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TITLE 252. DEPARTMENT OF ENVIRONMENTAL QUALITY
CHAPTER 515. MANAGEMENT OF SOLID WASTE

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SUBCHAPTER 1. GENERAL PROVISIONS

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252:515-1-1. Authority and applicability

(a) **Authority.** This Chapter implements the Oklahoma Solid Waste Management Act, 27A O.S. § 2-10-101 *et seq.*, and the Oklahoma Waste Tire Recycling Act, 27A O.S. § 2-11-401 *et seq.*, and was adopted under their authority and the authority of the Oklahoma Environmental Quality Code, 27A O.S. § 2-1-101 *et seq.*

(b) **Applicability.** This Chapter applies to:

(1) any person who owns, operates, or proposes to own and/or operate any type of solid waste disposal facility identified in OAC 252:515-3-1(a) and (b);

(2) any person who generates, collects, transports, processes, and/or disposes of solid waste and/or waste tires, unless otherwise exempt;

(3) incorporated cities and towns in Oklahoma providing solid waste collection and transportation services within the corporate city or town limits;

(4) governmental entities located in the state of Oklahoma desiring to seek reimbursement under the Oklahoma Recycling Initiative; and

(5) any person, firm or corporation located in Oklahoma desiring to apply for incentive payments for projects that generate energy by utilizing solid waste landfill methane gas.

252:515-1-2. Definitions

The following words or terms, when used in this Chapter, shall have the following meaning, unless the context clearly indicates otherwise. Any term not defined in this Chapter shall be defined as set forth in OAC 252:515-1-3.

"Active" means, when used to describe a solid waste disposal facility or a portion thereof (e.g., active MSWLF or active cell), any solid waste disposal facility, or portion thereof, accepting solid waste as of the effective date of this Chapter, regardless of whether such facility has obtained a solid waste permit from DEQ.

"Active life" means the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities.

"Active portion" means:

(A) that part of a land disposal facility that has or is receiving waste and that has not received either intermediate or final cover; or

(B) solid waste process and storage areas at non-land disposal facilities.

"Airport" means a public-use airport open to the public without prior permission, and without restrictions within the physical capacities of available facilities.

"Applicant" means any person who applies for a new permit or a modification to an existing

permit for a solid waste disposal facility identified in OAC 252:515-3-1(a) and (b).

"Aquifer" means a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of groundwater to wells or springs.

"Areas susceptible to mass movement" means those areas of influence (i.e., areas characterized as having an active or substantial possibility of mass movement) where the movement of earth material at, beneath, or adjacent to the land disposal facility, because of natural or man-induced events, results in the downslope transport of soil and rock material by means of gravitational influence. Such areas include, but are not limited to, landslides, avalanches, debris slides and flows, soil fluxion, block sliding, and rock fall.

"ASTM" means the American Society for Testing and Materials.

"Bird hazard" means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

"Buffer zone" means a designated waste-free area within the permit boundary of a disposal facility, to separate waste handling, processing, and/or disposal activities from adjacent areas.

"Citizen collection station" means a designated location that is established or sponsored by a governmental entity and equipped with waste receptacles for exclusive, non-commercial use by individual residents to deposit their own household waste for collection and transportation to a permitted disposal site.

"CLIMOCS" means the following publication of the Oklahoma Climatological Survey: Shafer, Mark A., CLIMOCS: A Climatological Summary of 168 Oklahoma Cooperative Stations, Oklahoma Climatological Survey, February 1993, 184 pp.

"Composite liner" means a system installed at a land disposal facility composed of a recompacted clay liner overlain with a flexible membrane liner.

"C&D landfill" means a construction/demolition landfill.

"Composting facility" means a facility in which material is converted, under thermophilic conditions, to a product with a high humus content for use as a soil amendment or to prevent or remediate pollutants in soil, air, and stormwater run-off.

"Construction/demolition waste" means waste composed of the following:

(A)asbestos-free waste from construction and/or demolition projects that may include such materials as metal, concrete, brick, asphalt, glass, roofing materials, limited amounts of packing materials, sheetrock, or lumber;

(B) wood waste that may include such materials as yard waste, lumber, woodchips, wood shavings, sawdust, plywood, tree limbs, or tree stumps;

(C) yard waste that may include such materials as grass clippings, tree limbs, tree stumps, shrubbery, flowers, or other vegetative matter resulting from land clearing or landscaping operations; or

(D) residential lead-based paint waste.

"Contaminated stormwater" means:

(A) water such as leachate and gas collection condensate, or stormwater that has come into direct contact with solid waste or waste handling and/or treatment areas;

(B) stormwater discharged from areas of a land disposal facility with less than six inches of waste-free, compacted earthen material; or

(C) wastewater resulting from washing vehicles or areas that are or have been in direct contact with solid waste.

"DEQ" means the Oklahoma Department of Environmental Quality.

"Disease vector" means rodents, flies, mosquitoes, or other animals, including insects, capable

of transmitting disease to humans.

"Displacement" means the relative movement of any two sides of a fault measured in any direction.

"Disposal" means the final disposition of waste and shall be taken to include any discharge, deposit, injection, dumping, spilling, leaking, or placing of waste into or on the land or water so that the waste or any constituent thereof may enter the environment, including the air and any surface waters or ground waters.

"Disposal area" means that part of a land disposal facility where waste is disposed.

"Disposal facility" means disposal site as defined at 27A O.S. § 2-10-103.

"Engineer" means a licensed, professional engineer.

"EPA" means the United States Environmental Protection Agency.

"Existing" means, when used to describe a solid waste disposal facility or portion thereof (e.g. existing MSWLF or existing cell), any solid waste disposal facility, or portion thereof, that had a solid waste permit as of the effective date of this Chapter.

"Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for the handling, processing, storage, and/or disposal of solid waste.

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

"Final closure" means a disposal facility has permanently ceased to accept solid waste for disposal and all required closure activities have been completed for the entire facility in accordance with the approved closure plan. Final closure is not synonymous with phased closure.

"Flood" means the general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of a lake, stream, river or other body of surface water, or the unusual and rapid accumulation or runoff of surface waters from any source.

"Flood, One hundred year (100 year)" means a flood that has a one percent or greater chance of occurrence in any given one year period, or of a magnitude equaled or exceeded once in 100 years on the average over a significantly long period.

"Flood plain" means the lowland and relatively flat areas adjoining inland waters that are inundated by the 100-year flood.

"Gas condensate" means the liquid generated as a result of gas recovery processes.

"Generator" means, in the context of NHIW, any person, by site, whose act or process produces NHIW, or whose act first causes an NHIW to become subject to regulation.

"Groundwater" means water below the land surface in a zone of saturation.

"Hazardous waste" means those wastes subject to regulation under OAC 252:205.

"HBV" means hepatitis B virus.

"HIV" means human immunodeficiency virus.

"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 household waste that is corrosive, toxic, ignitable, or reactive, including, but not limited to: freon-containing appliances or tanks; non-empty propane tanks; oil, antifreeze, and other motor vehicle fluids; gasoline, kerosene, or diesel fuel; liquid paints; solvents; pesticides, herbicides, fungicides, or rodenticides; caustic cleaners; lead-acid batteries; swimming pool chemicals; unused firearm rounds; and acids and bases.

"Household waste" means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation

areas).

"Injection well" means a facility subject to regulation by OAC 252:652, Underground Injection Control.

"Karst terrains" means areas where karst topography, with its characteristic surface and subterranean features, is developed as the result of dissolution of limestone, dolomite, or other soluble rock. Characteristic features of karst terrains include, but are not limited to, sinkholes, sinking streams, caves, large springs, and blind valleys.

"Land disposal facility" means a landfill, or any other discrete area of land or land excavation, where solid waste is placed for treatment, processing, and/or disposal. Land disposal facility does not include:

(A) land application where solid waste is placed onto, or incorporated into, the soil as a soil amendment, fertilizer, or other legitimate agricultural purpose;

(B) a surface impoundment that is either permitted by DEQ's Water Quality Division or is a part of an approved liquid waste management system at a permitted solid waste disposal facility;

(C) a yard waste composting facility;

(D) an injection well;

(E) a solid waste transfer station;

(F) a Used Tire Recycling Facility; or

(G) a Roofing Material Recycling Facility

"Landfill" means a discrete area of land or a land excavation in which solid waste is placed for permanent disposal.

"Large NHIW generator" means any business, by site, that generates over 10,000 tons of NHIW in Oklahoma during a calendar year. This definition does not include facilities that are permitted to receive and process solid waste generated by others.

"Leachate" means liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste. This includes:

(A) fluid collected in a leachate collection system, including its sumps, surface impoundments, tanks, or other similar locations;

(B) fluid collected on top of the bottom liner of a disposal cell that has received solid waste; and

(C) leachate seeps from disposal cells that have received solid waste.

"Liquid waste" means any waste that is determined to contain "free liquids" as defined by the PFLT.

"Lithified earth material" means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that 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.

"Litter fence" means an easily portable fence to be located adjacent to the working face to assist with control of blowing material.

"Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases that will propagate flame in air at 25°C and atmospheric pressure.

"Maximum horizontal acceleration" means the maximum expected horizontal acceleration of lithified earth material, depicted on a seismic hazard map, with a 90 percent 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.

"MSWLF" means Municipal Solid Waste Landfill; a publicly or privately owned landfill that is or has received household waste. A MSWLF may also receive other types of non-hazardous solid wastes, such as nonhazardous sludge, NHIW, special waste, and construction/demolition waste.

"Natural disaster" means a natural occurrence or event (such as a tornado, flood, or forest or prairie fire) of such magnitude that the resultant damage and destruction produce quantities of wastes that overtax available solid waste management systems.

"NHIW" means non-hazardous industrial solid waste, as defined at 27A O.S. § 2-10-103. Examples of NHIW are listed in Appendix F of this Chapter.

"Non-contaminated stormwater" means:

(A) stormwater that has not come into direct contact with solid waste, waste handling and/or treatment areas;

(B) stormwater discharging from areas of a land disposal facility that has at least six inches of waste-free, compacted earthen material; and

(C) wastewater resulting from washing vehicles or areas that have not been in direct contact with solid waste.

"Oklahoma Uniform Environmental Permitting Act" means 27A O.S. § 2-14-101 *et seq*. and the rules adopted thereunder at OAC 252:4 ("Rules of Practice and Procedure").

"Open burning" means the combustion of solid waste without:

(A) control of combustion air to maintain adequate temperature for efficient combustion;

(B) containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; and

(C) control of the emission of the combustion products.

"Operating record" means all of the collective records of the facility relating to the site. Such records include, but are not limited to: the permit, modifications, and approvals; records concerning waste received; any sampling or analyses performed by the facility; closure, post-closure and corrective action plans; financial assurance records; inspection and compliance evaluation correspondence; reports; and scale tickets and related fee payment documentation.

"Owner/operator" means the person who owns a solid waste disposal facility and/or is responsible for the overall operation of a facility or part of a facility.

"OWRB" means the Oklahoma Water Resources Board.

"Permit boundary" means the outermost edge of the area described by legal description in the owner/operator's permit. The permitted boundary includes the area in the buffer zone.

"PFLT" means Paint Filter Liquids Test, EPA Method 9095.

"Phased closure" means the closing of individual disposal cells at a land disposal facility as they become full. Phased closure is not synonymous with final closure.

"Piezometer" means a small-diameter well used to make groundwater elevation measurements.

"Point source discharge" means any discharge of water that, when leaving the permit boundary of a facility, has been channeled or altered by man's activity in working that site.

"Poor foundation conditions" means those areas where features exist which indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of a land disposal facility.

"POTW" means Publicly Owned Treatment Works; a wastewater treatment system, as defined at 27A O.S. § 2-6-101(9), that is owned by a State or municipality for the treatment of municipal or industrial wastewaters.

"Qualified groundwater scientist" means a scientist or engineer who has received a

baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields as may be demonstrated by State registration, professional Certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action.

"Recharge area" means an area where water is absorbed and added to the zone of saturation.

"Regulated medical waste" means a waste or reusable material that contains an etiologic agent and is generated in the diagnosis, treatment or immunization of human beings or animals; research pertaining to the diagnosis, treatment or immunization of human beings or animals; or the production or testing of biological products. Such waste includes, but is not limited to:

(A) cultures and stocks of etiologic agents or live vaccines, and culture dishes, devices, paper, and cloth that has come into contact with such cultures, stocks or live vaccines;

(B) human blood, blood products, and human body fluids, except urine or feces;

(C) pathological wastes consisting of human tissues, organs, and body parts removed during surgery, autopsy, biopsy and other medical procedures;

(D) untreated sharps;

(E) used blood collection bags, tubes, and vials;

(F) contaminated carcasses, body parts and bedding of animals intentionally exposed to pathogens in research, in the production of biologicals or the "in vivo" testing of pharmaceuticals;

(G) items contaminated with blood or other human body fluids which drip freely or would release such materials in a liquid or semi-liquid state if compressed or are caked with dried blood or body fluids and are capable of releasing these materials;

(H) isolation wastes unless determined to be non-infectious by the infection control committee at the health care facility;

(I) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV;

(J) all disposable materials that have come in contact with cytotoxic or antineoplastic agents during the preparation, handling, and administration of such agents. Such wastes include, but are not limited to, masks, gloves, gowns, empty IV tubing and bags, vials, and other contaminated materials; and

(K) any other material or equipment which, in the determination of the health care facility staff, infection control committee or other responsible party, presents a significant danger of infection because it is contaminated with, or may reasonably be expected to be contaminated with, etiologic agents.

"Residential lead-based paint waste" means lead-based paint debris, chips, dust, sludges, and other similar wastes generated as a result of abatement, rehabilitation, renovation, or remodeling activities in individual residences.

"Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

"Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

"Saturated zone" means that part of the earth's crust in which all voids are filled with water.

"Scavenging" means the uncontrolled, unorganized sorting, collecting, or removing of solid waste at the disposal site.

"Seismic impact zone" means an area with a ten percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in two hundred fifty (250) years;

"Sludge" means the definition found at 27A O.S. § 2-10-401.

"Solid waste" means the definition found at 27A O.S. § 2-10-103.

"Special waste" means those wastes that are not hazardous wastes but because of their nature or volume, require special or additional handling aside from that given to routine household refuse. This includes but is not limited to: sludge, septic tank pumpings, grease trap wastes, dead animals, packing house offal and tankage, waste fats and oils, hatchery wastes, cannery wastes, NHIW, tires, and asbestos wastes.

"Structural components" mean liners, leachate collection systems, final covers, run-on/run-off systems, and any other component used in the construction and operation of a land disposal facility that is necessary for protection of human health and the environment.

"Surface impoundment" means a natural topographic depression, human-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), that is designed to hold an accumulation of liquid wastes or wastes containing free liquids and that is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

"Surface water" means water that stands on the surface of the land in reservoirs, lakes, ponds, sloughs, or swamps, or that flows across the land in rivers, creeks, or streams.

"SW-846" means EPA Publication SW-846, Test Methods for the Evaluation of Solid Waste Physical/Chemical Characteristics.

"Tremie pipe" means a device, usually a small-diameter flexible or rigid pipe, that carries filter pack or bentonite cement from the bottom to the top of a borehole or annular space without forming void spaces. In some cases, a well casing or hollow stem auger can be considered a tremie pipe.

"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 structural components responsible for preventing releases from a land disposal facility. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and Karst terrains.

"Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

"**Used Tire"** means an unprocessed whole tire or tire part that can no longer be used for its original intended purpose, but can be beneficially reused as approved by the Department.

"Used Tire Recycling Facility" means the definition found at 27A O.S. § 2-11-401.1(15).

"Waste pile" means any non-containerized accumulation of solid, non-flowing waste.

"Waters of the state" means the definition found at 27A O.S. §1-1-201(20).

"Wetlands" mean those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include, but are not limited to, swamps, marshes, bogs, and similar areas.

"Working face" means the place within a land disposal facility where waste has been deposited and has not been covered with at least intermediate cover.

"Yard waste composting facility" means a composting facility that only accepts yard waste.

"Zone of aeration" means a subsurface zone containing water under a pressure lower than that of the atmosphere, including water held by capillarity; and containing air or gases generally under

atmospheric pressure. This zone is bounded above by the land surface and below by the water table; and is synonymous with vadose zone and unsaturated zone.

"Zone of saturation" means a subsurface zone in which essentially all the interstices are filled with water under pressure greater than that of the atmosphere. Although the zone may contain interstices filled with gas or liquids other than water, it is still considered saturated. This zone is separated from the zone of aeration by the water table and is synonymous with phreatic zone.

252:515-1-3. Terms not defined by Act or rule

Any term not defined in the Oklahoma Solid Waste Management Act, the Oklahoma Used Tire Recycling Act, or in this Chapter shall be defined by:

(1) the Dictionary of Geological Terms, Latest Revised Edition, American Geological Institute;

(2) EPA RCRA Groundwater Monitoring Technical Enforcement Guidance Document;

(3) its generally accepted scientific meaning; or

(4) its standard dictionary meaning.

252:515-1-4. Test methods and map scales

(a) **Test methods**. All testing required for compliance with this Chapter shall utilize industry-standard methods and procedures, unless alternatives are approved in advance by the DEQ.

(1) **Engineering test methods.** All engineering tests shall be in accordance with the latest published ASTM test procedures.

(2) **Water sampling/analyses.** Water sampling and analyses methods shall be in accordance with EPA approved procedures.

(b) **Map scales.** Map scale requirements of Subchapter 3, Parts 5 and 7 do not apply when the DEQ has approved the use of alternative map scales or published maps.

252:515-1-5. Consideration of other laws

All persons and facilities identified in this Chapter may be subject to other state or federal laws and rules.

252:515-1-6. Severability

The provisions of this Chapter are severable. If any part or provision is held void by a court of competent jurisdiction, the decision of that court shall not affect or impair any of the remaining parts or provisions of this Chapter.

252:515-1-7. Beneficial reuse

(a) Upon request, and with supporting documentation, the DEQ may make a determination that a waste material is not a solid waste when it can be shown that the material is:

(1) being used as an ingredient in an industrial process to make a product;

(2) used as an effective substitute for commercial products;

(3) being returned to the original process from which it is generated, without first being reclaimed. The material must be returned as a substitute for raw material feed-stock and the process must use raw materials as principal feed-stocks; or

(4) in the possession of persons who actually possess the equipment necessary to process the material to comply with one of the above conditions.

(b) The DEQ may also make a reuse determination on other proposals based upon an evaluation of

the contemplated use of the material and potential effects on human health and the environment.
(c) If waste is accumulated in anticipation of future markets or is stored in a quantity exceeding that which may be reasonably expected to be used or recycled within one (1) year, the material is regulated as a solid waste.

252:515-1-8. Special considerations

(a) **Existing permits.** Permits for active solid waste disposal facilities issued under previous rules, and those in the post-closure monitoring period on the effective date of this Chapter, remain in effect.

(b) **Permit upgrades.** Within 180 days of the effective date of this Chapter, the owner/operator of the following solid waste disposal facilities shall submit a permit modification application to the DEQ to ensure compliance with certain requirements of this Chapter.

(1) **MSWLFs and C&D landfills.** Permit modifications for MSWLFs and C&D landfills shall include:

(A) a legal description, by metes and bounds; section, township, and range, or parts thereof; or book and page number of plat records for platted property, of both on- and off-site soil borrow areas, if applicable;

(B) a temporary easement in accordance with OAC 252:515-3-34(c);

(C) a stormwater management plan to demonstrate how compliance with the requirements of Subchapter 17 of this Chapter will be achieved and maintained;

(D) a disposal plan in accordance with OAC 252:515-19-34(c) through (f) for out-of-state waste, if applicable;

(E) a vegetative cover plan to ensure compliance with the requirements of OAC 252:515-19-54, if applicable;

(F) revised closure plans to ensure closure of on- and off-site soil borrow areas in accordance with OAC 252:515-25-32(b)(3)(A), if applicable;

(G) life of site calculations in accordance with OAC 252:515-27-8(c), except for those facilities owned by units of the federal government;

(H) revised closure, post-closure, and/or corrective action cost estimates calculated in a accordance with Part 5 of Subchapter 27 of this Chapter, except for those facilities owned by units of the federal government; and

(I) a new or revised waste exclusion plan meeting the requirements of Subchapter 29 of this Chapter.

(2) **NHIW landfills.** Permit modification applications for generator-owned and operated NHIW landfills shall include those items identified in (1)(A), (1)(B), (1)(C), (1)(F), (1)(G) and (1)(H) of this Subsection, as well as a revision to the groundwater monitoring program to ensure compliance with OAC 252:515-9-31(d)(3).

(3) **Regulated medical waste processing facilities.** Permit modification applications for regulated medical waste processing facilities shall include the information identified in (1)(B) and (1)(H) of this Subsection.

(4) **Transfer stations.** Permit modification applications for transfer stations shall include the information in (1)(I) of this Subsection.

(c) **Compliance required.**

(1) Except as provided in (2) of this Subsection, permit upgrades identified by (b) of this Section shall be implemented within one year of the effective date of this Chapter. Extensions may be granted by the DEQ for good cause shown.

(2) All solid waste disposal facilities required to establish and maintain financial assurance shall ensure financial assurance mechanisms are funded in the appropriate amount based on approved cost estimates.

(d) **MSWLFs prior to October 9, 1991.** MSWLFs that stopped receiving waste prior to October 9, 1991 are subject to the final cover and post-closure monitoring requirements of the permit and the rules in effect at the time of closure.

(e) **MSWLFs on or after October 9, 1991.** MSWLFs receiving waste on or after October 9, 1991 are subject to this Subsection.

(1) **Less than 100 tons per day of waste.** No later than October 9, 1994, MSWLFs that received less than an average of 100 tons per day of solid waste after October 9, 1991 and stopped receiving waste before April 9, 1994 shall install final cover meeting the requirements of OAC 252:515-19-53.

(A) **Post-closure monitoring requirements.** MSWLFs shall be subject to the post-closure monitoring requirements of the permit and rules in effect at the time of closure.

(B) **Failure to stop accepting waste or to apply final cover.** MSWLFs that accepted waste on or after April 9, 1994, or failed to install the final cover by October 9, 1994 shall be subject to all applicable requirements of this Chapter.

(2) **100 tons or more per day of waste.** No later than October 9, 1994, MSWLFs that received an average of 100 tons or more per day of solid waste after October 9, 1991 and stopped receiving waste before October 9, 1993 shall install final cover meeting the requirements of OAC 252:515-19-53.

(A) **Post-closure monitoring requirements.** MSWLFs shall be subject to the post-closure monitoring requirements of the permit and the rules in effect at the time of closure.

(B) **Failure to stop accepting waste or to apply final cover.** MSWLFs that accepted waste on or after October 9, 1993 or failed to install the final cover by October 9, 1994 shall be subject to all applicable requirements of this Chapter.

(f) **Other disposal facilities.** Other solid waste disposal facilities that stopped receiving waste prior to the effective date of this Chapter shall close, and perform any applicable post-closure monitoring, in accordance with the permit and the rules in effect at the time of closure.

(g) **Corrective action.** The DEQ may require corrective action any time an inspection of a solid waste disposal facility or review of testing data indicates the actual release of contaminants into the environment. Such corrective action shall be performed in accordance with the requirements of this Chapter.

SUBCHAPTER 3. PERMIT PROVISIONS AND APPLICATIONS

PART 1. GENERAL PROVISIONS

Section

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PART 3. PERMIT APPLICATIONS AND MODIFICATIONS

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PART 1. GENERAL PROVISIONS

252:515-3-1. Permit required

(a) **Solid waste disposal facilities.** The following solid waste disposal facilities are subject to the requirements of this Subchapter and require a solid waste permit from DEQ prior to construction and/or operation:

(1) land disposal facilities;
(2) solid waste processing facilities, including:
(A) transfer stations;
(B) solid waste incinerators receiving waste from off-site sources;
(C) regulated medical waste processing facilities receiving waste from off-site sources, and that are not shared service facilities;
(D) used tire facilities;
(E) composting facilities, except yard waste composting facilities;
(F) permanently established household hazardous waste collection facilities; and
(G) any other type of facility that processes solid waste;
(3) facilities used for the storage of solid waste for longer than 10 days; and
(4) facilities used for the storage of more than 50 used tires, except as authorized by 27A O.S. § 2-11-401.7.

(b) **Sludge.** Solid waste disposal facilities used for the beneficial use, transport, disposal, or storage of sludge that is not subject to the direct jurisdiction of any other environmental regulatory agency of the State of Oklahoma shall obtain a permit in accordance with OAC 252:515-3-41.

252:515-3-2. Permit not required

(a) The following do not require a solid waste permit and are not subject to the requirements of this Subchapter, but may be subject to other DEQ permits or requirements:
(1) rock and dirt fills that receive only uncontaminated rock, dirt, concrete, bricks or solidified asphalt;
(2) disposal sites used by a person for disposal of solid waste from his or her household, provided:
(A) the disposal site is on land owned by that person;
(B) the solid waste does not originate from business or commercial activities; and
(C) such disposal does not violate any local government ordinance or create a nuisance or hazard to public health or the environment;
(3) emergency disposal sites approved by DEQ when a natural disaster creates a need for additional public solid waste disposal sites in the disaster area;
(4) on-site incinerators meeting the exemption requirements of 27A O.S. § 2-10-501(K);
(5) on-site regulated medical waste treatment activities by hospitals, clinics, or laboratories, or other similar facilities for treatment of regulated medical wastes generated on-site;
(6) facilities that accept only source-separated recyclable materials for recycling;
(7) persons under a DEQ order to remediate an abandoned or inactive waste site in accordance with 27A O.S. § 2-10-301(H);
(8) facilities used as:
(A) a citizen collection station;
(B) a collection and processing point for source-separated, non-putrescible, recyclable wastes;
(C) a collection point for parking lot or street sweepings; or
(D) a collection point for wastes collected and received in sealed bags from such activities as periodic cleanup campaigns for cities, rights-of-way, or roadside parks;
(9) projects approved by DEQ and a local conservation district in accordance with 27A O.S. § 2-10-301(J).

(b) Yard waste composting facilities that receive only yard waste from off-site sources and are operated in accordance with a plan approved by DEQ are not subject to this Subchapter. The plan shall include, at a minimum:

(1) the permit application information identified in OAC 252:515-3-36(a)(1) through (a)(8);

(2) a demonstration of compliance with the location restrictions of Subchapter 5 of this Chapter; and

(3) a demonstration of how the facility will comply with applicable regulations of other state agencies or parts thereof, including the Water Quality Division of DEQ.

(c) Units of local or county government wishing to use baled used tires in engineering projects are not subject to this Subchapter but must have a plan meeting the requirements of OAC 252:515-21-111 approved by DEQ prior to beginning the project.

252:515-3-3. Prohibition

Except as provided in OAC 252:515-3-2, no person shall dispose of solid waste at any facility for which a solid waste permit has not been issued by the DEQ.

252:515-3-4. Closed MSWLFs

MSWLFs that stopped receiving waste on or before April 9, 1994 may receive a modification of the permit only for operation of a solid waste transfer station, a yard-waste composting facility, or a citizen collection station.

252:515-3-5. Duration of permit

(a) **Life of site.** Permits shall be issued for the life of the disposal facility.

(b) **Cessation of operations.** If a permitted active disposal facility ceases to accept waste for 30 days or more without prior notice to the DEQ, the facility is deemed to be in the process of final closure.

(c) **Suspended operations.** Development or operations of a disposal facility may be suspended. To do so, the owner/operator must:

(1) provide prior written notice to the DEQ of the intent to suspend development or operations;

(2) renew such notice annually;

(3) if site development or operations remain suspended for more than one year, perform closure and post-closure activities in accordance with the approved closure and post-closure plans, and Subchapter 25 of this Chapter; and

(4) if financial assurance is required, post full financial assurance in accordance with Subchapter 27 of this Chapter and the approved cost estimates.

(d) **Resuming operations.** If facility operations cease pursuant to (b) or (c) of this Section, then prior to resuming such operations, the permit must be modified if, in the opinion of the DEQ, the permit does not comply with all current laws and regulations.

252:515-3-6. Permit transfer

(a) **Transfer required.** If the ownership of a disposal facility is assumed by a new entity, the permit must be transferred from the previous owner/operator ("transferor") to the new owner/operator ("transferee").

(b) **Exception.** Changes in corporate ownership from majority stock transfers do not require a permit transfer. However, such changes require notice to DEQ and submittal of an approved disclosure statement meeting the requirements of OAC 252:515-3-31(g).

(c) **Transfer requirements.** Permits may be transferred from the transferor to the transferee upon the following conditions:

(1) the transferor has submitted a written request to DEQ for transfer of the permit to the transferee;

(2) the transferee has submitted an approved disclosure statement meeting the requirements of OAC 252:515-3-31(g);

(3) the transferee has, if required, established an approved financial assurance mechanism in an appropriate amount and appropriately funded;

(4) the transferee has agreed in writing to comply with:

(A) all permit conditions;

(B) approved plans and specifications;

(C) the Oklahoma Solid Waste Management Act and/or Used Tire Recycling Act, as applicable;

(D) the rules in this Chapter; and

(E) any final orders issued pursuant thereto;

(5) the transferee has complied with OAC 252:515-3-33 (relating to oath required); and

(6) the facility meets the compliance requirements of OAC 252:4-7-15. In lieu of demonstrating substantial compliance, the parties to the transfer may enter into a Consent Order with DEQ to schedule compliance.

(d) **Transferor responsible.** Until such time as DEQ approves transfer of the permit to the transferee, the transferor shall remain responsible for the operation of the facility.

PART 3. PERMIT APPLICATIONS AND MODIFICATIONS

252:515-3-31. General requirements

(a) **All permit applications.** All permit applications are subject to the Oklahoma Uniform Environmental Permitting Act as well as the requirements of this Subchapter.

(b) **New permit applications.** Applicants requesting a permit for a new solid waste disposal facility shall submit a permit application to the DEQ meeting the requirements of this Subchapter.

(c) **Modifications required.**

(1) The permit must be modified before making any changes to the approved design, construction, or operation of the facility.

(2) The modification application shall contain any maps, drawings, plans or other documents identified in this Subchapter to ensure the modification will be in compliance with the applicable requirements of this Chapter.

(d) **Administrative correction.** The DEQ may make administrative corrections to the permit.

(e) **Tier I and II permit modifications.** Applicants requesting a Tier I or Tier II modification of an existing permit shall submit a permit modification application to the DEQ meeting the applicable requirements of this Subchapter, but are not required to comply with OAC 252:515-3-33 (relating to oath required), unless otherwise required by statute.

(f) **Tier III permit modifications.** Applicants requesting a Tier III modification of an existing permit shall submit a permit modification application to the DEQ meeting the applicable requirements of this Subchapter, and comply with OAC 252:515-3-33.

(g) **Disclosure statement.** Persons submitting a permit application for a new solid waste disposal facility, or the transfer of an existing solid waste permit, are subject to the disclosure statement requirements of 27A O.S. §§ 2-10-103 and 2-10-302.

(h) **Permits for receipt of NHIW.** The following cannot receive a permit to accept NHIW unless the facility meets the requirements of 27A O.S. § 2-10-501(A):

(1) new land disposal facilities; and

(2) existing land disposal facilities that were not authorized to accept NHIW as of the effective date of this Chapter.

252:515-3-32. Variance from the rules of this Chapter

(a) **Application.** Except as provided for in (c) of this Section, applicants may, in a permit application, request a variance from one or more provisions of this Chapter in accordance with 27A O.S. § 2-10-304.

(b) **Technical considerations.** Applicants requesting a variance must demonstrate that operations under the variance will equal or exceed the protection accorded by the particular rule for which the variance is being requested, and will not result in a hazard to the health, environment or safety of the people of this State or their property.

(c) **Exceptions.**

(1) A variance from the following restrictions of Subchapter 5 of this Chapter shall not be granted for MSWLFs or NHIW landfills: public water supply (OAC 252:515-5-32(b)), wellhead protection area (OAC 252:515-5-32(c)), airports (OAC 252:515-5-52(e)), fault areas (OAC 252:515-5-52(b)), seismic impact zones (OAC 252:515-5-52(c)), or unstable areas (OAC 252:515-5-52(d)).

(2) The DEQ may grant a variance from the 100-year flood plain restriction in accordance with OAC 252:515-5-32(a)(2).

252:515-3-33. Oath required

The applicant shall sign the permit application under oath on forms provided by the DEQ.

252:515-3-34. Legal right to property

(a) **Right of access.** The permit application for a new solid waste disposal facility, or expansion of the permit boundaries of an existing solid waste disposal facility, must contain:

(1) a true and correct copy of a legal document filed in the county in which the facility is located, demonstrating that the applicant possesses a legal right to access and use the property in the manner for which the permit is sought, including any on- or off-site soil borrow areas, throughout the life of the site and the required post-closure monitoring period; and

(2) a certification, by affidavit, that the applicant owns the real property, has a current lease or easement which is given to accomplish the permitted purpose, or has provided legal notice to the landowner.

(b) **Option for use.** If an option for right of access is predicated upon the issuance of a permit prior to the exercise of that option, then the applicant must submit a copy of the option with the permit application. Once the permit has been issued, the applicant must comply with (a) of this Section prior to beginning construction.

(c) **Easement to the DEQ.** Unless the property owner is a unit of government, a temporary easement shall be executed allowing the DEQ and/or its contractors the right to access the property to perform closure, post-closure monitoring, or corrective action in the event of default by the owner/operator.

252:515-3-35. Engineer of record

(a) **Professional engineer seal required.** Maps, drawings, surveys, calculations, information and data submitted in support of permit applications for new solid waste disposal facilities or modifications of existing permits, must be prepared and stamped or sealed by a professional engineer licensed in the State of Oklahoma if the facility serves a population equivalent of 5,000 persons or more.
(b) **Seal placement.** The engineer's stamp or seal shall be placed on the application page. Each map and drawing included in the application shall be stamped or sealed in accordance with the requirements of the State Board of Registration for Professional Engineers and Land Surveyors.
(c) **Failure to seal.** Documents that are not stamped or sealed in accordance with this Section will be returned to the applicant.

252:515-3-36. Permit applications

(a) **New applications.** A permit application for a new solid waste disposal facility shall include all information required by the Oklahoma Uniform Environmental Permitting Act, including:

(1) the owner/operator's name, mailing address and phone number;

(2) the name by which the facility will be known, the mailing address of the facility, the street address of the facility (if different from the mailing address), and the facility phone number;

(3) a disclosure statement completed in accordance with OAC 252:515-3-31(g);

(4) a legal description, by metes and bounds; section, township, and range, or parts thereof; or book and page number of plat records for platted property, of:

(A) the proposed permit boundary;

(B) the proposed waste processing and/or disposal areas; and

(C) both on- and off-site soil borrow areas, if applicable;

(5) latitude and longitude of all corners of the permit boundary and the facility entrance;

(6) the location of the site from the nearest town or city;

(7) a description of all processing, storage and disposal operations and units;

(8) a description of the anticipated waste streams and amount received per day;

(9) the names of municipalities and/or counties included in the service area;

(10) the estimated population served, to be determined as follows:

(A) the population of each town or city served by the disposal facility, as published in the last decennial census; or

(B) the population equivalent served, calculated by dividing the anticipated amount of waste received per day by 4.4 pounds per person per day;

(11) the types of road construction and materials to be used to ensure that all access roads within the site are passable during inclement weather by normal vehicular traffic;

(12) a list of anticipated heavy equipment to be used in the construction and operation of the site;

(13) maps and drawings as required by Parts 5 and/or 7 of this Subchapter; and

(14) data, plans, and specifications for the following:

(A) a demonstration the proposed facility meets the location restrictions of Subchapter 5 of this Chapter;

(B) an operational plan describing how compliance with the operational requirements of Subchapter 19 of this Chapter, as applicable to the proposed facility, will be achieved;

(C) a plan describing how compliance with the stormwater management requirements of Subchapter 17 of this Chapter will be achieved;

(D) plans for closure of the facility in accordance with Subchapter 25 of this Chapter; and

(E) a plan for achieving compliance with the aesthetic enhancement requirements of OAC 252:515-3-37; and

(15) establishment of financial assurance in accordance with Subchapter 27 of this Chapter.

(b) **Information not identified.** The DEQ may require the applicant to submit additional data, revise design specifications or propose environmental safeguards as necessary to meet DEQ rules for the protection of human health and the environment.

(c) **Permit modification applications.** An applicant requesting a modification to an existing permit shall submit information identified in this Part related to the proposed modification.

252:515-3-37. Aesthetic enhancement

Applications for new permits or expansions of an existing permit boundary, shall include plans to enhance the visual harmony of the new disposal facility or the expansion area with the surrounding area, and reduce the transmission of dust and noise from the facility. Such plans may include placement of berms, fences, shrubbery, trees, or other such materials to achieve the desired result.

252:515-3-38. Additional information for land disposal facilities

In addition to the requirements of OAC 252:515-3-36, permit applications for land disposal facilities shall contain data, plans, and specifications for the following, as applicable to the proposed disposal facility:

(1) performance of a subsurface investigation and installation of a groundwater monitoring system in accordance with Subchapters 7 and 9 of this Chapter;

(2) installation of a liner meeting the requirements of Subchapter 11 of this Chapter;

(3) installation of a leachate collection system meeting the requirements of Subchapter 13 of this Chapter;

(4) establishment of an explosive gas monitoring and remediation system in accordance with Subchapter 15 of this Chapter;

(5) establishment of a waste exclusion program in accordance with Subchapter 29 of this Chapter;

(6) performance of post-closure monitoring in accordance with Subchapter 25 of this Chapter; and

(7) the anticipated life of the site as calculated in accordance with OAC 252:515-27-8.

252:515-3-39. Additional information for used tire facilities

In addition to the requirements of OAC 252:515-3-36, permit applications for used tire facilities shall include the following:

(1) the intended development, tire processing equipment specifications, and detailed operational plans for the facility;

(2) how the facility will be visually screened, including the planting of trees and other vegetation;

(3) methods appropriate for the protection of human health and the environment to control on-site populations of rodents, flies, mosquitoes, or other animals or insects capable of transmitting disease to humans;

(4) the use of mosquito monitoring devices to determine the mosquito population, a determination of whether or not control action is warranted, and plans to implement control measures as necessary;

(5) the intended use for the processed tire material, consisting of a detailed statement about the owner/operator's plans to make the processed tire material available and accessible for recycling, reuse or energy recovery;
(6) a description of how the processed tire material will be disposed if the intended use ceases to be a viable option;
(7) a fire protection plan that includes:
(A) how the facility will respond to a fire and with what equipment;
(B) the criteria for calling the fire department;
(C) accessibility to a fire hydrant with sufficient water pressure to meet the facility's fire protection needs;
(D) how to control surface water run-off resulting from fire extinguishing efforts;and
(E) other relevant information;
(8) documentation from the local governmental entity responsible for supplying fire protection for the used tire facility, approving the facility's fire protection plan;
(9) plans for surface water run-off controls around tire piles and processed tire piles to prevent surface water runoff. Engineering plans shall also address discharge of run-off under an OPDES permit or diversion of collected runoff into a POTW or an evaporation pond;
(10) plans for a storage area that shall not contain more than 250,000 whole tires;
(11) plans to ensure all 77 counties of Oklahoma are serviced at least once each calendar quarter; and
(12) a description of how compliance with the requirements of Parts 3 and 5 of OAC 252:515-21 (relating to used tire facilities and transportation) will be achieved and maintained.

252:515-3-39.1. Tire storage permit applications
(a) Permit applications for tire storage permits shall include all information required by OAC 252:4,the Rules of Practice and Procedure, Subchapter 7, Environmental Permit Process, and the following:
(1) a disclosure statement completed in accordance with OAC 252:515-3-31(g);
(2) a legal description, by metes and bounds; section, township, and range, or parts thereof; or book and page number of plat records for platted property, of:
(A) the proposed permit boundary; and
(B) the proposed waste processing and/or disposal areas.
(3) latitude and longitude of all corners of the permit boundary and the facility entrance;
(4) the location of the site from the nearest town or city;
(5) a description of all processing, storage and disposal operations and units;
(6) establishment of financial assurance in accordance with Subchapter 27 of this Chapter;
(7) how the tires will be visually screened, including the planting of trees and other vegetation;
(8) methods appropriate for the protection of human health and the environment to control on-site populations of rodents, flies, mosquitoes, or other animals or insects capable of transmitting disease to humans;
(9) the use of mosquito monitoring devices to determine the mosquito population, a determination of whether or not control action is warranted, and plans to implement control measures as necessary;
(10) a fire protection plan that includes:
(A) how the facility will respond to a fire and with what equipment;
(B) the criteria for calling the fire department;

(C) accessibility to a fire hydrant with sufficient water pressure to meet the facility's fire protection needs;

(D) how to control surface water run-off resulting from fire extinguishing efforts; and

(E) other relevant information;

(11) documentation from the local governmental entity responsible for supplying fire protection for the facility, approving the facility's fire protection plan;

(12) plans for surface water run-off controls around tire piles and processed tire piles to prevent surface water runoff. Engineering plans shall also address discharge of run-off under an OPDES permit or diversion of collected runoff into a POTW or an evaporation pond; and

(13) plans for a storage area that shall not contain more than 250,000 whole tires.

(b) **Information not identified.** The DEQ may require the applicant to submit additional data, revise design specifications or propose environmental safeguards as necessary to meet DEQ rules for the protection of human health and the environment.

(c) **Permit modification applications.** An applicant requesting a modification to an existing permit shall submit information identified in this Part related to the proposed modification.

252:515-3-40. Permits for commercial regulated medical waste processing facilities

In addition to the requirements of OAC 252:515-3-36, permit applications for commercial regulated medical waste processing facilities shall identify how compliance with the requirements of Parts 3 and 5 of OAC 252:515-23 (relating to operational requirements for commercial regulated medical waste processing and incinerating facilities) will be achieved and maintained.

252:515-3-41. Permits for the beneficial use, transport, disposal, and storage of sludge

(a) **Permit required.** In lieu of the requirements of this Subchapter, applicants for a permit for the beneficial use, -transport, disposal, and storage of sludge not subject to the direct jurisdiction of any other environmental agency of the State of Oklahoma shall comply with the following.

(1) **DEQ consultation.** The applicant shall consult with the DEQ prior to submitting an application for a permit.

(2) **Considerations.** Application requirements shall be based on the nature and volume of the sludge, as well as its proposed management method and location.

(3) **Specific requirements.** The application shall comply with OAC 252:515-3-33, 34, 36, and 37.

(b) **Additional requirements.** The applicant shall be subject to the requirements of the Oklahoma Uniform Environmental Permitting Act and may be subject to one or more requirements of this Subchapter as well as other requirements of this Chapter, other divisions of the DEQ, and/or additional requirements as deemed necessary by the DEQ.

(c) **DEQ review.** After review of the application, the DEQ may require alterations prior to approval.

(d) **Initiation of permitted activities.** The applicant shall not begin activities described by the application until the permit has been issued.

(e) **Recordkeeping.** All records related to the project and required by this Section shall be maintained for a period of at least five years after completion of the project.

252:515-3-42. Permits for transfer stations

In addition to the requirements of OAC 252:515-3-36, permit applications for transfer stations shall establish a waste exclusion plan (WEP) in accordance with Subchapter 29 of this Chapter.

PART 5. REQUIRED MAPS AND DRAWINGS

252:515-3-51. General requirements

(a) **Applicability.** The maps and designs identified in this Part shall be submitted with permit applications for:

(1) all new solid waste disposal facilities;

(2) expansions of permit boundaries of existing solid waste disposal facilities;

(3) expansions of waste handling or disposal boundaries of existing solid waste disposal facilities; and

(4) any other modification to an existing permit where the data originally submitted would be made ambiguous, inaccurate, or out of date by the proposed modification.

(b) **Additional maps for land disposal facilities.** In addition to the maps and designs required by this Part, the maps identified in Part 7 of this Subchapter shall be submitted with permit applications for:

(1) new land disposal facilities;

(2) expansions of permit boundaries of existing land disposal facilities; and

(3) expansions of waste disposal boundaries of existing land disposal facilities.

(c) **Illegible.** The permit application will be considered administratively incomplete if any maps or drawings submitted are not legible.

(d) **Map sequence.** All maps and designs shall be submitted in the permit application in the sequence identified.

(e) **Map scale.** Unless otherwise identified, all maps submitted as part of a permit application shall be prepared at a scale of one inch equals one hundred feet (1" = 100'). An alternative scale may be used with approval of the DEQ.

(f) **Map details.**

(1) All maps shall show as a minimum, legend, title, north arrow, permit boundary, buffer zone, and boundaries of waste disposal or processing areas.

(2) If applicable, the locations of groundwater monitoring wells and gas monitoring probes shall be identified.

252:515-3-52. General location map

The permit application shall include a county highway map published by the Oklahoma Department of Transportation showing the facility location and any airports within six miles of the facility. If the facility is located within a municipality and a municipal map with better information is available, then it may be used.

252:515-3-53. Flood plain map

The permit application shall include a flood plain map from one of the following sources depicting the limits and elevations of any 100-year flood plain on or within one mile of the permit boundary of the proposed facility or expansion area:

(1) Flood Insurance Rate maps published by the Federal Emergency Management Agency, or maps prepared by the U.S. Army Corps of Engineers, Flood Plain Management Services;

(2) Maps of Flood Prone Areas published by the U.S. Geological Survey; or

(3) site specific determinations by the U.S. Army Corps of Engineers at the request of the applicant.

252:515-3-54. Quadrangle topographic map

(a) **Required map.** The permit application shall include an original U.S. Geological Survey 7.5 minute series topographic quadrangle map.

(1) If 7.5 minute series maps have not been printed, then 15 minute series may be used.

(2) If the disposal facility is located on the edge of the quadrangle, then adjoining maps shall be provided.

(b) **Required details.** The quadrangle topographic map shall clearly depict:

(1) the location of the facility permit boundaries;

(2) access routes within one mile of the facility;

(3) homes and buildings within one mile of the facility;

(4) public water and wastewater collection, treatment, and distribution facilities within one mile of the facility;

(5) receiving waters and surface variations within one mile of the facility; and

(6) water wells, including private and municipal, potable and irrigation water within one mile of the facility.

252:515-3-55. Existing contour map

(a) **Required map.** The permit application shall include a constructed map showing the topographic contours prior to any operations at the facility.

(b) **Contour intervals.** The contour interval on the map shall not be greater than two feet.

(c) **Required details.** The existing contour map shall show the location and quantities of surface drainage entering and exiting the facility, and the locations of all boreholes with their surface elevations.

252:515-3-56. Site map

(a) **Required map.** The permit application shall include a site map, which may be the existing contour map.

(b) **Required details.** The site map shall show the following, as applicable to the facility:

(1) the dimensions of the permit boundary as indicated by legal description;

(2) the receiving processing, storage or disposal areas;

(3) buffer zones;

(4) the locations and surface elevations of each borehole, monitor well, test well, monitoring site, test pit, sampling site and permanent benchmarks;

(5) the surface and top of casing elevations for each monitoring well or gas probe;

(6) the surface drainage, including location of diversion ditches, dikes, dams, pits, ponds, lagoons, berms, terraces and other relevant information;

(7) the location of fencing and gates, utility lines, pipelines, and easements;

(8) the access roads into and on the site;

(9) employee and equipment shelters; and

(10) on- and off-site soil borrow areas.

252:515-3-57. Design drawings

The permit application shall include, as necessary, design drawings and specifications for:

(1) receiving, processing, storage or disposal areas;

(2) liner construction;

(3) leachate collection systems;

(4) typical well installation;
(5) dike sections;
(6) drainage channels;
(7) groundwater monitoring wells, gas monitoring probes, and piezometers;
(8) retention structures or other groundwater and surface water protection measures; and
(9) any other design drawings or specifications necessary to describe the proposed activities for the facility.

PART 7. ADDITIONAL MAPS FOR LAND DISPOSAL FACILITIES

252:515-3-71. General requirements

(a) **Applicability.** The maps and designs identified in this Part shall be submitted with all permit applications for a new land disposal facility or expansions of the waste disposal boundaries of an existing land disposal facility.
(b) **Map requirements.** Maps submitted to the DEQ pursuant to the requirements of this Part are subject to the general map provisions of OAC 252:515-3-51(c) through (f).

252:515-3-72. Groundwater resource and usage map

(a) **Required map.** The permit application shall include a groundwater resource and usage map, made to a scale of 1:6000 (1 inch = 500 feet).
(b) **Required details.** The map shall show the following:
(1) the location, total depth and ground water elevation of all known private water wells within a radius of one mile of the proposed site boundary;
(2) the location, total depth and ground water elevation of all public water supply wells within a radius of two miles of the proposed site boundary; and
(3) recharge and discharge areas and the description of ground water quality within a three mile radius of the proposed site boundary.

252:515-3-73. Surface geologic map

The permit application shall include a site-specific areal geologic map depicting the lithologic units of the ground surface, made to a scale of no smaller than 1:1200 (1 inch = 100 feet).

252:515-3-74. Highest groundwater contour map

(a) **Required map.** The permit application shall include a groundwater contour map developed from the information obtained during the groundwater study required in Part 5 of OAC 252:515-7.
(b) **Required details.** The groundwater contour map shall depict:
(1) the groundwater contours, at two foot intervals, of the highest groundwater elevation ever recorded at each borehole, piezometer or well across the site. The highest elevation shall be based on the groundwater levels recorded during the subsurface investigation or any other record of groundwater elevation measurements; and
(2) the locations of all proposed monitoring wells, boreholes, and piezometers, and the surface elevations of each.

252:515-3-75. Potentiometric surface map

(a) **Required map.** The permit application shall include an actual groundwater potentiometric surface map developed from the information obtained during the groundwater study required in Part

5 of OAC 252:515-7.

(b) **Required details.** The potentiometric surface map shall depict:

(1) groundwater elevation contours at two foot intervals as measured in a single time event reflecting the highest average water level elevation across the site during the 12-month monitoring period; and

(2) the locations of all proposed monitoring wells, boreholes, and piezometers, and surface elevations of each.

252:515-3-76. Site-specific cross sections

(a) **Required map.** The permit application shall include two site-specific cross sections constructed from subsurface borehole logs and other site-specific information, such as water well logs, oil and gas well logs, outcrops at or near the site, and geophysical surveys.

(b) **Orientation.** The first cross section shall be oriented parallel to the dip of the underlying strata and the second oriented perpendicular to the dip of the strata. If this is not possible, the cross-sections shall be oriented at 90 degrees from each other.

(c) **Required details.** Each cross section shall include:

(1) the borehole logs and other sources of information displayed relative to mean sea level on the cross section;

(2) the depth, thickness and areal extent of each stratigraphic unit;

(3) lithology of significant formations or strata, and unconsolidated sediment type;

(4) structural features (faults and folds);

(5) stratigraphic contact between formations or strata, and unconsolidated sediments;

(6) zones of hydraulic conductivity greater than 1×10^{-3} cm/sec;

(7) fracture zones;

(8) otentiometric surfaces of all confined and unconfined saturated zones;

(9) location, depth and producing zone of water wells that could be used in the construction of the cross section;

(10) the surface upon which the waste will be placed, i.e., the landfill floor or top of liner;

(11) soils or strata encountered by the boreholes suitable for use as liner material;

(12) intervals and results of both in-situ and laboratory hydraulic conductivity tests;

(13) surface water drainage features, such as: dikes, levees, or trenches;

(14) the existing ground surface and final cover;

(15) gas extraction wells or probes;

(16) monitor wells or piezometers; and

(17) a legend that includes vertical and horizontal scales and a map showing the location of the boreholes and other information used to construct the cross section.

252:515-3-77. Fill cross section map

(a) **Required map.** The permit application shall include a fill cross section map.

(b) **Required details.** A grid system shall be established and typical cross sections plotted along the principal axis and along the minor axis.

(1) A cross section locator map shall show the grid system superimposed over the site plan with each cross-section labeled. This drawing may be at any convenient scale and labeled accordingly.

(2) Cross section drawings shall depict the elevation(s) of the top of any dikes or levees, the final cover, wastes, ground surface, the top of liner, the bottom of excavations, the side slopes of

trenches and fill areas, groundwater monitor wells, gas wells or vents, and recorded initial and static water levels.
(3) The scale shall be 1:600 (1 inch = 50 feet) horizontal and 1:60 (1 inch = 5 feet) vertical.
(4) Soil borings may also be shown on the profile.

252:515-3-78. Excavation contour map

The permit application shall include an excavation contour map showing:
(1) contours, at two foot intervals, of the bottom of the proposed excavation;
(2) the anticipated progression of the construction; and
(3) the locations and final depth of the boreholes.

252:515-3-79. Top of liner contour map

(a) **Required map.** The permit application shall include a top of liner contour map showing:
(1) contours, at two foot intervals, of the top of the liner; and
(2) the locations of the proposed monitor wells.
(b) **Liner construction.** Details of liner construction may be provided on this map or as a separate drawing.

252:515-3-80. Completion map

(a) **Required map.** The permit application shall include a completion map showing how the new facility or expansion is expected to look when it is completed, including final contours.
(b) **Required details.** The completion map shall include the permit boundary, disposal boundary, buffer zone, gas and groundwater monitoring well locations, the leachate removal locations, permanent surface drainage structures and aesthetic enhancements.

SUBCHAPTER 5. LOCATION RESTRICTIONS

PART 1. GENERAL PROVISIONS

Section
252:515-5-1. Applicability

PART 3. LOCATION RESTRICTIONS FOR ALL SOLID WASTE DISPOSAL FACILITIES

252:515-5-31. Restrictions on location of permit boundary
252:515-5-32. Restrictions on location of waste management and disposal areas

PART 5. ADDITIONAL LOCATION RESTRICTIONS FOR LAND DISPOSAL FACILITIES

252:515-5-51. Restrictions on location of permit boundary
252:515-5-52. Restrictions on location of waste management and disposal areas

PART 1. GENERAL PROVISIONS

252:515-5-1. Applicability

(a) **All solid waste disposal facilities.** All new and active solid waste disposal facilities are subject to the location restrictions of Part 3 of this Subchapter.

(b) **Land disposal facilities.** In addition to the restrictions of Part 3 of this Subchapter, all new and active land disposal facilities are subject to the location restrictions of Part 5 of this Subchapter.

PART 3. LOCATION RESTRICTIONS FOR ALL SOLID WASTE DISPOSAL FACILITIES

252:515-5-31. Restrictions on location of permit boundary

(a) **Scenic rivers.**

(1) **Prohibition.** Except as provided in (2) of this Subsection, no area within the permit boundary of a new solid waste disposal facility, or expansion of the permit boundary of an existing solid waste disposal facility, shall be located within the drainage basin of any river designated under the Oklahoma Scenic Rivers Commission Act.

(2) **Exception.** This restriction may be waived if the Scenic Rivers Commission that manages the affected river, or in the absence of such commission, the Oklahoma Tourism and Recreation Department, provides a statement that the proposed facility is not expected to adversely affect the river or any of the public purposes for which it was designated. Such statement shall be provided to the DEQ.

(b) **Recreation/preservation areas.**

(1) **Prohibition.** Except as provided in (2) of this Subsection, no area within the permit boundary of a new solid waste disposal facility, or expansion of the permit boundary of an existing solid waste disposal facility, shall be located within one-half mile of any area formally dedicated and managed for public recreation or natural preservation by a federal, state, or local government agency.

(2) **Exception.** This restriction may be waived if the appropriate management agency provides a statement that the proposed facility is not expected to adversely affect the existing recreation or natural preservation area. Such statement shall be submitted to the DEQ.

(c) **Endangered or threatened species.** For a new solid waste disposal facility, or expansion of the permit boundary of an existing solid waste disposal facility, a statement from the Oklahoma Department of Wildlife Conservation (ODWC) and from the Oklahoma Biological Survey (OBS), shall be submitted regarding current information about endangered or threatened wildlife or plant species listed in state and federal laws, that exist within one mile of the permit boundary or expansion area.

(1) **Address potential impacts.** If threatened or endangered species exist within, or periodically utilize any area within, or within one mile of, the permit boundary or expansion area, the projected impacts on the identified species shall be addressed, and measures specified to avoid or mitigate the impacts.

(2) **Mitigation plan required.** When impacts are unavoidable, a mitigation plan that has been approved by ODWC for wildlife or OBS for plants, shall be submitted to the DEQ.

252:515-5-32. Restrictions on location of waste management and disposal areas

(a) **100-year floodplain.** No waste management or disposal areas of a solid waste disposal facility shall be located within the 100-year floodplain, except as provided for by (1) and (2) of this Subsection.

(1) **Land disposal areas permitted before April 9, 1994.** For areas of land disposal facilities that received waste before April 9, 1994 and are located in the 100-year floodplain, the owner/operator must maintain in the operating record a demonstration that the waste disposal area will not:

(A) restrict the flow of the 100-year flood;

(B) reduce the temporary water storage capacity of the floodplain; or

(C) result in the disturbance and/or carrying away of solid waste by water so as to pose a hazard to human health or the environment.

(2) **Authorized variances.** The DEQ may grant a variance from the 100-year flood plain restriction for:

(A) waste management or disposal areas of new solid waste disposal facilities, or expansions of waste management or disposal areas of existing solid waste disposal facilities, provided the variance is conditioned upon the subsequent redefinition of the flood plain to not include the land area proposed by the variance; or

(B) solid waste transfer stations, including regulated medical waste transfer stations, if no waste will be retained or stored by any means during non-operating hours on any portion of the facility within the 100-year flood plain.

(b) **Public water supply.** Except for solid waste processing facilities where no waste is stored or placed on permeable surfaces, no new waste management or disposal areas of a solid waste disposal facility shall be located within:

(1) one mile upgradient of an existing public water supply surface water intake, or one that is permitted for construction when a complete application has been filed with the DEQ; or

(2) a one year time of travel of a public water supply well. A wellhead delineation shall be performed and submitted to the DEQ if one has not already been performed.

(c) **Wellhead protection area.** If any new waste management or disposal areas will be located within two miles of a public water supply well, a wellhead protection area shall be identified, as specified by the State Wellhead Protection Plan, and such information submitted to the DEQ.

(d) **Wetlands.** Except as provided in (1) and (2) of this Subsection, no new waste management or disposal areas of a solid waste disposal facility shall be located in wetland areas as designated by the Oklahoma Conservation Commission or other appropriate agency.

(1) **Exception.** New waste management or disposal areas of a solid waste disposal facility may be located in wetlands if all of the following demonstrations can be made.

(A) **Rebuttable presumption.** Where applicable under Section 404 of the Clean Water Act or applicable State wetlands laws, the presumption that practicable alternative to the proposed facility is available which does not involve wetlands is clearly rebutted;

(B) **No harm.** The construction and operation of the facility will not:

(i) cause or contribute to violations of any applicable State water quality standard;

(ii) violate any applicable toxic effluent standard or prohibition under Section 307 of the Clean Water Act; and

(iii) jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973;

(C) **No degradation.** The facility will not cause or contribute to significant degradation of wetlands. The integrity of the facility and its ability to protect ecological resources shall be demonstrated by addressing the following factors:

(i) erosion, stability, and migration potential of native wetland soils, muds and deposits

used to support the facility;

(ii) erosion, stability, and migration potential of dredged and fill materials used to support the facility;

(iii) the volume and chemical nature of the waste managed at the facility;

(iv) impacts on fish, wildlife, and other aquatic resources and their habitat from releases of solid waste;

(v) the potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and

(vi) any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected;

(D) **No net loss.** To the extent required under Section 404 of the Clean Water Act or applicable State wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands (as defined by acreage and function) by first avoiding impacts to wetlands to the maximum extent practicable as required by (1)(A) of this Subsection, then minimizing unavoidable impacts to the maximum extent practicable, and finally offsetting remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands); and

(E) **Sufficient information available.** Sufficient information is available to make a reasonable determination with respect to these demonstrations.

(2) **Verification required.** The demonstrations required by (1) of this Subsection shall be approved by the Oklahoma Conservation Commission or other appropriate agency.

PART 5. ADDITIONAL LOCATION RESTRICTIONS FOR LAND DISPOSAL FACILITIES

252:515-5-51. Restrictions on location of permit boundary

(a) **Terrace deposits.**

(1) **Prohibition.** Except as provided in (2) of this Subsection, no area within the permit boundary of a new land disposal facility, or expansion of the permit boundary of an existing land disposal facility, shall be located within an area designated as alluvium or terrace deposits and their recharge areas, as shown on "Map of Aquifers and Recharge Areas in Oklahoma" compiled by Kenneth S. Johnson, Oklahoma Geological Survey (1991).

(2) **Exception.** Site-specific hydrological and geological data and other information may be submitted to demonstrate clearly and convincingly that the proposed location does not lie in a prohibited area.

(b) **Karst terrain.** No area within the permit boundary of a new MSWLF shall be in a location that is both:

(1) within a locally fractured or cavernous limestone or cherty limestone bedrock; and

(2) within five miles of any water well owned by a rural water district that is used or has the potential to be used to provide water to customers of the district.

(c) **Earthquake epicenter areas.** Except as provided for in 27A O.S. § 2-10-501(D)(3), no area within the permit boundary of a new land disposal facility accepting NHIW shall be located within five miles of a known epicenter of an earthquake of more than 4.0 on the Richter Scale, or a number V on the modified Mercalli Scale, as recorded by the Oklahoma Geological Survey.

(d) **Asbestos monofill.** No area within the permit boundary of a new asbestos monofill shall be

located:

(1) within five hundred (500) yards of an occupied residence; or

(2) within three (3) miles of the corporate boundaries of any city or town.

252:515-5-52. Restrictions on location of waste management and disposal areas

(a) **Utility/transmission lines.** A minimum horizontal separation of twenty-five feet (25') shall be maintained between all waste management and disposal areas of a land disposal facility and any above-ground or underground pipeline or transmission line. Information on the locations and owners of all such lines and easements shall be provided to the DEQ.

(b) **Fault areas.**

(1) **Prohibition.** Except as provided in (2) of this Subsection, no new waste management or disposal areas of a land disposal facility shall be located within 200 feet of a fault that has had displacement in Holocene time.

(2) **Exception.** This restriction may be waived upon successful demonstration that an alternative setback distance will prevent damage to the structural integrity of the disposal cells and will be protective of human health and the environment.

(c) **Seismic impact zones.**

(1) **Prohibition.** Except as provided in (2) of this Subsection or 27A O.S. § 2-10-501(D)(3), no new waste management or disposal areas of a land disposal facility shall be located in a seismic impact zone.

(2) **Exception.** This restriction may be waived upon successful demonstration that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal and vertical displacement in lithified earth material for the site.

(d) **Unstable areas.** Except as provided in (2) of this Subsection, no new waste management or disposal areas of a land disposal facility shall be located over a subsurface mining area or any other unstable area.

(1) **Considerations.** At a minimum, the following factors must be considered to determine whether an area is unstable:

(A) on-site or local soil conditions that may result in significant differential settling;

(B) on-site or local geological or geomorphological features; and

(C) on-site or local human-made features or events (both surface and subsurface).

(2) **Exception.** This restriction may be waived upon successful demonstration that engineering measures have been incorporated into the design to ensure the integrity of all structural components will not be compromised.

(e) **Airports.** Except as provided in (2) of this Subsection, if any waste management or disposal area of a new land disposal facility, or expansion of waste management or disposal areas of an existing land disposal facility, is to be located within 10,000 feet of any airport runway end used by turbojet aircraft or within 5,000 feet of any airport runway end used by only piston-type aircraft, a demonstration that the facility will not pose a bird hazard to aircraft shall be provided to the DEQ.

(1) **Federal Aviation Administration (FAA) notification.**

(A) **Active land disposal facilities.** If any waste management or disposal areas of a new land disposal facility, or expansion of waste management or disposal areas of an active land disposal facility, will be located within a 5-mile radius of any airport runway end used by turbojet or piston-type aircraft, the affected airport and the FAA must be notified and proof of such notification provided to the DEQ.

(B) **New land disposal facilities.** If any portion of the permit boundary of a new land disposal facility accepting putrescible waste will be located within 6 miles of the property boundary of any public airport that has received federal grant funds under 49 U.S.C. 47101 and is primarily served by general aviation aircraft and regularly scheduled flights of aircraft designed for 60 passengers or less, the applicant must demonstrate compliance with the requirements of FAA Advisory Circular 150/5200-34, published August 26, 2000.

(2) **Exceptions.** This Subsection does not apply to C&D or NHIW landfills.

SUBCHAPTER 7. SUBSURFACE INVESTIGATION

PART 1. GENERAL PROVISIONS

Section

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PART 3. DATA COLLECTION

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PART 5. GROUNDWATER STUDY

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PART 7. SURFACE PENETRATION PLUGGING

252:515-7-71. Plugging requirements

PART 1. GENERAL PROVISIONS

252:515-7-1. Applicability

(a) **Land disposal facilities.** A subsurface investigation meeting the requirements of this Subchapter shall be completed prior to submitting a permit application for:

(1) a new land disposal facility; or

(2) an expansion of waste disposal boundaries of an existing land disposal facility.

(b) **Other solid waste disposal facilities.** A subsurface investigation meeting the requirements of this Subchapter shall be performed at other solid waste disposal facilities if the DEQ has determined groundwater may be affected due to the presence of the facility.

(c) **Part of permit application.** The results from the subsurface investigation shall be included as part of the permit application.

(d) **Exception.** Except as provided by OAC 252:515-7-2(c) (relating to verification of previously submitted data), a permit modification to expand waste disposal boundaries may not require a subsurface investigation if the proposed expansion area has already had a subsurface investigation performed that meets the requirements of this Subchapter.

252:515-7-2. General

(a) **Purpose and design.** The subsurface investigation shall:

(1) be performed to determine the location of the uppermost saturated zone(s); and

(2) be designed to protect all saturated zones encountered while drilling.

(b) **Methods.** Dry methods of subsurface exploration, such as auger, air rotary, or cable tool, shall be used. Other methods may be approved by the DEQ on a case-by-case basis.

(c) **Verification of previously submitted data.** When a significant period of time has elapsed between the initial investigation and actual construction that there is a reasonable likelihood subsurface conditions have changed, the DEQ may require verification of data contained in a previously submitted subsurface investigation.

252:515-7-3. Compliance with OWRB rules

All monitoring wells, borings, and/or piezometers shall be constructed and/or plugged in accordance with the applicable requirements of the OWRB at OAC 785:35.

(1) **Flush mounting prohibited.** Flush-mounting of monitoring wells and piezometers is prohibited.

(2) **Multi-zone completions prohibited.** Multi-zone completions of monitoring wells and piezometers are prohibited.

(3) **Notch.** The well casing of monitoring wells shall be notched to mark the point of measurement for groundwater elevation.

(4) **Latitude, longitude, surface elevation.** Latitude, longitude, and surface elevation, measured by a licensed surveyor, shall be permanently marked on the protective casing of each monitoring well.

252:515-7-4. Drilling plan

(a) **Drilling plan required.** Prior to initiating the subsurface investigation, a drilling plan meeting the requirements of this Section shall be submitted to the DEQ for approval.

(1) **Drilling plan revisions.** New hydrogeologic information collected as the investigation proceeds shall be used to revise the drilling plan and disposal facility design as necessary.

(2) **DEQ approval required.** Drilling shall not begin until the drilling plan has been approved in writing by the DEQ.

(b) **Drilling plan content.** The drilling plan shall include the following information at a minimum:

(1) the name, address, and telephone number of the owner/operator, the consulting firm, and the person in charge of the project;
(2) the following maps and drawings:
(A) general location map, flood plain map, and quadrangle topographic map in accordance with OAC 252:515-3-52 through 54;
(B) existing contour map in accordance with OAC 252:515-3-55, showing the locations, estimated elevations and total depths of any proposed or existing borings on the site;
(C) site specific maps showing any wetlands, fault areas, seismic impact zones, and alluvium or terrace deposits and their recharge areas; and
(D) drawings of proposed piezometers and/or monitoring wells to demonstrate their construction will be in accordance with the requirements of the OWRB (see OAC 252:515-7-3);
(3) the locations of borings to be completed in accordance with the following:
(A) borings shall be spaced on a grid, or an alternative spacing approved in advance by the DEQ;
(B) for an area consisting of five acres or less, a minimum of four borings within the proposed permit boundary shall be completed on a new site or within the expansion area of an existing site;
(C) for areas larger than five acres, additional borings shall be placed in accordance with Appendix D;
(D) with prior approval of the DEQ, up to one-fourth of required borings may be replaced with existing borings located within 200 feet of the proposed boundary;
(E) the DEQ may require more borings at sites with complex hydrogeology, such as groundwater divides, shallow saturated zones, or hydraulic barriers; and
(4) the depths of borings to be completed as follows:
(A) all borings shall be drilled a minimum of thirty feet below the deepest proposed placement of waste, the elevation of which shall be reported in relation to mean sea level. A borehole depth calculation shall be completed for each boring in accordance with Appendix E;
(B) at least three borings shall be drilled two hundred feet deep or a minimum of ten feet into the uppermost saturated zone, whichever is less, in accordance with Appendix D;
(C) at least one boring shall be drilled to a depth of 100 feet, regardless of the depth at which groundwater is encountered.

252:515-7-5. Drilling

(a) **Notice of intent to drill.** After DEQ approval of the drilling plan, the DEQ shall be provided with written notice of intent to drill at least two (2) weeks prior to initiating drilling.
(b) **Drilling.** Provided proper notification is given to the DEQ, drilling may proceed in accordance with the approved plan even if a representative of the DEQ is not present as scheduled.
(c) **Qualified groundwater scientist.** A qualified groundwater scientist shall supervise all drilling operations.

PART 3. DATA COLLECTION

252:515-7-31. Data collection

The information described in this Part shall be collected during the subsurface investigation and

submitted as part of the permit application.

252:515-7-32. Borehole logs

(a) Information shall be collected to prepare a lithologic sample log of each borehole drilled and a geophysical log of each borehole to be converted to a piezometer.

(b) All pertinent information, such as the depth at which water was encountered, shall be included on the log.

(c) Depth of water in boreholes shall be measured at the time of drilling and again 24 hours later.

252:515-7-33. Lithologic sample logs

Lithologic sample logs shall be made for each borehole for its entire depth. Each log shall include the following information:

(1) geotechnical information about drilling, such as penetration rates, hydraulic conductivity test intervals and results, and drill bit changes;

(2) identification of all soil and rock layers encountered during drilling describing:

(A) color, texture, thickness, degree of compaction or consolidation and amount of moisture present in each layer;

(B) soil classifications based on the Unified Soil Classification System along with the geological classification; and

(C) rock classifications as defined in the American Geological Institute Dictionary of Geological Terms; and

(3) the depths at which groundwater was encountered and stabilized groundwater elevations.

252:515-7-34. Geophysical logs

(a) **Minimum number.** For waste disposal areas of 20 acres or less, at least three boreholes shall be logged by geophysical tools, one of which must be run on the deepest drilled borehole.

(b) **Additional logs.**

(1) For each additional 20 acres of waste disposal area, one additional borehole shall be logged by geophysical tools.

(2) In geologically complex areas, the DEQ may require additional boreholes.

(c) **Logging method.** Geophysical logs shall be obtained using:

(1) gamma ray/neutron logs from total depth to the surface in either open hole or behind casing; or

(2) alternative geophysical logs approved by the DEQ if it provides equivalent information.

252:515-7-35. Soil and rock sampling

(a) **Sample collection.** For each borehole drilled, soil and rock samples shall be collected at five-foot intervals, and at soil or rock changes, from the surface to the total depth drilled.

(b) **Sample storage.** Samples shall be stored until final action on the permit application is taken by the DEQ.

(c) **Sampling methods.** Drilling techniques and the types of samples to be collected shall determine the method of sampling.

(1) **Split-barrel.** Split-barrel samples shall be taken according to the specifications of ASTM D1586.

(2) **Core barrel.** Consolidated rock samples shall be taken by core barrel according to the specifications of ASTM D2113.

(3) **Thin-walled tube.** When soil samples of silts and clays are required for physical tests, thin-walled tube samples shall be taken according to the specifications of ASTM D1587.

(4) **Other methods.** Other sampling methods may be approved in advance by the DEQ on a case-by-case basis.

252:515-7-36. Soil tests

Soils proposed to be used as liner or intermediate or final cover material shall be tested as follows:

(1) **Sample collection.** At least one sample shall be collected for each type of material proposed for use as liner or intermediate or final cover material.

(2) **Laboratory requirement.** The soil samples shall be tested by a soils laboratory under the direction of a licensed professional engineer.

(3) **Required tests.** The following tests shall be conducted on each type of soil sampled:

(A) soil classification according to the specifications of ASTM D2487;

(B) particle-size analysis of soil according to the specifications of ASTM D422;

(C) sieve analysis for the following screen sizes: #4, #10, #40, #200;

(D) percent fines (#200 sieve) according to the specifications of ASTM D1140;

(E) Atterberg limits according to the specifications of ASTM D4318;

(F) moisture content according to the specifications of either the oven drying method of ASTM D2216 or the microwave drying method of ASTM D4643;

(G) moisture-density relationship according to the specifications of the standard proctor test of ASTM D698 or the modified proctor test of ASTM D1557; and

(H) hydraulic conductivity according to the specifications of ASTM D5084 or any other method approved by the DEQ.

252:515-7-37. Soils report

A laboratory report of the characteristics of soil and rock material proposed for liner or intermediate or final cover material shall be submitted.

(1) **PE certification.** The report shall be stamped or sealed by the licensed professional engineer directing the soils laboratory; and

(2) **Report requirements.** The report shall include all test results, the type of test used, the method of testing and the condition, preparation, and orientation of each sample.

252:515-7-38. Regional hydrogeologic study

Information on the geology and hydrogeology of the proposed site or expansion area shall be collected. Such information shall, at a minimum, include:

(1) the formation underlying the deepest formation penetrated by the boreholes and/or monitor wells;

(2) all formations exposed in the outcrop on or within 1/4 mile of the proposed permitted boundary;

(3) a geologic column and structural information of all rock formations occurring from surface to a depth of 500 feet;

(4) a regional surface geological map;

(5) illustrations of the regional stratigraphic column and geologic or hydrogeologic cross-sections;

(6) a description of regional groundwater quality; and

(7) references indicating the sources of information.

PART 5. GROUNDWATER STUDY

252:515-7-51. General

(a) **Groundwater study required.** A groundwater study completed in accordance with this Part shall be performed as part of the subsurface investigation required by this Subchapter, and the results included with the permit application.

(b) **As-built drawings required.** As-built drawings, surveyed locations, and casing elevations of each piezometer installed shall be included with the permit application.

252:515-7-52. Piezometers required

Boreholes and screens shall be installed in the uppermost saturated zone at locations approved by the DEQ so that data collected will be representative of the entire site or expansion area.

252:515-7-53. Piezometer details

(a) **Minimum number.** For waste disposal areas of 20 acres or less, at least three piezometers shall be installed.

(b) **Additional piezometers.**

(1) For each additional 20 acres of waste disposal area, one additional piezometer shall be installed.

(2) In geologically complex areas, the installation of additional piezometers may be required.

(c) **Piezometer construction.** In addition to the requirements of OAC 252:515-7-3, piezometer construction shall include the following.

(1) **Casing material.** The casing must be made of material selected according to groundwater geochemistry, anticipated lifetime of the monitoring program, well depth, parameters to be monitored and other site specific considerations.

(2) **Rigidity.** The casing must be rigid enough to support the borehole and shall have a protective cap over the bottom end.

(3) **Unconfined aquifer.** For an unconfined aquifer, the tops of screens shall be placed at, or no more than two feet above, the water table, and the screen shall extend into the saturated zone.

(4) **Confined aquifer.** For a confined aquifer, screens shall be placed in the saturated zone.

(5) **Screen length.** Screens shall be 5 feet in length, unless otherwise approved by the DEQ.

(d) **Conversion of piezometers to monitoring wells.** If any piezometers are to be converted to groundwater monitoring wells, the piezometers must be converted to meet the standards of the OWRB (see OAC 252:515-7-3).

252:515-7-54. Groundwater elevation measurements

(a) **Groundwater/waste separation.** The minimum distance between the highest groundwater elevation and the lowest elevation at which waste will be placed shall be determined.

(b) **Continuous water level monitoring.** A continuous water level monitor system shall be installed in at least one piezometer that has water in it. Water levels in all other piezometers shall be monitored once each month for 12 months at approximately the same date each month.

(c) **Measurements after heavy rainfall.** If significant changes in the water level in the continuous monitor are identified following heavy rainfall events, the DEQ may require additional measurements in other piezometers to further define the level of highest groundwater elevation.

(d) **Method defined.** The elevation of groundwater in piezometers and monitor wells shall be measured according to the specifications of ASTM D4750.

252:515-7-55. Area rainfall

(a) **Rainfall measurements.** Daily and monthly precipitation data shall be obtained from the climatological station closest to the proposed site or expansion area, for the months in which the on-site measurements were taken and for the preceding 12 months.

(b) **Average rainfall.** CLIMOCS shall be used to obtain the 30-year mean precipitation from the climatological station closest to the proposed site or expansion area.

252:515-7-56. Shallow saturated zone investigation

(a) **Shallow saturated zone encountered.** If a saturated zone is encountered above the depth where groundwater was anticipated, drilling shall cease and the following actions taken:

(1) note on the borehole lithologic sample log, the initial depth at which the shallow zone was encountered;

(2) install and screen a piezometer in the shallow zone; and

(3) drill a new boring, to the original proposed total depth, within ten feet of the piezometer.

(b) **Additional shallow zones encountered.** If a shallow saturated zone is encountered in the next three adjacent borehole locations in the approved drilling plan:

(1) the drilling plan and preliminary landfill design shall be revised to take into consideration the shallow water table;

(2) the subsurface investigation shall be updated and revised as hydrogeologic information becomes available; and

(3) a revised drilling plan shall be submitted to the DEQ for approval, with explanation of any changes made to the original plan.

PART 7. SURFACE PENETRATION PLUGGING

252:515-7-71. Plugging requirements

(a) **Boreholes.** Unless it is to be converted to a piezometer or monitor well within thirty days of drilling, all boreholes shall be plugged in accordance with the requirements of the OWRB (see OAC 252:515-7-3).

(b) **Piezometers and monitoring wells.** All piezometers and monitoring wells that will not become part of the groundwater monitoring system shall be plugged according to the requirements of the OWRB (see OAC 252:515-7-3).

(c) **Other subsurface penetrations.** All water wells, oil and gas wells and other borings located within the proposed disposal boundary shall be plugged if they will not be utilized.

(d) **Casing extraction.** The casing of monitoring wells and piezometers shall be extracted prior to plugging.

(1) **Piezometers.** The surface seal and casing shall be removed from the borehole and a tremie pipe shall be used to fill the hole from the bottom to four feet (4') below ground surface.

(2) **Monitoring wells.**

(A) The protective bollards and concrete pad shall be removed.

(B) The surface seal and well casing shall be removed by perforating the bottom cap and filling the casing with appropriate plugging material as the casing is being pulled from the borehole, or the casing may be extracted by over-drilling.

(e) **Alternative.** In areas where all or part of the well's casing and other components of the well cannot be removed and plugged in accordance with this Part, the DEQ may allow the placement of a cement-bentonite grout inside the wells casing, from the bottom of the well to the ground surface. In this event, the owner/operator must demonstrate that the annular seal is adequately sealed and must submit documentation, prior to plugging the well, that demonstrates removal of all or part of the well's casing and other components.

SUBCHAPTER 9. GROUNDWATER MONITORING/CORRECTIVE ACTION

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PART 1. GENERAL PROVISIONS

252:515-9-1. Applicability

(a) **New and active land disposal facilities.** The requirements of this Subchapter apply to all new and active land disposal facilities throughout the active life and post-closure monitoring period.
(b) **Closed land disposal facilities.** Land disposal facilities in the post-closure monitoring period on the effective date of this Chapter shall remain subject to the groundwater monitoring program specified by the permit and the rules in effect at the time the facility entered post-closure. However such facilities may be required to comply with Parts 9 through 15 of this Subchapter if it has been determined groundwater may be affected by the presence of the facility.
(c) **Solid waste disposal facilities without groundwater monitoring.** The DEQ may require compliance with this Subchapter for a solid waste disposal facility that does not have a groundwater monitoring program if it determines groundwater may be affected due to the presence of the facility.

252:515-9-2. Purpose

A groundwater monitoring system shall be installed that will yield groundwater samples from the uppermost aquifer that:

(1) represent the quality of background groundwater that has not been affected by the disposal facility; and
(2) represent the quality of groundwater that has passed underneath the disposal facility.

252:515-9-3. General requirements

(a) **DEQ approval required.** A groundwater sampling and analysis program shall be submitted to

the DEQ for approval.

(b) **Requirements.** The program shall:

(1) identify the number, spacing, depths, locations, design, installation, development, and decommission of any monitoring wells, piezometers, and other measurement, sampling, and analytical devices;

(2) include procedures and techniques for sample collection, sample preservation and shipment, analytical procedures, chain of custody control, and quality assurance and quality control;

(3) include sampling and analytical methods which are appropriate for groundwater sampling and which accurately measure hazardous constituents and other monitoring parameters in groundwater samples; and

(4) ensure sampling procedures and frequencies are protective of human health and the environment.

(c) **Filtering prohibition.** Groundwater samples shall not be filtered in the field or in the lab prior to laboratory analysis.

(d) **Groundwater elevation.** Each time groundwater is sampled, the rate and direction of groundwater flow shall be determined by measuring and recording the groundwater elevation in each groundwater monitoring well immediately prior to purging.

(e) **Submittal of data to DEQ.** All groundwater monitoring data required by this Subchapter shall be submitted to the DEQ in a format prescribed by the DEQ, which may include electronic submittals.

252:515-9-4. General location considerations

(a) Groundwater monitoring wells shall be installed on land owned or leased by the owner/operator and at a distance of no more than 150 meters from the boundaries of waste disposal. The following shall be considered when determining the location for the monitoring wells:

(1) the hydrogeologic characteristics of the facility and surrounding land;

(2) the volume and physical and chemical characteristics of the leachate;

(3) the quantity, quality, and direction, of flow of groundwater;

(4) the proximity and withdrawal rate of the groundwater users;

(5) the availability of alternative drinking water supplies;

(6) the existing quality of the groundwater, including other sources of contamination and their cumulative impacts on the groundwater, and whether the groundwater is currently used or reasonably expected to be used for drinking water; and

(7) public health, safety, and welfare effects.

(b) The highest groundwater contour map prepared in accordance with OAC 252:515-3-74 shall be used to assist in placement of the groundwater monitoring wells.

252:515-9-5. Monitoring well number and location

(a) **Site-specific considerations.** A thorough characterization of the following shall be submitted with the permit application to support the number, spacing, and depths of monitoring wells proposed:

(1) aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow; and

(2) saturated and unsaturated geologic units and fill materials overlying the uppermost aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the uppermost aquifer; including, but not limited to: thicknesses, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

(b) **Minimum number.** The minimum number of groundwater monitoring wells to be installed shall be as follows.

(1) **Land disposal facilities.** Except as provided in (2) of this Subsection, all land disposal facilities shall be equipped with at least one monitoring well located hydraulically upgradient of the disposal facility, and three located hydraulically downgradient of the disposal facility.

(2) **C&D landfills.** C&D landfills shall be equipped with at least one monitoring well located hydraulically upgradient of the disposal facility, and two located hydraulically downgradient of the disposal facility.

(3) **Additional wells.** The installation of additional monitoring wells may be required to adequately monitor groundwater in areas of complex hydrogeology.

(c) **Alternative upgradient.** The use of wells that are not hydraulically upgradient of the waste management area may be approved when:

(1) hydrogeologic conditions do not allow the owner/operator to determine what wells are hydraulically upgradient; or

(2) sampling at other wells will provide an indication of background groundwater quality that is as representative or more representative than that provided by the upgradient wells.

252:515-9-6. Monitoring well construction and plugging

Groundwater monitoring wells shall be constructed and/or plugged in accordance with the requirements of the OWRB (see 252:515-7-3).

252:515-9-7. Performance levels

The monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program.

PART 3. BACKGROUND WATER QUALITY

252:515-9-31. Background water quality

(a) **Existing facilities.** Unless background water quality has previously been approved by the DEQ, each monitoring well at an active land disposal facility permitted prior to April 9, 1994 shall be sampled quarterly for two full years to determine background water quality.

(b) **New facilities, with exception.**

(1) Except as provided for in (2) of this Subsection, monitoring wells installed at new land disposal facilities permitted on or after April 9, 1994 shall be sampled quarterly for one full year before waste may be deposited at the facility to determine background water quality.

(2) The quarterly background water quality determination at new C&D landfills shall begin no later than thirty (30) days after the initial receipt of waste.

(c) **New groundwater monitoring wells.** Unless otherwise approved by the DEQ, new groundwater monitoring wells installed after the effective date of this Chapter shall be sampled quarterly for one full year to establish background water quality.

(d) **Required parameters.**

(1) **MSWLFs.** MSWLFs shall, as a minimum, be monitored for:

(A) the following groundwater quality constituents: pH, chemical oxygen demand, specific conductivity, chloride, sulfate, calcium, magnesium, nitrates, sodium, carbonates, potassium; and

(B) those constituents in Appendix A of this Chapter.

(2) **C&D landfills.** C&D landfills shall, as a minimum, be monitored for the following groundwater quality constituents: pH, chemical oxygen demand, and specific conductivity.

(3) **NHIW landfills.** NHIW landfills shall, as a minimum, be monitored for:

(A) the following groundwater quality constituents: pH, chemical oxygen demand, specific conductivity, chloride, sulfate, calcium, magnesium, nitrates, sodium, carbonates, potassium; and

(B) other parameters specified in the permit, based on the types of wastes to be disposed.

(4) **Other land disposal facilities.** Other land disposal facilities shall comply with the groundwater monitoring requirements for MSWLFs.

PART 5. STATISTICAL METHOD

252:515-9-51. Applicability

This Part applies to all land disposal facilities, except C&D landfills.

252:515-9-52. Statistical analysis plan

A statistical analysis plan shall be approved by the DEQ before entering into detection monitoring.

252:515-9-53. Statistical method performance standards

Any statistical method chosen shall comply with the following performance standards, as appropriate.

(1) **Distribution of parameters.** The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents.

(A) If the distribution of the chemical parameters or hazardous constituents is shown to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used.

(B) If the distributions for the constituents differ, more than one statistical method may be needed.

(2) **Type I error level.** If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period.

(A) If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained.

(B) This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(3) **Control chart approach.**

(A) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment.

(B) The parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for

each constituent of concern.

(4) **Tolerance or prediction interval.**

(A) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be protective of human health and the environment.

(B) These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) **Below detection limits.**

(A) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment.

(B) Any practical quantitation limit that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) **Variability.** If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

252:515-9-54. Approved statistical methods

One of the following statistical methods shall be used to evaluate groundwater monitoring data for each chemical parameter and hazardous constituent:

(1) a parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent;

(2) an ANOVA based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent;

(3) a tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit;

(4) a control chart approach that gives control limits for each constituent; or

(5) another statistical test method may be approved by the DEQ if it meets the performance standards of OAC 252:515-9-53.

PART 7. DETECTION MONITORING

252:515-9-71. Detection monitoring required

Upon completion of background monitoring, detection monitoring shall begin for the constituents listed in OAC 252:515-9-31(d), unless alternative constituents are approved in accordance with OAC 252:515-9-72.

252:515-9-72. Revisions to monitoring constituents

(a) **Groundwater quality constituents.** During detection monitoring, the DEQ may approve an alternative list of groundwater quality constituents upon successful demonstration that the alternative

list of constituents will detect changes in groundwater quality due to the presence of the facility.
(b) **Volatile and semi-volatile organics.** During detection monitoring, the DEQ may approve deletion of any of the volatile or semi-volatile organic constituents of the approved groundwater monitoring program upon successful demonstration that the removed constituents are not reasonably expected to be in or derived from the waste contained in the site.
(c) **Heavy metals.** During detection monitoring, the DEQ may approve the use of an alternative list of indicator constituents, in lieu of some or all of the heavy metal constituents of the approved groundwater monitoring program, if the alternative constituents provide a reliable indication of inorganic releases from the disposal facility to the groundwater. The use of an alternative of indicator constituents shall be based on:

(1) the types, quantities, and concentrations of constituents in wastes managed at the facility;
(2) the mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the facility;
(3) the detectability of indicator parameters, waste constituents, and reaction products in the ground water; and
(4) the concentration or values and coefficients of variation of monitoring constituents in the groundwater background.

252:515-9-73. Monitoring frequency

(a) **Semi-annual monitoring required.** Groundwater from each monitoring well shall be sampled and analyzed at least semi-annually during the active life of the facility and any required post-closure monitoring period.
(b) **Alternative frequency authorized.** The DEQ may, on a case-by-case basis, approve alternative sampling and analysis frequencies in the approved detection monitoring program.

(1) **All constituents.** An alternative frequency for repeated sampling and analysis for all constituents may be approved. The following shall be considered:
(A) lithology of the aquifer and unsaturated zone;
(B) hydraulic conductivity of the aquifer and unsaturated zone;
(C) groundwater flow rates;
(D) minimum distance between upgradient edge of the facility unit and downgradient monitoring well screen; and
(E) resource value of the aquifer.
(2) **Individual constituents.** An alternative sampling and analysis frequency for one or more individual constituents may be approved. In addition to the considerations of (1) of this Subsection, the following shall be considered:
(A) the mobility, stability, and persistence of the constituents or their reaction/degradation products in the unsaturated zone beneath the disposal facility;
(B) the detectability of the waste constituents, and reaction/degradation products in the groundwater; and
(C) the concentration or values and coefficients of variation of the constituents in the groundwater background.

(c) **Minimum alternative monitoring frequency.** Alternative detection monitoring frequencies shall not be less than annual during the active life, but may be less than annual during the post-closure monitoring period.

252:515-9-74. Statistical analysis

(a) **60-day deadline.** Except as provided for in (f) of this Section, within 60 days after sampling:
(1) a statistical analysis shall be performed on the groundwater monitoring results to determine whether there has been a statistically significant increase over background values at each monitoring well; and
(2) the groundwater monitoring results and the results of the statistical evaluation shall be submitted to the DEQ.
(b) **Inter-well comparison.** The groundwater quality of each chemical parameter or hazardous constituent at each monitoring well shall be compared to the background value of that constituent in the upgradient well, according to the specified statistical procedures and performance standards.
(c) **Intra-well comparison.** If a statistically significant increase over background values in any parameter or constituent is evident, the groundwater quality of each parameter or constituent at each monitoring well shall be compared to the background value of that parameter or constituent in the same well, according to the specified statistical procedures and performance standards.
(d) **Statistically significant increase.** If there is a statistically significant increase over background for one or more of the constituents at any monitoring well, the owner/operator:
(1) must notify the DEQ in writing within 14 days of the determination, and place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels; and
(2) must establish an assessment monitoring program meeting the requirements of Part 9 of this Subchapter within 90 days of the determination, and have the assessment monitoring program approved by the DEQ; or
(3) may, during the 90-day development of an assessment monitoring program, demonstrate that a source other than the facility caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration shall be submitted to the DEQ for approval.
(A) If a successful demonstration is approved by the DEQ, detection monitoring shall continue.
(B) If at the end of the 90-day period, a successful demonstration is not made, the assessment monitoring program must be initiated.
(e) **Extension allowed.** Upon written request from the owner/operator, the DEQ may extend the 90-day deadline of (d)(3) of this Section for good cause shown.
(f) **C&D landfills.** In lieu of meeting the requirements of this Section, cumulative analysis data for the constituents in the approved groundwater monitoring program shall be submitted for each groundwater monitoring well at C&D landfills throughout the detection monitoring period. The data shall be submitted to the DEQ within 60 days of sampling and presented in tabular or graphical form for trend analysis.

PART 9. ASSESSMENT MONITORING

252:515-9-91. Assessment monitoring required

(a) **Land disposal facilities.** Except as provided in (b) of this Section, an approved assessment monitoring program meeting the requirements of this Part must be initiated whenever a confirmed statistically significant increase over background has been detected for one or more of the constituents analyzed in the detection monitoring program.
(b) **C&D landfills.** An approved assessment monitoring program meeting the requirements of this

Part must be initiated whenever trend analysis demonstrates a significant increase over background for one or more of the constituents analyzed in the detection monitoring program.

252:515-9-92. Assessment monitoring frequency

The DEQ shall specify the frequency of sampling events in the assessment monitoring program, but in no case shall the frequency be less than annually.

252:515-9-93. Required constituents

(a) Groundwater shall be sampled and analyzed for the groundwater quality constituents of 252:515-9-31(d) as well as all constituents identified in Appendix C of this Chapter.

(b) The DEQ may approve requests to reduce or modify the constituents to be analyzed during the assessment monitoring program. Constituents shall not be reduced or modified until approved by the DEQ.

252:515-9-94. Minimum number of samples

(a) **Minimum requirements.** Groundwater samples shall be collected and analyzed during each sampling event as follows:

(1) a minimum of one sample from each downgradient well; and

(2) a minimum of four independent samples from each well to establish background for any Appendix C constituents detected.

(b) **Subset of wells.** The DEQ may specify a subset of wells to be sampled and analyzed during assessment monitoring.

252:515-9-95. Actions required

(a) **Initial actions.** After obtaining the results from the initial or subsequent sampling events required by this Part, the owner/operator must:

(1) within 14 days, notify the DEQ in writing, and place a notice in the operating record, identifying the constituents that have been detected;

(2) within 90 days, and on at least a semi-annual basis thereafter:

(A) resample all wells;

(B) conduct analyses for all constituents in the detection monitoring program and any other constituents specified by the DEQ in accordance with OAC 252:515-9-93;

(C) notify the DEQ in writing and record the concentrations in the operating record; and

(D) establish background concentrations for any constituents detected pursuant to OAC 252:515-9-93 or (B) of this paragraph.

(b) **Concentrations below background.** If the concentration of all assessment monitoring constituents is at or below background values for two consecutive sampling events, using the approved statistical procedure, the owner/operator must notify the DEQ in writing of this finding and, upon approval of the DEQ, may return to detection monitoring.

(c) **Concentration above groundwater protection standard.** If one or more assessment monitoring constituents are detected at statistically significant levels above the groundwater protection standard of 252:515-9-96 in any sampling event, the owner/operator shall, within 14 days of this finding:

(1) notify the DEQ in writing and place a notice in the operating record identifying the constituents that have exceeded the background levels;

(2) by certified mail, return receipt requested, notify all persons who own the land or minerals

or who reside on the land that directly overlies any part of the plume of contamination and within one year time of travel if contaminants have migrated off-site;

(3) submit for DEQ approval, a proposed plan and schedule for analyzing the environmental release from the facility and for developing appropriate corrective action;

(4) submit to the DEQ a copy of the notice given pursuant to (2) of this Subsection, a list of the persons notified, a cadastral (property ownership) map and a mineral ownership map;

(5) characterize the nature and extent of the release by installing additional monitoring wells as necessary; and

(6) initiate an assessment of corrective measures within 90 days.

(d) **Other source or error.** During the 90 day period provided for in (c)(6) of this Section, a demonstration may be made that a source other than the facility caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

(1) **Report required.** A report, certified by a qualified groundwater scientist, shall be submitted to the DEQ to document this demonstration. Such report shall be approved by the DEQ and a copy of the approved report shall be placed in the operating record.

(2) **Continue monitoring.** If a successful demonstration is made, monitoring in accordance with this Part must continue. Upon approval of the DEQ, detection monitoring may be resumed if the constituents listed in Appendix C of this Chapter are at or below background.

(3) **Comply.** Until a successful demonstration is made, the owner/operator must comply with the requirements of this Part and initiate an assessment of corrective measures.

252:515-9-96. Groundwater protection standard

(a) **MCL established.** The maximum contaminant level (MCL) promulgated under the Safe Drinking Water Act shall be the groundwater protection standard for each Appendix A and C constituent detected in the groundwater.

(b) **MCL not established.** If MCL has not been established under the Safe Drinking Water Act for a particular constituent, the background level of the constituent shall be the groundwater protection standard.

(c) **Background above MCL.** If background level of a particular constituent is above the established MCL, or appropriate health-based levels if no MCL has been established, the background level shall be the groundwater protection standard.

(1) **Published health-based level.** For the purposes of this Subsection, the health-based level is a concentration that would result in an increased risk no of greater than 1×10^{-5} for carcinogens or a Hazard Index of < 1 for non-carcinogens as calculated by procedures specified in EPA 540/R-95/128, Methods for Estimation of Contaminants in Groundwater That Can Migrate to a Receptor Point.

(2) **Health-based level not listed.** The DEQ shall be consulted if a health-based level is not listed for a particular constituent.

PART 11. ASSESSMENT OF CORRECTIVE MEASURES

252:515-9-111. Assessment of corrective measures required

(a) **Initiation.** Assessment of corrective measures must be initiated within 90 days of finding that any of the constituents monitored in the assessment monitoring program have been detected at a statistically significant level exceeding the groundwater protection standards.

(b) **Completion.** The assessment of corrective measures must be completed within a reasonable period of time as determined by the DEQ.

252:515-9-112. Continued monitoring

During the assessment of corrective measures, monitoring in accordance with the approved assessment monitoring program must continue.

252:515-9-113. Public notice

(a) **Public meeting required.** Prior to the selection of a remedy, the results of the corrective measures assessment must be discussed in a public meeting.

(b) **Mail notifications required.** By certified mail, return receipt requested, notice of the public meeting shall be given at least 30 calendar days prior to the date of the meeting to the following:

(1) all persons who own the land or minerals or who reside on the land that directly overlies any part of the plume of contamination and within one year time of travel if contaminants have migrated off-site; and

(2) boards of County Commissioners, incorporated municipalities, rural water districts and conservation districts within a three-mile radius of the facility.

(c) **Publication of notice.** Legal notice of the public meeting shall be published at least 10 calendar days prior to the date of the meeting in accordance with forms and instructions provided by the DEQ.

(d) **Copies to DEQ.** Prior to the public meeting, the DEQ shall be provided with:

(1) an affidavit from the publisher (accompanied by a copy of the published notice), showing the date of publication;

(2) copies of certified mail receipts for those persons identified in (b) of this Section; and

(3 a cadastral (property ownership) map and a mineral ownership map covering the area within a two (2) mile radius of the facility.

PART 13. SELECTION OF REMEDY

252:515-9-131. Proposed remedy

Within 60 days of the public meeting, and based on the results of the corrective measures assessment, a proposed remedy shall be submitted to the DEQ for approval and a copy of the proposed and approved remedies placed in the operating record.

252:515-9-132. Remedy requirements

The proposed remedy must:

(1) be protective of human health and the environment;

(2) attain the groundwater protection standard of OAC 252:515-9-96;

(3) control the source(s) of releases to reduce or eliminate, to the maximum extent practicable, further releases of the constituents into the environment; and

(4) include a schedule for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time as determined by the DEQ.

252:515-9-133. No action

The DEQ may approve a recommendation that no action is necessary if it can be demonstrated that:

(1) the groundwater is also contaminated by substances that have originated from a source other than the facility and those substances are present in concentrations such that cleanup of the release from the facility would provide no significant reduction in risk to actual or potential receptors;
(2) the contaminated groundwater:
(A) is not currently or reasonably expected to be a useable source of water; and
(B) is not hydraulically connected with waters to which the hazardous constituents are migrating, or are likely to migrate, in concentrations that would exceed the groundwater protection standards;
(3) remediation of the release is technically impracticable; or
(4) remediation would result in unacceptable cross-media impacts.

252:515-9-134. Other measures

In the event the DEQ approves a no-action recommendation, source control or other measures may be required to eliminate or minimize further releases to the groundwater, to prevent exposure to the groundwater, or to remediate the groundwater to concentrations that are technically practicable and significantly reduce threats to human health or the environment.

252:515-9-135. Financial assurance

Financial assurance shall be established in accordance with OAC 252:515-27-2(b).

PART 15. IMPLEMENTATION OF CORRECTIVE ACTION

252:515-9-151. Required actions for implementation of corrective action

Based on the schedule for remedial activities approved in accordance with OAC 252:515-9-132(4):
(1) a groundwater monitoring program must be established and implemented as specified by the DEQ;
(2) the corrective action remedy selected must be implemented;
(3) interim measures necessary to ensure the protection of human health and the environment must be taken; and
(4) alternate measures for control, removal or decontamination of the sources of contamination must be implemented.

252:515-9-152. Interim measures

(a) **Objectives and performance.** The interim measures required by OAC 252:515-9-151(3) should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required by the DEQ.
(b) **Considerations.** Interim measures taken shall take into consideration:
(1) the time required to develop and implement a final remedy;
(2) actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;
(3) actual or potential contamination of drinking water supplies or sensitive ecosystems;
(4) further degradation of the groundwater that may occur if remedial action is not initiated expeditiously;
(5) weather conditions that may cause hazardous constituents to migrate or be released;

(6) risks of fire or explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and
(7) other situations that may pose threats to human health and the environment.

252:515-9-153. Management of wastes generated

Solid wastes generated pursuant to the implementation of a remedy shall be managed in accordance with the NHIW management requirements of Subchapter 31 of this Chapter, or the hazardous waste management requirements of OAC 252:205 if they are hazardous.

252:515-9-154. Compliance cannot be achieved

If compliance with the remedy requirements of OAC 252:515-9-132 cannot be practically achieved with any currently available methods:
(1) a certification from a qualified groundwater scientist stating such shall be submitted to the DEQ for approval;
(2) proposed alternative methods shall be submitted to the DEQ in writing within 14 days of certification by the qualified groundwater scientist, and a copy placed in the operating record; and
(3) alternate measures approved by the DEQ shall be implemented to control exposure of humans or the environment to residual contamination.

252:515-9-155. Remedies complete

The remedies shall be considered complete when the groundwater monitoring program demonstrates, for three consecutive years, that the groundwater has been remediated in accordance with the levels approved in the corrective action plan and when all actions required to complete the remedy have been satisfied.

252:515-9-156. Certification of completion

Upon completion of the remedy, a certification that the remedy has been completed in compliance with the requirements of this Part must be submitted to the DEQ. Such certification must be signed by the owner/operator and by a qualified groundwater scientist, and approved by the DEQ.

SUBCHAPTER 11. LINER DESIGN

PART 1. GENERAL PROVISIONS

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PART 1. GENERAL PROVISIONS

252:515-11-1. Applicability

This Subchapter applies to all land disposal facilities, except yard waste composting facilities.

252:515-11-2. Liner design

(a) **C&D landfills.** Waste disposal areas of new C&D landfills, and expansions of waste disposal areas of existing C&D landfills constructed after the effective date of this Chapter, shall, as a minimum, be constructed with:

(1) a reconstructed clay liner meeting the requirements of Part 3 of this Subchapter; or

(2) an in-situ liner meeting the requirements of Part 7 of this Subchapter.

(b) **MSWLFs, NHIW landfills and other land disposal facilities.** The following shall be constructed with a composite liner composed of a reconstructed clay liner meeting the requirements of Part 3 of this Subchapter overlain with a flexible membrane liner (FML) meeting the requirements

of Part 5 of this Subchapter:

(1) waste disposal areas of new MSWLFs, NHIW landfills and other land disposal facilities; and

(2) waste disposal areas of active MSWLFs, NHIW landfills and other land disposal facilities constructed after the effective date of this Chapter.

(c) **Alternative liner designs for MSWLFs, NHIW landfills and other land disposal facilities.**

(1) An alternative liner design for MSWLFs, NHIW landfills and other land disposal facilities may be approved by the DEQ if it ensures the concentration values listed in Appendix B will not be exceeded in the groundwater monitoring system.

(2) Requests for alternative liner designs shall include:

(A) the hydrogeologic characteristics of the site and surrounding land;

(B) the climatic factors of the area;

(C) the volume, physical and chemical characteristics of the anticipated leachate;

(D) information on slope stability; and

(E) the nature and anticipated volume of waste to be disposed.

(d) **Small MSWLF exemption.** MSWLFs that receive less than 20 tons of solid waste daily, based on an annual average, and with no evidence of groundwater contamination may be constructed with a less stringent alternative liner design, subject to DEQ approval.

(1) **Climatological conditions.** The area to be served by the MSWLF must have no practicable waste management alternative and the MSWLF must be located in an area that annually receives less than or equal to 25 inches of precipitation.

(2) **Waste management plan.** A waste management plan to guarantee that entities using the MSWLF will institute programs to reduce toxicity of the solid waste to be disposed must be developed.

(3) **Waste diversion and recycling.** The waste management plan must at least include yard waste diversion and composting, paper recycling, and waste oil recycling.

252:515-11-3. Separation from groundwater

(a) **All land disposal facilities.** Liner systems shall be designed and constructed to maintain a minimum five-foot vertical separation between the highest groundwater elevation and the lowermost surface on which waste, including leachate, will be placed.

(b) **C&D landfills with in-situ liners.** C&D landfills utilizing an in-situ liner shall be designed to maintain a minimum fifteen-foot vertical separation between the highest groundwater elevation and the lowermost surface on which waste will be placed.

252:515-11-4. Quality assurance/quality control (QA/QC)

(a) **Plan required.** A QA/QC plan shall be included in the permit application to demonstrate the liner system will be installed in accordance with this Subchapter and the approved design plans. The plan shall include all information required for the applicable liner design, placement, construction, and testing.

(1) **QA/QC plan technical information.** The QA/QC plan shall ensure compliance with this Subchapter and contain the information on pages 1 through 173, inclusive, of EPA Technical Guidance Document: Quality Assurance and Quality Control for Waste Containment Facilities (EPA/600/R-93/182), September, 1993.

(2) **QA/QC plan revisions.** Prior to construction of a disposal cell, the owner/operator must review the QA/QC plan and, if necessary, revise the plan to ensure liner design and construction will be in accordance with the minimum requirements of this Subchapter.

(b) **QA/QC required.** QA and QC shall be conducted during all phases of construction of the liner system.
(c) **Independent third-party oversight.** A qualified party who is not an employee of the owner/operator or the construction company shall conduct QA and be present during each phase of liner construction.

252:515-11-5. Notification of construction
(a) **Notification required.** The DEQ shall be notified at least two weeks before liner construction begins. The notification shall:
(1) define the area to be constructed;
(2) include the names of the contractors and the QA and QC officials; and
(3) include results of the pre-construction tests identified in OAC 252:515-11-32(a) when constructing a reconstructed clay liner.
(b) **Pre-construction meeting.** A pre-construction meeting shall be held at the facility with the design engineer and QA and QC officials before liner construction begins. The DEQ shall be notified at least 48 hours in advance of the meeting.

252:515-11-6. Liner Installation and Testing (LIT) report
(a) **LIT report.** At the conclusion of liner construction, an LIT report shall be submitted to the DEQ to document the liner system was installed in accordance with the requirements of this Subchapter and the approved plans.
(b) **LIT report details.** The report shall include:
(1) summaries of all construction activities;
(2) testing data sheets and summaries;
(3) changes from design and material specifications; and
(4) all QA/QC documentation.
(c) **DEQ approval required.** The LIT report must be approved by the DEQ and a copy of the approved LIT report placed in the facility operating record.

252:515-11-7. DEQ authorization required
Waste shall not be placed on a new liner system until the DEQ inspects the liner system and provides written authorization to commence disposal.

PART 3. RECONSTRUCTED CLAY LINER

252:515-11-31. Liner construction standards
(a) **MSWLFs, NHIW landfills and other land disposal facilities.** The reconstructed clay liner portion of the composite liner system must:
(1) be at least two feet thick with a hydraulic conductivity no greater than 1.0×10^{-7} cm/sec; and
(2) meet the requirements of and be constructed in accordance with this Part and the approved QA/QC plan.
(b) **C&D landfills.** A reconstructed clay liner installed at a C&D landfill must:
(1) be at least three feet thick with a hydraulic conductivity no greater than 1.0×10^{-5} cm/sec; and
(2) meet the requirements of and be constructed in accordance with this Part and the approved QA/QC plan.

252:515-11-32. Preconstruction tests

(a) **Required tests.** The following tests are required on all soils to be used in liner construction.

(1) soil classification (ASTM D2487);

(2) particle-size analysis of soil (ASTM D422);

(3) sieve analysis for the following screens: #4, #10, #40, #200;

(4) percent fines (#200 sieve) (ASTM D1140);

(5) Atterberg limits (ASTM D4318);

(6) moisture content using:

(A) the oven drying method (ASTM D2216); or

(B) the microwave drying method (ASTM D4643);

(7) moisture-density relationship, using either:

(A) the standard proctor density (ASTM D698); or

(B) the modified proctor density (ASTM D1557);

(8) hydraulic conductivity using ASTM D5084 or any other method approved by the DEQ.

(b) **Sampling frequency.** One composite sample shall be taken for every 10,000 cubic yards of soil, or more frequently if visual observations indicate a change in material characteristics.

(c) **Test results.** All laboratory test results shall state the type of tests used, the method of testing and the condition, preparation and orientation of each sample.

(d) **Information required.** The information required by this Section shall be included in the LIT report.

252:515-11-33. Liner soil standards

Soils shall meet a majority of the following standards. Minor deviations may be proposed so long as the hydraulic conductivity standard in OAC 252:515-11-31 is satisfied.

(1) **Plasticity index (ASTM D4318).** Plasticity index shall be greater than or equal to 10%.

(2) **Liquid limit (ASTM D4318).** Liquid limit shall be greater than or equal to 24%.

(3) **Percent fines (ASTM D422).** Percent fines passing #200 mesh sieve shall be greater than or equal to 30%.

(4) **Gravel amount (ASTM D422).** The amount of gravel (dry-weight percentage retained on the No. 4 sieve) shall be less than or equal to 20%.

(5) **Particle size.** Particle size shall be less than one inch in diameter.

(6) **Water content.** After the soil is compacted, the water content of the soil shall be equal to or greater than optimum.

(7) **Soil density.** After the soil is compacted, the minimum density of the soil shall be greater than or equal to:

(A) 95% of the standard proctor density (ASTM D698); or

(B) 90% of the modified proctor density (ASTM D1557).

252:515-11-34. Subgrade preparation

The upper six inches of the surface on which the liner is to be placed must be compacted to a minimum standard proctor density (ASTM D698) of 90%.

252:515-11-35. Construction

(a) **Internal side slopes.** The internal side slopes of disposal areas to be lined with an FML must be no steeper than 3:1 unless slope stability calculations support an alternative design.

(b) **Moisture content.** If it is necessary to moisten the soil to meet the requirements of 252:515-11-

33(6), the water shall be distributed equally throughout the lift. Moisture tests shall be performed after the water has absorbed into the clay.

(c) **Placement and compaction.** The liner shall be constructed in the following manner:

(1) scarify the surface on which the lift is to be placed to a nominal depth of approximately one inch;

(2) place a lift of soil at a loose depth of nine inches (9") or less;

(3) compact and remold the lift to a depth of six inches (6") or less with a heavy-footed roller equipped with feet that fully penetrate the loose lift of soil;

(4) remove all rocks, cobbles, roots and other foreign objects over one inch in diameter, as well as all surface rocks regardless of size if an FML is to be laid;

(5) inspect for flaws, cracks and other defects; and

(6) make needed repairs.

252:515-11-36. Construction tests

(a) During liner construction, moisture and density tests shall be performed on each compacted lift at a rate of at least three per acre for each approximately six-inch compacted lift. A minimum of two tests shall be performed on the bottom and one on sideslope areas.

(b) One of the following methods shall be used:

(1) nuclear density method using (ASTM D2922), to include the conventional oven drying method (ASTM D2216) performed on every ten samples;

(2) drive-cylinder method (ASTM D2937);

(3) rubber balloon method (ASTM D2167);

(4) sand-cone method (ASTM D1556);

(5) microwave drying method (ASTM D4643); or

(6) conventional oven drying method (ASTM D2216).

252:515-11-37. Verification tests

(a) **Verification of thickness.** After installation, liner thickness shall be verified on a 100-foot grid.

(b) **Visual inspection.** The liner shall be visually inspected to evaluate its integrity.

(c) **Hydraulic conductivity.** Hydraulic conductivity tests shall be performed in the top 12 inches of the finished liner.

(1) **Locations.** At least one test per acre shall be performed on the sideslopes and two per acre on the bottom, at DEQ approved locations.

(2) **Test methods.** Tests shall be conducted using one of the following methods:

(A) laboratory testing of soil samples using ASTM D5084. Soil samples for an in-situ laboratory test shall be retrieved in accordance with ASTM D1587;

(B) field testing using the sealed double ring infiltrometer test (ASTM D5093); or

(C) any other method approved in advance by the DEQ.

(d) **Information required.** The results from (a) through (c) of this Section shall be verified by the QA officer and included in the LIT report.

252:515-11-38. Repair and/or replacement

If the liner fails any tests, it shall be repaired or replaced and retested. All repairs shall be certified by the QA officer and documented in the LIT report.

252:515-11-39. Liner protection

(a) **General requirements.** After the liner is constructed, it shall be protected from desiccation, cracking, frost damage or damage from equipment.
(b) **MSWLF, NHIW, and other land disposal facilities.** After construction, the QA officer shall certify that the moisture content of OAC 252:515-11-33(6) was maintained in the liner until placement of the FML.
(c) **C&D landfills.** After construction, the liner shall be protected by a 12-inch soil protective layer. The QA officer shall certify that the moisture content of OAC 252:515-11-33(6) was maintained in the liner until placement of the protective cover.

PART 5. FLEXIBLE MEMBRANE LINER

252:515-11-51. FML materials

(a) **Materials.** The FML shall be manufactured of first-quality resin, compounded and manufactured specifically for the purpose intended.
(b) **Defects.** The FML shall be free of holes, blisters, undispersed raw materials or any sign of contamination by foreign matter. Any defect shall be repaired in accordance with manufacturer's recommendations.
(c) **Thickness.** The FML thickness shall be determined considering the manufacturer's allowable tensile strength and tear and puncture resistance of the liner material, the maximum potential height of the waste pile, and the anticipated compacted waste density (lb/ft^3 or lb/yd^3).

(1) A safety factor of two shall be used in this determination.
(2) The thickness shall be no less than 60 mils for HDPE and 30 mils for other types of FMLs.
(3) The DEQ may require a thicker FML to resist various stresses.

(d) **Chemical compatibility.** The FML shall be chemically resistant to organic and inorganic chemicals in the wastes proposed to be disposed. Chemical resistance shall be determined in accordance with EPA Test Method 9090, Compatibility Test for Wastes and Membrane Liners.

252:515-11-52. QA/QC plan

The following information shall be provided in the QA/QC plan for FMLs:

(1) manufacturer's written instructions for the storage, handling, installation, and seaming of the FML, including relevant warranty conditions; and

(2) a narrative description of any variations from the manufacturer's written instructions proposed by the owner/operator.

252:515-11-53. FML care

(a) **Handling.** The FML must be handled in a manner to minimize wrinkles and compensate for those that cannot be prevented. The following must be prevented:

(1) damage by such activities as handling, traffic, smoking, and use of equipment and tools;
(2) scratching or crimping of panels during unrolling;
(3) damage of the underlying liner; and
(4) uplifting of in-place panels by the wind.

(b) **Storage.** The FML shall be stored in a location where standing water cannot accumulate and the possibility of puncture is minimized.
(c) **Ultraviolet (UV) protection.** The FML must be protected from UV light unless treated for resistance. Exposure times to UV must be consistent with the manufacturer's recommendations.

252:515-11-54. Anchor trench construction

(a) **Length of runout.** The length of runout and the depth of the anchor trench must be designed for the thickness and allowable stress of the FML.

(b) **Construction details required.** Anchor trench details shall be provided on maps and/or drawings as required in Subchapter 3 of this Chapter.

252:515-11-55. Reconstructed clay liner

(a) **Requirements.** The reconstructed clay liner on which the FML is installed must:

(1) be of uniform grade with no ruts; and

(2) meet the liner construction requirements of OAC 252:515-11-35(c)(4).

(b) **Daily certification.** Prior to placement of the FML, the QA officer shall certify daily that the reconstructed clay liner meets:

(1) the moisture requirements of Part 3 of this Subchapter and the QA/QC plan; and

(2) the requirements of (a) of this Section.

252:515-11-56. Notification of installation

(a) **QA certification required.** Installation of the FML shall not begin until the QA officer certifies that all required reconstructed clay liner tests have been completed for the area on which the FML is to be laid.

(b) **DEQ notification required.** The DEQ shall be notified at least 48 hours before installation of the FML.

252:515-11-57. FML installation

(a) **Handling.** The FML must be handled to avoid bridging or stressed conditions in the material.

(b) **Slack allowance.** Slack allowance shall be provided to allow for shrinkage during installation.

(c) **Placement.** The FML shall be installed in direct and uniform contact with the reconstructed clay liner.

(d) **Temperature.** The FML shall be seamed only when the ambient air temperature is between 40° F and 104° F, unless pre-construction weld tests for the seaming demonstrate adequate results at other temperatures.

(e) **Wind and rain.** The FML shall not be installed when there is excessive moisture or wind.

(f) **Overlap.** Panels shall have a minimum four-inch finished seam overlap, unless the manufacturer specifies a larger overlap.

(g) **Orientation of seams.** Seams shall be oriented down the slope, not across it.

(h) **Field seam restrictions.** In corners and odd-shaped geometric locations, the number of field seams shall be minimized.

(1) No base T-seam shall be closer than five feet to the toe of the slope.

(2) Seams shall be aligned with the least possible number of wrinkles and fishmouths.

(3) If a fishmouth is found, it shall be relieved and cap-stripped.

(4) Field seaming must be performed by a hot shoe fusion welder, an extrusion welder, or an alternative method approved by the DEQ prior to use in the field.

(i) **Ancillary penetrations.** Pipes, gas vents, manholes, sumps or other objects that may penetrate the liner must be connected to the liner material in a way that prevents leakage and unnecessary stresses.

252:515-11-58. Field seam tests

(a) **Frequency.** The installer shall make a trial weld at the beginning of every day and every five working hours. Each seamer shall make at least one trial seam per day for each seaming device used during that day. Additional trial seams may be required.
(b) **Non-destructive tests.** The installer shall perform vacuum, pressure or air lance tests over the full length of all field seams. Vacuum tests must be observed for a minimum of five seconds.
(c) **Destructive seam laboratory tests.** Samples of field welds shall be collected at least every 500 feet for laboratory destructive testing. Tests to be completed include:
(1) shear test by method ASTM D882; and
(2) peel test by method ASTM D413, or equivalent.
(d) **Repairs.** All holes in the FML resulting from destructive seam sampling shall be repaired. Non-destructive tests must be performed on all repairs.

252:515-11-59. Protection of FML
(a) **Equipment.** Equipment shall not be driven on the FML unless such equipment is specifically designed for FML installation.
(b) **Material placement.** Drainage layer or protective cover material shall not be pushed across the FML during placement.

252:515-11-60. Quality assurance
Before the drainage layer material of the leachate collection system is placed over the FML, all destructive and non-destructive testing must be completed and approved by the QA officer.

PART 7. IN-SITU LINER

252:515-11-71. Liner construction standards
(a) **Thickness and permeability.** An in-situ liner installed at a C&D landfill must:
(1) be at least five feet thick with a hydraulic conductivity no greater than 1.0×10^{-5} cm/sec; and
(2) meet the requirements of and be constructed in accordance with this Part and the approved QA/QC plan.
(b) **Verification of soils.** Sufficient types and numbers of borings, excavations and tests shall be conducted to assure that the in-situ materials will meet the thickness and permeability requirements of (a)(1) of this Section for the bottom and sides of the disposal area.

252:515-11-72. Soil classification tests
(a) **Soil testing required.** Soils to be used as in-situ liner material shall be tested in accordance with 252:515-11-32.
(b) **Hydraulic conductivity requirements.** At least three hydraulic conductivity tests shall be performed per acre on soil samples for each classified soil/rock layer that will form the sides and bottom of the proposed disposal area.
(c) **Use of soil test results.** The results of the tests required in this Section shall be used to establish the design excavation depths for the landfill. The proposed excavation depths shall be depicted on the cross sections.

252:515-11-73. Post excavation/pre-disposal tests
(a) **Visual inspection.** After excavation and prior to disposal, a qualified soils scientist, engineer or geologist shall perform a visual inspection of the disposal area floor to:

(1) locate any cracks, joints, fractures, roots, exposures or other physical phenomena that might indicate areas more permeable than allowed; and

(2) locate the areas for the post excavation tests that follow.

(b) **Thickness and integrity testing.** A minimum of five continuous core samples per acre shall be collected to a depth of five feet below the top of the in-situ liner.

(1) A qualified soil scientist, engineer or geologist shall describe the soil types and check for uniformity.

(2) If variations are noted in the core samples, permeability testing must be performed on undisturbed samples of each soil type.

(c) **Top of liner tests.** The following tests must be performed on the top of the proposed liner:

(1) at least five natural or in-place moisture and density tests per acre; and

(2) in locations approved by the DEQ, at least three density tests per acre on the sides and bottom of the liner on samples of each soil layer.

252:515-11-74. Plugging boreholes

All boreholes must be plugged with pelletized or chipped bentonite and rehydrated after the core sampling is completed.

252:515-11-75. Protective layer

Upon completion of construction or excavation, the in-situ liner must be covered with a 12-inch soil protective layer and maintained to minimize desiccation.

252:515-11-76. Failure

If any areas fail to meet the permeability requirements, a reconstructed clay liner, or an alternative liner meeting the requirements of this Subchapter, must be installed.

SUBCHAPTER 13. LEACHATE COLLECTION AND MANAGEMENT

PART 1. GENERAL PROVISIONS

Section

252:515-13-1. Applicability, with exceptions
252:515-13-2. Corrective action required

PART 3. DESIGN

252:515-13-31. Leachate collection system design
252:515-13-32. Piping network
252:515-13-33. Drainage and protective layer
252:515-13-34. Leachate collection system cleanout and maintenance
252:515-13-35. Construction report

PART 5. LEACHATE MANAGEMENT

252:515-13-51. Leachate management
252:515-13-52. Storage

252:515-13-53. Recirculation
252:515-13-54. Irrigation
252:515-13-55. POTW
252:515-13-56. Oklahoma Pollutant Discharge Elimination System (OPDES)
252:515-13-57. Other

PART 1. GENERAL PROVISIONS

252:515-13-1. Applicability, with exceptions

(a) **Existing facilities.** Existing facilities with a leachate collection system are subject to 252:515-13-2, 13-34 and Part 5 of this Subchapter.

(b) **New facilities and expansions.** Except as provided in (c) and (d) of this Section, this Subchapter applies to all new land disposal facilities and expansions of waste disposal boundaries of existing land disposal facilities constructed after the effective date of this Chapter.

(c) **All disposal facilities.** All solid waste disposal facilities shall manage leachate in accordance with the requirements of Part 5 of this Subchapter.

(d) **Exceptions.** C&D landfills and yard waste composting facilities are not subject to the requirements of this Subchapter, except for (c) of this Section.

252:515-13-2. Corrective action required

(a) **Corrective action required.** In the event the leachate collection system fails to perform as designed and approved by the DEQ, a corrective action plan shall be submitted to the DEQ within 30 days from the discovery of the failure.

(b) **Implementation.** The corrective action plan shall be implemented within 30 days of DEQ approval.

PART 3. DESIGN

252:515-13-31. Leachate collection system design

(a) **Design plan required.** A design plan for a leachate collection system consisting of a piping network overlain with a drainage layer or a geonet and a protective layer, meeting the requirements of this Section as well as OAC 252:515-13-32 and 33 shall be included in the permit application.

(b) **Performance standard.** Leachate volume shall be estimated, and the leachate collection system shall be designed to:

(1) maintain one foot or less of head above the top of the liner; and

(2) drain leachate toward the perimeter of the disposal area.

(c) **Contents of plan.** The plan shall fully describe the design and operation of the leachate collection system and management of removed leachate, and shall include:

(1) calculations or demonstrations to show the collection system will adequately dewater the waste mass and that clogging of the system will not occur;

(2) a narrative detailing the proposed construction;

(3) how penetration of the liner will be minimized. If the leachate collection design requires clean-out or collection pipes to penetrate the geomembrane, the penetration should be designed and constructed to allow nondestructive quality control testing of 100% of the seal between the pipe and the geomembrane. Plans for recompaction and testing of the clay liner component that is penetrated must be provided;

(4) a method for routine cleaning of the header pipe;
(5) a listing of materials to be utilized in the construction of the leachate collection system;
(6) drawings and specifications of the proposed leachate collection and management system at a scale which clearly shows the following:
(A) a plan view of the leachate collection system design plotted on a copy of the top of liner contour map;
(B) the location of all piping, cleanouts, manholes, sumps, risers, trenches, tanks, pumps, and other appurtenances;
(C) the general layout of the collection system with approximate grades; and
(D) other information as requested by the DEQ;
(7) a leachate removal system that includes a positive method of leachate extraction in sumps, manholes and risers in order to remove leachate in excess of the maximum allowable head.
(A) Valves, ports or appurtenances to introduce biocides and/or cleaning solutions shall be provided as necessary.
(B) The DEQ may require automatic and continuous removal of leachate during the active life if the owner/operator repeatedly fails to maintain one foot or less of head or less on the liner;
(8) a description of the QA/QC plan for the system installation, including methods for ensuring liner integrity if there is a potential the liner will be breached during construction; and
(9) a description of the method of leachate management pursuant to Part 5 of this Subchapter, including necessary drawings, calculations, and other pertinent data to demonstrate compliance with the method(s) selected.

(d) **Construction materials.** The leachate collection system shall be constructed from materials capable of withstanding both chemical attack resulting from the anticipated leachate, and the maximum overburden anticipated.

(e) **Alternative design.** An alternative leachate collection system design may be approved by the DEQ upon successful demonstration the alternative design meets performance and design standards of this Part.

252:515-13-32. Piping network

The leachate collection system shall be equipped with a piping network.

(1) **Pipe material.** Pipes shall be capable of withstanding the maximum overburden anticipated, and shall be constructed of at least six-inch diameter, schedule 80 PVC, HDPE-SDR of 11, or an equivalent approved by the DEQ. Piping with lesser strengths may be acceptable if supporting calculations are provided.

(2) **Perforations.** Pipes shall contain a minimum of two (2) rows of perforations no greater than 5/8 inch in diameter. Pipe perforations shall be drilled at an angle between 45° and 60° from the vertical and shall be spaced according to design loading and anticipated volume of leachate.

(3) **Pipes.** The piping system shall be designed and installed as follows:
(A) **Orientation.** Pipes shall be installed on top of the FML with perforations facing down.
(B) **Pipe bends.** The piping system shall have gradual sweep bends that are tied into one or more sumps designed to remove collected leachate from the system.
(C) **Pipe slopes.** Secondary collection lateral pipes shall maintain adequate slope after allowances for settlement. Primary centralized removal pipes shall maintain a slope of at least 0.5% after settlement.

(D) **Spacing.** Pipe spacing shall be based on the anticipated volume of leachate.

(E) **Cleanouts.** Cleanouts shall be placed so that all collection pipes can be accessed.

(i) Spacing of cleanouts shall be not exceed 1200 feet or available equipment, whichever is less. A larger spacing may be proposed if equipment is available that will accommodate the larger spacing.

(ii) Cleanouts shall be at least the same diameter as the collection pipe.

(iii) Penetrations of the liner shall be minimized.

(4) **Backfill.** Each pipe of the piping network shall be covered with a minimum of twelve inches (12") of material with a hydraulic conductivity of 1 x 10^{-2} cm/sec or greater.

(5) **Geotextile.** Backfill around the piping network shall be covered with suitable geotextile fabric.

252:515-13-33. Drainage and protective layer

(a) **Design standards.** The drainage and protective layer shall consist of a minimum of 24 inches of material that will maintain a liquid head of less than or equal to 12 inches above, and protect, the underlying FML.

(b) **Geonet.** If a geonet is used:

(1) the hydraulic conductivity of a geonet shall be 1 x 10^{-1} cm/sec or greater;

(2) the geonet shall be placed on the bottom and side slopes of the disposal cell, directly on top of the geomembrane;

(3) geotextile fabric shall be placed directly on the geonet; and

(4) the geonet shall be tied into a removal pipe system designed to meet the standards for collection pipes.

252:515-13-34. Leachate collection system cleanout and maintenance

(a) **Frequency.** The leachate collection header pipes shall be cleaned out after placement of the protective layer, again after placement of the first lift of waste, and once per year thereafter.

(b) **Routine inspections.** The leachate collection system shall be inspected at least quarterly to ensure proper operation.

252:515-13-35. Construction report

(a) **Report required.** A final construction report of the leachate collection system shall be submitted to the DEQ.

(b) **Report details.** The construction report shall include:

(1) invert elevations to the nearest 0.01 foot at least every 25 feet along each collection pipe, changes in grade, and at all connections to structures.

(2) a map showing the locations of system components tied to at least two permanent monuments;

(3) the results of storage tank leak detection tests, if applicable;

(4) any deviations from the approved construction plan made necessary by changes of circumstances;

(5) the method for phased tie-in of leachate collection pipes;

(6) the date and results of the first cleanout of the collection pipes; and

(7) as constructed drawings, calculations and other pertinent data to demonstrate compliance with this Part.

(c) **DEQ approval required.** The construction report shall be approved by the DEQ before the

placement of waste.

PART 5. LEACHATE MANAGEMENT

252:515-13-51. Leachate management

Leachate shall be managed in accordance with one or more of the methods identified in this Part and in a manner that will not cause contamination.

252:515-13-52. Storage

(a) **Above-ground tanks.** Above-ground storage tanks used to store leachate shall be equipped with:

(1) adequate berming to contain the entire contents of the largest tank in the system; and either

(2) a composite liner made of two feet (2') of recompacted clay with the hydraulic conductivity of 1.0×10^{-7} cm/sec overlain by a 60 mil HDPE liner; or

(3) a DEQ approved alternative liner that will prevent infiltration of fluid.

(b) **Underground tanks.** Underground tanks used to store leachate shall be constructed in accordance with the Oklahoma Corporation Commission's General Requirements for Underground Storage Tank Systems, OAC 165-25, Subchapter 1, Part 8.

(c) **Surface impoundments.** A surface impoundment used to store leachate shall have a composite liner constructed in accordance with (a)(2) or (a)(3) of this Section.

(1) **Run-on control.** Surface water run-on control measures shall be provided.

(2) **Freeboard.** A minimum three feet of freeboard shall be maintained.

252:515-13-53. Recirculation

(a) **Plan required.** Leachate may be recirculated in accordance with a plan approved by the DEQ.

(b) **Location.** Recirculation may only occur over areas with a composite liner and leachate collection system such that all leachate remains on the composite lined cell.

(c) **Testing.** At a minimum, the recirculation plan shall contain a routine testing protocol designed to assess the treatment effectiveness of the recirculation program.

(d) **DEQ approval required.** Leachate may not be recirculated until the recirculation plan has been approved by the DEQ.

252:515-13-54. Irrigation

(a) **Plan required.** Leachate may be used for irrigation in accordance with a plan approved by the DEQ.

(b) **Use.** Leachate may only be used for irrigation of permanent vegetation over previously filled areas when soil conditions are dry.

(c) **Testing.** At a minimum, the plan shall contain a routine testing program designed to ensure that the leachate will not harm vegetation.

(d) **Application rate.** The plan shall describe measures to ensure leachate is applied at appropriate rates so as to provide water to vegetation while preventing discharges from the facility.

(e) **DEQ approval required.** Leachate may not be used for irrigation until the irrigation plan has been approved by the DEQ.

252:515-13-55. POTW

(a) **POTW approval required.** Leachate may be discharged from the disposal facility into a POTW

provided prior written approval from the POTW has been obtained.
(b) **Additional requirements.** Such discharges shall comply with any additional requirements of the POTW.
(c) **Copy to DEQ.** A copy of the POTW approval shall be submitted to the DEQ and placed in the operating record.

252:515-13-56. Oklahoma Pollutant Discharge Elimination System (OPDES)
(a) **Permit required.** Leachate may be discharged from the disposal facility provided an OPDES permit from the Water Quality Division of the DEQ has been obtained for such discharge.
(b) **Copy of permit.** A copy of the OPDES permit shall be maintained in the operating record.
(c) **Comply with permit.** Such discharges shall comply with the provisions of the OPDES permit.

252:515-13-57. Other
Plans for alternative methods of leachate management may be approved by the DEQ.

SUBCHAPTER 15. METHANE GAS MONITORING AND CONTROL

Section
252:515-15-1. Applicability
252:515-15-2. Explosive gas control
252:515-15-3. Explosive gas monitoring and analysis
252:515-15-4. Installation of gas monitoring probes
252:515-15-5. Levels exceeding limits detected

252:515-15-1. Applicability
(a) **New and active land disposal facilities.** This Subchapter applies to:
(1) all new and active MSWLFs; and
(2) other new or active land disposal facilities that receive waste with the potential to generate explosive gasses, unless a demonstration can be made that the facility will not cause a hazard to safety or health from explosive gasses throughout the operating life and/or post-closure period.
(b) **Closed land disposal facilities.** Land disposal facilities in the post-closure monitoring period may be required to develop and implement an explosive gas remediation plan meeting some or all of the requirements of this Subchapter if generation of explosive gasses is shown to create a hazard to human health or the environment.

252:515-15-2. Explosive gas control
The concentration of methane gas generated by the facility shall not exceed:
(1) twenty-five percent (25%) of the lower explosive limit for methane in all structures within the permit boundary (excluding gas control or recovery system components); and
(2) the lower explosive limit for methane at the permit boundary.

252:515-15-3. Explosive gas monitoring and analysis
(a) **Plan required.** An explosive gas monitoring and analysis plan shall be submitted to the DEQ for approval, to demonstrate how compliance with the methane gas concentrations of OAC 252:515-15-2 will be ensured. Such plan shall include:
(1) the installation and/or use of gas monitoring equipment to insure the requirements of OAC

252:515-15-2(1) are met; and

(2) the installation of gas monitoring probes in accordance with OAC 252:515-15-4 to ensure the requirements of OAC 252:515-15-2(2) are met; or

(3) an alternative method to ensure compliance with OAC 252:515-15-2, provided the alternative is demonstrated to be as effective as the use of gas monitoring equipment, and probes placed to the deepest placement of waste.

(b) **Type and frequency of monitoring.** The type and frequency of monitoring shall be determined based on soil conditions, the hydrogeologic and hydraulic conditions surrounding the facility, and the location of structures and permit boundaries.

(c) **Minimum frequency.** Explosive gas monitoring in accordance with the approved plan shall be performed a minimum of once every calendar quarter.

(d) **Calibrated instrument.** Sampling shall be conducted with a gas measuring instrument that has been calibrated immediately prior to beginning each sampling event.

252:515-15-4. Installation of gas monitoring probes

(a) **Construction.** Gas monitoring probes shall be constructed in accordance with the requirements of the OWRB (see OAC 252:515-7-3) of a minimum one-inch diameter schedule 40 or 80 polyvinyl chloride, stainless steel, Teflon or high density polyethylene pipe.

(b) **Location.** Gas monitoring probes shall be located no more than 1000 feet apart along the permit boundary, with the following exceptions.

(1) **Off-site structures.** If there are off-site structures located within one-half mile of the facility permit boundary, the spacing shall be no more than 500 feet between each probe along the permit boundary on the sides where these structures are located.

(2) **Alternative spacing or locations.**

(A) The DEQ may approve alternative probe spacing or locations if physical impediments prevent installation along the permit boundary or if other unique physical features at the facility warrant a revised probe placement strategy.

(B) A thorough justification for the revised probe placement strategy shall be submitted as part of the gas monitoring plan required by OAC 252:515-15-3.

(c) **Minimum depth.** Gas monitoring probes shall be installed to a minimum depth equivalent to the deepest placement of waste and be screened for the entire depth of waste.

(d) **As-built drawings.** Within 90 days of installation, detailed as-built drawings of the probes shall be submitted to the DEQ to demonstrate the probes were installed in accordance with this Section.

252:515-15-5. Levels exceeding limits detected

(a) **Explosive gas levels exceeded.** During routine explosive gas monitoring, if gas levels exceed the limits specified in OAC 252:515-15-2, the owner/operator shall:

(1) immediately take all necessary steps to ensure protection of human health and notify the DEQ;

(2) within seven days of detection, submit to the DEQ in writing, the methane gas levels detected and a description of the steps taken to protect human health;

(3) within 30 days of detection, submit a remediation plan to the DEQ for approval, describing the nature and extent of the problem and the proposed remedy; and

(4) within 60 days of detection, implement the remediation plan.

(A) The plan may be modified to meet current conditions, with the written approval of the DEQ.

(B) The DEQ shall be notified in writing when the remediation plan has been implemented and a copy placed in the operating record.

(b) **Alternative schedule.** The DEQ may establish alternative schedules for demonstrating compliance with this Section.

SUBCHAPTER 17. STORMWATER MANAGEMENT

Section
252:515-17-1. Applicability
252:515-17-2. Run-on/run-off control systems
252:515-17-3. Discharges

252:515-17-1. Applicability

This Subchapter applies to all solid waste disposal facilities.

252:515-17-2. Run-on/run-off control systems

All active land disposal facilities shall be designed, constructed, and maintained with:

(1) a run-on control system to prevent flow onto active portions of the facility during the peak discharge from a 24-hour, 25-year storm; and

(2) a run-off control system with sufficient capacity to collect and control all contaminated stormwater resulting from a 24-hour, 25-year storm.

252:515-17-3. Discharges

(a) **All disposal facilities.** All solid waste disposal facilities shall be operated to:

(1) prevent the discharge of contaminated stormwater unless the proper permit is obtained from the DEQ's Water Quality Division;

(2) prevent the discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the federal Clean Water Act, including, but not limited to, the Oklahoma Pollutant Discharge Elimination System (OPDES) requirements;

(3) prevent the discharge of a non-point source of pollution to waters of the United States, including wetlands, that violates any requirement of an area-wide or State-wide water quality management plan that has been approved in accordance with the federal Clean Water Act; and

(4) comply with all requirements of their OPDES permit, if applicable. A copy of the OPDES permit shall be maintained in the operating record.

(b) **Land disposal facilities.** If required by OAC 252:606 (Oklahoma Pollutant Discharge Elimination System Standards - OPDES), active land disposal facilities shall have:

(1) a Stormwater Pollution Prevention Plan (SWPPP) and a Sector L General Permit for Stormwater Discharges. A copy of the SWPPP and Sector L permit shall be maintained in the operating record; and

(2) an OPDES stormwater permit for construction sites for any on- or off-site soil borrow areas of one acre or more.

SUBCHAPTER 19. OPERATIONAL REQUIREMENTS

PART 1. GENERAL PROVISIONS

Section
252:515-19-1. Applicability

PART 3. OPERATIONAL REQUIREMENTS FOR ALL DISPOSAL FACILITIES

252:515-19-31. Prohibited wastes
252:515-19-32. Public access control
252:515-19-33. Measuring waste
252:515-19-34. Limitations on waste received
252:515-19-35. Litter control
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PART 5. COVER AND SOIL BORROW REQUIREMENTS FOR LAND DISPOSAL FACILITIES

252:515-19-51. Daily cover
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PART 7. ADDITIONAL OPERATIONAL REQUIREMENTS FOR MSWLFs

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PART 13. WHEEL WASHES

252:515-19-131. Applicability
252:515-19-132. Eligibility deadlines [REVOKED]
252:515-19-133. Definitions [REVOKED]
252:515-19-134. Approved costs [REVOKED]
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252:515-19-136. Reimbursement process [REVOKED]
252:515-19-137. State fiscal limitation on funds [REVOKED]
252:515-19-138. Water management and control

PART 1. GENERAL PROVISIONS

252:515-19-1. Applicability

(a) **Active land disposal facilities.** Parts 3, 5 and 13 of this Subchapter apply to all active land disposal facilities.

(b) **Active MSWLFs.** Parts 3, 5, and 7 of this Subchapter apply to all active MSWLFs.

(c) **Active solid waste processing facilities.** Parts 3 and 9 of this Subchapter apply to all active solid waste transfer stations and processing facilities, except used tire facilities, regulated medical waste processing facilities, and solid waste composting facilities.

(1) **Used Tire facilities.** Used Tire facilities are subject to the requirements of Part 3 of this Subchapter, except OAC 252:515-19-33, as well as Parts 3 and 5 of OAC 252:515-21.

(2) **Regulated medical waste processing facilities.** Regulated medical waste processing facilities are subject to the requirements of Part 3 of this Subchapter as well as Parts 3 and 5 of OAC 252:515-23, as applicable.

(3) **Solid waste composting facilities**. Parts 3 and 11 of this Subchapter apply to all active solid waste composting facilities, including composting facilities at land disposal facilities.

(d) **Borrow areas.** Off-site soil borrow areas of land disposal facilities are only subject to the operational requirements of OAC 252:515-19-32, 35, 36, and 55.

PART 3. OPERATIONAL REQUIREMENTS FOR ALL DISPOSAL FACILITIES

252:515-19-31. Prohibited wastes

(a) **Hazardous, radioactive, regulated PCB waste.** The disposal of any quantity of hazardous, radioactive, or regulated polychlorinated biphenyl (PCB) waste at a solid waste disposal facility is prohibited.

(b) **Regulated medical waste.** The disposal of regulated medical waste at a solid waste disposal facility is prohibited, unless the facility is a permitted regulated medical waste processing facility.

(c) **Asbestos.** The disposal of friable asbestos waste at a solid waste disposal facility is prohibited unless the facility is a MSWLF or NHIW landfill specifically authorized by the permit to accept such waste.

(d) **NHIW.** The disposal of NHIW at a solid waste disposal facility is prohibited, unless specifically authorized by the permit.

(e) **C&D landfills.** The disposal of any waste other than construction/demolition waste at a C&D landfill is prohibited.

(f) **NHIW landfills.** In addition to the prohibitions of (a) through (c) of this Section, the disposal of any waste not authorized by the permit is prohibited at an NHIW landfill.

(g) **Baled waste, with exception.** The disposal of unsorted baled municipal solid waste at a disposal facility is prohibited. Municipal solid waste sorted for recycling prior to baling or baled on-site may be disposed of at a disposal facility.

252:515-19-32. Public access control

Artificial and/or natural barriers shall be used to discourage unauthorized traffic and uncontrolled dumping.

252:515-19-33. Measuring waste

(a) **Land disposal facilities.** Except as provided for in (b) of this Section, all waste delivered to and disposed of at a land disposal facility shall be weighed on certified scales.

(1) **Location.** Scales shall be installed on or within five miles of the land disposal facility.

(2) **Annual certification.** Scales shall be tested and certified annually in accordance with the requirements of the Oklahoma Department of Agriculture, Food, and Forestry.

(3) **Scales inoperative.** If the scales are inoperative, tonnage shall be estimated on a volume basis where one cubic yard of solid waste shall be calculated to weigh one-third ton.

(4) **Fees.** Solid waste disposal fees shall be collected and remitted to the DEQ in accordance with 27A O.S. § 2-10-802(B), except for:

(A) solid waste that is productively reused or recovered in accordance with the facility permit; or

(B) solid waste received from emergencies or other special events, with prior approval from the DEQ.

(5) **Monthly reports.** Monthly reports in a format prescribed by the DEQ shall be filed in the operating record and submitted to the DEQ no later than the 15th of the month following the reporting month.

(b) **Exception.** The requirements of (a) of this Section do not apply to:

(1) large NHIW generators who operate a landfill solely for waste from that generator, have paid the fees for the first 10,000 tons of solid waste disposed in the landfill, and have obtained an exemption certificate from the DEQ; and

(2) generator owned and operated NHIW monofills.

(c) **Other disposal facilities.** All waste received at other solid waste disposal facilities, including

those identified in (b)(2) of this Section, shall be measured, either by weight or by volume (cubic yards), recorded in the operating record, and made available to the DEQ upon request.

252:515-19-34. Limitations on waste received

(a) **Local area.** Except as provided in (b) of this Section, no solid waste disposal facility shall accept more than 200 tons of waste per day from locations more than 50 miles from the facility, unless the facility is either:

(1) a MSWLF constructed with an approved composite liner and leachate collection system meeting the requirements of this Chapter and operated in full compliance with the requirements of this Chapter; or

(2) is any other type of solid waste disposal facility that is designed and constructed in accordance with the requirements of this Chapter and operated in full compliance with the requirements of this Chapter.

(b) **Temporary waiver.** The DEQ may approve a temporary waiver from (a) of this Section in the event of an emergency.

(c) **Out-of-state.** No solid waste disposal facility shall accept more than 200 tons of waste per day from outside the State of Oklahoma unless the facility is either:

(1) a landfill constructed with an approved composite liner and leachate collection system meeting the requirements of this Chapter; or

(2) is a non-landfill solid waste disposal facility that is designed and constructed in accordance with the requirements of this Chapter; and

(3) has an approved disposal plan meeting the requirements of (d) of this Section; and

(4) is operated in full compliance with the requirements of this Chapter.

(d) **Disposal plan.** The disposal plan identified in (c)(3) of this Section shall identify the types and sources of waste to be received at the landfill, the amount to be received, transporters to be used, and any special handling or management practices to be employed for the collection, transportation, storage, treatment, and disposal of such waste.

(1) **NHIW.** If NHIW is to be received, the disposal plan shall also identify the NHIW generators and demonstrate each has complied with the applicable requirements of Subchapter 31 of this Chapter.

(2) **Keep current.** The disposal plan must be kept current by the person submitting the original plan.

(3) **Notification of changes.** The DEQ shall be notified within five working days before any changes to the plan are implemented.

(e) **Rejection of waste.** Shipments of waste received at the facility shall be rejected if the requirements of this Section are not met.

(f) **Return of waste.** All waste entering the State of Oklahoma that is subsequently rejected in accordance with (e) of this Section shall be removed from the State by those persons who transported such waste into the State.

252:515-19-35. Litter control

(a) **Exception.** The DEQ may exempt a disposal facility from the requirements of this Section if all waste managed at the facility is not conducive to wind dispersal.

(b) **Litter control required.** Blowing litter shall be controlled by:

(1) providing litter fences near the working area or by use of a design that prevents blowing litter;

(2) ensuring that unloading occurs in a manner that will minimize scattering of refuse;
(3) posting signage to advise customers to adequately cover their loads to prevent blowing litter; and
(4) collecting litter from the site at least weekly, or more often if necessary.

(c) **Land disposal facilities.** Approach roadways within one-half mile of land disposal facilities shall be kept clean from litter.

252:515-19-36. Air criteria

(a) **Comply with Clean Air Act.** All disposal facilities shall be operated in compliance with the Oklahoma Clean Air Act, rules of the Air Quality Division of the DEQ, and any requirements of an approved State Implementation Plan.

(b) **Open burning prohibited.** Open burning of solid waste is prohibited.

(c) **Control dust.** All disposal facilities shall be operated to prevent the discharge of any visible fugitive dust emissions beyond the property boundaries so as to damage or interfere with the use of adjacent properties, or to cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards.

(d) **Asbestos at land disposal facilities.** Friable asbestos received at a land disposal facility shall be managed in accordance with the DEQ's asbestos management requirements at OAC 252:100-40-5.

252:515-19-37. Disease vector control

(a) **Exception.** A disposal facility receiving only non-putrescible solid waste is not subject to the requirements of this Section.

(b) **Vector control required.** On-site populations of disease vectors shall be controlled using techniques appropriate for the protection of human health and the environment.

252:515-19-38. Placement of waste

(a) **Waters of the state.** Solid waste shall not be placed or allowed to enter, accidentally or otherwise, waters that communicate with waters of the state located outside the permit boundary.

(b) **Buffer zones.** Unless otherwise specified in this Subsection, all disposal facilities shall be designed and maintained with a waste-free buffer zone at least 50 feet in width between all waste disposal and/or handling areas and adjacent property. The buffer zone shall be contained within the permit boundary described in the permit application.

(1) **Previously disposed waste.** If waste has been previously disposed in an adjacent area, then the fifty foot buffer zone shall not apply in that portion.

(2) **MSWLFs.** MSWLFs incorporating land not permitted for disposal prior to July 1,1994 shall have a waste-free buffer zone of at least 100 feet in width.

(3) **Used tire facilities.** Used tire facilities shall maintain restricted areas in accordance with OAC 252:515-21-32(g).

(4) **Smaller buffer zones authorized.** DEQ may approve smaller buffer zones for good cause shown.

(c) **Use of buffer zone.** Buffer zones and other restricted areas may be used for the temporary collection and storage of source-separated recyclable materials, if such use is described in an approved recycling plan.

252:515-19-39. Salvage and recycling

(a) **Approved plan required.** Salvage and/or recycling operations shall be conducted in accordance with a written plan approved by the DEQ.
(b) **Land disposal facilities.** Salvage and recycling activities at land disposal facilities must be conducted in an area away from the working face.

252:515-19-40. Recordkeeping and reporting
(a) **All solid waste disposal facilities.** An operating record shall be maintained near each solid waste disposal facility, containing all records concerning the planning, construction, operation, closing, and post-closure monitoring of the facility. Such records shall be maintained until the post-closure monitoring period is terminated and shall include, but are not necessarily limited to, those records required to be maintained in the operating record and/or submitted to DEQ by Subchapters 3, 5, 17, 19, 25, and 27 of this Chapter.
(b) **Land disposal facilities.** In addition to the records identified in (a) of this Section, the operating record for all land disposal facilities shall contain those records required to be maintained and/or submitted to DEQ by Subchapters 7, 9, 11, 13, 15, 29, and 31 of this Chapter.
(c) **Regulated medical waste and used tire facilities.** In addition to the records identified in (a) of this Section, the operating record for regulated medical waste processing facilities and used tire facilities shall contain those records required to be maintained and/or submitted to DEQ by Subchapters 23 and 21, respectively.

PART 5. COVER AND SOIL BORROW REQUIREMENTS FOR LAND DISPOSAL FACILITIES

252:515-19-50. Slope limits
(a) **Interior slopes.** The slope of a waste disposal area shall be no steeper overall than 3 horizontal to 1 vertical (3:1) at any time when it adjoins an area within the permitted boundary proposed to accept waste.
(b) **Exterior slopes.** The slope of a waste disposal area shall be no steeper overall than 4 horizontal to 1 vertical (4:1) at any time when located at the limits of the permitted boundary or adjoining an area not proposed to accept waste.
(c) **Working face.** The slope of the working face may vary during daily placement of waste but shall be graded to meet applicable slope requirements in (a) or (b) of this paragraph at the end of each operating day.
(d) **Slope correction.** A plan shall be submitted to DEQ within sixty (60) days of a determination that one or more slopes exceed the limits specified in this Section. The plan will specify tasks and the timeline needed to achieve compliance with this Section. Failure to submit a plan within the time specified by DEQ may result in the initiation of the Administrative Enforcement Process. Failure to follow or maintain the plan submitted to DEQ may also result in the initiation of the Administrative Enforcement Process.

252:515-19-51. Daily cover
(a) **Daily cover required.** Solid waste disposed at land disposal facilities shall be covered with at least six inches of compacted earthen material.
(b) **Waste free.** The earthen material shall be free of garbage, trash or other unsuitable material.
(c) **Minimum frequency.**
(1) **C&D landfills.** Daily cover at C&D landfills shall be applied a minimum of once every seven days. More frequent application may be required for adequate control of disease vectors,

fires, odors, blowing litter, or scavenging.

(2) **NHIW landfills.** Daily cover at NHIW landfills shall be applied in accordance with the permit for the facility. More frequent application than that specified by the permit may be required for adequate control of disease vectors, fires, odors, blowing litter, or scavenging.

(3) **MSWLFs and other land disposal facilities.** Daily cover at MSWLFs and other land disposal facilities shall be applied a minimum of once per day at the end of each operating day. More frequent application may be required for adequate control of disease vectors, fires, odors, blowing litter, or scavenging.

(d) **Alternative daily cover.** The DEQ may approve the use of an alternative daily cover upon a demonstration the alternative is capable of controlling disease vectors, fires, odors, and blowing litter without presenting a threat to human health or the environment.

252:515-19-52. Intermediate cover

(a) **Intermediate cover required.** An additional 12 inches of compacted earthen material shall be applied over all disposal areas not protected by final cover meeting the requirements of OAC 252:515-19-53 or managed with run-off control structures meeting the requirements of OAC 252:515-17-2(2).

(b) **Design standard.** Intermediate cover must be capable of sustaining vegetation.

(c) **Waste free.** The intermediate cover material shall be free of garbage, trash or other unsuitable material.

(d) **Alternative intermediate cover.** The DEQ may approve the use of an alternative intermediate cover upon a demonstration the alternative is capable of minimizing infiltration of water and meets the standards of (b) and (c) of this Section.

252:515-19-53. Final cover

(a) **Design standard.** When final cover is installed, it shall be installed in accordance with the approved closure plan, and shall, at a minimum, be comprised of an erosion layer over a barrier layer.

(1) **Barrier layer.** The barrier layer shall be at least 24 inches of earthen material with a hydraulic conductivity:

(A) less than or equal to the hydraulic conductivity of any bottom liner system or natural subsoils present; or

(B) no greater than 1×10^{-5} cm/sec; whichever is less.

(2) **Erosion layer.** An erosion layer shall be installed above the barrier layer, consisting of at least one foot of soil capable of sustaining plant growth.

(3) **Gradient.** To prevent ponding, the final cover gradient on top of the fill, as measured from the center of the fill area to the break in slope between the top and sides of the fill, shall be four percent (4%) (25:1), unless otherwise approved by the DEQ.

(4) **Side slopes.** The final side slope gradient shall not exceed twenty-five percent (25%) (4:1).

(5) **Vegetation.** Vegetation meeting the requirements of OAC 252:515-19-54(3), (4), and (5) shall be established during the first growing season.

(6) **Contours.** Surface contours, including final grading of completed disposal areas, shall prevent ponding of water and erosion of fill areas.

(7) **Waste free.** The final cover material shall be free of garbage, trash or other unsuitable material.

(b) **MSWLFs.** A flexible membrane liner equivalent to that used in the bottom liner system shall

be installed between the barrier layer and the erosion layer at MSWLFs equipped with a composite liner.

(c) **Alternative final cover.** The DEQ may approve the use of an alternative final cover design upon a demonstration the alternative provides equivalent protection to that afforded by (a) and (b) of this Section.

252:515-19-54. Vegetative cover

Vegetative cover shall be established at all commercial landfills exceeding 50 feet above natural surface contours and accepting more than 200 tons per day of solid waste.

(1) **Time to establish.** Permanent or interim vegetation shall be established in all disposal areas that have been undisturbed for 90 days or more.

(2) **Interim vegetation.** Interim vegetation must be quick-germinating, fast-growing and capable of providing erosion and dust control. The operator shall not plant noxious vegetation.

(3) **Permanent vegetation.** Permanent vegetation must be effective, long-lasting and capable of self-regeneration and plant succession. The operator shall not plant noxious vegetation.

(4) **Type of vegetation.** Plant species shall be used that are of equal or superior utility to native vegetation during each season of the year.

(5) **Prohibited plants.** Deep-rooted plants, trees, or other similar vegetation is prohibited.

252:515-19-55. Soil borrow areas

On- and off-site soil borrow areas which are no longer to be used to obtain soil shall be reshaped and revegetated, or otherwise reclaimed, to blend with surrounding terrain within 180 days of the date the area ceased being used.

PART 7. ADDITIONAL OPERATIONAL REQUIREMENTS FOR MSWLFs

252:515-19-71. Bulk liquids

Bulk or non-containerized liquid waste shall not be disposed at a MSWLF unless:

(1) the waste is household waste other than septic waste;

(2) the waste is leachate or gas condensate derived from a cell with a composite liner and leachate collection system and is recirculated or used for irrigation in accordance with 252:515-13-53 or 54, respectively; or

(3) the waste is sufficiently mixed with earth, kiln dust, fly ash, or other suitable material to pass the PFLT prior to disposal.

252:515-19-72. Containers

Containers holding liquid wastes shall not be disposed at a MSWLF unless the containers are:

(1) similar in size and in quantity to that normally found in household waste;

(2) designed to hold liquids for use other than storage; or

(3) derived from household waste.

252:515-19-73. Municipal sewage

Municipal sewage sludge treated to Class B requirements, as described in 40 CFR 503.32(b), may be disposed at a MSWLF if the sludge passes the PFLT.

252:515-19-74. Bulking plan

(a) **Approved plan.** To accept liquid waste at a MSWLF, the permit must be modified to reflect an approved liquids bulking plan describing how liquid waste will be mixed with earth, kiln dust, fly ash, or other suitable material, and be tested and certified to pass the PFLT prior to disposal.
(b) **Lined areas required.** Mixing activities must be performed on lined areas or areas with secondary containment.
(c) **Separate area.** Mixing areas must be separate from the working face unless otherwise approved by DEQ.

252:515-19-75. Control of emissions

MSWLFs shall be operated in compliance with the provisions of OAC 252:100-47, Control of Emissions from Existing Municipal Solid Waste Landfills, and 40 CFR Part 60, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills.

PART 9. ADDITIONAL OPERATIONAL REQUIREMENTS FOR WASTE PROCESSING FACILITIES

252:515-19-91. Processing time for putrescible waste

(a) **Processing time.** Except as provided for in (b) of this Section, all putrescible waste delivered to a transfer station or processing facility shall be processed within 24 hours of delivery.

(1) If appropriate odor and vector control measures, as defined in the permit, are implemented, processing time may be extended to 48 hours.

(2) If processing failures occur, all putrescible wastes shall be removed within 96 hours to an alternate permitted disposal site.

(b) **Solid waste incinerators.**

(1) Putrescible waste shall be processed within 72 hours of delivery at processing facilities that operate on a seven day per week basis and utilize mass burn technology, pit storage, waste rotation, and negative pressure design in the refuse storage building.

(2) If processing failures occur, all putrescible wastes shall be removed within 168 hours to an alternate permitted disposal facility.

252:515-19-92. Large or bulky items

Large, heavy, or bulky items, shall be managed in accordance with a plan approved by the DEQ and identified in the permit.

252:515-19-93. Residue management

All processed waste and residues produced by the facility shall be appropriately characterized as hazardous or non-hazardous and disposed in a properly permitted disposal facility.

PART 11. ADDITIONAL OPERATIONAL REQUIREMENTS FOR SOLID WASTE COMPOSTING FACILITIES

252:515-19-111. Acceptable composting materials

(a) **Source separated.** Unless otherwise allowed by the permit or other authorization, composting materials received at the composting facility must be source separated.
(b) **Prohibited materials.** In addition to the materials identified in OAC 252:515-19-31(a) through (c), composting facilities shall not accept putrescible wastes (except food wastes if authorized by the

permit or other authorization), liquid waste, municipal solid waste, special waste, or any waste not specifically identified in the permit or other authorization.
(c) **Acceptable composting materials.** Materials to be composted shall be specified in the permit or other authorization. Acceptable composting materials may include: grass-clippings, garden debris, leaves, tree branches, shrubbery, wood chips, hay, cotton-gin waste, sawdust, newsprint paper, cardboard, computer paper, white paper, manure and food wastes.

252:515-19-112. Receiving area

Unloading of material shall be restricted to a specific area and controlled to minimize traffic congestion, facilitate the handling of materials and minimize danger to facility employees and other personnel.

252:515-19-113. Debagging required

All material received in plastic bags shall be debagged before processing, unless other means or methods are approved by the DEQ and identified in the permit or other authorization.

252:515-19-114. Processing area

A designated processing area shall be maintained, except facilities using windrow turners that may process the material in the composting area.

252:515-19-115. Processing time

All material received for composting shall be processed within 48 hours of receipt.

252:515-19-116. Composting area

The composting area shall be constructed of or covered with material which will allow operation during all types of weather.

252:515-19-117. Windrow construction

All windrows shall be constructed perpendicular to slopes and not along slopes.

252:515-19-118. Windrow turning

Windrows shall be turned on a routine basis to maintain aerobic conditions.

252:515-19-119. Invessel composting

Construction and management requirements for an invessel composting operation shall be determined on a case-by-case basis.

252:515-19-120. Temperature monitoring

(a) **Internal temperature recording.** Internal temperature readings shall be recorded prior to the turning of each windrow.
(b) **Internal temperature depths.** Temperature measurements shall be taken every 17 feet at a depth of 20 inches and recorded in a systematic fashion.

252:515-19-121. Completed process

After sustaining thermophilic temperatures, the composting process shall be considered complete when the internal temperatures remain below 70° F after three consecutive turnings, at which time

the compost can be removed to the curing area.

252:515-19-122. Curing area and time

An area for curing of finished compost shall be maintained. Finished compost shall be allowed to cure for a minimum of two weeks before distribution and use.

252:515-19-123. Biosolids

Owners/operators of facilities incorporating biosolids shall:

(1) maintain internal windrow temperatures between 131° F and 140° F for a minimum of fifteen days;

(2) conduct a minimum of five turnings of the co-composting windrow, where the temperature pre- and post-turning exceeds 131° F; and

(3) comply with all applicable provisions of OAC 252:606-8-6, "Land Application of Biosolids."

252:515-19-124. Odor control

Suitable control measures, including increasing aeration, shall be taken whenever odors become a problem.

252:515-19-125. Other wastes

A receptacle shall be maintained for disposal of both refuse generated and unacceptable waste received at the site.

252:515-19-126. Recordkeeping

(a) **Daily log.** A log of daily operations shall be maintained at the facility that includes, at a minimum:

(1) amount of waste received, processed and distributed at the facility;

(2) windrow internal temperatures; and

(3) a record of which windrows were turned.

(b) **Available to DEQ.** This information shall be maintained at the site and made available for inspection upon request of the DEQ.

PART 13. WHEEL WASHES

252:515-19-131. Applicability

This part applies to owners and operators of active land disposal facilities who purchase and install a wheel wash system for use at the land disposal facility.

252:515-19-132. Eligibility deadlines [REVOKED]

252:515-19-133. Definitions

The following words and terms, when used in this Part, shall have the following meaning unless the context clearly indicates otherwise:

"**Wheel wash system**" means a permanent installation that uses an immersion bath or spray of water to clean mud, soil, rock, debris and other extraneous material from the tires and undercarriage of vehicles.

252:515-19-134. Approved costs [REVOKED]

252:515-19-135. Disapproved costs [REVOKED]

252:515-19-136. Reimbursement process [REVOKED]

252:515-19-137. State fiscal limitation on funds [REVOKED]

252:515-19-138. Water management and control
(a) **Run-off of wash water prohibited**. There shall be no run-off of wash water from this system.
(b) **Recirculation.** Water used in the wheel wash system may be recaptured for recirculation within the system.
(c) **Modify plans**. If necessary, the owner/operator shall modify and update the stormwater pollution prevention plan to include the wheel wash system and to demonstrate compliance with Subchapter 17.
(d) **Recycled liquid**. Recycled liquid and settled solids shall be managed as solid waste.
(e) **Settled solids.** The settled solids may be put back in the landfill if they meet the requirements of OAC 252:515-19-71.

SUBCHAPTER 21. USED TIRE PROCESSING, CERTIFICATION, PERMITS AND COMPENSATION

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PART 13. TIRE DEALER AND MOTOR LICENSE AGENT AUDITS

252:515-21-131. Tire dealer and motor license agents audits

PART 1. GENERAL PROVISIONS

252:515-21-1. Applicability

This Subchapter applies to used tire facilities, used tire generators, used tire transporters, tire dealers, motor license agents, and persons engaged in the processing or recycling of used tires.

252:515-21-2. Definitions

The following words and terms, when used in this Subchapter, shall have the following meaning, unless the context clearly indicates otherwise:

"Act" means the Oklahoma Used Tire Recycling Act, 27A O.S. § 2-11-401 *et seq.*

"Erosion Control Installer" or **"ECI"** means a person, corporation or other legal entity who has obtained a permit or other authorization from the United States Army Corps of Engineers or a local Conservation District to provide services for erosion control projects.

"OTC" means the Oklahoma Tax Commission.

"Processing" or **"used tire processing"** means the definition found at 27A O.S. § 2-11-401.1(16). However, in an erosion control, bank stabilization or other used tire conservation project, it means the proper installation of used tires obtained from tire dealers or priority cleanup list sites in the project or structure in accordance with the conditions of the permit or other authorization from the United States Army Corps of Engineers or a local Conservation District.

"Recycling" means, in the context of used tires:

(A) the incorporation of used tires into agricultural uses recognized by the Oklahoma Department of Agriculture, Food, and Forestry;

(B) the incorporation of used tires into civil engineering structures or the creation of new products or saleable by-products from tire materials, with prior approval of such projects by

DEQ;

(C) the use of processed tires for energy or fuel recovery; or

(D) the use of used tires by permitted facilities in accordance with the Act, these rules and the facility's permit.

"Used tire" means an unprocessed whole tire or tire part that can no longer be used for its original intended purpose but can be beneficially reused as approved by the Department.

252:515-21-3. Priority cleanup list

(a) **Investigation and prioritization.** When DEQ receives notification of or information about the existence of an unauthorized used tire dump, a dump survey shall be conducted to determine landowner information, cleanup feasibility, and an estimate of the number of tires present. The resulting data shall be used to prioritize tire dumps on the priority cleanup list (PCL).

(b) **Priority listing.** Tire dumps will be placed on the PCL when the landowner was the victim of illegal dumping or DEQ has exhausted the administrative enforcement process.

(c) **Number authorized for compensation.** The PCL shall include the name and number assigned to each tire dump on the list and the estimated total number of tires contained therein. For each used tire dump on the PCL, the total number of used tires authorized for compensation from the fund shall not exceed the number of used tires identified.

(d) **PCL updates.** For each used tire dump on the PCL, if the total number of used tires identified on the PCL is removed from that dump and there are used tires remaining, DEQ may update the PCL to reflect the remaining number of used tires.

252:515-21-4. DEQ assistance in special used tire collection efforts

(a) **Minimum number of tires.** Tire dealers with three hundred (300) or more used tires at one physical location may request DEQ assistance in causing collection of the used tires by a used tire facility.

(b) **Documentation required.** In requesting such assistance, the dealer must provide the following to DEQ:

(1) the location of the used tires;

(2) certification that at least 300 used tires are at the location; and

(3) documentation that all used tire facilities have been contacted a minimum of twice, at least 60 days apart, and service has not been received.

252:515-21-5. Special collection efforts

(a) **Used tire facility selection.** For special collection efforts identified in OAC 252:515-21-4, DEQ will contact used tire facilities, tire derived fuel facilities (TDF) and entities that install erosion control projects, [hereinafter referred to as "qualified applicants for collection and transportation", (QACT)] on a rotating basis and identify the location of the used tires, the number of tires present, and a contact name and phone number.

(b) Timeline for collection. The QACT shall provide DEQ with documentation to demonstrate whether or not the county in which the tires are located has physically been serviced in that quarter. The QACT shall collect the tires at the location identified and otherwise service that county, as follows:

(1) prior to the end of the quarter, if the county has not been physically serviced during that calendar quarter; or

(2) prior to the end of the next calendar quarter, if the previous quarter's service is current.

(c) **Special pickup.** Upon the request of the Executive Director, DEQ may notify the QACT to collect certain tires within seven (7) days or report the status of the special pickup back to DEQ.

(d) **Collection efforts from tire dumps or landfills and community-wide clean up events.**

DEQ may require a QACT to collect from tire dumps or landfills on the PCL or from community-wide clean up events approved by DEQ.

(1) DEQ may assign collection events to a QACT, which shall collect the tires within the time period specified.

(2) The QACT shall certify to DEQ the number of tires cleaned up from the collection event.

PART 3. USED TIRE FACILITIES

252:515-21-31. Special collection efforts [REVOKED]

252:515-21-32. Facility operation requirements

(a) **General.** Used tire facilities are subject to the requirements of Part 3 of OAC 252:515-19, except 19-33.

(b) **Acceptable wastes.** Only used tires shall be accepted at a used tire facility.

(c) **Maximum storage.**

(1) **Used tires.** The number of used tires stored at any time shall not exceed 250,000 or the maximum number authorized by the permit, whichever is less.

(2) **Processed tires.** The amount of processed tire material stored at any time shall not exceed the amount accumulated from three years of operation or the amount for which financial assurance has been provided, whichever is less.

(d) **Tires awaiting processing.** Used tires stored on the ground while awaiting processing shall be placed in orderly piles, as follows:

(1) the base shall not exceed 200 feet by 150 feet;

(2) the height of the pile shall not exceed seven feet and

(3) side slopes shall not be greater than two horizontal to one vertical slope.

(e) **Processed material storage.** If processed tire material is stored in piles, the piles shall meet the following:

(1) the base shall not exceed 200 feet by 150 feet;

(2) the height of the pile shall not exceed 20 feet; and

(3) stable side slopes shall be maintained.

(f) **Tire dumps.** Annually, at least 3% to 6% of the used tires processed must be collected from tire dumps identified on the PCL or through DEQ approved community-wide clean-up events in the State of Oklahoma. In addition, at least 50% of the required annual PCL percentage must be from tire dumps.

(g) **Restricted areas.**

(1) **Fire lane.** An unobstructed fire lane at least 50 feet in width shall be maintained around the perimeter of each tire pile and each processed tire material pile located outdoors.

(2) **Buffer zone.** A clean buffer zone of at least 75 feet shall be maintained between tire piles or processed tire materials and adjacent properties.

(h) **Weighing processed materials.** Each load of processed tire material shall be weighed on scales tested and certified in accordance with the requirements of the Oklahoma Department of Agriculture, Food and Forestry.

(1) Each truck and/or trailer shall be weighed full and empty.

(2) Gross and tare weights shall be imprinted on the same weight ticket.
(3) Stored tare weights shall not be used.

(i) **Daily log.** A daily log shall be maintained for each load of used tires received. The daily log shall accurately reflect:
(1) the name and address of the hauler;
(2) the counted number of tires from each used tire source;
(3) the name and address of each used tire source;
(4) the number of tires processed each day; and
(5) the use and destination of each daily outbound load of processed tire material.

252:515-21-32.1. TDF facility operation requirements

If a tire derived fuel facility chooses to collect and transport used tires to its facility, it must comply with the following operations requirements:
(1) 27A O.S. § 2-11-401.4 (C)(2)(d);
(2) 252:515-21-32 except subsections (b) and (h);
(3) 252:515-21-35; and
(4) 252:515-21-36.

252:515-21-33. Automotive dismantler/parts recycler tires

(a) **Verified statement required.** The owner/operator of a used tire facility collecting tires for compensation from automotive dismantlers and parts recyclers must attach to the manifest a verified statement from the automotive dismantler or parts recycler itemizing by month the number of vehicles purchased on or after January 1, 1996, which were:
(1) originally licensed in the state of Oklahoma; and
(2) reported to have been dismantled on the Dismantler's Report filed with the Used Motor Vehicle Commission since the date used tires were collected from the dismantler/parts recycler's facility.

(b) **Limitation of compensation.** Compensation from the fund shall not be paid for a number of tires processed that is more than five times the number of vehicles reported to have been dismantled on the verified statement required by this Section.

252:515-21-34. Mobile operations

Compensation from the fund shall not be paid for tires processed with portable tire processing equipment unless such equipment is described and approved as part of a stationary used tire facility permitted in Oklahoma. The mobile unit must process used tires directly into a truck or moveable container that is transported daily to the stationary used tire facility or other facility approved by DEQ.

252:515-21-35. Financial assurance

(a) **Required.** Used tire facilities shall establish financial assurance in accordance with the requirements of Subchapter 27 of this Chapter.

(b) **Amount.** Unless a lesser amount is approved by DEQ, financial assurance will be established based upon the cost for removal and disposal, by a third party not affiliated with the owner/operator, of the maximum quantity of used tires and processed tire material stored on site at any time.

252:515-21-36. Recordkeeping and reporting

(a) **Monthly reports.** No later than the 10th day of each month, each facility shall submit a report to DEQ that includes the following information for the previous month:

(1) the number of tires received at the facility;

(2) the number of tires that came from DEQ approved community-wide cleanup events;

(3) the number of tires that came from dumps on DEQ's priority cleanup list;

(4) a summary of the destinations and intended uses of outgoing shipments of processed tire materials, including the number of tons of processed tire materials per market category; and

(5) the amount of processed tires provided to entities identified in OAC 252:515-21-71(a)(3) that were not in ready-to-use condition when received by such entities.

(b) **Quarterly reports.** No later than the 10th day following each calendar quarter, each facility shall submit a report to DEQ that documents statewide collection efforts for the previous quarter.

(c) **Annual reports.** No later than the 10th day of January each year, each facility shall submit a report to DEQ that its scales have been tested and certified as accurate by the Oklahoma Department of Agriculture, Food and Forestry.

PART 5. USED TIRE TRANSPORTATION

252:515-21-51. Used tire manifests

(a) **Manifest required.** Any person who transports more than 10 used or used tires over Oklahoma roads to or from destinations within the state must have a manifest documenting the proper disposition of the tires. All parties must fully complete and sign the manifest. Designated copies must be given to each used tire generator, transporter, and receiving facility reflected on the manifest.

(1) **Used tire reimbursement manifest.** A Used Tire Reimbursement Manifest must be used for transportation of used tires to a used tire facility entitled to receive compensation from the fund. A four-part carbonless paper manifest form, numbered in sequence so that each manifest has a unique identifying number, shall be provided by the used tire facility.

(2) **Used tire tracking manifest.** A Used Tire Tracking Manifest must be used for transportation of used tires to any location other than a used tire facility. A three-part, carbonless paper manifest form, numbered in sequence so that each manifest has a unique identifying number, shall be provided by the used tire generator or transporter.

(b) Accuracy of manifests and tire weights. Manifests shall be complete and accurate in all details and accompanied by weight tickets from certified scales which show the weight of the load collected and transported or accepted for processing by the QACT.

(c) **Inaccurate, incomplete, or insufficient manifest**. DEQ may not certify QACTs for tires which are processed if the manifests for those tires are incomplete, unreadable, not dated and signed by all parties, not accompanied by a weight ticket, or in any other respect cannot be relied upon to show that the tires were collected, transported and processed pursuant to the Act.

(d) **Signatory.**

(1) **Generator.** The used tire manifest shall be signed by the generator of the used tires, all transporters, and the receiving facility.

(2) **Used tire dump.** If the tires are from a tire dump, the landowner or authorized representative shall sign the manifest as the generator. If the landowner is unknown or unavailable or resides out of state, DEQ may authorize another signatory prior to the removal of any used tires.

(e) **Recordkeeping.** Within 30 days of receipt of the used tires, a completed copy of the manifest shall be returned to the used tire generator. Copies of the manifest shall be maintained by the

generator, transporter, and receiving facility for a period of five years.

PART 7. COMPENSATION FROM THE USED TIRE INDEMNITY FUND

252:515-21-71. Eligibility requirements

(a) **Eligible used tires for processing.** The following used tires are eligible for compensation from the Fund: motor vehicle tires pursuant to Section 1-134 of Title 47 of the Oklahoma Statutes for which a fee has been assessed by a tire dealer or motor license agent; tires used on implements of husbandry and agricultural equipment that are not more than fourteen (14) inches wide and forty-four (44) inches in diameter;

(b) **Tires collected under a state tire program.** Any used tire collected in accordance with the requirements of the Oklahoma Used Tire Recycling Act is not considered to be discarded. A tire that can be used, reused or legally modified to be reused for its original intended purpose shall not be a used tire.

(c) **Qualified applicants.** The following are eligible to receive compensation from the fund only for the processing or recycling of those used tires referred to in (a) of this section:

(1) used tire facilities;

(2) Erosion Control Installers who, as a landowner or on behalf of a landowner, have obtained a permit or other authorization from the United States Army Corps of Engineers or a local Conservation District for the use of used tires for erosion control, river bank stabilization, or other conservation projects on the property of the landowner; and

(3) tire derived fuel facilities; and

(4) units of local or county governments who have a DEQ approved plan to bale used tires for use in engineering projects.

(d) **Collection and transportation.** Qualified applicants are eligible to receive compensation from the fund only for the collection and transportation of the used tires referred to in (a) of this section.

(e) **PCL and community-wide cleanup event requirement**. At least 3% to 6% of the used tires for which compensation will be requested must come from tire dumps or landfills identified on the PCL and from community-wide cleanup events in the state of Oklahoma. The QACT shall not receive credit toward the 3% to 6% requirement until the collection efforts are approved by DEQ. In addition, at least 50% of the required annual PCL percentage must be from tire dumps.

(f) **Apportionment.** If the Used Tire Recycling Indemnity Fund (Fund) contains insufficient funds in any month to satisfy the eligible reimbursements under the Act, DEQ shall apportion the payments among the qualified applicants according to the following formula. Divide the total amount of the Fund available for disbursement by the total authorized reimbursements requested by the qualified applicants. The result is expressed as a percentage. Multiply this percentage by the amount requested and authorized for each qualified applicant, resulting in the apportionment for that qualified applicant.

(f) **Additional Compensation**. DEQ shall allocate any remaining monies in the fund to remediate tire dumps. Costs may be determined by cost estimates or unit costs developed by DEQ. Used tire facilities or TDF facilities that remediate tire dumps assigned by DEQ may request reimbursement from the Used Tire Recycling Indemnity Fund upon completion of the remediation as determined by DEQ.

252:515-21-72. Ineligible for compensation

(a) **Previous compensation.** Any person that has received compensation from the fund for projects

identified in Part 9 or 11 of this Subchapter shall not be eligible to receive other compensation from the fund for collection, transportation or delivery of used tires in conjunction with the same project.

(b) **Certain used tires.** The following used tires are not eligible for compensation from the fund:

(1) used tires not installed in the approved project by Erosion Control Installers identified in OAC 252:515-21-71(a)(2);

(2) used tires processed for TDF facilities identified in OAC 252:515-21-71-(a)(3) but are not in ready-to-use condition when received by such facilities;

(3) used tires not used in the approved project by units of local or county governments identified in OAC 252:515-21-71(b)(4);

(4) processed or recycled used tires listed by the OTC in OAC 710:95-5 as being ineligible for compensation; and

(5) processed or recycled used tires that originated outside the borders of the State of Oklahoma.

252:515-21-73. Certification for compensation

(a) **Compliance.** An applicant requesting certification for compensation from the fund must be in substantial compliance with:

(1) the Act;

(2) the requirements of this Chapter;

(3) any permits issued by the DEQ, if applicable; and

(4) other applicable authorizations issued by the United States Army Corps of Engineers or local Conservation District.

(b) **Required forms.** Applicants eligible for compensation from the fund shall complete the required forms provided by the DEQ and submit them to DEQ.

252:515-21-74. Partial compensation for projects identified in Part 9

(a) **Partial completion.** Before completion of the project, an applicant may apply to the DEQ in writing for approval of partial compensation from the fund. The application shall include an estimate of the number of used tires properly installed at the time the application is submitted.

(b) **Compliance.** DEQ may authorize partial compensation if the applicant is in compliance with the United States Army Corps of Engineers or local Conservation District permit or authorization and the project is properly installed.

(c) **Pro-rated.** Payment may be authorized in the same ratio that the installed portion has to the entire project.

252:515-21-75. Appeal

Any decision by DEQ that results in the applicant's ineligibility for compensation may be appealed by the applicant in accordance with OAC 252:4, "Rules of Practice and Procedure."

PART 9. EROSION CONTROL, RIVER BANK STABILIZATION AND OTHER CONSERVATION PROJECTS

252:515-21-91. Permit

Permits or other authorizations for the use of used tires in erosion control, river bank stabilization or other conservation projects may be obtained from the United States Army Corps of Engineers or a local Conservation District.

252:515-21-92. Eligibility requirements

(a) **Use of proper tires.** Annually, at least 3% to 6% of the used tires for which compensation will be requested must come from tire dumps identified on the PCL or from community-wide cleanup events in the state of Oklahoma and installed in accordance with this Part and the permit or other authorization from the United States Army Corps of Engineers or a local Conservation District. In addition, at least 50% of the required annual PCL percentage must be from tire dumps.

(b) **Used tire collection.**

The Erosion Control Installer (ECI) shall comply with 27A O.S. § 2-11-401.4(C)(3)(b).

(c) **Project completion report.** Upon completion of the project, the ECI shall submit a project completion report to DEQ, certifying the project was completed in accordance with the approved design plans. The report shall include the following:

(1) the name, address and telephone number of the applicant;

(2) the tire dump from which tires came, if any, and DEQ identification number;

(3) identification of the community-wide cleanup event from which tires came, if any;

(4) quantity of tires removed from the tire dump or community-wide cleanup event, by tire type;

(5) name and location of the approved project;

(6) quantity and type of tires delivered to and installed at the project;

(7) a copy of the permit or other authorization issued by the United States Army Corps of Engineers or local Conservation District;

(8) a copy of the planting plan developed in conjunction with and approved by the Division of Forestry of the Oklahoma Department of Agriculture, Food, and Forestry;

(9) verification the landowner agrees to complete the planting plan described in (8) of this Subsection;

(10) documentation to verify compliance with (d) of this Section, if applicable; and

(11) other information required by DEQ.

(d) **Proper disposal.** The ECI shall dispose of any used tires not needed for the project at a permitted used tire processing or other used tire recycling facility, or a permitted solid used disposal facility.

(e) **DEQ inspection.** After submittal of the project completion report, DEQ shall inspect the project and the project file to determine compliance with the Act, the rules in this Subchapter, and project plans.

(f) **Project complete.** If the project is complete, DEQ shall notify the ECI in writing, with copies to the Oklahoma Department of Agriculture, Food, and Forestry, and the United States Army Corps of Engineers or local Conservation District, as appropriate.

(g) **Project incomplete.** If any aspect of the project is not complete, DEQ shall give written notification of the deficiencies to the ECI, who shall respond accordingly. In such cases, partial compensation may be authorized in accordance with OAC 252:515-21-74.

(h) **Recordkeeping.** Records required by this Part shall be maintained by the ECI for a period of five years after completion of the project.

PART 11. USED TIRE BALING

252:515-21-111. Project construction requirements

(a) **Plan required.** Units of local or county government in Oklahoma who will seek

reimbursement from the Fund for use of baled used tires in engineering projects shall have a DEQ approved plan describing the nature of the proposed project. Such plan shall include:

(1) the location at which used tire baling operations will be performed;

(2) a description of the engineering project for which the baled tires will be used;

(3) the approximate date construction will begin and the estimated time to complete the project;

(4) plans for aesthetic enhancement in accordance with OAC 252:515-3-37;

(5) engineering designs that are signed and stamped or sealed by a professional engineer licensed in the State of Oklahoma;

(6) documentation that the project has been approved by:

(A) the unit of local government for projects sponsored by a local government; or

(B) the Board of Commissioners for the county in which the project will be located for projects sponsored by a unit of county government; and

(7) a description of how compliance with the eligibility requirements of OAC 252:515-21-112 will be achieved.

(b) **DEQ review.** After review, DEQ may require alterations to the plan prior to construction.

(c) **Initiation of construction.** Construction of the project shall not begin until the plan has been approved by DEQ.

(d) **Bale storage.** No more than 50 used tire bales shall be accumulated prior to beginning construction of the project.

(e) **Recordkeeping.** All records related to the project and required by this Section shall be maintained by the governmental entity for a period of at least three years after completion of the project.

252:515-21-112. Eligibility requirements

(a) **Use of proper tires.** Only used tires obtained from tire dumps identified on the PCL or from community-wide cleanup events in the State of Oklahoma and used in accordance with the approved plans shall be eligible for compensation.

(b) **Project completion report.** Upon completion of the project, the governmental entity shall submit a project completion report signed and stamped or sealed by a professional engineer licensed in the State of Oklahoma, certifying the project was completed in accordance with the approved plans. The report shall include the following:

(1) the name, address and telephone number of the applicant and the certifying engineer;

(2) the tire dump from which tires came, if any, and DEQ identification number;

(3) identification of the community-wide cleanup event from which tires came, if any;

(4) quantity of tires removed from the tire dump or community-wide cleanup event, by tire type;

(5) location of the approved project;

(6) quantity and type of tires delivered to and installed in the project;

(7) documentation to verify compliance with (c) of this Section, if applicable; and

(8) other information required by DEQ.

(c) **Proper disposal.** Any used tires or bales not needed for the project shall be disposed at a permitted used tire processing or other used tire recycling facility, or a permitted solid waste disposal facility.

(d) **DEQ inspection.** After submittal of the project completion report, DEQ shall inspect the project and the project file to determine compliance with the Act, the rules in this Subchapter,

and project plans.
(e) **Project complete.** If the project is complete, DEQ shall provide written notification, with copies to the OTC.
(f) **Project incomplete.** If any aspect of the project is not complete, DEQ shall give written notification of the deficiencies to the governmental entity, who shall respond accordingly. DEQ shall not authorize partial compensation for incomplete projects.
(g) **Recordkeeping.** Records required by this Part shall be maintained by the governmental entity for a period of three years after completion of the project.

PART 13. TIRE DEALER AND MOTOR LICENSE AGENT AUDITS

252:515-21-131. Tire dealer and motor license agents audits

Tire dealers and motor license agents shall provide records, reports and other documentation relative to the Act to any authorized representative of the DEQ upon request.

SUBCHAPTER 23. REGULATED MEDICAL WASTE MANAGEMENT

PART 1. GENERAL PROVISIONS

Section
252:515-23-1. Applicability and exclusions
252:515-23-2. Definitions
252:515-23-3. Disposal of untreated, regulated medical waste
252:515-23-4. Treatment
252:515-23-5. Compacting prohibited

PART 3. OPERATIONAL REQUIREMENTS FOR ALL COMMERCIAL REGULATED MEDICAL WASTE PROCESSING FACILITIES

252:515-23-31. General
252:515-23-32. Radiation
252:515-23-33. Contingency plan
252:515-23-34. Emergency response
252:515-23-35. Storage

PART 5. ADDITIONAL OPERATIONAL REQUIREMENTS FOR COMMERCIAL REGULATED MEDICAL WASTE INCINERATORS

252:515-23-51. Time and temperature
252:515-23-52. Burning efficiency
252:515-23-53. Interlocks
252:515-23-54. Tests
252:515-23-55. Monitoring
252:515-23-56. Residues

PART 1. GENERAL PROVISIONS

252:515-23-1. Applicability and exclusions

(a) **Federal requirements.** Persons or facilities involved in the handling, storage, packaging, labeling, and/or transportation of regulated medical waste may be subject to requirements of the federal Department of Transportation (49 CFR Part 173), the federal Occupational Safety and Health Administration (29 CFR 1910.1030), or other federal or state agencies.

(b) **Commercial processing facilities.** Commercial regulated medical waste processing facilities are subject to the requirements of Parts 1 and 3 of this Subchapter as well as Part 3 of OAC 252:515-19.

(c) **Commercial incinerators.** Commercial regulated medical waste incinerators are subject to the requirements of (b) of this Section and Part 5 of this Subchapter.

(d) **Shared services facilities.** Shared services facilities shall meet the standards of OAC 252:515-23-32(b), 33, 34, and 35, but are not required to obtain DEQ approval.

(e) **Exclusions.**

(1) **General.** The following are not subject to the requirements of this Subchapter if they do not contain any regulated medical waste:

(A) wastes generated by the processing or caring for animals, except for untreated sharps and those wastes identified in subparagraph (F) of the definition of "regulated medical waste";

(B) regulated medical wastes treated in accordance with OAC 252:515-23-4;

(C) biological products distributed for any purpose other than treatment and disposal;

(D) diagnostic specimens shipped to a qualified diagnostic laboratory;

(E) laundry or medical equipment conforming to 29 CFR 1910.1030;

(F) corpses, remains, and/or anatomical parts intended for ceremonial interment or cremation.

(2) **Hazardous waste.** Hazardous waste is not subject to the requirements of this Subchapter, but shall be subject to the requirements of OAC 252:205.

(3) **Household waste.** Household wastes are not subject to the requirements of this Subchapter even if they contain regulated medical wastes generated in the household from treatment of a resident of the household.

252:515-23-2. Definitions

The following words and terms, when used in this Subchapter, shall have the following meaning, unless the context clearly indicates otherwise:

"Commercial regulated medical waste incinerator" means a waste processing facility operated as a business for profit for incineration of regulated medical wastes generated by others.

"Commercial regulated medical waste processing facility" means a facility operated as a business for profit that is designed and operated principally for the purpose of processing, including transfer of, regulated medical wastes generated by others. Such facilities shall include those engaged in the processing of regulated medical waste on mobile vehicles at a generator location.

"Commercial transporter" means an owner/operator of any vehicle transporting regulated medical waste generated by others as a business for profit.

"Etiologic agent" means a viable microorganism, or its toxin, that causes or may cause disease in humans or animals, and includes those agents listed in 42 CFR 72.3, and any other agent that causes or may cause severe, disabling or fatal disease. The term "etiologic agent" is synonymous with the term "infectious substance" as defined in 49 CFR 173.134.

"Generator" means the owner/operator of any facility, institution, or business that produces

regulated medical waste in any quantity.

"Microbial inactivation" means a $4Log_{10}$ (99.99%) or greater reduction of:

(A) B. stearothermophilus (ATCC 7953) when utilizing steam sterilization for treatment of regulated medical waste;

(B) B. subtilis (ATCC 19659) when using dry heat or microwave methods for treatment of regulated medical waste; or

(C) other appropriate indicator organisms and kill efficacy for the treatment method chosen and as approved by the DEQ.

"Shared services facility" means a hospital or clinic that provides treatment of regulated medical waste generated by another institution (including doctor's offices, medical laboratories and nursing homes) for the purpose of providing a service rather than generating revenue.

"Sharps" mean hypodermic needles, Pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, culture dishes, and glassware such as used slides and cover slips.

"Small quantity regulated medical waste generator" means a generator that generates less than sixty (60) pounds of regulated medical waste per month from one physical location.

"Untreated sharps" means sharps that are to be disposed for any reason, but have not been treated in accordance with OAC 252:515-23-4(b).

252:515-23-3. Disposal of untreated, regulated medical waste

(a) **MSWLF.** The disposal of the following is prohibited in a MSWLF, a municipal solid waste receptacle or a municipal solid waste transfer station:

(1) all quantities of untreated sharps, even if generated by a small quantity regulated medical waste generator; and

(2) all quantities of other untreated, regulated medical waste, except that generated by a small quantity regulated medical waste generator.

(b) **Liquids.** Liquid regulated medical wastes (except chemical wastes, or antineoplastic or cytotoxic drugs) may be discharged into the collection system of a POTW within the generating facility if:

(1) written approval of the POTW has been obtained; and

(2) the POTW provides secondary treatment.

252:515-23-4. Treatment

(a) **Methods.** Regulated medical waste must be treated by one of the following methods:

(1) incineration in an incinerator that:

(A) is designed for the destruction of regulated medical waste;

(B) will consistently achieve microbial inactivation; and

(C) is permitted by the DEQ's Air Quality Division and operated in accordance with such permit;

(2) microwave sterilization, or steam sterilization at sufficient temperature and pressure, for sufficient time to consistently achieve microbial inactivation;

(3) chemical disinfection where contact time, concentration and quantity of the chemical disinfectant are sufficient to consistently achieve microbial inactivation; or

(4) any other treatment method demonstrated to be effective in consistently achieving microbial inactivation.

(b) **Untreated sharps.** Untreated sharps must be treated either in accordance with (a) of this Section or in another way to minimize the potential for puncture wounds, such as placement in specially

designed sharps containers of rigid plastic or a rigid puncture-resistant container and filled with a solidifying material, or other such methods that will seal the sharp to minimize the risk of puncture wounds.

252:515-23-5. Compacting prohibited

Regulated medical waste shall not be compacted.

PART 3. OPERATIONAL REQUIREMENTS FOR ALL COMMERCIAL REGULATED MEDICAL WASTE PROCESSING FACILITIES

252:515-23-31. General

(a) **Other requirements.** Commercial regulated medical waste processing facilities are subject to the requirements of Part 3 of OAC 252:515-19.

(b) **Acceptable wastes.** Only regulated medical wastes shall be accepted at a regulated medical waste processing facility.

(c) **DEQ approved plan.** A DEQ approved plan shall be implemented for:

(1) excluding wastes that are not to be processed;

(2) safely storing wastes until proper processing and disposal occurs; and

(3) responding to emergencies.

(d) **Decontamination facilities.** Decontamination facilities must be provided.

252:515-23-32. Radiation

(a) **Screening and handling.** A DEQ approved procedure shall be implemented for screening wastes and handling radioactive wastes.

(b) **Detection system.** Fixed radiation detection monitors, capable of detecting radiation sources as small as 0.25 millicuries of Cs137, must be installed to monitor incoming wastes.

(c) **Interlock system.** Automated waste processing units must have an interlock system to automatically stop upon detection of radiation.

(d) **Hand-held detectors.** Hand-held radiation detectors must be used to screen wastes when the fixed radiation detectors detect radioactive wastes.

(e) **Segregation of radioactive wastes.** When radioactive wastes are detected, they must be segregated from the remainder of the wastestream for proper management.

252:515-23-33. Contingency plan

A DEQ approved contingency plan shall be implemented that addresses:

(1) over-packing;

(2) decontaminating vehicles and containers;

(3) safely storing improper wastes and poorly packaged wastes;

(4) procedures for visual inspection of containers to detect leaks or other problems in packaging;

(5) procedures for re-packaging defective, problematic or leaking waste containers detected during visual inspection;

(6) alternative management of wastes in the event of equipment malfunction, emergencies or other unforeseen situations; and

(7) include a narrative description of the storage area, including size, location and security.

252:515-23-34. Emergency response

Copies of emergency response agreements with applicable local agencies shall be maintained in the operating record and submitted to the DEQ.

252:515-23-35. Storage

All waste shall be processed or placed into refrigerated storage, at 45°F, within 24 hours of delivery. If processing has not occurred within 96 hours, waste shall be transported to an alternate permitted site.

PART 5. ADDITIONAL OPERATIONAL REQUIREMENTS FOR COMMERCIAL REGULATED MEDICAL WASTE INCINERATORS

252:515-23-51. Time and temperature

Incinerators must maintain a minimum temperature of:

(1) 1400°F, ± 25°F, in the primary chamber for sufficient time to achieve microbial inactivation; and

(2) 2000°F, ±25°F, in the secondary chamber for a minimum residence time of two (2) seconds.

252:515-23-52. Burning efficiency

The incinerator must be operated such that no unburned materials are visible in the residue ash.

252:515-23-53. Interlocks

Incinerators must be equipped with automatic loading and protective interlocks to prevent waste from entering the secondary chamber when the temperature is below 2000°F.

252:515-23-54. Tests

(a) **Routine periodic tests.** The incinerator design must provide sample injection and collection ports to enable the owner/operator or the DEQ to conduct periodic tests.

(b) **Demonstration.** Prior to operation, the owner/operator must conduct a demonstration showing complete destruction of a chemical which requires 2000°F for destruction and which is introduced into the unit under normal operating procedures.

252:515-23-55. Monitoring

(a) **Monitoring required.** The incinerator shall have continuous monitoring and recording for waste feed, fuel and combustion gas flows; oxygen and carbon monoxide, and temperature.

(b) **Instrument calibration.** Monitoring devices shall be routinely calibrated in accordance with manufacturer's recommendations.

(c) **DEQ may monitor.** Incinerators shall have the capability for the DEQ to connect its own monitoring or calibration test equipment.

(d) **Monitoring data retention.** Monitoring data shall be maintained for at least two years.

(e) **Excursions.** In the event more than thirty excursions from the operating parameters occur within any calendar month, the owner/operator shall shut down operations until such time as repairs are made and documented engineering analysis shows how the cause has been corrected.

252:515-23-56. Residues

Ash residue shall be managed in accordance with the NHIW management requirements of OAC 252:515-31.

SUBCHAPTER 25. CLOSURE AND POST-CLOSURE CARE

PART 1. GENERAL PROVISIONS

Section
252:515-25-1. Applicability
252:515-25-2. Plans required
252:515-25-3. Records retention
252:515-25-4. Corrective action

PART 3. CLOSURE

252:515-25-31. Performance standard
252:515-25-32. Contents of closure plan
252:515-25-33. Timelines
252:515-25-34. Certification of final closure
252:515-25-35. Final closure
252:515-25-36. County land records notice

PART 5. POST-CLOSURE

252:515-25-51. Post-closure period
252:515-25-52. Extension of post-closure period
252:515-25-53. Contents of post-closure plan
252:515-25-54. Post-closure operational requirements
252:515-25-55. Post-closure use of property
252:515-25-56. Certification of post-closure performance
252:515-25-57. Land use restrictions

PART 1. GENERAL PROVISIONS

252:515-25-1. Applicability

(a) **All disposal facilities.** All new and active solid waste disposal facilities are subject to the requirements of Parts 1 and 3 of this Subchapter.

(b) **New and active land disposal facilities.** All new and active land disposal facilities are subject to the requirements of Parts 1, 3, and 5 of this Subchapter.

(c) **Non-land disposal facilities.** A solid waste disposal facility that is not a land disposal facility, may be subject to the requirements of Part 5 of this Subchapter if the DEQ determines post-closure monitoring is required.

(d) **Closed facilities.** A closed solid waste disposal facility that has not been released from its post-closure monitoring requirements by the DEQ as of the effective date of this Chapter shall:

(1) be subject to the requirements of OAC 252:515-25-2(c) (relating to plan amendments), 25-4 (relating to corrective action), and 25-52 (relating to extension of the post-closure period); and

(2) continue post-closure monitoring in accordance with the permit and the DEQ regulations to which such facility was subject at the time of closure.

252:515-25-2. Plans required

(a) **Closure plan required.** A closure plan shall be submitted to the DEQ for approval describing how compliance with the requirements of Part 3 of this Subchapter will be achieved.

(b) **Post-closure plan required.** Except as provided in OAC 252:515-25-1(c) and (d), a post-closure plan shall be submitted to the DEQ for approval describing how compliance with the requirements of Part 5 of this Subchapter will be achieved.

(c) **Plan amendments.** An amended closure or post-closure plan shall be submitted to the DEQ for approval:

(1) when a cost estimate adjustment is required; or

(2) with each application for a modification of the permit when such modification will affect closure or post-closure duties or requirements.

252:515-25-3. Records retention

(a) **Final closure.** Copies of all closure documentation shall be maintained on file at the site or at the owner/operator's place of business until the DEQ approves the completion of final closure.

(b) **Post-closure.** If post-closure monitoring is required, final closure documentation shall be maintained through the post-closure monitoring period.

252:515-25-4. Corrective action

If at any time during closure activities or post-closure monitoring, inspection of the facility and/or review of monitoring data indicates an actual release of contaminants into the environment, the DEQ may require corrective action to eliminate or mitigate such a release.

PART 3. CLOSURE

252:515-25-31. Performance standard

The facility shall be closed in accordance with the approved closure plan and in a manner that minimizes the need for further maintenance and controls and minimizes post-closure escape of waste and waste constituents into the environment.

252:515-25-32. Contents of closure plan

(a) **All disposal facilities.** The closure plan for all disposal facilities shall include the following as a minimum:

(1) identification of site-specific closure activities, a description of how each is expected to be performed, and a schedule for completing all activities;

(2) calculation of closure cost estimates in accordance with Subchapter 27 of this Chapter, unless the facility is a transfer station, processing facility or composting facility that principally manages municipal solid waste, or is a yard waste composting facility;

(3) an estimate of the maximum inventory of waste ever on-site over the active life of the facility;

(4) detailed plans for:

(A) identifying and removing from the site, all equipment, temporary buildings and other improvements not designated as permanent in the permit application;

(B) reworking or replacing defective groundwater monitor wells, gas wells, and other defective monitoring equipment, if any;

(C) monitoring ground and surface water, if required;

(D) collecting and analyzing soil and water samples;
(E) disposing of final wastes and affected soils;
(F) decontamination of facility structures, if necessary;
(G) maintaining site security and access control, if post-closure monitoring is required;
(H) redesigning final closure in accordance with existing site conditions and applicable rules;
(I) preparing final closure certification and other required documents and notices; and
(J) performing any other tasks necessary to achieve final closure of the site.

(b) **Additional information for land disposal facilities.** The closure plan for land disposal facilities shall include the following additional information:

(1) an estimate of the largest area of the disposal facility ever requiring final cover during the active life;

(2) a detailed description of the final cap design and construction, including:

(A) a calculation of the amount of material needed for each phase of closure;

(B) identification of the soil type to be used for the final cover, to include:

(i) the location at which it will be obtained;

(ii) an analysis of the proposed cover material's permeability;

(iii) mass balance calculations to demonstrate sufficient soil is available;

(C) provisions for obtaining, hauling, and placing the soil for final cover;

(D) a description of the design and construction of final cover to meet the requirements of 252:515-19-53;

(E) a description of the design and construction of gas vents or collection pipes to be incorporated in the cap design, if such structures are required;

(F) the QA/QC methods to be used in cap construction and to document the final cover is built to specification; and

(G) the schedule and method of placement of all components of the final cap;

(3) plans for:

(A) grading, planting, fertilizing and establishing vegetation for all disturbed areas, including reshaping and revegetation of both on-site and off-site soil borrow areas to blend with surrounding terrain, or another approved reclamation plan;

(B) constructing surface drainage and erosion control measures or reworking existing measures as necessary;

(C) installation of final cover;

(D) fitting existing leachate collection systems with a method for automatic and continuous removal of leachate not requiring owner/operator intervention;

(E) remedying all former improper closure or waste placement at the site; and

(F) conducting the final closure survey and preparing the closure certification; and

(4) a constructed map showing what the contours of the site will be at final closure.

(c) **Phased closure authorized.** Individual disposal areas of a land disposal facility may be closed in phases.

(1) **Closure plan.** A plan for phased closure shall be included as part of the closure plan.

(2) **Financial assurance reduction.** To reduce financial assurance for each disposal area closed in a phased closure scenario, a certification prepared and sealed by an independent professional engineer licensed in the State of Oklahoma if the facility was permitted to serve a population of greater than 5,000, shall be provided to the DEQ. Such certification shall:

(A) certify that the area was closed according to the approved closure plan, the permit,

and applicable rules; and

(B) contain a closure report with related drawings, plans or specifications describing how closure was performed.

(3) **DEQ approval.** The DEQ must approve closure of the disposal area before financial assurance may be reduced.

252:515-25-33. Timelines

(a) **DEQ notification.** The DEQ shall be notified in writing prior to beginning final closure of the facility or closure of a disposal cell at a land disposal facility.

(b) **Beginning activities.** Closure activities shall begin no later than 90 days after final receipt of wastes at the facility or final receipt of wastes into a disposal cell, as applicable.

(c) **Completing activities.**

(1) **180 days.** Closure activities shall be completed according to the approved closure plan within 180 days after closure activities are initiated.

(2) **Extensions allowed.** Extensions of the closure period may be granted by the DEQ if the owner/operator demonstrates that closure will, of necessity, take longer than 180 days and that all steps have been taken, and will continue to be taken, to prevent threats to human health or the environment from the unclosed cell or facility.

252:515-25-34. Certification of final closure

(a) **Certification requirements.** A Certification of Final Closure shall be submitted to the DEQ after completion of final closure. The Certification shall:

(1) be signed by the owner/operator;

(2) state that the facility was closed according to the approved closure plan, the permit, and applicable rules;

(3) contain a closure report with related drawings, plans or specifications describing how closure was performed; and

(4) indicate whether inspection of gas, groundwater, or surface water monitoring has shown the presence of elevated levels of any constituent or if any evidence of contamination related to site operations has been found and, if so, what corrective measures were taken.

(b) **Land disposal facilities.** In addition to the requirements of (a) of this Section, a final closure map shall be included in the Certification of Final Closure for all land disposal facilities. The final closure map shall show as-built conditions at the time of closure, including but not limited to:

(1) final contours of the entire site;

(2) the permit boundary and boundaries of disposal areas;

(3) the location of gas monitoring wells and extraction systems;

(4) the location of groundwater monitoring wells;

(5) the location of leachate management systems or surface impoundments;

(6) the location of any permanent surface drainage structures;

(7) aesthetic enhancements; and

(8) other relevant information.

(c) **Professional engineer seal.** The Certification of Final Closure shall be prepared and sealed by an independent professional engineer licensed in the State of Oklahoma if the facility served a population or population equivalent of greater than 5,000.

252:515-25-35. Final closure

(a) **DEQ approval required.** The DEQ must approve the final closure of a facility before the post-closure period can begin.
(b) **Extension of closure period.** The DEQ may extend the closure period and require the posting of additional financial assurance if:
(1) any testing shows the confirmed presence of elevated levels of any constituent;
(2) any evidence of contamination related to site operations has been found; or
(3) final closure of the site is found to be inadequate.

252:515-25-36. County land records notice
(a) **Notice required.** Upon DEQ approval of final closure, a notice shall be recorded in the land records of the property in the county in which the facility is located, that will give notice in perpetuity that the site was used for the processing or disposal of solid waste and has been closed.
(b) **Identification of wastes.** The notice shall specify the type, location and quantity of wastes processed or disposed.
(c) **Post-closure monitoring.** For land disposal facilities, the notice shall:
(1) identify the required post-closure monitoring period and state that the facility will be monitored for at least this period of time;
(2) state that a survey plat and record of the disposal area's locations and elevations has been filed with the DEQ and with an identified city or county; and
(3) state that future uses may be restricted in accordance with OAC 252:515-25-57.
(d) **Copy to DEQ.** A file-stamped copy of the notice shall be provided to the DEQ.

PART 5. POST-CLOSURE

252:515-25-51. Post-closure period
(a) **8-year post-closure monitoring.** The following facilities shall conduct post-closure monitoring in accordance with this Part for a minimum of eight (8) years after DEQ approval of final closure:
(1) new or currently active C&D landfills; and
(2) new or currently active generator owned and operated NHIW landfills.
(b) **30-year post-closure monitoring.** New or currently active MSWLFs and other land disposal facilities shall conduct post-closure monitoring in accordance with this Part for a minimum of thirty (30) years after DEQ approval of final closure.
(c) **Non-land disposal facilities.** Non-land disposal facilities shall conduct post-closure monitoring and care for a period specified by the DEQ if it is determined that post-closure monitoring and care are necessary due to soil or surface or groundwater contamination from activities performed at the facility.

252:515-25-52. Extension of post-closure period
(a) **Extension.** The DEQ may extend the post-closure monitoring and care period if:
(1) sampling shows the presence of elevated levels of any constituent;
(2) evidence of contamination resulting from site operations is found to exist;
(3) prior maintenance or monitoring of the site is found to be inadequate;
(4) the site is producing leachate that must be treated prior to discharge; or
(5) if other conditions are present that indicate a need for additional post-closure monitoring and care.
(b) **Additional requirements.** When the post-closure period is extended, the DEQ may require the

maintenance of existing financial assurance, the posting of additional assurance, and/or may require corrective action.

252:515-25-53. Contents of post-closure plan

The post-closure plan shall include, as a minimum:

(1) identification of site-specific post-closure activities with a detailed narrative description of how each is expected to be performed and a schedule for completing all activities;

(2) calculation of post-closure cost estimates in accordance with Subchapter 27 of this Chapter;

(3) a schedule for a minimum of quarterly inspections of the facility;

(4) procedures for:

(A) repairing and maintaining all surface drainage structures and on-site permanent improvements and equipment; and

(B) reworking or replacing any defective groundwater monitor wells and other defective monitoring equipment and installing new wells and equipment as required;

(5) procedures for maintaining the leachate collection system and collecting, treating and properly disposing of leachate;

(6) protocol for collecting and analyzing soil and water (surface and subsurface) samples as required;

(7) methods for maintaining site security and access control;

(8) procedures for:

(A) maintaining vegetation and other erosion controls in the post-closure area; and

(B) repairing erosion and maintaining final cover to meet the requirements of OAC 252:515-19-53, including the schedule for mowing and fertilizing final cover vegetation and other areas as needed;

(9) documentation of a legal right to enter, use, maintain, and monitor the facility throughout the post-closure period, in accordance with OAC 252:515-3-34;

(10) the outline for preparing the annual post-closure report in accordance with OAC 252:515-25-54(a)(2);

(11) the requirements for preparing a certification of post-closure performance in accordance with OAC 252:515-25-56;

(12) a description of the planned future uses, if any, of the property during the post-closure period; and

(13) a description of any other tasks necessary to accomplish adequate post-closure care.

252:515-25-54. Post-closure operational requirements

(a) **All disposal facilities.** All disposal facilities in post-closure monitoring shall perform the following.

(1) **Security and access control.** Fences and locked gates shall be maintained and signs shall be posted on the outer perimeter to provide notice that the site is a closed solid waste disposal facility.

(2) **Annual post-closure report.** No later than April 1st of each year after the DEQ's approval of the certification of final closure, a post-closure maintenance and monitoring report shall be submitted to the DEQ until the post-closure period ends. This report shall document the maintenance performed and summarize all monitoring data for the previous year.

(b) **Land disposal facilities.** Land disposal facilities in post-closure monitoring shall also perform the following.

(1) **Monitoring.** The integrity of the groundwater and/or explosive gas monitoring systems shall be maintained.

(A) Groundwater monitoring shall be performed at least semi-annually, unless reduced in accordance with OAC 252:515-9-73(c).

(B) Explosive gas monitoring, if required during the active life, shall be performed at least semi-annually.

(2) **Leachate collection, treatment and disposal.**

(A) The leachate collection system shall be maintained and operated to ensure leachate is collected, treated and/or disposed in accordance with Subchapter 13 of this Chapter.

(B) The leachate collection systems shall be equipped with a system for automatic and continuous removal of leachate not requiring intervention by the owner/operator.

(C) Untreated leachate shall not be stored on-site unless the permit provides a specified method and capacity.

(3) **Final cover.** The integrity and effectiveness of the final cover shall be maintained in compliance with OAC 252:515-19-53, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, ponding of water, or other events, and prevent run-on and run-off from eroding or otherwise damaging the final cover.

252:515-25-55. Post-closure use of property

(a) **Maintain integrity.** Use of the property during the post-closure period must not disturb the integrity of the final cover, the liner, or any other components of the containment system, or the function of the monitoring systems.

(b) **DEQ approval.** The owner/operator shall not allow any other use of the property during the post-closure period unless it is approved by DEQ.

252:515-25-56. Certification of post-closure performance

(a) **Certification required.** At the conclusion of the post-closure period, a Certification of Post-closure Performance shall be submitted to the DEQ. The Certification shall:

(1) state the facility was maintained and monitored in accordance with the approved post-closure plan, the permit, and applicable rules;

(2) indicate whether monitoring throughout the post-closure period has shown the presence of elevated levels of any constituent or if any evidence of contamination related to site operations has been found and, if so, what corrective measures were taken; and

(3) be maintained in the operating record.

(b) **In lieu of annual report.** The Certification of Post-closure Performance shall be submitted in lieu of the final annual post-closure report.

(c) **Professional engineer seal.** The Certification of Post-closure Performance shall be prepared and sealed by an independent professional engineer licensed in the State of Oklahoma if the facility was permitted to serve a population or population equivalent of greater than 5,000.

252:515-25-57. Land use restrictions

(a) **Ascertain wastes.** Any person contemplating using a closed land disposal facility shall ascertain the types of wastes deposited, depth of waste cells, and the operating history of the site and shall avoid any activity that may pose increased threat to human health or the environment.

(b) **Considerations.** The following items are to be considered:

(1) Enclosed structures have a potential for explosive concentrations of methane gas.

(2) Irrigation, plowing or other activities that disturb materials below the topsoil could result in percolation of moisture into the buried waste, causing increased settlement of waste and increased generation of explosive gas.
(3) Concentrated loadings can cause uneven settlement.
(4) Pilings or foundation should not disturb or penetrate the final cover and/or bottom liner.

(c) **Utilities and pipelines.** Utilities and pipelines must be routed around the waste disposal area.

(d) **Relocating waste.** Any disturbed/excavated waste may not be redisposed on-site but must be relocated to a properly permitted solid waste disposal facility.

SUBCHAPTER 27. COST ESTIMATES AND FINANCIAL ASSURANCE

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PART 1. GENERAL PROVISIONS

252:515-27-1. Applicability

(a) All solid waste disposal facilities are subject to the requirements of this Subchapter except:

(1) transfer stations, processing facilities, or composting facilities that principally manage municipal solid waste;

(2) yard waste composting facilities;

(3) land disposal facilities in post-closure as of the effective date of this Chapter that were not required to have financial assurance at the time of closure; and

(4) units of State or Federal governments whose debts and liabilities are the debts and liabilities of a State or the United States.

(b) A facility identified in (a)(1), (a)(2), or (a)(3) of this Section required to undertake a corrective action program may be required to establish and maintain financial assurance in accordance with this Subchapter.

252:515-27-2. Effective date

(a) **Closure and post-closure care.** DEQ approved financial assurance for closure and post-closure care must be established prior to the initial receipt of waste or April 9, 1997, whichever is later.

(b) **Corrective action.** DEQ approved financial assurance for corrective action must be established no later than 120 days after the corrective action remedy has been selected in accordance with Part 13 of OAC 252:515-9, or an alternative corrective action plan has been approved.

(c) **Permit modifications.** DEQ approved financial assurance must be established and appropriately funded before the DEQ will issue a permit modification that results in an increase in closure or post-closure cost estimates.

252:515-27-3. Duty to maintain financial assurance

Financial assurance for closure, post-closure, and/or corrective action, as applicable, must be maintained continuously until released from the requirement to maintain such assurance by:

(1) demonstrating compliance with the closure and/or post-closure requirements of Subchapter 25 of this Chapter; or

(2) demonstrating compliance with the corrective action requirements of Part 15 of OAC 252:515-9, or an approved corrective action plan.

252:515-27-4. Updating

(a) **Unit costs.** Provided they remain in effect, the unit costs and worksheets in Appendices H and I shall be updated no later than April 9, 2005, and at least every five years thereafter.

(b) **Annual updates and adjustments.** All references to and deadlines of "April 1 of each year" in this subchapter shall be postponed to April 9 of each year. Refer to 252:515-27-8(c) and 27-34(a).

252:515-27-5. Permit transfers

(a) **Transfer of permit.** When the permit is transferred from one owner/operator ("transferor") to another owner/operator ("transferee"), the transferee shall either provide new financial assurance or assume the existing assurance, if adequate in amount.

(b) **Release of transferor's financial assurance.** The DEQ will not release the transferor's financial assurance until the transferee has obtained approved financial assurance.

252:515-27-6. Effect of non-renewal of, or failure to maintain or provide, financial assurance

The DEQ shall begin proceedings to summarily suspend or revoke the permit for failure to:

(1) establish financial assurance in accordance with this Subchapter;

(2) renew or maintain an approved financial assurance mechanism as required; or

(3) provide acceptable substitute financial assurance when necessary.

252:515-27-7. Substitute financial assurance

(a) **Substitutions allowed.** Substitute financial assurance may be provided as specified in this Subchapter.

(b) **Release of previous instrument.** The DEQ will not release any current assurances until an approved substitute is in place.

252:515-27-8. Economic life of disposal facility

(a) **New land disposal sites.** The economic life of a new land disposal facility shall be based on the area to be initially permitted for waste disposal, not on the total permitted area.

(1) **Economic life.** For the purposes of determining the pay-in period for a trust fund or escrow account used as a financial assurance mechanism, or another approved mechanism that allows pay-in over a specified period of time, the economic life for a new land disposal facility shall be the lesser of fifteen (15) years from the initial receipt of waste or the life as calculated in accordance with (2) of this Subsection.

(2) **Calculation.** The life shall be calculated according to the following formula: $L = \{[V -(P \times V)] \times D\} \div W$, where

(A) **"L"** equals the life of the disposal facility, in years;

(B) **"V"** equals the total volume of air space in cubic yards available for waste disposal and daily cover. **V** shall be calculated from the top of the protective layer to final contours minus the amount of air space taken up by final cover;

(C) **"P"** is the anticipated percentage of **V** that will be taken up by daily cover. Until an alternative value based on a history of operational practice can be documented, including the use of alternative covers, **P** must not be less than 20% (0.20);

(D) **"D"** is the anticipated density of waste compacted in place in pounds per cubic yard. Until an alternative value based on a history of operational practice can be documented, D must not be more than 1000 pounds per cubic yard (1000 lbs/cy); and

(E) **"W"** is the amount of waste expected to be received during one year of operation in pounds per year. Until the owner/operator can document actual waste received based on a history of operational practice, **W** must be calculated at 4.4 pounds per capita per day multiplied by 365 days per year multiplied by the population served.

(b) **Existing land disposal sites.**

(1) For existing land disposal facilities, **L** shall be based on the remaining areas approved for waste disposal, according to the formula in paragraph (a)(2). **W** shall be determined based on

scale records for the previous 12 months.

(2) **Economic life.** For the purposes of determining the pay-in period for a trust fund or escrow account used as a financial assurance mechanism, or another approved mechanism that allows pay-in over a specified period of time, the economic life for an existing land disposal facility shall be the lesser of fifteen (15) years from April 9, 1997, or the life as calculated in accordance with (a)(2) and (b) of this Section.

(c) **Annual update.** No later than April 1st of each year, the owner/operator of a land disposal facility, other than generator-owned and operated non-hazardous industrial waste monofills, shall submit calculations of the remaining life of the facility as of December 31st of the previous year. The remaining life shall be the actual life as calculated in accordance with (a)(2) and (b) of this Section, not the maximum economic life.

PART 3. COST ESTIMATES

252:515-27-31. Cost estimates for closure

(a) **Closure cost estimate.** Closure cost estimates shall be submitted to the DEQ for approval. The estimate shall be a detailed written estimate, in current dollars, of the cost of hiring a third party to close the disposal facility in accordance with the permit, the approved closure plan, and the rules of this Chapter at any time during its active life.

(b) **Amount.** The cost estimate shall be set by the DEQ and be equal to the cost of closing the facility when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan.

(1) **Land disposal facilities.** The closure cost for a land disposal facility must equal the cost of closing the largest area of the facility ever requiring a final cover at any time during the active life.

(2) **Other disposal facilities.** The closure cost for other types of solid waste disposal facilities shall equal the cost for removal and proper disposal of any remaining wastes, and the elimination of potential environmental or health hazards.

(c) **Determination of closure cost estimate.**

(1) Closure cost estimates shall be determined in accordance with OAC 252:515-27-51.

(2) A copy of the cost estimate shall be submitted to the DEQ for approval.

(3) A copy of the approved estimate shall be placed in the operating record.

(d) **Increases required.** Closure cost estimates and the amount of financial assurance provided must be increased if, at any time during the active life, changes to the closure plan or facility conditions increase the maximum cost of closure.

(e) **Reductions allowed.** Proposals for reduction of closure cost estimates and the amount of financial assurance required may be approved by the DEQ.

(1) **Conditions.** To qualify for a reduction:

(A) part of the closure plan must have been completed and approved by the DEQ; or

(B) the cost estimate must be demonstrated to exceed the maximum cost of closure during the remaining life of the facility.

(2) **Adequate assurance remains.** The amount of security remaining after the reduction must adequately cover the estimated closure cost yet to be performed.

(3) **DEQ approval required.** Financial assurance shall not be reduced until DEQ approval has been granted.

252:515-27-32. Cost estimates for post-closure care

(a) **Post-closure cost estimate required.** Post-closure cost estimates shall be submitted to the DEQ for approval. The estimate shall be a detailed written estimate, in current dollars, of the cost of hiring a third party to conduct post-closure care for the disposal facility in accordance with the permit, the approved post-closure plan, and the rules of this Chapter.

(b) **Amount.** The cost estimate shall be set by the DEQ and equal the most expensive cost for post-closure care, as indicated by the post-closure plan.

(c) **Determination of post-closure cost estimate.**

(1) Post-closure cost estimates shall be determined in accordance with OAC 252:515-27-51.

(2) A copy of the cost estimate shall be submitted to the DEQ for approval.

(3) A copy of the approved estimate shall be placed in the operating record.

(d) **Increases required.** Post-closure cost estimates and the amount of financial assurance provided must be increased if, at any time during the active life, changes to the post-closure plan or facility conditions increase the maximum cost of post-closure care.

(e) **Reduction allowed.** Proposals for reduction of post-closure cost estimates and the amount of financial assurance required may be approved by the DEQ.

(1) **Estimate exceeds cost.** To qualify for a reduction, the cost estimate must be demonstrated to exceed the maximum cost of post-closure during the remaining life of the facility.

(2) **Adequate assurance remains.** The amount of security remaining after the reduction must adequately cover the estimated post-closure cost yet to be performed.

(3) **DEQ approval required.** Financial assurance shall not be reduced until DEQ approval has been granted.

252:515-27-33. Cost estimates for corrective action

(a) **Corrective action cost estimate required.** When corrective action is required at a disposal facility, cost estimates for corrective action shall be submitted to the DEQ for approval. The cost estimates shall be a detailed written estimate, in current dollars, of the cost of hiring a third party to perform the corrective action in accordance with the approved corrective action plan.

(b) **Amount.** The corrective action cost estimate shall be set by the DEQ and account for the total costs of corrective action activities as described in the approved corrective action plan for the entire corrective action period.

(c) **Determination of corrective action cost estimate.**

(1) Corrective action cost estimates shall be determined in accordance with OAC 252:515-27-52.

(2) A copy of the cost estimate shall be submitted to the DEQ for approval.

(3) A copy of the approved estimate shall be placed in the operating record.

(d) **Increases required.** The corrective action cost estimate and the amount of financial assurance provided must be increased at any time changes to the corrective action program or facility conditions increase the estimated cost of corrective action.

(e) **Reduction allowed.** Proposals for reduction of corrective action cost estimates and the amount of financial assurance required may be approved by the DEQ.

(1) **Estimate exceeds cost.** To qualify for a reduction, the cost estimate must be demonstrated to exceed the maximum cost of corrective action at any time during the remaining life of the facility.

(2) **Adequate assurance remains.** The amount of security remaining after the reduction must adequately cover the estimated corrective action costs yet to be realized.

(3) **DEQ approval required.** Financial assurance shall not be reduced until DEQ approval has

been granted.

252:515-27-34. Annual adjustments to cost estimates

(a) **Adjustment required.** Except as provided in (b) and (c) of this Section, cost estimates for closure, post-closure, and/or corrective action shall be adjusted no later than April 1st of each year. The adjustment must be submitted to the DEQ for approval.

(1) **Recalculation of maximum costs.** The maximum costs of closure, post-closure, and/or corrective action may be recalculated in current dollars using the procedure in Part 5 of this Subchapter (relating to determination of cost estimates).

(2) **Use of inflation factor.** If there are no significant changes to the closure or post-closure plan, corrective action plan, or facility conditions, cost estimates may be adjusted by use of an inflation factor derived from the most recent annual "Implicit Price Deflator for Gross National Product" or the "Implicit Price Deflator for Gross Domestic Product" published by the U.S. Department of Commerce in its *Survey of Current Business* in the year for which the adjustment is being made.

(A) The first adjustment shall be made by multiplying the approved cost estimate by the inflation factor. The result is the adjusted cost estimate.

(B) Subsequent adjustments shall be made by multiplying the latest adjusted cost estimate by the latest inflation factor.

(3) **Place in operating record.** The approved adjusted cost estimates shall be placed in the operating record.

(b) **Corporate test or guarantee as financial assurance mechanism.** When the corporate test (OAC 252:515-27-81) or guarantee (OAC 252:515-27-83) is used as the financial assurance mechanism, the cost estimates for closure, post-closure, and/or corrective action shall be adjusted no later than 90 days after the close of the corporate fiscal year.

(1) **Required information.** The financial strength information specified in OAC 252:515-27-81(c) shall be submitted to the DEQ for approval.

(2) **Extension allowed.** The DEQ may provide up to an additional 45 days to submit the information upon demonstration that 90 days is insufficient time to acquire audited financial statements.

(3) **Place in operating record.** The approved adjusted cost estimates shall be placed in the operating record.

(c) **Local government test or guarantee as financial assurance mechanism.** When the local government test (OAC 252:515-27-82) or guarantee (OAC 252:515-27-84) is used as the financial assurance mechanism, the cost estimates for closure, post-closure, and/or corrective action shall be adjusted no later than 180 days after the close of the municipal government's fiscal year.

(1) **Required information.** The financial strength information specified in OAC 252:515-27-82(h) shall be submitted to the DEQ for approval.

(2) **Place in operating record.** The approved adjusted cost estimates shall be placed in the operating record.

PART 5. DETERMINATION OF COST ESTIMATES

252:515-27-51. Cost estimates for closure and post-closure

(a) **Determine cost estimate from unit costs.** Cost estimate for closure and post-closure shall be determined by completing the worksheets in Appendix H and I, respectively.

(b) **Deviation from unit costs using bids.** Deviations from the unit costs for one or more individual tasks identified in Appendix H or I may be approved by using the average of three current bids. The following shall be submitted to the DEQ for approval:

(1) identification of the task(s) for which bids will be provided;

(2) a statement of work fully describing the actions necessary for completion of the task(s) identified; and

(3) written bids from three independent contractors not affiliated with the owner/operator. The bids shall be dated within 30 days of submittal and be an estimate of the contractor's cost for performing the work identified in the statement of work on behalf of the State of Oklahoma.

(c) **Deviation from unit costs using actual costs.** Deviations from the unit costs for one or more of the individual tasks identified in Appendix H or I may be approved by using actual costs paid within the previous six (6) months by the owner/operator for work performed. The following shall be submitted to the DEQ for approval:

(1) identification of the task(s) for which actual costs will be provided;

(2) a statement of work from the contractor, fully describing the work done to meet the requirements of the task(s); and

(3) written documentation from the contractor identifying his cost to the owner/operator for performance of the task.

(d) **Tasks not specified in Appendix H or I.** If a disposal facility has unique tasks required under its approved closure or post-closure plan that are not identified in Appendix H or I, those tasks shall be identified and the costs estimated in accordance with (b)(1) through (b)(3) or (c)(1) through (c)(3) of this Section.

(e) **DEQ approval required.** The completed worksheets, bid documentation, and/or actual cost documentation shall be submitted to the DEQ for approval.

252:515-27-52. Cost estimates for corrective action

(a) **Equivalent tasks specified in Appendix H or I.** For those corrective action tasks in the approved corrective action plan for which there are equivalent tasks in Appendix H or I, applicable portions of Appendix H or I or the procedure in OAC 252:515-27-51 shall be used to determine cost estimates.

(b) **Equivalent tasks not specified in Appendix H or I.** For those corrective action tasks in the approved corrective action plan for which there are no equivalent tasks in Appendix H or I, the cost estimate shall be determined by using the procedure in OAC 252:515-27-51(b)(1) through (b)(3) or (c)(1) through (c)(3).

PART 7. FINANCIAL ASSURANCE MECHANISMS

252:515-27-71. General requirements for financial assurance mechanisms

(a) **Requirements.** To qualify as financial assurance for the performance costs of closure, post-closure, and/or corrective action, a financial assurance mechanism must:

(1) ensure that the amount of funds assured is sufficient to cover the costs of closure, post-closure care, and/or corrective action for known releases when needed;

(2) ensure that funds will be available in a timely fashion when needed;

(3) be legally valid, binding, and enforceable under State and Federal law;

(4) be non-negotiable;

(5) be in an amount approved by the DEQ;

(6) indicate the purpose of the financial assurance is to provide funds for the adequate completion of closure, post-closure, and/or corrective action upon the failure of the owner/operator ("principal") to fully complete performance according to the terms of the permit and applicable law;
(7) provide the name, address, telephone number(s), contact person(s), and organizational information for the principal and for the financial assurance issuer ("issuer");
(8) provide information on financial responsibility and liability limits of the issuer;
(9) provide a clause requiring payment to the State of Oklahoma, Department of Environmental Quality Revolving Fund, as the sole beneficiary upon the DEQ's certification that the principal has not fully or satisfactorily performed required closure, post-closure, and/or corrective action activities;
(10) provide a clause addressing termination and stating that neither the principal nor issuer can revoke or cancel the financial assurance mechanism without notice to the DEQ 120 days before revocation or cancellation is effective;
(11) provide a clause requiring notice to the DEQ by issuer and to the principal prior to renewal date, if any;
(12) provide a clause requiring 30 day notice to the DEQ by issuer of principal's failure to pay renewal fee(s), if any;
(13) specify whether coverage is for the life of the facility through certified closure, the period of post-closure care required by law, and/or corrective action;
(14) include original signatures and typed names of authorized agents of the principal and the issuer; and
(15) contain evidence that the signatory for the issuer is empowered to commit the issuer to payment.

(b) **Submit to DEQ.** An original and one copy of the approved mechanism shall be submitted to the DEQ for deposit or filing in the State Treasurer's office.

252:515-27-72. Use of multiple mechanisms

(a) **Multiple mechanisms allowed.** Financial assurance requirements may be satisfied by establishing more than one approved financial assurance mechanism described in this Part.
(b) **Amount must be sufficient.** If multiple mechanisms are used, the amount of financial assurance for all mechanisms must total at least the current cost estimate for closure, post-closure care and/or corrective action.
(c) **Limitations on performance mechanisms.** Mechanisms guaranteeing performance rather than payment may not be combined with other mechanisms.
(d) **Limitations on corporate test or guarantee.** The financial test or a guarantee provided by a corporate parent, sibling, or grandparent may not be combined if the financial statements of the two firms are consolidated.

252:515-27-73. Allowable financial assurance mechanisms

(a) The owner/operator must choose from the financial assurance mechanisms specified in this Part.
(b) The mechanisms must ensure that the funds necessary to meet the costs of closure, post-closure care, and corrective action for known releases will be available whenever they are needed.

252:515-27-74. Cash

(a) **Cash authorized.** Financial assurance requirements may be satisfied by making a deposit, via

cash, certified check, or money order, to the State Treasury, payable to the Department of Environmental Quality Revolving Fund, for the fully approved cost estimates for closure, post-closure, and/or corrective action.
(b) **Additional requirements.** Compliance with OAC 252:515-27-71(a)(5), (6), (7), and (13) is required.
(c) **Submit to DEQ.** Documentation demonstrating compliance with (a) and (b) of this Section shall be submitted to the DEQ and placed in the operating record.

252:515-27-75. Certificate of deposit
(a) **Certificate of deposit authorized.** Financial assurance requirements may be satisfied through a certificate of deposit payable to the Department of Environmental Quality Revolving Fund, for the fully approved cost estimates for closure, post-closure, and/or corrective action. Such certificate shall be filed with the Office of the State Treasurer.
(b) **Chartered bank.** The certificate of deposit shall be issued by a state or federally chartered bank, regulated and examined by a state or federal agency.
(c) **Additional requirements.** Compliance with OAC 252:515-27-71(a)(5), (6), (7), and (13) is required.
(d) **Submit to DEQ.** Documentation demonstrating compliance with (a) through (c) of this Section shall be submitted to the DEQ and placed in the operating record.

252:515-27-76. Trust fund
(a) **Trust fund authorized.** Financial assurance requirements may be satisfied by establishing a trust fund meeting the requirements of this Section.
(b) **Acceptable trustee.** The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.
(c) **Additional requirements.** The trust must be in a format approved by the DEQ and contain an irrevocable assignment of the funds to the DEQ.
(d) **Submit trust agreement to DEQ.** A copy of the trust agreement must be submitted to the DEQ for approval and a copy of the approved trust agreement placed in the facility's operating record.
(e) **Pay-in period.** Payments into the trust fund must be made no later than April 9th of each year as follows:

(1) **Closure and/or post-closure.** For closure and/or post-closure care, the pay-in period shall be the economic life of the disposal facility, as determined in accordance with OAC 252:515-27-8(a)(1) or (b)(1), as applicable.

(2) **Corrective action.** For corrective action, the pay-in period shall be 15 years after the corrective action remedy has been selected, or one-half of the estimated length of the corrective action program, whichever is shorter.

(f) **Payments into trust for closure or post-closure.** Payments into the trust for closure and/or post-closure shall be made as follows:

(1) **First payment.** The first payment into the fund must be at least equal to the current cost estimate for closure or post-closure care, except as provided in OAC 252:515-27-72 (relating to the use of multiple mechanisms), divided by the number of years in the pay-in period.

(2) **Subsequent payments.** Subsequent payments shall be determined by the following formula: Next Payment = (CE - CV) ÷ Y, where

(A) **"CE"** is the current cost estimate for closure and/or post-closure care (updated for inflation or other changes); and

(B) **"CV"** is the current value of the trust fund; and

© **"Y"** is the number of years remaining in the pay-in period.

(g) **Payments into trust for corrective action.** Payments into the trust for corrective action shall be made as follows:

(1) **First payment.** The first payment into the trust fund must be at least equal to one-half of the current cost estimate for corrective action, except as provided in OAC 252:515-27-72 or the approved corrective action plan, divided by the number of years in the corrective action pay-in period.

(2) **Subsequent payments.** Subsequent payments shall be determined by the following formula: Next Payment = (RB - CV) ÷ Y, where

(A) **"RB"** is the most recent estimate of the required trust fund balance for corrective action (i.e., the total costs that will be incurred during the second half of the corrective action period); and

(B) **"CV"** is the current value of the trust fund; and

(C) **"Y"** is the number of years remaining in the corrective action pay-in period.

(h) **Trust fund after use of other mechanisms.** If a trust fund is established after having used one or more alternate mechanisms specified in this Part, the initial payment into the trust fund must be at least the amount that the fund would contain if the trust fund were established initially and annual payments made in accordance with (f) and/or (g) of this Section.

(i) **Requests for reimbursement from trust fund.** Persons authorized to conduct closure, post-closure care, or corrective action activities may request reimbursement from the trustee for these expenditures.

(1) **Sufficient funds available.** Requests for reimbursement will be granted by the trustee only if sufficient funds are remaining in the trust fund to cover the remaining costs of closure, post-closure care, or corrective action

(2) **Submit justification to DEQ.** Documentation of the justification for reimbursement must be submitted to the DEQ.

(3) **Place in operating record.** A copy of the approved documentation shall be placed in the operating record.

(4) **Document reimbursement received.** Documentation shall be provided to the DEQ to demonstrate reimbursement has been received.

252:515-27-77. Escrow account

(a) **Escrow account authorized.** Financial assurance requirements may be satisfied by establishing an escrow account in the name of the Department of Environmental Quality.

(b) **Chartered bank.** The escrow bank must be a state or national bank located within the State of Oklahoma authorized to receive and hold State funds.

(c) **Additional requirements.**

(1) **Escrow agreement.** The escrow agreement must contain an irrevocable assignment of the funds therein to the Department of Environmental Quality to be used in accordance with this Section.

(2) **Funds insured.** The funds placed in the escrow account must be fully insured and/or collateralized by the Bank's pledge of government securities.

(d) **DEQ approval required.** The form of the escrow agreement must be approved by the DEQ, and a copy of the approved escrow agreement submitted to the DEQ and placed in the operating record.

(e) **Pay-in period.** Payments into the escrow account must be made no later than April 9th of each year as follows:

(1) **Closure and/or post-closure.** For closure and/or post-closure care, the pay-in period shall be the economic life of the disposal facility, as determined in accordance with OAC 252:515-27-8(a)(1) or (b)(1), as applicable.

(2) **Corrective action.** For corrective action, the pay-in period shall be 15 years after the corrective action remedy has been selected, or one-half of the estimated length of the corrective action program, whichever is shorter.

(f) **Payments into escrow for closure or post-closure.** Payments into the escrow account for closure and/or post-closure shall be made as follows:

(1) **First payment.** The first payment must be at least equal to the current cost estimate for closure or post-closure care, except as provided in OAC 252:515-27-72 (relating to the use of multiple mechanisms), divided by the number of years in the pay-in period.

(2) **Subsequent payments.** Subsequent payments shall be determined by the following formula: Next Payment = (CE - CV) ÷ Y, where

(A) **"CE"** is the current cost estimate for closure and/or post-closure care (updated for inflation or other changes); and

(B) **"CV"** is the current value of the escrow account; and

(C) **"Y"** is the number of years remaining in the pay-in period.

(g) **Payments into escrow for corrective action.** Payments into the escrow account for corrective action shall be as follows:

(1) **First payment.** The first payment must be at least equal to one-half of the current cost estimate for corrective action, except as provided in OAC 252:515-27-72 or the approved corrective action plan, divided by the number of years in the corrective action pay-in period.

(2) **Subsequent payments.** Subsequent payments shall be determined by the following formula: Next Payment = (RB - CV) ÷ Y, where

(A) **"RB"** is the most recent estimate of the required trust fund balance for corrective action (i.e., the total costs that will be incurred during the second half of the corrective action period); and

(B) **"CV"** is the current value of the escrow account; and

(C) **"Y"** is the number of years remaining in the corrective action pay-in period.

(h) **Escrow after use of other mechanisms.** If an escrow account is established after having used one or more alternate mechanisms specified in this Part, the initial payment into the escrow account must be at least the amount that the account would contain if it were established initially and annual payments made in accordance with (f) and/or (g) of this Section.

(i) **Reimbursements authorized.** Persons authorized to conduct closure, post-closure care, or corrective action activities, may request the DEQ authorize reimbursement from the escrow account for these expenditures.

(1) **Sufficient funds available.** Requests for reimbursement will be granted by the DEQ only if sufficient funds are remaining in the escrow account to cover the remaining costs of closure, post-closure care, or corrective action.

(2) **Submit justification to DEQ.** Justification for the reimbursement must be submitted to the DEQ for approval.

(3) **Place in operating record.** A copy of the approval and supporting documentation must be placed in the operating record.

(4) **Document reimbursement received.** Documentation shall be provided to the DEQ to

demonstrate reimbursement has been received.

(5) **Principal protected.** The escrow bank shall not allow any withdrawal from the escrow account, except for interest once the account is fully funded, without written authorization from the Executive Director of the DEQ.

252:515-27-78. Surety bond

(a) **Surety bond for closure and/or post-closure authorized.** Financial assurance requirements for closure or post-closure care may be satisfied by obtaining a payment or performance surety bond conforming to the requirements of this Section.

(b) **Performance bond for corrective action authorized.** Financial assurance requirements for corrective action may be satisfied by obtaining a performance bond conforming to the requirements of this Section.

(c) **Submit bond to DEQ.** A copy of the bond must be submitted to the DEQ for approval and a copy of the approved bond placed in the operating record.

(d) **Acceptable bonds.** The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(e) **Penal sum.** The penal sum of the bond must be in an amount at least equal to the current closure, post-closure care or corrective action cost estimate, whichever is applicable, except as provided in OAC 252:515-27-72 (relating to the use of multiple mechanisms).

(f) **Surety liable.** Under the terms of the bond, the surety will become liable on the bond obligation when the owner/operator fails to perform as guaranteed by the bond.

(g) **Establish standby trust fund.** A standby trust to receive bond payments must be established that meets the requirements of OAC 252:515-27-76, except the requirements for initial payment and subsequent annual payments specified in OAC 252:515-27-76(e) through (g).

(h) **Deposits into standby trust.** Payments made under the terms of the bond must be deposited by the surety directly into the standby trust fund.

(i) **Payments from the trust.** Payments from the trust fund must first be approved by the DEQ and the trustee.

(j) **Cancellation by surety.** Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner/operator and to the DEQ 120 days in advance of cancellation.

(k) **New financial assurance required.** DEQ approved alternate financial assurance meeting the requirements of this Part must be established:

(1) prior to the effective date of cancellation of the bond by the surety, or

(2) within 60 days of receipt of notice the surety no longer meets the requirements of (d) of this Section.

252:515-27-79. Letter of credit

(a) **Letter of credit authorized.** Financial assurance for closure, post-closure care, and/or corrective action may be satisfied by obtaining an irrevocable standby letter of credit that conforms to the requirements of this Section.

(b) **Submit letter of credit to DEQ.** A copy of the letter of credit must be submitted to the DEQ for approval, and a copy of the approved letter of credit placed in the operating record.

(c) **Acceptable issuing institutions.** The issuing institution must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

(d) **Documents to include.** A letter from the owner/operator referring to the letter of credit by number and containing the following must be included with the letter of credit:

(1) the name of the issuing institution;

(2) the date the letter of credit was issued;

(3) the disposal facility name and address; and

(4) the amount of funds assured.

(e) **Letter of credit requirements.** The letter of credit must:

(1) be irrevocable;

(2) be issued for a period of at least one year in an amount at least equal to the current cost estimate for closure, post-closure care and/or corrective action, except as provided in OAC 252:515-27-72; and

(3) provide that the expiration date will be automatically extended for a period of at least one year unless the issuing institution cancels the letter of credit.

(f) **Cancellation by issuing institution.** The issuing institution may cancel the letter of credit by sending notice of cancellation by certified mail to the owner/operator and the DEQ 120 days in advance of cancellation.

(g) **New financial assurance required.** If the letter of credit is canceled by the issuing institution, alternate financial assurance meeting the requirements of this Part must be obtained prior to the effective date of cancellation.

252:515-27-80. Insurance

(a) **Insurance authorized.** Financial assurance for closure and/or post-closure care may be satisfied by obtaining insurance that conforms to the requirements of this Section.

(b) **Definition.** When used in this Section, the term **"face amount"** means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(c) **Acceptable insurers.** At a minimum, the insurer must be licensed to transact the business of insurance in the State of Oklahoma, or be eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(d) **Submit to the DEQ.** A copy of the insurance policy must be submitted to the DEQ for approval, and a copy of the approved policy placed in the operating record.

(e) **Policy requirements.** The insurance policy must include the following provisions.

(1) **Face amount.** The policy must be issued for a face amount at least equal to the current cost estimate for closure or post-closure care, whichever is applicable, except as provided in OAC 252:515-27-72 (relating to the use of multiple mechanisms).

(2) **Funds available.** The policy must guarantee that funds will be available to close the facility whenever final closure occurs or to provide post-closure care for the facility whenever the post-closure care period begins, whichever is applicable.

(3) **Insurer responsible.** The policy must guarantee that once closure or post-closure care begins, the insurer will be responsible for the paying out of funds to the owner/operator or other person authorized to conduct closure or post-closure care, up to an amount equal to the face amount of the policy.

(4) **Assignment of policy.** The policy must contain a provision allowing assignment of the policy to a successor owner/operator. Such assignment may be conditional upon consent of the insurer, provided that such consent is not unreasonably refused.

(5) **Insurer may not cancel, terminate, or fail to renew.** The policy must include a provision

that the insurer may not cancel, terminate or fail to renew the policy except for failure to pay the premium.

(6) **Automatic renewal.** The policy must provide the insured with the option of automatic renewal of the policy at the face amount of the expiring policy.

(f) **Reimbursements authorized.** Persons authorized to conduct closure or post-closure care may receive reimbursements from the insurer for closure or post-closure expenditures, whichever is applicable.

(1) **Sufficient value.** The remaining value of the policy must be sufficient to cover the remaining costs of closure or post-closure care.

(2) **Justification.** Justification for the reimbursement must be submitted to the DEQ for approval.

(3) **Place in operating record.** A copy of the approval and supporting documentation must be placed in the operating record.

(4) **Document reimbursement received.** Documentation shall be provided to the DEQ to demonstrate reimbursement has been received.

(g) **Cancellation for non-payment.** If there is a failure to pay the premium, the insurer may cancel the policy by sending notice of cancellation by certified mail to the owner/operator and to the DEQ at least 120 days in advance of cancellation.

(h) **New financial assurance required.** DEQ approved alternate financial assurance meeting the requirements of this Part must be established:

(1) prior to cancellation of the policy by the insurer; or

(2) within 60 days of receipt of notice the insurer no longer meets the requirements of (c) of this Section.

(i) **Annual increases for policies for post-closure care.**

(1) 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 must thereafter annually increase the face amount of the policy.

(2) Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

252:515-27-81. Corporate financial test

(a) **Corporate test authorized.** A corporate owner/operator that satisfies the requirements of this Section may demonstrate financial assurance up to the amount specified in this Section.

(b) **Financial component.** The following demonstrations must be submitted to the DEQ for approval and a copy of the approved demonstrations placed in the operating record.

(1) The corporation must satisfy one of the following three conditions:

(A) a current rating for its senior unsubordinated debt of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; or

(B) a ratio of less than 1.5 comparing total liabilities to net worth; or

(C) a ratio of greater than 0.10 comparing the sum of net income plus depreciation, depletion and amortization, minus $10 million, to total liabilities.

(2) The corporation's tangible net worth must be greater than:

(A) The sum of the current closure, post-closure care, corrective action cost estimates and any other environmental obligations, including guarantees, covered by a financial test plus $10 million except as provided in (B) of this paragraph.

(B) $10 million in net worth plus the amount of any guarantees that have not been recognized as liabilities on the financial statements provided all of the current closure, post-closure care, and corrective action costs and any other environmental obligations covered by a financial test are recognized as liabilities on the corporation's audited financial statements, and subject to the approval of the DEQ.

(3) The corporation must have assets located in the United States amounting to at least the sum of current closure, post-closure care, corrective action cost estimates and any other environmental obligations covered by a financial test as described in (d) of this Section.

(c) **Recordkeeping and reporting.** The following must by submitted to the DEQ for approval and a copy of the approved documents placed in the operating record.

(1) a letter signed by the owner/operator's chief financial officer that:

(A) lists all the current cost estimates covered by a financial test, including, but not limited to:

(i) cost estimates required for municipal solid waste management facilities under this Chapter;

(ii) cost estimates required for UIC facilities under 40 CFR Part 144, if applicable;

(iii) cost estimates required for petroleum underground storage tank facilities under 40 CFR Part 280, if applicable;

(iv) cost estimates required for PCB storage facilities under 40 CFR Part 761, if applicable; and

(v) cost estimates required for hazardous waste treatment, storage, and disposal facilities under 40 CFR parts 264 and 265, if applicable; and

(B) provides evidence demonstrating that the corporation meets the conditions of either (b)(1)(A), (b)(1)(B), or (b)(1)(C) of this Section, and (b)(2) and (b)(3) of this Section.

(2) a copy of an independent certified public accountant's unqualified opinion of the owner/operator's financial statements for the latest completed fiscal year. A corporate owner/operator may not use the corporate test as a financial assurance mechanism if it receives an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant. In such case, alternate financial assurance meeting the requirements of this Part shall be provided.

(3) If the chief financial officer's letter providing evidence of financial assurance includes financial data showing that owner/operator satisfies (b)(1)(B) or (b)(1)(C) of this Section that are different from data in the audited financial statements referred to in (c)(2) of this Section or any other audited financial statement or data filed with the SEC, then a special report from the owner/operator's independent certified public accountant to the owner/operator is required. The special report shall be based upon an agreed upon procedures engagement in accordance with professional auditing standards and shall describe the procedures performed in comparing the data in the chief financial officer's letter derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements, the findings of that comparison, and the reasons for any differences.

(4) If the chief financial officer's letter provides a demonstration that the firm has assured for environmental obligations as provided in (b)(2)(B) of this Section, then the letter shall include a report from the independent certified public accountant that verifies that all of the environmental obligations covered by a financial test have been recognized as liabilities on the audited financial statements, how these obligations have been measured and reported, and that the tangible net worth of the firm is at least $10 million plus the amount of any guarantees

provided.

(d) **Calculation of costs to be assured.** When calculating the current cost estimates for closure, post-closure care, corrective action, or the sum of the combination of such costs to be covered, and any other environmental obligations assured by a financial test referred to in this Section, the owner/operator must include:

(1) cost estimates required for municipal solid waste management facilities under this Chapter; and

(2) cost estimates required for the following if it assures them through a financial test:

(A) obligations associated with UIC facilities under 40 CFR Part 144

(B) obligations associated with petroleum underground storage tank facilities under 40 CFR Part 280;

(C) obligations associated with PCB storage facilities under 40 CFR Part 761; and

(D) obligations associated with hazardous waste treatment, storage, and disposal facilities under 40 CFR parts 264 and 265.

(e) **New financial assurance required.** If the owner/operator no longer meets the requirements of (b) of this Section, the owner/operator must obtain DEQ approved alternative financial assurance that meets the requirements of this Part within 120 days following the close of the owner/operator's fiscal year.

(f) **DEQ may request financial information.** The DEQ may, based on a reasonable belief that the owner/operator may no longer meet the requirements of (b) of this Section, require the owner/operator to provide reports of its financial condition in addition to or including current financial test documentation as specified in (c) of this Section. If the DEQ finds that the owner/operator no longer meets the requirements of (b) of this Section, the owner/operator must comply with (e) of this Section.

252:515-27-81.1 Corporate financial test for other facilities

A corporate owner/operator of other solid waste facilities, such as NHIW and C&D facilities, may use the corporate financial test to demonstrate financial assurance in the same manner as a MSWLF in accordance with 252:515-27-81.

252:515-27-82. Local government financial test

(a) **Local government test authorized.** A local government owner/operator that satisfies the requirements of this Section may demonstrate financial assurance up to the amount specified in this Section.

(b) **Local government not eligible for assurance.** A local government is not eligible to assure its obligations under this Section if it:

(1) is currently in default on any outstanding general obligation bonds;

(2) has any outstanding general obligation bonds rated lower than Baa as issued by Moody's or BBB as issued by Standard and Poor's;

(3) operated at a deficit equal to five percent or more of total annual revenue in each of the past two fiscal years; or

(4) receives an adverse opinion, disclaimer of opinion, or other qualified opinion from the independent certified public accountant (or appropriate State agency) auditing its financial statement as required by (e) of this Section.

(c) **Definitions.** The following words or terms, when used in this Section, shall have the following meaning unless the context clearly indicates otherwise:

(1) **"Deficit"** means total annual revenues minus total annual expenditures;

(2) **"Total revenues"** means revenues from all taxes and fees but does not include the proceeds from borrowing or asset sales, excluding revenue from funds managed by local government on behalf of a specific third party;

(3) **"Total expenditures"** means all expenditures excluding capital outlays and debt repayment;

(4) **"Cash plus marketable securities"** means all the cash plus marketable securities held by the local government on the last day of a fiscal year, excluding cash and marketable securities designated to satisfy past obligations such as pensions; and

(5) **"Debt service"** means the amount of principal and interest due on a loan in a given time period, typically the current year.

(d) **Financial component.** The owner/operator must submit a demonstration to the DEQ for approval, that it satisfies one of the following, and place a copy of the approved demonstration in the operating record.

(1) **General obligation bond rating.** If the owner/operator has outstanding, rated, general obligation bonds that are not secured by insurance, a letter of credit, or other collateral or guarantee, it must have a current rating of Aaa, Aa, A, or Baa, as issued by Moody's, or AAA, AA, A, or BBB, as issued by Standard and Poor's on all such general obligation bonds; or

(2) **Financial ratio.** The owner/operator must satisfy each of the following financial ratios based on the owner/operator's most recent audited annual financial statement:

(A) A ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05; and

(B) A ratio of annual debt service to total expenditures less than or equal to 0.20.

(e) **Preparation of financial statements.** The owner/operator must prepare its financial statements in conformity with Generally Accepted Accounting Principles for governments and have its financial statements audited by an independent certified public accountant (or appropriate State agency).

(f) **Public notice component.**

(1) **CAFR.** Except as provided in (2) of this Subsection, the owner/operator must place a reference to the closure, post-closure care, and/or corrective action costs assured through the financial test into its next comprehensive annual financial report (CAFR). Disclosure must include:

(A) the nature and source of closure and post-closure care, and/or corrective action requirements;

(B) the reported liability at the balance sheet date;

(C) the estimated total closure and post-closure care cost remaining to be recognized;

(D) the percentage of landfill capacity used to date; and

(E) the estimated remaining facility life in years. The estimated remaining life shall be the actual life as calculated in accordance with OAC 252:515-27-8, not the maximum economic life.

(2) **First year.** For the first year the financial test is used to assure costs at a particular facility, the reference may be placed in the operating record until issuance of the next available CAFR or annual audited financial statement if timing does not permit the reference to be incorporated into the most recently issued CAFR or budget.

(g) **Assurance of compliance.** For closure and post-closure costs, conformance with Government Accounting Standards Board Statement 18 assures compliance with the public notice requirements of (f) of this Section.

(h) **Recordkeeping and reporting.** The local government owner/operator must submit the

following to the DEQ for approval, and place a copy of the approved documents in the facility's operating record.

(1) a letter signed by the local government's chief financial officer that:

(A) lists all the current cost estimates covered by a financial test, as described in (k) of this Section;

(B) provides evidence and certifies that the local government meets the conditions of (b), (d), and (e) of this Section; and

(C) certifies that the local government meets the conditions of (f) and (k) of this Section.

(2) the local government's independently audited year-end financial statements for the latest fiscal year (except for local governments where audits are required every two years where unaudited statements may be used in years when audits are not required), including the unqualified opinion of the auditor who must be an independent, certified public accountant or an appropriate State agency that conducts equivalent comprehensive audits;

(3) a report to the local government from the local government's independent certified public accountant (CPA) or the appropriate State agency based on performing an agreed upon procedures engagement relative to the financial ratios required by (d)(2) of this Section, if applicable, and the requirements of (b)(3), (b)(4), and (e) of this Section. The CPA or State agency's report should state the procedures performed and the CPA or State agency's findings; and

(4) either a copy of the comprehensive annual financial report (CAFR) or annual audited financial statements used to comply with (f) of this Section, or certification that the requirements of General Accounting Standards Board Statement 18 have been met.

(i) **New financial assurance required.** A local government must satisfy the requirements of the financial test at the close of each of its fiscal years. If the local government owner/operator no longer meets the requirements of the local government financial test it must obtain a DEQ approved alternative financial assurance that meets the requirements of this Part within 210 days following the close of its fiscal year.

(j) **DEQ may request financial information.** The DEQ, based on a reasonable belief that the local government owner/operator may no longer meet the requirements of the local government financial test, may require additional reports of financial condition from the local government at any time. If the DEQ finds, on the basis of such reports or other information, that the owner/operator no longer meets the requirements of the local government financial test, the local government must comply with (i) of this Section.

(k) **Calculation of costs to be assured.** The portion of the closure, post-closure, and corrective action costs for which an owner/operator can assure under this Section is determined as follows.

(1) **No other environmental obligations.** If the local government owner/operator does not assure other environmental obligations through a financial test, it may assure closure, post-closure, and corrective action costs that equal up to 43 percent of the local government's total annual revenue.

(2) **Other environmental obligations.** If the local government assures other environmental obligations through a financial test, including those associated with UIC facilities under 40 CFR 144.62, petroleum underground storage tank facilities under 40 CFR Part 280, PCB storage facilities under 40 CFR Part 761, and hazardous waste treatment, storage, and disposal facilities under 40 CFR Parts 264 and 265, it must add those costs to the closure, post-closure, and corrective action costs it seeks to assure under this paragraph. The total that may be assured must not exceed 43 percent of the local government's total annual revenue.

(3) **Alternative financial assurance required.** The owner/operator must obtain an alternate financial assurance mechanism for those costs that exceed the limits specified in (1) and (2) of this Subsection.

252:515-27-83. Corporate guarantee

(a) **Corporate guarantee authorized.** An owner/operator may satisfy his financial assurance requirements by obtaining a written guarantee from a corporate sponsor ("guarantor").

(b) **Relationship of guarantor to owner/operator.** The guarantor must be the direct or higher-tier parent corporation of the owner/operator, a firm whose parent corporation is also the parent corporation of the owner/operator, or a firm with a substantial business relationship with the owner/operator.

(c) **Requirements of guarantor.** The guarantor must meet the requirements for corporate owner/operators in OAC 252:515-27-81 and must comply with the terms of the guarantee.

(d) **Documentation required.** The owner/operator must submit to the DEQ for approval, a certified copy of the guarantee, along with copies of the information described in OAC 252:515-27-81(c). A copy of the approved documentation shall be placed in the operating record.

(1) If the guarantor's parent corporation is also the parent corporation of the owner/operator, the letter from the guarantor's chief financial officer must describe the value received in consideration of the guarantee.

(2) If the guarantor is a firm with a substantial business relationship with the owner/operator, this letter must describe this substantial business relationship and the value received in consideration of the guarantee.

(e) **Terms of guarantee.** The terms of the guarantee must include certain provisions.

(1) **Failure to perform.** If the owner/operator fails to perform closure, post-closure care, and/or corrective action of a facility covered by the guarantee, the guarantor will:

(A) perform, or pay a third party to perform, closure, post-closure care, and/or corrective action as required (performance guarantee); or

(B) establish a fully funded trust fund as specified in OAC 252:515-27-76 in the name of the owner/operator (payment guarantee).

(2) **Guarantee remains in force unless cancelled.** The guarantee will remain in force for as long as the owner/operator must comply with the applicable financial assurance requirements of this Subchapter unless the guarantor sends prior notice of cancellation by certified mail to the owner/operator and to the DEQ. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner/operator and the DEQ, as evidenced by the return receipts.

(3) **Obtain alternate financial assurance after cancellation.** If notice of cancellation is given, the owner/operator must, within 90 days following receipt of the cancellation notice by the owner/operator and the DEQ, obtain DEQ approved alternate financial assurance meeting the requirements of this Part.

(4) **Failure to provide alternate financial assurance.** If the owner/operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide DEQ approved alternate assurance within 120 days of receipt of the cancellation notice.

(f) **Corporate guarantor no longer qualifies.**

(1) **Obtain alternative financial assurance.** If a corporate guarantor no longer meets the requirements of OAC 252:515-27-81(b), the owner/operator must, within 90 days of receipt of such notice, obtain DEQ approved alternative financial assurance meeting the requirements of

this Part.

(2) **Failure to provide alternate financial assurance.** If the owner/operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide DEQ approved alternate assurance within the next 30 days.

252:515-27-84. Local government guarantee

(a) **Use of local government guarantee to satisfy financial assurance.** An owner/operator may demonstrate financial assurance for closure, post-closure, and corrective action by obtaining a written guarantee provided by a local government ("guarantor").

(b) **Requirements of guarantor.** The guarantor must meet the requirements of the local government financial test in OAC 252:515-27-82, and must comply with the terms of a written guarantee.

(c) **Terms of guarantee.** The guarantee must provide include the following provisions.

(1) **Failure to perform.** If the owner/operator fails to perform closure, post-closure care, and/or corrective action of a facility covered by the guarantee, the guarantor will:

(A) perform, or pay a third party to perform, closure, post-closure care, and/or corrective action as required; or

(B) establish a fully funded trust fund as specified in OAC 252:515-27-76 in the name of the owner/operator.

(2) **Guarantee will remain in force.** The guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner/operator and to the DEQ. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner/operator and the DEQ, as evidenced by the return receipts.

(3) **Obtain alternate financial assurance after cancellation.** If a guarantee is canceled by the local government, the owner/operator must, within 90 days following receipt of the cancellation notice, obtain DEQ approved alternate financial assurance meeting the requirements of this Part.

(4) **Failure to provide alternate financial assurance.** If the owner/operator fails to provide alternate financial assurance within the 90-day period, the guarantor must provide DEQ approved alternate assurance within 120 days following receipt of the guarantor's notice of cancellation.

(d) **Local government guarantor no longer qualifies.**

(1) **Obtain alternative financial assurance.** If a local government guarantor no longer meets the requirements of OAC 252:515-27-82, the owner/operator must, within 90 days of receipt of such notice, obtain DEQ approved alternative assurance meeting the requirements of this Part.

(2) **Failure to provide alternate financial assurance.** If the owner/operator fails to obtain alternate financial assurance within that 90-day period, the guarantor must provide DEQ approved alternate assurance within the next 30 days.

(e) **Recordkeeping and reporting.** The owner/operator must submit a certified copy of the guarantee along with the items required under OAC 252:515-27-82(h) to the DEQ for approval, and place the approved documents in the operating record.

252:515-27-85. State approved mechanism

An owner/operator may satisfy the requirements of this Part by obtaining any other financial assurance mechanism that meets the financial assurance mechanism criteria specified in OAC 252:515-27-71 and that is approved by the DEQ.

SUBCHAPTER 29. EXCLUSION OF PROHIBITED WASTES

Section
252:515-29-1. Applicability
252:515-29-2. General provisions
252:515-29-3. WEP requirements
252:515-29-4. Maintain records

252:515-29-1. Applicability

(a) **Land disposal facilities and transfer stations, with exceptions.** This Subchapter applies to all land disposal facilities and transfer stations except generator owned and operated NHIW landfills, and yard waste composting facilities.
(b) **Processing facilities.** Any type of solid waste processing facility is subject to the requirements of OAC 252:515-29-3(e).

252:515-29-2. General provisions

(a) **Waste exclusion plan (WEP) required.** A WEP meeting the requirements of this Subchapter and approved by the DEQ, shall be implemented to detect and prevent the disposal of prohibited wastes identified in the permit or this Chapter. Other wastes that will not be accepted at the facility shall be specified in the WEP.
(b) **WEP modification.** When conditions of the approved WEP change, an amended WEP must be submitted within 30 days to the DEQ for approval.

252:515-29-3. WEP requirements

(a) **Random inspections.** The WEP shall include procedures for conducting random inspections of incoming loads unless other steps are taken to ensure that incoming loads do not contain prohibited wastes.
(b) **Inspection records.** The WEP shall include provisions for maintaining records of the random inspections performed and the results of those inspections. The records shall include, as a minimum:
(1) date and time of the inspection;
(2) person conducting the inspection; and
(3) results of the random inspection.
(c) **Personnel training.** All gate attendants and disposal facility operators shall receive an initial eight (8) hours of basic training in waste exclusion and radioactivity, as related to the WEP.
(1) **Curriculum.** The WEP shall detail the training curriculum, to at a minimum include review of regulatory definitions and requirements for handling of waste as well as the facility's WEP implementation procedures.
(2) **Documentation.** The WEP shall specify how employee training will be documented.
(3) **Refresher.** The WEP shall include a minimum of four hours per year annual refresher training.
(d) **Trained personnel on-site.** Trained personnel shall be on-site during all hours the facility is open to accept wastes.
(e) **Notification of rejected waste.**
(1) The DEQ shall be notified by the end of the next working day of:
(A) any waste identified and rejected prior to receipt as a prohibited waste; or
(B) any load identified and rejected at the gate, during random inspections, or upon

disposal at the working face, as a prohibited waste.

(2) Such notification shall describe the reason for rejection and include:

(A) the date of rejection;

(B) the name, address, phone number and contact person of the waste generator when such data can be obtained; and/or

(C) the name of driver, tag number of the vehicle, carrier name, address, telephone number and contact person when such data can be obtained.

(f) **Safe storage.** The WEP shall include procedures for the safe handling and storage of prohibited wastes until proper disposal can be arranged.

(g) **Proper disposal.** The WEP shall include procedures to ensure prohibited wastes are disposed at a facility permitted to accept the waste.

(h) **Verification of disposal.** The WEP shall include procedures for verification of proper disposal of prohibited wastes.

252:515-29-4. Maintain records

Appropriate records shall be maintained in the operating record to demonstrate compliance with the requirements of this Subchapter.

SUBCHAPTER 31. NHIW MANAGEMENT

Section

252:515-31-1. Applicability and exclusion
252:515-31-2. Identification of NHIW and exclusion
252:515-31-3. Generator requirements
252:515-31-4. Disposal facility requirements

252:515-31-1. Applicability and exclusion

(a) **Applicability.** This Subchapter applies to:

(1) generators disposing of more than 10 cubic yards of NHIW per calendar month for off-site disposal at a solid waste disposal facility in Oklahoma; and

(2) Oklahoma solid waste disposal facilities accepting NHIW for disposal.

(b) **Exclusion.** Except as provided in (a)(1) of this Section, generators who own and operate an NHIW landfill exclusively for their noncommercial use are not subject to the requirements of this Subchapter. However such generators shall maintain records of the type, quantity, and source of NHIW disposed at the generator's NHIW landfill.

252:515-31-2. Identification of NHIW and exclusion

(a) **Wastestreams identified.** Appendix F of this Chapter identifies certain wastestreams deemed by the DEQ to be NHIW. Wastes not identified but meeting the definition of NHIW shall be managed as such.

(b) **Requests for exclusion.** Any generator of NHIW may petition the DEQ to exclude a specific NHIW from the requirements of OAC 252:515-31-3 upon demonstration the NHIW is:

(1) insoluble in water, chemically inactive, and will not leach contaminants; or

(2) is commonly found as a significant percentage of residential solid waste.

252:515-31-3. Generator requirements

(a) **Certification required.** For each NHIW to be disposed in an Oklahoma solid waste disposal facility, generators, or persons identified in 27A O.S. § 2-10-501(H)(1), shall submit a certification to the DEQ that the NHIW is not a hazardous waste.
(b) **Certification requirements.** The certification shall be made in accordance with Appendix G of this Chapter, or contain equivalent information.
(c) **Process or wastestream changes.** In the event the NHIW generating process or resultant wastestream changes, the generator shall immediately notify the DEQ of such change and update the appropriate certification.
(d) **Verification.** The DEQ may require the generator to provide documentation in support of the certification. Such documentation may include, but not be limited to, laboratory analysis, material safety data sheets, or additional information regarding the wastestream or generation process.
(e) **Compliance with other laws.** The provisions of this Section do not relieve a generator from the requirements of 40 CFR 262.11 or any other State or Federal laws, rules, or regulations.

252:515-31-4. Disposal facility requirements

Records shall be maintained in the operating record, itemizing the type, quantity, and source of NHIW received from persons disposing greater than 10 cubic yards of NHIW in a calendar month. Such records shall be submitted to the DEQ no later than the last day of the month following the reporting month.

SUBCHAPTER 33. WASTE COLLECTION AND TRANSPORTATION

Section
252:515-33-1. Applicability
252:515-33-2. Transportation to permitted facility
252:515-33-3. Requirements for cities and towns
252:515-33-4. Adequate enclosure

252:515-33-1. Applicability

This Subchapter applies to:
(1) incorporated cities and towns within the State of Oklahoma; and
(2) all persons transporting solid waste in the State of Oklahoma.

252:515-33-2. Transportation to permitted facility

No person shall transport solid waste to a disposal facility unless such facility has a currently active permit or other authorization from the DEQ to accept solid waste.

252:515-33-3. Requirements for cities and towns

Solid waste collection and transportation services shall be provided by all incorporated cities and towns. Such services shall be provided for all generators of solid waste located within the corporate city or town limits.

252:515-33-4. Adequate enclosure

All persons transporting solid waste to a disposal facility shall provide an adequate enclosure to prevent waste from spilling, falling, leaking, or blowing en route to the disposal site. The person hauling solid waste to a disposal site shall collect any waste that spills, falls, leaks, or blows from

the waste-hauling vehicle.

SUBCHAPTER 35. OKLAHOMA RECYCLING INITIATIVE

Section
252:515-35-1. Applicability
252:515-35-2. Project development
252:515-35-3. Reimbursement
252:515-35-4. Penalties

252:515-35-1. Applicability

This Subchapter applies to governmental entities located in the state of Oklahoma desiring to seek reimbursement under the Oklahoma Recycling Initiative.

252:515-35-2. Project development

(a) **Proposal content.** Any governmental entity desiring to seek reimbursement under the Oklahoma Recycling Initiative shall first submit a proposal describing the project in sufficient detail for the DEQ to determine that the project complies with 27A O.S. § 2-10-802(C)(4)(a). The proposal also shall include the following:

(1) documents which detail the cost of all equipment that will be incorporated into or dedicated to the use of the project;

(2) written agreements to operate the project for a minimum of three years and to provide technical assistance upon request to other units of government considering similar recycling projects.

(b) **Encumbrance of funds.** Within 30 days after approval of a proposal, the DEQ shall present a contract to the governmental entity, committing funds for the project. The DEQ shall encumber the funds for the initial contract period, not to exceed one year. If the project is not completed during that time period, the DEQ will renew the contract, unencumbering funds for the original contract and encumbering funds for the new contract.

252:515-35-3. Reimbursement

(a) **Proper invoice.** The governmental entity shall submit a proper invoice, as defined in 62 O.S. § 34.73, to the DEQ for reimbursement when the equipment, other than motor vehicles or buildings, is installed and operational.

(b) **Inspection.** The DEQ may inspect the facility to verify that the equipment is installed and operational.

(c) **Payment.** The DEQ shall reimburse the governmental entity not later than 45 days from the date on which a proper invoice is received by the Director, Land Protection Division.

252:515-35-4. Penalties

If the project ceases before the end of the three-year operational period, the governmental entity shall reimburse the DEQ for payments made under the contract.

SUBCHAPTER 37. LANDFILL GAS INCENTIVE PAYMENTS

Section

252:515-37-1. Authority and applicability
252:515-37-2. Funding
252:515-37-3. Proposal required
252:515-37-4. Life of project
252:515-37-5. Content of proposal
252:515-37-6. Encumbrance of funds
252:515-37-7. Reimbursement
252:515-37-8. Contract renewal
252:515-37-9. Prioritization of funding
252:515-37-10. Penalties

252:515-37-1. Authority and applicability

This Subchapter is authorized by 27A O.S. § 2-10-802(C)(6) and applies to any person, firm or corporation located in Oklahoma desiring to apply for incentive payments for projects that generate energy by utilizing solid waste landfill methane gas.

252:515-37-2. Funding

At least once each fiscal year during the process of preparing budgets for the next fiscal year, the DEQ shall determine the availability of funds for this program. Potential applicants should first inquire about the availability of funds budgeted for this program.

252:515-37-3. Proposal required

Persons seeking incentive payments shall submit an application in the form of a proposal. The proposal shall describe the project in sufficient detail for the DEQ to determine that the project complies with the Oklahoma Solid Waste Management Act and this Subchapter.

252:515-37-4. Life of project

The project must operate for a minimum of seven years.

252:515-37-5. Content of proposal

The proposal shall include the following information:

(1) a description of the proposed energy generation project including the method of utilizing the solid waste landfill methane, the anticipated quantities of energy to be generated and the market for the energy;

(2) documents that specify the equipment to be utilized to generate energy from the solid waste landfill methane and the cost of the equipment. Equipment used to collect solid waste landfill methane as required in OAC 252:100 ("Air Pollution Control") shall not be included in the proposal;

(3) a written agreement with the owner/operator of the landfill that generates the methane, if the applicant is other than the landfill owner/operator;

(4) the proposed amount of incentive payments based on the amount of energy generated, along with a detailed rationale for the amount proposed; and

(5) a business plan that demonstrates that the project will have a positive cash flow during the three-year period of incentive payments and thereafter over the anticipated life of the project, not to be less than seven years.

252:515-37-6. Encumbrance of funds

If funds are available, the DEQ shall present a contract to the applicant after determining that the proposal is complete and that it complies with the Oklahoma Solid Waste Management Act and this subchapter. This contract will commit the funds for the project. The DEQ shall encumber the funds for the initial contract period coinciding with the state fiscal year, not to exceed one year.

252:515-37-7. Reimbursement

(a) **Submittal of invoices.** The project manager may begin submitting invoices to DEQ upon the receipt of a purchase order. Invoices shall be submitted monthly or quarterly. Each invoice shall itemize the quantities of energy generated by the project and purchased by the project's market. Each invoice shall be a proper invoice as defined at 62 O.S. §34.73.

(b) **Inspection.** The DEQ may inspect the project and may evaluate its records to verify that the project is functioning properly and that invoices submitted are accurate.

(c) **Payment.** The DEQ shall reimburse the project manager not later than 45 days from the date that a proper invoice is received by the DEQ contact identified in the contract.

252:515-37-8. Contract renewal

(a) **Renewal allowed.** The project manager may renew the contract twice, for a cumulative period of incentive payments not to exceed three years.

(b) **Renewal proposal.** A project manager planning to renew an existing contract shall submit an proposal for renewal no later than 90 days prior to the end of the contract period.

(c) **Content of proposal.** The proposal shall include data on the technical and economic performance of the project and a revised business plan based on the actual operation.

252:515-37-9. Prioritization of funding

(a) **Financial soundness.** The DEQ shall prioritize projects for continued receipt of incentive payments based upon a determination that:

(1) the project has operated with a positive cash flow; and

(2) financial performance is reasonably expected to continue over the anticipated life of the project, especially after incentive payments have ended.

(b) **Existing vs. new projects.** If the DEQ receives proposals for more than one project and for more incentive payments than funds available, priority will be given to existing projects over start-up projects. If further prioritization is necessary, the DEQ shall give first consideration to projects entering the third year of operation.

252:515-37-10. Penalties

If a project ceases operations before the required seven years of operation, the recipient of incentive payments shall reimburse the DEQ for all payments received.

SUBCHAPTER 39. OKLAHOMA E-WASTE RECYCLING

252:515-39-1. Purpose, authority and applicability
252:515-39-2. Definitions
252:515-39-3. General provisions
252:515-39-4. Annual fees
252:515-39-5. Records

252:515-39-1. Purpose, authority and applicability

(a) **Purpose.** The purpose of this subchapter is to implement and enforce the Oklahoma Computer Equipment Recovery Act. The rules in this subchapter are to provide for the implementation of and a fee structure for the establishment of the Oklahoma Computer Equipment Recovery Act.

(b) **Authority.** OAC 252:515-39-1 through 39-5 is authorized by 27A O.S. §§ 2-11-601 through 611.

(c) **Applicability**. The rules in this Chapter apply to any manufacturer and/or retailer who manufactures, sells and/or imports fifty (50) or more covered devices per calendar year within the state.

252:515-39-2. Definitions

The following words and terms, when used in this Chapter, shall have the following meaning, unless the context clearly indicates otherwise:

"Act" means the Oklahoma Computer Equipment Recovery Act.

"DEQ" means the Oklahoma Department of Environmental Quality.

"Landfill Certification" means a written statement that the manufacturer will not dispose of necessary incidental disposal in de minimis amounts.

"Major manufacturer" means a manufacturer that produces, sells or imports one thousand (1,000) or more covered devices per calendar year.

"Minor Manufacturer" means a manufacturer that produces, sells or imports more than fifty (50) but less than one thousand (1,000) covered devices per calendar year.

252:515-39-3. General provisions

(a) **Plan required.** A manufacturer shall not sell or offer for sale and/or import a covered device in this state unless the manufacturer has adopted and is implementing a recovery plan, either alone or in cooperation with other manufacturers and the DEQ has reviewed and approved of said plan.

(b) **Plan submission.** The manufacturer shall submit recovery plans to the DEQ annually on or before March 1st.

(c) **Geographically central**. If a manufacturer's recovery plan only includes the requirements of § 2-11-605(D)(2) or (3) as allowed by the Act and if a consumer resides over one hundred (100) miles from the closest staffed physical collection site or collection event within the state offered by the manufacturer, the manufacturer must provide for a no cost mail back-system meeting the requirements of 27A O.S. § 2-11-605(D)(1).

(d) **Designated manufacturer.** If a manufacturer produces, sells or imports fifty (50) or more covered devices within the state per calendar year and has not submitted a recovery plan, the DEQ may designate a manufacturer or manufacturers as allowed by the Act.

252:515-39-4. Annual fees

(a) **Fee schedule.**

(1) Annual fee for minor manufacturer - $1,000.00

(2) Annual fee for major manufacturer - $5,000.00

(3) Late fee - $500.00

(b) **Annual Fee Adjustment.** To assist in meeting rising costs to the DEQ of the implementation of the program associated with the Act, the fees set out in this Section shall be automatically adjusted on July 1st every year to correspond to the percentage, if any, by which the Consumer Price Index (CPI) for the most recent calendar year exceeds the CPI for the previous

calendar year. The DEQ may round the adjusted fees up to the nearest dollar. The DEQ may waive collection of an automatic increase in a given year if it determines other revenues, including appropriated state general revenue funds, have increased sufficiently to make the funds generated by the automatic adjustment unnecessary in that year. A waiver does not affect future automatic adjustments.

(c) **Payment.**

(1) Annual fees are due and payable by the 1st day of March of each calendar year. By February 1st of each year, the DEQ will issue invoices to manufacturers who have previously submitted recovery plans to the DEQ. Fees shall be considered delinquent 30 days after the due date. Within five (5) years but not before a grace period of 120 days from the date, the DEQ may issue an administrative order to recover such fees and may assess a reasonable administrative fine in accordance with the provisions of the Oklahoma Computer Equipment Recovery Act, 27A O.S. §§ 2-11-601 *et seq.*, to a manufacturer who has failed to pay or has underpaid such fees.

(2) If a manufacturer's fee has been deemed delinquent, the DEQ may assess a late fee prior accepting the annual fee as paid.

(3) When a fee overpayment has been made as a result of an error, an owner or operator may seek a credit for such fee overpayment within five years from the date on which payment of the fee was received by the DEQ.

252:515-39-5. Records

Maintain records. The manufacturer must keep records of all covered devices produced, sold and/or imported within the state for at least five (5) years. These records must include any and/or all documentation and records that are related to the recovery plan and the annual report(s) as required by 27A O.S. § 2-11-605(H). These records must be made available for inspection by DEQ personnel and made available to the DEQ upon request.

SUBCHAPTER 41. ROOFING MATERIAL RECYCLING

252:515-41-1. Purpose, authority and applicability
252:515-41-2. Definitions
252:515-41-3. Permit requirements
252:515-41-4. Prohibition
252:515-41-5. Duration of permit
252:515-41-6. Permit transfer
252:515-41-7. Permit application and requirements
252-515-41-8. Variance from the rules of this Chapter
252:515-41-9. Oath required
252:515-41-10. Legal right to property
252:515-41-11. Permit applications
252:515-41-12. Operational requirements
252:515-41-14. Financial assurance
252:515-41-15. Closure
252:515-41-16. Stormwater management

252:515-41-1. Purpose, authority, and applicability

(a) **Purpose**. The purpose of this Subchapter is to implement and enforce the Roofing Material

Recycling amendments to the Oklahoma Solid Waste Management Act. The rules in this Subchapter are to provide for the implementation of and a fee structure for roofing material recycling facilities.
(b) **Authority.** OAC 252:515-41-1 through 515-41-16 is authorized by 27A O.S. § 2-10-802.2.
(c) **Applicability.** The rules in this Subchapter apply to roofing material recycling facilities.

252:515-41-2. Definitions

The following words and terms, when used in this Subchapter, shall have the following meaning, unless the context clearly indicates otherwise:

"Disposal site" means any place, including, but not limited to, a transfer station or a roofing material recycling facility, at which solid waste is dumped, abandoned, or accepted or disposed of by incineration, land filling, composting, shredding, compaction, baling or any other method or by processing by pyrolysis, resource recovery or any other method, technique or process designed to change the physical, chemical or biological character or composition of any solid waste so as to render such waste safe or nonhazardous, amenable to transport, recovery or storage or reduced in volume. A disposal site shall not include a manufacturing facility which processes scrap materials which have been separated for collection and processing as industrial raw materials.

"Roofing Material" means all material associated with a roofing project that is debris or is otherwise not intended for future use by the roofer or the property owner, including but not limited to shingles made from asphalt, fiberglass, composite, or wood, as well as decking, flashing, fasteners, insulation, and associated packaging materials.

"Roofing material recycling facility" means a site or facility at which roofing material is processed for alternative uses, or is accumulated for the purpose of processing or selling all or parts of the roofing material for alternative uses, including but not limited to road construction.

252:515-41-3. Permit requirements

All roofing material recycling facilities are subject to the requirements of this Subchapter and require a solid waste permit from DEQ prior to construction and/or operation.

252:515-41-4. Prohibition

Except as provided in OAC 252:515-41-3, no person shall dispose of roofing material at any roofing material recycling facility for which a solid waste permit has not been issued by DEQ.

252:515-41-5. Duration of permit

(a) **Life of site.** Permits shall be issued for the life of the roofing material recycling facility.
(b) **Cessation of operations.** If a permitted roofing material recycling facility ceases to accept roofing material for 30 days or more without prior notice to DEQ, the roofing material recycling facility will be deemed to be in the process of final closure and shall begin closure activities.

252:515-41-6. Permit transfer

(a) **Transfer required.** If the ownership of a roofing material recycling facility is assumed by a new entity, the permit must be transferred from the previous owner/operator ("transferor") to the new owner/operator ("transferee").
(b) **Exception.** Changes in corporate ownership from majority stock transfers do not require a permit transfer. However, such changes require notice to DEQ and submittal of an approved

disclosure statement meeting the requirements of OAC 252:515-3-31(g).

(c) **Transfer requirements.** Permits may be transferred from the transferor to the transferee upon the following conditions:

(1) the transferor has submitted a written request to DEQ for transfer of the permit to the transferee;

(2) the transferee has submitted an approved disclosure statement meeting the requirements of OAC 252:515-3-31(g);

(3) the transferee has, if required, established an approved financial assurance mechanism in an appropriate amount and appropriately funded;

(4) the transferee has agreed in writing to comply with:

(A) all permit conditions;

(B) approved plans and specifications;

(C) the Oklahoma Solid Waste Management Act;

(D) the rules in this Chapter; and

(E) any final orders issued pursuant thereto;

(5) the transferee has complied with OAC 252:515-3-33 (relating to oath required); and

(6) the facility meets the compliance requirements of OAC 252:4-7-15. In lieu of demonstrating substantial compliance, the parties to the transfer may enter into a Consent Order with DEQ to schedule compliance.

(d) **Transferor responsible.** Until such time as DEQ approves transfer of the permit to the transferee, the transferor shall remain responsible for the operation of the facility.

252:515-41-7. Permit applications and requirements

(a) **All permit applications.** All permit applications are subject to the Oklahoma Uniform Environmental Permitting Act as well as the requirements of this Subchapter.

(b) **New permit applications.** Applicants requesting a permit for a new roofing material recycling facility shall submit a permit application to DEQ meeting the requirements of this Subchapter.

(c) **Modifications required.**

(1) The permit must be modified before making any changes to the approved design, construction, or operation of the facility.

(2) The modification application shall contain any maps, drawings, plans or other documents identified in this Subchapter to ensure the modification will be in compliance with the applicable requirements of this Chapter.

(d) **Administrative correction.** DEQ may make administrative corrections to the permit.

(e) **Tier I and II permit modifications.** Applicants requesting a Tier I or Tier II modification of an existing permit shall submit a permit modification application to DEQ meeting the applicable requirements of this Subchapter, but are not required to comply with OAC 252:515-3-33 (relating to oath required), unless otherwise required by statute.

(f) **Tier III permit modifications.** Applicants requesting a Tier III modification of an existing permit shall submit a permit modification application to DEQ meeting the applicable requirements of this Subchapter, and comply with OAC 252:515-3-33.

(g) **Disclosure statement.** Persons submitting a permit application for a new roofing material recycling facility, or the transfer of an existing roofing material recycling permit, are subject to the disclosure statement requirements of 27A O.S. §§ 2-10-103 and 2-10-302.

252:515-41-8. Variance from the rules of this Chapter

(a) **Application.** Except as provided for in (c) of this Section, applicants may, in a permit application, request a variance from one or more provisions of this Chapter in accordance with 27A O.S. § 2-10-304.

(b) **Technical considerations.** Applicants requesting a variance must demonstrate that operations under the variance will equal or exceed the protection accorded by the particular rule for which the variance is being requested, and will not result in a hazard to the health, environment, or safety of the people of this State or their property.

252:515-41-9. Oath required

The applicant shall sign the permit application under oath on forms provided by DEQ.

252:515-41-10. Legal right to property

(a) **Right of access.** The permit application for a new roofing material recycling facility, or expansion of the permit boundaries of an existing roofing material recycling facility, must contain:

(1) a true and correct copy of a legal document filed in the county in which the facility is located, demonstrating that the applicant possesses a legal right to access and use the property in the manner for which the permit is sought, including any on- or off-site soil borrow areas, throughout the life of the site; and

(2) a certification, by affidavit, that the applicant owns the real property, has a current lease or easement which is given to accomplish the permitted purpose, or has provided legal notice to the landowner.

(b) **Option for use.** If an option for right of access is predicated upon the issuance of a permit prior to the exercise of that option, then the applicant must submit a copy of the option with the permit application. Once the permit has been issued, the applicant must comply with (a) of this Section prior to beginning construction.

(c) **Easement to DEQ.** Unless the property owner is a unit of government, a temporary easement shall be executed allowing DEQ and/or its contractors the right to access the property to perform closure, post-closure monitoring, or corrective action in the event of default by the owner/operator.

252:515-41-11. Permit applications

(a) **New applications.** A permit application for a new roofing material recycling facility shall include all information required by the Oklahoma Uniform Environmental Permitting Act, including:

(1) the owner/operator's name, mailing address, and phone number;

(2) the name by which the facility will be known, the mailing address of the facility, the street address of the facility (if different from the mailing address), and the facility phone number;

(3) a disclosure statement completed in accordance with OAC 252:515-3-31(g);

(4) a legal description, by metes and bounds; section, township, and range, or parts thereof; or book and page number of plat records for platted property, of:

(A) the proposed permit boundary;

(B) the proposed waste processing and/or disposal areas

(5) latitude and longitude of all corners of the permit boundary and the facility entrance;

(6) the location of the site from the nearest town or city;
(7) a description of all processing, storage, and disposal operations and units;
(8) a description of the anticipated waste streams and amount received per day;
(9) data, plans, and specifications for the following:
(A) a demonstration the proposed facility meets the location restrictions of Subchapter 5 of this Chapter;
(B) an operational plan describing how compliance with the operational requirements of Subchapter 19 of this Chapter, as applicable to the proposed facility, will be achieved;
(C) a plan describing how compliance with the stormwater management requirements of Subchapter 17 of this Chapter will be achieved;
(D) plans for closure of the facility in accordance with Subchapter 25 of this Chapter; and
(E) establishment of financial assurance in accordance with Subchapter 27 of this Chapter.

(b) **Information not identified.** DEQ may require the applicant to submit additional data, revise design specifications or propose environmental safeguards as necessary to meet DEQ rules for the protection of human health and the environment.

(c) **Permit modification applications.** An applicant requesting a modification to an existing permit shall submit information identified in this Part related to the proposed modification.

252:515-41-12. Operational requirements

(a) **Acceptable wastes.** Only roofing material shall be accepted at a roofing material recycling facility.

(b) **Prohibited wastes.** Non-Hazardous Industrial Waste, Hazardous Waste, and all other non-roofing material shall be prohibited.

(c) **Roofing material.** All roofing material recycling facilities shall separate the recyclable material from the material that will not be recycled. The non-recyclable material shall be kept in roll-offs or other containers that will prevent the material from blowing, leaching, or otherwise causing contamination. All non-recyclable material must be properly disposed at an approved disposal facility within thirty(30) days of receipt.

(d) **Recyclable material.** All roofing material that is intended for recycling must be kept in either containers or piles. Roofing material stored on the ground while awaiting processing shall be placed in piles, as follows:
(1) the base shall not exceed 200 feet by 150 feet;
(2) the height of the pile shall not exceed twenty feet; and
(3) stable side slopes must be maintained.

(e) **Fire lane.** An unobstructed fire lane at least 50 feet in width shall be maintained around the perimeter of each recyclable material pile.

(f) **Buffer zone.** A clean buffer zone of at least 50 feet shall be maintained between recyclable material piles and adjacent properties.

(g) **Weighing roofing material.** Each load of roofing material received shall be weighed on scales tested and certified in accordance with the requirements of the Oklahoma Department of Agriculture, Food and Forestry.
(1) Each truck and/or trailer shall be weighed full and empty.
(2) Gross and tare weights shall be imprinted on the same weight ticket.
(3) Stored tare weights shall not be used.

(h) **Daily log.** A daily log shall be maintained for each load of roofing material received. The daily log shall reflect:

(1) date and time;

(2) name and address of the hauler;

(3) weight;

(4) amount of non-recyclable material shipped to a permitted solid waste disposal site; and

(5) name and location of permitted solid waste disposal site receiving the non-recyclable material.

252:515-41-13. Reporting requirements

(a) **Monthly reports.** No later than the 10th of each month, each facility shall submit a report to DEQ that includes the following information for the previous month:

(1) amount of total roofing material received;

(2) amount of processed roofing material shipped for recycling;

(3) amount of non-recyclable material shipped;

(4) name and location of permitted solid waste disposal site receiving the non-recyclable material;

(5) amount of roofing material located on site.

(b) **Quarterly report and fees.** Fees shall be collected and remitted to DEQ in accordance with 27A O.S. § 2-10-802.2(A). Fees shall be reported in a format prescribed by DEQ.

252:515-41-14. Financial assurance

(a) **Required.** Roofing material recycling facilities shall establish financial assurance in accordance with the requirements of Subchapter 515-27, parts 1, 3, and 7 of this Chapter. Subparts 515-27-8, part 3, 515-27-32, and part 5 of this Chapter shall not apply to roofing material recycling facilities.

(b) **Amount.** Unless a lesser amount is approved by DEQ, financial assurance will be established based upon the cost for removal and disposal, by a third party not affiliated with the owner/operator, of the maximum amount of roofing material permitted to be stored on site at any time, removal of equipment, temporary buildings, and re-vegetation.

252:515-41-15. Closure

(a) **Closure plan.** Roofing material recycling facilities shall submit, with their permit application, a closure plan addressing the following items:

(1) removal and disposal of all roofing material permitted to be stored on site;

(2) removal of equipment and temporary buildings and other improvements not designated as permanent in the permit application; and

(3) grading and re-vegetation of the site.

(b) **Cost estimates.** Cost estimates for closure shall be based upon the cost for removal and disposal, by a third party not affiliated with the owner/operator, of the maximum amount of roofing material permitted to be stored on site at any time, removal of equipment, temporary buildings, and re-vegetation.

(c) **Closure cost estimate procedures.** The following determinations shall be submitted to DEQ for approval:

(1) identification of the task(s) for which bids will be provided;

(2) a statement of work fully describing the actions necessary for completion of the task(s)

identified; and

(3) written bids from three independent contractors not affiliated with the owner/operator. The bids shall be dated within 30 days of submittal and be an estimate of the contractor's cost for performing the work identified in the statement of work on behalf of the State of Oklahoma.

252:515-41-16. Stormwater management

Roofing material recycling facilities shall comply with the provisions of Subchapter 17 of this Chapter.

APPENDIX A. CONSTITUENTS FOR DETECTION MONITORING[1]

COMMON NAME[2]	CAS RN[3]
Acetone	67-64-1
Acrylonitrile	107-13-1
Antimony	(Total)
Arsenic	(Total)
Barium	(Total)

Benzene	71-43-2
Beryllium	(Total)
Bromochloromethane	74-97-5
Bromodichloromethane	75-27-4
Bromoform; Tribromomethane	75-25-2
Cadmium	(Total)
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Chloroethane; Ethyl chloride	75-00-3
Chloroform; Trichloromethane	67-66-3
Chromium	(Total)
Cobalt	(Total)
Copper	(Total)
Dibromochloromethane; Chlorodibromomethane	124-48-1
1,2-Dibromo-3-chloropropane; DBCP	96-12-8
1,2-Dibromoethane; Ethylene dibromide; EDB	106-93-4
o-Dichlorobenzene; 1,2-Dichlorobenzene	95-50-1
p-Dichlorobenzene; 1,4-Dichlorobenzene	106-46-7
trans-1,4-Dichloro-2-butene	110-57-6
1,1-Dichloroethane; Ethylidene chloride	75-34-3
1,2-Dichloroethane; Ethylene dichloride	107-06-2
1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride	75-35-4
cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	156-59-2
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	156-60-5
1,2-Dichloropropane; Propylene dichloride	78-87-5
cis-1,3-Dichloropropene	10061-01-5
trans-1,3-Dichloropropene	10061-02-6
Ethylbenzene	100-41-4
2-Hexanone; Methyl butyl ketone	591-78-6
Lead	(Total)
Methyl bromide; Bromomethane	74-83-9
Methyl chloride; Chloromethane	74-87-3
Methylene bromide; Dibromomethane	74-95-3
Methylene chloride; Dichloromethane	75-09-2
Methyl ethyl ketone; MEK; 2-Butanone	78-93-3
Methyl iodide; Iodomethane	74-88-4
4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1
Nickel	(Total)
Selenium	(Total)
Silver	(Total)
Styrene	100-42-5
1,1,1,2-Tetrachloroethane	630-20-6
1,1,2,2-Tetrachloroethane	79-34-5
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127-18-4
Thallium	(Total)
Toluene	108-88-3
1,1,1-Trichloroethane; Methylchloroform	71-55-6
1,1,2-Trichloroethane	79-00-5

Trichloroethylene; Trichloroethene	79-01-6
Trichlorofluoromethane; CFC-11	75-69-4
1,2,3-Trichloropropane	96-18-4
Vanadium	(Total)
Vinyl acetate	108-05-4
Vinyl chloride	75-01-4
Xylenes	1330-20-7
Zinc	(Total)

[1]This list contains 47 volatile organics for which possible analytical procedures provided in EPA Report SW-846 "Test Methods for Evaluating Solid Waste," third edition, November 1986, as revised December 1987, includes Method 8260; and 15 metals for which SW-846 provides either Method 6010 or a method from the 7000 series of methods.
[2]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.
[3]Chemical Abstracts Service registry number. Where "Total" is entered, all species in the groundwater that contain this element are included.

APPENDIX B. UPPERMOST AQUIFER PROTECTIVE VALUES

Chemical	MCL (mg/l)
Arsenic	0.01
Barium	1.0
Benzene	0.005
Cadmium	0.01
Carbon tetrachloride	0.005
Chromium (hexavalent)	0.05
2,4-Dichlorophenoxy acetic acid	0.1
1,4-Dichlorobenzene	0.075
1,2-Dichloroethane	0.005
1,1-Dichloroethylene	0.007
Endrin	0.0002
Fluoride	4
Lindane	0.004
Lead	0.05
Mercury	0.002
Methoxychlor	0.1
Nitrate	10
Selenium	0.01
Silver	0.05
Toxaphene	0.005
1,1,1-Trichloromethane	0.2
Trichloroethylene	0.005
2,4,5-Trichlorophenoxy acetic acid	0.01
Vinyl Chloride	0.002

APPENDIX C. LIST OF HAZARDIOUS INORGANIC AND ORGANIC CONSTITUENTS

Common name[1]	CAS RN[2]	Chemical abstracts service index name[3]
Acenaphthene	83–32–9	Acenaphthylene, 1,2-dihydro-
Acenaphthylene	208–96–8	Acenaphthylene
Acetone	67–64–1	2-Propanone
Acetonitrile; Methyl cyanide	75–05–8	Acetonitrile
Acetophenone	98–86–2	Ethanone, 1-phenyl-
2-Acetylaminofluorene; 2-AAF	53–96–3	Acetamide, N–9H-fluoren-2-yl-
Acrolein	107–02–8	2-Propenal
Acrylonitrile	107–13–1	2-Propenenitrile
Aldrin	309–00–2	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-(1,4,4a,5,8,8a)-
Allyl chloride	107–05–1	1-Propene, 3-chloro-
4-Aminobiphenyl	92–67–1	[1,1'-Biphenyl]-4-amine
Anthracene	120–12–7	Anthracene
Antimony	(Total)	Antimony
Arsenic	(Total)	Arsenic
Barium	(Total)	Barium
Benzene	71–43–2	Benzene
Benzo[a]anthracene; Benzanthracene	56–55–3	Benz[a]anthracene
Benzo[b]fluoranthene	205–99–2	Benz[e]acephenanthrylene
Benzo[k]fluoranthene	207–08–9	Benzo[k]fluoranthene
Benzo[ghi]perylene	191–24–2	Benzo[ghi]perylene
Benzo[a]pyrene	50–32–8	Benzo[a]pyrene
Benzyl alcohol	100–51–6	Benzenemethanol
Beryllium	(Total)	Beryllium
alpha-BHC	319–84–6	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α,3β,4α,5β,6β)-
beta-BHC	319–85–7	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2β,3α,4β,5α,6β)-
delta-BHC	319–86–8	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α,3α,4β,5α,6β)-
gamma-BHC; Lindane	58–89–9	Cyclohexane, 1,2,3,4,5,6- hexachloro-,(1α,2α, 3β, 4α,5α,6β)-
Bis(2-chloroethoxy)methane	111–91–1	Ethane, 1,1'-[methylenebis (oxy)]bis [2-chloro-
Bis(2-chloroethyl)ether; Dichloroethyl ether	111–44–4	Ethane, 1,1'-oxybis[2-chloro-
Bis(2-chloro-1-methylethyl) ether; 2,2'-Dichlorodiisopropyl ether; DCIP, See footnote 4	108–60–1	Propane, 2,2'-oxybis[1-chloro-
Bis(2-ethylhexyl) phthalate	117–81–7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester
Bromochloromethane; Chlorobromethane	74–97–5	Methane, bromochloro-
Bromodichloromethane; Dibromochloromethane	75–27–4	Methane, bromodichloro-
Bromoform; Tribromomethane	75–25–2	Methane, tribromo-
4-Bromophenyl phenyl ether	101–55–3	Benzene, 1-bromo-4-phenoxy-
Butyl benzyl phthalate; Benzyl butyl phthalate	85–68–7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester
Cadmium	(Total)	Cadmium
Carbon disulfide	75–15–0	Carbon disulfide
Carbon tetrachloride	56–23–5	Methane, tetrachloro-
Chlordane	See footnote 5	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-

p-Chloroaniline	106–47–8	Benzenamine, 4-chloro-
Chlorobenzene	108–90–7	Benzene, chloro-
Chlorobenzilate	510–15–6	Benzeneacetic acid, 4-chloro- -(4-chlorophenyl)- -hydroxy-, ethyl ester.
p-Chloro-m-cresol; 4-Chloro-3-methylphenol	59–50–7	Phenol, 4-chloro-3-methyl-
Chloroethane; Ethyl chloride	75–00–3	Ethane, chloro-
Chloroform; Trichloromethane	67–66–3	Methane, trichloro-
2-Chloronaphthalene	91–58–7	Naphthalene, 2-chloro-
2-Chlorophenol	95–57–8	Phenol, 2-chloro-
4-Chlorophenyl phenyl ether	7005–72–3	Benzene, 1-chloro-4-phenoxy-
Chloroprene	126–99–8	1,3-Butadiene, 2-chloro-
Chromium	(Total)	Chromium
Chrysene	218–01–9	Chrysene
Cobalt	(Total)	Cobalt
Copper	(Total)	Copper
m-Cresol; 3-Methylphenol	108–39–4	Phenol, 3-methyl-
o-Cresol; 2-Methylphenol	95–48–7	Phenol, 2-methyl-
p-Cresol; 4-Methylphenol	106–44–5	Phenol, 4-methyl-
Cyanide	57–12–5	Cyanide
2,4-D; 2,4-Dichlorophenoxyacetic acid	94–75–7	Acetic acid, (2,4-dichlorophenoxy)-
4,4'-DDD	72–54–8	Benzene 1,1'-(2,2-dichloroethylidene) bis[4-chloro-
4,4'-DDE	72–55–9	Benzene, 1,1'-(dichloroethenylidene) bis[4-chloro-
4,4'-DDT	50–29–3	Benzene, 1,1'-(2,2,2-trichloroethylidene) bis[4-chloro-
Diallate	2303–16–4	Carbamothioic acid, bis(1-methylethyl)-, S- (2,3-dichloro-2-propenyl) ester.
Dibenz[a,h]anthracene	53–70–3	Dibenz[a,h]anthracene
Dibenzofuran	132–64–9	Dibenzofuran
Dibromochloromethane; Chlorodibromomethane	124–48–1	Methane, dibromochloro-
1,2-Dibromo-3-chloropropane; DBCP	96–12–8	Propane, 1,2-dibromo-3-chloro-
1,2-Dibromoethane; Ethylene dibromide; EDB	106–93–4	Ethane, 1,2-dibromo-
Di-n-butyl phthalate	84–74–2	1,2-Benzenedicarboxylic acid, dibutyl ester
o-Dichlorobenzene; 1,2-Dichlorobenzene	95–50–1	Benzene, 1,2-dichloro-
m-Dichlorobenzene; 1,3-Dichlorobenzene	541–73–1	Benzene, 1,3-dichloro-
p-Dichlorobenzene; 1,4-Dichlorobenzene	106–46–7	Benzene, 1,4-dichloro-
3,3'-Dichlorobenzidine	91–94–1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
trans-1,4-Dichloro-2-butene	110–57–6	2-Butene, 1,4-dichloro-, (E)-
Dichlorodifluoromethane; CFC 12	75–71–8	Methane, dichlorodifluoro-
1,1-Dichloroethane; Ethyldidene chloride	75–34–3	Ethane, 1,1-dichloro-
1,2-Dichloroethane; Ethylene dichloride	107–06–2	Ethane, 1,2-dichloro-
1,1-Dichloroethylene; 1,1-Dichloroethene;	75–35–4	Ethene, 1,1-dichloro-
Vinylidene chloride cis-1,2-Dichloroethylene; cis-1,2-Dichloroethene	156–59–2	Ethene, 1,2-dichloro-(Z)-
trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene	156–60–5	Ethene, 1,2-dichloro-, (E)-
2,4-Dichlorophenol	120–83–2	Phenol, 2,4-dichloro-
2,6-Dichlorophenol	87–65–0	Phenol, 2,6-dichloro-
1,2-Dichloropropane	78–87–5	Propane, 1,2-dichloro-
1,3-Dichloropropane; Trimethylene dichloride	142–28–9	Propane, 1,3-dichloro-
2,2-Dichloropropane; Isopropylidene chloride	594–20–7	Propane, 2,2-dichloro-

1,1-Dichloropropene	563–58–6	1-Propene, 1,1-dichloro-
cis-1,3-Dichloropropene	10061–01–5	1-Propene, 1,3-dichloro-, (Z)-
trans-1,3-Dichloropropene	10061–02–6	1-Propene, 1,3-dichloro-, (E)-
Dieldrin	60–57–1	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα,2β,2aα,3β,6β,6aα,7β,7aα)-
Diethyl phthalate	84–66–2	1,2-Benzenedicarboxylic acid, diethyl ester
O,O-Diethyl O–2-pyrazinyl phosphorothioate; Thionazin	297–97–2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester.
Dimethoate	60–51–5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
p-(Dimethylamino)azobenzene	60–11–7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
7,12-Dimethylbenz[a]anthracene	57–97–6	Benz[a]anthracene, 7,12-dimethyl-
3,3'-Dimethylbenzidine	119–93–7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
alpha, alpha-Dimethylphenethylamine	122–09–8	Benzeneethanamine, α,α-dimethyl-
2,4-Dimethylphenol; m-Xylenol	105–67–9	Phenol, 2,4-dimethyl-
Dimethyl phthalate	131–11–3	1,2-Benzenedicarboxylic acid, dimethyl ester
m-Dinitrobenzene	99–65–0	Benzene, 1,3-dinitro-
4,6-Dinitro-o-cresol; 4,6-Dinitro-2-methylphenol	534–52–1	Phenol, 2-methyl-4,6-dinitro-
2,4-Dinitrophenol	51–28–5	Phenol, 2,4-dinitro-
2,4-Dinitrotoluene	121–14–2	Benzene, 1-methyl-2,4-dinitro-
2,6-Dinitrotoluene	606–20–2	Benzene, 2-methyl-1,3-dinitro-
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol	88–85–7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
Di-n-octyl phthalate	117–84–0	1,2-Benzenedicarboxylic acid, dioctyl ester
Diphenylamine	122–39–4	Benzenamine, N-phenyl-
Disulfoton	298–04–4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
Endosulfan I	959–98–8	6,9-Methano-2,4,3-benzodiox-athiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide,
Endosulfan II	33213–65–9	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3α,5aα,6β,9β, 9aα)-
Endosulfan sulfate	1031–07–8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide
Endrin	72–20–8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα, 2β,2aβ, 3α,6α,6aβ,7β,7aα)-
Endrin aldehyde	7421–93–4	1,2,4-Methenocyclo-penta[cd]pentalene-5-carboxaldehyde,2,2a,3,3,4,7-hexachlorodecahydro-(1α,2β,2aβ,4β,4aβ,5β,6aβ,6bβ,7R*)-
Ethylbenzene	100–41–4	Benzene, ethyl-
Ethyl methacrylate	97–63–2	2-Propenoic acid, 2-methyl-, ethyl ester
Ethyl methanesulfonate	62–50–0	Methanesulfonic acid, ethyl ester
Famphur	52–85–7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester
Fluoranthene	206–44–0	Fluoranthene
Fluorene	86–73–7	9H-Fluorene
Heptachlor	76–44–8	4,7-Methano-1H-indene,1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
Heptachlor epoxide	1024–57–3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro-,(1aα,1bβ,2α,5α,5aβ,6β,6aα)

Hexachlorobenzene	118–74–1	Benzene, hexachloro-
Hexachlorobutadiene	87–68–3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
Hexachlorocyclopentadiene	77–47–4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
Hexachloroethane	67–72–1	Ethane, hexachloro-
Hexachloropropene	1888–71–7	1-Propene, 1,1,2,3,3,3-hexachloro-
2-Hexanone; Methyl butyl ketone	591–78–6	2-Hexanone
Indeno(1,2,3-cd)pyrene	193–39–5	Indeno[1,2,3-cd]pyrene
Isobutyl alcohol	78–83–1	1-Propanol, 2-methyl-
Isodrin	465–73–6	1,4,5,8-Dimethanonaphthalene,1,2,3,4,1 0,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1α, 4α, 4aβ,5β,8β,8aβ)-
Isophorone	78–59–1	2-Cyclohexen-1-one, 3,5,5-trimethyl-
Isosafrole	120–58–1	1,3-Benzodioxole, 5-(1-propenyl)-
Kepone	143–50–0	1,3,4-Metheno-2H-cyclobuta-[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
Lead	(Total)	Lead
Mercury	(Total)	Mercury
Methacrylonitrile	126–98–7	2-Propenenitrile, 2-methyl-
Methapyrilene	91–80–5	1,2,Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
Methoxychlor	72–43–5	Benzene, 1,1'-(2,2,2,trichloroethylidene)bis [4-methoxy-
Methyl bromide; Bromomethane	74–83–9	Methane, bromo-
Methyl chloride; Chloromethane	74–87–3	Methane, chloro-
3-Methylcholanthrene	56–49–5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
Methyl ethyl ketone; MEK; 2-Butanone	78–93–3	2-Butanone
Methyl iodide; Iodomethane	74–88–4	Methane, iodo-
Methyl methacrylate	80–62–6	2-Propenoic acid, 2-methyl-, methyl ester
Methyl methanesulfonate	66–27–3	Methanesulfonic acid, methyl ester
2-Methylnaphthalene	91–57–6	Naphthalene, 2-methyl-
Methyl parathion; Parathion methyl	298–00–0	Phosphorothioic acid, O,O-dimethyl
4-Methyl-2-pentanone; Methyl isobutyl ketone	108–10–1	2-Pentanone, 4-methyl-
Methylene bromide; Dibromomethane	74–95–3	Methane, dibromo-
Methylene chloride; Dichloromethane	75–09–2	Methane, dichloro-
Naphthalene	91–20–3	Naphthalene
1,4-Naphthoquinone	130–15–4	1,4-Naphthalenedione
1-Naphthylamine	134–32–7	1-Naphthalenamine
2-Naphthylamine	91–59–8	2-Naphthalenamine
Nickel	(Total)	Nickel
o-Nitroaniline; 2-Nitroaniline	88–74–4	Benzenamine, 2-nitro-
m-Nitroaniline; 3-Nitroaniline	99–09–2	Benzenamine, 3-nitro-
p-Nitroaniline; 4-Nitroaniline	100–01–6	Benzenamine, 4-nitro-
Nitrobenzene	98–95–3	Benzene, nitro-
o-Nitrophenol; 2-Nitrophenol	88–75–5	Phenol, 2-nitro-
p-Nitrophenol; 4-Nitrophenol	100–02–7	Phenol, 4-nitro-
N-Nitrosodi-n-butylamine	924–16–3	1-Butanamine, N-butyl-N-nitroso-
N-Nitrosodiethylamine	55–18–5	Ethanamine, N-ethyl-N-nitroso-
N-Nitrosodimethylamine	62–75–9	Methanamine, N-methyl-N-nitroso-
N-Nitrosodiphenylamine	86–30–6	Benzenamine, N-nitroso-N-phenyl-
N-Nitrosodipropylamine; N-Nitroso-N-dipropylamine; Di-n-propylnitrosamine	621–64–7	1-Propanamine, N-nitroso-N-propyl-
N-Nitrosomethylethalamine	10595–95–6	Ethanamine, N-methyl-N-nitroso-
N-Nitrosopiperidine	100–75–4	Piperidine, 1-nitroso-
N-Nitrosopyrrolidine	930–55–2	Pyrrolidine, 1-nitroso-
5-Nitro-o-toluidine	99–55–8	Benzenamine, 2-methyl-5-nitro-

Parathion	56–38–2	Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester
Pentachlorobenzene	608–93–5	Benzene, pentachloro-
Pentachloronitrobenzene	82–68–8	Benzene, pentachloronitro-
Pentachlorophenol	87–86–5	Phenol, pentachloro-
Phenacetin	62–44–2	Acetamide, N-(4-ethoxyphenyl)
Phenanthrene	85–01–8	Phenanthrene
Phenol	108–95–2	Phenol
p-Phenylenediamine	106–50–3	1,4-Benzenediamine
Phorate	298–02–2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
Polychlorinated biphenyls; PCBs	See footnote 6	1,1'-Biphenyl, chloro derivatives
Pronamide	23950–58–5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
Propionitrile; Ethyl cyanide	107–12–0	Propanenitrile
Pyrene	129–00–0	Pyrene
Safrole	94–59–7	1,3-Benzodioxole, 5-(2- propenyl)-
Selenium	(Total)	Selenium
Silver	(Total)	Silver
Silvex; 2,4,5-TP	93–72–1	Propanoic acid, 2-(2,4,5- trichlorophenoxy)-
Styrene	100–42–5	Benzene, ethenyl-
Sulfide	18496–25–8	Sulfide
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid	93–76–5	Acetic acid, (2,4,5- trichlorophenoxy)-
2,3,7,8-TCDD; 2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746–01–6	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-
1,2,4,5-Tetrachlorobenzene	95–94–3	Benzene, 1,2,4,5-tetrachloro-
1,1,1,2-Tetrachloroethane	630–20–6	Ethane, 1,1,1,2-tetrachloro-
1,1,2,2-Tetrachloroethane	79–34–5	Ethane, 1,1,2,2-tetrachloro-
Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127–18–4	Ethene, tetrachloro-
2,3,4,6-Tetrachlorophenol	58–90–2	Phenol, 2,3,4,6-tetrachloro-
Thallium	(Total)	Thallium
Tin	(Total)	Tin
Toluene	108–88–3	Benzene, methyl-
o-Toluidine	95–53–4	Benzenamine, 2-methyl-
Toxaphene	See footnote 7	Toxaphene
1,2,4-Trichlorobenzene	120–82–1	Benzene, 1,2,4-trichloro-
1,1,1-Trichloroethane; Methylchloroform	71–55–6	Ethane, 1,1,1-trichloro-
1,1,2-Trichloroethane	79–00–5	Ethane, 1,1,2-trichloro-
Trichloroethylene; Trichloroethene	79–01–6	Ethene, trichloro-
Trichlorofluoromethane; CFC–11	75–69–4	Methane, trichlorofluoro-
2,4,5-Trichlorophenol	95–95–4	Phenol, 2,4,5-trichloro-
2,4,6-Trichlorophenol	88–06–2	Phenol, 2,4,6-trichloro-
1,2,3-Trichloropropane	96–18–4	Propane, 1,2,3-trichloro-
O,O,O-Triethyl phosphorothioate	126–68–1	Phosphorothioic acid, O,O,O-triethyl ester
sym-Trinitrobenzene	99–35–4	Benzene, 1,3,5-trinitro-
Vanadium	(Total)	Vanadium
Vinyl acetate	108–05–4	Acetic acid, ethenyl ester
Vinyl chloride; Chloroethene	75–01–4	Ethene, chloro-
Xylene (total)	See footnote 8	Benzene, dimethyl-
Zinc	(Total)	Zinc

[1]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[2]Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.

[3]CAS index names are those used in the 9th Cumulative Index.

[4]This substance is often called bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, propane, 2,2"-oxybis[2-chloro-(CAS RN 39638–32–9).

[5]Chlordane: This entry includes alpha-chlordane (CAS RN 5103–71–9), beta-chlordane (CAS RN 5103–74–2), gamma-chlordane (CAS RN 5566–34–7), and constituents of chlordane (CAS RN 57–74–9 and CAS RN 12789–03–6).

[6]Polychlorinated biphenyls (CAS RN 1336–36–3); this category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674–11–2), Aroclor-1221 (CAS RN 11104–28–2), Aroclor-1232 (CAS RN 11141–16–5), Aroclor-1242 (CAS RN 53469–21–9), Aroclor-1248 (CAS RN 12672–29–6), Aroclor-1254 (CAS RN 11097–69–1), and Aroclor-1260 (CAS RN 11096–82–5).

[7]Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001–35–2), i.e., chlorinated camphene.

[8]Xylene (total): This entry includes o-xylene (CAS RN 96–47–6), m-xylene (CAS RN 108–38–3), p-xylene (CAS RN 106–42–3), and unspecified xylenes (dimethylbenzenes) (CAS RN 1330–20–7).

APPENDIX D. BORINGS IN DRILLING PLAN

Size of site	Total Number of Borings Required	Number of Borings Drilled at Least Ten Feet into the Uppermost Saturated Zone
5 acres or less	4	3
> 5-10	5	3
> 10-15	6	3
>15-20	7	3
>20-25	8	4
>25-30	9	4
>30-35	10	4
>35-40	11	4
>40-45	12	5
etc.		

APPENDIX E. BOREHOLE DEPTH CALCULATION TABLE

Owner/Operator's
Name_____

Location or Name of Proposed Site

_____

Date Prepared _____

By Whom_____

Name or Number of Boring	The Deepest Proposed Placement of Waste in terms of Mean Sea Level Minus 30'	Surface Elevation of Boring	Total Depth of Borings (Column 3- Column 2)

APPENDIX F. NHIW WASTESTREAMS

(1) Air pollution control equipment residues
(2) Arsenically-treated wood that meets the exemption criteria of 40 CFR 261.4(b)(9)
(3) Auto shredder fluff
(4) Blasting media and other abrasives used to remove surface coatings
(5) Coal combustion ash per 40 CFR 261.4(b)(4)
(6) Combustible materials as defined in 49 CFR 173.120 and 173.124, that are not regulated as hazardous wastes
(7) Containers which are RCRA empty in accordance with 40 CFR 261.7, or empty containers which have held pesticides (i.e., herbicides, fungicides, or rodenticides)
(8) Cooling tower waters and other cooling process related wastes
(9) Incinerator ash
(10) Industrial sludges and industrial mud trap residues
(11) Industrial wastewater treatment plant sludge (excluding sludge that is exclusively sanitary sewage)
(12) Ink wastes
(13) Lab related wastes, including lab packs
(14) Lighting fixture ballasts containing non-TSCA regulated PCBs per 40 CFR Part 761
(15) Miscellaneous chemical spill residue, primarily non-fuel related
(16) Municipal and non-industrial wastewater treatment plant sludges
(17) Non-hazardous pesticides (i.e., herbicides, fungicides, & rodenticides)
(18) Oil filters meeting the requirements of 40 CFR 261.4(b)(13)
(19) Outdated and off-specification products
(20) Outdated, off-specification, or mislabeled over-the-counter medicines which are not hazardous in accordance with 40 CFR 261, Subparts C or D
(21) Paint waste and related solvents
(22) Petroleum contaminated soil and debris, oily rags and absorbents with > 1000 ppm TPH
(23) Pharmaceutical waste not identified in (20)
(24) Refractory & foundry sands and slag, retort, fly ash, cement kiln dust
(25) Resins, polymers, and adhesives
(26) Sludges containing materials washed from the interior of bulk materials carriers such as tank trucks or railroad tank cars
(27) Wastes exempted by the RCRA Bevill waste exclusion in 40 CFR 261.4(b)(7)
(28) Wastes rendered non-hazardous that were formerly hazardous pursuant to 40 CFR 261, Subpart C
(29) Unknowns
(30) Wastes from metal plating processes

Printed name TitleDate

APPENDIX G. NHIW CERTIFICATION FORM

Please read instructions prior to completing this form.

Generator Name: _____

Mailing Address: _____ **City** _____ **State** **Zip**

Point of Generation

_____ **City State** ____ **Zip**

Generator Contact: _____ **Title** _____ **Telephone**

DETAILED WASTE DESCRIPTION

Waste Name:

_____

If waste was generated out-of-state, is it classified as hazardous in the state of origin? [] Yes [] No [] NA- Okla.

waste Approximate amount of waste

to be disposed:Disposal frequency:Physical characteristics:

[] Tons[] Pounds[] One-time [] Weekly[] Solid[] Liquid
[] Cubic yards [] Drum[] Monthly [] Annually[] Sludge[] Combination
[] Other

Method used to determine waste is non-hazardous: [] Analysis [] Generator knowledge [] Both

Process generating waste (be specific and use additional sheets if necessary):

DESIGNATED RECEIVING LANDFILL

Name:

Permit #:

_____

GENERATOR CERTIFICATION

I understand this form must be signed by the original waste generator or other persons authorized by 27A O.S. §2-10-501(H). To the best of my knowledge, I certify:

- **The information contained herein is accurate, complete, and representative of the waste to be disposed;**
- **The waste identified above is not a characteristically hazardous waste as identified by 40 CFR 261, Subpart C, is not a listed hazardous waste as identified by 40 CFR 261, Subpart D or contaminated with a listed hazardous waste, and is not otherwise identified as a hazardous waste by the Department of Environmental Quality; and**
- **This waste will be managed in accordance with all applicable statutes and rules of the Department of Environmental Quality.**

Generator Signature

INSTRUCTIONS FOR COMPLETING THE NHIW CERTIFICATION

Enter the name of the generating facility, generator mailing address, address where the waste was generated, contact name and title of person at the generating facility who is knowledgeable about the waste, and phone number.

DETAILED WASTE DESCRIPTION

1. Identify the name of the waste.
2. Identify the approximate amount of waste to be disposed under the plan, its frequency of disposal, and its physical characteristics.
3. Identify if the waste was determined to be non-hazardous by either knowledge of process, testing, or both. If requested by DEQ, the generator must be able to provide information about the waste, such as a list of chemical constituents entering into the waste and a list of chemical constituents likely to be in the waste, laboratory analyses, MSDS sheets, and other information used by the generator to determine the waste is nonhazardous.
4. Identify the process generating the waste. Please note that the waste generating description must be specific and sufficient to demonstrate the waste is non-hazardous.

DESIGNATED RECEIVING LANDFILL

Identify the name of the landfill to receive the waste and its DEQ permit number.

GENERATOR CERTIFICATION

Read the certification and sign and date the form. **Please note that the certification may only be dated and signed by one of the following:** 1) the original waste generator; 2) a person who identifies and is under contract with a generator and whose activities under the contract cause the waste to be generated; 3) a party to a remediation project under an order of the DEQ or under the auspices of the Oklahoma Energy Resources Board or other agencies of other states; or 4) a person responding to an environmental emergency.

The completed notification form should be submitted to the DEQ at the following address. Once submitted, the generator may dispose of the waste at the designated landfill.

Department of Environmental Quality
Solid Waste Compliance Unit
P. O. Box 1677
Oklahoma City, OK 73102
Phone (405) 702-5100
Fax (405) 702-5101

Appendix H. Procedure for Calculating Closure Cost Estimates for Financial Assurance

This Appendix presents the worksheet for calculating final closure cost estimates. The tasks and services included in this worksheet are based on the more complex closure requirements for MSWLFs. Some tasks and services may not be required for construction/demolition and non-hazardous industrial waste landfills, nor for other types of solid waste facilities requiring financial assurance. Owner/operators will be able to input site-specific information to calculate the necessary financial assurance.

Table H.1
All site data necessary to calculate estimates of closure and post-closure costs can be gathered by completing Table H.1. Data from Table H.1 should be inserted into Table H.2 of this Appendix and Table I.1 of Appendix I to complete calculations.

Table H.1 Site Data

FACILITY NAME:

PERMIT NUMBER:

DESCRIPTION	QUANTITY	UNITS
Total Permitted Area		acres
Active Portion		
Composite Lined		acres
Soil Lined		acres
Area of Largest Cell/Phase Requiring Final Cap		
Composite Lined		acres
Soil Lined		acres
Perimeter Fencing		linear fe
Groundwater Monitoring Wells		VLF
Methane Gas Probes		VLF
Terraces		linear fe
Letdown Channels		linear fe
Perimeter Drainage Ditches		linear fe
Average Daily Flow		tons/day
Landfill Disposal Cost		$/ton

VLF = Vertical linear feet. The sum of the depths of all monitoring wells

Table H.2

Table H.2 can be used to calculate closure cost estimates for landfills for which site specific data are available. The table is designed to be executed as a computer spreadsheet, but will work equally as well using hand calculations.

- Input site-specific quantities from Table H.1 into Table H.2, making sure the requisite units are used. Some quantities are already given by the table.
- For each line of Task/Service items 1 through 4, multiply the value input for quantity by the multiplier and unit cost given by the table, and enter the resultant value in the Subtotal column.

NOTE: Unit costs provided are as of April 1, 2005. Users of this chart shall adjust these unit costs for inflation as of April 1st of each subsequent year using the procedure in OAC 252:515-27-34(a)(2).

1For line 5, identify each task required by the Closure Plan that is not identified in Table H.2. Calculate cost estimates in accordance with OAC 252:515-27-51(d), and input total in the Subtotal column.

- For line 6, add Subtotals for Task/Service items 1 through 5.
- Lines 7, 8, and 9. Compute Administrative Services, Technical and Professional Services and Closure Contingency costs by multiplying Line 6 by the multiplier for each respective Item. Enter the resultant values.
- Line 10. Add lines 6 through 9.

Table H.2 Closure Cost Estimate

FACILITY NAME:

PERMIT NUMBER:

	Task/Service	Quantity	Units	Multiplier[a]	Uni
1	**PRELIMINARY SITE WORK**				
1.1	Conduct Site Evaluation	1	lump sum	1	$29
1.2	Dispose Final Wastes				
	Average Daily Flow	c[c]	tons/day		
	Disposal Cost	d[d]	tons/day	5(5 days of waste)	e
1.3	Remove Temporary Building(s)	1	lump sum	1	$27

1.4	Remove Equipment	1	lump sum	1	$22
1.5	Repair/Replace		linear feet	0.25(25% of fencing)	$2.
1.6	Clean Leachate Line(s)	1	lump sum	1	$13
2	**MONITORING EQUIPMENT**				
2.1	Rework/Replace Monitoring Well(s)		VLF	0.25(25% of wells)	$62
2.2	Plug Abandoned Monitoring Well(s)		VLF	0.25 (25% of wells)	$24
2.3	Rework/Replace Methane Probe(s)		VLF	0.25 (25% of probes)	$53
2.4	Plug Abandoned Methane Probe(s)		VLF	0.25 (25% of probes)	$19
2.5	Rework/Replace Remediation and/or Gas Control Equipment	1	lump sum	0.05(5% of equipment capital cost)	f[f]
3	**CONSTRUCTION**				
3.1	Complete Site Grading to include on-and off-site borrow areas		acres	1	$11
3.2	Construct Final Cap				
	Compacted On-site Clay Cap or		cubic yards	1	$4.
	Compacted Off-site Clay Cap or		cubic yards	1	$6.
	Install Geosynthetic Clay Liner Cap		square feet	1	$0.
3.3	Construct Landfill Gas Venting Layer				
	Place Sand or		acres	1	$31
	Install Net and Geotextile		square feet	1	$0.

3.4	Install Passive Landfill Gas Vents		acres	1	$74
3.5	Install Flexible Membrane Liner		square feet	1	$0.
3.6	Drainage Layer				
	Place Sand or		acres	1	$31
	Install Net and Geonet		square feet	1	$0.
3.7	Place On-site Topsoil		cubic yards	1	$1.
	Place Off-site Topsoil		cubic yards	1	$14
3.8	Establish Vegetative Cover,including on-and off-site borrow areas		acres	1	$44
4.1	Construct Terraces		linear feet	1	$7.
4.2	Construct Letdown Channels		linear feet	1	$7.
4.3	Clean Perimeter Drainage Ditches		linear feet	0.50(50% of ditches)	$5.
5	**TASKS NOT IDENTIFIED**				
6	**SUBTOTAL**				
7	**ADMINISTRATIVE SERVICES**	1	lump sum	0.10(10%)	g[g]
8	**TECHNICAL and PROFESSIONAL**	1	lump sum	0.12(12%)	g
9	**CLOSURE CONTINGENCY**	1	lump sum	0.10(10%)	g
10	**TOTAL FINAL CLOSURE**				

a. Multipliers are determined from the *Solid Waste Financial Assurance Program Report*, December 22, 2000.

b. Unit costs provided are as of April 1, 2005. Users of this chart shall adjust these unit costs for inflation as of April 1st of each subsequent year using the procedure in OAC 252:515-27-34(a)(2).

c. New facilities: Insert the value for "W" in OAC 252:515-27-8(a)(2). Existing

facilities: Insert reported total tonnage for the previous year, divided by 312 operating days per year (52 weeks per year x 6 operating days per week).

d. Insert number of tons/day from above.

e. Insert landfill disposal cost per ton of waste ($/ton).

f. Input capital cost for gas control/remediation equipment, if installed at the site.

g. Input Subtotal from line 6.

h. Add rows 6 through 9.

Appendix I. Procedure for Calculating Post-closure Cost Estimates for Financial Assurance

This Appendix presents the worksheet for calculating final post-closure cost estimates. The tasks and services included in this worksheet are based on the more complex closure requirements for MSWLFs. Some tasks and services may not be required for construction/demolition and non-hazardous industrial waste landfills, nor for other types of solid waste facilities requiring financial assurance. Owner/operators will be able to input site-specific information to calculate the necessary financial assurance.

I.1 Calculating Post-closure Costs

Table I.1 can be used to estimate Post-closure Costs. Table I.1 may be utilized in the same manner as Table H.2 of Appendix H.

- Input site-specific quantities from Table H.1 of Appendix H into Table I.1, making sure the requisite units are used. Some quantities are already given by the table.
- For each line of Task/Service items 1 through 5, multiply the value input for quantity by the multiplier and unit cost given by the table, and enter the resultant value in the subtotal column.

  NOTE: Unit costs provided are as of April 1, 2005. Users of this chart shall adjust these unit costs for inflation as of April 1st of each subsequent year using the procedure in OAC 252:515-27-34(a)(2).
- For line 6, identify each task required by the Post-closure Plan that is not identified in Table I.2. Calculate cost estimates in accordance with OAC 252:515-27-51(d), and input total in the Subtotal column.
- For line 7, add Subtotals for Task/Service Items 1 through 6.
- Lines 8, 9, and 10. Compute Administrative Services, Technical and Professional Services and Post-closure Contingency costs by multiplying Line 7 by the multiplier for each respective Item. Enter the resultant values.
- Line 11. Add lines 7 through 10.

Table I.1 Post-closure Estimate

FACILITY NAME:

PERMIT NUMBER:

	Task/Service	Quantity	Units	Multiplier[a]	Unit Cost[b]
1	**SITE MAINTENANCE**				
1.1	Site Inspections	4	per year	30 (30 yrs) 8 (8 yrs)	$537.18
1.2	General Maintenance	1	per year	30 (30 yrs) 8 (8 yrs)	$1610.49
1.3	Remediation and/or Gas Control Equipment	1	lump sum	0.3[c]	d[d]
2	**MONITORING EQUIPMENT**				
2.1	Rework/Replace Monitoring Well(s)		VLF	0.25(25% of wells)	$62.50
2.2	Plug Abandoned Well(s)		VLF	0.25(25% of wells)	$24.85
2.3	Final Plugging of Monitoring Wells		VLF	1	$24.85
2.4	Rework/Replace Methane Probe(s)		VLF	0.25(25% of probes)	$53.62
2.5	Plug Abandoned Probe(s)		VLF	0.25(25% of probes)	$19.60
2.6	Final Plugging of Methane Probes		VLF	1	$19.60
2.7	Final Plugging of Piezometer(s)		VLF	1	$19.60
3	**SAMPLING and ANALYSIS**				

3.1	Groundwater Monitoring Wells		wells	60(2/yr x 30yrs) 16(2/yr x 8 yrs)	$579.23 MSWLF&NHIW e[e] $142.9 C&D
3.2	Methane Gas Probes		probes	60(2/yr x 30yrs)	$37.59
3.3	Surface Water Monitoring Points		points	60(2/yr x 30yrs)	$69.81
3.4	Leachate		sample	60(2/yr x 30yrs)	$112.48
4	**FINAL COVER MAINTENANCE**				
4.1	Mow and Fertilize Vegetative Cover		acres	30(30 yrs) 8(8 yrs)	$177.72
4.2	Repair Erosion, Settlement, and Subsidence for On-site Soils		acres	60(60 yrs) 16(16 yrs)	2.57
	Repair Erosion, Settlement, and Subsidence for Off-site Soils		acres	30(30 yrs) 8(8 yrs)	$15.40
4.3	Re-seed Vegetative Cover		acres	0.20(20% reseeded over post-closure period)	$444.30

5	**LEACHATE MANAGEMENT**				
5.1	Clean Leachate Line(s)	1	per year	30 (30 yrs)	$1377.47
5.2	Maintain Leachate Collection System and Equipment	1	per year	30 (30 yrs)	$2139.95
5.3	Collect, Treat, Transport, and Dispose Leachate		gal/yr	30 (30 yrs)	$0.27
6	**TASKS NOT IDENTIFIED**				
7	**SUBTOTAL**				
8	**ADMINISTRATIVE SERVICES**	1	lump sum	0.06 (6%)	f[f]
9	**TECHNICAL and PROFESSIONAL SERVICES**	1	lump sum	0.07 (7%)	f
10	**POST-CLOSURE CONTINGENCY**	1	lump sum	0.10 (10%)	f
11	**TOTAL POST CLOSURE**				

a. Multipliers are determined from the *Solid Waste Financial Assurance Program Report*, December 22, 2000.

b. Unit costs provided are as of April 1, 2005. Users of this chart shall adjust these unit costs for inflation as of April 1st of each subsequent year using the procedure in OAC 252:515-27-34(a)(2).

c. 5% of equipment capital cost, maintenance performed once per 5 yrs for 30 years.

d. Input capital cost for gas control/remediation equipment, if installed at the site.

e. If the approved groundwater monitoring plan requires monitoring for alternative constituents, unit costs shall be calculated in accordance with OAC 252:515-27-52(b) or (c).

f. Input subtotal from line 7.

g. Add lines 7 through 10.