and brush.

Zone A means that area defined by 310 CMR 22.00: *Drinking Water*. As of October 7, 2005 Zone A is defined at 310 CMR 22.00 as follows:

- (a) the land area between the surface water source and the upper boundary of the bank;
- (b) the land area within a 400 foot lateral distance from the upper boundary of the bank of a Class A surface water source, as defined in 314 CMR 4.05(3)(a); and
- (c) the land area within a 200 foot lateral distance from the upper boundary of the bank of a tributary or associated surface water body.

Zone B means that area defined by 310 CMR 22.00: *Drinking Water*. As of October 7, 2005 Zone B is defined at 310 CMR 22.00 as follows: the land area within ½ mile of the upper boundary of the bank of a Class A surface water source, as defined in 314 CMR 4.05(3)(a), or edge of watershed, whichever is less. However, Zone B shall always include the land area within a 400-foot lateral distance from the upper boundary of the bank of the Class A surface water source.

19.006: continued

Zone C means that area defined by 310 CMR 22.00: *Drinking Water*. As of October 7, 2005 Zone C is defined at 310 CMR 22.00 as follows: the land area not designated as Zone A or B within the watershed of a Class A surface water source as defined at 314 CMR 4.05(3)(a).

Zone of Contribution means the recharge area that provides water to a well.

Zone I means that area defined by 310 CMR 22.00: *Drinking Water*. As of October 7, 2005 Zone I is defined at 310 CMR 22.00 as follows: the protective radius required around a public water supply well or wellfield. For public water system wells with approved yields of 100,000 gpd or greater, the protective radius is 400 feet. Tubular wellfields require a 250-foot protective radius. Protective radii for all other public water system wells are determined by the following equation: Zone I radius in feet =  $(150 \times \log \text{ of pumping rate in gpd}) - 350$ . This equation is equivalent to the chart in the Guidelines and Policies for Public Water Systems. A default Zone I radius or a Zone I radius otherwise computed and determined by the Department shall be applied to transient non-community (TNC) and non-transient non-community (NTNC) wells when there is no metered rate of withdrawal or no approved pumping rate.

Zone II means that area defined by 310 CMR 22.00: *Drinking Water*. As of October 7, 2005 Zone II is defined at 310 CMR 22.00 as follows: that area of an aquifer which contributes water to a well under the most severe recharge and pumping conditions that can be realistically anticipated (*i.e.*, pumping at the safe yield of the well for 180 days without any natural recharge occurring); it is bounded by the groundwater divides which result from pumping the well and by contact of the edge of the aquifer with less permeable materials such as till and bedrock. At some locations, streams and lakes may form recharge boundaries. For the purposes of 310 CMR 19.000, a Zone II area is one which has been defined and delineated in accordance with the Department's Division of Water Supply *Guidelines for Public Water Systems*, September, 1984 Supplement to the 1979 edition.

19.007: Rights of the Department

The Department may from time to time without prior notice make examinations and evaluations of solid waste management facilities to determine and enforce compliance with 310 CMR 19.000. The owner or operator shall in no way restrict, impede, or delay such inspections when performed by a representative of the Department upon presentation of Department issued identification.

19.008: Accurate and Timely Submittals

(1) Accurate Submittals. No person shall make any false, inaccurate, or misleading statement in any application, document, information or statement which that person submits or is required to submit to the Department pursuant to 310 CMR 19.000, or any permit, order or approval issued by the Department.

(2) Timely Submittals. Any application, document, information or statement which any person is required to submit to the Department shall be submitted within the time period prescribed in 310 CMR 19.000, or any permit, order or approval issued by the Department unless otherwise specified by the Department.

19.009: Accurate and Complete Record Keeping

No person shall make any false or misleading statement in any record, report, plan, file, log, or register which that person keeps or is required to keep, pursuant to 310 CMR 19.000, or any permit, order, or approval issued by the Department. Any record keeping which any person is required to perform shall be promptly, fully, and accurately performed and shall otherwise be in compliance with 310 CMR 19.000, and any permit, order or approval issued by the Department.



19.010: Accurate Monitoring

No person shall falsify, tamper, or render inaccurate any monitoring device or method which any person maintains, or which is required to be maintained pursuant to 310 CMR 19.000, or any permit, approval or order issued by the Department. Any monitoring which any person is required to perform shall be promptly, fully and accurately performed and shall otherwise be in compliance with 310 CMR 19.000, and any order, permit or approval issued by the Department.

19.011: Certification and Engineer's Supervision

(1) Certification. Any person, required by 310 CMR 19.000 or any order issued by the Department, to submit papers shall identify themselves by name, profession, and relationship to the applicant and legal interest in the facility, and make the following certification: "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties both civil and criminal for submitting false information including possible fines and imprisonment."

(2) Engineering Supervision. All papers pertaining to design, operation, maintenance, or engineering of a site or a facility shall be completed under the supervision of a Massachusetts registered professional engineer knowledgeable in solid waste facility design, construction and operation and shall bear the seal, signature and discipline of said engineer. The soils, geology, air modeling, air monitoring and groundwater sections of an application or monitoring report shall be completed by competent professionals experienced in the fields of soil science and soil engineering, geology, air modeling, air monitoring and groundwater, respectively, under the supervision of a Massachusetts registered professional engineer. All mapping and surveying shall be completed by a registered surveyor.

19.012: Determinations by the Department

(1) Burden. Where an applicant is seeking a permit, determination, authorization or approval from the Department the applicant has the burden of establishing, on the basis of credible evidence from a competent source, such facts as are necessary to meet the conditions and criteria set forth in the applicable provisions of 310 CMR 19.000.

(2) Additional Information. In addition to such submissions as the applicant may make, the Department may accept and rely upon credible evidence from other competent sources.

19.013: Exemptions

(1) Facilities and Operations Not Subject to 310 CMR 19.000. Facilities and operations exempted from site assignment by the Site Assignment for Solid Waste Facilities Regulations, 310 CMR 16.05: *Applicability*, are exempted from the requirements of 310 CMR 19.000.

(2) Permit Exemptions for Facilities Undertaking Actions Pursuant to M.G.L. c. 21E. Solid waste management facilities undertaking an emergency action or remedial action pursuant to M.G.L. c. 21E, and the regulations promulgated thereunder, shall not be required to obtain any additional permits or authorizations pursuant to 310 CMR 19.000, in order to carry out the actions ordered or directed by the Department pursuant to M.G.L. c. 21E and any regulations or policies promulgated thereunder.

19.014: Prohibition on Open Dumps and Dumping Grounds and Illegal Disposal of Solid Waste

(1) No person shall establish, construct, operate or maintain a dumping ground or operate or maintain a landfill in Massachusetts in such manner as to constitute an open dump. For the purpose of 310 CMR 19.014, the phrase "establish, construct, operate or maintain" shall include without limitation, disposing or contracting for the disposal of refuse in a dumping ground or open dump.

(2) No person shall dispose or contract for the disposal of solid waste at any place in Massachusetts which has not been approved by the Department pursuant to M.G.L. c.111, § 150A, 310 CMR 16.00 or 310 CMR 19.000.

19.014: continued

(3) No person shall dispose or contract for the disposal of solid waste at any facility in Massachusetts that is not approved to manage the particular type of solid waste being disposed.

19.015: Compliance

No person shall construct, modify, operate or maintain a facility except in compliance with a site assignment, permit or plan approved by the board of health or the Department, as applicable, and any authorizations issued by the Department and all conditions included in a permit, approval or authorization for said facility.

19.016: Post-closure Use

No Person shall use a solid waste management facility site for any purpose other than that established in the permit or plan approval after closure without first obtaining Departmental approval.

19.017: Waste Bans

(1) Purpose. The Department may restrict or prohibit the disposal, or transfer for disposal, of certain components of the solid waste stream when it determines that:

- (a) disposal of the material presents a potential adverse impact to public health, safety or the environment; or
- (b) a restriction or prohibition will result in the extension of the useful life or capacity of a facility or class of facilities.

(2) General and Specific Restrictions. Where the Department makes a determination to restrict or prohibit the disposal, or transfer for disposal, of a particular material it may:

- (a) require as a condition of issuance of a permit that a facility prohibit or limit the disposal, or transfer for disposal, of particular types of material.
- (b) require as a condition of continued operation under an existing plan approval or permit that a facility or a class of facilities prohibit or limit the disposal, or transfer for disposal, of particular types of material; or
- (c) determine that a specific facility or class of facilities are not approved for the disposal of particular types of material and may not contract for the disposal of particular types of material. For the purpose of 310 CMR 19.017 disposal or contract for disposal shall include, but not be limited to:
  - 1. entering into an agreement to dispose of materials restricted from disposal in violation of 310 CMR 19.000; or
  - 2. depositing restricted materials for collection, contracting for the collection of such materials or collecting such materials in a manner which results in the disposal of materials in violation of 310 CMR 19.000; or
  - 3. intentionally contaminating or co-mingling with solid waste pre-sorted material restricted from disposal which would result in the need to dispose of said material in violation of 310 CMR 19.000.

(3) Waste Specific Restrictions.

- (a) Effective on the dates specified in Table 310 CMR 19.017(3) restrictions on the disposal or transfer for disposal of the materials listed therein shall apply as specified. No person shall dispose, transfer for disposal, or contract for disposal of the restricted material except in accordance with the restriction established in the table. No landfill, transfer facility or combustion facility shall accept the restricted material except to handle, recycle or compost the material in accordance with a plan submitted pursuant to 310 CMR 19.017(5) and approved by the Department.
- (b) On the effective date of the restrictions on Cathode Ray Tubes (CRTs), specified in Table 310 CMR 19.017(3), all persons shall segregate CRTs from the solid waste stream.

19.017: continued

Table 310 CMR 19.017(3)

Restricted Material	Effective Date of Restriction for Landfills or Combustion Facilities	Effective Date of Restriction for Transfer Facilities	Restriction
Lead Batteries	December 31, 1990	April 1, 2000	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility
Leaves	December 31, 1991	April 1, 2000	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility
Tires	December 31, 1991	April 1, 2000	Ban on disposal or transfer for disposal of whole tires only at landfills. Tires must be shredded prior to disposal in landfills.
White Goods	December 31, 1991	April 1, 2000	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility
Other Yard Waste	December 31, 1992	April 1, 2000	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility
Aluminum Containers	December 31, 1992	April 1, 2000	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility
Metal or Glass Containers	December 31, 1992	April 1, 2000	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility
Single Polymer Plastics	December 31, 1994	April 1, 2000	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility
Recyclable Paper	December 31, 1994	April 1, 2000	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility
Cathode Ray Tubes	April 1, 2000	April 1, 2000	Ban on disposal, incineration, or transfer for disposal, at a solid waste disposal facility
Asphalt Pavement, Brick and Concrete	July 1, 2006	July 1, 2006	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility
Metal	July 1, 2006	July 1, 2006	Ban on disposal or incineration or transfer for disposal at a solid waste disposal facility
Wood	July 1, 2006	July 1, 2006	Ban on disposal or transfer for disposal at landfills

(4) Criteria for Determinations of Waste Restrictions on Other Materials. In determining whether to restrict or prohibit the disposal of other materials the Department may consider:

- (a) the nature and degree of potential adverse impacts;
- (b) the quantities of restricted materials generated;
- (c) the availability of non-disposal management options for the restricted materials;

19.017: continued

- (d) the economic impact on the facility, class of facilities or generators subject to the restriction;
- (e) such other factors as the Department deems relevant to such a determination.

(5) Waste Ban Plan Submissions.

(a) The permittee or operator shall submit a plan, or modify an existing approved plan to include newly banned materials, which describes the actions to be taken to comply with the restrictions imposed at 310 CMR 19.017(3). The plan shall be submitted to the appropriate regional office of the Department.

(b) The waste ban plan shall address the following:

1. Ongoing waste stream monitoring of all incoming loads, including:
  - a. monitoring procedures;
  - b. unacceptable quantities and *de minimus* acceptable quantities; and
  - c. record keeping.
2. Comprehensive load inspections, including:
  - a. loads not subject to comprehensive load inspections;
  - b. load selection;
  - c. inspection procedures;
  - d. unacceptable quantities and *de minimus* acceptable quantities; and
  - e. record keeping.
3. Facility response to failed loads, including:
  - a. communication; and
  - b. failed load disposition.
4. Other compliance plan elements, including:
  - a. training;
  - b. signage; and
  - c. annual waste ban report.

(c) In determining the adequacy of a plan the Department may consider, without limitation: the anticipated quantities and sources of restricted materials; the contractual terms which affect the delivery of said materials; the expected maximum and minimum percentages of diversion of said materials prior to delivery to the facility and capture of said materials at the facility; the design, operational, educational, informational, financial and marketing mechanisms to be employed to achieve compliance with the restriction; and the weighing and record keeping systems by which the Department can verify compliance with the restriction.

(d) Facilities shall submit such plans at least 90 days prior to the effective date of the ban. The schedule shall not limit the Department from requiring submission of a plan as part of an application for a new or existing facility permit or modification of a permit or plan approval.

(6) Exceptions. The Department may allow a facility or person to temporarily dispose or temporarily contract for the disposal of restricted materials, with prior notification and approval of the Department, under the following circumstances:

- (a) the material is contaminated or is otherwise not acceptable for recycling or composting provided that the person who contaminated or rendered the material unfit for recycling or composting is notified and takes any action necessary to prevent a recurrence of the conditions which contaminated or rendered the material unfit; or
- (b) the recycling or composting operation or end user to which the restricted material is normally sent declines to accept the material or is prohibited from accepting the material as a result of an administrative or judicial order, provided that an alternative recycling or composting operation or storage facility which will accept the material cannot be found within a reasonable time.

(7) Compliance with a Restriction or Prohibition. Failure to comply with approved plans submitted pursuant to 310 CMR 19.017(5) or applicable permit conditions shall constitute a violation of 310 CMR 19.000. The Department may allow *de minimis* quantities of restricted materials, as determined by the Department, to be disposed by the facility. The Department may, in lieu of an enforcement action described in 310 CMR 19.081, require a modified plan to be submitted when restricted materials are being disposed of in excess of approved amounts.

19.020: Permit Requirements for Solid Waste Management

(1) Permit Requirements for Construction and Operation of Solid Waste Management Facilities. No person shall construct, operate or maintain a facility to store, process, transfer, treat or dispose of solid waste except in accordance with:

- (a) a valid site assignment;
- (b) a solid waste management facility permit ("permit"), issued in accordance with 310 CMR 19.000; an Existing Facility Permit issued pursuant to the Solid Waste Management Facility regulations in effect on July 1, 1990, or a Permit By Rule for Certain Transfer Stations issued pursuant to the Solid Waste Management Facility regulations in effect on July 1, 1990;
- (c) an authorization to construct the facility issued by the Department in accordance with 310 CMR 19.041; and
- (d) an authorization to operate the facility issued by the Department in accordance with 310 CMR 19.042.

(2) Inactive Landfill Facility.

(a) Prior to January 1, 1992, the owner of an inactive landfill or dumping ground that was in operation after April 21, 1971 but ceased operations prior to July 1, 1990 shall have filed:

1. proof that the facility was closed in accordance with plans approved by the Department; or
2. a final closure and post-closure plan in accordance with 310 CMR 19.030(3)(c)5. if the facility was not closed in accordance with a closure/post-closure plan approved by the Department.

(b) The owner of an inactive landfill or dumping ground that ceased operations prior to April 21, 1971 may be required to file a final closure and post closure-plan if so ordered by the Department.

19.030: Application for a Solid Waste Management Facility Permit

(1) General. Any person intending to construct, operate or maintain a solid waste management facility shall file an application for a permit. Applications shall consist, at minimum, of the plans, descriptions, reports and other information required in 310 CMR 19.030(3).

(2) Facility Specific Plans. In addition to the plan requirements set forth in 310 CMR 19.030(3), the applicant for a new facility shall submit such additional or alternative information as required in other Parts of 310 CMR 19.000 governing the permitting of specific types of solid waste management facilities.

(3) Application. An application for a permit shall include:

- (a) a completed application on a form as may be provided by the Department;
- (b) applicant identification which shall include such information and documentation as the Department deems necessary to fully identify all persons having a legal or financial interest in, or operational responsibility for the site or facility; those persons' legal status; their prior ownership or operating history of solid waste facilities and other relevant information which identifies the applicant and the applicant's competency to own and/or operate a facility;
- (c) a solid waste management facility plan (Plan) for the particular type of solid waste management facility including such maps, data, information and documents as required in the facility specific regulations. The Plan shall, at a minimum, be comprised of the following components:
  1. a site plan which shall include such maps, diagrams, reports and other information the Department deems necessary to accurately locate the proposed site and facility, identify its geographical characteristics, identify the zoning of the site, and evaluate the potential impact of the construction and operation of the proposed facility on surrounding land uses, traffic flow, surface water bodies, wetlands, water supplies, and flood zones;
  2. a waste ban plan as required at 310 CMR 19.017(5);
  3. a facility design plan which shall provide such diagrams, reports, studies and other information as the Department deems necessary to evaluate the feasibility and potential impacts of the facility on public health, safety and the environment. The facility design plan shall address all aspects of the facility design and shall include:

19.030: continued

- a. a detailed description of the type and size of the proposed facility;
  - b. the nature and amount of refuse to be handled on a daily and weekly basis;
  - c. a detailed description of the design of the facility, including recycling and composting components, site improvements and all systems and other appurtenances thereto necessary to comply with:
    - i. the operation and maintenance requirements;
    - ii. the closure and post-closure requirements; and
    - iii. permit approval criteria;
  - d. provision to minimize the impacts of site and facility construction; and
  - e. other design provisions the Department deems necessary on a site or facility specific basis to ensure proper design;
4. an operation and maintenance plan which shall provide such diagrams, reports, studies, and other information as the Department deems necessary to evaluate the ability of the proposed operation and maintenance procedures to ensure good solid waste management practices and to protect public health and safety and the environment. The operation and maintenance plan shall include:
- a. a detailed description of the proposed waste handling methods and techniques, and sequence of operations for the facility;
  - b. a description of the procedures to be employed to comply with the operation and maintenance requirements for the specific type of facility and the permit approval criteria;
  - c. a detailed description of the environmental monitoring and sampling protocols and procedures and inspection and maintenance of the environmental monitoring systems;
  - d. a tracking and reporting system by which the Department can verify compliance with recycling requirements and with bans on acceptance of certain types of solid waste or recyclable materials which have been imposed pursuant to 310 CMR 19.017 and are in effect at the time the permit is granted;
  - e. a compliance and inspection plan to ensure operation of the facility is in compliance with the permit and all applicable regulations; and
  - f. other operation and maintenance provisions that the Department deems necessary on a site or facility specific basis to ensure proper operation and maintenance;
5. a closure and post-closure plan which shall provide such diagrams, reports, studies and other information as the Department deems necessary to describe and evaluate the procedures the applicant proposes to use to close the facility and maintain and care for the site during the post-closure period in a manner that minimizes the impacts to public health and safety and the environment. A closure and post-closure plan shall include:
- a. a description of the activities, and the sequence of activities necessary to close the facility;
  - b. a description of measures to be utilized to comply with the closure and post-closure requirements set forth in 310 CMR 19.045 and other applicable sections of 310 CMR 19.000 ;
  - c. a description of proposed subsequent use of the site and/or facility, if any; and
  - d. other provisions that the Department deems necessary on a site or facility specific basis to ensure proper closure of the facility.
- (d) a public health report, if any, as submitted by the Department of Public Health pursuant to the Site Assignment Regulations, 310 CMR 16.17;
- (e) sufficient documentation that the proposed facility will be located within the boundaries of a valid site assignment;
- (f) sufficient documentation that:
1. the MEPA process does not apply;
  2. the MEPA process does apply and the Secretary has determined that an Environmental Impact Report is required; or
  3. the MEPA process has already been completed and the Secretary has issued a certificate or a determination that no EIR is required.
- (g) The first Technical Review Period (TR1) as specified under 310 CMR 4.00: *Timely Action and Fee Provisions*, shall not be completed until the Secretary's final MEPA certificate has been issued for the project.

19.030: continued

(4) Filing and Confidentiality.

(a) The applicant shall file one copy of the application or registration with the Department in the appropriate Regional Office.

(b) Any information submitted pursuant to 310 CMR 19.000 may be claimed as confidential by the applicant in accordance with the provisions of 310 CMR 3.00: *Access to and Confidentiality of Department Records and Files*, except information regarding the name and address of the permittee and data related to the potential impact of the proposed activity on public health, safety and the environment.

(5) Variance. The application shall clearly state whether a variance is requested, as provided in 310 CMR 19.080.

(6) Presentation of Information. Information set forth in the application for a permit shall be current, presented clearly and concisely using forms, as may be provided by the Department, and supported by appropriate references to technical and other documents made available to the Department. The application shall contain sufficient data and other relevant information to allow the Department to determine, independent of additional information, whether to issue the Permit.

(7) Supervision. All papers pertaining to design, operation, maintenance, or engineering of a site or a facility shall bear the seal of a supervising engineer or other applicable person as required at 310 CMR 19.011(2).

(8) Certification. Applications shall be signed and certified to by the applicant as to all statements of fact therein in accordance with 310 CMR 19.011.

(9) Signatories. All applications for permits, authorizations or modifications submitted pursuant to 310 CMR 19.000 shall be signed as follows:

(a) If the applicant is a corporation, by an individual who is a responsible corporate officer of the corporation and who is authorized by the corporation, in accordance with corporate procedures, to sign such documents on behalf of the corporation. As used in this section, "responsible corporate officer" shall mean a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other individual who performs for the corporation policy-making or decision-making functions similar to those performed by a president, secretary, treasurer, or vice-president.

(b) If the applicant is a partnership, by a general partner.

(c) If the applicant is a sole proprietorship, by the proprietor.

(d) If the applicant is a municipality or public agency, by a principal executive officer or ranking elected official who is empowered to enter into contracts on behalf of the municipality or public agency.

19.031: Review of Applications for Completeness

(1) File Number. The Department shall assign a file number to each application when the application is filed with the Department. The file number shall be used in all subsequent correspondence between the Department and the applicant regarding the application and shall appear on any subsequent filings by the applicant.

(2) Completeness Review. The Department shall initially determine whether each application is administratively complete. If an application is determined to be administratively incomplete the Department shall provide written notice to the applicant. The notification shall identify the deficiencies and specify the timeframe for the applicant to respond to the notification. Said notification shall not constitute a determination as to the technical adequacy of the application and shall comply with 310 CMR 4.00, if applicable. If the applicant does not respond within the timeframe specified by the notification and the applicable regulations then the Department may act on the application based on the existing information.

(3) Complete Applications. An application shall be deemed complete for the purposes of initiating the review process described at 310 CMR 19.032 through 19.036 or 310 CMR 19.037 when the Department receives the application and determines that all required information has been submitted, provided that the Department may require additional information at any time during the permit review period.

19.032: Procedure for Review of Applications for New Facilities or Expansions

(1) Applicability. The Department shall review applications submitted pursuant to 310 CMR 19.000, using either the permit review procedures set forth at 310 CMR 19.032 through 19.036 (Review of Applications for New Facilities or Expansions) or the procedures set forth at 310 CMR 19.037 (Review Procedure for Permit Modifications, Permit Renewals and Other Approvals). The decision process set forth at 310 CMR 19.032 through 19.036 shall be used to review the following:

- (a) applications for a new facility;
- (b) applications for expansion of a combustion facility;
- (c) applications for lateral expansion of a landfill;
- (d) applications for vertical expansion of a landfill;
- (e) applications for expansion of a handling facility; and
- (f) such other applications as the Department deems appropriate.

(2) Issuance of a Draft Decision.

(a) The Department shall prepare a draft decision. A draft decision for granting a permit shall include all appropriate conditions, standards, and requirements necessary to establish a new facility or to conduct approved activities at an existing facility.

(b) Each draft decision shall be accompanied by a fact sheet briefly describing:

1. the facility or activity which is the subject of the draft decision;
2. the type and quantity of wastes which are to be handled;
3. the reasons for the terms and conditions set forth therein; and
4. the reasons why requested variances or alternatives to required standards are or are not proposed to be approved.

(3) Distribution of the Draft Decision. The Department shall send a copy of the draft decision and the accompanying fact sheet to the applicant, the local board of health, abutting board of health, if any, and, on written request, to any other person.

(4) Description of Procedures. A description of the procedures for reaching a final decision on the permit application shall accompany the copy of the draft decision and shall include:

- (a) the beginning and ending dates of the comment period and the address where comments will be received;
- (b) any other procedures by which the public may participate in the process leading to a final permit decision; and
- (c) the name and telephone number of an individual to contact for additional information.

19.033: Public Notice for Facility Permit Actions

(1) Public Notice. The Department shall cause public notice to be given when:

- (a) a draft decision on a facility permit application has been prepared; or
- (b) a public hearing on a draft decision has been scheduled. Public notice in this case shall be given at least 21 days prior to the hearing date.

(2) Notice of More Than One Permit. Public notices may describe more than one permit or permit action.

(3) Comment Period. Public notices issued pursuant to 310 CMR 19.033(1) shall allow at least 30 days for public comment. The comment period shall begin on the date the public notice is first published in a newspaper as specified at 310 CMR 19.033(4)(b) or on a later date specified in the public notice.

(4) Method of Notice. Public notice shall be given by the following methods:

(a) By mailing notice to:

1. the applicant;
2. the board of health of the city or town in which the facility is to be located or the permitted activity is proposed;
3. the board of health of any municipality within ½ mile of the proposed facility (“abutting board of health”); and
4. abutters of the facility site.

(b) By publication, paid for by the applicant, in a daily or weekly newspaper of general circulation in the locality affected by the facility.



19.033: continued

- (5) Content of Notice. All public notices shall, at a minimum, contain the following information:
- (a) a description of the proposed facility including the type of facility, proposed tonnage, location and hours of operation;
  - (b) the identity and mailing address of the applicant;
  - (c) the public location where the application can be inspected; and
  - (d) either the time period for written comments on the application and the address to which comments should be mailed, and, if a public hearing is to be held, the public hearing information set forth at 310 CMR 19.035;

19.034: The Comment Period

(1) Written Comments. During the public comment period provided for in 310 CMR 19.033(3) any interested person may submit written comments on the draft decision to the office of the Department processing the permit request.

(2) Extending or Reopening the Public Comment Period. The Department may extend or reopen the public comment period prescribed in 310 CMR 19.033(3) to allow for the issuance of a modified draft decision or to give interested persons an opportunity to comment on the information or arguments submitted. If the Department gives such an extension, notice thereof shall be given in the manner prescribed in 310 CMR 19.033. Such notice shall specify any new issues to be considered.

19.035: Public Hearing

(1) Circumstances Requiring Hearing. The Department shall schedule a public hearing within the community wherein the proposed facility is to be located when:

- (a) the applicant requests a public hearing;
- (b) the Commissioner determines that there is sufficient public interest in unresolved issues of concern; or
- (c) the Department prepares a modified draft decision with substantial revisions from the original draft decision issued pursuant to 310 CMR 19.032(2) as a result of comments received pursuant to 310 CMR 19.034. Copies of the modified draft decision shall be distributed in accordance with 310 CMR 19.032(3).

(2) Content of Public Hearing Notice. Public notice of the public hearing shall be given in the manner described in 310 CMR 19.033 and shall include:

- (a) the date, time, and place of the public hearing; and
- (b) the nature and purpose of the public hearing.

(3) Public Hearing Procedures

- (a) Hearing Officer. The Department shall designate a representative to conduct the public hearing. The Hearing Officer shall have authority to ensure an orderly presentation of issues, comments, data, and arguments, and to ensure an adequate and comprehensible record of the proceedings. The Hearing Officer may, at his or her discretion, without limitation of the foregoing:
  1. define relevant issues, receive and consider relevant matter and exclude irrelevant or unduly repetitive matter;
  2. determine the order in which persons wishing to do so may present oral comments;
  3. conduct appropriate examination of persons offering oral comments;
  4. establish a reasonable time limit for all persons wishing to offer oral comments;
  5. require the applicant or any other person intending to present studies or exhibits for consideration at the hearing to file such material within a reasonable time in advance of the hearing;
  6. require any person who refers to or relies upon written information or expert opinion in offering comments to provide copies of such material within a reasonable time after the hearing;
  7. permit an opportunity for oral rebuttal of comments received;
  8. allow a reasonable time after the hearing for providing written comment or rebuttal; and
  9. order adjournment, recess, or rescheduling of the hearing.

19.035: continued

- (b) Participation in the Hearing. Any person may attend and observe the public hearing. Any person wishing to offer oral comments may do so upon filing a written statement containing the name, address, and telephone number of an authorized representative to whom correspondence may be addressed for purposes of the hearing.
- (c) Authorized Representative. An individual may appear on his or her own behalf. A duly authorized officer or employee may represent a corporation; a duly authorized member may represent a partnership, joint venture or association; and an authorized trustee may represent a trust. Any person shall have the right to be accompanied, represented and advised by an authorized agent or attorney.
- (d) Conduct of Hearings. Hearings shall be as informal as may be reasonable and appropriate under the circumstances. The Hearing Officer shall ensure that the conduct of persons at the hearing will at all times be orderly.
- (e) Withdrawal of Request for Hearing. The applicant or any other person who requested a hearing may withdraw the request, or may elect to submit any comments or documents without a hearing, by filing with the Department a written withdrawal. If notice of a hearing has already been published pursuant to 310 CMR 19.033, such withdrawal must be filed at least ten days prior to the scheduled hearing, and notice of the withdrawal provided in the same manner specified in 310 CMR 19.033.
- (f) Recordings and Transcripts. The proceedings at the hearing shall be recorded either electronically or stenographically. Transcripts or electronic copies shall be supplied to any person, upon request, at his or her own expense. Any person, upon request, may order a stenographer to transcribe the proceedings or the Department's electronic recording at his or her own expense. In such event, a stenographic record shall be provided to the Department at no expense to the Department, and upon such other terms as the Hearing Officer shall order.

19.036: Issuance of the Final Decision on a Permit Application

- (1) Issuance and Public Notice. After the close of the public comment period, or, if applicable, the close of the public hearing, whichever is later, the Department shall issue a final decision on the permit application. Notice of the Department's final decision and summary response to comments shall be given to the applicant, by first class mail. Notice shall also be provided to the board of health, any abutting board of health and each person who has requested notice of the final decision.
- (2) Effective Date. Unless otherwise stated on the permit, the permit shall be effective upon issuance.
- (3) Summary Response to Comments. At the time the decision is issued, the Department shall prepare a summary of the major comments on the draft decision and a response and shall describe any major changes made to the draft decision as a result of the public hearing.
- (4) Legal Challenges.
  - (a) Appeal. Any person aggrieved by the issuance or denial of the permit or permit modification may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. c. 111, § 150A and c. 30A. not later than 30 days following the receipt of the final decision. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the final decision by a court of competent jurisdiction, the final decision shall remain effective or become effective at the conclusion of the 30 day period.
  - (b) Notice of Action. Any aggrieved person intending to appeal a grant or denial of a permit to the Superior Court shall first provide notice of intention to commence such action. Said notices of intention shall include the Department file number and shall identify with particularity the issues and reason why it is believed the permit decision was not proper. Such notice shall be provided to the Office of General Counsel of the Department and the Regional Director for the regional office which processed the permit application at least five days prior to the filing of an appeal.

19.036: continued

(c) No allegation shall be made in any judicial appeal of a permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in 310 CMR 19.000, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

19.037: Review Procedure for Permit Modifications, Permit Renewals and Other Approvals

- (1) Applicability. The permit review process set forth at 310 CMR 19.037 shall be used to review the following:
  - (a) a closure and post-closure plan;
  - (b) applications for modifications filed pursuant to 310 CMR 19.039 and 310 CMR 19.040, except expansions as described at 310 CMR 19.032(1);
  - (c) applications for post-closure use of a facility for purposes other than solid waste management;
  - (d) applications for authorizations to construct filed pursuant to 310 CMR 19.041;
  - (e) applications for authorizations to operate, and renewals thereof, filed pursuant to 310 CMR 19.042; and
  - (f) such other applications as the Department deems appropriate.
  
- (2) Issuance and Public Notice. The Department shall mail a copy of its decision on an application to the applicant, the board of health of the city or town in which the facility is located, the board of health of any municipality within ½ mile of the proposed facility (“abutting board of health”) and any other person who has requested in writing that the Department provide a copy of the decision.
  
- (3) Effective Date. Unless otherwise stated in the permit or approval the decision shall be effective upon its issuance.
  
- (4) Review of Decision.
  - (a) Provisional Decision. The Department may defer the effective date of a decision for the purpose of obtaining comments prior to a final decision. Such a provisional decision shall be accompanied by a notice stating that written comments may be submitted to the Department for a period of at least 21 days after the date of issuance of the provisional decision. Prior to the effective date established therein, the Department may rescind or modify the provisional decision by written notice.
  - (b) Where no provisional decision is issued, an applicant aggrieved by the Department's decision may within 21 days file a written request that the decision be deemed a provisional decision, and a written statement of the basis on which the applicant believes it is aggrieved, together with any supporting materials. Upon timely filing of such a request, the decision shall be deemed a provisional decision with an effective date 21 days after the Department's receipt of the request. Such a request shall reopen the administrative record, and the Department may rescind, supplement, modify, or reaffirm its decision. Failure by an applicant to exercise the right provided in 310 CMR 19.037(4)(b) shall constitute a waiver of the applicant's right to appeal.
  
- (5) Legal Challenges.
  - (a) Appeal. Any person aggrieved by the issuance or denial of the permit, except as provided for under 310 CMR 19.037(4)(b), may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. c. 111, § 150A and M.G.L. c. 30A not later than 30 days following the receipt of the final permit. The standing of a person to file an appeal and the procedures for filing such appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the permit by a court of competent jurisdiction, the permit decision shall remain effective or become effective at the conclusion of the 30 day period.

19.037: continued

(b) Notice of Action. Any aggrieved person intending to appeal a grant or denial of a permit to the Superior Court shall first provide notice of intention to commence such action. Said notices of intention shall include the Department file number and shall identify with particularity the issues and reason why it is believed the permit decision was not proper. Such notice shall be provided to the Office of General Counsel of the Department and the Regional Director for the regional office which processed the permit application at least five days prior to the filing of an appeal.

(c) No allegation shall be made in any judicial appeal of a permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in 310 CMR 19.000, provided that a matter may be raised upon a showing that it is material and that it was not reasonably possible with due diligence to have been raised during such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

19.038: Applicability and Review Criteria for a Permit or Permit Modification

(1) Applicability of Permitting Criteria. The criteria the Department shall apply when reviewing permit applications (*e.g.*, landfills, combustion facilities, handling facilities, post-closure use) for Authorizations to Construct (ATCs) under 310 CMR 19.041, or permit modifications are as follows.

(a) New or Expanding Landfills. Permits for new landfills or landfill expansions shall comply with criteria at 310 CMR 19.038(2)(a), (c) and (d).

(b) New or Expanding Combustion Facilities. Permits for new or expanding combustion facilities shall comply with the criteria at 310 CMR 19.038(2)(a) and (b).

(c) New or Expanding Handling Facilities. Permits for new or expanding handling facilities shall comply with the criteria at 310 CMR 19.038(2)(a)1. through 11., 13. and 14., and (b);

(d) Modifications of Landfills, Combustion Facilities and Handling Facilities. Modifications of a landfill, combustion facility or handling facility not addressed at 310 CMR 19.038(1)(a), (b) or (c), shall comply with the criteria at 310 CMR 19.038(2)(a)1. through 12.

(e) Post-closure Use. Permits for the post-closure use of a facility for purposes other than use as a solid waste management facility shall comply with the criteria at 310 CMR 19.038(2)(a)1., 3., 4., 6., 8., and 10.

(2) Criteria for Review of Applications for a Permit or Permit Modification.

(a) General Criteria. In accordance with the provisions of 310 CMR 19.038(1) the Department shall consider whether the following criteria are met when reviewing an application for a permit or permit modification:

1. the applicant has received certification from the Secretary of Environmental Affairs that the applicant has complied with M.G.L. c. 30, §§ 61 through 62H (MEPA) process;
2. the facility is located within the boundaries of a valid site assignment and is proposed to be constructed, operated and maintained in accordance with the terms and conditions of that site assignment;
3. the design, construction, operation, and maintenance of the facility and its environmental monitoring systems are in compliance with requirements set forth in 310 CMR 19.000, and such policies as the Department establishes governing solid waste management facilities;
4. the design, construction, operation, and maintenance of the facility constitutes a threat to the public health, safety or the environment;
5. on a site on which the Department determines it infeasible to adequately conduct appropriate environmental monitoring, no leachate or contaminated surface run off shall enter ground or surface waters;
6. the facility design and operation includes components and measures which will assure compliance with other applicable state and federal laws, regulations and policies, including without limitation, 314 CMR 3.00 through 12.00 (water pollution control); 310 CMR 22.00 and 27.00 (water supply); 310 CMR 7.00 (air quality); and 40 CFR 257 and 258;
7. the facility is in compliance with the waste bans established at 310 CMR 19.017;

19.038: continued

8. violations of applicable statutes and regulations, judicial orders or administrative order or conditions of a prior plan approval/permit issued by the Department are corrected, and any fines and penalties associated with any of the above, which are related to the site or facility have been paid or are pending administrative or judicial appeal;
9. the construction, operation and maintenance of the facility does not represent a bird hazard;
10. the ground support for the structural components of the facility is adequate;
11. whether the construction, operation, and maintenance of the facility:
  - a. will have an adverse impact on Endangered, Threatened, or Special Concern species listed by the Natural Heritage and Endangered Species Program of the Division of Fisheries and Wildlife in its database;
  - b. will have an adverse impact on an Ecologically Significant Natural Community as documented by the Natural Heritage and Endangered Species Program in its database; or
  - c. will have an adverse impact on the wildlife habitat of any state Wildlife Management Area.
12. the yearly and lifetime capacity potentially created by the proposed facility or expansion in relation to the reasonably anticipated disposal capacity requirements and reduction/diversion goals of the Commonwealth and the geographic area(s) which the site will serve;
13. the extent to which the facility operations, alone or in conjunction with other facilities, maximizes diversion or processing of each component of the anticipated waste stream in order to first reduce adverse impacts and utilize materials and only thereafter to extract energy from the remaining solid waste prior to final disposal; and
14. the extent to which the facility operations, alone or in conjunction with other facilities, will contribute to the establishment and maintenance of a statewide integrated solid waste management system which will protect the public health and environment and conserve the natural resources of the Commonwealth.

(b) Combustion Facilities and Handling Facilities. In addition to the criteria set forth under 310 CMR 19.038(2)(a), the Department shall consider whether the following criteria are met when reviewing an application for a permit or permit modification for combustion facilities and handling facilities site assigned before June 8, 2001. Facilities or expansions of facilities site assigned in accordance with the criteria at 310 CMR 16.00 that were promulgated on or after June 8, 2001 shall comply with the siting criteria of that site assignment:

1. the construction, operation and maintenance of the facility, if located or proposed to be located in a Zone II area or Interim Wellhead Protection Area does not result in an adverse impact to an existing or potential public or private water supply well;
2. the waste handling areas are not within the following distances unless, as applicable, a waiver has been obtained under 310 CMR 16.00 or a variance is obtained under 310 CMR 19.080:
  - a. 100 feet of the nearest edge of the property boundary, provided that a shorter distance consistent with the necessary operating and maintenance requirements of the facility may be approved for that portion of the waste handling area which borders a solid waste management facility;
  - b. 250 feet of an existing or potential private water supply well;
  - c. 250 feet of an occupied residential dwelling, prison, bedded health care facility, lower educational institution or children's pre-school, excluding equipment storage or maintenance structures, if a solid waste handling facility, and 500 feet if a solid waste combustion facility;
  - d. a resource area protected by the Wetlands Protection Act, M.G.L. c. 131, § 40, and the regulations promulgated thereunder at 310 CMR 10.00, including the 100 year floodplain;
  - e. 500 feet upgradient or 250 feet downgradient of a surface drinking water supply.

(c) Landfills. In addition to the criteria set forth under 310 CMR 19.038(2)(a) the Department shall consider whether the following criteria are met when reviewing an application for a permit or permit modification for a landfill site assigned before June 8, 2001. Facilities or expansions of facilities site assigned in accordance with the criteria at 310 CMR 16.00 that were promulgated on or after June 8, 2001 shall comply with the siting criteria of that site assignment:

19.038: continued

1. the landfill is not located:
    - a. in the Zone II area of an existing or potential public water supply well;
    - b. within 15,000 feet upgradient of an existing public water supply well unless a preliminary Zone II determination has been completed and approved by the Department and the Department determines that the landfill is not located in the Zone II area;
    - c. in the Interim Wellhead Protection Area of an existing or potential public water supply well, unless a preliminary Zone II delineation has been approved by the Department and the Department determines that the landfill is not located in the Zone II area;
    - d. in the recharge area for a sole source aquifer, unless:
      - i. there are no existing or potential public ground water supplies downgradient of the site;
      - ii. there are no existing or potential private ground water supplies downgradient of the site; however, the applicant may have the option of providing an alternative public water supply to replace all the existing or potential downgradient private groundwater supplies; and
      - iii. there is a sufficient existing or potential public water supply to meet the municipality's projected needs.
  2. the leachate containment structure of a landfill shall not be located within a resource area protected by the Wetlands Protection Act, M.G.L. c. 131, § 40, including the 100 year floodplain;
  3. the outermost limits of the waste deposition area for new landfills or expansions of landfills shall not be within the following distances unless, as applicable, a waiver has been obtained under 310 CMR 16.00 or a variance has been obtained under 310 CMR 19.080:
    - a. 100 feet of the nearest edge of the property boundary, provided that a shorter distance consistent with the necessary operating and maintenance requirements of the facility may be approved for that portion of the waste deposition area which borders a solid waste management facility;
    - b. 500 feet of a private water supply well;
    - c. 500 feet of an occupied residential dwelling, bedded health care facility, prison or lower educational institution or children's pre-school, excluding equipment storage or maintenance structures;
    - d. a resource area protected by the Wetlands Protection Act, M.G.L. c. 131, § 40, and the regulations promulgated thereunder at 310 CMR 10.00, including the 100 year floodplain;
    - e. 2500 feet upgradient or 500 feet downgradient of a surface drinking water supply;
    - f. 250 feet upgradient of a perennial watercourse that drains to a surface drinking water supply where the landfill is within one mile of the surface drinking water supply; or
    - g. 250 feet of a lake, pond or river (not including a stream) as defined in 310 CMR 10.00, other than a drinking water supply; or
- (d) Additional Landfill Criteria. In addition to the criteria set forth at 310 CMR 19.038(2)(a) and (c), the Department shall consider whether the following criteria, in reviewing an application for a permit or a modification for a landfill, have been met:
1. the landfill does not represent a threat to public health, safety or the environment due to concentration or migration of explosive gases, excluding gas control or recovery system components, at the facility or beyond the facility property boundary;
  2. the landfill is not located in a seismic impact zone unless all containment structures are designed to resist the maximum horizontal acceleration in lithified earth material for the site;
  3. the landfill is not located in an unstable area unless engineering measures have been incorporated into the landfill's design to ensure the integrity of structural components, including but not limited to liners, leachate collection systems and final covers, will not be disrupted. The owner or operator shall consider the following factors, at a minimum, when determining whether an area is unstable:
    - a. on-site or local soil conditions that may result in significant differential settling;
    - b. on-site or local geologic or geomorphologic features; and
    - c. on-site or local human-made features or events (both surface and subsurface); and

19.038: continued

4. the landfill is not located within 200 feet (60 meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates that an alternative setback of less than 200 feet will prevent damage to the structural integrity of the landfill.

19.039: Applicant's Request to Modify a Permit

(1) General. An owner or operator seeking to alter or change a permit or the Department approved design, operation and maintenance procedures or closure/post-closure design of a facility, including any conditions imposed in the permit, shall apply to the Department for approval to modify the permit in accordance with 310 CMR 19.039.

(2) Types of Modification. Acts including but not limited to the following constitute modifications to which 310 CMR 19.039 applies:

- (a) expansions of solid waste management facilities;
- (b) acceptance of solid waste in excess of permitted capacity or tonnage limits;
- (c) alteration of the original design and operation of the facility; and
- (d) any other deviation, including post-closure use, from the construction, operation and maintenance of the facility required by the permit.

(3) Application.

(a) Expansions. An application for an expansion of a facility shall include all or part of the plan components set forth in 310 CMR 19.030(3)(c) as the Department deems necessary to evaluate the feasibility and potential impact of the proposed expansion on public health, safety or the environment.

(b) Modifications. An application for modifications not addressed at 310 CMR 19.039(3)(a) shall include the appropriate information to clearly and fully describe the proposed modification and any or all potential impacts from the modification.

(4) Filings. An application for modification shall be submitted to the Department in accordance with 310 CMR 19.030.

(5) Review Procedure. Except as may be allowed in accordance with 310 CMR 19.039(6), the Department shall review and issue a decision on whether to allow a modification to a permit in accordance with the following provisions:

(a) Expansions. Review of Applications for New Facilities or Expansions, 310 CMR 19.032 through 19.036, shall apply to expansions described at 310 CMR 19.032; or

(b) Modifications. Review Procedure for Permit Modifications, Permit Renewals and other Approvals, 310 CMR 19.037, shall apply to other modifications, unless the Department determines otherwise pursuant to 310 CMR 19.032(1)(f).

(6) Alternative Review Process for Certain Modifications. The Department may, in accordance with permit conditions established pursuant to 310 CMR 19.043 or guidelines established by the Department, determine that certain modifications to facility plans may be effected without prior written approval, as provided below:

(a) at least 30 days prior to commencing such modification the permittee shall notify the Department and the board of health in writing of the planned modification; and

(b) within 30 days of completion of the modification the permittee shall submit to the Department as-built plans and/or a report describing the modification.

19.040: Department's Modification, Suspension or Revocation of a Permit

(1) General. The Department may rescind, suspend, or modify a permit when it determines that the operation or maintenance of a facility results in a threat to the public health, safety or the environment.

(2) Burden of Proof. Where any violation of M.G.L. c. 111, § 150A or 310 CMR 19.000 or any permit or order issued thereunder occurs the burden shall be on the operator to prove that said violation does not constitute a threat to the public health and safety or to the environment.

19.040: continued

- (3) Scope of Determination of Threat. In considering whether the continued operation of a facility presents a threat to the public health and safety or the environment the Department may consider:
- (a) the likelihood of a discharge or release of pollutants from the facility;
  - (b) the actual or potential impacts from a discharge or release of pollutants from the facility;
  - (c) the potential adverse impacts on the Commonwealth's natural resources from the disposal of materials restricted pursuant to 310 CMR 19.017: *Waste Control*.

19.041: Authorization to Construct

- (1) General. The following shall not be constructed except in accordance with a valid authorization to construct issued by the Department in writing:

- (a) a facility for which a permit has been issued;
- (b) modifications to a facility for which a permit modification has been issued; or
- (c) a new phase in the case of a landfill being developed in phases.

- (2) Filing. The applicant shall file a request for an authorization to construct in writing with the Department in the appropriate Regional Office. However, unless otherwise indicated, the Department shall consider an application for a solid waste management facility permit or an application to modify a permit to constitute a request for an authorization to construct.

- (3) Issuance of Authorization. In general, the Department shall issue an authorization to construct when the solid waste management facility permit or permit modification is issued, except in the case of phased construction of a landfill where an authorization to construct may be required for each phase and except where the Department determines that any of the following permits has not been applied for, as applicable, or granted at the time the solid waste management facility permit is to be granted:

- (a) Massachusetts Surface Water Discharge Permit for point source discharges to surface waters pursuant to M.G.L. c. 21, § 43 and 314 CMR 3.00;
- (b) ground water discharge permit pursuant to M.G.L. c. 21, § 43 and 314 CMR 5.00, as may be amended;
- (c) storm water discharge permit pursuant to M.G.L. c. 21, § 43, and 40 CFR 122;
- (d) sewer connection permit for the discharge of collected and or pre-treated leachate into a municipal sewer system as required by 314 CMR 7.00;
- (e) Federal Water Pollution Control Act section 404 dredge and fill permit relative to surface water pursuant to the Federal Water Pollution Control Act; and
- (f) other local, state and federal permits, approvals or authorizations that are required for the construction of the facility.

- (4) Sunset. If construction of the facility or first phase thereof has not been completed or no solid waste has been processed or disposed at the facility within three years of the date of issuance of an authorization to construct the authorization shall expire. The owner or operator may apply to the Department for an extension of the authorization at any time prior to or after it expires.

- (5) Enforcement. The issuance of an authorization to construct shall not limit the Department's right to take appropriate enforcement action, including, without limitation, the suspension, revocation or modification of the permit or revocation of the authorization to construct if 310 CMR 19.000 or any condition of the permit or authorization to construct are violated.

- (6) Deed Notice. M.G.L. c. 111, § 150A requires that notice of the Permit be recorded in the registry of deeds or, if the site is registered land, in the registry section of the land court for the district wherein the land lies.

19.042: Authorization to Operate

- (1) General. No person shall operate a facility, or if a new or existing facility is developed in phases, operate in any new phase of a facility, without a valid authorization to operate issued by the Department in writing.



19.042: continued

- (2) Filing. The applicant shall file a request for an authorization to operate in writing with the Department in the appropriate Regional Office.
- (3) Issuance of Authorization. An authorization to operate shall only be issued after the Department is persuaded by the applicant that:
- (a) appropriate financial assurance has been secured in accordance with 310 CMR 19.051;
  - (b) as-built plans, signed and stamped by a registered professional engineer, have been submitted where required by the Department; and
  - (c) the construction of the facility or phase thereof is complete and the facility is operational. For the purposes of 310 CMR 19.042 a facility shall be considered complete when:
    1. the facility has been constructed and prepared in conformance with the approved design plan required under 310 CMR 19.030(3), including the recycling and composting components of that plan;
    2. the ditches, drains, roads, fences, water lines, collection systems, and other appurtenances shown on the approved plans are complete and functional;
    3. all equipment needed for normal operation of the facility is available and fully operational;
    4. all site preparation for the first six months of operation of a new facility or appropriate period for the phase, if applicable, is completed;
    5. sufficient number of qualified staff and supervision is available to carry out the normal operation and maintenance of the facility in accordance with approved plans;
    6. approved recycling and composting activities will be implemented as approved in accordance with an implementation schedule approved by the Department;
    7. the applicant has provided proof of receipt of all applicable other state, local and federal permits that are required for the operation of the facility; and
    8. the facility is otherwise in compliance with all applicable portions of 310 CMR 19.000.
- (4) Renewal of an Authorization to Operate.
- (a) General. An operator planning to continue to use a facility after the expiration date, if any, of the authorization to operate established pursuant to 310 CMR 19.042 shall:
1. submit an application for renewal of an authorization to operate, at least 180 days prior to the date of expiration, which shall include all appropriate information relating to the operation of the facility including, without limitation,
    - a. a discussion of any changes in operation and monitoring of the facility during the previous authorization period;
    - b. a narrative summary of the monitoring data for the prior five years of operation;
    - c. a report covering the entire monitoring history of the facility including a detailed outline of the facility's monitoring program, all monitoring results organized in a clear and concise table with an explanation of any missing or non-representative data, an analysis of any trends, any proposals for upgrading the monitoring program, and a discussion of monitoring results;
    - d. a report containing information on leachate generation rates and the management or fate of that leachate, changes in operation and equipment, operational problems and proposed solutions, and plans to upgrade or improve facility operations to better comply with environmental laws and regulations and a record of all violations of requirements of 310 CMR 19.000 or permit conditions during the authorization period;
    - e. a determination, with documentation, of the remaining approved capacity or life expectancy of the facility;
    - f. documentation that the facility has been and will continue to be meeting its recycling and waste restriction requirements;
    - g. adequate financial assurance has been established; and
    - h. a demonstration that the facility is operating in compliance with all applicable requirements of 310 CMR 19.000.
  2. notify the municipality in which the facility is located as well as the municipalities that are under contract to the facility.
- (b) Issuance. The Department, upon review of a renewal application, shall determine whether the applicant has satisfactorily complied with all terms, conditions and requirements of the facility permit, the expiring authorization to operate and 310 CMR 19.000.

19.042: continued

1. If the Department determines that the applicant has complied hereunder, the authorization to operate may be reissued.
2. If the Department determines that the applicant has not complied hereunder, or other circumstances exist which indicate noncompliance with any provisions of 310 CMR 19.000 or the permit or any authorizations, the Department shall take appropriate action to secure compliance including, but not limited to, a denial of reissuance. If the Department refuses to renew the authorization the permittee shall have a right to a hearing in accordance with M.G.L. c. 30A, § 13.

(c) Conditions and Terms of a Renewal. The Department may include all conditions of the original authorization to operate or, pursuant to 310 CMR 19.040: *Department's Modification, Suspension or Revocation of a Permit*, establish new fixed conditions for the authorization to operate based on the applicant's record of compliance with applicable laws and regulations, the site assignment, plan submissions, public health and environmental impacts of the facility, amendment of the regulations, the facility financing requirements and remaining capacity of the facility.

(5) Enforcement. The issuance of an authorization to operate shall not limit the Department's right to take appropriate enforcement actions, including, without limitation, the suspension, revocation or modification of the permit or revocation of the authorization to operate, if any provision of 310 CMR 19.000 or any condition of the permit, authorization to operate or any order issued by the Department is violated.

19.043: Conditions for Permits and Authorizations

(1) Items Subject to Conditions. The Department may grant a permit or an authorization subject to such conditions as are necessary to ensure compliance with 310 CMR 19.000 or to protect the public health, safety, or the environment including, without limitation: the period of time for which a permit or authorization is valid, phased development of construction or operations, minimum recycling or composting requirements, the kind or type of waste allowed, site assignment conditions, inspection, financial assurance, technical data gathering, data analysis, quality control, quality assurance, sampling, monitoring, reporting and verification.

(2) Condition(s) on Amount of Solid Waste Accepted. Every permit or authorization to operate shall contain one or more limits on the amount of solid waste which the facility can accept during a fixed period of time, not to exceed one year.

(3) Liability. No permit shall be issued except upon the condition that the holder shall be liable jointly and severally with the owner or operator for any civil or administrative penalties assessed or orders entered by the Department arising from any improper facility operation, maintenance, closure, post-closure or other activities performed in violation of the Department's regulations and applicable statutes. The Department may, in its sole discretion, enforce said condition against the holder in any enforcement action taken pursuant to applicable statutes or regulations. Nothing in 310 CMR 19.043 shall:

- (a) limit the liability of owners or otherwise legally responsible parties from these or any other applicable statutes or regulations;
- (b) limit the right of the Department to issue notices, orders, or levy penalties for violations of these and other applicable regulations or permit conditions, to facility owners, holders, or otherwise legally responsible parties;
- (c) bar any otherwise valid agreement to insure, hold harmless or indemnify the holder for any liability arising out of operation of the facility;
- (d) limit the liability of owners or otherwise legally responsible parties for damages to natural resources of the Commonwealth or reimbursement of the Commonwealth for any cleanup costs for the facility site incurred by the Commonwealth; or
- (e) affect the right of the holder to seek contribution from any joint wrongdoer.

19.043: continued

(4) Financial Conditions. The Department may condition a permit or authorization on the applicant submitting such proof as the Department deems necessary to establish that at the time of permit and during the projected operating period the applicant shall have adequate funds to operate and maintain the facility in compliance with applicable statutes and regulations and permit conditions. Such financial conditions may require, without limitation, the periodic submission to the Department of approved operating budgets and fee schedules and may compel the cessation of operations and closure of the facility in the absence of adequate financial ability.

(5) Standard Conditions. The following conditions shall apply to all owners, operators or permittees (hereinafter comprehensively referred to as "permittee"):

(a) Duty to Comply. The permittee shall comply at all times with the terms and conditions of the permit or approval, 310 CMR 19.000, M.G.L. c. 111, § 150A and all other applicable state and federal statutes and regulations.

(b) Duty to Maintain. The permittee shall always operate and maintain all facilities, environmental control and monitoring systems, vehicles and equipment which the permittee installs or uses.

(c) Duty to Halt or Reduce Activity. The permittee shall halt or reduce activity whenever necessary to maintain compliance with the permit conditions, or to prevent an actual or potential threat to the public health, safety or the environment.

(d) Duty to Mitigate. The permittee shall remedy and shall act to prevent all potential and actual adverse impacts to persons or the environment resulting from non-compliance with terms or conditions of the permit or approval. The permittee shall repair at his own expense all damages caused by such non-compliance.

(e) Duty to Provide Information. The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request and which is deemed by the Department to be relevant in determining whether cause exists to modify, revoke, or suspend a permit or approval, or to determine if the permittee is complying with the permit or approval.

(f) Entries and Inspections. The permittee shall allow personnel or authorized agents of the Department, without warrant, upon presentation of credential or other documents as may be required by law, to:

1. enter at all reasonable times any premises, public or private, for the purpose of investigating, sampling or inspecting any records, condition, equipment, practice or property relating to activities subject to M.G.L. c. 111, § 150A;
2. enter at any time such premises for the purpose of protecting the public health, safety, or to prevent damage to the environment; and
3. have access to and copy at all reasonable times all records that are required to be kept pursuant to the conditions of the permit or approval and all other records relevant to the permittee's solid waste activities.

(g) Records. All records and copies of all reports required by 310 CMR 19.000 shall be kept by the permittee for at least three years. This period shall be automatically extended for the duration of any enforcement action. This period may be extended by order of the Department. All record keeping shall be in compliance with 310 CMR 19.009.

(h) Signatory Requirement. All reports, and information requested or ordered by the Department shall be signed by a individual described in 310 CMR 19.030(11) or by a duly authorized representative of such individual. An individual is a "duly authorized representative" only if an individual identified in 310 CMR 19.030(11) has designated in writing to the Department that such individual is a "duly authorized representative."

(i) Duty to Inform. The permittee shall have a continuing duty to immediately:

1. correct any incorrect facts in an application;
2. report or provide to the Department any omitted facts which should have been submitted to the Department at any time;
3. report to the Department, in advance, each planned change in the facility or activity which might result in non-compliance with a term or condition or a permit or approval;
4. report to the Department each change in the information listed in the application filed pursuant to 310 CMR 19.030;
5. report by the next business day any emergency condition (such as a fire) that will have an extended impact on facility operations or pollution control, unless required to notify on a different schedule in accordance with 310 CMR 19.132 or 310 CMR 40.0000; and

19.043: continued

6. notify the Department of any change in the permittee's name or mailing address.
- (j) Notification of Bankruptcy. The permittee shall notify the Department by certified mail of the commencement of a voluntary or involuntary proceeding pursuant to Title 11 (Bankruptcy) of the United States Code in which the permittee is named as debtor within ten days after commencement of the proceeding.
- (k) CRT Operations. CRT Operations, as defined in 310 CMR 16.02, that obtain a site assignment and solid waste facility permit shall meet the requirements at 310 CMR 16.05(3)(f) as part of the conditions of their permit.

19.044: Transfer of Permits

- (1) General. No sale, assignment, or transfer of the rights or privileges, or effective control of such rights or privileges, granted under a permit to establish, expand, construct, operate or maintain a facility shall be valid unless:
  - (a) pursuant to M.G.L. c. 111, § 150A, notice that the facility was operated has been recorded in the registry of deeds, or if the site is registered land, in the registry section of the land court for the district wherein the land lies;
  - (b) the transferor notifies the Commissioner and the appropriate Department Regional Office at least 14 days prior to the date of transfer;
  - (c) the agreement provides that the transferee is responsible to correct any and all conditions at the site or facility which result in a threat to public health, safety or the environment or constitute violations of the site assignment, laws, regulations or conditions of the permit, approvals, or authorizations existing at the time of transfer whether or not such conditions are the subject of a Department enforcement action prior to the date of the transfer. A transfer of a permit shall not relieve previous owners of liability for the site under M.G.L. c. 21E or c. 21H; and
  - (d) the transferee has obtained financial assurance as required under 310 CMR 19.051. Where financial assurance is required no transferee shall operate without said financial assurance.
- (2) Registering of Deed. For the transferred permit to remain effective, written proof must be provided to the Department within 30 days of the effective date of the transfer that the transfer has been completed, and if the transfer involves the conveyance of real estate, such conveyance has been duly recorded in the appropriate Registry of Deeds or land court.

19.045: Facility Closure and Post-closure

- (1) General. Any facility that stops accepting solid waste voluntarily or in accordance with any permit, authorization or order issued by the Department or a court of competent jurisdiction or under any other circumstances shall comply with the requirements of 310 CMR 19.045.
- (2) Notification of Voluntary Closure. The owner and/or operator shall notify the Department no later than six months prior to the date that the facility will stop accepting solid waste.
- (3) Compliance with Regulations. Closure activities shall be carried out in compliance with all applicable regulations and the permit. Landfills shall meet the specific closure requirements established at 310 CMR 19.140: *Landfill Closure Requirements*.
- (4) Completion of Closure. A facility shall be deemed closed on the date of the Department's written determination that the closure of the facility has been completed in accordance with the final closure/post-closure plan.

19.050: Private Facility Tax

- (1) Authority. 310 CMR 19.050 is promulgated pursuant to M.G.L. c. 16, § 24A, and St. 1987, c. 584.

19.050: continued

(2) Resource Recovery Facilities. The operator of a privately owned or operated resource recovery facility shall pay a tax in accordance with 310 CMR 19.050(5) and M.G.L. c. 16, § 24A to the municipality in which the facility is located. This tax shall be in lieu of all taxes, fees, charges or assessments imposed by the municipality in which the facility is located, except for real estate taxes imposed solely upon the land on which the facility is located. For purposes of 310 CMR 19.050, "resource recovery facility" means a facility utilizing processes for reclaiming the material or energy value from solid wastes.

(3) Landfills. The owner or operator of a landfill, where that person is other than a town or agency of the commonwealth, shall pay a tax in accordance with 310 CMR 19.050(5) and M.G.L. c. 16, § 24A to the municipality in which the facility is located. This tax shall be in lieu of all taxes, fees, charges or assessments imposed by the municipality in which the facility is located, except for real estate taxes imposed solely upon the land on which the facility is located. Where the owner and operator are both private and separate entities the operator shall pay said tax.

(4) Exceptions. The owners or operators of the following facilities are not subject to the provisions of 310 CMR 19.050:

- (a) landfills used by the owner for the sole disposal of solid waste generated from the owner's premises; and
- (b) the combustion facility located in Saugus pursuant to St. 1985, c. 84 for which there is a pre-existing agreement.

(5) Amount of the Tax.

- (a) Base Rate. The tax rate shall be \$1.00 per ton of solid waste processed. For the purposes of 310 CMR 19.050 the term "processed" means the acceptance or handling of solid waste or other discarded materials subject to 310 CMR 19.000 at a combustion facility or landfill.
- (b) Annual Inflation Adjustment. The tax rate shall be adjusted each January 1st by the percentage change of the Boston Consumer Price Index for all urban consumers (BCPI) for the previous 12 months computed using the September to September figures for the BCPI. The first adjustment shall be made on January 1, 1981 and further adjustments shall be made every succeeding January 1.

(6) Reporting and Payment.

- (a) General. All persons subject to the requirements of 310 CMR 19.050 shall file a tonnage report on a form as may be supplied by the Department on or before the 20th of each month.
- (b) Content. The tonnage report shall indicate the total tons of solid waste processed at the facility in the preceding calendar month and the amount of tax owed.
- (c) Filing. The tonnage report shall be signed and certified in accordance with 310 CMR 19.011 and submitted to the board of health in the municipality in which the facility is located.
- (d) Payment. The payment of any tax owed pursuant to the requirements of 310 CMR 19.050 is due on the due date of the tonnage report.

19.051: Financial Assurance Requirements

(1) Applicability. The provisions of 310 CMR 19.051 apply to:

- (a) landfills; and
- (b) other facilities which the Department determines on a facility specific base should provide such financial assurance.

19.051: continued

(2) Financial Responsibility for Closure, Post-Closure and Corrective Action.

(a) The owner or operator of a facility identified in 310 CMR 19.051(1) shall establish or obtain, and continuously maintain, financial assurance that is adequate to assure the Department that the owner or operator is at all times financially capable of complying with the provisions of 310 CMR 19.00 governing the closure of the facility and its post-closure maintenance. An owner or operator of a facility shall meet this financial assurance obligation by using any of the methods authorized in 310 CMR 19.051 (an approved financial assurance mechanism) and shall file with the Department and maintain in current form approved documents constituting or evidencing compliance with this obligation. Where the Department establishes a form for a financial assurance instrument the instruments submitted must be identical to the approved form. Where the Department does not establish a form the applicant shall submit a draft of the proposed financial assurance mechanism for Department approval.

(b) An approved financial assurance mechanism shall be in full effect on or before the date that an owner or operator of a facility receives an authorization to operate under 310 CMR 19.042 and shall remain in full force and effect until the owner or operator obtains a release from this obligation pursuant to the provisions of 310 CMR 19.051(11). The Department shall not issue or renew an authorization to operate unless an owner or operator first complies with the provisions of 310 CMR 19.051 and may, pursuant to 310 CMR 19.081, revoke an approval, permit or authorization previously issued or take other appropriate enforcement should an owner or operator fail to remain in compliance with the provisions of 310 CMR 19.051.

(c) The initial and revised amounts of an approved financial assurance mechanism shall be no less than the estimate of the cost of closure and post-closure maintenance of the facility submitted to and approved by the Department according to the provisions of 310 CMR 19.051(5). No financial assurance mechanism shall be terminated by an owner or operator without the approval of the Department.

(d) An approved financial assurance mechanism shall be structured so that the Department shall be a party to said mechanism to the extent that it shall have the right to obtain, without the consent of the owner or operator, exclusive direction and control over the transfer, use and disbursement of the secured funds or performance benefits to perform approved closure and post-closure maintenance or secure reimbursement for costs incurred for so performing upon its determination that an owner or operator has failed in whole or in part to carry out closure or post-closure requirements in accordance with 310 CMR 19.000 or any plan or permit conditions or orders issued hereunder.

(e) Effective April 9, 1994, the Department may order the owner or operator of a municipal solid waste landfill required to perform corrective action under 310 CMR 19.151 to establish or obtain, no later than 120 days after the corrective action remedy has been selected, and continuously maintain financial assurance which is adequate to assure the Department that the owner or operator is at all times capable of complying with the provisions of 310 CMR 19.000 governing the performance of corrective actions. Except as may be expressly provided herein or in an order of the Department, the provisions of 310 CMR 19.000 governing the estimation, establishment, revision, release and approved mechanisms of closure and post closure financial assurance shall also apply to corrective action financial assurance.

(3) Transfer of Permit, Authorization, or Other Interest. No person may transfer or obtain by any form of transfer any permit, authorization, or interest in the ownership, possession, or operation of a facility without first complying with the applicable provisions of 310 CMR 19.051.(4) Demonstration of Compliance with Financial Assurance Requirements.(a) Existing Landfills. An owner or operator of an existing landfill shall:

1. as a condition of continued operation under a prior plan approval or approval of an application for a permit, modification or authorization to operate provide to the Department documents constituting or evidencing an approved financial assurance mechanism adequate to defray the cost of closure of any portion of the facility which has received waste but has not been closed in accordance with an approved plan as well as the post-closure maintenance of any such area and the closure and post-closure maintenance costs of the area currently approved to accept waste; and

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2. as a pre-condition to obtaining subsequent authorization to operate or expansion modifications provide the Department with documents constituting or evidencing an approved financial assurance mechanism adequate to defray the cost of the closure and post-closure maintenance of each subsequent operating phase.
  3. The Department may allow an existing facility owner or operator a conditional grace period to meet the financial assurance requirements described in 310 CMR 19.051(4)(a)1. for inactive areas of the facility provided the owner or operator demonstrates that during the time the applicant owned or operated the facility a closure performance bond or another approved financial assurance mechanism in accordance with 310 CMR 19.25(4): *Completion of Landfill* (1971 Landfill Regulations) was maintained, and that an approved closure and post-closure trust fund or Enterprise fund is established and is fully funded over a pay-in period which is not greater than the approved life of the current operating phase of the facility minus one year or the life of the facility minus one year if it does not operate in phases. For the purpose of 310 CMR 19.051 an inactive area is an area on which waste has been disposed, which has not closed in accordance with Department approved plans and which has not been approved for further waste disposal.
  4. A private owner or operator of an existing landfill, shall make the submission described in 310 CMR 19.051(4)(a) upon the earlier of filing an application for a solid waste management facility permit in accordance with the schedule set forth at 310 CMR 19.020(3), an application to operate or an application for a permit or modification to expand facility capacity.
  5. A public owner or operator of an existing landfill shall make the submissions described in 310 CMR 19.051(4)(a) upon written notice or order from the Department.
  6. In lieu of submitting all or part of the financial assurance mechanism the owner or operator may, no later than the dates set forth at 310 CMR 19.051(4)(a)4. or 5. submit plans for final closure of the inactive portions of the facility and complete closure of said areas in accordance with approved plans on an expedited schedule to be determined by the Department.
- (b) New Landfills. An applicant for a permit to construct and operate a landfill shall:
1. in addition to the submission required by 310 CMR 19.030, provide to the Department documents constituting or evidencing an approved financial assurance mechanism adequate to defray the cost of closure and post-closure maintenance of the first operating phase of the proposed landfill and, if additional costs are involved, of the entire facility; and
  2. as a pre-condition to obtaining an authorization to operate under 310 CMR 19.042 for each subsequent phase, provide to the Department documents constituting or evidencing an approved financial assurance mechanism adequate to defray the cost of closure and post-closure maintenance of each subsequent operating phase of the proposed landfill and, if additional costs are involved, of the entire facility.
- (c) Other Solid Waste Management Facilities. A person seeking authorization to operate a solid waste management facility other than a landfill shall, where required by the Department and as a pre-condition to obtaining an authorization to operate under 310 CMR 19.042, provide to the Department documents constituting or evidencing approved financial assurance mechanisms adequate to defray the cost of closure and post-closure maintenance of the facility.
- (5) Estimation of Costs for Closure and Post-Closure Maintenance.
- (a) An owner or operator of a proposed solid waste management facility required to provide an approved financial assurance mechanism shall prepare and submit to the Department, as a part of the permit application required under 310 CMR 19.030 a written estimate, unadjusted for time, inflation, return on invested funds, or other purely financial factors, of the cost of a third party closing and performing post-closure maintenance of the facility. This estimate shall be based upon the closure and post-closure plans for the facility required under 310 CMR 19.000 and equal the cost of closing the facility and providing post-closure maintenance at that point in the facility's active life when the manner and extent of its operations would make closure and post-closure most expensive.

19.051: continued

(b) An owner or operator of an existing facility required to provide an approved financial assurance mechanism shall prepare and submit to the Department, as a part of the permit application required under 310 CMR 19.030(4), an application to operate or application for a modification to expand capacity, a written estimate, unadjusted for time, inflation, return on invested funds, or other purely financial factors, of the cost of closing and providing post-closure maintenance of those portions of the facility in which waste has been disposed and not closed in accordance with an approved plan, the area in which it is currently authorized to operate and, if appropriate, the proposed expansion area. This estimate shall be based upon the closure and post-closure plans for the facility required under 310 CMR 19.000 and equal the cost of closing the facility and providing post-closure maintenance at that point in the facility's active life when the manner and extent of its operations would make closure and post-closure most expensive.

(c) A written estimate which conforms to the requirements set forth in 310 CMR 19.051(5)(a) or (b) shall be submitted with each application for authorization to operate in a subsequent operating phase or application for an expansion of capacity.

(d) Where a facility is operated or is to be operated in phases an owner or operator may allocate proportions of the estimate of the cost of closure and post-closure maintenance to each such phase for the purpose of complying with the requirements of 310 CMR 19.051(4)(a) or (b). Such an allocation may not result in the under-estimation of the cost of closure and post-closure of any such phase or of the entire facility at that point in the facility's active life when the manner and extent of its operations would make closure and post-closure maintenance most expensive. Where the facility is to be developed in phases the estimate shall include in the estimate the cost of integrating the closed phases into prospective phases.

(e) The Department shall review the estimate submitted and notify the applicant if it determines the estimate to be adequate. The Department may determine upon review of an estimate that its amount is inadequate to defray either or both the cost of closure or post-closure maintenance of the facility. Upon such a determination, the Department may require the applicant to submit a revised estimate or it may adjust the estimate and use the adjusted estimated cost rather than the estimated cost to establish the minimum amount of the financial assurance mechanism. If the Department determines to adjust the estimate and it increases the amount of the estimate by 10% or more, the provisions of 310 CMR 19.051(7) apply to the estimate as if it were a revised estimate determined pursuant to the provisions of that sub-section.

(f) An owner or operator of a facility may propose that the estimate of the cost of closing the facility or of providing post-closure maintenance prepared and submitted to the Department in accordance with the provisions of 310 CMR 19.051(5)(a), (b) or (c) be adjusted by the consideration or application of such financial factors as may reasonably affect the determination of the amount of money required to assure the Department that the owner or operator is at all times financially capable of complying with the provisions of 310 CMR 19.000 governing the closure of the facility and its post-closure maintenance. If the Department determines to adjust the estimated cost, the adjusted estimated cost, rather than the estimated cost shall be the minimum amount of the financial assurance mechanism.

(g) All submitted estimates shall be certified by a Massachusetts registered professional engineer except as otherwise approved by the Department.

(6) Revision of Estimates of Closure and Post-Closure Costs.

(a) An owner or operator of a facility shall revise the estimate of the cost of closure and post-closure maintenance submitted to the Department pursuant to 310 CMR 19.051(5) every year and every second year shall submit the revised estimate in written form, accompanied by a detailed explanation of its method of calculation, to the Department on or before June 1 of the year to which the revised estimate relates.

(b) Unless otherwise approved by the Department, a revision of the estimate of the cost of closure and post-closure maintenance of a facility shall be computed using the following formula:



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Revised Present Estimate of Cost:  $C_p = C_o \times I_p/I_o + C_oC$  where:

- $C_p$  = (present) revised cost estimate  
 $C_o$  = (original) cost estimate as filed pursuant to 310 CMR 19.051(5)  
 $I_p$  = (present) index value  
 $I_o$  = (original) index value at time of filing pursuant to 310 CMR 19.051(5) and where the index is the so-called "Construction Cost Index" published in the periodical Engineering News Record.  
 $C_oC$  = Change in compliance costs as a result of changes in site conditions, changes in law, regulations, permit conditions, judicial or administrative orders or other significant changes.

(c) An owner or operator of a facility shall, in addition to submitting to the Department the adjustment pursuant to 310 CMR 19.051(6)(a), revise the estimate of the cost of closure and post-closure maintenance of a facility and submit such revised estimate to the Department within 30 days of the date that the Department approves a modification of the facility permit pursuant to 310 CMR 19.039 or 310 CMR 19.040 which would affect said closure or maintenance costs.

(d) An owner or operator of a facility shall maintain records of the calculation and determination of the original and all revisions of the estimate of the cost of closure and post-closure maintenance of a solid waste management facility until such time as the owner or operator obtains a release from the obligation imposed by 310 CMR 19.051(2).

(7) Increase in the Amount of Financial Assurance.

(a) An owner or operator of a facility shall, upon determining a revised estimate of the cost of closure or post-closure maintenance of the facility exceeds by 10% the amount of the applicable approved financial assurance mechanism, promptly notify the Department of the determination and either:

1. increase the amount of the applicable financial assurance mechanism to an amount equal to the full amount of the revised estimate of the cost of closure or post-closure maintenance of the facility; or
2. secure and maintain in compliance with the requirements of 310 CMR 19.051 an additional approved financial assurance mechanism in an amount equal to the difference between the amount of the existing applicable approved financial assurance mechanism and the full amount of the revised estimate of the cost of closure or post-closure maintenance of the facility.

An owner or operator of a facility shall file with the Department and maintain in current form those documents constituting or evidencing compliance with this requirement within 60 days of determining a revised estimate of the cost of closure or post-closure maintenance of the facility that exceeds by 10% the amount of the applicable approved financial assurance mechanism. In the event that the revised estimate is a biennial estimate determined pursuant to the provisions of 310 CMR 19.051(6), an owner or operator shall make such filing no later than June 1 of the year to which the revised estimate applies.

(b) The Department may review the estimate submitted and notify the applicant if it determines the estimate to be adequate. The Department may determine upon review of an estimate that its amount is inadequate to defray either or both the cost of closure or post-closure maintenance of the facility. Upon such a determination, the Department may require the applicant to submit a revised estimate or it may adjust the estimate and use the adjusted estimated cost rather than the estimated cost to establish the minimum amount of the financial assurance mechanism.

(8) Decrease in the Amount of Financial Assurance. An owner or operator of a solid waste management facility may, upon determining a revised estimate of the cost of closure or post-closure maintenance of the facility, decrease the amount of the applicable financial assurance mechanism to an amount equal to the full amount of the revised estimate of the cost of closure or post-closure maintenance of the facility, having first requested and received the written approval of the Department. The Department shall approve the decrease upon its determination that the proposed decreased amount of the financial assurance mechanisms equals or exceeds the necessary cost of closure or post-closure maintenance.

19.051: continued

(9) Procedure Governing the Use of Assured Funds.

(a) The Department shall notify the owner, operator and persons who are parties to the financial assurance mechanism whenever the Department has determined that the owner or operator is not in compliance due to a failure to close or conduct post-closure maintenance in accordance with the applicable regulations, permits or orders. No less than 21 days after such notification the Department may exercise its rights under the financial assurance mechanism to secure control over and direct the transfer, use and disbursement of the security for the purpose of effecting closure and post-closure maintenance including but not limited to:

1. directing the holder of the financial assurance mechanism to perform actions intended to bring the facility into compliance; and
2. directing the holder of the financial assurance mechanism to reimburse the Department for actions it or its agents has performed to bring the facility into compliance.

(b) After beginning final closure, an owner or operator or any other person authorized by the Department to perform closure may request reimbursement for closure expenditures by submitting itemized bills or other adequate proof of the performance of the work in accordance with the approved closure or post-closure plans. After making a determination that the work has been performed in compliance with the plan(s) the Department may direct the holder of the funds under the financial assurance mechanism to reimburse the party performing the work or release a proportionate amount of the secured funds. The Department may withhold reimbursement or release of such amounts it deems prudent until it determines, in accordance with 310 CMR 19.051(11) that the owner or operator is not required to maintain financial assurance for closure or post-closure.

(10) Cancellation or Termination of an Approved Financial Assurance Mechanism. An owner or operator of a facility may apply to the Department for reduction, cancellation or termination of an outstanding financial assurance mechanism established pursuant to 310 CMR 19.051(2). The application shall detail one of the following reasons in support of the application: the substitution of an alternative assurance mechanism, transfer of an interest in the facility in accordance with 310 CMR 19.044, an approved decrease in the amount of required financial assurance in accordance with 310 CMR 19.051(8), activities which have taken place under 310 CMR 19.051(9)(b) or the Department's termination of the financial assurance obligation by granting a release to the owner or operator pursuant to the provisions of 310 CMR 19.051(11).

(11) Release from Financial Assurance Requirements.

(a) Closure. The owner or operator of a facility shall be released in whole or in part from the requirement to provide financial assurance for closure upon receiving written notification from the Department that closure has been completed in accordance with the closure plan and permit conditions and in compliance with 310 CMR 19.000. An owner or operator of a facility may subsequently submit to the Department such documents as may be necessary to cancel or terminate the approved financial assurance mechanism that the owner or operator is no longer obligated to maintain.

(b) Post-Closure. The owner or operator of a facility shall be released in whole or in part from the obligation to provide and maintain a financial assurance mechanism for post-closure maintenance of the facility upon receiving written notification from the Department that the post-closure period has expired and that post-closure maintenance of the facility has been completed in compliance with 310 CMR 19.000. An owner or operator of a facility may subsequently submit to the Department such documents as may be necessary to cancel or terminate a financial assurance mechanism that the owner or operator is no longer obligated to maintain.

(12) Approved Financial Assurance Mechanisms. The owner or operator of a facility may meet the obligation to maintain financial assurance that is adequate to assure the Department that the owner or operator is at all times financially capable of complying with the provisions of 310 CMR 19.000 governing the closure of the facility and its post-closure maintenance through the use of one or more of the approved financial assurance mechanisms specified in 310 CMR 19.051(12).

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(a) Closure, Post-Closure or Corrective Action Trust Fund.

1. An owner or operator may satisfy the requirements of 310 CMR 19.051(2) by establishing a closure or post-closure trust fund that conforms to 310 CMR 19.051(12)(a) and by sending an originally signed duplicate of the trust agreement to the Department within the applicable time period set forth at 310 CMR 19.051(4).
2. The trustee shall be a bank or other financial institution that has the authority to act as a trustee and whose trust operations are regulated and examined by the Massachusetts Commissioner of Banking.
3. The schedule of assets in the trust agreement shall be updated within 60 days after a change in the amount of the current closure or post-closure maintenance estimate which is the subject of the trust agreement.
4. Payments into the trust fund shall be made as follows:
  - a. The first payment shall be made prior to obtaining an authorization to operate as set forth in 310 CMR 19.042. The owner or operator shall submit a receipt from the trustee for this payment to the Department as evidence of payment.
  - b. The private owner or operator of a facility shall make a first payment in an amount equal to the approved closure and post-closure estimate for the facility submitted pursuant to 310 CMR 19.051(5). Payments to the trust as a condition of approval of subsequent permits or authorizations to operate shall be made in amount(s) equal to the approved closure and post-closure maintenance estimates submitted pursuant to 310 CMR 19.051(5).
  - c. A municipal owner of a facility shall make a first payment which shall at least be equal to either the total current closure and post-closure maintenance cost or the current closure or post-closure maintenance cost estimate, divided by the number of years in the pay-in period. The pay-in period may not be greater than the authorized operating life of the current phase minus one year. Payments to the trust as a condition to approval of subsequent authorizations to operate shall be made in amount(s) equal to the approved closure and post-closure maintenance estimates submitted pursuant to 310 CMR 19.051(5).
  - d. Subsequent payments by a municipal owner shall be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment is calculated by the formula:

$$\text{Next Payment} = \frac{\text{CE} - \text{CV}}{\text{Y}}$$

where:

- CE = current closure or post-closure cost estimate  
 CV = current value of the trust fund  
 Y = number of years remaining in the pay-in period.

5. For an owner or operator making payments into a trust fund used to demonstrate financial assurance for corrective action, the first payment into the trust fund shall be at least equal to one half of the current cost estimate for corrective action, divided by the number of years in the corrective action program in case of corrective action for known releases. This latter period of time is known as the pay-in-period. The amount of subsequent payments shall be determined by the following formula:

$$\text{Next payment} = (\text{RB} - \text{CV}) / \text{Y}$$

where RB is the most recent estimate of the required trust fund balance for corrective action [*i.e.* total costs that will be incurred during the second half of the corrective action period], CV is the current value of the trust fund, and Y is number of years remaining on the pay-in-period.

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6. Notwithstanding the provisions of 310 CMR 19.051(2)(d), a trust fund for a facility owned by a municipality shall be an approved financial assurance mechanism without providing to the Department the right to obtain exclusive direction and control over the trust fund assets provided that the documents establishing the trust require that the funds paid into the trust cannot be withdrawn, transferred, encumbered or disbursed for any purpose other than to meet Department approved closure and post-closure obligations without the prior written consent of the Department.

7. If the owner or operator establishes a trust fund after having used one or more alternate mechanisms specified in 310 CMR 19.051(12) the owner's or operator's first payment must equal the amount that the trust fund would contain if the trust fund had been established initially and payments made in compliance with 310 CMR 19.051(12)(a).

(b) Enterprise Fund

1. A municipal owner may satisfy the requirements of 310 CMR 19.051(2) by establishing a separate account which qualifies as an "Enterprise Fund" pursuant to M.G.L. c. 44, § 53F $\frac{1}{2}$  for the purpose of reserving funds to meet its obligation to conduct approved closure and post-closure maintenance and by sending an originally signed duplicate of the documents establishing the fund to the Department within the applicable time period set forth at 310 CMR 19.051(4).

2. Payments shall be made into the reserve fund in accordance with procedure set forth at 310 CMR 19.051(12)(a)4.c. and d.

3. Notwithstanding the provisions of 310 CMR 19.051(2)(d), an Enterprise Fund Account shall be an approved financial assurance mechanism without providing to the Department the right to obtain exclusive control over the Fund provided that the documents establishing the account require that the funds paid into the closure reserve account cannot be withdrawn, transferred, encumbered or disbursed for any purpose other than to meet Department approved closure and post-closure obligations without the prior written consent of the Department.

(c) Surety Bond Guaranteeing Payment.

1. An owner or operator may satisfy the requirements of 310 CMR 19.051(2) by obtaining and filing a surety bond that conforms to 310 CMR 19.051(12)(c) and by sending an originally signed duplicate of the bond to the Department within the applicable time period set forth at 310 CMR 19.051(4).

2. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the United States Department of the Treasury, or licensed, approved or authorized by the Massachusetts Division of Insurance to secure such risks.

3. An owner or operator who uses a surety bond to satisfy the requirements of 310 CMR 19.051 shall also establish a standby trust fund. Under the terms of the surety bond, all payments made thereunder are deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund shall meet the requirements in 310 CMR 19.051(12)(a), except that:

a. an originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

b. until the standby trust fund is funded pursuant to the requirements of 310 CMR 19.051, the following are not required:

i. payment into the trust fund as specified in 310 CMR 19.051(12)(a);

ii. annual valuations as required by the trust agreement; and

iii. notices of nonpayment as may be required by the trust agreement.

4. The surety bond shall provide the owner or operator shall be in default if the responsible party:

a. fails to fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of closure of the applicable phase; or

b. fails to fund the standby trust fund in an amount equal to the penal sum within 21 days after the Department or a court of competent jurisdiction issues an order to begin closure; or

c. fails to provide an alternate financial assurance mechanism as specified in 310 CMR 19.051(12), and obtain the Department's written approval of the financial assurance mechanism provided, within 90 days after receipt by the owner or operator of a notice of cancellation of the surety bond from the surety.

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5. Under the terms of the bond, the surety shall become liable on the bond obligation when the owner or operator is in default as defined by the bond.

6. The penal sum of the bond shall equal the current approved closure and post-closure cost estimate.

7. Under the terms of the bond, the surety may cancel the bond by sending written notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not take effect, however, until at least 120 days after the date of receipt of the notice of cancellation by both the owner or operator and the Department, as shown by the later return receipt.

(d) Surety Bond Guaranteeing Performance.

1. An owner or operator may satisfy the requirements of 310 CMR 19.051(2) by obtaining and filing a surety bond that conforms to 310 CMR 19.051(12)(d) and by sending an originally signed duplicate of the bond to the Department within the applicable time period set forth at 310 CMR 19.051(4).

2. The surety company issuing the bond shall, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the United States Department of the Treasury, or licensed, approved or authorized by the Massachusetts Division of Insurance to secure such risks.

3. The Department may require a surety to establish a standby trust under the terms and conditions set forth at 310 CMR 19.051(12)(c)3.

4. The surety bond shall provide the owner or operator shall be in default if the responsible party:

a. fails to perform closure in accordance with the closure/post-closure plan and other requirements of the permit for the facility whenever required to do so, and perform post-closure maintenance in accordance with the closure/post-closure plan and other requirements of the permit for the facility; or

b. fails to provide an alternate financial assurance mechanism pursuant to 310 CMR 19.051(12), and obtain the Department's written approval of the financial assurance mechanism provided, within 90 days after receipt by the owner or operator of a notice of cancellation of the surety bond from the surety.

5. Under the terms of the bond, the surety shall become liable on the bond obligation when the owner or operator is in default as defined by the bond. When the owner or operator does not perform closure or post-closure maintenance in accordance with approved closure/post-closure plans or applicable permit conditions, the surety shall become liable on the bond obligation to perform closure and post-closure maintenance as guaranteed by the bond and deposit the amount of the penal sum of the bond into the standby trust if one is required to be established.

6. The penal sum of the bond must equal the current closure and post-closure maintenance cost estimates.

7. Under the terms of the bond, the surety may cancel the bond by sending written notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not take effect, however, until at least 120 days after the date of receipt of the notice of cancellation by both the owner or operator and the Department, as shown by later return receipt.

8. The surety need not be liable for deficiencies in the performance of closure by the owner or operator for which the Department has released the owner or operator from the requirements of closure and post-closure maintenance, or portions thereof, pursuant to 310 CMR 19.051(11).

(e) Closure and Post-Closure Insurance.

1. An owner or operator may satisfy the requirements of 310 CMR 19.051 by obtaining closure insurance that conforms to the requirements of 310 CMR 19.051(12)(e) and by submitting a certificate of such insurance to the Department within the applicable time period set forth at 310 CMR 19.051(4). The Department may require submission of a duplicate of the complete insurance policy.

2. At minimum, the insurer shall be licensed to transact the business of insurance or authorized or approved to provide insurance as an excess or surplus lines insurer in the Commonwealth of Massachusetts.

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3. The insurance policy shall be issued for a face amount at least equal to the current approved closure and post-closure cost estimate. The term "face amount" means the total amount the insurer is obligated to pay pursuant to the policy. Actual payments by the insurer shall not change the face amount, although the insurer's future liability may be lowered by the amount of such payments.
  4. The insurance policy shall guarantee that funds in an amount equal to the face amount of the insurance policy shall be available to close a phase or facility whenever final closure of a phase or facility occurs and to conduct post-closure maintenance. The policy shall also guarantee that once final closure or post-closure maintenance begins, the insurer shall be responsible for paying out funds up to an amount equal to the face amount of the insurance policy, upon the direction of the Department, to such persons as the Department may specify in writing.
  5. The insurance policy shall provide that the insurer may not cancel, terminate, or fail to renew the closure or post-closure maintenance insurance policy except for the insured's failure to pay the premium or the insurer's refusal to write solid waste management facility closure or post-closure maintenance insurance coverage in Massachusetts. The automatic renewal of the policy shall, at a minimum, provide the insured with the option of renewal at the face amount of the expiring closure insurance policy except in the event of a refusal to write such coverage. If there is a failure to pay the premium or a refusal to write such coverage, the insurer may elect to cancel, terminate, or fail to renew the closure or post-closure maintenance insurance policy by sending notice by certified mail to the owner or operator to the Department. No cancellation shall occur until at least 120 days after the date of receipt of the notice of cancellation by both the owner or operator and the Department, as shown by later return receipt. No cancellation, termination, or failure to renew may occur, and the closure insurance policy shall remain in full force and effect, in the event that on or before the date of expiration:
    - a. the Department deems the facility abandoned;
    - b. the permit is suspended or revoked and application for a new permit or authorization is denied;
    - c. closure is ordered by the Department or a court of competent jurisdiction; or
    - d. the owner or operator is named a debtor in a voluntary or involuntary bankruptcy proceeding; or
    - e. the premium due is paid prior to the effective date of cancellation if the cancellation was based on failure to pay the premium; or
    - f. the insurer continues to write solid waste management facility closure or post-closure maintenance coverage in Massachusetts if the cancellation was based on refusal to write said coverage.
  6. Each policy shall contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided that such consent shall not be unreasonably withheld.
  7. For insurance policies providing coverage for post-closure care, commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase shall be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85% of the most recent investment rate of the equivalent coupon-issue yield announced by the U.S. Treasury for 26 week Treasury certificates.
- (f) Closure and post-closure letter of credit.
1. An owner or operator may satisfy the requirement of 310 CMR 19.051(2) by obtaining an irrevocable standby letter of credit that conforms to the requirements of 310 CMR 19.051(12)(f) and by submitting an executed copy of the letter of credit to the Department within the applicable time period set forth at 310 CMR 19.051(4). The institution issuing the letter of credit shall be an entity which has the authority to issue letter of credit and whose letter-of-credit operations are regulated and examined by the Massachusetts Commissioner of Banking or other institution approved by the Department.

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2. An owner or operator who uses a letter of credit shall also establish a standby trust fund. Under the terms of the letter of credit, all payments made thereunder shall be deposited by the issuing institution directly in the standby trust fund in accordance with instruction from the Department. The standby trust shall meet the requirements of 310 CMR 19.051(12)(a) except that:
  - a. an originally signed duplicate of the trust agreement shall be submitted to the Department with the letter of credit; and
  - b. until the standby trust is funded pursuant to the requirements of 310 CMR 19.051 the following are not required:
    - i. payment into the trust fund as specified in 310 CMR 19.051(12)(a);
    - ii. annual valuations as required by the trust agreement; and
    - iii. notices of nonpayment as may be required by the trust agreement.
3. The letter of credit shall be accompanied by a letter from the owner or operator which shall state:
  - a. the letter of credit number;
  - b. the name of the issuing institution;
  - c. the date of issuance of the letter of credit;
  - d. the name and address of the facility; and
  - e. the amount of funds assured by the letter of credit for closure of the facility.
4. The letter of credit shall be irrevocable and shall be issued for a period at least equal to the sum of one year plus:
  - a. the estimated period of time required to complete closure of any unclosed inactive areas and the current operating phase; or
  - b. the term of the permit if the facility is not operated in approved phases.

The letter of credit shall provide that the expiration will be automatically extended for a period of at least one year unless, not later than 120 days before the current expiration date pursuant to the terms of the letter of credit, the issuing institution notifies both the owner or operator and the Department by certified mail of the decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days shall not begin before the date when both the owner and operator and the Department have received notice, as shown by the later return receipt.
5. The letter of credit shall be issued in an amount at least equal to the current closure and post-closure cost estimate except as provided in 310 CMR 19.051(8).

(13) Use of Multiple Financial Assurance Mechanisms. An owner or operator may with Department approval satisfy the requirements of 310 CMR 19.051, by establishing more than one financial assurance mechanism per Massachusetts facility. These financial assurance mechanisms shall be limited to the mechanisms set forth at 310 CMR 19.051(12). These mechanisms shall be in compliance with 310 CMR 19.051(12) except that the combination of mechanisms, rather than each mechanism, which provide for an amount equal to the required financial assurance. If an owner or operator uses a trust fund in combination with any other financial assurance mechanism, it shall use the trust fund for those financial assurance mechanisms for which the establishment of a trust fund is required. A single standby trust fund may be used for two or more mechanisms. The Department may use any or all of the mechanisms to provide for closure of the facility.

(14) Use of a Financial Assurance Mechanism for Multiple Facilities.

- (a) An owner or operator may use a financial assurance mechanism specified in 310 CMR 19.051 to meet the requirements of said section for more than one Massachusetts facility.
- (b) The amount of funds available through the financial assurance mechanism shall be no less than the sum of funds that would be available if a separate mechanism has been established and maintained for each facility. In directing funds available through the financial assurance mechanism for closure or post-closure maintenance of any facility covered by the mechanism, the Department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

19.060: Beneficial Use of Solid Waste

(1) Summary. 310 CMR 19.060 establishes the Department's rules for the beneficial use of solid waste and classification of a solid waste as a secondary material. Included in this subsection are general standards and permit procedures for beneficial use activities. In order to identify specific standards and permit procedures, proposed uses of secondary materials are divided into four categories:

- (a) Category 1 - Commercial Products;
- (b) Category 2 - Regulated Systems;
- (c) Category 3 - Restricted Applications; and,
- (d) Category 4 - Unrestricted Applications.

(2) Burden of Proof.

- (a) The applicant must demonstrate to the Department's satisfaction that the proposed secondary materials and uses are beneficial and pose an insignificant potential hazard to public health, safety or the environment.
- (b) The Department may grant a beneficial use determination, and may allow a beneficial use determination to remain in effect, only to the extent, and only while, the Department is satisfied that such secondary materials and uses are beneficial and pose an insignificant potential hazard to public health, safety or the environment.

(3) Determination of Applicability.

(a) Any person who desires a determination whether 310 CMR 19.060 applies to a facility or operation that proposes to store, process or use a secondary material may submit to the Department a request for a determination of applicability. The applicant shall provide the following forms and information to the Department:

- 1. Submit a Request for Determination of Applicability to the Department using the appropriate forms provided by the Department.
- 2. Provide a detailed description of the facility that proposes to store, process, or otherwise handle the secondary material. In the case of a manufacturing facility, a general description of the facility's manufacturing system shall be submitted, including process flow diagrams. The complexity and degree of detail of the description will vary depending on the magnitude and complexity of the process.
- 3. Describe the feedstock or product the proposed secondary material is replacing.
- 4. Provide a detailed description of similar products currently and historically produced by the facility.
- 5. Provide a characterization of the proposed secondary material. The scope of the characterization shall be sufficient for the Department to adequately determine adverse impacts and risks to public health, safety and the environment, including, but not limited to, nuisance conditions. This shall include:
  - a. A physical characterization of the proposed secondary material including, but not limited to, matrix and gradation, where applicable.
  - b. Chemical characterization of the proposed secondary material including the results of analytical testing for those hazardous materials that reasonably may be thought to be present.
- 6. Describe any previous licenses, permits, authorizations, or other approvals for recycling or beneficial use of the proposed secondary material.

(b) The Department shall issue a determination of applicability within 45 days of the receipt of the request.

(4) Processing of Secondary Materials. When the processing of a proposed secondary material is necessary for its beneficial use the Department shall determine the type and amount of processing allowable which does not constitute a solid waste processing activity. If the Department determines that processing of the secondary material constitutes a solid waste processing activity then the processing shall be subject to the provisions of 310 CMR 16.00 and 19.000.



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(5) General Application Requirements. A copy of the beneficial use permit application shall be filed with the Department. In addition, a copy shall be filed with the board of health of jurisdiction when the proposed use is limited to a specific location. The application shall be filed on a form supplied by the Department and contain the following information as determined or modified at the pre-application meeting where a pre-application meeting has been held. Items in 310 CMR 19.060(4)(a) through (i) must be included as part of the pre-application package. The final permit application package must include the data as required in 310 CMR 19.060(4)(j):

- (a) A description of the proposed secondary material and its proposed use;
- (b) A description of how the proposed utilization will result in a viable and beneficial substitution for a commercial product or commodity;
- (c) A detailed physical and chemical characterization plan of both the secondary material proposed for beneficial use and of the final product including:
  - 1. A detailed list of the chemical constituents found in the product(s) from which the proposed secondary material is derived;
  - 2. A statistically valid, representative sampling plan consistent with guidance in "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods," SW-846, U.S. Environmental Protection Agency, Office of Solid Waste, Washington, D.C. 20460, and other applicable guidance as may be stipulated by the Department. The sampling plan shall include all hazardous materials including Critical Contaminants of Concern (CCCs) that reasonably may be thought to be present in the proposed secondary material. CCCs shall be separately listed.
  - 3. A quality assurance and quality control plan, ensuring that appropriate procedures are followed and documented, using guidance contained in EPA/600/R-02/009, December 2002, Guidance on Quality Assurance Project Plans and other applicable guidance as may be provided by the Department.
- (d) A detailed description of the proposed facility that will store, process, or otherwise handle the proposed secondary material. In the case of a manufacturing facility, a general description of the facility's manufacturing system related to the proposed use of secondary material shall be submitted, including process flow diagrams. The complexity and degree of detail of the description will vary depending on the magnitude and complexity of the process generating the proposed secondary material. Any interim handling facilities or collection centers not located at the site of processing and not otherwise approved to store or handle the proposed secondary material pursuant to 310 CMR 16.00 and 19.000 shall be identified and described pursuant to this section;
- (e) Information indicating the annual quantities, by weight and/or volume, of the secondary material proposed for beneficial use;
- (f) A description of any risk management techniques being considered, including any deed or other use limitations, location restrictions, best management practices or engineering controls;
- (g) Identification of the proposed location of use, if applicable, or types of locations where the proposed secondary material will be used (*e.g.* highway rights-of-way, industrial zoned properties, *etc.*);
- (h) Identification of storage requirements necessary for maintaining sufficient inventory to meet market demand;
- (i) If hazardous materials, including CCCs, are identified during the pre-application or application process the project proponent shall prepare and submit a Toxics Reduction Plan (TRP) that details options to minimize the concentration of hazardous material that could be released to the environment. The TRP shall document steps that will be taken to implement economically and technologically feasible options; and,
- (j) Submission of all appropriate data derived from the sampling plan required in accordance with 310 CMR 19.060(4)(c)3. The Applicant must include a statistically valid analysis of the concentration and distribution of all hazardous materials that may be contained in the proposed secondary material.

(6) Demonstration Projects. The Department may grant temporary approval for a pilot project or demonstration project pursuant to 310 CMR 19.062: *Demonstration Projects or Facilities*. The application requirements for a pilot project or demonstration project will be determined on a case-by-case basis by the Department.

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- (7) Record Keeping. The permittee shall maintain records and shall submit reports to the Department as required in the permittee's Beneficial Use Determination permit. Reports shall summarize beneficial use activities during the past year, including the quantity of secondary material received or distributed for beneficial use, the sources of the secondary material received, and the results of any required testing or on-going characterization and any other information required as a condition of the permit.
- (8) Public Participation. The Department shall accept comments from Boards of Health and other interested parties regarding the application for a period not less than 21 days before issuing a final determination.
- (9) General Beneficial Use Determinations. The Department may issue general beneficial use determinations, as general permits, that apply to a specific beneficial use of a secondary material, providing the reuse complies with the Reuse Criteria listed in 310 CMR 19.060(12). Any person or entity may use the secondary material as identified in the general beneficial use determination as long as the person or entity adheres to the requirements and conditions contained therein.
- (10) Effect of Determinations. A determination of beneficial use means the secondary material is not classified as a solid waste only when used in accordance with the Department's determination of beneficial use.
- (11) Pre-application.
- (a) Applicants for a Beneficial Use Determination may request a pre-application meeting with the Department, the purpose of which is for the Applicant to describe the proposed beneficial use activity and obtain guidance on the application process and content from the Department.
  - (b) The Applicant shall submit general application information, as described in General Application Requirements, 310 CMR 19.060(4), to the Department at least ten business days prior to the pre-application meeting. Information submitted for purposes of pre-application shall be sufficient to assign the application to the appropriate beneficial use category as described in section 310 CMR 19.060(12) through (15).
- (12) General Standards.
- (a) If the applicant intends to use the proposed secondary material as a substitute for a virgin material in manufacturing, the proposed secondary material shall conform to industry specifications for the virgin material it is replacing or impart properties that result in the product meeting applicable industry performance specifications.
  - (b) If the applicant intends to use the proposed secondary material as a product, it shall meet or exceed the applicable industry-accepted specifications or performance standards for that product. Where no industry-accepted specifications or performance standards exist, the mixing of proposed secondary materials with other materials to produce a product must be a necessary component of the product.
  - (c) Any proposed processing and beneficial use shall not cause an adverse impact or significant risk to public health, safety and the environment, including, but not limited to, nuisance conditions. All beneficial use applications must demonstrate that the proposed reuse meets all of the criteria identified in 310 CMR 19.060(13): *Reuse Criteria*.
  - (d) The proposed secondary material shall not be handled or utilized in a manner that will result in the proposed secondary material becoming a solid waste;
  - (e) The proposed beneficial use shall be successfully completed in compliance with applicable rules and regulations.
- (13) Reuse Criteria.
- (a) No significant risk to public health shall be created.
  - (b) No significant adverse environmental impacts shall be created.
  - (c) No condition shall be treated that adversely impacts public health, safety, or the environment.
  - (d) Reuse may not result in increases in the environmental concentrations of any critical contaminants of concern (CCCs), including persistent, bioaccumulative toxins (PBT) and other priority chemical pollutants as may be identified by the Department.
  - (e) Reuse shall be in compliance with all applicable requirements of the Department.

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(14) Category 1 -- Use of Secondary Materials in Commercial Products.

(a) Applicability. Products manufactured from secondary materials or secondary materials that are directly used as products are considered commercial products when: the product is used in a manner that is consistent with industry accepted product specifications or performance standards; and is controlled and managed throughout its lifecycle in a manner that effectively limits potential for illegal or inadvertent disposal or releases of hazardous material to the environment and exposure to people. Products intended for uncontrolled land-application may not be reviewed in accordance with this category. Adverse impact or significant risk to public health, safety and the environment, including, but not limited to, nuisance conditions can be evaluated by demonstrating compliance with the reuse criteria as outlined at 310 CMR 19.060(12)(b).

(b) Demonstrating Compliance with the Reuse Criteria. The use and processing of the proposed secondary material must comply with the Reuse Criteria specified in 310 CMR 19.060(13). This determination shall be based upon a comparative analysis of the product manufactured using the proposed secondary material as compared to the traditionally used feedstock or product it is replacing. If the nature and concentration of hazardous materials, including CCCs, are comparable, further assessment will not be required. Uses of proposed secondary materials that reasonably may be anticipated to significantly increase risks to public health, safety and the environment, above that of the traditional feedstock or the product in the same application, cannot be reviewed in accordance with 310 CMR 19.030(14)(b).

(c) Application Requirements. In addition to the general application requirements cited at 310 CMR 19.060(5), the applicant shall submit the following information:

1. A physical characterization of the commercial product;
2. A list of constituents (including hazardous materials) contained in the product manufactured using traditional materials or products;
3. A comparative analysis of the product manufactured using the proposed secondary material versus the traditionally used material it is replacing for the following:
  - a. Hazardous materials, including CCCs (on a weight and concentration basis);
  - b. Processing required for use;
  - c. Actual use, including, but not limited to, storage and handling prior to the actual use;
  - d. Location(s) used; and,
  - e. Management or processing during its lifecycle, including, but not limited to, any destructive practices that reasonably may be expected to be employed in recycling or disposing of the proposed secondary material;

(15) Category 2 -- Use of Secondary Materials in Regulated Systems.

(a) Applicability. Beneficial use of secondary materials at facilities permitted, approved or ordered by the Department shall be deemed adequately regulated for purposes of 310 CMR 19.000, provided the person does so in compliance with the terms and conditions of any such permit, order or approval and the following:

1. Any aspect of the use of proposed secondary materials not covered by the permit, order, or approval shall be reviewed in accordance with M.G.L. c. 111, § 150A, 310 CMR 19.000, and 310 CMR 16.00;
2. The storage, transfer, processing, treatment, use and disposal of the proposed secondary material shall be achieved using best management practices that prevent adverse impacts and significant risks to public health, safety and the environment, including, but not limited to, nuisance conditions.

(b) Demonstrating Compliance with the Reuse Criteria. Compliance with the Reuse Criteria can be demonstrated by meeting appropriate numerical standards, risk management criteria and other applicable requirements as identified by the Department.

(c) Application Requirements. In addition to the general application requirements cited at 310 CMR 19.060(5), the applicant shall provide sufficient information to evaluate the potential for significant proposed risks from the storage, transfer, processing, treatment activities, use and final disposal of the secondary material not governed by the existing approval.

19.060: continued

(16) Category 3 -- Use of Secondary Materials in Restricted Applications.

(a) Applicability. Secondary materials that are beneficially used in applications that utilize risk management techniques in order to prevent adverse impact or significant risks to public health, safety and the environment, including, but not limited to, nuisance conditions shall be reviewed in accordance with 310 CMR 19.060(16).

(b) Demonstrating Compliance With the Reuse Criteria. Compliance with the Reuse Criteria can be achieved by demonstrating that release and exposure pathways are adequately controlled through the use of risk management procedures (*e.g.* engineering controls; use limitations, *etc.*) If adequate control of such pathways cannot be demonstrated, a reuse specific assessment is required, as described at 310 CMR 19.060(16)(b)1. or 2. Compliance with the Reuse Criteria has been achieved if no concentration of any hazardous material is greater than the Upper Concentration Limit as described in 310 CMR 40.0996 and conditions specified in either 310 CMR 19.060(16)(b)1. or 2. are met:

1. The concentrations of all hazardous materials are at or below background, as determined by a statistically valid and appropriate background concentration sample data set of Massachusetts soils; or,
2. No concentration of a Hazardous Material contained in, or release resulting from the use of, a proposed secondary material, as appropriate, exceeds acceptable limits as demonstrated using one of the following approaches:

- a. Numerical Standards Approach. Hazardous material concentrations may not exceed applicable standards and guidelines as stipulated by DEP. If an appropriate DEP standard or guideline does not exist for all constituents in all relevant media, then a guideline may be proposed by the applicant developed using protocols consistent with those used in the derivation of existing DEP standards and guidelines for that medium. In addition to the standards and guidelines, the applicant shall demonstrate that the reuse will not lead to exceedences of the Massachusetts Drinking Water Quality Standards at 310 CMR 22.00; Massachusetts Air Quality Standards at 310 CMR 7.00; Massachusetts Contingency Plan Method 1 Standards at 310 CMR 40.0970; and, Massachusetts Surface Water Quality Standards at 314 CMR 4.00.

- b. Total Waste Reuse Risk Approach. Using this approach, Total Waste Reuse cancer and non-cancer risks shall be determined as follows:

- i. Total cancer risks and non-cancer risks shall be calculated for all appropriate exposure pathways and receptors.
- ii. The assessment shall be performed in a manner consistent with scientifically acceptable risk assessment practices as detailed in guidance published by the Department.
- iii. A condition of no significant risk to human health has been achieved if:
  - No Exposure Point Concentration of any hazardous material is greater than applicable public health or environmental standards; and,
  - Total Waste Reuse Risk (the aggregate risk attributable to all hazardous materials) results in excess lifetime cancer risk of less than five-in-one million and a non-cancer cumulative hazard index of less than 0.5.

3. Public Health and Safety. A level of no significant risk to public health and safety exists or has been achieved if the use of the proposed secondary material will not pose a threat of physical harm or bodily injury to people and will not create nuisance conditions, including, but not limited, to noxious odors and noise, in the foreseeable future.

4. Environment. A level of no significant risk of harm to the environment exists, or has been achieved, if there is no indication of the potential for biologically significant harm (at the subpopulation, community, or system-wide level), either currently or for any foreseeable period of time, to Environmental Receptors as described at 310 CMR 40.0000 considering their potential exposures to the proposed secondary material.

(c) Application Requirements. In addition to the general application requirements cited at 310 CMR 19.060(5), the applicant shall submit the following:

1. Characterization. The application shall include risk characterization information, the scope and level of effort of which shall depend on the proposed secondary material, the beneficial use, and the specific exposure assumptions identified. The characterization shall be of sufficient scope and adequately documented to demonstrate compliance with the Reuse Criteria at 310 CMR 19.060(13).

## 19.060: continued

2. Location. If the Department determines during the pre-application review that the location of the beneficial use activity must be identified in order to manage risks posed by the beneficial use activity, a U.S.G.S. 7.5 minute topographic map or smaller scale equivalent map clearly marking the location(s) of the beneficial use activities.
  3. End of Use Management. A description of how the proposed secondary material may be managed when removed or processed during its lifecycle.
- (d) Property Owner Notification. The Applicant shall prepare and record, when required by permit term or condition, a record in the Registry of Deeds, Land Court, or other permanent record approved by the Department that shall:
1. Provide notice to holders of any interest(s) in a property or a portion thereof (including without limitation, owners, lessees, tenants, mortgagee, and holders of easement rights) of the existence and location of the secondary material at such property and the conditions for continued beneficial use and ultimate disposal, if applicable;
  2. Outline management options if removed, modified, or processed during its lifecycle to prevent adverse impacts and significant risks to public health, safety and the environment, including, but not limited to, nuisance conditions; and
  3. Provide reference to the Department beneficial use application file by including the permit application transmittal number and file location.
- (17) Category 4 -- Use of Secondary Material in Unrestricted Applications.
- (a) Applicability. Secondary materials that are beneficially used in applications that do not limit exposure to potential human or environmental receptors from secondary material constituents are reviewed in accordance with 310 CMR 19.060(17) when constituents have the potential to adversely impact or create a risk to public health, safety, or the environment, including, but not limited to, nuisance conditions when improperly stored, treated, transported, disposed of, used, or otherwise managed.
  - (b) Demonstrating Compliance With the Reuse Criteria. Compliance with the Reuse Criteria shall be made on the basis of provisions detailed in 310 CMR 19.060(16)(b), using conservative, unrestricted general exposure assumptions (e.g. residential exposures including sensitive receptors) in order to protect public health, safety and the environment.
  - (c) Application Requirements. In addition to the general permit application requirements identified at 310 CMR 19.060(5) the application shall include characterization information, the scope and level of effort of which shall depend on the proposed secondary material, the beneficial use, and the general exposure assumptions identified with this category of use. The characterization shall be of sufficient scope and adequately documented to demonstrate compliance with 310 CMR 19.060(13): *Reuse Criteria*.

19.061: Special Waste

- (1) General. No solid waste management facility shall receive, store, process, treat or dispose of a special waste unless said solid waste management facility:
  - (a) is operated and maintained in compliance with a valid site assignment, plan approval or permit and any authorizations issued by the Department;
  - (b) has received written approval from the Department to handle the specific special waste pursuant to 310 CMR 19.061(5) and operates in compliance with the conditions of the approval, if required herein; and
  - (c) manages the waste in accordance with the requirements of 310 CMR 19.061(6).
- (2) Classification of Special Wastes. A solid waste is classified as a special waste if:
  - (a) the waste is a special waste listed in 310 CMR 19.061(3); or
  - (b) the waste will require special management to ensure protection of public health, safety or the environment based upon the physical, biological, or chemical properties of the waste.
- (3) Listed Special Wastes. Solid wastes that the Department has classified as listed special wastes include:
  - (a) asbestos waste;
  - (b) infectious wastes, except as specified in 310 CMR 19.061(6)(c)4.;
  - (c) sludges, including but not limited to wastewater treatment sludges, drinking water treatment sludges and industrial process wastewater treatment sludges.

19.061: continued

(4) Application to Manage Special Wastes.(a) General.

1. Solid waste management facilities shall use the application procedures described in 310 CMR 19.061(4), to apply to the Department for approval to manage a special waste.
2. The application shall include such information, data and descriptions as required by the Department to fully assess the nature of the special waste, its handling requirements and the capability of the facility to properly manage the waste.

(b) Filing. An application for approval to manage a special waste shall be filed with the Department. At the time of application to the Department, a copy of the application shall be filed with the board of health in whose jurisdiction the facility is located.

(c) Application for Special Wastes Other than Asbestos and Infectious Wastes. Except for asbestos waste and infectious waste as specified in 310 CMR 19.061(4)(d), applications to manage special wastes shall include the information specified in 310 CMR 19.061(4)(c). Data submitted on the physical, chemical or biological properties of the waste shall be generated from analyses of representative samples of the waste for each source of the waste. The application shall include:

1. identification of the solid waste management facility;
2. identification of the generator(s) of the waste and the specific source or sources of the waste;
3. a general description of the nature of the waste;
4. a description of the industrial or other process which generates the waste;
5. the quantity of the waste to be disposed and frequency of disposal (volume and/or tonnage per month or year);
6. a detailed description of the physical properties of the waste including, but not limited to size, density and percent solids;
7. a detailed description of the chemical properties of the waste including, but not limited to pH, reactivity, leachability and total metals;
8. a demonstration that the waste is not a hazardous waste pursuant to 310 CMR 30.000;
9. the biological properties of the waste, if applicable, including, but not limited to pathogens;
10. identification of special waste handling procedures to be employed by the facility to ensure proper management of the special waste; and
11. other information about the waste or the solid waste management facility as required by the Department in order to classify the waste or to determine the ability of the facility to handle the material.

(d) Applications for Asbestos Wastes and Infectious Wastes. Applications to manage asbestos wastes or infectious wastes shall include:

1. identification of the solid waste management facility;
2. the quantity of the waste to be handled or disposed (volume and/or tonnage per month or year);
3. identification of special waste handling procedures to be employed by the facility to ensure proper management of the special waste; and
4. other information about the waste as required by the Department in order to determine the ability of the facility to handle the special waste.

(5) Department Approval to Manage Special Wastes.

(a) Classifications. When the waste is not a listed special waste, the Department shall determine whether the waste is classified as a special waste. The Department's determination shall be based upon the quantity of waste, the physical, biological and chemical properties of the waste and whether the waste will require special management to ensure protection of public health, safety or the environment.

(b) Decision. The Department shall determine whether a facility shall receive approval to manage the special waste identified in the application. The Department shall base its decision on whether the facility can safely manage the special waste.

(c) Issuance of a Decision. The Department shall issue a written decision for all wastes for which it receives a request conforming with the requirements set forth in 310 CMR 19.061(4).

19.061: continued

(d) Conditions. The Department may issue an approval to manage a special waste subject to any conditions the Department deems necessary to protect public health, safety or the environment. The approval may also contain a condition prohibiting the applicant from accepting the special waste for a period of not less than 14 days, to allow the Department to review comments from the board of health submitted pursuant to 310 CMR 19.061(5)(f), unless the Department determines that an adverse impact would result from a delay in disposal.

(e) Permit Modification. If the Department determines that the handling of a waste at a facility shall cause a deviation from the approved plan or permit, the operator shall submit an application for permit modification in accordance with 310 CMR 19.039.

(f) Board of Health Notification and Comment Period.

1. The board of health shall be notified of the Department's decision on an application to manage a special waste.

2. Within 14 days of receiving such notification the board of health may request the Department to rescind or modify an approval to manage a special waste where the board of health deems that the handling of the special waste would have an adverse impact.

(g) Modification or Rescission. The Department shall modify or rescind, as appropriate, an approval to accept special waste if the board of health demonstrates to the satisfaction of the Department, in the request filed in accordance with 310 CMR 19.061(5)(f), that the acceptance of the special waste under the conditions which may have been imposed by the Department is likely to result in an adverse impact.

(6) Management Requirements for Special Wastes.

(a) General Requirements. The following conditions shall apply to any solid waste management facilities handling special wastes:

1. the operator shall keep a copy of the approval to manage a special waste on file at the facility and make available said approval letter upon request by Departmental representatives; and

2. the operator shall instruct and train employees in proper handling procedures for any special waste approved to be managed by the facility.

(b) Requirements for Handling Asbestos Wastes. In addition to the requirements at 310 CMR 19.061(6)(a), all asbestos waste, except as specified in 310 CMR 19.061(6)(b)3., shall be managed in accordance with 310 CMR 19.061(6)(b)1. and 2.

1. All facilities shall observe the following requirements for handling asbestos waste:

a. Asbestos waste shall not be accepted for disposal at solid waste combustion facilities.

b. Asbestos waste that has not been properly wetted, containerized and labelled according to 310 CMR 7.15 shall not be accepted at any solid waste management facility.

c. Asbestos waste that has been properly wetted, containerized and labelled in accordance with 310 CMR 7.15 shall not be accepted at any solid waste facility unless that facility has received approval from the Department in accordance with 310 CMR 19.061 to accept asbestos waste.

d. Asbestos waste that has been properly wetted, containerized and labelled shall be managed so as to maintain the integrity of its containers and to prevent emissions of asbestos fibers to the ambient air.

2. Landfill Specific Requirements. In addition to the requirements in 310 CMR 19.061(6)(b)1., landfills that have received approval from the Department to accept asbestos waste shall observe the following operational requirements:

a. Asbestos waste shall be immediately disposed in the landfill and shall not be stored at the landfill prior to placement in the landfill.

b. Asbestos waste shall be placed in the landfill in such manner as to prevent the release of asbestos fibers to the air during placement.

c. Asbestos waste shall be placed in the landfill using a method approved by the Department. The approved method shall be as described in 310 CMR 19.100 through 19.204 in Department guidance or in a Department approval or permit. All such approved placement methods shall include requirements that the asbestos waste is covered by sufficient amounts of either solid waste that does not contain asbestos and/or daily cover material to assure that no asbestos fibers are released to the air during or subsequent to compaction.

19.061: continued

- d. Accurate records of the surveyed location in the landfill of all asbestos waste shall be maintained. Locations of asbestos deposition shall be noted in the Record Notice of Landfill Operation pursuant to 310 CMR 19.100 through 19.204. Locations of asbestos deposition shall also be included whenever information regarding the property is recorded on the property deed pursuant to M.G.L. c. 111, § 150A.
  - e. Areas of the landfill containing asbestos shall be clearly marked by the operator.
  - f. Areas of the landfill containing asbestos waste shall not be excavated.
3. Requirements for Certain Classes of Asbestos Wastes. The following asbestos wastes are not subject to the provisions of 310 CMR 19.061 except as specified at 310 CMR 19.061(6)(b)1.a.:
- a. intact and unbroken vinyl asbestos tile (VAT);
  - b. asphaltic asbestos-containing siding products and asphaltic asbestos-containing roofing materials such as roofing felts and roofing shingles (Note: This does not include other asbestos containing roofing shingles and siding products such as those containing a cementitious binding characterized as being hard and brittle.); and
  - c. other asbestos waste so designated by the Department in writing.
- (c) Requirements for Handling Infectious Waste. In addition to the requirements at 310 CMR 19.061(6)(a), infectious waste shall be handled in accordance with the following:
- 1. In addition to the requirements of 310 CMR 19.000, infectious waste shall be treated, packaged, labeled and disposed of in accordance with 105 CMR 480.000.
  - 2. Landfills. Infectious waste shall not be disposed in a solid waste landfill unless the waste is processed and managed to meet the requirements of 310 CMR 19.061(6)(c)4.
  - 3. Facilities Other than Landfills. Infectious waste (which has not been rendered non-infectious) shall not be accepted at a solid waste management facility unless that facility has received approval under 310 CMR 19.061 to manage infectious waste.
  - 4. Infectious waste that has been rendered non-infectious in accordance with 105 CMR 480.000 and is packaged, labeled and otherwise managed in accordance with 105 CMR 480.000 is not subject to 310 CMR 19.061 and may be accepted at any solid waste facility.
- (d) Requirements for Handling Sludges. In addition to the requirements at 310 CMR 19.061(6)(a), sludges shall be handled in accordance with the following:
- 1. General Requirements. Disposal of all types of sludges shall comply with the following requirements.
    - a. Sludges accepted at a solid waste facility shall not contain free draining liquids.
    - b. Sludges disposed at landfills shall contain a minimum of 20% solids.
    - c. Odor control methods, acceptable to the Department, shall be employed at all landfills accepting odor-producing sludges.
  - 2. Requirements for Sewage Treatment and Water Treatment Sludges. In addition to the requirements set forth at 310 CMR 19.061(6)(d)1., sewage treatment and water treatment sludges shall comply with the following requirements.
    - a. Sewage treatment and water treatment sludges shall be incorporated into the active face of a landfill in a 3:1 mixture of solid waste to sludge or placed in a designated area and covered immediately.
    - b. Sewage treatment sludges may be accepted at a solid waste landfill only after land application and composting options have been investigated by the applicant or by the generator of such sludge and determined by the Department not to be feasible, provided that said investigation of options may be deferred for a reasonable time upon a determination by the Department that adverse impacts may occur as a result of delaying disposal of the sludge.
    - c. Sewage treatment sludges containing pathogens that have not been stabilized using methods approved by the Department shall not be disposed at an unlined landfill, unless specifically approved by the Department on a temporary basis.
  - 3. Requirements for Industrial Wastewater Treatment Sludges. In addition to the requirements set forth at 310 CMR 19.061(6)(d)1., industrial wastewater treatment sludges shall comply with the following requirements.

The solid waste management facility operator shall provide data, descriptions and other information required at 310 CMR 19.061(4) to the Department for each separate source of industrial wastewater treatment sludge prior to acceptance at the landfill.



19.061: continued

(7) Reclassification. The Department may reclassify a waste in accordance with 310 CMR 19.061(5) or place further conditions on an approval to manage a special waste in accordance with 310 CMR 19.061 should such action be deemed necessary. Any such reclassification or conditions shall be in writing.

19.062: Demonstration Projects or Facilities

(1) Applicability. Any person who wishes to establish a demonstration project at a permitted solid waste management facility or establish a demonstration solid waste management facility for the purpose of demonstrating the effectiveness and utility of a new or innovative solid waste management technology shall submit an application to the Department for a demonstration project permit and notify the board of health of jurisdiction.

(2) Application Requirements. An application for a demonstration project permit shall include:

- (a) a detailed description of the proposed activity, including:
  - 1. a discussion of the objectives of the project;
  - 2. a discussion of the purposes for undertaking the project;
  - 3. an analysis indicating the benefits of the proposed new technology;
  - 4. a description of the applicability of the new technology to solid waste management in general;
  - 5. a description of how the applicant intends to provide for the receipt and treatment or disposal of those types and quantities of solid waste proposed to be necessary for purposes of determining the efficiency and performance capabilities of the technology or process; and
  - 6. a technical analysis indicating environmental, public health and safety benefits and risks from the proposed new technology;
- (b) a set of plans which shall include:
  - 1. a site plan indicating the location of the project or facility;
  - 2. an operational plan outlining operational details of the project or facility, the particular types of equipment required for proper operation and a discussion of measures to be taken to ensure the protection of public health, safety or the environment;
  - 3. a corrective action plan which indicates how conventional solid waste management technology shall be utilized in the event of failure of the proposed technology; and
  - 4. a data collection and analysis plan which outlines all data collection and analysis procedures, protocols and reporting formats required to document and evaluate whether the demonstration project has achieved its objectives.
- (c) a project timetable; and
- (d) such other descriptions, plans or information as the Department deems necessary to review the demonstration project.

(3) Department Review of an Application. The Department shall not grant a permit for a demonstration project unless:

- (a) the application is complete and accurate;
- (b) the facility has a valid site assignment where required pursuant to the Site Assignment Regulations at 310 CMR 16.00;
- (c) the facility has a valid permit and necessary authorizations issued by the Department, if applicable;
- (d) the project can be adequately accommodated at a permitted facility without interfering with or disrupting normal operations of the facility, where the project is to be located at a permitted facility;
- (e) the demonstration project or facility has merit and seeks to improve operational aspects of a facility, produce significant cost savings or serve to increase protection of human health and the environment;
- (f) the proposed demonstration project will not cause or contribute to pollution of the air, water or other natural resources of the Commonwealth; and
- (g) the applicant has provided adequate proof of financial assurance as specified in 310 CMR 19.062(5).

## 19.062: continued

- (4) Department Evaluation of Demonstration Projects. The Department shall review all data and reports submitted by the applicant and other relevant information to determine if the demonstration project has satisfactorily achieved its objectives and if the project has adequately protected public health, safety and the environment.
- (5) Financial Assurance. Applicants proposing demonstration facilities may be required to provide proof of financial assurance to the Department prior to receiving a demonstration facility permit. If financial assurance is required the applicant must comply with the financial assurance requirements set forth in 310 CMR 19.051 and:
- (a) provide sufficient financial assurance to cover costs of removing solid wastes, residuals and storage piles and to properly close the demonstration project site; and
  - (b) provide sufficient financial assurance to ensure completion of all aspects of the proposed study in a manner acceptable to the Department including all monitoring costs, should the applicant default on the completion of the demonstration project.
- (6) Demonstration Project Permit Limitations. The following permit limitations shall apply to any demonstration project permit:
- (a) a demonstration project permit shall be valid for no more than two years from the date of issuance, unless renewed as provided for in 310 CMR 19.062(7); and
  - (b) the permit shall be valid only for the site approved by the Department and subject to the conditions established by the Department in the demonstration project permit.
- (7) Renewal of Permit. The Department may renew a demonstration project permit for a maximum of two one year periods upon request by the applicant.
- (8) Termination of the Permit. A demonstration project permit shall terminate:
- (a) automatically at the end of the period specified in the demonstration project permit unless the applicant has requested a renewal of the permit and said renewal has been granted by the Department; or
  - (b) automatically at the end of the renewal period should the applicant have received a renewal of the permit from the Department in accordance with 310 CMR 19.062(7); or
  - (c) at any time the Department has determined that the project does not adequately protect public health, safety or the environment.

(19.070: Operator Certification Requirements: Reserved)19.080: Variances

- (1) General. The Department recognizes that the literal application of 310 CMR 19.000 to all persons and activities may impose significant hardships in individual situations, frustrate the underlying legislative and regulatory purposes, or adversely affect the public interest. Therefore, in the exercise of the Department's discretion and upon a proper and timely demonstration, a variance from the application of specific provisions of 310 CMR 19.000, other than those that embody statutory requirements, may be available in an individual case to a person whose activities are governed by them.
- (2) Required Demonstration. A variance request shall include, at a minimum, the following information demonstrating, to the Department's satisfaction, that:
- (a) compliance with the provision would, on the basis of conditions unique to the applicant's particular situation, impose unreasonable economic, technological or safety burdens on the applicant or the public;
  - (b) substitute measures will provide the same or greater degree of protection to public health, safety and the environment as the application of the regulation(s) from which a variance is requested; and
  - (c) the desired relief may be granted without substantial detriment to the public interest and without nullifying or substantially derogating from the intent of 310 CMR 19.000.
- (3) Reasonable or Necessary. Where circumstances are appropriate, the Department may request the applicant to establish, in addition to the criteria listed in 310 CMR 19.080(2), either or both of the following:

19.080: continued

- (a) that no reasonable conditions or alternatives exist that would allow the project to proceed without the requested variance; and/or
- (b) the variance is necessary to accommodate an overriding community, regional, state, or national public interest.

(4) Request for Variance. A request for a variance may be made only by or on behalf of a person whose activities are governed by 310 CMR 19.000 and who seeks relief from their application prior to taking any action subject to and in conflict with them and does so in a timely manner. The request shall be made in writing and must contain, at a minimum, the information necessary to establish the showing required by 310 CMR 19.080(2) and, where required by 310 CMR 19.080(3), in the form prescribed in 310 CMR 19.080(4)(a) through (d):

- (a) specific reference, by citation to Code of Massachusetts Regulations, to each regulatory provision from which relief is sought;
- (b) an analysis and evaluation, prepared by a qualified professional, of all known technically accepted alternative methods of pursuing the activity in compliance with 310 CMR 19.000 including a detailed explanation as to each such alternative of the factual circumstances that render it unreasonable within the meaning of 310 CMR 19.080(1);
- (c) a detailed description, prepared by a qualified professional, of the substitute measures intended to provide the same or greater degree of protection to the public health, safety and the environment as the application of the regulation(s) from which a variance is requested would provide, accompanied by an opinion, including the basis on which that opinion was formed, that the substitute measures will in fact perform their intended function; and
- (d) evidence that an overriding public interest is associated with the project which justifies a variance from the regulation(s) if required by the Department pursuant to 310 CMR 19.080(3)(b).

(5) Filings. A person requesting a variance from 310 CMR 19.000 must file a request with the Regional Director of the appropriate regional office and contemporaneously serve copies of it upon the board of health and all abutters of the property upon which the activity is or may be located. Filing and service may be made by hand or by using a suitable form of mail addressed to the person to be served and requiring the return of a signed receipt.

(6) Initial Action. The Regional Director, after considering a request for a variance, requesting and receiving such additional information as may be required, and holding a public hearing should public interest in the matter or the technical complexity or uniqueness of the issues warrant doing so, shall grant or refuse the request in whole or in part. Should the Regional Director determine to grant the request in whole or in part, the determination will include a specific finding that the request makes the showing required by 310 CMR 19.080(2); a specific statement that the application of certain specified regulation(s) is altered or waived; and a specification of the requirements or conditions imposed, if any. The determination of the Regional Director is final unless, within 21 days, an appeal is taken to the Commissioner pursuant to the provisions of 310 CMR 19.080(7). The Regional Director shall notify by mail the person requesting the variance, the board of health, and any abutter who has requested notice of the determination of the action taken upon the request.

(7) Appeal to the Commissioner.

- (a) A person requesting a variance from the application of 310 CMR 19.000, the board of health where the affected property is located, or any aggrieved party may appeal the determination of the Regional Director to the Commissioner.
- (b) An appeal is taken by delivering a request for a hearing to the Commissioner within the time period established by 310 CMR 19.080(6) that identifies the request for a variance, states the determination of the Director upon it, specifies why the party is aggrieved and the grounds for the appeal. The Department shall hold a hearing upon and determine the appeal pursuant to the provisions of 310 CMR 1.00. In any such proceeding it shall be the burden of the person requesting the variance to demonstrate how the criteria are met.
- (c) Notice of an appeal shall be given to the applicant by the party appealing the decision concurrently with filing the appeal.

19.080: continued

(8) Expiration, Modification or Suspension of a Variance. Any variance or other modification made pursuant to 310 CMR 19.080 may be subject to such qualification, revocation, suspension, or expiration as the Department expresses in the variance. A variance or other modification made pursuant to 310 CMR 19.080 may otherwise be revoked, modified, or suspended pursuant to 310 CMR 19.039 or 19.040.

19.081: Enforcement Provisions

(1) General. Any failure by any person whose activities are governed by M.G.L. c. 111, § 150A, as amended, and 310 CMR 19.000, to comply fully with their provisions or the terms and conditions of any order, permit, authorization, determination, or approval issued under 310 CMR 19.000, or with the terms of a site assignment, shall constitute a violation of the statute and 310 CMR 19.000. Nothing in 310 CMR 19.000, or in any order issued pursuant thereto, shall be construed to limit any right of the Department to take enforcement action pursuant to any other authority.

(2) Action by the Department. Whenever the Department has cause to believe that a violation has occurred, it may, without election:

- (a) order the owner or operator of the site or facility, or any other person responsible for the violation, to cease immediately or at a specified date all illegal activity, to comply fully with the provisions of the statute, 310 CMR 19.000, or any permit, authorization, determination, approval, or site assignment;
- (b) order the owner or operator of the site or facility, or other person responsible for the violation, to take immediately or by a specified date appropriate remedial measures to bring the site or facility into compliance or to protect public health or safety or the environmental resources of the Commonwealth, including without limitation closure of the site or facility;
- (c) commence proceedings pursuant to 310 CMR 19.040 to rescind, suspend, revoke, or modify a permit;
- (d) commence proceedings pursuant to M.G.L. c. 111, § 150A to rescind, suspend, revoke, or modify a site assignment;
- (e) issue a notice of non-compliance or assess a civil administrative penalty pursuant to M.G.L. c. 21A, § 16 and 310 CMR 5.00;
- (f) refer the matter to the Attorney General for civil or criminal action pursuant to any applicable statute; or
- (g) take such other action provided by 310 CMR 19.000 or other applicable statutory or regulatory authority as the Commissioner deems appropriate.

(3) Service of Notices and Orders. Service in all civil administrative penalty actions is governed by 310 CMR 5.00. The Department serves an order according to the following procedure except for processes, notices, and orders issued in the course of an adjudicatory hearing which are governed by the provisions of 310 CMR 1.00:

- (a) A person applying for or holding any form of permit or authorization issued under the statute and 310 CMR 19.000 shall appoint a person as agent for service of process, shall notify the Department of the name, address, and telephone number of the appointed agent, and shall notify the Department promptly of any change in the status of the agent or of the information provided pursuant to the provisions of 310 CMR 19.081(3).
- (b) Service of an order is complete when it is delivered in hand by an employee or agent of the Department to the person to be served or to any officer, employee, or agent of the person authorized by appointment of the person or by law to accept service or to the person's last known address in the Commonwealth or elsewhere or to the last known address in the Commonwealth or elsewhere or any officer, employee, or agent of the person authorized by appointment of the person or by law to accept service. The fact and date of service is established by the return of the person making service.
- (c) Service of an order when made by any form of mail requiring the return of a receipt signed by the person to be served is complete upon delivery to the person or to any officer, employee, or agent of the person authorized by appointment of the person or by law to accept service. The fact and date of service is established by the returned receipt.

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(d) The Department may make service of an order in any other manner, including any form of telecommunications or publication, that is reasonably calculated to give actual notice of the order to the person to be served. The Department uses such alternative or substitute methods of service only when exigent circumstances require its doing so. The fact and date of service in such cases is established by such records as may be available.

(4) Right to Adjudicatory Hearing. Subject to the provisions of 310 CMR 19.081(5), a person who or which is the subject of an order issued pursuant to 310 CMR 19.081(2)(a) or (b) shall have the right to an adjudicatory hearing on such order pursuant to 310 CMR 1.00: *Adjudicatory Proceedings*. Any right to an adjudicatory hearing concerning assessment of a civil administrative penalty shall be determined in accordance with the provisions of 310 CMR 5.00.

(5) Waiver of Right to Adjudicatory Hearing. Any person who or which is the subject of an order issued pursuant to 310 CMR 19.081(2)(a) or (b) shall be deemed to have waived the right to an adjudicatory hearing unless within 21 days of the date of service of the order the Department receives a written statement setting forth the basis for the request, subject to and in compliance with the applicable provisions of 310 CMR 1.00.

19.082: Penalties

(1) General. A person who or which violates the provisions of M.G.L. c. 111, § 150A or 310 CMR 19.000 is subject to judicially imposed criminal and civil penalties as well as civil administrative penalties imposed by the Department. Each day that a violation occurs or continues constitutes a separate violation.

(2) Penalties.

(a) A violation may be punished under the statute by the imposition of a penalty that does not exceed \$25,000 for each day of violation.

(b) A violation may be punished pursuant to the provisions of M.G.L. c. 21A, § 16, and 310 CMR 5.00: *Administrative Penalty*, by the administrative imposition of a penalty of no less than \$100 and not more than \$25,000 for each day of violation.

(c) A violation may be punished under the statute by a fine of not more than \$25,000, or by imprisonment for not more than two years in a house of correction.

(3) Punishment. Punishment imposed under the statute is in addition to any other penalty prescribed by law.

19.083: Enforcement of Minimum Recycling Requirements

(1) The Department may allow the acceptance of recyclable or compostable materials where such acceptance will result in the facility not meeting the 25% recycling requirement established at 310 CMR 19.038(2)(d), with prior notification and approval of the Department, under the following circumstances:

(a) the material is contaminated or is otherwise not acceptable for recycling or composting because it is commingled with solid waste, provided that the person(s) who contaminated or commingled the material with solid waste is promptly notified and take(s) necessary actions to prevent a reoccurrence of the conditions which caused the disposal; or

(b) the recycling or composting operation or end user to which the restricted material is normally sent declines to accept the material or is prohibited from accepting the material as a result of an administrative or judicial order, provided that an alternative recycling or composting operation or storage facility or end user which will accept the material cannot be found within a reasonable period of time.

(2) Failure to comply with approved plans submitted pursuant to 310 CMR 19.030(3) or (4) or applicable permit conditions shall constitute a violation of 310 CMR 19.000. The Department may require a modified plan to be submitted where the minimum requirement is not being achieved.

19.100: Preamble

310 CMR 19.100 through 19.151 establishes minimum performance and design standards; operation and maintenance standards; and closure/post-closure requirements for solid waste landfills by supplementing, modifying or expanding upon the provisions of 310 CMR 19.000 through 19.099. Combined, these two sets of regulations govern all solid waste disposal activities at landfills. The procedures for application, approvals, authorizations, and transfers of such rights and interests are set forth in 310 CMR 19.100 through 19.151.

19.101: Applicability

Except as expressly exempted in 310 CMR 19.060: *Beneficial Use of Solid Waste*, all solid waste disposed by placement into or onto land shall be done in a manner consistent with 310 CMR 19.000 and the requirements of 310 CMR 19.100 through 19.151.

19.102: Definitions

All terms used herein shall have the meanings set forth in 310 CMR 19.006 unless the context clearly implies or indicates another meaning.

19.103: Additional Requirements

Nothing in 310 CMR 19.000 shall be construed to limit the Department from determining on a facility or site specific basis that additional design or operation and maintenance components are required where conditions warrant such additional design or operation and maintenance measures in order to protect public health, safety and the environment or to mitigate potential adverse impacts.

Notwithstanding any provision in 310 CMR 19.000, the Department may approve or modify a permit or authorization or issue an order requiring the operator or owner of a landfill disposing municipal solid waste to comply with the Solid Waste Disposal Facility Criteria, 40 CFR Parts 257 and 258, as may be amended, promulgated pursuant to sections 1008, 2002, 4004, and 4010 of the Resource Conservation and Recovery Act and section 405 of the Clean Water Act.

19.104: Landfill Facility Plan

(1) General. In addition to the general application requirements established in 310 CMR 19.001 through 19.099, 310 CMR 19.030: *Application for a Solid Waste Management Facility Permit*, an application for a landfill permit shall include the following components:

- (a) landfill site plan;
- (b) hydrogeological study;
- (c) landfill design plan;
- (d) landfill operation and maintenance plan; and
- (e) conceptual landfill closure/post-closure plan.

(2) Landfill Site Plan. The landfill site plan shall include:

- (a) the locations of permanent on-site bench marks used as a reference point or plane;
- (b) the acreage and boundaries of the site, the boundaries of the landfilling operations and designation of other land uses within the site;
- (c) the location and elevations of all proposed and existing environmental monitoring devices;
- (d) the location of all proposed and existing soil borings, excavations and test pits;
- (e) the location of all proposed and existing on-site borrow sources;
- (f) the location of all proposed and existing utilities, structures and roads;
- (g) the distance to any airport runway if less than 10,000 feet;
- (h) all Areas of Critical Environmental Concern as determined by the Executive Office of Environmental Affairs (EOEA), where applicable; and
- (i) other information concerning the site which the Department may require for review of plans.

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(3) Hydrogeological Study. A hydrogeological study shall provide the data, maps, cross-sections, schematics and numerical parameters which the Department reasonably deems necessary to accurately determine the physical and chemical characteristics of the overburden material and bedrock present at the site, the directions, pathways and velocities of ground and surface water flows and the physical and chemical characteristics of the ground and surface waters.

(a) Submission of a Scope of Work for a Hydrogeological Study.

1. The applicant shall submit the proposed scope of work for a hydrogeological study to the Department not less than 60 days prior to the commencement of the hydrogeological study.
2. The applicant shall incorporate all Departmental modifications, additions, changes or deletions into the final scope of work for the hydrogeological study.

(b) The hydrogeological study shall include without limitation:

1. a narrative summary of the regional and local geological and hydrogeological setting including a brief description of the major geological formations present (bedrock and overburden);
2. a description of the general geomorphology of the site;
3. a summary of all relevant environmental and geological studies that have been performed at the site;
4. a set of maps that depict:
  - a. the topography of the site;
  - b. the areal extent of the overburden and/or bedrock on the site, together with appropriate cross-sections to provide a three-dimensional picture of the site;
  - c. within a ½ mile of the proposed area of waste deposition, the location of:
    - i. all water supply wells;
    - ii. all aquifer and/or groundwater protection zones including Zone II's and/or Interim Wellhead Protection Areas;
    - iii. all water sheds and their associated drainage patterns; and
    - iv. all surface water bodies (indicate designated classifications).
  - d. within 500 feet of the perimeter of the site, the location of:
    - i. all wetlands; and
    - ii. 100 year flood plains.
  - e. all environmental monitoring points, test borings, test pits, and piezometers on the site;
  - f. ground water contours, piezometric heads, hydraulic gradients (horizontal and vertical), and ground water flow directions, together with the appropriate cross-sections to provide a three dimensional picture of the site for both the seasonal high and low ground water periods.
5. sufficient data and information to adequately describe:
  - a. the physical and chemical characteristics of the major overburden units and bedrock formations present on the site;
  - b. the hydraulic connection between the major overburden units and the overburden units that are in contact with bedrock and the bedrock;
  - c. the hydraulic conductivity of all major overburden units on the site;
  - d. the nature and characteristics of any hydrogeologic boundary that exists on the site;
  - e. the maximum ground water fluctuations and maximum high ground water level of the ground water elevation measurement locations;
  - f. sufficient precipitation data to enable a calculation of the maximum ground water high;
  - g. the as-built design of all monitoring wells and piezometers;
  - h. grain size gradation curves for the overburden material in which the screened interval of a monitoring well resides;
  - i. the existing and/or background quality of the ground and surface waters on the site as regulated in 310 CMR 19.132(1); and
  - j. the hydrogeologic flow conditions.
6. the following information, if it is determined that there is a component of ground water flow from the overburden into the bedrock:
  - a. a bedrock contour map;
  - b. a fracture trace analysis; and
  - c. the hydraulic conductivity of the bedrock.

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7. a clear and concise presentation of any form of geophysical methods used during field investigations of the site; and
  8. a clear and concise presentation of any computer model that is utilized in the investigation.
- (4) Landfill Design Plan. The landfill design plan shall include:
- (a) a ground water protection system design plan which details the configuration of the liner system, leachate collection system(s), leachate pumping, storage, treatment and disposal systems, and efficiency of the liner in terms of leachate removal;
  - (b) schematic drawings, maps and/or plans which delineate in plane view and in detailed cross-sectional view (at initial, interim and final phases) the elevations of the proposed landfill, excavations, berms, dikes, ditches, liners, leachate collection system, swales, storm water detention systems or other drainage features;
  - (c) design and construction specifications of the landfill, including, but not limited to the ground water protection system, the environmental monitoring systems, the cap and final cover, recycling and composting operations and other appurtenances associated with the facility;
  - (d) a construction plan that includes a description of the installation methods and procedures for construction of the liner, leachate collection system, monitoring systems and other parts of the facility including materials required and scheduling of construction events and phases;
  - (e) a quality assurance, quality control (QA/QC) plan for the construction of the landfill including the ground water protection system, the environmental monitoring systems, the cap and final cover and other appurtenances associated with the facility. The QA/QC plan shall specify the qualifications of the QA/QC officers, the qualifications of the installers of the ground water protection systems and specify the testing and monitoring protocols which shall form the basis of the engineering certification that the facility was built according to the approved specifications. The plan shall provide a description of the criteria to be utilized in detecting and evaluating deficiencies, selecting corrective action methodology and implementing corrective measures to achieve conformity with the approved plans; and
  - (f) the location and design of convenience and recycling drop-off areas, if applicable.
- (5) Landfill Operation and Maintenance Plan. The landfill operation and maintenance plan shall include:
- (a) a narrative description, with appropriate references to operation and maintenance requirements specified under 310 CMR 19.130, the site and design plans, of the solid waste landfill activities proposed to be conducted during the life of the landfill, including the sequence and direction of cell, lift and phase development; capacity and life expectancy for each phase; and the sequence of placement of interim and final cover;
  - (b) a plan for compliance with wastes banned pursuant to 310 CMR 19.017: *Waste Bans*;
  - (c) a leachate management plan;
  - (d) a staffing plan;
  - (e) an inspection and maintenance plan that includes a proposed schedule for regular inspections and maintenance of the landfill, including standard operating procedures for:
    1. the leachate collection, handling, treatment and disposal system; and
    2. landfill equipment.
  - (f) a facility safety plan, including:
    1. a fire control plan developed in conjunction with and certified by the local fire department or independent licensed fire consultant, including a contingency plan for containing and suppressing a landfill fire anywhere on the site;
    2. a hazardous waste contingency plan for inspecting loads of solid waste and handling and ensuring that any regulated hazardous wastes are properly transported off-site and disposed at hazardous waste facilities; and
  - (g) an environmental monitoring plan that includes:
    1. a surface and ground water sampling and analysis plan, based upon the results of the hydrogeological study specified in 310 CMR 19.105(4), which will ensure the accurate representation of surface and ground water quality at the upgradient and downgradient sampling points. At a minimum, this plan shall address:
      - a. sample collection;
      - b. sample preservation and shipment;
      - c. analytical procedures;



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- d. chain of custody control; and
  - e. sample collection and analytical QA/QC.
2. an air monitoring plan which establishes the frequency and extent of sampling and analysis for explosive gasses and air quality; and
- (h) other information concerning the operation and maintenance of the facility which the Department may require for review of plans.

(6) Conceptual Landfill Closure/Post-Closure Plans. The conceptual landfill closure/post-closure plan shall include:

- (a) a narrative description, with appropriate references to the site and design plans, of the activities necessary to close the landfill pursuant to 310 CMR 19.140 at any point during its operating life including the site preparation and closure activities necessary to cap and secure the landfill and activities necessary to maintain and monitor the landfill during the 30 year post-closure period defined at 310 CMR 19.142(2);
- (b) closure and post closure estimates pursuant to 310 CMR 19.051(5): *Financial Assurance Requirements*.

19.105: Equivalency Review Standards and Procedures

- (1) Where specific sections of 310 CMR 19.100 through 19.204 permit the submission of design alternatives, the following equivalency review standards and procedures apply.
- (2) A person requesting an alternative under 310 CMR 19.105 shall submit a request to the Department in writing. The request shall:
- (a) identify the specific regulation for which the equivalent alternative is sought; and
  - (b) demonstrate, through supporting technical documentation, site specific analysis and quality assurance/quality control procedures, that the requested alternative to the design requirements in a section of the regulations will, for the life of facility operations, closure and post-closure maintenance achieve the performance standards in that section, and will do so in a manner that is equivalent or superior to the design requirements in that section.
- (3) No equivalency alternative will be approved unless the Department determines that:
- (a) the application is complete and accurate;
  - (b) the proposed alternative will, for the life of facility operations, closure and post-closure maintenance achieve the performance standards of the appropriate section of the regulations and will do so in a manner that is equivalent or superior to the design standards in that section;
  - (c) the proposed alternative will ensure protection of public health, safety or the environment;
  - (d) utilizes materials, technologies or methodologies that are clearly demonstrated to have been successful in similar applications; and
  - (e) can utilize acceptable quality assurance and quality control (QA/QC) methods to monitor construction and performance as approved by the Department.
- (4) In lieu of approving an equivalency alternative for the entire facility where the equivalency alternative does not meet the criterion established at 310 CMR 19.105(3)(d), the Department may approve an equivalent alternative for a part of the site as a demonstration project as provided for in 310 CMR 19.062: *Demonstration Projects or Facilities*.

19.106: Quality Assurance and Quality Control Requirements

- (1) All components used in the construction of the landfill shall be evaluated through a Quality Assurance and Quality Control (QA/QC) program to ensure that the completed landfill is constructed and will operate in accordance with its approved plans.
- (2) All materials, including but not limited to, soils and synthetic materials used in the construction of the landfill shall be subject to quantifiable and reproducible manufacturing and/or QA/QC methods that ensure that the material has been prepared, manufactured, handled and installed in accordance with the material's design and operating specifications. All such methods shall be identified by the applicant;

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(3) The QA/QC program shall address requirements for evaluating the prepared or as-manufactured material, handling, storage, installation, corrective or remedial actions to correct deficiencies, and the final or completed function of all landfill components or systems.

(4) QA/QC methods for base liners shall include a method, where a technically proven and economically viable test method is identified, to test the actual final performance and/or integrity of the completed groundwater protection system, at the discretion of the Department.

19.107 Construction Certification

(1) The construction of a permitted landfill shall be accomplished in compliance with a quality assurance/quality control (QA/QC) plan approved by the Department.

(2) The owner or operator shall hire an independent professional Massachusetts registered engineer, knowledgeable and experienced in matters of landfill construction who shall oversee all construction activities. The engineer shall:

(a) determine and certify that all materials and construction of the landfill adheres to approved design plans and specifications, including:

1. determining the initial and final grades of the landfill;
2. overseeing the installation and construction of all components of the liner or final cover;
3. overseeing the installation and completion of run-on and run-off controls, pumps, monitoring devices and other appurtenances.

(b) oversee material and equipment QA/QC testing and verify all data generated through the testing program;

(c) ensure that as-built plans, where required, accurately reflect the constructed facility; and

(d) document all construction and QA/QC activities.

(3) Liners and final covers shall be constructed under the direction of a person with extensive experience in the installation of liners and final caps. Each phase of construction of a liner or cap shall be carried out and inspected under the direction of the independent professional engineer who shall certify that each phase of construction was completed in accordance with approved plans and specifications.

(4) The owner or operator shall submit a copy of the engineer's certification, as required at 310 CMR 19.011 on all construction and QA/QC activities to the Department.

19.110: Ground Water Protection Systems

(1) General Performance Standard. Landfills shall contain and collect leachate and minimize the migration of leachate out of the landfill into the underlying ground water to the maximum practicable extent and prevent the pollution of ground water during the active life of the facility and the closure and post-closure periods.

(2) General Design Standards. Landfill ground water protection systems shall:

(a) be constructed of materials that are compatible with the leachate and gases expected to be generated within the landfill;

(b) be constructed with a system to collect and contain leachate prior to treatment and/or disposal;

(c) provide coverage of all areas to be filled with solid waste and all base perimeters likely to be in contact with leachate;

(d) have a minimum slope of 2% over the entire ground water protection system;

(e) be constructed so that the slope of the liner provides positive drainage to those locations along the perimeter of the landfill where the collection and removal is achieved;

(f) be constructed such that any liner, where the slope of the liner will be less steep than four horizontal to one vertical (4:1) runs at least five feet (vertically) or to the top of side slopes or berms if applicable;

(g) be capable of withstanding the physical and mechanical stresses associated with the site and landfill development, operation and maintenance activities.

(h) be sufficiently strong and stable enough to withstand the static and seismic loads at the site under all expected operating conditions; and

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(i) be designed with a factor of safety (FS) appropriate for the structure and situation being evaluated. All factors of safety shall be identified and justified.

(3) Ground Water Protection System Components. Except as provided in 310 CMR 19.111: *Alternative Groundwater Protection System Design*, and 310 CMR 19.114: *Ground Water Protection System and Final Cover Waivers*, ground water protection systems shall consist, at a minimum, of:

- (a) a sub-grade layer;
- (b) a secondary composite liner;
- (c) a leak detection and secondary collection system;
- (d) a primary liner;
- (e) a drainage layer or layers;
- (f) a leachate collection system; and
- (g) a leachate storage system unless the leachate collection system is to be directly connected to a sewer system.

(4) Minimum Liner Configuration.

(a) For any area where the slope of the liner will be less steep than four horizontal to one vertical (<4:1) and for the first five feet vertically on perimeter berms or side slopes, if any, the landfill liner shall, at a minimum, be comprised of a double composite liner consisting of:

1. a primary composite liner consisting of:
  - a. one foot of a low permeability compacted soil layer or admixture overlain by a flexible membrane liner (FML); or,
  - b. a geosynthetic clay liner (GCL) overlain by a flexible membrane liner (FML);
2. a leak detection and secondary collection system located between the primary and secondary liner; and
3. a secondary composite liner consisting of:
  - a. two feet of a low permeability compacted soil layer or admixture overlain by a flexible membrane liner (FML); or,
  - b. one foot of a low permeability compacted soil layer overlain by a geosynthetic clay liner (GCL) and a flexible membrane liner (FML).

(b) For any area where the slope of the liner will be steeper than or equal to four horizontal to one vertical ( $\geq 4:1$ ) the landfill liner shall, at a minimum, be comprised of a double liner consisting of:

1. a liner configuration that conforms to 310 CMR 19.110(4)(a); or
2. a double composite liner consisting of:
  - a. a primary composite liner consisting of a geosynthetic clay liner (GCL) overlain by a flexible membrane liner (FML)
  - b. a leak detection and secondary collection system located between the primary and secondary liner; and
  - c. a secondary composite liner consisting of one foot of a low permeability compacted soil layer or admixture overlain by a flexible membrane liner (FML); or
3. a double liner consisting of:
  - a. a primary liner consisting of a FML;
  - b. a leak detection and secondary collection system located between the primary and secondary liner; and
  - c. a secondary composite liner consisting of:
    - i. two feet of a low permeability compacted soil layer or admixture overlain by a flexible membrane liner (FML); or
    - ii. one foot of a low permeability compacted soil layer overlain by a geosynthetic clay liner (GCL) overlain by a FML.

(c) Any FML layer shall be constructed so that the FML material is in direct contact with the low permeability soil layer or GCL layer directly below it. Where the GCL layer is to be used in conjunction with a low permeability soil layer, the GCL layer shall be constructed so that the GCL material is in direct contact with the low permeability soil layer. Liner components shall meet the design and performance criteria specified at 310 CMR 19.110(6) through (11).

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(5) Vertical Expansions over Existing Fill. The following requirements apply when a permit review and approval is needed from the Department prior to placing additional waste vertically (hydraulically upgradient) over previously landfilled areas with an existing liner system (or where there is no liner) that does not comply with the groundwater protection system requirements at 310 CMR 19.110(3) and (4). Waste that is being placed in areas under an existing valid Authorization to Operate permit are not subject to 310 CMR 19.110(5) until the capacity represented by that approval is exhausted.

(a) Areas Where there is no Existing Liner. Vertical expansions that will place waste over an area that has no underlying groundwater protection system will be required to construct a liner system in full compliance with 310 CMR 19.110(3) and (4).

(b) Areas Where there is an Existing Single Liner. Vertical expansions that will place waste over an area that has an existing single liner (such as a soil only or FML only liner) will be required to construct a liner system in full compliance with 310 CMR 19.110(3) and (4).

(c) Areas Where there is an Existing Single Composite Liner or a Double Liner that is not a Double Composite Liner.

1. Performance Standard. A hydraulic separation layer shall be constructed using technologies or components that will result in a system that prevents, to the maximum extent possible, leachate generated in areas approved after the effective date of these regulations from mixing with leachate collected in areas approved prior to these regulations. In general, such systems shall use combinations of low permeability barriers and high capacity drainage systems. All leachate intercepted by the hydraulic separation layer shall be directed to and collected in a lined area designed in accordance with the requirements of 310 CMR 19.110(4).

2. Design Standard. For facilities disposing of municipal solid waste (MSW) over an existing single composite liner functioning as designed, where the expansion area will operate for approximately two years or longer before installing a cap, and where the slope of the hydraulic separation layer will be equal to or steeper than 4:1, the presumptive design standard to meet the performance standard above shall be a single liner consisting of:

- a. a FML; or
- b. a GCL; or
- c. 18 inches of soil with a maximum permeability of  $1 \times 10^{-7}$  cm/sec; and
- d. a high performance drainage layer consisting of 12 inches of soil with a permeability no less than  $1 \times 10^{-3}$  cm/sec or 12 inches of less permeable soil in combination with a synthetic drainage layer such as a geonet.

In situations where the slope of the liner to be constructed over an existing composite liner is less steep than 4:1, the presumptive design standard shall be a liner in accordance with 310 CMR 19.110(4).

3. Further Considerations. In situations where the assumptions listed above at 310 CMR 19.110(5)(c)2. do not apply, the Department may approve alternative designs that have different requirements than the presumptive design standard. The Department will not approve an alternative design unless the applicant provides sufficient information to the Department's satisfaction that an alternative design will be as protective of the public health, safety and the environment as the presumptive design.

a. More Stringent Requirements. Examples of when more stringent liner requirements, such as double liners with leak detection, will be the presumed requirement:

- i. where an existing liner is not operating properly;
- ii. where the slope of the separation layer will be less steep than 4:1;
- iii. where the landfill is located in a sensitive environmental location such as a sole source aquifer.

b. Less Stringent Requirements. Examples of when less stringent requirements may be considered by the Department:

- i. where MSW ash, C&D waste or other single source waste types are being disposed and characteristics of the waste such as permeability, leachate quality or other characteristics of the waste are considered;
- ii. where the operating time in an area, before capping, will be less than two years (segmentation of project length is not allowed);
- iii. where an existing double liner underlines the affected area.

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(d) Areas Where there is an Existing Double Composite Liner. The Department may require the installation of a hydraulic separation layer between vertical or horizontal sections or phases of a double composite lined landfill to isolate such areas for purposes of separately monitoring the performance of the groundwater protection systems in those discrete areas.

(e) Notwithstanding the requirements at 310 CMR 19.111(1), alternative designs may be reviewed subject to the equivalency review requirements at 310 CMR 19.105 or other requirements as determined by the Department.

(6) Subgrade Layer Standards.

(a) Performance Standard. The subgrade layer shall provide adequate structural support for the ground water protection system and the solid waste disposed in the landfill;

(b) Design Standards. The subgrade layer shall:

1. be compacted, uniform and free of debris, angular rocks, plant materials and other foreign materials that may damage low permeability liner materials; and
2. be of sufficient thickness to ensure a minimum of four foot separation between the top of bedrock or the maximum high ground water table, as determined using acceptable methods, and the bottom of the lowermost low permeability layer.

(7) Low Permeability Layer (Liner) Standards.

(a) Performance Standards. A low permeability layer shall:

1. minimize to the greatest practicable extent the movement of leachate through the liner;
2. be designed and constructed to meet the permeability design standard for the expected life and post-closure period of the facility; and
3. be constructed in accordance with the quality assurance and quality control requirements of 310 CMR 19.106.

(b) Design Standards.

1. Low Permeability Soil/Admixture Layer Standards. Compacted low permeability soil or admixture layers shall:

- a. have a minimum thickness of one foot when used in the primary composite liner or have a minimum thickness of two feet when used in the secondary composite liner unless a GCL is used in the secondary liner, or the secondary liner slope is greater than or equal to a 4:1 slope, then only one foot is required;
- b. have a maximum in-place saturated hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec. throughout the entire thickness of the layer;
- c. have a minimum post-settlement slope of two percent;
- d. be free of materials that because of their physical, chemical or biological characteristics may cause or contribute to an increase in the permeability of the liner or otherwise cause a failure of the liner; and
- e. be compacted to minimize void spaces and support the weight imposed by the waste disposal operations without settling so as to cause or contribute to the failure of the liner or leachate collection system.

2. Flexible Membrane Liner Standards. Flexible membrane liners shall:

- a. be of sufficient thickness as determined by the Department;
- b. be constructed to ensure that the seams connecting FML panels are of equal or greater strength than the panels or manufacturer's seams within panels and are oriented, as much as is practical, parallel to the slope and not across the slope;
- c. have sufficient flexibility and strength for the proposed application, taking into consideration tensile strength, puncturability, stress cracking and chemical compatibility; and
- d. be capable of being seamed to produce leak-tight, high-strength seams that retain their integrity during liner installation, operating life and the post-closure period.

3. Geosynthetic Clay Liners (GCLs) Standards. Geosynthetic clay liners shall:

- a. have sufficient bentonite (or similar low permeability clay) to provide an effective low permeability layer;
- b. be constructed to ensure that the bentonite (or similar low permeability clay) will be distributed and retained uniformly and securely throughout the GCL during the operating life and the post-closure period;
- c. have sufficient durability for the proposed application, taking into consideration hydration, chemical compatibility, desiccation and other considerations that may affect initial or long term performance; and

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d. be capable of being seamed or joined per standard industry practice to produce leak-tight connections that retain their integrity during the operating life and the post-closure period.

(8) Drainage/Protection Layers.(a) Performance Standard. Drainage/protection layers shall:

1. provide continuous and freeflowing drainage over the entire liner; and
2. provide adequate protection to the liner from equipment and solid waste disposed in the landfill.

(b) General Design Standards. The drainage/protection layer shall use materials and be designed and constructed so that:

1. the drainage layer will not become clogged or in any other way be impaired from allowing free-flowing drainage of leachate;
2. when used as a part of the primary leachate collection system the layer shall:
  - a. have a minimum thickness of 18 inches;
  - b. when a soil is used, the lower 12 inches has a minimum in-place hydraulic conductivity of  $1 \times 10^{-2}$  cm/sec and the upper six inches has a minimum hydraulic conductivity of  $1 \times 10^{-3}$  cm/sec; or
  - c. when a synthetic drainage layer is used, it shall be designed in accordance with 310 CMR 19.110(8)(c); and
  - d. be designed in accordance with 310 CMR 19.110(9).
3. when used as a part of a secondary leachate collection or leak detection system the layer shall:
  - a. have a minimum thickness of 12 inches with a minimum in-place hydraulic conductivity of  $1 \times 10^{-2}$  cm/sec when a soil is used; or
  - b. be a synthetic drainage layer designed in accordance with 310 CMR 19.110(8)(c); and
  - c. be designed in accordance with the 310 CMR 19.110(8).
4. the integrity of the layer is maintained by preventing the infiltration of fine material by being bound, as necessary, on its upper and/or lower surfaces with filter material, such as a geotextile filter fabric.

(c) Synthetic Drainage Material (Geonet) Design Standards. In addition to the standards specified at 310 CMR 19.110(7)(a) and (b), geonets used as a part of a drainage /protection layer shall:

1. be of sufficient strength to prevent deformation and impairment of function by the weight of vehicles and the solid waste to be disposed;
2. have sufficient flow capability;
3. be designed and evaluated for its effective long-term flow capacity using reasonable and acceptable evaluation methods that consider factors that may reduce (reduction factors) the design flow capacity caused by, but not limited to, overburden forces, (deformation, creep, *etc.*), intrusion by overlying materials such as filter fabrics or soil, and chemical or biological clogging; and
4. be designed with an overall safety factor (for flow capacity) appropriate to ensure the effective long-term performance of the drainage layer.

(9) Leak Detection and Secondary Collection Systems Between Liners.(a) Performance Standards. Leak detection and secondary leachate collection systems shall provide for detection of leakage of leachate through the primary or uppermost liner and the collection and removal of leachate from the secondary liner.(b) Design Standards. A leak detection and secondary collection system shall be designed:

1. to collect and remove leachate discharged into a drainage layer between the primary and secondary liners with an efficiency so that a leakage rate of ten gallons per day/per acre, or greater, will be detected within 24 hours of initial saturation;
2. to the extent feasible, identify the general location of the leak;
3. to allow the quantity and quality of leachate, or any liquid, in the leak detection system, to be measured and analyzed separately from the leachate in the primary leachate collection system;
4. with an Action Leakage Rate (ALR) which shall be reasonable and appropriate based upon the design and components of the double liner system;
5. so that the head in the secondary collection system will not, in general, exceed the thickness of the drainage layer between the liners; and

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6. with a leak response plan that details the actions to be taken to evaluate and, when required, eliminate the cause of the leak.
- (c) Action Leakage Rate (ALR).
1. The maximum action leakage rate shall be 100 gallons per acre/day, based on a 30-day rolling average (any consecutive 30 day period), unless the Department has established another action leakage rate for that facility, phase or operational period;
  2. An ALR shall be identified for each stage of the operational life of the liner system;
  3. Where leakage into the leak detection system is occurring at a rate greater than one half the ALR, the owner or operator of the facility shall notify the Department in writing within 72 hours. Such notification needs only to be made once in any 30 day period.
  4. Where a single day leakage rate exceeds twice the ALR, the owner or operator of the facility shall notify the Department, in writing, within 48 hours.
  5. In the event of leakage through the primary liner the facility shall take appropriate corrective action based on the quality and quantity of leachate collected or detected as determined by the Department.
- (10) Primary Leachate Collection and Removal Systems.
- (a) Performance Standards. Leachate collection and removal systems shall:
1. collect and remove the leachate generated by the landfill as quickly and efficiently as is practicable;
  2. provide for the drainage of leachate from the liner into appropriate storage, treatment or transfer facilities;
  3. be designed to ensure that the hydraulic head of leachate can be maintained at less than one foot at the expected flow except during storm events and be designed to drop below one foot within seven days of a 25-year storm for the primary operational phase of the landfill.
- (b) Design Standards. The following design standards shall apply to primary leachate collection systems:
1. pipes shall be placed within a drainage layer in material which meets the standards set forth at 310 CMR 19.110(7);
  2. pipes shall have sufficient diameter and spacing to be capable of freely draining the maximum expected leachate flow from the liner;
  3. trunk lines shall have a minimum slope of 1%;
  4. lateral lines shall have a minimum slope of ½%;
  5. pipes shall be of sufficient thickness and strength to support the maximum static and dynamic loads of vehicles and overlying solid waste without failing;
  6. piping systems shall be designed with sufficient access points to permit maintenance cleaning as necessary;
  7. the number of penetrations of the liner shall be minimized. Penetrations of the liner shall be properly sealed to prevent leakage and wherever possible be designed with access so as to repair damaged seals; and
  8. all sump areas shall be designed to allow access for maintenance of pumps and, at a minimum, provide for remote inspection.
- (11) Leachate Storage Facilities.
- (a) Performance Standard. Leachate storage facilities shall provide for leak-tight storage of the leachate reasonably expected to be generated by the landfill.
- (b) Design Standards. Leachate storage facilities shall:
1. conform to the criteria established by the Department's regulations for industrial wastewater holding facilities, 314 CMR 18.00: *Industrial Wastewater Holding Tank and Container Construction Operation and Recordkeeping Requirements*;
  2. have sufficient strength to ensure that the tank does not collapse or rupture;
  3. be located outside the landfill liner system;
  4. have sufficient capacity to store the leachate generated by the landfill;
  5. be designed with a monitoring device to accurately monitor the volume of liquid collected within the storage facility and be equipped with a system capable of warning the operator when the tank requires pumping; and
  6. incorporate secondary containment or a leak detection system.

19.111: Alternative Ground Water Protection System Design

Landfill ground water protection systems designed using materials, technologies or methodologies other than those expressly provided for under 310 CMR 19.110: *Ground Water Protection Systems*, may be permitted by the Department provided the proponent affirmatively demonstrates to the Department's satisfaction that the alternative ground water protection system design meets the standards established under 310 CMR 19.105: *Equivalency Review Standards and Procedures*.

19.112: Landfill Final Cover Systems

- (1) General Performance Standards. The final cover system shall:
  - (a) minimize the percolation of water through the final cover system into the landfill to the greatest extent practicable;
  - (b) promote proper drainage of precipitation ;
  - (c) minimize erosion of the final cover;
  - (d) facilitate the venting and control of landfill gas;
  - (e) ensure isolation of landfill wastes from the environment; and
  - (f) accommodate settling and subsidence of the landfill such that the above performance standards will continue to be met.
  
- (2) General Design Standards. The final cover system shall:
  - (a) have a final top slope of not less than 5% and side slopes no greater than three horizontal to one vertical (3:1);
  - (b) be constructed of material(s) that are compatible with gases and leachate expected to be generated;
  - (c) be constructed so as to minimize erosion of all layers of the final cover by using terraces or other appropriate stormwater controls;
  - (d) be constructed so that the low permeability layer is protected from the adverse affects of frost and/or freeze/thaw cycles;
  - (e) be constructed to maintain slope stability;
  - (f) be sufficiently strong and stable enough to withstand the static and seismic loads at the site under all expected operating conditions; and
  - (g) be designed with a factor of safety (FS) appropriate for the site-specific closure being evaluated. All factors of safety shall be identified and justified.
  
- (3) Final Cover System Components. Except as provided in 310 CMR 19.113: *Alternative Landfill Final Cover System Design*, or 19.114: *Ground Water Protection System and Final Cover Waivers*, the final cover system shall, at a minimum, consist of:
  - (a) the subgrade layer;
  - (b) a landfill gas venting layer unless the the subgrade layer is designed to function as a gas venting layer, or there is an active gas collection and extraction system and it is demonstrated that a gas venting layer is not needed;
  - (c) a low permeability layer or layers;
  - (d) a drainage layer;
  - (e) filter material (when required);
  - (f) a layer capable of supporting vegetation;
  - (g) the vegetative cover; and
  - (h) other components as may be required by the Department.
  
- (4) Subgrade Layer Standards.
  - (a) Performance Standards. The subgrade layer shall provide adequate structural support for the final cover system and be capable of accommodating any anticipated subsidence or settling without impairing its ability to provide structural support;
  - (b) Design Standards. The subgrade shall:



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1. be free of materials that may damage or abrade the low permeability layer or venting layer; and
  2. be of sufficient thickness to cover all solid waste.
- (5) Landfill Gas Venting Layer.
- (a) Performance Standard. A landfill gas venting layer shall provide for the free movement of landfill gas out of the landfill to gas control devices or vents.
  - (b) Design Standard. Landfill gas venting layers shall:
    1. be placed below the low permeability layer to facilitate the collection and control of landfill gases;
    2. be of sufficient thickness and hydraulic conductivity to facilitate venting of landfill gases from below the low permeability layer;
    3. be composed of either:
      - a. soil material that has:
        - i. a minimum thickness of six inches; and
        - ii. a hydraulic conductivity equal to or greater than  $1 \times 10^{-3}$  cm/second; or
      - b. synthetic material (geonet) which shall:
        - i. be of sufficient strength to prevent deformation and impairment of function by the weight of vehicles or the final cover; and
        - ii. have sufficient flow capability.
    4. be bound on its upper and/or lower surface with filter material where needed to prevent the infiltration of fine material and to maintain the integrity of the layer.
- (6) Low Permeability Layer Standards.
- (a) Performance Standard. A low permeability layer shall:
    1. to the greatest extent practicable, minimize the movement or percolation of water into the landfill;
    2. promote positive drainage of the landfill final cover system and prevent erosion; and
    3. be designed and constructed to remain impervious for the expected life and post-closure period of the facility; and
    4. be constructed in accordance with the quality assurance and quality control requirements of 310 CMR 19.106.
  - (b) Design Standards.
    1. Low Permeability Soil/Admixture Layer Standards. Compacted low permeability soil or admixture layers shall:
      - a. have a minimum compacted thickness of 18 inches;
      - b. be constructed using materials that have a maximum in-place saturated hydraulic conductivity of  $1 \times 10^{-7}$  cm/sec throughout the entire thickness of the layer;
      - c. be compacted to minimize void spaces;
      - d. be capable of supporting the weight imposed by the post-closure use without settling or causing or contributing to the failure of the low permeability layer; and
      - e. be free of materials that, because of their physical, chemical or biological characteristics, may cause or contribute to an increase in the permeability of the low permeability layer or otherwise cause a failure of the low permeability layer.
    2. Flexible Membrane Liner Standards. Flexible membrane liners shall:
      - a. be of sufficient thickness as determined by the Department;
      - b. be constructed to ensure that the seams connecting FML panels are of equal or greater strength than the panels or manufacturers's seams within panels and are oriented parallel, as much as is practical, to the slope and not across the slope;
      - c. have sufficient flexibility and strength for the proposed application, taking into consideration tensile strength, puncturability, stress cracking and chemical compatibility; and
      - d. be capable of being seamed to produce leak-tight, high-strength seams that retain their integrity during final cover installation and the post-closure period.
    3. Geosynthetic Clay Liners (GCLs) Standards. Geosynthetic clay liners shall:
      - a. have sufficient bentonite (or similar low permeability clay) to provide an effective low permeability layer;
      - b. be constructed to ensure that the bentonite (or similar low permeability clay) will be distributed and retained uniformly and securely throughout the GCL during the operating life and the post-closure period;

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- c. have sufficient durability for the proposed application, taking into consideration hydration, desiccation and other considerations that may affect initial or long term performance; and
- d. be capable of being seamed or joined to produce leak-tight connections that retain their integrity during the operating life and the post-closure period.

(7) Drainage Layers.

- (a) Performance Standard. Drainage layers shall provide continuous and freeflowing drainage over the entire low permeability layer.
- (b) Design Standards. The drainage layer or system shall:
  - 1. be placed above the low permeability layer;
  - 2. be of sufficient thickness and hydraulic conductivity to drain the immediate and up-gradient areas of the final cover;
  - 3. be designed so that the head in the drainage layer will not exceed the thickness of the drainage layer;
  - 4. be designed based on the hydraulic loadings resulting from the actual materials used in the final cover system, such as the vegetative support layer infiltration rate;
  - 5. be composed of either:
    - a. soil material that has:
      - i. a minimum thickness of six inches; and
      - ii. a hydraulic conductivity equal to or greater than  $1 \times 10^{-3}$  cm/second; or
    - b. synthetic drainage material (geonet) that shall:
      - i. be of sufficient strength to prevent deformation and impairment of function by the weight of vehicles or the final cover;
      - ii. have sufficient flow capability;
      - iii. be designed and evaluated for its effective long-term flow capacity using reasonable and acceptable evaluation methods that consider factors that may reduce (reduction factors) the design flow capacity caused by, but not limited to, overburden forces, (deformation, creep, *etc.*), intrusion by overlying materials such as filter fabrics or soil, and chemical or biological clogging; and
      - iv. be designed with an overall factor of safety appropriate for the effective long-term performance of the drainage layer.
  - 6. be bound on its upper and/or lower surface with filter material where needed to prevent the infiltration of fine material and to maintain the integrity of the layer; and
  - 7. be maintained to prevent conditions that could compromise the integrity of the landfill or cause erosion.

(8) Filter Material Standards. Filter material, where placed, shall be capable of preventing the migration of fine soil particles into the drainage or venting layer.

(9) Vegetative Support/Protection Layer Standards.

- (a) Performance Standards. The vegetative support/protection layer shall:
  - 1. be of sufficient thickness and composition to support the selected vegetation;
  - 2. protect underlying layers from the adverse effects of desiccation, extremes of temperature, including frost effects, and erosion;
- (b) Design Standards. There shall be at least 18 inches of soil material above the low permeability layer (310 CMR 19.112(6)). This 18 inches may be composed of soil in the vegetative support/protective layer (310 CMR 19.112(9)) and soil in the drainage layer (310 CMR 19.112(7)). The vegetative support/protection layer shall:
  - 1. consist of a topsoil, loam or equivalent type of soil-based vegetative support material with a minimum organic content of 3%;
  - 2. consist of at least 12 inches of soil capable of supporting the selected vegetation and any additional soil material needed to create the required total thickness; or
  - 3. consist of at least eight-nine inches of soil with an organic content of 8-10% capable of supporting the selected vegetation in conjunction with a 12-inch thick drainage layer for a total vegetative/protection layer depth of 20-21 inches.

(10) Vegetative Cover Standards.

- (a) Performance Standards. The vegetative cover shall:
  - 1. provide complete coverage of the landfill;
  - 2. minimize erosion of underlying material;

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3. promote evapotranspiration of water to the maximum practicable extent;
4. provide for an effective and permanent cover compatible with the site;
5. have root systems that shall not compromise the drainage layer or low permeability layer;
- and
6. be composed of plants which shall be capable of self propagation.

19.113: Alternative Landfill Final Cover System Design

Landfill final cover systems designed using components, materials, technologies or methodologies other than those expressly provided for under 310 CMR 19.112: *Landfill Final Cover Systems*, may be approved by the Department provided that either the proponent affirmatively demonstrates to the Department's satisfaction that the alternative final cover system design meets the standards established under 310 CMR 19.105: *Equivalency Review Standards and Procedures*, or, as a result of a site-specific assessment, performed pursuant to 310 CMR 19.150: *Landfill Assessment Requirements*, the Department determines that an alternative design would adequately protect public health, safety and the environment. The final cover material used in an alternative final cover designed for a landfill that accepted waste after October 9, 1991, shall have a maximum hydraulic conductivity of  $1 \times 10^{-5}$  cm/sec.

19.114: Ground Water Protection System and Final Cover Waivers

(1) Applicability. 310 CMR 19.114 is not applicable to landfills handling municipal solid wastes or solid waste combustion facility ash. The owner or operator of other types of landfills may apply for a waiver from one or more of the ground water protection system or final cover requirements pursuant to 310 CMR 19.114(2).

(2) Waiver Criteria. The Department, upon written request, may waive or modify one or more of the ground water protection system or final cover system design components specified under 310 CMR 19.110(4) or 19.112(3), respectively, when the operator satisfies the Department that components of a ground water protection system or final cover are not necessary to adequately protect ground and surface waters due to the characteristics of solid waste disposed in the landfill, the nature of the leachate likely to be produced by the landfill and the physical or hydrogeological characteristics of the site.

19.115: Storm Water Controls

(1) Performance Standard. Storm water controls shall prevent erosion, discharge of pollutants, protect the physical integrity of the landfill and be managed according to applicable standards established by the Department, including but not limited to, wetlands protection regulations at 310 CMR 10.05(6)(b), and the Department's Storm Water Policy. For purposes of meeting stormwater standards established by the Department, recharge shall be permitted at the landfill only where the recharge will not adversely impact the quality of groundwater leaving the site. Peak rate attenuation shall be in accordance with that described in 310 CMR 19.115(2): *Design Standards*, and source controls and pollution prevention measures (including design of the landfill) shall be implemented to prevent discharge of pollutants. This standard applies to the construction, operational and post-operational phases of the landfill.

(2) Design Standards. Storm water controls shall be designed to:

- (a) prevent flow onto the active portion of the landfill (*i.e.*, any area without intermediate or final cover) during the peak discharge from a 24 hour, 100-year storm;
- (b) control the peak rate of run-off from the entire landfill resulting from a 24 hour, 25-year storm; and
- (c) control the peak rate of run-off from the landfill resulting from a 24 hour, 100-year storm, to the extent practicable, if an evaluation of the peak rate of run-off resulting from a 24-hour, 100-year storm indicates there will be flooding up or downstream of the site using the most recent precipitation atlas approved for use by the United States National Weather Service, or their predecessor the U. S. Weather Bureau to determine the rainfall depth associated with the 100-year storm (currently Technical Paper-40, published May, 1961).

19.116: Surface and Ground Water Protection

Landfills shall prevent direct discharge of contaminated run-off or leachate from the landfill to any surface water bodies or to ground water, except in accordance with a Massachusetts Surface Water Discharge Permit or Ground Water Discharge Permit issued by the Department pursuant to 314 CMR 5.00 or 7.00, respectively, and a National Pollution Discharge Elimination System permit issued by the U.S. Environmental Protection Agency.

19.117: Air Quality Protection Systems

(1) General Performance Standard. Landfills shall control the concentration levels of explosive and malodorous gases and other air pollutants as necessary in order to maintain air quality and to prevent the occurrence of nuisance conditions or public health or safety problems.

(2) General Design Standard. Air quality protection systems shall be designed to control the concentration of explosive gases to no greater than 25% of the Lower Explosive Limit (LEL) at the property boundary at any time, excluding gas control or recovery system components or any leachate collection components, or 10% of the LEL in any building, structure, or underground utility conduit.

(3) Gas Vents. At a minimum, passive gas vents shall be provided at all facilities in all areas of the landfill over which final cover has been applied.

(a) Performance Standard. Landfill gas vents shall allow for the movement and adequate venting of landfill gases in order to prevent the buildup of explosive concentrations of gas and prevent the lateral migration of gases beyond the boundaries of the landfill.

(b) Design Standards. Landfill gas vents shall be designed:

1. to maintain the integrity of the low permeability cap at the penetration of the cap;
2. to provide adequate venting of landfill gases;
3. with 'T's, goosenecks or other equivalent cap at the top of the riser pipe to allow effective venting;
4. to allow for retrofitting for active gas recovery or treatment at a later time if required;
5. to operate without clogging; and
6. to remain secure from vandalization.

(4) Installation. Gas vents shall be installed concurrently with the phased construction of a facility and in accordance with any permits or orders issued by the Department.

(5) Landfills shall demonstrate that they are in compliance with the State and Federal air quality regulations, including but not limited to, New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) requirements. In general a facility must document:

- (a) which federal air quality regulations are applicable to the facility, either initially or at full build-out; and,
- (b) how the facility will comply with all applicable state and federal air quality regulations.

19.118: Ground Water, Surface Water and Gas Monitoring Systems

(1) General Performance Standard. Any person conducting landfill activities shall install, operate and maintain a ground water monitoring system, surface water monitoring system and landfill gas monitoring system capable of detecting and quantifying the release of contaminants into the ground, ground water, surface water or the air.

(2) Ground Water Monitoring Systems.

(a) Performance Standard. A ground water monitoring system shall:

1. be capable of yielding representative ground water samples for analysis; and
2. consist of a sufficient number of wells properly located and screened at appropriate depths to detect the release of contaminants from the landfill into the ground water.

(b) Design Standards. A ground water monitoring system shall:

1. at a minimum be composed of one monitoring well or cluster of wells installed hydraulically upgradient from the limit of the filled or proposed fill area capable of yielding ground water samples which are representative of background ground water quality;

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2. at a minimum be composed of three monitoring wells, or clusters of wells, installed within 150 meters of filled areas proposed to be filled or at the property boundary, whichever is less, and located hydraulically downgradient from the limit of the filled areas or areas proposed to be filled and capable of detecting contaminants that migrate from the landfill to the ground water.
  3. be composed of wells drilled by a person licensed under Well Driller Regulations, 313 CMR 3.00:
  4. be composed of wells constructed in a manner, approved by the Department, that ensures the integrity of the monitoring well and facilitates the collection of samples;
  5. be composed of wells readily accessible to sampling equipment and located so that they do not interfere with routine facility operations; and
  6. be composed of wells designed with locking caps and secured to prevent tampering with or vandalism.
- (3) Surface Water Monitoring Systems
- (a) Performance Standard. Where required by the Department, permanent surface water sampling location markers shall be established upstream and downstream of the solid waste landfill facility in sufficient numbers and locations to adequately represent surface waters flowing through or past the facility.
  - (b) Design Standard. All surface water sampling locations shall be readily accessible to sampling equipment and located so that they do not interfere with routine facility operations.
- (4) Gas Monitoring Systems
- (a) Performance Standard. Gas monitoring wells for the monitoring of explosive and other landfill gases shall be provided at all landfills to determine if gas is migrating beyond the boundaries of the landfill and shall:
    1. be capable of yielding representative air samples for analysis; and
    2. consist of a sufficient number of wells properly located to detect the presence and migration of landfill gases.

19.119: Design Requirements for Ash Landfills

- (1) Applicability. In addition to the regulations set forth in 310 CMR 19.100 *et seq.*, 310 CMR 19.119 shall apply to all new landfills or upgrades and expansions of existing landfills, or parts thereof, in which ash and/or residues from solid waste combustion facilities burning municipal solid wastes are disposed. For the purposes of 310 CMR 19.000, such facilities shall be termed "ash landfills".
- (2) Plans for Ash Landfills. Plans for ash landfills shall include all components and be submitted in accordance with the requirements of 310 CMR 19.104. In addition to the submittal requirements specified in 310 CMR 19.104, the plans for an ash landfill shall include:
  - (a) a discussion of how ash will be transported to and handled at the landfill, including any ash stabilization procedures; and
  - (b) a description of the means by which fugitive emissions of ash will be controlled.
- (3) Ash Landfill Design.
  - (a) Ash landfills shall incorporate the design requirements for landfills set forth at 310 CMR 19.110 through 19.118, including ground water protection systems and final cover systems, except that ash landfills that will not co-dispose MSW and are not located on top of existing solid waste landfills may not be required to comply with 310 CMR 19.112(5) and 19.117 for installation of a gas collection system.
  - (b) Ash landfills shall be designed to ensure that:
    1. the ash is underlain by a ground water protection system meeting the performance and design standards for liners set forth in 310 CMR 19.110. Where an ash landfill expansion is proposed over a previously landfilled area with an existing liner, a ground water protection system in accordance with 310 CMR 19.111: *Alternative Ground Water Protection System Design*, shall be required; and
    2. fugitive emissions of ash are minimized.

19.120: Design Requirements for Woodwaste Landfills

(1) Applicability.

(a) Landfills that accept only woodwastes, as defined herein, may be permitted by the Department using designs, materials, technologies or methodologies other than those specified in 310 CMR 19.110 and 19.112, provided that the operation of the woodwaste landfill will accept only woodwastes and will not present a threat to public health, safety or the environment. Specifically, woodwaste landfill applications may include an application for a ground water protection system waiver and/or final cover waiver as specified in 310 CMR 19.114.

(b) The following woodwaste disposal areas are exempt from regulation under this part, provided the operation incorporates good management practice and is done in a manner to minimize pollution to air, water or other natural resources of the Commonwealth:

1. woodwaste disposal areas exempted from site assignment pursuant to 310 CMR 16.05(5)(d) (single family residence or farm); and
2. other woodwaste disposal areas which will contain a total volume of less than 200 cubic yards.

(2) Plans for Woodwaste Landfills. Plans for woodwaste landfills shall be submitted in accordance with the requirements of 310 CMR 19.104. The Department may waive some of the landfill facility design requirements specified at 310 CMR 19.104 as it deems appropriate for woodwaste landfills.

19.121: Landfill Gas Recovery Operations

(1) General. Landfills conducting gas recovery operations shall conduct such operations and monitoring in accordance with 310 CMR 19.121 and the approved design, operation and maintenance plans and in a manner to prevent interference with on-going site activities or other control measures.

(2) Submittal of Landfill Gas Recovery Plans. All persons proposing to construct a landfill gas recovery facility shall submit an application for a permit to construct and operate that facility pursuant to 310 CMR 19.121. An application shall consist of:

(a) a site plan containing the information and documentation required at 310 CMR 19.104(2)(a) through (c) and (i);

(b) a design plan consisting of:

1. a description of all machinery, equipment, and materials used at the facility, including the equipment's make, model, manufacturer, design capacity, and performance data;
2. plan views and cross-sectional views of the location and grades of all landfill gas collection lines showing all critical elevations of the collection pipe inverts, clean outs, and valves; layout of the facility structure including equipment locations and sampling locations; on-site drainage structures; and extraction well locations, depth of placement and construction materials;
3. a description of how construction of the facility's gas recovery extraction wells, piping and other appurtenances will ensure the integrity of the final cover system is maintained; and
4. a description of the facility's landfill gas condensate collection, storage, and treatment systems. The design capacity for these systems must be based on the engineering report's estimate of the amount of landfill gas condensate produced.

(c) an operation and maintenance plan consisting of the information and documentation required at 310 CMR 19.104(5)(b) through (d) and (f); and

(d) an engineering report consisting of:

1. a description of the operation of the facility and how the recovered gas will be used;
2. an estimate of the quantities of condensate currently generated or expected to be generated and a description of how the condensate will be disposed;
3. an estimate of the cost to properly close the gas recovery operation at the end of its useful life;
4. a description of how the landfill gas recovery system relates to the landfill's overall gas venting and control system;
5. a description of the procedures for taking, analyzing, and reporting data from condensate sampling; and

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6. a contingency plan that discusses an organized and planned method of responding to unexpected events during the construction and during the operation of a gas recovery operation.

(3) Permit Criteria. A permit to construct a landfill gas recovery facility shall be reviewed and granted pursuant to the review procedures specified under 310 CMR 19.001 through 19.099. In addition, all gas recovery facilities that use combustion of any type shall be permitted, designed and operated in accordance with all applicable requirements of the Air Pollution Control regulations, 310 CMR 6.00 through 8.00.

(4) Landfill Gas Recovery Facility Operation and Maintenance Requirements. Landfill gas recovery facilities shall conform to the operational requirements established in 310 CMR 19.121, including:

- (a) condensate generation shall be kept to a minimum and condensate recirculation, if proposed, shall be done in accordance with the permit;
- (b) condensate shall be sampled and results reported in accordance with the permit;
- (c) gas monitoring shall occur in accordance with 310 CMR 19.132(4); and
- (d) an annual report on the operation of the landfill gas recovery facility shall be submitted to the Department as specified in the permit. This report shall contain the following information, compiled on a monthly basis:
  - 1. quantity of landfill gas recovered;
  - 2. quantity of condensate generated and recirculated or treated;
  - 3. quantity of steam generated, electricity generated, or low Btu or pipeline quality gas produced, as applicable; and
  - 4. summary of sampling data.

#### 19.130: Operation and Maintenance Requirements

(1) General. Operators shall incorporate procedures and practices, in accordance with approved plans and permit conditions, such as proper sequencing of landfill operations, proper grading of the site, proper maintenance of drainage and collection systems, and the application of adequate amounts and appropriate types of cover materials, which will prevent pollution of ground water, surface water and air quality and prevent nuisance conditions from developing.

(2) Operator Supervision. The overall care, maintenance and responsibility for a landfill shall be under the direction of a qualified operator.

(3) Special Wastes. No solid waste that has been classified as a special waste pursuant to 310 CMR 19.061(2): *Classification of Special Waste*, shall be received or disposed at any landfill unless the provisions of 310 CMR 19.061 are satisfied and the special waste is handled in accordance with any conditions specified by the Department in granting approval to handle the special waste and in accordance with the handling provisions of 310 CMR 19.061.

(4) Banned or Restricted Solid Wastes. Solid wastes which have been banned or restricted from disposal pursuant to 310 CMR 19.017: *Waste Bans*, shall be managed at a landfill in accordance with the approved facility plan prepared and approved in accordance with 310 CMR 19.017(5) unless an exception has been granted under 310 CMR 19.017(6).

(5) Hazardous Waste.

- (a) No operator shall dispose of any material subject to the Hazardous Waste Regulations, 310 CMR 30.000, at a solid waste landfill permitted pursuant to M.G.L. c. 111, § 150A.
- (b) The operator shall implement a program, approved by the Department, for detection and exclusion of hazardous wastes.
- (c) The operator shall immediately notify the Department and the board of health of the discovery of any material subject to 310 CMR 30.000: *Hazardous Waste*.

(6) Bulky Wastes.

- (a) An operator may accept bulky wastes where:
  - 1. the handling of such wastes is consistent with the facility's permit or site assignment; and

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2. the handling and/or disposal of such wastes can be carried out in a manner which is manageable and compatible with the facility's operation and maintenance plan and environmental control systems.
  - (b) The Department may disallow or place conditions on the handling or disposal of bulky waste at a landfill in order to protect the engineering or operational integrity of the facility.
- (7) Liquid Wastes.
- (a) No liquid wastes shall be disposed at landfills. Contained liquid wastes generated by and produced in the normal operation of a household, excluding septage, shall not be considered to be liquid wastes unless expressly excluded through 310 CMR 19.017: *Waste Bans*.
  - (b) For the purpose of 310 CMR 19.130 liquid wastes means any material that drains freely or contains free draining liquids, as determined by the Department using the Paint Filter Liquids Test, Method 9095 as described in USEPA Publication SW-846, as may be amended.
- (8) Solid Waste Handling.
- (a) Solid waste shall not be deposited in, or be allowed to enter surface or ground waters of the Commonwealth.
  - (b) Solid waste or other discarded materials shall not be unloaded unless the operation is under the direct supervision of the operator.
  - (c) The operator shall post, using appropriate signs or other means, where vehicles are to unload solid waste at the landfill.
  - (d) The deposition of solid waste shall be confined to the smallest area feasible.
- (9) Bird Hazards. The operator of facilities located in the proximity of airports shall operate and maintain the facility in a manner so as to ensure that the facility shall not pose a bird hazard to aircraft.
- (10) Equipment and Equipment Shelter.
- (a) The operator shall provide equipment in adequate numbers and of appropriate type and size to ensure adequate compaction of solid waste and the proper operation and maintenance of the facility.
  - (b) Equipment shall not be in direct contact with the drainage/protection layer during landfilling activities.
  - (c) The operator shall make provisions for and ensure that backup equipment is obtained within 24 hours should the equipment used in daily operations become disabled for more than 24 hours. The facility shall cease operations should equipment not be available until such time as it becomes available to properly operate the facility.
  - (d) The operator shall provide suitable shelter or protection as necessary for all equipment and necessary service supplies used in connection with facility operations.
- (11) Staffing.
- (a) The operator shall provide an adequate number of trained staff to ensure that the facility is operated and maintained as designed and in accordance with good solid waste management practices.
  - (b) During posted hours of operation the operator shall be continuously present at the landfill.
- (12) Employee Facilities.
- (a) The operator shall provide proper shelter and facilities for employees working at the facility. The shelter and facilities shall contain:
    1. sufficient light and heat;
    2. a safe drinking water supply;
    3. sanitary handwashing and toilet facilities;
    4. an operational telephone or two-way radio system; and
    5. other equipment or appurtenances necessary for full compliance with OSHA and Department of Labor and Industries regulations.



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(13) Accident Prevention and Safety.

- (a) All employees shall be instructed in the principles of first-aid and safety and in the specific operational procedure necessary to prevent accidents.
- (b) The operator shall provide for the availability and maintenance of adequate first-aid supplies at the site at all times.
- (c) The operator shall provide for two-way radios or telephones and ensure that the numbers for emergency medical care and ambulances are posted at the site.

(14) Spreading and Compacting of Solid Waste.

- (a) All solid waste shall be evenly spread in shallow layers not exceeding three feet in thickness prior to compaction.
- (b) Each layer shall be thoroughly compacted prior to the spreading and compaction of each additional layer.

(15) Cover Material.(a) General. All cover material shall:

- 1. control fires, vectors, the occurrence of nuisance conditions such as odors, dust or litter, and be placed in a manner so as to minimize erosion by wind and/or water;
- 2. maintain a physical separation of the solid waste from the surface environment.
- 3. be substantially odor free;
- 4. consist of materials suitable for carrying out the geotechnical and other functions of the cover material; and
- 5. be free of substances which would attract vectors and free of large objects which would hinder spreading and compaction or otherwise interfere with the proper functions of cover material.

(b) Effective Use. The Department reserves the right to limit the types and quantities of cover material used at a facility to meet the engineering function of that use, maximize capacity allocation or to otherwise address the waste management needs of the Commonwealth.

(c) Daily Cover.

- 1. Daily cover material shall be workable under all weather and operational conditions.
- 2. A minimum of six inches of compacted soil shall be applied:
  - a. over all exposed solid waste at the end of each working day; or
  - b. more frequently and/or at greater depth, if necessary, to prevent fire and control vectors, odors, or blowing litter and to ensure that there is no exposed refuse.
- 3. A minimum quantity of daily cover material sufficient for 14 working days operations shall be stockpiled at the landfill site at all times.
- 4. Daily cover shall not be used in quantities greater than are necessary to achieve compliance with the requirements at 310 CMR 19.130(15)(a). Any quantity of daily cover used above this amount, except where stipulated, is considered disposal.
- 5. Upon written request, the Department may approve in writing, the use of alternative daily cover materials and/or different thicknesses of daily cover pursuant to 310 CMR 19.105: *Equivalency Review Standards and Procedures*. Where non-soil cover materials are proposed the material must meet or exceed the standards established at 310 CMR 19.130(15)(a) and (b).

(d) Intermediate Cover.

- 1. Intermediate cover material shall be used to prevent or minimize the infiltration and percolation of water into the landfill.
- 2. Intermediate cover shall be applied under the following circumstances:
  - a. a minimum of six inches of uniformly compacted intermediate cover, in addition to the daily cover, shall be applied on the exterior top and side slopes of any filled areas of a landfill which has not received or will not receive solid waste for 30 days or other time period as approved by the Department; or
  - b. a minimum of one foot of uniformly compacted intermediate cover in addition to the daily cover, shall be applied on the exterior top and side slopes of any filled areas of a landfill which has not or will not receive solid waste for six months or longer or other time period as approved by the Department.
- 3. Acceptable Materials.
  - a. The following soils, classified pursuant to the Unified Soil Classification System, may be used without prior Departmental approval: G.C., S.C., C.H., C.L. and O.H.

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- b. All other soils proposed for use as intermediate cover at a landfill shall be tested by a qualified laboratory and be approved as intermediate cover by the Department prior to placement.
4. Other Materials. Upon written request, the Department, pursuant to 310 CMR 19.105: *Equivalency Review Standards and Procedures*, may approve, in writing, the use of synthetic covers or other alternatives if such materials provide equivalent or greater protection than the materials listed in 310 CMR 19.130(15)(c)3.a.
- (e) Final Cover.
1. The application of final cover, or alternate in accordance with 310 CMR 19.112, 19.113 or 19.114, shall begin to be applied to a section of the landfill as soon as possible, but no later than 90 days, or other schedule as approved by the Department, after the circumstances specified in 310 CMR 19.130(15)(e)1.a. and b. When greater than 30 days of the 90 day period falls between November 1<sup>st</sup> and March 1<sup>st</sup>, final cover shall begin to be applied no later than the following April 1<sup>st</sup>.
    - a. Active landfills:
      - i. whenever a new lift has not or will not be applied within a one year period unless the area is permitted to accept additional waste;
      - ii. upon reaching final approved elevations;
      - iii. whenever a phase of the landfill has been completed; or
      - iv. whenever the permit expires or terminates for any reason, or is revoked.
    - b. Inactive landfills:
      - i. in accordance with schedules established pursuant to 310 CMR 19.150, *Landfill Assessment Requirements*, and 310 CMR 19.151: *Corrective Action Requirements*.
  2. The final cover shall be designed and constructed in accordance with the requirements established in 310 CMR 19.112, 19.113 or 19.114.
  3. Final cover shall be maintained to prevent erosion and ensure the integrity of the cap.
- (f) Maintenance of Intermediate or Final Cover.
1. The final cover system shall be repaired immediately upon the detection of any failure which may result in the release of pollutants to the environment and shall be maintained and repaired during the active life of the landfill, the closure period and the post-closure period.
  2. Operators shall repair the intermediate cover, including cover vegetation if used, of all areas on which intermediate cover has been applied.
- (16) Vector, Dust and Odor Control.
- (a) The operator shall prevent vectors, dust, odors and other nuisance conditions from developing at the landfill and any other areas related to the general facility operations.
  - (b) No pesticides shall be utilized at the landfill except:
    1. under the direct supervision of a pesticide operator licensed by the Massachusetts Department of Food and Agriculture; and
    2. upon written notification to the appropriate Department Regional Office and board of health of such application.
  - (c) Water shall not be used for dust control in amounts which produce excessive infiltration, ponding or erosion.
- (17) Litter Control.
- (a) Landfill operations shall be conducted so as to minimize blowing litter.
  - (b) The operator shall incorporate litter fencing, natural barriers or other devices to prevent the scattering of solid waste beyond the working area.
  - (c) The operator shall maintain the general cleanliness of the facility and surrounding areas impacted by blown litter from the facility or the access roads.
- (18) Top Slope and Side Slopes.
- (a) The operator shall ensure that the final top slope has a minimum grade of 5%.
  - (b) The operator shall ensure that no top slope or side slope grade shall result in excessive erosion.
  - (c) The operator shall ensure that final exterior side slopes shall not exceed a slope of three horizontal to one vertical (3:1).
  - (d) The operator shall ensure that in no case shall an unstable slope be created or a slope that could result in abnormal stress on the liner system.

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(19) Storm Water Drainage.

- (a) The operator shall provide sufficient storm water drainage controls and diversion structures, channels or ditches to promote drainage off of the landfill, minimize run-on onto the landfill, prevent uncontrolled ponding on the landfill or uncontrolled ponding adjacent to the filled area.
- (b) Storm water drainage structures shall be designed, constructed and maintained so as to ensure integrity of the drainage structures and so as to prevent erosion of the landfill.

(20) Erosion Control.

- (a) The operator shall institute such soil erosion control measures as are necessary to ensure the retention and integrity of the daily, intermediate or final cover.
- (b) The operator shall ensure that no solid waste or leachate are carried off-site due to erosion.
- (c) The operator shall ensure that siltation due to erosion shall not migrate off-site.
- (d) In a situation where significant settlement, uncontrolled ponding of waters or erosion of the landfill or cover material placed over the landfill occurs during the operation, closure or the post-closure period the operator or owner shall immediately institute corrective measures.

(21) Boundary and Elevation Markers.

- (a) The operator shall establish and maintain boundary markers at the outermost boundaries of waste deposition and at the property boundaries. Markers shall, at a minimum, be established at every change in direction of the boundary.
- (b) The operator shall establish and maintain at least one reference elevation marker on an area of the site that does not contain solid waste.

(22) Access Roads. The access roads shall be constructed, graded and maintained to ensure that traffic flow will not be interrupted by inclement weather or traffic patterns.

(23) Security.

- (a) The operator shall provide sufficient fences or other barriers to prevent access to the facility except at designated points of entry or exit.
- (b) A gate shall be provided at all access points and shall be locked at all times when the operator or his agent is not on site or during hours when the facility is not operating.

(24) Posting of the Landfill.

The operator of a landfill shall post signs at all access points to the landfill which, at minimum, include the following information:

- (a) the name of the owner and operator of the facility;
- (b) a 24 hour emergency telephone number for the facility;
- (c) the hours of operation;
- (d) a list of solid wastes banned or restricted pursuant to 310 CMR 19.017;
- (e) other limitations and conditions of access to the facility; and
- (f) penalties for unauthorized use.

(25) Open Burning. The operator shall not cause, suffer, allow or permit the open burning of any combustible material at the facility except as may be expressly permitted by the Department pursuant to 310 CMR 7.07: *U Open Burning.*

(26) Fire Protection and Control.

- (a) The operator shall ensure that no materials are stored, held, maintained or placed at a landfill in such a manner as to pose a fire hazard.
- (b) A separate area shall be provided, located away from combustible materials, uncovered refuse and buildings, for quick dumping and quenching or snuffing of hot loads.
- (c) The operator shall immediately notify the fire departments having jurisdiction, and the appropriate Regional Office of the Department whenever smoldering, smoking or burning has occurred or is occurring at the landfill.
- (d) The operator shall be responsible for seeking fire-fighting assistance, initiating and providing assistance and/or resources for fire-fighting actions until all smoldering, smoking and burning cease.

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(e) The operator shall not conduct disposal activities in the vicinity of any smoldering, smoking or burning area. Precautions shall be taken to prevent disposal activities from interfering with fire-fighting activities.

(f) Any disruption of the finished grade or covered surfaces as a result of fire fighting activities shall be repaired or replaced immediately upon termination of fire-fighting activities.

(27) Convenience and Recycling Drop-off Areas at landfills.

(a) The operator may provide one or more containers of sufficient capacity within a designated secure area under the landfill's control and with the approval of the Department either for the unloading of solid wastes from private vehicles prior to transport of the solid waste to the active area of the landfill (convenience areas), or for the collection and temporary storage of recyclable materials.

(b) Convenience areas and recycling drop-off areas shall be operated in an orderly, safe and environmentally sound manner.

(c) The convenience or recycling drop-off area shall be located a safe distance from the active working face and the movement of associated landfill equipment and commercial vehicles.

(d) The convenience or recycling drop-off area shall be maintained so as to prevent nuisance conditions from developing and to ensure the sanitary condition and orderly appearance of the areas.

(e) Solid waste shall be removed from the containers used in the convenience area and deposited in the working face at such frequency so as not to exceed the capacity of the containers. The containers shall be emptied, at a minimum, at the end of each day of operations.

(f) Containers provided for the collection and storage of recyclable materials for transport off-site shall be emptied whenever filled or every 60 days, whichever is less, or as otherwise determined by the Department.

(28) Waste Oil Collection at Landfills. Waste oil other than the waste oil generated by the operator during normal maintenance of equipment used on-site may be collected and stored at landfills only with the approval of the Department.

(29) Household Hazardous Waste Collections at Landfills. Household hazardous waste shall be collected at landfills only with the approval of the Department and consistent with 310 CMR 30.000: *Hazardous Waste*.

(30) Leachate Collection, Treatment and Disposal.

(a) Leachate shall be collected, stored, handled, treated on or off-site and disposed in accordance with approved plans and the permit.

(b) The storage of leachate should not exceed one foot of hydraulic head on the liner except during storm events and be designed to drop below one foot within seven days of a 25-year storm for the primary operational phase of the landfill.

(c) Leachate shall not be discharged directly to waters of the Commonwealth except in accordance with a discharge permit issued by the Department pursuant to 314 CMR 5.00 *Ground Water Discharge Permit Program* or 314 CMR 7.00: *Sewer System Extension and Connection Permit Program*.

(d) Leachate shall not be discharged to a sewer except in accordance with a sewer connection permit issued pursuant to 314 CMR 12.00.

(e) Leachate shall only be stored at the landfill pursuant to the requirements of 314 CMR 18.00: *Industrial Wastewater Holding Tank and Container Construction, Operation, and Record Keeping Requirements*.

(f) Leachate shall be removed from a landfill leachate storage facility for off-site treatment or disposal only by a licensed liquid waste hauler and only when there is a contractual or otherwise appropriate guarantee for disposal of the leachate.

(g) The operator shall have contracts or otherwise appropriate plans for back-up handling, treatment and disposal for leachate expected to be generated by the landfill in the case of interrupted service of the primary handling, treatment and disposal option.

(h) Inspection reports, as required under 310 CMR 19.130(35), shall include the quantity of leachate generated, the leachate disposal location, results of leachate tank testing and monitoring and other routine maintenance performed.

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(i) Leachate collection, storage, treatment, and disposal shall continue during the entire active life of the landfill, and during the closure and the post-closure periods.

(31) Phase Completion of the Landfill.

(a) Landfill operations shall be conducted in phases in accordance with approved plans to reduce the amount of active area exposed.

(b) Final cover shall be placed on completed phases and shall be maintained to prevent erosion and ensure the integrity of the cap.

(c) Construction of the Final Cover. Construction of the final cover shall consist of the construction of the final cover and all associated appurtenances. Construction of the final cover shall be carried out in conformance with 310 CMR 19.107: *Construction Certification*. The independent professional engineer shall:

1. notify the Department in writing two weeks prior to the start of construction of the low permeability cap;
2. ensure that:
  - a. the completed phase is graded in a manner that facilitates surface drainage and is consistent with the surrounding topography;
  - b. the completed phase is completely covered by a final cover in accordance with 310 CMR 19.112;
  - c. the construction of the final cover does not in any way interfere with proper drainage of adjacent lands or concentrate run-off waters on adjacent areas;
  - d. the phase has an air quality protection system designed and constructed in accordance with 310 CMR 19.117; and
  - e. the phase has an operative environmental monitoring system designed and implemented in accordance with 310 CMR 19.118.
3. notify the Department in writing two weeks prior to the completion of construction of the final cover; and
4. submit a copy of the engineer's certification to the Department.

(d) Letter of Compliance.

1. Following receipt of the engineer's certification specified at 310 CMR 19.130(31)(c)4. the Department shall inspect the landfill and shall:
  - a. issue a letter of compliance certifying that the landfill or phase thereof has received final cover in accordance with approved plans; or
  - b. issue a letter citing deficiencies and requiring corrective action.

(32) Disruption of Landfilled Areas.

(a) No person shall excavate, disrupt or remove deposited material from either an active, inactive or closed landfill without prior written approval from the department.

(b) All requests for approval shall include a plan describing the area involved, depth of such excavated material, where material is to be re-deposited and estimated time required for completion of excavation procedures.

(c) All excavations shall be confined to an area consistent with the number of pieces of digging equipment and/or trucks used for haulage.

(d) Adequate measures shall be taken during excavation to control dust, odors, fires, potential for release of gas and explosions, rodents, insects and blowing litter.

(e) The re-deposition of all excavated solid wastes shall be in conformity with all requirements of 310 CMR 19.000.

(33) Construction of Buildings. Construction of permanent buildings on top of landfilled areas shall be prohibited during the operational phase except for buildings associated with landfill gas recovery operations.

(34) Records for Operational and Plan Execution.

(a) The operator shall maintain a daily log to record operational information, including but not limited to the type and quantity of solid waste received and the status of all environmental control or monitoring systems.

(b) The operator of existing or new landfills receiving 100 tons or more per day shall weigh all incoming solid waste.

(c) Operators of landfills that receive less than 100 tons per day shall, on a daily basis, estimate the total weight and volume of waste delivered based upon the capacity of the vehicles which delivered solid waste to the facility.

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- (d) The operator shall submit to the Department, no later than February 15<sup>th</sup> of each calendar year, an annual report summarizing the facility's operations for the previous calendar year or portion of a calendar year that waste is handled at the facility. The report shall describe and summarize:
1. the amount of solid waste handled during that year with the quantity reported in tons;
  2. the filled capacity of the facility in cubic yards and the estimated density of the landfilled solid waste;
  3. the amount of capacity remaining in the landfill in cubic yards;
  4. the volume of daily and intermediate cover material applied to the landfill during that year;
  5. all environmental monitoring and sampling data trends from ground water, surface water and gas monitoring systems; and
  6. a demonstration of how the landfill's operations during the year complied with the provisions of the recycling and composting plan contained as part of the facility's solid waste management permit.

(35) Inspections.

- (a) The facility shall be inspected by a registered Massachusetts professional engineer, or other qualified professional approved by the Department, experienced in solid waste management, and retained by the owner/operator, on a frequency approved by the Department in the Operation and Maintenance Plan.
- (b) An inspection shall:
1. be reported in writing and shall describe in detail the status and condition of all operating and monitoring equipment, appurtenances and devices; any deviation from compliance with operation and maintenance requirements set forth at 310 CMR 19.130, the site assignment, permit, or the authorization to operate, any actions taken to correct such deviations, as required by the Department or recommended by the inspecting engineer; and schedules to correct identified problems.
  2. be signed and dated by the inspecting engineer, or other professional approved by the Department, certifying that to the best of his/her knowledge all information is accurate and complete.
- (c) The operator shall submit one copy of the inspection report to the Department and one copy to the board of health no later than 14 days following the date of the inspection.
- (d) The operator shall be responsible for the timely submission of inspection reports to the Department and the board of health.

(36) Re-circulation of Leachate. The Department may allow the re-circulation of leachate if it is demonstrated to the Department that such a procedure will be conducted to achieve a reasonable environmental goal and the operation will not compromise the integrity of the landfill, including the liner and leachate collection systems, or result in unacceptable adverse impacts to the public health, safety or the environment, or result in nuisance conditions. A request for leachate re-circulation shall include:

- (a) the goals and expectations of the re-circulation activity;
- (b) a report detailing the engineering considerations that need to be addressed by the re-circulation activity including, but not limited to, stability of the landfill, leachate collection system performance, odor concerns and landfill gas issues (generation rate and controls, *etc.*);
- (c) identification of potential adverse impacts (odors *etc.*) resulting from the re-circulation activity and a contingency plan to address any potential adverse impacts should they occur;
- (d) methods used to monitor the performance of the re-circulation operations to ensure they are within safe operating parameters and achieving project goals;
- (e) amount and rate of leachate to be recirculated, how leachate will be distributed, and storage needs and methods; and,
- (f) an evaluation of financial assurance mechanisms to ensure the availability of adequate funds to address corrective actions that may result if there are problems with the re-circulation system.

19.131: Additional Operation and Maintenance Requirements for Landfills That Accept Ash

(1) General. In addition to the operation and maintenance requirements set forth in 310 CMR 19.130, operators of landfills that accept ash shall comply with the operation and maintenance requirements set forth in 310 CMR 19.131.

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- (2) Fugitive Emissions. Ash landfills shall minimize the generation of fugitive emissions resulting from the delivery, dumping and compacting of ash.
- (3) Ash Moisture Content. Ash shall be transported and delivered to an ash landfill in a damp state, sufficient to prevent emissions of fugitive dust during the dumping, spreading, compacting and covering of the ash.
- (4) Spreading and Compacting of the Ash.
- (a) Ash shall not be deposited in an ash landfill unless it is completely extinguished.
  - (b) Ash shall be evenly spread in layers and thoroughly compacted.
- (5) Vehicle Washdown or Wheelwash or Other Alternative Measures. Ash landfills may be required to be equipped with an ash vehicle washdown area or wheelwash or other alternative method for the cleaning of ash from the vehicle prior to leaving the landfill where the vehicle will need to travel on public roads. The design of the washdown facility or wheelwash or alternative method, if required, shall ensure that washdown water is adequately collected for treatment and disposal.

19.132: Environmental Monitoring Requirements

- (1) Surface and Ground Water Monitoring.
- (a) Sampling and analysis of surface and ground water shall be done in accordance with methods approved by the Department.
  - (b) The owner/operator shall conduct surface and ground water monitoring at sampling points established in the permit and/or as required by the Department. The groundwater point of compliance for solid waste landfills shall be no more than 150 meters from the edge of the waste disposal area (as delineated in the facility's current DEP permit or specified in the engineering plans referenced in the permit), or the property line, whichever is less.
  - (c) The owner/operator shall establish background surface water and ground water quality at sampling points hydraulically upgradient of the landfill. Background water quality shall be determined by a minimum of four quarterly rounds of samples for each of the monitoring parameters or constituents listed in 310 CMR 19.132(1)(h).
  - (d) The owner/operator shall conduct surface and ground water monitoring on a schedule established in the permit or as required by Department. At a minimum monitoring shall be performed semi-annually except as required pursuant to 310 CMR 19.132(1)(c), unless the Department approves, in writing, a different frequency of sampling.
  - (e) The Department may refuse to accept monitoring data where:
    1. the sample was taken from a ground water monitoring well for which the Department has not received and approved as-built construction plans, boring logs and well locations;
    2. the sample was taken from a ground water monitoring well constructed in a manner not approved by the Department;
    3. the analyses were performed by a laboratory other than a Massachusetts certified laboratory, unless the sample is accompanied by a complete QA/QC submittal; or
    4. the sample was not handled in accordance with the sampling and preservation requirements (e.g., sample container, holding time and sample volume) specified by the testing method.
  - (f) All analytical results shall be submitted to the Department within 60 days after the date of sample collection or as specified in the permit. The analytical results shall be summarized in tables with a discussion of the results including a trend analysis. The results shall include, unless otherwise approved by the Department, the following information:
    1. site plans or maps showing sampling locations, distribution of contaminants and groundwater flow direction;
    2. a letter report briefly summarizing the data and identifying any issues of concern;
    3. all field Quality Assurance/Quality Control information; and
    4. chain of custody forms.
  - (g) Static ground water elevations and total well depth shall be recorded prior to collecting a ground water sample whenever a monitoring well is to be sampled.
  - (h) At a minimum, surface and ground water samples shall be analyzed for the following parameters, unless otherwise approved by the Department based on review of past monitoring results or other relevant information:

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1. Indicator parameters:
  - a. pH (in situ);
  - b. Alkalinity;
  - c. Temperature (in situ);
  - d. Specific Conductance (in situ);
  - e. Nitrate Nitrogen (as Nitrogen);
  - f. Total Dissolved Solids;
  - g. Chloride;
  - h. Calcium;
  - i. Sodium;
  - j. Iron;
  - k. Manganese; and
  - l. Sulfate
  - m. Chemical Oxygen Demand (COD)
  - n. Dissolved Oxygen
2. Inorganics:
  - a. Arsenic;
  - b. Barium;
  - c. Cadmium;
  - d. Chromium
  - e. Copper
  - f. Cyanide;
  - g. Lead;
  - h. Mercury;
  - i. Selenium;
  - j. Silver; and
  - k. Zinc.
3. all of the compounds included in EPA Method 8260, and methyl ethyl ketone, methyl isobutylketone, acetone and 1,4 dioxane. In addition, unknown peaks having intensities greater than five times the background intensity shall be identified (Method 8260 is detailed in the EPA publication SW-846, entitled *Test Methods for Evaluating Solid Waste.*); and
4. any additional parameters required by the Department.
  - (i) Practical quantitation limits (or laboratory reporting limits) must meet or be below the Maximum Contaminant Level (MCL) or applicable standard for each analyte tested or the data will not be accepted.
  - (j) If the concentrations of any of the parameters listed in 310 CMR 19.132(1)(h) exceed the state or federal drinking water standards, Maximum Contaminant Levels (MCLs), Ambient Water Quality Standards for surface water samples established at 314 CMR 4.00, or alternative standards established in a permit; or guidelines or standards established by a permit, order or authorization issued by the Department for contaminants for which no federal or state standard exists, at any sampling point, the owner/operator shall;
    1. notify the Department within 14 days of the finding; and
    2. collect, analyze and submit to the Department another round of samples within 60 days of the prior date of sample collection and determine the concentration of all parameters identified in 310 CMR 19.132(1)(h) that were exceeded or as specified by the Department.
  - (k) Where the Department determines, at any time, based upon the ground and surface water analyses from the facility, upgradient water quality and baseline water quality, that assessment and corrective actions shall be required, the operator shall undertake the assessment and/or corrective actions as determined by the Department. Such assessment shall characterize the full nature and extent of contamination, and the risks of harm to public health, safety and the environment in accordance with the requirements of 310 CMR 19.150 *et seq.* and 310 CMR 40.0114. In establishing the applicable standards for groundwater down-gradient of the point(s) of compliance the Department shall consider the factors and procedures contained in sections 310 CMR 40.0900 and 310 CMR 40.1000.
  - (l) Nothing in this section shall limit the responsibility of the landfill to comply with the provisions of M.G.L. c. 21H, § 4, M.G.L. c. 111, § 150A, 310 CMR 19.150, and 310 CMR 40.0114 at all locations down-gradient of the point(s) of compliance.



19.132: continued

- (2) Monitoring of the Secondary Leachate Collection or Leak Detection System.
- (a) The operator shall monitor the quantity and quality of leachate collected by the secondary leachate collection system or leak detection system, where such a system has been constructed. Monitoring shall be accomplished as specified in the solid waste management facility permit, the leachate discharge permit or as deemed necessary by the Department.
- (b) The operator shall submit, in addition to permit requirements, the results of the leachate monitoring from the secondary leachate collection system or leak detection system to the Department with inspection reports.
- (c) Where leachate is determined by the Department to have entered the secondary leachate collection system or leak detection system in excess of design standards, the operator shall undertake the actions specified under 310 CMR 19.150: *Landfill Assessment Requirements* and 310 CMR 19.151: *Corrective Action Requirements* as required by the Department.
- (3) Leachate Monitoring.
- (a) The operator shall monitor the quantity and quality of leachate as deemed necessary by the Department or as specified in the leachate discharge permit.
- (b) The operator shall submit, in addition to permit requirements, the results of the leachate monitoring to the Department with the inspection reports required pursuant to 310 CMR 19.130(35).
- (4) Gas Monitoring.
- (a) The operator shall sample and physically and chemically characterize the recovered gas, condensates, or any other residues generated, and submit a copy of such analyses to the Department.
- (b) Gas monitoring shall be conducted as follows:
1. Sampling and analysis of landfill gas shall be done in accordance with methods approved by the Department.
  2. The owner/operator shall conduct landfill gas monitoring at sampling points established in the permit and/or as required by the Department.
  3. The owner/operator shall conduct landfill gas monitoring on a schedule established in the permit or as required by Department. Monitoring shall be performed quarterly unless otherwise approved by the Department.
- (c) The Department may not accept landfill gas monitoring data where:
1. the sample was taken from a gas monitoring device for which the Department has not received and approved as-built construction plans and locations; or
  2. the sample was taken from a gas monitoring device constructed in a manner not approved by the Department; or
  3. the analyses were performed by a laboratory other than an approved laboratory, unless the sample is accompanied by a complete QA/QC submittal.
- (d) All analytical results shall be submitted to the Department within 60 days after the scheduled sampling period specified in the permit.
- (e) Gas monitoring shall be conducted during the facility's active operation and for the post-closure period set forth in 310 CMR 19.142(2).
- (f) Landfill gas samples shall be analyzed for volumes and concentrations of explosive gases. In addition, the Department may require monitoring for the following:
1. hydrogen sulfide;
  2. volatile organic compounds; and
  3. any additional parameters required by the Department.
- (g) When, at any time, the concentration of explosive gasses exceeds 10% of the lower explosive limit (LEL) in any building, structure, or underground utility conduit, excluding gas control, gas recovery and leachate collection system components, the owner/operator shall:
1. take immediate action to protect human health and safety;
  2. notify the Department within two hours of the finding; and
  3. undertake the actions specified under 310 CMR 19.150: *Landfill Assessment Requirements* and 310 CMR 19.151: *Corrective Action Requirements* as required by the Department.
- (h) Except in buildings, structures and underground utility conduits for which 310 CMR 19.132(4)(g) applies, when, at any time, the concentration of explosive gasses exceeds 25% of the lower explosive limit (LEL) at the property boundary or beyond, excluding gas control, gas recovery and leachate collection system components, the owner/operator shall:

19.132: continued

1. take immediate action to protect human health and safety;
  2. notify the Department within 24 hours of the finding; and
  3. undertake the actions specified under 310 CMR 19.150: *Landfill Assessment Requirements* and 310 CMR 19.151: *Corrective Action Requirements* as required by the Department.
- (i) When the concentration of any of the parameters for which monitoring is required at 310 CMR 19.132(4)(f)1., 2. or 3. exceeds any permit standards or federal or state regulations the owner/operator shall notify the Department within 14 days of the finding and undertake the actions specified under 310 CMR 19.150: *Landfill Assessment Requirements* and 310 CMR 19.151: *Corrective Action Requirements* as required by the Department.

19.133: Maintenance of Environmental Control and Monitoring Systems

- (1) Landfill environmental control and monitoring systems shall be maintained and repaired or replaced as provided for in 310 CMR 19.133:
- (a) The landfill shall be operated in a manner which will protect all environmental control systems as approved in the Operation and Maintenance plan and monitoring systems as approved in the Operation and Maintenance plan or permit.
  - (b) The operator shall ensure the regular maintenance of all landfill environmental control systems as approved in the Operation and Maintenance plan or permit.
  - (c) The operator shall notify the Department of the existence of damaged or destroyed environmental control systems or monitoring devices and the extent of the damage. The operator shall submit such notification, in writing, within 14 days of discovery and shall provide a schedule for repair or replacement for approval by the Department. Repair or replacement of monitoring devices shall be completed prior to the next scheduled sampling round.
  - (d) Surface water, ground water and gas monitoring locations shall be maintained so as to meet the requirements set forth in 310 CMR 19.118.
  - (e) The operator shall notify the Department of the existence of a damaged or destroyed surface water sampling location marker and the extent of the damage. The operator shall submit such notification, in writing, within 14 days of discovery and shall provide for repair or replacement of the location marker prior to the next scheduled sampling round.

19.140: Landfill Closure Requirements

- (1) General. Any facility that must stop accepting solid waste in accordance with 310 CMR 19.000, any permit, authorization or order issued by the Department or a court of competent jurisdiction or under any other circumstances shall comply with the requirements of 310 CMR 19.140.
- (2) Notification of Voluntary Closure. The owner and/or operator shall notify the Department no later than six months prior to the date that the facility will stop accepting solid waste.
- (3) Closure Assessment. The owner or operator of a landfill shall initiate an assessment in accordance with 310 CMR 19.150 prior to landfill closure to determine and evaluate the extent of any adverse impact(s) of the landfill on the environment as a result of the construction or operation and maintenance of the facility and develop a corrective action design in accordance with 310 CMR 19.151.
- (4) Preparation and Submittal of Final Closure/Post-closure Plans. The operator shall submit the final closure/post-closure plan prior to undertaking any closure construction activities. In addition to the information provided in the conceptual closure/post-closure plan developed in accordance with 310 CMR 19.104(6), the final closure/post-closure plan shall include:
- (a) a report containing the findings of the site assessment required under 310 CMR 19.150;
  - (b) a proposed schedule of remedial or corrective actions, as required based on the assessment or other information, in accordance with 310 CMR 19.150 and 19.151;
  - (c) modified design plans, if necessary, based upon deviations from the conceptual closure plans and/or the actions required under 310 CMR 19.150 and 19.151; and
  - (d) a description and schedule of proposed post-closure maintenance, monitoring and assessment activities necessary to protect the public health, safety and the environment.

19.140: continued

- (5) Department Review. The Department may approve the final closure and post-closure plans if the Department is persuaded by the applicant that the provisions in the plan would ensure that:
- (a) solid waste disposal activities shall be terminated upon the facility stop date;
  - (b) no conditions exist that could attract vectors or cause nuisance conditions;
  - (c) the facility will be deactivated or closed; and
  - (d) all practicable measures shall be taken to prevent pollution of the environment or a threat to public health or safety from the site.
- (6) Completion of Closure. A facility shall be deemed closed on the date of the Department's written determination that the closure of the facility has been completed in accordance with the permit.
- (a) A facility shall be deemed to be closed for the purposes of 310 CMR 19.000 on the date of the Department's determination.
  - (b) The post-closure period shall begin on the date of the Department's determination.

19.141: Record Notice of Landfill Operation

- (1) Notification that a landfill has been operated on a site shall be recorded in the registry of deeds or in the registry section of the land court for the district wherein the landfill lies in accordance with M.G.L. c. 111, § 150A. The notification shall be captioned "Record Notice of Landfill Operation M.G.L. c. 111, § 150A, 310 CMR 19.141" and contain the following:
- (a) identification of record owners of the property;
  - (b) a description of the landfill site, by metes and bounds and by reference to an appropriate map or plan to be recorded therewith, signed by a qualified professional engineer or a land surveyor, depicting the boundaries of the filled area and the location of any and all leachate collection devices, gas and ground water monitoring wells associated with the site;
  - (c) a detailed description of the type and extent of the final cap and cover on the landfill;
  - (d) a description of the nature and duration of post-closure maintenance and monitoring requirements for the site and the amount and form of the financial assurance requirements pursuant to 310 CMR 19.000; and
  - (e) reference to the Department file number or other Department means for identifying the landfill file.
- (2) The notice shall contain the following statement: "The premises described herein are subject to the provisions of M.G.L. c. 111, § 150A and 310 CMR 19.000. Said premises shall not be used for any purpose other than as a landfill without prior written approval of the Department of Environmental Protection. Continued operation of the site as a landfill requires the transfer of the permit in accordance with 310 CMR 19.044. The procedure for Department approval for any use other than as a landfill is set forth at 310 CMR 19.143. Such Department approval of other use is transferable or assignable only upon written approval of the Department."

19.142: Landfill Post-closure Requirements

- (1) General. The owner, successors or assigns shall maintain, care for and monitor the site during the post-closure period in order to ensure the integrity of the closure measures and to detect and prevent any adverse impacts of the site on public health, safety or the environment.
- (2) Post-closure Period. For the purposes of 310 CMR 19.142 the post-closure period shall extend for a minimum of a 30 year period.
- (3) Post-closure Period Waiver. The Department may, upon request, reduce the post-closure period to less than 30 years if it finds that a shorter period will be sufficient to protect public health, safety, and the environment. The Department's review will include, but not be limited to, a consideration of the quantity and quality of leachate generated by the landfill, ground water monitoring results, characteristics of the waste disposed, stability of the waste, design of the facility and location of the site.
- (4) Post-closure Period Extension. The post-closure period may be extended by the Department at any time prior to the time that the post-closure period is due to expire where the Department finds an extension is necessary in order to ensure protection of public health, safety or the environment or to mitigate adverse impacts.

19.142: continued

- (5) Post-closure Requirements. During the post-closure period the operator shall perform the following activities on any closed portion of the facility:
- (a) take corrective actions to remediate and/or mitigate conditions that would compromise the integrity and purpose for the final cover;
  - (b) maintain the integrity of the liner system and the final cover system;
  - (c) collect leachate from and monitor and maintain leachate collection system(s);
  - (d) monitor and maintain the environmental monitoring systems for surface water, ground water and air quality;
  - (e) maintain access roads;
  - (f) maintain landfill gas control systems;
  - (g) protect and maintain surveyed benchmarks; and
  - (h) have the landfill inspected by a third-party consulting Massachusetts Registered Professional engineer, or other qualified professional approved by the Department, experienced in solid waste management, in accordance with the post-closure plan.
- (6) Reporting Requirements. The owner, successors or assigns shall submit a report every two years except as otherwise required by the Department during the post-closure period describing any activity at the site and summarizing the results of environmental monitoring programs and inspections by third-party consulting Massachusetts Registered Professional engineers, or other qualified solid waste professional approved by the Department, experience in solid waste management as required at 310 CMR 19.142(5)(h).
- (7) Additional Measures. The owner, successors or assigns shall institute such additional measures during the post-closure period as the Department deems necessary for the protection of public health or safety or the environment.
- (8) Termination of the Post-closure Period. The post-closure period shall end on the date of the Department's written determination that the post-closure care, maintenance and monitoring of the site are no longer required. Said written determination in no way limits or absolves the owner of liability for the site in the future.

19.143: Post-closure Use of Landfills

- (1) Applicability. Pursuant to M.G.L. c. 111, § 150A no site on which a facility was operated shall be used for any other purpose without the prior written approval of the Department.
- (2) Submission of Post-closure Use Plans. Any person proposing to use a landfill for any purpose following closure of a facility shall submit plans for the post-closure use to the Department for review.
- (3) Criteria for Approval of Post-closure Use. Any post-closure use of a landfill shall be accomplished such that:
- (a) the final contours of the landfill are not altered, unless the Department determines:
    1. the disturbance is necessary to the proposed use and that it will not result in an adverse impact to public health, safety or the environment; or
    2. the disturbance is necessary to reduce threats to public health, safety or the environment;
  - (b) the integrity of the final cover, the components of any containment system and the function of the facility's monitoring systems are not impaired;
  - (c) drainage facilities, ponds, swales, ditches and other erosion/sedimentation controls are maintained.
- (4) Post-closure Construction. Construction during the post-closure phase shall be accomplished in accordance with the following:
- (a) buildings shall be above-grade structures. Any penetration of the landfill final cover shall be designed and constructed to ensure that the integrity of the final cover is maintained. Construction of basements which penetrate the low permeability layer is prohibited;
  - (b) buildings shall be constructed to prevent accumulation of gas within the structure. Buildings shall include gas monitoring and warning systems and may be required to include an active gas venting system; and
  - (c) all utility connections shall be designed and constructed with flexible connections.

19.150: Landfill Assessment Requirements

- (1) Applicability.
- (a) General. An assessment shall consist of all activities, as determined by the Department, required to identify the existence, source, nature and extent of pollution or threat of pollution, the extent of the adverse impact from any pollution and the feasible cost-effective alternatives available to correct or reduce the impacts of pollution. This shall include, but is not limited to, the identification and evaluation of all potential and actual migration pathways and receptors including the determination of exposure point concentrations.
- (b) When an Assessment is Required. A landfill assessment shall be conducted:
1. when required by the Department pursuant to 310 CMR 19.132(1)(j);
  2. when required by the Department pursuant to 310 CMR 19.132(4) when explosive gases exceed concentrations as specified in 310 CMR 19.132(4)(g) or landfill gases present a threat of pollution as specified in 310 CMR 19.132(4);
  3. where a secondary leachate collection system or leak detection system exists at the landfill, the quantity of leachate detected in the secondary leachate collection system or leak detection system exceeds the design leakage, as specified in 310 CMR 19.132(2);
  4. prior to final closure of the landfill as specified in 310 CMR 19.140(3); or
  5. such other time as the Department determines that a landfill or dumping ground presents a threat to public health, safety or the environment.
- (2) Department Determinations. Upon submittal of an Assessment or Corrective Action Alternatives Analysis, the Department shall make one of the following determinations:
- (a) The Assessment or Corrective Action Alternatives Analysis is approved. The Department may impose terms and conditions on its approval, including a schedule and sequence for submission of further data and implementation of the response actions; or
- (b) The Assessment or Corrective Action Alternatives Analysis is incomplete, inadequate or inconsistent with 310 CMR 19.000 or other applicable laws or regulations and further activities are required.
- (3) Assessment Process. An assessment shall be conducted in three phases: initial site assessment; comprehensive site assessment; and corrective action alternatives analysis. At the end of each phase, based on the results of the analyses provided in accordance with approved plans, the Department shall determine if a subsequent phase shall be conducted and specify the scope of work. The Department may consider such factors as the potential threat to public health and the environment, costs and benefits of further study, comparative implementation and maintenance costs and other relevant factors in making its determination on subsequent phases of assessment or corrective action.
- (4) Initial Site Assessment.
- (a) General. The owner or operator shall obtain and submit such data as the Department determines is necessary to adequately describe the physical characteristics of the landfill and the surrounding environment, document the operational history of the landfill, and develop the scope for the comprehensive site assessment.
- (b) Content of Initial Assessment. The initial site assessment shall consist of a number of site-specific tasks as determined by the Department.
- (5) Comprehensive Site Assessment.
- (a) General. The owner or operator shall obtain and submit such data as the Department determines is necessary to characterize the impact of the landfill on public health, safety and the surrounding environment and develop the scope for any further study.
- (b) Content of Comprehensive Assessment. The comprehensive assessment shall consist of a number of site-specific tasks as determined by the Department.
- (6) Corrective Action Alternatives Analysis.
- (a) General. The Corrective Action Alternatives Analysis shall analyze options for corrective actions to eliminate or mitigate the potential adverse impact caused by conditions at the facility and to complete final closure in accordance with 310 CMR 19.140: *Landfill Closure Requirements*. In considering an alternative for corrective action, the owner or operator shall consider those actions that are necessary to comply with the provisions of 310 CMR 40.0114 and to minimize to the extent feasible the potential for adverse future impacts from the landfill.

19.150: continued

(b) Content of Alternatives Analysis. A corrective action alternatives analysis shall consist of the following three components:

1. Corrective Action Objectives. 310 CMR 19.150(6) shall identify the environmental and public health impacts of the landfill. The analysis shall include at a minimum the specific objectives each alternative is intended to achieve and the means that may be employed to achieve those objectives.
2. Alternatives Analysis. 310 CMR 19.150(6) shall present and analyze at least two options for site corrective action, one of which shall consist of a no-action alternative. At a minimum, each option's likely effectiveness in achieving the corrective action objectives outlined in 310 CMR 19.150(6)(b)1., its overall cost, and implementability must be considered.
3. Recommended Option. 310 CMR 19.150(6) shall specify which of the options discussed in the alternatives analysis is recommended. The owner or operator shall provide a detailed justification for recommending a particular option above the others considered.

(7) Assessment Schedule. Except as may be allowed pursuant to 310 CMR 19.150(7)(d), the following schedule shall be adhered to in conducting the above three phases of site assessment.

(a) The Initial Site Assessment shall be initiated within 30 days of notification by the Department of the need to conduct the Initial Site Assessment. The initial Site Assessment shall be completed in accordance with the schedule established by the Department.

(b) A scope of work for the Comprehensive Site Assessment shall be developed and submitted to the Department for approval within 30 days of completion of the Initial Site Assessment, unless the Department determines, pursuant to 310 CMR 19.150(2), that a Comprehensive Site Assessment is not required. The Comprehensive Site Assessment shall be initiated within 30 days of the Department's approval of the scope of work and completed in accordance with the schedule established by the Department.

(c) A scope of work for the Corrective Action Alternatives Analysis shall be developed and submitted to the Department for approval within 90 days of the completion of the final round of environmental sampling at the landfill, unless the Department determines, pursuant to 310 CMR 19.150(2), that a Corrective Action Alternatives Analysis is not required. The Corrective Action Alternatives Analysis shall be initiated within 60 days of the Department's approval of the scope of work and completed in accordance with the schedule established by the Department.

(d) The Department may modify, in writing, the time periods of the assessment schedule for a public body which owns and operates its landfill to comply with the laws governing public finance and public bidding where the public body establishes that no funds are available to conduct those assessment activities within the regulatory time frames.

(8) Applicability of M.G.L. c. 21E. Nothing in 310 CMR 19.150 shall limit or restrict the Department from exercising its authority in accordance with the provisions of M.G.L. c. 21E and 310 CMR 40.000.

#### 19.151: Corrective Action Requirements

(1) General. Corrective action shall consist of all measures necessary to address existing and potential impacts of the landfill on public health, safety and the environment as determined by the corrective action alternatives analysis and approved by the Department and to comply with the requirements of 310 CMR 40.0114.

(2) Content. Corrective action shall be conducted in two phases:

(a) Corrective Action Design. In this phase further engineering analyses shall be undertaken by the owner or operator to complete the design of the Department's approved corrective action alternative. Final design plans and an implementation schedule shall be submitted to the Department for approval.

(b) Corrective Action Implementation. This phase shall consist of implementation of the approved corrective action design. This phase shall include construction and installation of all components, post-closure monitoring and any required operation and maintenance activities.

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(3) Department Approval. Upon submittal of the Corrective Action Design, the Department shall make one of the following determinations:

- (a) The Corrective Action Design is approved. The Department may impose terms and conditions on its approval including a schedule and sequence for submission of further data; or
- (b) The Corrective Action Design is incomplete, inadequate or inconsistent with 310 CMR 19.000 or other applicable laws or regulations and further design activities are required.

(4) Oversight of Corrective Action Implementation. The owner or operator shall provide the Department with progress reports detailing the activities undertaken to implement the approved corrective action alternative. Reports shall be filed by a registered engineer and submitted to the Department on a schedule to be approved by the Department. A registered engineer shall certify that construction of the corrective action alternative has been accomplished in accordance with approved plans.

(5) Applicability of M.G.L. c. 21E. Nothing in 310 CMR 19.151 shall limit or restrict the Department from exercising its authority in accordance with the provisions of M.G.L. c. 21E and 310 CMR 40.000.

19.200: Preamble

310 CMR 19.200 through 19.207, which follow, establish minimum performance and design standards and operation and maintenance standards for solid waste handling facilities. In combination with 310 CMR 19.001 through 19.083, these two sets of regulations govern all solid waste management activities at solid waste handling facilities. The procedures for application, approvals, authorizations, and transfers are set forth in 310 CMR 19.000 through 19.083.

19.201: Applicability

All handling facilities shall be managed in a manner consistent with 310 CMR 19.200 through 19.207 and the requirements of 310 CMR 19.001 through 19.083. Facilities and operations exempted from site assignment by the Site Assignment for Solid Waste Facilities regulations, 310 CMR 16.05: *Applicability*, are exempted from the requirements of 310 CMR 19.200 through 19.207.

19.202: Definitions

All terms used herein shall have the meanings set forth in 310 CMR 19.006 unless the context clearly implies or indicates another meaning.

19.203: Additional Requirements

Nothing in 310 CMR 19.000 shall be construed to limit the Department from determining on a facility or site specific basis that additional design or operation and maintenance components are required where conditions warrant such additional design or operation and maintenance measures to protect public health, safety and the environment or to mitigate potential adverse impacts. When deemed necessary by the Department, in response to conditions that have developed at a facility, the Department may require a facility to monitor air and/or surface or ground water to determine if the conditions present a threat to public health, safety or the environment.

(19.204: Handling Facility Plan: Reserved)

19.205: Handling Facility Design Requirements

- (1) Storm Water Controls.
- (a) Performance Standard. Storm water controls shall prevent erosion, prevent the discharge of pollutants, protect the physical integrity of the handling facility, and be managed according to applicable standards established by the Department including, but not limited to, the wetlands protection regulations at 310 CMR 10.05(6)(b) and the Department's Storm Water Policy. For purposes of meeting the stormwater standards established by the Department, recharge shall be permitted at the handling facility only where the recharge will not adversely impact the quality of groundwater leaving the site. Peak rate attenuation shall be in accordance with that described in 310 CMR 19.205(1)(b): *Design Standards*, and source controls and pollution prevention measures (including design of the handling facility) shall be implemented to prevent discharge of pollutants. This standard applies to the construction and operational phases of the handling facility.
- (b) Design Standards. Storm water controls shall be designed to:
1. prevent run-on or flow onto the waste or material handling or storage areas during the peak discharge from a 24 hour, 100-year storm;
  2. control the peak rate of run-off from the handling facility and paved areas of the site resulting from a 24 hour, 25-year storm.
  3. control the peak rate of run-off from the handling facility resulting from a 24 hour, 100-year storm, to the extent practicable, if an evaluation of the peak rate of run-off resulting from a 24-hour, 100-year storm indicates there will be flooding up or downstream of the site using the most recent precipitation atlas approved for use by the United States National Weather Service, or their predecessor the U.S. Weather Bureau, shall be used to determine the rainfall depth associated with the 100-year storm (currently Technical Paper-40 published May, 1961).
- (2) Equipment.
- (a) The operator shall provide equipment in adequate numbers and of appropriate type and size for the proper operation of the handling facility in accordance with good engineering practice and in compliance with 310 CMR 19.00. All compactor or other processing units shall be in duplicate with each unit capable of handling the expected design tons per day; except that only one compactor or processing unit may be satisfactory
1. where the handling facility will handle under 150 tons per day, or
  2. where adequate facilities to continue operation and/or an alternate method to handle all incoming refuse in an approved and sanitary manner in the event of a failure or breakdown is provided.
- (b) The operator shall make provisions for the routine maintenance of equipment to assure satisfactory performance capability for the various operations of the handling facility.
- (c) The operator shall provide at the site suitable shelter or protection for all equipment and necessary service supplies used in connection with the handling facility.
- (d) The operator shall make arrangements for providing standby equipment in the event of breakdown of regular equipment. Such standby equipment shall be available for use and shall be provided within 24 hours of breakdown; otherwise the handling facility shall be closed for receipt of wastes until equipment becomes available.
- (3) Weighing Facilities. The operator shall make provision on a continuous basis for the weighing or measuring of refuse delivered to the handling facility. Scales or other measuring devices may be required by the Department as follows:
- (a) The operator of existing or new handling facilities receiving 100 tons or more per day shall weigh all incoming solid waste.
  - (b) Operators of handling facilities that receive less than 100 tons per day shall, on a daily basis, estimate the total weight and volume of waste delivered based upon the capacity of the vehicles which delivered solid waste to the facility.

19.206: Construction and Demolition (C&D) Waste Processing Facilities Requirements

- (1) All handling (unloading, storage, crushing, shredding, chipping, sorting, *etc.*) of C&D waste shall occur indoors unless otherwise approved by the Department.



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(2) All processed C&D waste and recovered or recyclable materials shall be stored in a manner appropriate for that material to protect the public health, safety and the environment. In general all processed C&D wastes (*i.e.* C&D fires), but not necessarily recovered or recyclable materials, shall be stored in covered containers or in covered piles on impervious surfaces.

(3) All storm water, or water used for site operations, that comes in contact with C&D materials and recovered or recyclable materials shall be controlled and collected and otherwise properly managed in accordance with all applicable local, state and federal requirements prior to discharge offsite.

19.207: Handling Facility Operation and Maintenance Requirements

(1) General. Operators shall incorporate procedures and practices, in accordance with approved plans and permit conditions, which will prevent pollution of ground water, surface water and air quality and prevent dust, odors, noise and other nuisance conditions from developing.

(2) Supervision of Operation.

(a) The operator of the handling facility shall be under the overall supervision and direction of an engineer or other person qualified and experienced in matters of solid waste handling and disposal.

(b) The operator of the handling facility shall be knowledgeable of the requirements of 310 CMR 16.00 and 310 CMR 19.000, and of the general operating procedures and plans as prescribed by the design engineer.

(c) The operator shall be required to demonstrate familiarity and capability to operate equipment at the handling facility.

(3) Access to Facilities.

(a) The operator shall provide and maintain in good repair access roads at the facility. Such access roads shall be paved to minimize dust and designed and constructed so that traffic will flow smoothly and will not be interrupted by inclement weather.

(b) The operator shall limit access to the facility to such periods of time as an attendant is on duty and to those persons authorized to use the facility for the disposal of refuse.

(4) Security.

(a) The operator shall provide sufficient fences or other barriers to prevent access to the facility except at designated points of entry or exit.

(b) A gate shall be provided at all access points and shall be locked at all times when the operator or his agent is not on site or during hours when the facility is not operating.

(5) Posting of the Handling Facility. The operator of a handling facility shall post signs at all access points to the facility which, at minimum, include the following information:

(a) the name(s) of the owner and operator of the facility;

(b) a 24 hour emergency telephone number for the facility;

(c) the hours of operation;

(d) a list of solid wastes banned or restricted pursuant to 310 CMR 19.017;

(e) other limitations and conditions of access to the facility; and

(f) where established by the municipality, penalties for unauthorized use.

(6) Unloading Refuse. The operator shall provide for continuous supervised unloading of refuse from incoming vehicles and shall post appropriate signs or other means to indicate clearly where incoming vehicles are to unload the refuse by direction of the attendant or equipment operator on duty.

(7) Special Wastes. No solid waste that has been classified as a special waste pursuant to 310 CMR 19.061(2): *Special Waste*, shall be received or handled at any handling facility unless the provisions of 310 CMR 19.061 are satisfied and the special waste is handled in accordance with any conditions specified by the Department in granting approval to handle the special waste and in accordance with the handling provisions of 310 CMR 19.061.

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- (8) Banned or Restricted Solid Wastes. Solid wastes which have been banned or restricted from transfer or disposal pursuant to 310 CMR 19.017: *Waste Bans*, shall be managed at a handling facility in accordance with the approved facility plan prepared and approved in accordance with 310 CMR 19.017(5) unless an exception has been granted under 310 CMR 19.017(6).
- (9) Hazardous Waste.
- (a) No operator shall handle any material subject to the Hazardous Waste Regulations, 310 CMR 30.000, at a solid waste handling facility permitted pursuant to M.G.L. c. 111, § 150A, except that waste oil and household hazardous waste may be collected at a facility pursuant to 310 CMR 19.207(10).
- (b) The operator shall implement a program, approved by the Department, for detection and exclusion of hazardous wastes.
- (c) The operator shall, within 24 hours, notify the Department and the board of health of the discovery of any material subject to 310 CMR 30.000: *Hazardous Waste*.
- (10) Household Hazardous Waste and Waste Oil Collections at Handling Facilities. If household hazardous waste and waste oil are collected at handling facilities, the household hazardous waste and/or waste oil shall be collected with prior notice to DEP and in compliance with either:
- (a) 310 CMR 30.392: *Events for the Accumulation of Household Hazardous Waste and/or Hazardous Waste Generated by Very Small Quantity Generators*, or
- (b) 310 CMR 30.393: *Centers for the Accumulation of Hazardous Waste Generated by Households and/or Very Small Quantity Generators*.
- (11) Bulky Waste.
- (a) An operator may accept bulky wastes where:
1. the handling of such wastes is consistent with the facility's site assignment and/or permit; and
  2. the handling of such wastes can be carried out in a manner which is manageable and compatible with the facility's operation and maintenance plan and environmental control systems.
- (b) The Department may disallow or place conditions on the handling of bulky waste at a handling facility in order to protect the engineering or operational integrity of the facility.
- (c) The board of health may, by regulation, specify the maximum size of large, heavy, or bulky items to be managed at the handling facility and may prohibit altogether the handling of certain items.
- (d) If brush is accepted at the handling facility, provisions should be made for the brush to be received in bundles no larger in size than can be handled in an acceptable and sanitary manner by the specific equipment. Brush should not be allowed to accumulate beyond 48 hours after deposition at the handling facility.
- (12) Liquid Wastes.
- (a) No liquid wastes shall be managed at a handling facility. With the exception of septage, contained liquid wastes generated by and produced in the normal operation of a household shall not be considered to be liquid wastes unless expressly excluded through 310 CMR 19.017: *Waste Bans*.
- (b) For the purpose of 310 CMR 19.130 liquid wastes means any material that drains freely or contains free draining liquids, as determined by using the Paint Filter Liquids Test, Method 9095 as described in USEPA Publication SW-846.
- (13) Bird Hazards. The operator of facilities located in proximity to airports shall operate and maintain the facility in such manner as to minimize, to the extent practicable, the potential for the facility to pose a bird hazard to aircraft.
- (14) Dust Control. The operator shall undertake suitable measures to control dust wherever and whenever necessary at the site, the access road, and any other areas related to or under control of the waste handling facility operator to prevent nuisance conditions. Water shall not be used for dust control in amounts that produce excessive infiltration, ponding, runoff or erosion.

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(15) Vector Control.

- (a) The operator shall cause routine waste handling facility operations to be carried out promptly in a systematic manner and shall take preventative measures to maintain conditions unfavorable for the attraction or production of insects, birds, rodents and other vectors.
- (b) The Department may require a routine program for the control and elimination of insects and rodents and other vectors at the or handling facility site. The operator shall cause supplemental control measures, including but not limited to the use of effective insecticides and rodenticides, to be implemented when necessary.
- (c) The application of pesticides shall be made only by a pesticide operator licensed by the Massachusetts Pesticide Board.

(16) Control of Wind-blown Litter.

- (a) The operator shall take measures to prevent the scattering of refuse and wind-blown litter, including incorporating litter fencing, natural barriers or other devices to prevent the scattering of solid waste beyond the facility.
- (b) The operator shall provide for routine maintenance and general cleanliness of the entire handling facility area. Such provisions are to be detailed on the engineering plans or written operating procedures.

(17) Staffing.

- (a) The operator shall provide an adequate number of trained staff to ensure that the facility is operated and maintained as designed and in accordance with good solid waste management practices.
- (b) During hours of operation the operator shall be continuously present at the handling facility.

(18) Employee Facilities.

- (a) The operator shall provide proper shelter and facilities for employees working at the facility. The shelter and facilities shall contain:
  - 1. sufficient light and heat;
  - 2. a safe drinking water supply;
  - 3. sanitary handwashing and toilet facilities;
  - 4. an operational telephone or two-way radio system; and
  - 5. other equipment or appurtenances necessary for full compliance with federal and state worker health and safety requirements.

(19) Accident Prevention and Safety.

- (a) All employees shall be instructed in the principles of first-aid and safety and in the specific operational procedure necessary to prevent accidents.
- (b) The operator shall provide and maintain adequate first-aid supplies at the site at all times.
- (c) The operator shall provide for two-way radios or telephones and ensure that the numbers for emergency medical care and ambulances are posted at the site.

(20) Fire Protection. The operator shall take suitable measures for the prevention and control of fires at the facility by complying with at least the following:

- (a) Make available at the facility an adequate supply of water under pressure with sufficient fire hose, unless a fully-manned fire station is located within two miles;
- (b) A separate area shall be provided, located away from combustible materials, refuse and buildings, for quick dumping and quenching or snuffing of hot loads;
- (c) Arrange for a nearby fire department to provide emergency service whenever called; and
- (d) Mount detachable fire extinguishers, maintained in working order, on all equipment and in all buildings.
- (e) The operator shall ensure that no materials are stored, held, maintained or placed at a handling facility in such a manner as to pose a fire hazard.
- (f) The operator shall be responsible for seeking fire-fighting assistance, initiating and providing assistance and/or resources for fire-fighting actions until all smoldering, smoking and burning cease.

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(21) Recycling Operations.

- (a) The operator may make provisions for the recycling of materials provided that a definite plan of procedure is implemented and followed to enable said operation to be carried out in an organized, sanitary, orderly and dependable manner with minimal interference to the routine handling facility operations.
- (b) Any container, or specially designed enclosed area, used for the storage of recyclable materials (such as glass, cans, paper, *etc.*) shall be clearly identified and maintained in a clean and sanitary condition and the surrounding areas shall be kept in a similar condition.
- (c) All accumulated recyclable materials shall be removed from the facility at least every 60 days and/or at such other times as may be specified by the Department.
- (d) Recyclable materials of a nature or in quantities that cause odor or pose a threat to the public health or are detrimental to the environment or the surrounding area shall not be accumulated.

(22) Records for Operational and Plan Execution.

- (a) The operator shall maintain a daily log to record operational information, including but not limited to the type and quantity of solid waste received and the status of all environmental control or monitoring systems.
- (b) The operator of existing or new handling facilities receiving 100 tons or more per day shall weigh all incoming solid waste.
- (c) Operators of handling facilities that receive less than 100 tons per day shall, on a daily basis, estimate the total weight and volume of waste delivered based upon the capacity of the vehicles which delivered solid waste to the facility.
- (d) The operator shall submit to the Department, no later than February 15<sup>th</sup> of each calendar year, an annual report summarizing the facility's operations for the previous calendar year or portion of a calendar year that waste is handled at the facility. Where the Department provides a form for annual reporting, the report shall be made on, and shall contain, all information as requested by that form. Otherwise, the report shall describe and summarize:
  1. the amount of solid waste handled during that year with the quantity reported in tons;
  2. all environmental monitoring and sampling data trends from ground water, surface water and gas monitoring systems from the monitoring required by the facility permit; and
  3. a demonstration of how the handling facility's operations during the year complied with the provisions of the recycling and composting plan contained as part of the facility's solid waste management permit.

(23) Screening and/or Fencing. The Department may require that the handling facility be suitably screened by fencing, or other approved methods, to shield the area from adjoining properties.

(24) Open Burning. No open burning of any refuse, including brush, wood or diseased trees shall be permitted at the handling facility site at any time of the year except as may be expressly permitted by the Department pursuant to 310 CMR 7.07: *U Open Burning.*

(25) Inspections.

- (a) The facility shall be inspected by a Massachusetts registered professional engineer, or other qualified professional approved by the Department, experienced in solid waste management, and retained by the owner/operator, on a frequency as approved by the Department in the Operation and Maintenance Plan.
- (b) An inspection shall:
  1. be reported in writing and shall describe in detail the status and condition of all operating and monitoring equipment, appurtenances and devices, any deviation from compliance with operation and maintenance requirements set forth at 310 CMR 19.130, the site assignment, permit, or the authorization to operate, any actions taken to correct such deviations, as required by the Department or recommended by the inspecting engineer, and schedules to correct identified problems.

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2. be signed and dated by the inspecting engineer, or other professional approved by the Department, certifying that to the best of his/her knowledge all information is accurate and complete.
- (c) The operator shall submit one copy of the inspection report to the Department and one copy to the board of health no later than fourteen days following the date of the inspection.
- (d) The operator shall be responsible for the timely submission of inspection reports to the Department and the board of health.

REGULATORY AUTHORITY

310 CMR 19.000: M.G.L. c. 21A, §§ 2 and 8; c. 111, § 150A.

(PAGES 691 AND 692 ARE RESERVED FOR FUTURE USE.)