RULES AND REGULATIONS FOR LANDFILLS, LIQUID WASTE HANDLING FACILITIES AND TRANSFER STATIONS OPERATED WITHIN THE CITY OF CHICAGO

Whereas, pursuant to Chapters 11-4 and 2-30 of the Municipal Code of Chicago, the Department of Environment is charged with the enforcement of environmental regulations, including waste management, within the city of Chicago and the protection of public health and safety; and

Whereas, the activities associated with waste handling facilities, including landfills, liquid waste handling facilities and transfer stations, impact surrounding communities and their environmentally sound operation is crucial to protecting public health and safety; and

Whereas, such facilities should be located in areas where the surrounding uses are consistent with the industrial nature of waste handling facilities and should be operated so that the environmental impacts can be minimized; and

Whereas, the annual operating permits and permit applications required of these waste handling and disposal facilities are an important part of assuring environmentally sound operations; and

Whereas, the furtherance of these goals and principals can be advanced by a more detailed recitation of operational standards, permit application submittal requirements, location standards, and design standards for waste handling facilities; and

Whereas, pursuant to the authority granted by Section 2-30-030 of the Municipal Code of Chicago, the Commissioner of Environment of the City of Chicago is authorized to issue rules and regulations necessary or proper to accomplish the purposes of Chapter 11-4 of the Municipal Code of Chicago, and is further authorized to make reasonable administrative and procedural regulations or rules interpreting or clarifying the requirements which are specifically prescribed in Chapter 11-4 of the Municipal Code of Chicago; now therefore,

I, Henry L. Henderson, Commissioner of Environment of the City of Chicago issue the following regulations pursuant to Section 2-30-030 and Chapter 11-4 of the Municipal Code of Chicago.

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1.0 Scope and Purpose

The purpose of these regulations is to provide explanatory details, guidelines and requirements regarding the operations, location, design, and permitting of landfills, liquid waste handling facilities, and transfer stations. These regulations address existing, expanding, and new facilities that are required to receive operating permits from the Department of Environment.

An application to the Department of Environment for a permit to operate a waste handling and/or disposal facility must provide sufficient information to demonstrate that the facility will be designed and operated in a manner that protects the public health, safety, and welfare. The documentation required to provide such a demonstration and the standards that must be met are contained in Chapter 11-4 of the Municipal Code of the City of Chicago, the Chicago Environmental Protection and Control Ordinance, and these regulations.

These regulations provide a minimum standard for the information required in a permit application. Pursuant to the Municipal Code, the Commissioner may request additional information, if necessary, due to the complexity of the facility or to ensure that public health, safety, and welfare are protected. The information requested in Sections 4.0, 8.0 and 12.0. of these regulations is a detailing of information required pursuant to Section 11-4-1520 of the Municipal Code. Information that is required for new or expanding facilities only is indicated as such.

In addition to the permit application standards, these regulations contain location, operational, and design standards which are applicable to all new and existing facilities unless specifically exempted.

The Commissioner may issue policy statements to define the interpretation of these regulations. Such policy statements shall be delivered to permit holders and shall be available for review at Department offices.

2.0 Definitions

"Act" means the Illinois Environmental Protection Act, 415 ILCS 5/1 et seq.

"Agency" is the Illinois Environmental Protection Agency, also "IEPA" herein, established by the Illinois Environmental Protection Act.

"Applicant" means the person, submitting an application for a permit to the City of Chicago Department of Environment to handle, treat, dispose or otherwise manage waste.

"Aquifer" means saturated (with groundwater) soils and geologic materials which are sufficiently permeable to readily yield economically useful quantities of water to wells, springs, or streams under ordinary hydraulic gradients and whose boundaries can be identified and mapped from hydrogeologic data.

"Backup Capacity" means the quantity of waste or recyclable material a facility can process, dispose of, or store during an emergency situation, equipment failure, or maintenance downtime.

"Borrow Area" means an area from which earthen material is excavated for use as daily cover or final cover or for constructing landfill appurtances such as liners, gas venting systems, roadways or berms.

"Buffer Zone" means any natural or undeveloped area or existing open space which separates the facility from surrounding uses.

"Chemical Waste" means a non-putrescible solid whose characteristics are such that any contaminated leachate is expected to be formed through chemical or physical processes, rather than biological processes, and no gas is expected to be formed as a result.

"Closure" means, with respect to sanitary landfills, the permanent cessation of waste acceptance at a facility or the unplanned cessation of waste acceptance for longer than 30 consecutive days unless an alternate time frame is approved in a closure plan or operating permit modification; or the process of terminating facility operations beginning upon permit expiration without filing for renewal. "Closure" means, with respect to liquid waste handling facilities or transfer stations, the process of terminating facility operations beginning upon permit expiration without filing for renewal; or cessation of waste acceptance for greater than 90 consecutive days, unless an alternate time frame is approved in a closure plan or operating permit modification.

"Closure Plan" means a written plan describing the proposed engineering and other technical measures to be undertaken to terminate operation of a site or facility and to render the site or facility stable and safe for the public health and welfare as well as a description of the proposed utilization of the site after terminating use of the facility as a waste handling facility.

"Code" means the Municipal Code of the City of Chicago.

"Commercial Waste" means waste generated by commerce as a subset of municipal waste; however, it does not include any potentially infectious medical waste, non-hazardous special waste, or hazardous waste.

"Commissioner" means the Commissioner of the City of Chicago Department of Environment.

"Construction and Demolition Debris" means solid waste generated from construction or demolition activities.

"Demonstrate" means to provide sufficient documentation to validate that the representations made in the application are accurate. A demonstration may include reports, analyses, calculations, modeling, studies, or other information necessary to validate the accuracy and truth of representations made in the application.

"Department" or "DOE" means the City of Chicago Department of Environment.

"Dispose" means to discard, discharge, deposit, inject, dump, spill, leak or place any waste into or on any land or water or into any well. If the waste is accumulated or there is no certain plan for its disposal elsewhere, such accumulation shall constitute disposal.

"Disturbed Areas" means those areas within a facility that have been physically altered during waste disposal operations or during the construction of any part of the facility.

"Documentation" means items, in any tangible form, whether directly legible or legible with the aid of any machine or device, that are used to support facts or hypotheses, including but not limited to affidavits, certificates, deeds, leases, contracts or other binding agreements, licenses, permits, photographs, audio or video recordings, maps, geographic surveys, chemical and mathematical formulas or equations, mathematical and statistical calculations and assumptions, research papers, technical reports, technical designs and design drawings, stocks, bonds and financial records.

"Earth Liner" means a structure constructed from soil material that has been compacted to achieve a low permeability.

"Existing Facility" means a facility that holds a current and valid operating permit issued by the Department of Environment.

"Expansion" means, with respect to liquid waste handling facilities and transfer stations, an increase in the horizontal boundary and/or vertical limits of a facility or an increase in the handling or treating capacity of a facility beyond the limits established in the facility's current,

written permit. "Expansion" means, with respect to any sanitary landfill, an increase in the horizontal boundary and/or vertical boundary of the area permitted for disposal by the Department of Environment which allows an increase of waste disposal capacity at the landfill. For sanitary landfills a change of the horizontal and/or vertical boundary that does not allow increased disposal capacity shall not be deemed an expansion.

"Facility" means a site and all structures, equipment, and ancillary fixtures on a site used to treat, store, dispose, or transfer wastes. All structures used in connection with or to facilitate the operations of the facility shall be considered a part of the facility. A facility may include, but is not limited to: structures, buildings, scales, roadways, parking areas, queuing areas, fences, tipping floors, treatment systems, processing areas, staging areas, disposal units or areas, and monitoring stations.

"Gas Collection System" means a system of wells, trenches, pipes and other related ancillary structures, such as manholes, compressor housings, and monitoring installations that collect and transport the gas produced in a putrescible waste disposal unit to one or more gas processing points. The flow of gas through such a system may be produced by naturally occurring gas pressure gradients or may be aided by an induced draft generated by mechanical means.

"Geomembranes" means manufactured membrane liners and barriers of low permeability used to control the migration of fluids or gases.

"Geotextiles" means permeable manufactured materials used for purposes which include, but are not limited to, strengthening soil, providing a filter to prevent clogging of drains, and collecting and draining liquids and gases beneath the ground surface.

"Groundwater" means naturally occurring underground water which occurs within the saturated zone and within geologic materials where the fluid pressure in the pore space is equal to or greater than atmospheric pressure.

"Hazardous Waste" means any waste, or combination of wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of or otherwise managed, or which has been identified by characteristics or listing as hazardous pursuant to Federal and State law including, but not limited to Section 3001 of the Resource Conservation and Recovery Act of 1976, P.L. 94-580 as amended, the Illinois Environmental Protection Act, or pursuant to regulations promulgated by the Illinois Pollution Control Board.

"Hydraulic Barriers" means structures designed to prevent or control the seepage of liquid. Hydraulic barriers include, but are not limited to, cutoff walls, slurry walls, grout curtains and low-permeability liners.

"IEPA" is the Illinois Environmental Protection Agency, also "Agency" herein, established by the Illinois Environmental Protection Act.

"Industrial Process Waste" means any liquid, solid, semisolid or gaseous waste generated as a direct or indirect result of the manufacture of a product or the performance of a service. Any such waste which would pose a present or potential threat to human health or to the environment or with inherent properties which make the disposal of such waste in a landfill difficult to manage by normal means is an industrial process waste. "Industrial process waste" includes but is not limited to spent pickling liquors, cutting oils, chemical catalysis distillation bottoms, etching acids, equipment cleanings, paint sludges, incinerator ashes, core sands, metallic dust sweepings, asbestos dust, hospital pathological wastes and off-specification, contaminated or recalled wholesale or retail products. Specifically excluded are uncontaminated packaging materials, uncontaminated machinery components, general household waste, landscape waste and construction or demolition debris.

"Industrial Waste" means any waste generated by industry and manufacturing as a subset of municipal waste; however, it does not include non-hazardous special waste (such as industrial process waste), potentially infectious medical waste, or hazardous waste.

"Landfill" means a unit or part of a facility in or on which waste is placed and accumulated over time for disposal.

"Landfill Unit" means a discrete and contiguous area used for waste disposal having leachate collection and groundwater monitoring systems separate from other units.

"Landscape Waste" means grass or shrubbery cuttings, leaves, tree limbs, and other similar materials accumulated as the result of the care of lawns, shrubbery, vines, and trees.

"Leachate" means any liquid, including stormwater run-on, and any suspended components in the liquid, that comes in direct contact with, or percolates through, or drains from waste materials.

"Lift" means any accumulation of waste which is compacted into a unit and over which cover is placed.

"Liquid Waste" means any waste which maintains the physical state of continuous volume relatively independent of pressure and which takes the shape of its container at ambient temperature; or is determined to contain "free liquids" as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).

"Liquid Waste Handling Facility" means a facility or part of a facility which receives, treats, disposes of or otherwise manages liquid waste, liquid special waste or liquid hazardous waste. These activities include acceptance of materials for treatment, blending and/or consolidation, or for further transfer to a waste disposal, treatment or handling facility.

"Malodor" means a noxious odor caused by one or more contaminant emissions into the atmosphere that is in sufficient quantities and of such characteristics and duration as to be injurious to human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.

"MWRDGC" means the Metropolitan Water Reclamation District of Greater Chicago.

"Municipal Waste" means garbage, general household and commercial waste, landscape waste, and construction and demolition debris. Municipal waste includes industrial waste but does not include non-hazardous special waste, hazardous waste or potentially infectious medical waste.

"National Pollutant Discharge Elimination System" or "NPDES" means the program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and imposing and enforcing pretreatment requirements under the Clean Water Act (33 U.S.C. 1251 et seq.), Section 12(f) of the Environmental Protection Act (415 ILCS 5/12(f)) and 35 Ill. Admin. Code 309., Subpart A and 35 Ill. Admin. Code 310.

"New Facility" means a liquid waste handling facility, a transfer station, or a landfill, or unit in a landfill that does not hold a current or valid operating permit issued by the Department of Environment.

"NPDES permit" means a permit issued under the NPDES program.

"Odor Nuisance" see Malodor.

"One hundred (100) year flood plain" means any land area which is subject to a one percent or greater chance of flooding in a given year from any source.

"One hundred (100) year, 24 hour precipitation event" means a precipitation event of 24 hour duration with a one percent or greater chance of occurring in a given year.

"Operator" means a person who has charge, care or control of the site; who is responsible for the operation and maintenance of the site; or who is entitled to control or direct the management of the site.

"Ordinance" means the City of Chicago Environmental Protection and Control Ordinance, Chapter 11-4 of the Municipal Code of Chicago.

"Owner" means a person who has an interest, directly or indirectly, in land, including a leasehold interest, on which a person operates and maintains a facility. The owner is the operator if there is no other person who is operating and maintaining a facility.

"Permit Area" means the entire horizontal and vertical region occupied by a permitted waste disposal, handling or treatment facility.

"Person" means any individual natural person, trustee, court-appointed representative, syndicate, association, partnership, co-partnership, joint stock company, limited liability company, trust, estate, firm, club, company, corporation, business trust, institution, agency, government corporation, municipal corporation, city, county, municipality, district or other political subdivision, department, bureau, agency or instrumentality of federal state or local government, contractor, supplier, vendor, installer, operator, user, or owner, or any officers, agents, employees, factors, or any kind of representative thereof, in any capacity, acting either for himself, or for any other person, under either personal appointment or pursuant to law, or any other entity recognized by law as the subject of rights and duties. The masculine, feminine, singular or plural is included in any circumstance.

"Pollution Control Waste" means any liquid, solid, semi-solid or gaseous waste generated as a direct or indirect result of the removal of contaminants from the air, water or land and which poses a threat or potential threat to human health or to the environment or with inherent properties which make the disposal of such waste in a landfill difficult to manage by normal means. "Pollution Control Waste" includes but is not limited to, water and wastewater treatment plant sludges, baghouse dusts, landfill waste, scrubber sludges and chemical spill cleanings.

"Potentially Infectious Medical Waste" means wastes generated in connection with: the diagnosis, treatment (i.e. provision of medical services), or immunization of human beings or animals; research pertaining to the provision of medical services; or the production or testing of biologicals as defined by the Illinois Environmental Protection Act and Illinois Pollution Control Board Regulations as amended.

"Processing Area" means any area contained within a facility that handles or processes any waste or recyclable material.

"Professional Engineer" means a person who holds a current and valid certificate of registration and a seal pursuant to the "Illinois Professional Engineering Practice Act" (225 ILCS 325/1 et seq.).

"Professional Surveyor" means a person who holds a current and valid certificate of registration and a seal pursuant to the "Illinois Professional Land Surveyors Act"(225 ILCS 330/1 et seq.).

"Property" means the land described by a legal description that may include a facility and all ancillary structures and/or features associated with that facility.

"Putrescible waste" means a waste that contains organic matter capable of being decomposed by microorganisms so as to cause a malodor, gases, or other offensive conditions, or which is capable of providing food for birds and vectors. Putrescible wastes may form a contaminated leachate from microbiological degradation, chemical processes, and physical processes. Putrescible waste includes, but is not limited to, garbage, offal, dead animals, general household waste, and commercial waste.

"Recyclable Material" means any metal scrap, bi-metal or tin cans, glass and paper products, rubber, textiles, landscape waste or plastic products such as polyethylene terephthalate, high density polyethylene, low density polyethylene, polystyrene, and polypropylene; and any other material designated by the Commissioner by rule or regulation.

"Recycle" or "Recycling" means any process by which materials that would otherwise become municipal waste are collected, separated, or processed and returned to commerce or the economic mainstream in the form of raw materials for new, or reconstituted products, but does not include the recovery of materials for fuel in combustion or energy production processes.

"Resource Conservation Recovery Act" or "RCRA" means the Resource Conservation and Recovery Act of 1976 as amended.

"Run-off" means water resulting from precipitation that flows overland before it enters a defined stormwater receptor (e.g. ditch, pond, sewer, stream channel), any portion of such overland flow that infiltrates into the ground before it reaches the stormwater receptor, and any portion that falls directly into a stormwater receptor.

"Run-on" means water resulting from precipitation that drains overland onto any part of the facility.

"Salvaging" means the return of waste materials to use, under the supervision of the landfill operator, so long as the activity is confined to an area remote from the operating face of the landfill, it does not interfere with or otherwise delay the operations of the landfill, and it results in the removal of all materials for salvaging from the landfill site daily or separates them by type

and stores them in a manner that does not create a nuisance, harbor vectors or cause an unsightly appearance.

"Scavenging" means the removal of waste materials from a solid waste management facility or unit in a manner that does not constitute salvaging.

"Secondary Containment" means a device or structure designed to contain a release of liquid from a tank, piping system, drum storage area, tanker truck loading/unloading area, liquid transfer point, pit, lagoon, impoundment, or similar liquid handling or storage system or device, thereby controlling the release of the liquid and preventing its escape into the environment.

"Seismic Slope Safety Factor" means the ratio between the resisting forces or moments in a slope and the driving forces or moments that may cause a massive slope failure during an earthquake or other seismic event such as an explosion.

"Settlement" means subsidence or compaction caused by gravity, waste loading, changes in groundwater level, chemical changes within the soil and/or adjacent operations involving excavation or other earth moving activities.

"Shredding" means the mechanical reduction in particle size of solid waste. Waste is considered shredded if 90 percent of the waste by dry weight passes a three-inch sieve.

"Site" means all areas of property that are available for use or are used in the operations of a facility.

"Solid Waste" means abandoned or discarded materials that are not defined as a liquid, special, or hazardous waste.

"Source-Separated Recycling" means any process that separates solid waste before the point of collection and keeps the recyclable materials separated from other solid waste until it can be returned to the economic mainstream as raw material for new, reused, or reconstituted products which meet the quality standards of the market place.

"Special Waste" means any industrial process waste, pollution control waste or hazardous waste, and other wastes as defined by the Illinois Environmental Protection Act as amended and in regulations promulgated by the Illinois Pollution Control Board. "Special Waste" includes potentially infectious medical waste.

"Static Safety Factor" means the ratio between resisting forces or moments in a slope and the driving forces or moments that may cause a massive slope failure.

"Storage," whenever used in connection with any waste, means the containment of such waste on a temporary basis.

"Store," whenever used in connection with any waste, means to contain the wastes for future processing or removal from the site.

"Tipping Floor" means the area within a facility where waste handling activities, including waste unloading, waste loading, and/or limited waste sorting are permitted to occur.

"Transfer Station" means a site or facility that accepts waste for sorting and/or consolidation, and for further transfer to a waste disposal, treatment, or handling facility.

"Treatment" means any method, technique, or process designed to change the physical, chemical, or biological character or composition of any waste so as to neutralize such waste, or to render such waste non-hazardous, safer for transport, amenable for recovery, or reduced in volume.

"Twenty-five (25) year, 24 hour precipitation event" means a precipitation event of 24 hours duration with a probable recurrence interval of once in 25 years.

"Uppermost Aquifer" means the first geologic formation above or below the bottom elevation of a constructed liner or wastes - where no liner is present - which is an aquifer, and includes any lower aquifer that is hydraulically connected with this aquifer within the facility's permitted area.

"Unit" means any device, mechanism, equipment or area used for storage, treatment or disposal of waste.

"Utilities" means any service provided to the site that has a dedicated system of service. Utilities may include, but are not limited to: electricity, potable water, process water, telephone, and natural gas.

"Vector" means any living agent, other than human, capable of transmitting, directly or indirectly, an infectious disease.

"Waste" means any discarded or abandoned material in solid, semisolid, liquid, or contained gaseous form, including but not limited to, industrial process waste, hazardous waste, liquid waste, municipal waste, special waste, garbage, sludge from a waste water treatment plant, water supply treatment plant, or air pollution control facility, but excluding: (1) sewage collected and treated in a municipal or regional sewage system; or (2) recyclable materials managed in compliance with the provisions of the City of Chicago Municipal Code and applicable regulations.

"Wetland" means those areas defined in 40 CFR 232.2 (r).

"Working Face" means any part of a landfill where waste is currently being disposed.

"Zone of Attenuation" is the three dimensional region formed by excluding the volume occupied by the waste placement from the smaller of the volumes resulting from vertical planes drawn to the bottom of the uppermost aquifer at the property boundary or 100 feet from the edge of one or more adjacent units.

3.0 Application for a Permit.

Pursuant to Section 11-4-250 of the Municipal Code of the City of Chicago, all waste handling and disposal facilities within the city of Chicago are required to apply for and receive a permit from the Department of Environment as follows:

- New facilities must apply for and receive a permit prior to developing the facility;
- Existing facilities which seek to expand must apply for and receive a permit for the expansion prior to implementing the expansion;
- Existing facilities which seek to modify their operations must apply for and receive a modification to their current permit prior to implementing the modification; and
- Existing facilities must apply to renew their permit on an annual basis prior to the expiration of their current permit.

Permit applications for existing, expanding or new facilities must include the information in Section 11-4-1520 of the Municipal Code of the City of Chicago. These regulations detail the information required by the Municipal Code and provide a Short Form application process for certain facilities.

The permit application requirements for new or expanding facilities are described in Section 3.1 of these regulations. While Section 3.1 summarizes the application requirements, the specific submittal information is contained in Section 4.0 of these regulations for landfills, Section 8.0 of these regulations for liquid waste handling facilities, and Section 12.0 of these regulations for transfer stations.

Existing facilities are required to submit all the information required by Section 11-4-1520 of the Municipal Code and outlined in Section 3.1 of these regulations. However, a Short Form permit application may be used by "qualified existing facilities" (as defined below) to comply with the requirements of the Municipal Code when renewing their permit. This application reduces the quantity of submittal documents. The "qualified existing facilities" which may use the Short Form permit application and a description of the Short Form permit application, are outlined in Section 3.2 of these regulations. If a facility is not eligible for the Short Form application process, the application process outlined in Section 3.1 must be used.

Applications shall contain sufficient evidence to demonstrate that the facility is designed and will be operated in such a manner that the public health, safety, and welfare are protected. To the extent applicable, documentation submitted to other regulatory agencies may be used.

3.1. New, Expanding, or Modifying Facility Permit Application.

New, expanding, and modifying facilities must submit an application and receive a permit prior to beginning operations or, for existing facilities, prior to expanding or modifying their operations. Modifications which will require approval of DOE include, but are not limited to,

changes in capacity, changes in the nature of the facility's operations, changes in facility ownership, changes in facility configuration, and changes in the nature of the process. The application requirements and contents are described below.

3.1.1. Submittal Requirements. The Applicant shall submit one (1) bound original and one (1) unbound copy of all documents. The Applicant shall submit one (1) set of full-size scale drawings along with 11" by 17" or similar size reductions of all drawings in each set of application documents. It is City policy that recycled paper be used and that documents, including the permit application, shall be printed on both sides of each page whenever practicable. At a later time, the Department of Environment may give the applicant the option to file the application as computer files on magnetic and/or optical media.

3.1.2. Application Content. The application for a permit shall include:

3.1.2.1. The information required under Section 11-4-1520 of the Municipal Code which is specified in Section 4.0 of these regulations for landfills, Section 8.0 of these regulations for liquid waste handling facilities, and Section 12.0 of these regulations for transfer stations.

3.1.2.2. Applicant Summary. The application for a permit shall clearly identify the person, partnership, or corporation that is applying for the permit. In the case of a sole-proprietorship, the application for a permit shall include the name, address, and phone number of the owner of the proprietorship. In the case of a partnership or corporation, the application for a permit shall include the name, address, contact name, and phone number of the partnership or corporation.

3.1.2.3. Facility Summary. A facility summary shall be included with the application for a permit. This facility summary shall contain the following information:

- Name of the applicant, including address and phone number.
- Street address and phone number of the facility for which a permit is requested.
- A list of the types and sources of waste to be brought to the facility (e.g. residential waste, commercial waste, liquid waste, solid waste, and/or industrial waste) including a brief description of the composition of each waste stream.
- The average and maximum daily quantities of each type of material anticipated to be brought to the facility during the term of the permit.

- The estimated daily volume of site generated truck traffic including the numbers of inbound and outbound trucks by vehicle type (e.g. packer truck, transfer trailer, tanker truck, roll-off, etc.) and the anticipated peak hour site traffic.
- The total number of full-time and part-time employees at the facility.
- The current zoning district of the facility.
- A brief description of the operations at the facility.
- The facility operating hours.

3.1.2.4. Facility Safety Overview. A facility safety overview shall be included with a permit application. The purpose of the facility safety overview is to provide Department personnel who may inspect the facility with a basic understanding of potential hazards and safety procedures. The facility safety overview shall include the following information:

- A description of the personal protective equipment to be worn by non-employees to the facility.
- A description of the potential hazards present at the facility.
- A summary of facility check-in and escort procedures.
- A summary of facility evacuation procedures.
- A summary of any other applicable facility safety procedures.

3.1.3. Fees. The application for a permit shall be accompanied by the appropriate fee as required by Section 11-4-130 of the Municipal Code of Chicago.

3.1.4. Professional Engineer. The application for a permit shall be prepared under the direction of a Professional Engineer and shall contain the name, address, registration number, seal, and signature of the Professional Engineer.

3.1.5. Demonstration of Financial Security. The application for a permit shall be accompanied by a demonstration of financial security in the amount required in Section 11-4-370 of the Municipal Code and shall be provided in a form acceptable to the City Comptroller and the Commissioner and as may be defined by rule and regulation.

3.2. Existing Facility Permit Application.

Pursuant to the Municipal Code each existing facility is required to apply for the renewal of its permit on an annual basis prior to the expiration of its current permit. If the renewal application is submitted prior to the current permit's expiration, the current permit will remain in effect until the Department acts upon the pending permit application.

The Municipal Code requires that existing facilities submit all the information in Section 11-4-1520 in order to renew their permit. However, the Department has developed a Short Form application which allows "qualified existing facilities" to meet the requirements of the Municipal Code while reducing the quantity of application documents.

A facility is a "qualified existing facility" provided that no changes from its existing permit are proposed, and the facility will be operating in full compliance with the most recent, approved permit application.

If an existing facility seeks modifications in any way to its previous permit, the facility must submit an application with a full description of all changes including all drawings, designs, narratives, and reports required by Section 3.1 and further detailed in Sections 4.0, 8.0, or 12.0 of these regulations, as appropriate. In this case, the Short Form permit application cannot be used.

The "qualified existing facility" Short Form permit application shall include the following:

3.2.1. Applicant Summary. The Short Form permit application shall clearly identify the person, partnership, or corporation that is applying for the permit. In the case of a sole-proprietorship, the application for a permit shall include the name, address, and phone number of the owner of the proprietorship. In the case of a partnership or corporation, the application for a permit shall include the name, address, contact name, and phone number of the partnership or corporation.

3.2.2. Facility Summary. A facility summary shall be included with the Short Form permit application. This summary is intended to be brief in nature. This facility summary shall contain the following information:

- Name of the applicant, including address and phone number.
- Street address and phone number of the facility for which a permit is requested.
- A list of the types and sources of waste to be brought to the facility (e.g. residential waste, commercial waste and/or industrial waste) including a brief description of the composition of each waste stream.
- The average and maximum daily quantities of each type of material anticipated to be brought to the facility during the term of the permit.
- The estimated daily volume of site generated truck traffic including the numbers of inbound and outbound trucks by vehicle type (e.g. packer truck, transfer trailer, tanker truck, roll-off, etc.) and the anticipated peak hour site traffic.
- The total number of full-time and part-time employees at the facility.
- The current zoning district of the facility.
- A brief description of the operations at the facility.
- The facility operating hours.

3.2.3. Facility Safety Overview. A facility safety overview shall be included with a Short Form permit application. The purpose of the facility safety overview is to provide Department personnel who may inspect the facility with a basic understanding of potential hazards and safety procedures. The facility safety overview shall include the following information:

- A description of the personal protective equipment to be worn by non-employees to the facility.
- A description of the potential hazards present at the facility.
- A summary of facility check-in and escort procedures.
- A summary of facility evacuation procedures.
- A summary of any other applicable facility safety procedures.

3.2.4. Fees. The Short Form permit application shall be accompanied by the appropriate fee as required by Section 11-4-130 of the Municipal Code of Chicago.

3.2.5. Demonstration of Financial Security. The Short Form permit application shall be accompanied by a demonstration of financial security in the amount required in Section 11-4-370 of the Municipal Code and shall be provided in a form acceptable to the City Comptroller and the Commissioner and as may be defined by rule and regulation.

3.2.6. Real Estate Taxes. The Short Form permit application shall be accompanied by proof of payment of real estate taxes, as required by Section 11-4-1520(A)(2) of the Chicago Municipal Code, in the form of copies of the most recent tax bill and canceled check; or the most recent tax bill stamped paid by the Cook County Assessor's Office.

3.2.7. Affidavit. The Short Form permit application shall be accompanied by a notarized affidavit from the applicant stating that the facility operations for the coming permit year shall be consistent with those represented in the most recent, approved permit application prepared in accordance with Sections 4.0, 8.0, or 12.0 of these regulations. Further, this affidavit shall state that no changes shall be made to facility operations without prior written approval from the Department.

At least once every five (5) years, without exception, each existing facility is required to submit an application which provides all of the information required by Section 11-4-1520 of the Municipal Code of the City of Chicago which is detailed in Section 3.1 and Sections 4.0, 8.0, or 12.0 of these regulations. The Commissioner may, at his or her discretion, require an application which provides all of the information at any time.

3.3. Completeness Review

Upon receipt of an application, the Department will provide an initial completeness review as follows:

- within 30 days for transfer stations and liquid waste handling facilities; and for landfills which are renewing their permits with no modifications.
- within 90 for new, expanding, or modifying landfills

The time frame for a complete review and approval/denial decision shall be as outlined in the Municipal Code.

Notwithstanding the above time frames, pursuant to Section 11-4-1520 of the Municipal Code, the Department of Environment may require additional information at any time during the application review process. The applicant's responsiveness in providing such additional information to the Department may impact the review time frames

LANDFILL PERMIT APPLICATION REQUIREMENTS AND LOCATION, OPERATING AND DESIGN STANDARDS

4.0 Landfill Facility Permit Requirements.

A complete, detailed permit application, containing at a minimum the information required in Sections 4.1 through 4.7, shall be required for the following:

- developing and operating a new landfill facility;
- expanding an existing landfill facility;
- modifying an existing facility's permitted operations; and
- renewing an existing facility permit except when the Short Form application process may be used as outlined in Section 3.0 of these regulations.

The application shall contain narratives, drawings, diagrams, analyses, and calculations necessary to satisfy the requirements of these regulations and demonstrate that the landfill facility will be designed and operated to protect the public health, safety, and welfare at all times.

4.1. Owner's Authorization. [Section 11-4-1520(A)(1)] The application for a permit shall include a notarized letter, signed by the property owner that authorizes use of the property for a landfill. This letter is required even if the applicant is the owner of the property.

4.2. Property Taxes. [Section 11-4-1520(A)(2)] The application for a permit shall include evidence of payment of real estate property taxes by providing copies of the most recent tax bill and check; or by providing a copy of the most recent tax bill that has been stamped paid by the Cook County Assessor's office. The PIN numbers for all areas of the facility shall also be provided.

4.3. Variance in the Nature of a Special Use. [Section 11-4-1520(A)(3)] For new or expanding facilities the application for permit shall contain all reports and information necessary to obtain a Variance in the Nature of a Special Use (Special Use Variance) from the Zoning Board of Appeals (ZBA). If the landfill facility has an existing Special Use Variance, the application shall contain copies of the variance issued by the ZBA and a demonstration that the landfill facility is in compliance with the Special Use Variance and any conditions attached to the variance.

4.4. Design Report. The application for permit shall contain a design report for the landfill facility that shall include the following components, in order:

4.4.1. Plot Plan [Section 11-4-1520(A)(4)]. The design report shall contain a plot plan drawing(s) of the landfill facility. This drawing(s) shall be prepared at a legible scale, no smaller than one inch equals 200 feet. The plot plan drawing(s) shall include the following components, at a minimum:

4.4.1.1. The landfill facility site boundaries and the location of all facility buildings, access roads, parking areas, and any ancillary structures or features.

4.4.1.2. Include topographic contours at a minimum two-foot contour interval of the facility property. In areas of steep relief, a minimum 10 foot contour interval may be used to enhance clarity.

4.4.1.3. For new facilities include a minimum buffer zone of 1000 feet around the facility boundary.

4.4.1.4. Indicate the limits of waste disposal, waste storage, and/or waste handling areas.

4.4.1.5. Indicate all streams, rivers, ponds, lakes, and wetlands.

4.4.1.6. Indicate all residence and property zoned as residential within 1000 feet of the property boundary.

4.4.1.7. Indicate that extent and composition of the buffer zone required by the City of Chicago Zoning Ordinance.

4.4.1.8. Any characteristic or feature that has a location standard established in Section 5.0 of these regulations or any other applicable standards. The plans shall identify the characteristic or feature and indicate the setback distance from the landfill facility boundary.

4.4.2. USGS Site Location Map. [Section 11-4-1520(A)(30)] The design report shall contain a USGS 7.5 Minute Quadrangle Map that provides sufficient coverage to include the following:

4.4.2.1. The delineated boundaries of the landfill site.

4.4.2.2. A clearly marked one-mile radius around the entire site to identify features including residential property, streams, rivers, ponds, lakes, wetlands, roads, highways, schools and parks within this one-mile perimeter.

4.4.3. Aerial Photograph Drawing(s). [Section 11-4-1520(A)(30)] For new and expanding facilities the design report shall contain an aerial photograph drawing(s) that provides sufficient coverage to include the following:

4.4.3.1. The delineated boundaries of the landfill facility and site property.

4.4.3.2. A clearly marked ½-mile radius around the entire site to identify features including residential property, streams, rivers, ponds, lakes, wetlands, roads, highways, schools and parks within this ½-mile perimeter.

4.4.3.3. Zoning districts clearly delineated with a ½-mile radius of the facility site. The district boundaries and their respective designations shall be clearly marked.

4.4.3.4. Any characteristic or feature that has a location standard established in Section 5.0 of these regulations or any other applicable stands. The plans shall identify the characteristic or feature and indicate the setback distance from the landfill facility boundary.

4.4.4. General Layout of the Facility. [Section 11-4-1520(A)(5)] The design report shall contain sufficient scale drawings to describe the general layout of the facility. These drawings, at a minimum, shall illustrate the following:

4.4.4.1. A scale no smaller than 1 inch equals 200 feet. The scale shall be represented on each sheet in graphical format.

4.4.4.2. The external layout of buildings and structures.

4.4.4.3. The layout and location of all fixed equipment.

4.4.4.4. The limits of waste disposal, waste storage, and/or waste handling areas.

4.4.4.5. All pertinent features of the stormwater management system.

4.4.4.6. All pertinent features of the wastewater management system.

4.4.4.7. The locations of the primary utilities within and adjacent to the landfill.

4.4.4.8. The locations of the primary water sources and water distribution system components for employee consumption, fire suppression, facility cleaning, and dust control.

4.4.4.9. The locations of all fire suppression equipment and flammable material storage areas.

4.4.4.10. The locations of all site control features and all screening devices such as fences, gates, and signage.

4.4.4.11. The locations and layout of all parking and queuing areas.

4.4.4.12. The locations and layout of all employee facilities.

4.4.4.13. The location of all first-aid equipment and other emergency supplies and equipment.

4.4.5. Survey. [Section 11-4-1520(A)(6)] The design report shall contain a Legal Plat of Survey, prepared by a Professional Surveyor, that depicts the landfill facility boundaries and the boundaries of the disposal unit or units. The landfill site shall have a minimum of two permanent survey monuments. The plat of survey shall illustrate the coordinates of these monuments in state plane coordinates and on-site coordinates. The elevation of each monument shall be determined in mean sea level and Chicago City Datum.

4.4.6. Legal Description. [Section 11-4-1520(A)(7)] The design report shall contain legal descriptions, prepared by a Professional Surveyor, that describe the landfill facility boundaries and the boundaries of disposal unit or units. The landfill facility boundaries shall be identical to those provided with the financial security required by Section 11-4-370 of the Chicago Municipal Code. The legal descriptions shall include the area contained within each boundary.

4.4.7. Utilities. [Section 11-4-1520(A)(8)] For new and expanding facilities, the design report shall demonstrate that adequate utility capacity is readily available for the operations of the landfill facility. Utilities may include, but are not limited to: electricity, potable water, process water, telephone, and natural gas. The information in the design report regarding utilities shall include:

4.4.7.1. A plan scaled drawing showing the location of all utilities within and adjacent to the landfill facility.

4.4.7.2. Calculations demonstrating what the peak utility demands are for proper operation of the landfill facility. This shall include, but is not limited to, peak water, sewage and gas and/or electrical demands.

4.4.7.3. A demonstration that sufficient utility capacity is available to the landfill facility to satisfy the demands calculated in 4.4.7.2. Such documentation may be in the form of an approval letter or permit from the utility provider.

4.4.8. Water Sources. [Section 11-4-1520(A)(11)] The design report shall demonstrate that sufficient quantities of water or other appropriate materials for employees consumption, fire protection, dust control, and cleaning are available. For this demonstration, the design report shall include:

4.4.8.1. The locations of each source of water and/or other material.

4.4.8.2. The total amount of water and/or other materials available from each source.

4.4.8.3. The rate at which water and/or other materials can be obtained from each source.

4.4.8.4. A listing of equipment and its specifications that is used to pump, distribute and/or convey water and/or other materials.

4.4.9. Site Security. [Section 11-4-1520(A)(13)] The design report shall demonstrate that the landfill facility is secure from unauthorized access at all times. This demonstration shall include at a minimum:

4.4.9.1. A description and specifications of the fences, gates, and other barriers that prevent unauthorized access to the landfill facility.

4.4.9.2. A description of the security measures taken when the landfill facility is opened and closed.

4.4.10. Back-up Capacity. [Section 11-4-1520(A)(14)] The design report shall demonstrate that the facility has provisions for the removal, storage, or covering of wastes in the event of an equipment failure or emergency situation. This demonstration shall include at a minimum:

4.4.10.1. Details and calculations demonstrating that provisions exist for the removal, storage, or covering of wastes in the event of an equipment failure or emergency situation.

4.4.10.2. A plan for restricting the flow of material into the facility during emergencies, equipment failures, or maintenance including the decision criteria for implementing the plan.

4.4.10.3. Detailed descriptions of procedures necessary to remove, containerize, or otherwise dispose of waste in the event that disposal in the current operating area is restricted or stopped.

4.4.11. Structure and Fixed Equipment. [Section 11-4-1520(A)(17)] The design report shall demonstrate that all structures and fixed equipment are so designed that the landfill facility can be operated as proposed and in a safe manner. This demonstration shall include, but not be limited to:

4.4.11.1. Drawings indicating the layout of structures including fixed equipment.

4.4.11.2. Diagrams of all waste tipping, handling, processing, disposal and loading areas indicating the operating clearance of all fixed and mobile equipment.

4.4.11.3. Calculations of the waste handling capacity of all fixed equipment.

4.4.11.4 Operating and maintenance specifications for all fixed equipment.

4.4.12. Devices and Process. [Section 11-4-1520(A)(18)] The design report shall demonstrate that the devices and processes used at the facility are designed so that the facility can be operated as proposed and in a safe manner. This demonstration shall include, but not be limited to:

4.4.12.1. Listings of equipment types, processing or handling capacity, specific uses, manpower requirements, and maintenance requirements for all equipment used at the landfill facility.

4.4.12.2. Detailed calculations used to determine the information provided in Section 4.4.12.1.

4.4.13. Disposal Capacity. [Section 11-4-1520(A)(10)] The design report shall demonstrate that sufficient disposal capacity exists to safely handle the amount of waste material intended for the facility. This demonstration shall include, but not be limited to:

4.4.13.1. Detailed volumetric diagrams and calculations of all disposal areas including a determination of the total permitted capacity and the remaining capacity.

4.4.13.2. Drawings of the maximum horizontal and vertical limits of waste disposal areas.

4.4.13.3. A scale plan drawing that clearly illustrates the elevations of the landfill bottom liner (MSL and CCD).

4.4.13.4. Representative cross-section drawings of the landfill unit(s).

4.4.14. Water Drainage. [Section 11-4-1520(A)(20)] The design report shall demonstrate that adequate systems exist to handle stormwater and wastewater flows from the landfill facility. This demonstration shall include:

4.4.14.1. Drawings, specifications, and design calculations to demonstrate effective control of run-on and run-off from the landfill facility.

4.4.14.2. Copies of the facility's NPDES and MWRD discharge permits or anticipated submittal date, if applicable and/or any other permit issued by the IEPA Bureau of Water.

4.4.14.3. Documentation that any receiving sewer system has sufficient capacity to handle the quantity of stormwater generated by the landfill facility. Such documentation may be in the form of an approval letter or permit from the utility provider.

4.4.14.4. Drawings, specifications, and design calculations to demonstrate effective handling, storage, treatment, and/or disposal of leachate generated by the landfill facility.

4.4.14.5. Demonstration that the landfill facility's wastewater management system is in compliance with Section 7.8 of these regulations.

4.4.14.6. Demonstration that any receiving sewer system has sufficient capacity to handle the quantity of leachate generated by the landfill facility.

4.4.15. Traffic. [Section 11-4-1520(A)(21)] The design report shall demonstrate that traffic generated by the landfill facility will not significantly affect existing traffic flows, and that the points of ingress and egress are designed according to Illinois Department of Transportation (IDOT) standards. For new, expanding, and existing facilities, this demonstration shall include, but not be limited to:

4.4.15.1. Calculations of the average and maximum number of vehicles generated by the landfill facility as well as an hourly breakdown of vehicle traffic.

4.4.15.2. Diagrams of the points of ingress and egress depicting the layout of the ingress/egress points, sight distances, and improvements necessary to minimize accidents at the ingress/egress points.

4.4.15.3. A listing of roads and highways designated for use by traffic generated by the landfill facility.

4.4.15.4. A demonstration that traffic generated by the landfill facility will not interfere with the flow of traffic or exceed the intended level of service of any public street or right-of-way.

For new and expanding facilities, this demonstration shall include the components listed in Section 4.4.15.1 through 4.4.15.4, in addition to:

4.4.15.5. Traffic counts taken in hourly intervals at all ingress/egress points during the anticipated operating hours of the landfill facility. The entire operating period shall be represented in this traffic count study and shall identify the peak hours of traffic volume occurring in the morning and afternoon. The traffic counts shall include classification of vehicles..

4.4.15.6. A description of the measures taken to reduce the impact of the landfill facility generated traffic on the existing traffic flows.

4.4.16. Parking. [Section 11-4-1520(A)(22)] The design report shall demonstrate that sufficient parking exists at the facility. This documentation shall include, but not be limited to:

4.4.16.1. A listing of the number of employees at the landfill facility and the corresponding number of parking spaces.

4.4.16.2. A layout of all parking areas including short-term truck parking and truck queuing areas. This layout may be shown on the general layout required in Section 4.4.4.

4.4.17. Employee Facilities. [Section 11-4-1520(A)(23)] The design report shall contain a description of the employee facilities available at the site. At a minimum, these employee facilities shall include washrooms, toilets, and potable water.

4.4.18. Screening. [Section 11-4-1520(A)(25)] The design report shall demonstrate that the screening or fencing of the facility will adequately control noise, dust, blowing litter, and will prevent unauthorized access to the site. This demonstration shall include, but not be limited to:

4.4.18.1. A description of the screening or fencing for the landfill facility.

4.4.18.2. A detailed drawing of the construction of the screening or fencing and the placement around the landfill facility. This drawing may be included in the general layout required in Section 4.4.4.

4.4.18.3. A demonstration that the screening or fencing will control noise, dust, blowing litter, and unauthorized access.

4.4.19. Buffer Zone. [Section 11-4-1520(A)(28)] The design report shall describe the buffer zone surrounding the facility and shall demonstrate that it meets the definition of a buffer zone required for a landfill by the Chicago Zoning Ordinance. This demonstration shall include:

4.4.19.1. A description of the buffer zone required for this facility by the Chicago Zoning Ordinance.

4.4.19.2. A drawing clearly depicting the extent of the buffer zone and identifying the applicable characteristics of the buffer zone.

4.4.19.3. An analysis of the effectiveness of the buffer zone.

4.4.20. Environmental Assessment. [Section 11-4-1520(A)(29)] For new or expanding facilities, the design report shall include a complete copy of the Environmental Assessment prepared pursuant to the Chicago Zoning Ordinance. The applications shall also include responses and/or additional information related to any recommendations included in the Environmental Assessment.

4.4.21. Monitoring Wells. [Section 11-4-1520(C)(1)] The operating plan shall contain the locations of monitoring wells for the facility and specific details concerning the monitoring well construction and locations. This shall include, but not be limited to:

4.4.21.1. Drawings indicating the location of all monitoring wells and piezometers for the facility.

4.4.21.2. Construction details for all monitoring wells and piezometers.

4.4.21.3. A demonstration that the location and the horizontal and vertical spacing of well screens is sufficient to detect a release from the landfill. The application shall demonstrate that the well screens are located such that if a release is detected, there is sufficient area and time to implement remediation measures that will minimize or prevent the release's impact beyond the property boundary.

4.4.21.4. A description of monitoring well abandonment procedure which detail any backfilling or sealing including a demonstration that an abandoned well will not serve as a potential contaminant pathway.

4.4.22. Hydrogeological Investigation. [Section 11-4-1520(C)(3)] For new and expanding facilities, the design report shall contain the results of a comprehensive hydrogeological investigation of the site and the surrounding area. This investigation shall include, but not be limited to:

4.4.22.1. A narrative describing the local and regional hydrogeology for the subject site.

4.4.22.2. Logs of all soil borings taken at the facility. Sufficient site-specific hydrogeological information shall be obtained to verify that hydrogeological conditions will protect the public health, safety and welfare. All borings shall be continuously sampled in accordance with appropriate ASTM testing standards and shall be retained for City inspection until such time as a permit has been issued. Detailed information shall be presented on the boring logs in order to provide an accurate and clear depiction of the site geology extending down to the bottom of the uppermost aquifer or 20 feet below the surface of bedrock, whichever is shallower.

4.4.22.3. Sufficient regional geologic information to correlate the on-site data to the surrounding off-site area. Such information shall include logs of boring, well data, and published information and data.

4.4.22.4. A minimum of four cross-sections through the site extending 1,000 feet beyond the property boundary and to the bottom of the uppermost aquifer or 10 feet below the tip of bedrock, whichever is shallower. Existing, published information may be used. At least one cross-section shall be perpendicular to the other cross-sections. The cross-sections shall indicate the geologic units under the site, the watertable, the uppermost aquifer's potentiometric surface, the landfill liner, the zone of attenuation, the waste boundary, and the property boundary.

4.4.22.5. The results of all soil tests performed on samples taken from borings. All tests shall be conducted according to appropriate ASTM testing standards and results reported according to the same testing standards. Soil tests shall include, but not be limited to:

- Moisture Content - minimum one test for each sample taken from every boring.
- Ion Exchange Capacity - minimum one test for each boring, including a representative of each unconsolidated material type present on site, conducted in accordance with the American Society of Agronomy Method, using a one normal solution of NH_4 aqueous at pH 7.0 +/- 0.1.
- Hydraulic Conductivity (permeability) - minimum one test for each boring to include each unconsolidated material found at the site. Vertical and lateral hydraulic conductivity testing shall be performed for in-situ soils. For placed and compacted liners, hydraulic conductivity testing shall be performed on the soil mix to be used for the liner. Samples taken for laboratory hydraulic conductivity testing shall be obtained by thin-walled (Shelby) tubes (minimum 3-inch diameter).
- Standard and Modified Proctor - minimum one test for each boring to include the materials to be used in the construction of the liner bottom and side slopes as well as each unconsolidated material found at the site.
- Shear-Strength - minimum one test for each boring to include the materials to be used in the construction of the liner bottom and side slopes as well as each unconsolidated material found at the site.
- Compressibility - minimum one consolidation test for each boring to include each unconsolidated material found at the site.

- Atterberg Limits - minimum one test for each auger boring, including a representative of each unconsolidated material type present on site.
- Grain size analysis - minimum one analysis for each boring and each soil type classified in the field.

Sufficient numbers of tests shall be performed to fully characterize each material identified beneath the site down to the bottom of the uppermost aquifer. If insufficient numbers of tests exist, DOE may request additional investigations be performed to characterize the soil materials below the site.

4.4.22.6. Four potentiometric surface maps of the uppermost aquifer corresponding to four consecutive quarters of potentiometric surface measurements.

4.4.22.7. An analysis of the rate and direction of the flow of groundwater in the uppermost aquifer.

4.4.22.8. An analysis of the potential contaminant migration pathways that may exist in the geologic structures surrounding the facility.

4.4.23. Liner. [Section 11-4-1520(C)(4)] The design report shall contain documentation to demonstrate that the liner system is designed and constructed to prevent contamination of the surrounding environment and meets the minimum standards set forth in Section 7.1 of these regulations. This demonstration shall include, but not be limited to;

4.4.23.1. Details and specifications of the liner system including design drawings, construction details, quality assurance testing results, and construction as-built drawings. For existing units, the design report shall contain all information regarding the construction of the liner system. If sufficient information is not available, DOE may place additional conditions on the unit or require the closure of the unit due to uncertainty of the liner integrity.

4.4.23.2. Calculations of the amounts of liner materials required for construction of the liner and demonstration that sufficient quantities are available for construction. Detailed descriptions of each borrow source location shall be provided. This description shall include testing data on each borrow source to demonstrate liner suitability. Such data shall include, at a minimum, Atterberg Limits, moisture content, grain size analysis, modified proctor test results, horizontal

permeability test results, vertical permeability test results, consolidation test results and shear strength test results.

4.4.23.3. A comprehensive construction quality assurance plan that provides for certification of materials and construction by a third party independent professional engineer.

4.4.23.4. Copies of all liner acceptance reports, permits, and/or correspondence received from the IEPA.

4.4.23.5. Input data, results, and an analysis of a water balance model predicting the percolation through the liner system.

4.4.24. Cover. [Section 11-4-1520(C)(5)] The design report shall contain information regarding the various cover materials intended for use at the facility. This information shall demonstrate that the cover materials effectively contain the waste and minimize infiltration of stormwater into the landfill. All covers and materials shall meet the minimum standards specified in Section 7.5, 7.6 and 7.7 of these regulations. This demonstration shall include, but not be limited to:

4.4.24.1. Details and specifications of the daily cover material including the quantity of daily cover needed, the quantity of daily cover available, material properties, and placement methods.

4.4.24.2. Details and specifications of the intermediate cover material, the quantity of intermediate cover needed, the quantity of intermediate cover available, material properties, and placement methods. Detailed descriptions of each borrow source location shall be provided including sufficient test data on each borrow source to demonstrate that the material properties are suitable for cover materials.

4.4.24.3. Details and specifications of the final cover system materials including the quantity of materials needed, quantity of materials available, material properties, and placement methods. This shall include a demonstration that the final cover system is capable of resisting damage due to the differential settlement of waste. Detailed descriptions of each borrow source location shall be provided including sufficient test data on each borrow source to demonstrate that the material properties are suitable for cover materials.

4.4.24.4. A comprehensive construction quality assurance plan that provides for certification of materials and construction by an independent professional engineer.

4.4.24.5. Copies of all Certificates of Closure received from the IEPA.

4.4.24.6. Input data, results, and an analysis of a water balance model determining the run-off from the final cover and the infiltration into the landfill over the facility's life.

4.4.25. Phasing Plan. [Section 11-4-1520(C)(6)] The design report shall contain a phasing plan and construction schedule for the facility. This plan shall include:

4.4.25.1. Drawings indicating the sequential progression of the landfill development. The drawings shall clearly identify all areas certified closed, currently operational, under construction, or permitted but undeveloped.

4.4.25.2. A construction schedule identifying the anticipated dates of construction, filling, and closure of each phase of the landfill. The construction schedule shall include calculations and a narrative description for each phase of operations.

4.4.26. Landfill Grade. [Section 11-4-1520(C)(7)] The design report shall contain a final grading plan and a demonstration that the final slopes are stable and are designed to prevent erosion of the final cover system. This plan and demonstration shall include, but not be limited to:

4.4.26.1. A topographic map of the proposed final contours of the facility. The minimum scale shall be one inch equals 200 feet with a minimum contour interval of five feet. Contour elevations shall reflect both mean sea level and Chicago City Datum.

4.4.26.2. A topographic map of the existing grades at the facility at a minimum scale of one inch equals 200 feet with a minimum contour interval of five feet. The topographic map shall note all areas that have been modified since the pre-development survey of the facility. At a minimum, the topographic map of the facility must be revised every three years. Contour elevations shall reflect both mean sea level and Chicago City Datum.

4.4.26.3. An erosion control plan describing the methods used to prevent erosion of the final cover system. This plan shall also include inspection, maintenance, and repair procedures for maintaining the integrity of the final cover system.

4.4.26.4. Slope stability demonstration for short and long-term stability under static and seismic conditions. The minimum Factor of Safety under static and seismic conditions shall be 1.5 and 1.3 respectively.

4.4.26.5. A demonstration that the maximum elevation of waste placement at the landfill shall not exceed the maximum elevation established in the permit at any time during the life of the facility.

4.4.27. Leachate Collection. [Section 11-4-1520(C)(8)] The design report shall include details of a leachate collection system and a demonstration that the system is capable of maintaining a maximum leachate head on the liner of one foot throughout the entire landfill and that the system meets the minimum standards specified in Section 7.2 of these regulations. The design report shall include, but not be limited to:

4.4.27.1. Details and drawings of the leachate collection system.

4.4.27.2. Calculations of the amount of leachate generated throughout the life of the facility and for 30 years after closure.

4.4.27.3. Design calculations demonstrating that the collection system is sufficiently sized to remove the expected amount of leachate generated by the landfill.

4.4.27.4. A demonstration that the collection system is capable of maintaining a maximum leachate head of one foot over the landfill liner. In existing units, a system shall be installed that is capable of removing, on a monthly basis, a quantity of leachate equal to 2 times the leachate generation rate for that unit, until such time as the leachate level is less the one foot over the landfill liner.

4.4.27.5. Drawings, indicating the location, depth, and method of construction of leachate piezometers in the landfill. The landfill shall have sufficient numbers of leachate piezometers or other devices capable of accurately measuring the level of leachate above the liner.

4.4.27.6. Design details and capacity of the leachate storage system including secondary containment designs for the storage system.

4.4.27.7. A leachate disposal plan including documentation from the conveyance systems owner and disposal facilities that they are capable of conveying and treating the leachate and have sufficient capacity to convey and treat the leachate.

4.4.28. Gas Collection. [Section 11-4-1520(C)(9)] The design report shall include a plan for the testing and collection of methane generated within the landfill. This plan shall demonstrate that the system meets the minimum standards specified in Section 7.3 of the regulations and shall contain, but not be limited to:

4.4.28.1. A description and design details of all landfill gas monitoring devices.

4.4.28.2. A comprehensive landfill gas monitoring program including a monitoring schedule, monitoring procedures, and monitoring constituents.

4.4.28.3. A schedule for the construction and startup of an active gas collection system.

4.4.28.4. Drawings, design details, calculations and specifications for an active gas collection system.

4.5. Operating Plan. The application for permit shall contain an operating plan for the landfill facility that shall include, at a minimum, the following components, in this order:

4.5.1. Types of Waste. [Section 11-4-1520(A)(9)] The operating plan shall include a detailed description of the types of waste and volumes of each waste type accepted at the facility. It shall also include the waste screening measures employed by the facility to ensure that unauthorized wastes are not accepted. This discussion shall include, but not be limited to:

4.5.1.1. A list of all the types of waste and the daily volumes of each waste type accepted or proposed to be accepted at the landfill facility. The list shall be specific and shall not include terms such as "other", "general", "miscellaneous", or similar terms that are vague in nature. Each item included in the list of waste types shall be accompanied by a description of the materials.

4.5.1.2. A description of the service area from which the different types of waste will be accepted.

4.5.1.3. A waste screening plan that provides for monitoring and random inspection of waste entering the landfill facility.

4.5.1.4. An emergency response plan for the immediate segregation and removal of all unauthorized wastes from the landfill facility.

4.5.2. Quantity of Waste. [Section 11-4-1520(A)(10)] The operating plan shall list the quantity of each type of waste specified in Section 4.5.1. that will be handled by the landfill facility on a daily basis. This discussion shall include, but not be limited to:

4.5.2.1. The estimated waste quantities, as the waste enters the gate, shall be provided on a tons per day basis or cubic yards per day basis for each waste type and shall include an average daily quantity and a maximum daily quantity for each waste type. The estimated "gate" and in-place densities shall be included.

4.5.2.2. A demonstration through detailed calculations, flow charts, and operating guidelines that the facility is capable of handling the average and maximum quantities of waste intended for the facility. The demonstration shall consider operating hours, peak periods, peak quantities, processing capacities, number of employees, and other applicable factors.

4.5.2.3. A demonstration that the landfill facility has a system that is capable of determining and recording the actual amount of waste entering the facility.

4.5.3. Fire Prevention. [Section 11-4-1520(A(12)] The landfill facility shall comply with the requirements of the Chicago Municipal Code and all applicable local, State and Federal laws and regulations relating to fire prevention. The operating plan shall include a Fire Prevention and Response Plan. At a minimum, the Fire Prevention and Response Plan shall include:

4.5.3.1. A description of the safety measures employed to prevent fires.

4.5.3.2. The location and handling procedures for flammable liquids and chemicals stored at the landfill facility.

4.5.3.4. Details and specifications for a fire detection system for the landfill facility.

4.5.3.5. Specifications and locations of all fire suppression equipment including, but not limited to, extinguishers, pumps, hoses, soil stockpiles, etc.

4.5.3.5. A description of the responsibilities of all employees in the event of a fire.

4.5.4. Emergency Communications. [Section 11-4-1520(A)(15)] The operating plan shall contain a description of an emergency communication system. This description shall include, but not be limited to:

4.5.4.1. A listing of all equipment available for routine communications and emergency communications.

4.5.4.2. A listing of authorities that may be contacted in the event of an emergency situation.

4.5.4.2. A description of the internal chain-of-command in the event of an emergency, including a description of responsibilities.

4.5.5. First Aid Equipment. [Section 11-4-1520(A)(16)] The operating plan shall contain a description of the first aid equipment available at the facility. This description shall include:

4.5.5.1. A listing of first aid supplies available at the facility.

4.5.5.2. The location of first aid equipment.

4.5.5.3. The designation of employees that receive Red Cross approved first aid training.

4.5.6. Rodent/Vector Control. [Section 11-4-1520(A)(24)] The operating plan shall contain a plan for the effective prevention and control of rodents and vectors. At a minimum, this plan shall include:

4.5.6.1. A minimum of monthly inspections of the entire landfill facility for rodents and other vectors. A record of the most current inspection and eleven previous inspections shall be maintained at the landfill facility.

4.5.6.2. A detailed description of all measures employed to prevent infestation by rodents and vectors, including good housekeeping practices used to control rodents and vectors.

4.5.6.3. A detailed description of all measures and controls employed (e.g. bait stations and traps) to provide for the control of rodents and vectors

4.5.7. Odor Control. [Section 11-4-1520(A)(26)] The operating plan shall provide a plan for the prevention and treatment of malodors from the landfill facility. This plan shall include, but not be limited to:

4.5.7.1. A description of the methods employed at the facility to prevent malodors from migrating off-site, including an assessment of the effectiveness of such methods.

4.5.7.2. A description of the response measures taken once malodors are detected off-site including an assessment of the effectiveness of such measures.

4.5.7.3. A plan for the handling of extremely noxious waste materials.

4.5.8. Litter. [Section 11-4-1520(D)(4)] The operating plan shall describe all methods used to curtail windblown materials, including the following:

4.5.8.1. The use of structures, fences, natural barriers, or other devices used to prevent material from blowing off-site.

4.5.8.2. Operational plans for the prevention of material blowing off-site. This may include the use of manual labor pickers, mechanical collection devices, the use of portable fences, or the temporary closure of the facility on windy days.

4.5.9. Dust Control. [Section 11-4-1520 (A)(25)]. The operating plan shall describe in detail all methods used to adequately control and minimize any dust emissions occurring both on-site and off-site, including the following:

4.5.9.1. A detailed description of available staffing and all equipment/devices that are maintained on-site and are dedicated for dust control (e.g. location of water sources, water hoses, mechanical street sweepers, water truck, and brooms.)

4.5.9.2. Operational plans for the prevention or minimization of dust emissions on-site and off-site. This may include the use of site staff, the use of watering devices, water truck, brooms, and mechanical street sweepers.

4.5.10. Hours of Operation. [Section 11-4-1520(A)(30)] The operating plan shall specify the hours of operation of the landfill facility. Those facilities requesting authorization for 24-hour per day operations shall provide information justifying the need for said authorization.

4.5.11. Groundwater Monitoring Plan. [Section 11-4-1520(C)(2)] The operating plan shall contain a comprehensive groundwater monitoring plan demonstrating that the groundwater monitoring system is capable of detecting a release from the facility. This plan shall include, but not be limited to:

4.5.11.1. A listing of constituents monitored at each monitoring point, the maximum allowable predicted concentration (MAPC) for each constituent at each monitoring point, and the applicable groundwater quality standard (AGQS) for each constituent. The MAPCs and AGQSs shall be established in accordance with the applicable state and federal rules and regulations.

4.5.11.2. All documentation used to determine the list of constituents and the maximum allowable predicted concentrations of each constituent at each monitoring point.

4.5.11.3. A listing of constituents monitored in leachate from the landfill.

4.5.11.4. The schedule for sampling all monitoring wells including the constituents monitored during each routine sampling event.

4.5.11.5. Reporting requirements for quarterly groundwater samples. The quarterly monitoring results shall be provided to the Department of Environment. The quarterly submittal shall include a summary table that includes the results of the current monitoring results, results for the three previous monitoring events, the MAPC for the specific well, and the AGQS for each constituent.

4.5.11.6. Procedures for verifying and reporting exceedances of MAPC's or AGQS's including procedures and a schedule for the design and implementation of remedial action in the event of a verified exceedance.

4.5.11.7. A requirement that copies of all documents sent to the IEPA related to confirmation of monitored increase, assessment monitoring, assessment of potential groundwater impact, and remedial action be sent to the Department of Environment.

4.5.11.8. A description of the groundwater sampling procedures, including sampling equipment to be utilized.

4.5.12. Erosion Control. [Section 11-4-1520(C)(10)] The operating plan shall demonstrate that erosion at the site is minimized. This demonstration shall include:

4.5.12.1. Descriptions of the methods used to prevent erosion at the site.

4.5.12.2. Drawings, design details, calculations, and specifications of drainage structures at the site. The drainage structures shall be sized and designed to accommodate the 25 year, 24 hour precipitation event without damage to the drainage structures or erosion of the facility.

4.6. Closure Plan. [Section 11-4-1520(C)(11)] The application shall contain a closure plan to be implemented when waste activities cease at the landfill facility. The closure plan shall include, but not be limited to:

4.6.1. Closure Plan Activities. The closure plan shall include a listing of activities that will occur when waste related activities cease at the landfill facility including a listing of materials necessary for closure and a schedule for the completion of the closure activities.

4.6.2. Waste Removal Plan. A plan for the removal of all waste material that is not intended to be disposed of at the facility.

4.6.3. Equipment Decommissioning. The closure plan shall include a plan for the decommissioning and cleaning of all equipment and structures at the facility that contacted waste materials.

4.6.4. Construction Quality Assurance Plan. A construction quality assurance plan for the construction of the final cover system and any other structures associated with closure. These shall include a gas management system, leachate collection system, erosion control, and groundwater monitoring system.

4.6.5. Third-Party Procedures. Procedures for the certification of closure by a third-party, independent professional engineer.

4.6.6. Aerial Photo. A provision for a color aerial photo of the landfill upon completion of the closure activities including establishment of vegetation on the landfill.

4.6.7. Cost Estimates. The closure plan shall include cost estimates for the completion of all closure activities. The cost estimates shall be based on the cost necessary for closure at anytime during the life of the facility and shall not be discounted to current values. The cost estimate should reflect a worst case scenario.

4.6.8. Financial Assurance. Documentation that financial assurance is available to complete all closure activities. The financial assurance must be greater than or equal to the closure cost estimate total determined in Section 4.6.7.

4.6.9. Post-Closure Activities. A listing of post-closure activities that will occur when closure of the facility is complete including a schedule and cost estimates for the implementation of the proposed post-closure activities.

4.6.10. EPA Closure Plan Certification. A copy of the IEPA closure plan certification for the facility.

4.7. Additional Requirements. [Section 11-4-1520(A)(30)] The Commissioner may require additional information be submitted if it is determined that the information in the application is insufficient or if the nature of the landfill facility warrants additional information to ensure the facility can be operated as proposed.

5.0 Landfill Location Standards.

All new and expanding landfill facilities seeking permits to operate within the City of Chicago shall be located in accordance with the following requirements. The requirements of this section do not exempt landfill facilities from securing additional approvals and permits as required by local, State, and Federal regulations. In all cases, the proposed facility location shall be such that public health, safety and welfare are protected.

5.1. Illinois Environment Protection Act. The landfill shall comply with all applicable setbacks established by the Illinois Environmental Protection Act and regulations adopted thereunder.

5.2. Occupied Dwellings. A landfill facility shall not be located within 800 feet any property zoned primarily for residential purposes or any occupied dwelling, unless written permission from the owner is given for a closer distance.

5.3. Schools and Hospitals. A landfill facility shall not be located within 800 feet of any property used for a school, hospital, nursing home, or convalescent center, unless written permission from the owner is given for a closer distance.

5.4. Lake Michigan. A landfill facility shall not be located within the Lake Michigan and Chicago Lakefront Protection District as specified in Lake Michigan and Chicago Lakefront Protection Ordinance (Chapter 16-4 of the Chicago Municipal Code).

5.5. 100-Year Flood Plain. A landfill facility and all ancillary structures, including storage areas, shall not be located within the 100-year flood plain, unless the landfill facility can demonstrate compliance with the Chicago Flood Control Ordinance (Chapter 16-6 of the Chicago Municipal Code) and all other applicable state and federal requirements.

5.6. Wetlands. A landfill shall not have a negative impact on wetlands occurring on the subject site or near the subject site in accordance with Section 404 of the Clean Water Act (33 U.S.C. 1344) unless application is made and a permit received from the US Army Corps of Engineers and DOE approves such impact as part of the facility's permit.

5.7. Endangered Species. A landfill facility shall not pose a detrimental threat to any endangered species of plant, fish, or wildlife as defined by the Endangered Species Act (16 U.S.C. 1531 et seq.) or the Illinois Endangered Species Protection Act (520 ILCS 10/1 et seq.).

5.8. Historic and Natural Areas. A landfill facility shall not pose a detrimental threat to any historic site as listed pursuant to the National Historic Preservation Act (16 U.S.C. 470 et seq.) or the Illinois Historic Preservation Act (20 ILCS 3410/1 et seq.) and designated in

the Chicago Zoning Ordinance, or any natural landmark, as designated by the National Park Service, the Illinois State Historic Preservation Officer, or as a Dedicated Illinois Nature Preserve pursuant to the Illinois Natural Areas Preservation Act (525 ILCS 30/1 et seq.).

5.9. Airport. A new landfill facility shall not be located within 10,000 feet from the nearest airport runway, unless the applicant can demonstrate that the facility will not violate height restrictions or pose a bird hazard to aircraft.

5.10. Waste Boundary Set-Back. The waste disposal boundary of a landfill facility shall be a minimum of 100 feet from the property boundary of the facility.

6.0 Landfill Operating Standards.

Landfills permitted by the Department of Environment shall comply with the following operational requirements:

6.1. Permit. The landfill facility shall be operated in accordance with the current permit application on file with the Department of Environment; the current, written permit issued by the Department of Environment; the Standard Conditions contained in the current, written permit; and the Special Conditions contained in the current, written permit. A copy of the permit shall be maintained at the facility and shall be reviewed by the facility site manager. If the current permit application and the current, written permit conflict the current, written permit shall govern.

6.2. Hours of Operations. The facility shall only accept waste materials during those hours specified by the permit issued by DOE. In addition to the hours specified in the permit for the acceptance of waste materials, the permit may also specify hourly restrictions on other ancillary operations that occur at the facility.

6.3. Vehicles and Equipment. The facility shall have sufficient vehicles and equipment available at all times to process all incoming waste materials.

6.4. Litter. The landfill facility shall be operated to prevent wind blown litter outside the facility. At a minimum, all wind blown litter shall be picked up on a daily basis. All vehicles entering and exiting the site shall have devices capable of preventing windblown material. Any vehicle entering the site without sufficient devices to prevent windblown material shall be notified and upon subsequent violations shall be rejected

6.5. Air Quality. The facility shall not adversely impact air quality outside the facility.

6.6. Utilities. All necessary utilities shall be available with sufficient capacity to serve the facility and its operations. In the event of a disruption of any utility service, a contingency plan shall exist to provide back-up capacity or to provide procedures for safe operation during the disruption.

6.7. Equipment Maintenance. Equipment and vehicles used in facility operations shall undergo routine maintenance. The landfill facility shall develop a maintenance plan for all equipment and vehicles used in the operation. The owner and operator shall prevent the usage of any vehicle or equipment that is in need of repair.

6.8. Waste Screening. The facility shall accept only those materials permitted by the Department of Environment and listed in the facility's current, written permit. All waste loads must be screened in accordance with the load checking plan approved by the

Department of Environment. The operator shall monitor for unauthorized waste. Random inspections of a minimum of three loads entering the landfill facility shall be conducted on a weekly basis unless otherwise permitted by the Department of Environment. Any unauthorized wastes shall be immediately segregated and removed from the landfill facility. The operator shall notify the Department of Environment by phone within 24 hours and in writing within two business days of any acceptance of unauthorized wastes, documenting the proper removal and disposal of the unauthorized waste.

6.9. Fire Prevention and Accident Safety Plan. The landfill facility shall have an approved fire prevention and accident safety plan, shall operate in compliance with the performance standards for fire and explosive hazards, and shall install and maintain fire suppression equipment as specified in the Chicago Zoning Ordinance, the building regulations and applicable fire prevention regulations of the Chicago Municipal Code.

6.10. Site Security. The facility shall have all operations screened from view using berms, fences, vegetation, or a combination of these. A fence or natural barrier shall prevent unauthorized access to the site.

6.11. Traffic. The landfill facility shall not cause the back up of vehicles onto public roads or rights-of-way at any time. No vehicles used in the operations of the landfill facility shall be parked or wait along public streets or rights-of-way. The landfill facility shall have sufficient parking available for all personnel, visitors, and vehicles used for the operations of the landfill facility.

6.12. Rodents/Vectors. The facility shall employee effective vector control and prevention measures in accordance with an approved vector control plan to prevent infestations by rodents and vectors. A minimum of monthly inspections shall be conducted by a vector control specialist of the entire landfill site for rodents and other vectors. A record of the most current inspection and eleven previous inspections shall be maintained at the facility.

6.13. Mud Tracking. The landfill shall be operated so as to prevent the tracking of mud onto public roadways. This shall be accomplished with sufficient procedures including but not limited to tire washing equipment and providing all-weather roads within the facility.

6.14. Odor Control. The landfill facility shall operate in accordance with an approved odor control plan for the prevention and treatment of malodors from the landfill facility.

6.15. Dust Control. The facility shall operate in accordance with an approved dust control plan for the prevention or minimization of dust emissions occurring both on and off-site.

6.16. Noise. The landfill shall be operated in accordance with the Chicago Municipal Code as it pertains to noise emissions from the facility.

6.17. Daily Cover. For facilities that are open 24 hours, daily cover shall be placed at least once every 24 hours. For all other facilities, daily cover shall be placed at the end of the operating day and shall be in place within one hour of the receipt of the final load of waste.

6.18. Recordkeeping. The facility shall maintain an on-site operating record which shall include, at a minimum, information regarding: the date, time and description of emergencies; date and time of vector control activities and inspections; and date and time of receipt of unauthorized waste and action taken.

6.19. Sampling Results. The operator of the landfill facility shall submit reports to the Department containing the results of groundwater and leachate samples. The quarterly monitoring results shall be provided to the Department of Environment. The quarterly submittal shall include a summary table that includes the results of the current monitoring results, results for the three previous monitoring events, the MAPC for the specific well, and the AGQS for each constituent. These results shall be submitted within 45 days from the end of each quarter.

6.20. Correspondence. The operator shall provide the Department with copies of all correspondence to or from the IEPA, the USEPA and the Army Corp of Engineers including, but not limited to: notices of violation, letters, permit applications, reports, groundwater monitoring reports, and annual reports.

6.21. Site Survey. The topographic map of the facility must be revised at least every three years. The map shall note all areas that have been modified since the last survey. Contour elevations shall reflect both mean sea level and Chicago City Datum

6.22. Leachate Monitoring. Leachate shall be monitored on an annual basis with results provided to the Department of Environment. A maximum leachate head on the liner of one foot shall be maintained at all times. In existing units, on a monthly basis, a quantity of leachate equal to 2 times the leachate generation rate for that unit shall be removed, until such time as the leachate level is less the one foot over the landfill liner.

6.23. Inspections. Permits, reports, and the landfill facility shall be available to the Commissioner or his authorized agent for inspection at all times during normal business hours and upon reasonable notice at other times to ensure compliance with the Municipal Code and these regulations.

6.24. Closure. Closure activities shall be initiated no later than 30 days after the date of notification of cessation of waste acceptance. These activities shall be completed in accordance with the facility's approved Closure Plan.

7.0 Landfill Design Standards.

Landfills permitted by the Department of Environment shall comply with the following design standards. Where a minimum standard is specified, the Department may require a higher standard unless sufficient documentation exists to warrant the use of the minimum standard.

7.1. Liner Design. Notwithstanding any exemption for existing units provided in 35 Ill. Adm. Code Part 814, all horizontal areas in new and existing units that have not received waste prior to the effective date of these regulations shall be constructed with an earth liner which complies with design standards specified by state and federal regulations and shall comply with the following standards. Horizontal areas which receive waste prior to the effective date of these regulations shall comply with the applicable design standards specified by the state and federal regulations and shall comply with these standards where applicable:

7.1.1. The minimum liner design shall consist of a recompacted clay liner below a flexible membrane liner.

7.1.2. The recompacted clay liner (RCL) shall have a maximum horizontal and vertical permeability of 1x10-7 cm/sec. The RCL shall be a minimum of 3 feet in thickness and shall be compacted in lifts that do not exceed 8 inches in loose height and 6 inches in compacted height. The surface between lifts shall be scarified to promote bonding between lifts.

7.1.3. The flexible membrane liner (FML) shall consist of a minimum 60 mil of high density polyethylene. The FML shall be chemically resistant to the leachate generated by the landfill. The FML shall be constructed in a manner that prevents tearing or puncturing the FML.

7.1.4. The liner system shall be covered with the granular leachate drainage layer prior to placement of waste in the unit.

7.1.5. The liner shall not be exposed to frost damage during winter months. Liner exposed during winter months shall be removed and reconstructed or recertified that the liner was not damaged. A 5 foot layer of waste or an alternative insulating material approved by DOE shall provide sufficient insulation from frost damage during winter months.

7.1.6. If the liner is below the potentiometric surface of any geologic unit at the site, the liner shall be designed and constructed to resist hydrostatic uplift.

7.1.7. The liner shall be constructed on a foundation that is capable of providing a minimum factor of safety against bearing capacity failure of 2.0 under static conditions and 1.5 under seismic conditions.

7.1.8. The liner side slopes shall be designed and constructed to achieve a minimum safety factor against failure of 1.3 under static conditions and 1.0 under seismic conditions.

7.2. Leachate Collection System Design. The landfill shall be equipped with a leachate collection system (LCS) that is capable of effectively controlling the level of leachate in the landfill. Notwithstanding any exemptions of existing units provided in 35 III. Adm. Code Part 814, all horizontal areas in new and existing units that have not received waste prior to the effective date of these regulations shall be constructed with an LCS which complies with design standards. Horizontal areas which receive waste prior to the effective date of these regulations shall comply with the applicable design standards specified by the state and federal regulations and shall comply with these regulations where applicable.

7.2.1. In new units, the LCS shall consists of a system of pipes embedded in a minimum 12 inch granular drainage layer placed directly above the landfill liner. The LCS shall be designed so that the leachate head on the liner is less than 12 inches. The drainage layer shall consist of rounded granular material with a hydraulic conductivity of 1x10-3, cm/sec or greater. Leachate pipes shall resist the loading due to equipment and the waste above and shall facilitate the clean out of the pipe.

7.2.2. In existing units, if no LCS exists, the landfill shall be equipped with a retrofit system to remove and collect leachate from the landfill. The retrofit LCS shall be capable of removing, on a monthly basis, a quantity of leachate equal to 2 times the leachate generation rate for that unit, until such time as the leachate level is less than one foot over the landfill liner.

7.2.3. The landfill shall be equipped with a minimum of 4 leachate piezometers to measure the leachate depths at various representative locations in the landfill.

7.2.4. All leachate collection pipes, tanks, and loading areas located outside the waste boundary shall be equipped with secondary containment to contain spills or leaks.

7.3. Gas Detection/Collection System Design. All landfills shall be equipped with a gas collection system to effectively collect and properly dispose of gas generated at the landfill. The gas detection/collection system shall comply with all applicable state and federal regulation and in addition, shall comply with the following standards.

7.3.1. The gas detection system shall be capable of detecting methane concentrations greater than 50 percent of the lower explosive limit in air below the ground surface and in ambient air at the property boundary.

7.3.2. Gas from the landfill shall not migrate off-site in such a manner that causes methane concentrations higher than 50 percent of the lower explosive limit of methane in ambient air or greater than 25 percent of the lower explosive limit in buildings and structures. Gas shall be collected and conveyed to a central storage and processing area. The use of single point wellhead flares on the landfill is prohibited except as a temporary measure.

7.3.3. Whenever practicable, collected gas shall be used for beneficial purposes such as generating electricity, firing boilers, or powering equipment.

7.3.4. Emission from any gas processing facility shall meet all applicable local, state and federal standards.

7.3.5. Gas condensate shall be collected and disposed of or treated as leachate.

7.4. Monitoring Wells. Monitoring wells and piezometers shall be constructed in accordance with IEPA standards. All wells and piezometers shall be equipped with locking covers to prevent tampering. Monitoring wells shall be constructed and developed in accordance to IEPA regulations and applicable state laws.

7.5. Daily Cover. The landfill shall place daily cover over the active face at the end of each operating day. Daily cover shall meet the following standards:

7.5.1. Daily cover shall consist of a minimum of 6 inches of clean soil placed over the active face at the end of each operating day.

7.5.2. Alternative materials may be used if written approval from DOE is obtained.

7.5.3. Daily cover left in place shall allow for the free flow of liquids within the landfill.

7.6. Intermediate Cover. The landfill shall place intermediate cover over all areas that have not received waste in more than 30 days. Intermediate cover shall meet the following standards:

7.6.1. Intermediate cover shall consist of a minimum of 12 inches of compacted, clean soil material. This material shall be graded to promote run-off and prevent infiltration.

7.6.2. The intermediate cover shall be inspected and repaired on a weekly basis. Intermediate cover shall be stripped away prior to placement of additional waste or the placement of final cover.

7.6.3. Intermediate cover shall not be left in place for the purpose of becoming part of the final cover low-permeability layer. The intermediate cover material must be stripped from the landfill prior to recompaction as the final cover.

7.7. Final Cover. Final cover shall be placed over all areas that have reached the final permitted grades for waste disposal. The final cover shall meet the following standards:

7.7.1. Final cover shall be placed as soon as a practicable after reaching the final permitted waste disposal grades.

7.7.2. The final cover shall consist, at a minimum, (from bottom to top) of a low-permeability layer, a drainage layer, and a protective layer with vegetation

7.7.3. The low-permeability layer shall consist of either a minimum of 3 feet of recompacted clay soil material or a minimum of 30 mil geomembrane. The recompacted clay shall be placed in lifts with a maximum compacted thickness of 6 inches and shall achieve a maximum permeability of 1x10-7 cm/sec. The geomembrane shall meet or exceed the performance of a recompacted clay low-permeability layer.

7.7.4. The drainage layer shall consist of a granular material or other suitable material. The drainage layer shall prevent the accumulation of precipitation in the final protective layer to provide a safeguard against slope failure in the final protective layer.

7.7.5. The final protective layer shall consist of a minimum of 3 feet of soil material capable of sustaining vegetation. The protective layer shall be placed on top of the drainage layer immediately after installation of the low-permeability layer and the drainage layer. Vegetation shall be established immediately after placement of the final protective layer.

7.7.6. The entire final cover system shall be designed to resist slope failure, differential settlement, and sliding. The design shall achieve a factor of safety against these failure modes of at least 1.5 under static conditions and 1.3 under seismic conditions. The stability analysis shall consider seepage forces within the final cover.

7.8. Stormwater Control. The landfill will be equipped with a system to control the flow of stormwater run-on and run-off. This system shall meet the following standards:

7.8.1. The stormwater control system and release rate shall be designed in accordance with all applicable City of Chicago, MWRDGC, IEPA, IDOT, USDOT, and USEPA rules and regulations.

7.8.2. Run-on to the landfill property shall be collected and conveyed around the landfill facility.

7.8.3. Stormwater that falls on the landfill facility but does not come in contact with any waste material shall be collected and conveyed to detention and/or settling basins.

7.8.4. The facility shall obtain and comply with an NPDES discharge permit unless exempted from the NPDES permit program.

7.9. Interior Roads. Interior roads at the landfill shall be constructed so as to provide all-weather access to the active face of the landfill. The landfill facility shall be equipped with wheel washing and other devices to prevent the tracking of mud onto public roadways.

7.10. Fueling Facilities. If equipment and vehicles will be fueled on site, a fueling station shall be constructed that provides secondary containment of petroleum products and other flammable liquids. The fueling station shall be designed and constructed in accordance with the Chicago Municipal Code and shall be approved by the State Fire Marshall's Office and the City of Chicago Fire Department.

LIQUID WASTE HANDLING FACILITY PERMIT APPLICATION REQUIREMENTS AND LOCATION, OPERATING AND DESIGN STANDARDS

8.0 Liquid Waste Handling Facility Permit Requirements.

A complete, detailed permit application, containing at a minimum the information required in Sections 8.1 through 8.7, shall be required for the following:

- developing and operating a new liquid waste handling facility;
- expanding an existing liquid waste handling facility;
- modifying an existing facility's permitted operations; and
- renewing an existing facility permit except when the Short Form application process may be used as outlined in Section 3.0 of these regulations.

The application shall contain narratives, drawings, diagrams, analyses, and calculations necessary to satisfy the requirements of these regulations and demonstrate that the liquid waste handling facility will be designed and operated to protect the public health, safety, and welfare at all times.

8.1. Owner's Authorization. [Section 11-4-1520(A)(1)] The application for a permit shall include a notarized letter, signed by the property owner that authorizes use of the property for a liquid waste handling facility. This letter is required even if the applicant is the owner of the property.

8.2. Property Taxes. [Section 11-4-1520(A)(2)] The application for permit shall include evidence of payment of real estate property taxes by providing copies of the most recent tax bill and check; or by providing a copy of the most recent tax bill that has been stamped paid by the Cook County Assessor's office. The PIN numbers for all areas of the facility shall also be provided.

8.3. Variance in the Nature of a Special Use. [Section 11-4-1520(A)(3)] For new or expanding facilities the application for a permit shall contain all reports and information necessary to obtain a Variance in the Nature of a Special Use (Special Use Variance) from the Zoning Board of Appeals (ZBA). If the liquid waste handling facility has an existing Special Use Variance, the application shall contain copies of the variance issued by the ZBA and a demonstration that the liquid waste handling facility is in compliance with the Special Use Variance and any conditions attached to the variance.

8.4. Design Report. The application for permit shall contain a design report for the liquid waste handling facility that shall include the following components, in this order:

8.4.1. Plot Plan. [Section 11-4-1520(A)(4)] The design report shall contain a plot plan drawing(s) of the liquid waste handling facility. This drawing(s) shall be

prepared at a legible scale, no smaller than one inch equals 100 feet. The plot plan drawing(s) shall include the following components, at a minimum:

8.4.1.1. The liquid waste handling facility site boundaries and the location of all facility buildings, access roads, parking areas, and any ancillary structures or features.

8.4.1.2. Topographic contours, at minimum two-foot contour intervals, of the liquid waste handling site.

8.4.1.3. The extent and composition of the buffer zone required by the Chicago Zoning Ordinance.

8.4.1.4. Any characteristic or feature that has a location standard established in Section 9.0 of these regulations or any other applicable standards. The plans shall identify the characteristic or feature and indicate the setback distance from the liquid waste handling facility boundary.

8.4.2. USGS Site Location Map. [Section 11-4-1520(A)(30)] The design report shall contain a USGS 7.5 Minute Quadrangle Map that provides sufficient coverage to include the following:

8.4.2.1. The delineated boundaries of the liquid waste handling site.

8.4.2.2. A clearly marked one-mile radius around the entire site to identify features including residential property, streams, rivers, ponds, lakes, wetlands, roads, highways, schools and parks within this one-mile perimeter.

8.4.3. Aerial Photograph Drawing(s). [Section 11-4-1520(A)(30)] For new and expanding facilities the design report shall contain an aerial photograph drawing(s) that provides sufficient coverage to include the following:

8.4.3.1. The delineated boundaries of the liquid waste handling facility and site property.

8.4.3.2. A clearly marked ½-mile radius around the entire site to identify features including residential property, streams, rivers, ponds, lakes, wetlands, roads, highways, schools and parks within this ½-mile perimeter.

8.4.3.3. Zoning districts clearly delineated with a ½-mile radius of the facility site. The district boundaries and their respective designations shall be clearly marked.

8.4.3.4. Any characteristic or feature that has a location standard established in Section 9.0 of these regulations or any other applicable standards. The plans shall identify the characteristic or feature and indicate the setback distance from the liquid waste handling facility boundary.

8.4.4. General Layout of the Facility. [Section 11-4-1520(A)(5)] The design report shall contain sufficient scale drawings to describe the general layout of the liquid waste handling facility. These drawings shall include, but not be limited to:

8.4.4.1. The main areas of the liquid waste handling facility, at a legible scale not less than one inch equals 100 feet. The scale shall be represented on each drawing in graphical format.

8.4.4.2. The internal and external layout of buildings and structures.

8.4.4.3. The layout and location of all fixed equipment including, but not limited to: tanks, mixers, filters, treatment equipment, pits, pumps, and piping.

8.4.4.4. The limits of waste treatment, processing, handling, and sorting areas.

8.4.4.5. All pertinent features of the stormwater management system.

8.4.4.6. All pertinent features of the wastewater management system.

8.4.4.7. The locations of the primary utilities within and adjacent to the liquid waste handling facility.

8.4.4.8. The locations of the primary water sources and water distribution system components for employee consumption, fire suppression, facility cleaning, and dust control.

8.4.4.9. The locations of all fire suppression equipment and flammable material storage areas.

8.4.4.10. The locations of all site control features and all screening devices such as fences, gates, and signage..

8.4.4.11. The locations and layout of all parking and queuing areas, including the number of parking spaces and the maximum number of trucks that can be queued at once in the allotted queuing area.

8.4.4.12. The locations and layout of all employee facilities.

8.4.4.13. The location of all first-aid equipment and other emergency supplies and equipment.

8.4.5. Survey. [Section 11-4-1520(A)(6)] The design report shall contain a Legal Plat of Survey, prepared by a Professional Surveyor, that depicts the liquid waste handling site boundaries.

8.4.6. Legal Description. [Section 11-4-1520(A)(7)] The design report shall contain legal descriptions, prepared by a Professional Surveyor, that describe the liquid waste handling site boundaries and are identical to those provided with the financial security required by Section 11-4-370 of the Chicago Municipal Code.

8.4.7. Utilities. [Section 11-4-1520(A)(8)] For new and expanding facilities, the design report shall demonstrate that adequate utility capacity is readily available for the operations of the liquid waste handling facility. Utilities may include, but are not limited to: electricity, potable water, process water, telephone, and natural gas. The information in the design report regarding utilities shall include:

8.4.7.1. A plan scaled drawing showing the location of all utilities within and adjacent to the liquid waste handling facility.

8.4.7.2. Calculations demonstrating what the peak utility demands are for proper operation of the liquid waste handling facility. This shall include but is not limited to peak water, sewage and gas and/or electrical demands.

8.4.7.3. A demonstration that sufficient utility capacity is available to the liquid waste handling facility to satisfy the demands calculated in 8.4.7.2. Such documentation may be in the form of an approval letter or permit from the utility provider.

8.4.8. Water Sources. [Section 11-4-1520(A)(11)] The design report shall demonstrate that sufficient quantities of water or other appropriate materials for employee consumption, fire protection, dust control, and cleaning are available. For this demonstration, the design report shall include:

8.4.8.1. The locations of each source of water and/or other material.

8.4.8.2. The total amount of water and/or other materials available from each source.

8.4.8.3. The rate at which water and/or other materials can be obtained from each source.

8.4.8.4. A listing of equipment and their specifications that are used to pump, distribute and/or convey water and/or other materials.

8.4.9. Site Security. [Section 11-4-1520(A)(13)] The design report shall demonstrate that the liquid waste handling facility is secure from unauthorized access at all times. This demonstration shall include, at a minimum:

8.4.9.1. Descriptions and specifications of the fences, gates, signs, and other barriers that prevent unauthorized access to the liquid waste handling facility.

8.4.9.2. A description of the security measures taken during both operating hours and closed hours.

8.4.10. Back-up Capacity. [Section 11-4-1520(A)(14)] The design report shall demonstrate that the liquid waste handling facility has sufficient back-up capacity for the removal, storage, treatment or containerization of all wastes in the event of an equipment failure or emergency situation. This demonstration shall include, but not be limited to:

8.4.10.1. Details and calculations demonstrating the back-up capacity of the liquid waste handling facility. Specifically list all redundancies or emergency back-up capacity built into the system equipment and staffing.

8.4.10.2. A plan for managing the flow of waste and other materials processed at the liquid waste handling facility during equipment failure or emergency situations.

8.4.11. Structures and Fixed Equipment. [Section 11-4-1520(A)(17)] The design report shall demonstrate that all structures and fixed equipment are designed so that the liquid waste handling facility can be operated as proposed and in a safe manner. This demonstration shall include, but not be limited to:

8.4.11.1. Detailed design drawings and manufacturers specification sheets for all structures and fixed equipment including tanks, mixers, filters, treatment equipment, pits, pumps, and piping.

8.4.11.2. Calculations of the waste handling capacity of all structures and fixed equipment.

8.4.11.3. An operating and maintenance plan for all structures and fixed equipment.

8.4.11.4. New facilities shall include a Construction Quality Assurance (CQA) Plan that provides testing and acceptance procedures for construction of all structures and fixed equipment.

8.4.12. Storage Capacity. [Section 11-4-1520(A)(10)] The design report shall demonstrate that sufficient storage capacity exists to accommodate the peak volumes of material inflow into the facility. This demonstration shall include, but not be limited to:

8.4.12.1. Drawings and calculations indicating the volume of storage available for waste in receiving pits or tanks.

8.4.12.2. Drawings and calculations indicating the volume of storage available for chemicals and other materials used at the facility.

8.4.12.3. Estimates of the volume of incoming waste materials during the peak inflow period of the day in gallons per hour and liters per hour.

8.4.12.4. Estimates of the amount of chemicals and materials used by the facility during an operating day.

8.4.13. Water Drainage. [Section 11-4-1520(A)(20)] The design report shall demonstrate that adequate systems exist to handle stormwater and wastewater flows from the liquid waste handling facility. This demonstration shall include:

8.4.13.1. Drawings, specifications, and design calculations to demonstrate effective control of run-on and run-off from the liquid waste handling facility.

8.4.13.2. Copies of the facility's NPDES and MWRD discharge permits or anticipated submittal date, if applicable and/or any other permit issued by the IEPA Bureau of Water.

8.4.13.3. Copies of the facilities MWRDGC discharge authorization request, discharge authorization, or anticipated submittal date, if applicable.

8.4.13.4. Documentation that any receiving sewer system has sufficient capacity to handle the quantity of stormwater and wastewater generated by the liquid waste handling facility. Such documentation may be in the form of an approval letter or permit from the utility provider.

8.4.13.5. Drawings, specifications, and design calculations to demonstrate effective handling, storage, treatment, and/or disposal of wastewater generated by the liquid waste handling facility.

8.4.14. Traffic. [Sections 11-4-1520(A)(21) The design report shall demonstrate that traffic generated for the liquid waste handling facility will not significantly affect existing traffic flows, and that the points of ingress and egress are designed according to Illinois Department of Transportation (IDOT) standards. For new, expanding, and existing facilities, this demonstration shall include, but not be limited to:

8.4.14.1. Calculations of the average and maximum number of vehicles generated by the liquid waste handling facility as well as hourly breakdown of vehicle traffic.

8.4.14.2. Diagrams of the points of ingress and egress depicting the layout of the ingress/egress points, sight distance, and improvements necessary to minimize accidents at the ingress/egress points.

8.4.14.3. A listing of roads and highways designated for use by traffic generated by the liquid waste handling facility.

8.4.14.4. A stacking plan showing the number of waste handling vehicles and the location of these vehicles during the maximum peak service hour.

8.4.14.5. A demonstration that traffic generated by the liquid waste handling facility will not interfere with the flow of traffic or exceed the intended level of service of any public street or right-of-way.

For new and expanding facilities, this demonstration shall include the components listed in Sections 8.4.14.1. through 8.4.14.5., in addition to:

8.4.14.6. Traffic counts taken in hourly intervals at all ingress/egress points during the anticipated operating hours of the liquid waste handling facility. The entire operating period shall be represented in this traffic count study and shall identify the peak hours of traffic volume occurring in the morning and afternoon. The traffic counts shall include classification of vehicles.

8.4.14.7. A description of the measures taken to reduce the impact of the liquid waste handling facility generated traffic on the existing traffic flows.

8.4.15. Parking. [Section 11-4-1520(A)(22)] The design report shall demonstrate that sufficient parking exists at the liquid waste handling facility. This demonstration shall include:

8.4.15.1. A listing of the number of employees at the liquid waste handling facility and the corresponding number of parking spaces.

8.4.15.2. A layout of all parking areas including short-term truck parking and truck queuing areas. This layout may be shown on the general layout required in Section 8.4.4.

8.4.16. Employee Facilities. [Section 11-4-1520(A)(23)] The design report shall contain a description of the employee facilities available at the liquid waste handling facility. At a minimum, these employee facilities shall include washrooms, toilets, and potable water.

8.4.17. Screening. [Section 11-4-1520(A)(25)] The design report shall demonstrate that the screening or fencing of the liquid waste handling facility will adequately control noise, dust, blowing litter, and will prevent unauthorized access. This demonstration shall include:

8.4.17.1. A description of the screening or fencing for the liquid waste handling facility site.

8.4.17.2. A detailed drawing of the construction of the screening or fencing and the placement around the liquid waste handling facility. This drawing may be included in the general layout required in Section 8.4.4.

8.4.17.3. A demonstration that the screening or fencing will control noise, dust, blowing litter, and unauthorized access.

8.4.18. Buffer Zone. [Section 11-4-1520(A)(28)] The design report shall describe the buffer zone surrounding the liquid waste handling facility and shall demonstrate that it meets the description of a buffer zone required for a liquid waste handling facility by the Chicago Zoning Ordinance.

8.4.19. Environmental Assessment. [Section 11-4-1520(A)(29)] For new or expanding facilities, the design report shall include a complete copy of the Environmental Assessment prepared pursuant to the Chicago Zoning Ordinance. The application shall also include responses and/or additional information related to any recommendations included in the Environmental Assessment.

8.4.20. Monitoring Wells. [Section 11-4-1520(B)(1)] The design report shall contain the locations of monitoring wells for the facility and specific details concerning the monitoring well construction and locations. This shall include, but not be limited to:

8.4.20.1. Drawings indicating the location of all monitoring wells and piezometers for the facility.

8.4.20.2. Construction details for all monitoring wells and piezometers.

8.4.20.3. A demonstration that the horizontal and vertical spacing of well screens is sufficient to detect a release from the liquid waste handling facility.

8.4.20.4. A description of monitoring well abandonment procedures which detail any backfilling or sealing including a demonstration that an abandoned well will not serve as a potential contaminant pathway.

8.4.21. Hydrogeological Investigation. [Section 11-4-1520(B)(3)] For new and expanding facilities, the design report shall contain the results of a comprehensive hydrogeologic investigation of the site and the surrounding area. This investigation shall include, but not be limited to:

8.4.21.1. A narrative describing the local and regional hydrogeology for the subject site.

8.4.21.2. Logs of all soil borings taken at the facility. Sufficient site-specific hydrogeological information shall be obtained to verify that hydrogeological conditions will protect the public health, safety and welfare. All borings shall be continuously sampled in accordance with appropriate testing standards and shall be retained for City inspection until such time as a permit has been issued. The boring logs shall provide an accurate depiction of the site geology extending down to the bottom of the uppermost aquifer or 20 feet below the surface or bedrock, whichever is shallower.

8.4.21.3. Sufficient regional geologic information to correlate the on-site data to the surrounding off-site area.

8.4.21.4. A minimum of two cross-sections through the site, extending 500 feet beyond the property boundary and to the bottom of the uppermost aquifer or 10 feet below the tip of bedrock, whichever is shallower. Existing, published information may be used. At least one cross-section shall be perpendicular to the other cross-sections. The cross-sections shall indicate the geologic units under the site; the watertable; the uppermost aquifer's potentiometric surface; pits, tanks, and treatment units; and the property boundary.

8.4.21.5. The results of all soil tests performed on samples taken from borings. All tests shall be conducted according to appropriate testing standards and results reported according to the same testing standards. Soil tests shall include, but not be limited to:

- Atterberg Limits - minimum one test for each auger boring, including a representative of each unconsolidated material type present on site.
- Moisture Content - minimum one test for each sample taken from every boring.
- Ion Exchange Capacity - minimum one test for each boring, including a representative of each unconsolidated material type present on site, conducted in accordance with the American Society of Agronomy Method, using a one normal solution of NH_4 aqueous at pH 7.0 +/- 0.1.
- Hydraulic Conductivity (permeability) - minimum one test for each boring to include each unconsolidated material found at the site. Vertical and lateral hydraulic conductivity testing shall be

performed for in-situ soils. For placed and compacted liners, hydraulic conductivity testing shall be performed on the soil mix to be used for the liner. Samples taken for laboratory hydraulic conductivity testing shall be obtained by thin-walled (Shelby) tubes (minimum 3-inch diameter).

- Standard and Modified Proctor - minimum one test for each boring to include the materials to be used in the construction of the liner bottom and side slopes as well as each unconsolidated material found at the site.
- Shear-Strength - minimum one test for each boring to include the materials to be used in the construction of the liner bottom and side slopes as well as each unconsolidated material found at the site.
- Compressibility - minimum one consolidation test for each boring to include each unconsolidated material found at the site.
- Atterberg Limits - minimum one test for each auger boring, including a representative of each unconsolidated material type present on site.
- Grain size analysis - minimum one analysis for each boring and each soil type classified in the field.

Sufficient numbers of tests shall be performed to fully characterize each material identified beneath the site down to the bottom of the uppermost aquifer. If insufficient numbers of tests exist, DOE may request additional investigations be performed to characterize the soil materials below the site.

8.4.21.6. Four potentiometric surface maps of the uppermost aquifer corresponding to four consecutive quarters of potentiometric surface measurements.

8.4.21.7. An analysis of the rate and direction of the flow of groundwater in the uppermost aquifer.

8.4.21.8. An analysis of the potential contaminant migration pathways that may exist in the geologic structures surrounding the facility.

8.4.22. Secondary Containment. [Section 11-4-1520(B)(5)] The design report shall contain sufficient documentation that secondary containment exists for all tanks, drum storage areas, tanker truck loading/unloading areas, liquid transfer points, pits, lagoons, impoundments, and similar liquid waste handling devices or storage systems or devices, and as necessary and appropriate, pumps and piping systems. This demonstration shall include, but not be limited to:

8.4.22.1. Drawings detailing the design of secondary containment features for the facility. The secondary containment features may be shown on the drawings specified in Section 8.4.4. of these regulations in lieu of separate drawings.

8.4.22.2. Detailed calculations verifying that the capacity of the secondary containment features meets the standards specified in Section 11.0 of these regulations

8.4.22.3. A description of any coating or similar sealant systems applied to the secondary containment. This description should include a demonstration that such coating or sealant systems are chemically compatible with any waste or other liquid material that may contact them.

8.4.23. Pit Liners. [Section 11-4-1520(B)(6)] The design report shall contain documentation to demonstrate that pit liners are designed and constructed to prevent contamination of the surrounding environment and meets the minimum standards set forth in Section 11.0 of these regulations. This demonstration shall include, but not be limited to:

8.4.23.1. Details and specifications of the pit liner system including design drawings, construction details, quality assurance testing results, and construction as-built drawings. For existing facilities, the design report shall contain all information regarding the construction of the pit liner system. If sufficient information is not available, DOE may place additional conditions on the facility or require the closure of the pit due to uncertainty of the pit liner integrity.

8.4.23.2. A demonstration that the pit liner system is chemically compatible with any waste or other liquid material that may contact it.

8.4.23.3. Calculations of the amounts of materials required for construction of the pit liners and a demonstration that sufficient quantities are available for construction.

8.4.23.4. A comprehensive construction quality assurance plan that provides for certification of materials and construction by a third party independent professional engineer.

8.4.23.5. Copies of all pit liner acceptance reports, permits, and/or correspondence received from the IEPA.

8.5. Operating Plan. The application for a permit shall contain an operating plan for the liquid waste handling facility that shall include, at a minimum, the following components, in order:

8.5.1. Types of Waste. [Section 11-4-1520(A)(9)] The operating plan shall include a detailed description of the types of waste and volumes of each waste type accepted at the facility. It shall also include the waste screening measures employed by the facility to ensure that unauthorized wastes are not accepted. This discussion shall include, but not be limited to:

8.5.1.1. A list of all the types of waste and the daily volumes of each waste type accepted or proposed to be accepted at the liquid waste handling facility. The list shall be specific and shall not include terms such as "other", "general", "miscellaneous", or similar terms that are vague in nature. Each item included in the list of waste types shall be accompanied by a description of the material.

8.5.1.2. A description of the service area from which different types of waste will be accepted.

8.5.1.3. A waste screening plan that provides for monitoring and random inspection of waste entering the liquid waste handling facility.

8.5.1.4. An emergency response plan for the immediate segregation and removal of all unauthorized waste from the liquid waste handling facility.

8.5.1.5 A listing of the destinations for any waste that may be transferred off-site for storage, additional treatment, or disposal.

8.5.2. Quantity of Waste. [Section 11-4-1520(A)(10)] The operating plan shall include a discussion of the daily quantities of waste accepted at the facility and a demonstration of the facility's ability to handle the accepted quantity. This discussion shall include, but not be limited to:

8.5.2.1. A list of the quantities of each type of waste that will be accepted at the liquid waste handling facility during the operating day. The estimated waste quantities shall be provided on a gallons per day basis for each waste type and shall include an average daily quantity and a maximum daily quantity for each waste type.

8.5.2.2. A demonstration, through detailed calculations, waste flow diagrams, and operating guidelines, that the liquid waste handling facility is capable of processing the average and maximum quantities of waste anticipated for the facility. Waste flow diagrams shall indicate the quantity of waste material flow between each process or device on the diagram. The diagrams shall also indicate equipment processing rates, staffing requirements, storage capacity, mean storage time, and inflow/outflow rates. The demonstration shall incorporate operating hours, peak periods, peak quantity processing capacities, number of employees, and all other applicable factors.

8.5.2.3. A demonstration that the liquid waste handling facility has the ability to determine and record the amounts of waste entering and exiting the liquid waste handling facility.

8.5.3. Fire Prevention. [Section 11-4-1520(A)(12)] The liquid waste handling facility shall comply with the requirements of the Chicago Municipal Code and all applicable local, State, and Federal laws and regulations relating to fire prevention and control. The operating plan shall include a Fire Prevention and Response Plan. At a minimum, the Fire Prevention and Response Plan shall include:

8.5.3.1. A description of the safety measures employed to prevent fires.

8.5.3.2. The location of and handling procedures for flammable liquids and chemicals stored at the liquid waste handling facility.

8.5.3.3. Details and specifications of a fire detection system for the liquid waste handling facility.

8.5.3.4. Specifications and locations of all fire suppression equipment including, but not limited to, extinguishers, automatic sprinklers, hoses.

8.5.3.5. A description of the responsibilities of all employees in the event of a fire.

8.5.4. Emergency Communications. [Section 11-4-1520(A)(15)] The operating plan shall contain a description of the emergency communication system. This description shall include, but not be limited to:

8.5.4.1. A listing of all equipment available for routine communications and emergency communications.

8.5.4.2. A listing of authorities that may be contacted in the event of an emergency situation.

8.5.4.3. A description of the internal chain-of-command in the event of an emergency, including a description of responsibilities.

8.5.5. First Aid Equipment. [Section 11-4-1520(A)(16)] The operating plan shall contain a description of the first aid equipment available at the liquid waste handling facility. This description shall include, but not be limited to:

8.5.5.1. A listing of first aid supplies available at the liquid waste handling facility.

8.5.5.2. A description of the location of first aid equipment.

8.5.5.3. The designation of employees that receive Red Cross approved first aid training.

8.5.6. Devices, Apparatus, and Processes. [Section 11-4-1520(A)(18)] The operating plan shall contain detailed descriptions and procedures for the operation of the liquid waste handling facility. This shall include, but not be limited to:

8.5.6.1. Detailed descriptions of the procedures for the unloading of waste materials and other materials at the facility.

8.5.6.2. A listing of processes that will be used for the handling and treatment of wastes.

8.5.6.3. An inventory of chemicals or other materials used for the handling and treatment of wastes.

8.5.6.4. Detailed descriptions of the procedures for the loading of waste or other materials for the purpose of transport off-site.

8.5.6.5. Detailed descriptions of all mobile equipment (e.g. vactors and tank trucks) used for liquid waste management.

8.5.7. Rodent/Vector Control. [Section 11-4-1520(A)(24)] The operating plan shall contain a plan for the effective prevention and control of rodents and other vectors. At a minimum, this plan shall include:

8.5.7.1. A minimum of monthly inspections of the entire liquid waste handling facility for rodents and other vectors. A record of the most current inspection and eleven previous inspections shall be maintained at the liquid waste handling facility.

8.5.7.2. All measures taken to prevent infestation by rodents and vectors, including good housekeeping practices used to control rodents and vectors.

8.5.8. Odor Control. [Section 11-4-1520(A)(26)] The operating plan shall provide a plan for the prevention and treatment of malodors from the liquid waste handling facility. This plan shall include, but not be limited to:

8.5.8.1. A description of the methods, including good housekeeping measures, employed at the liquid waste handling facility to prevent malodors from migrating off-site. This description shall include an assessment of the effectiveness of such methods.

8.5.8.2. A description of the response measures taken once malodors are detected off-site including an assessment of the effectiveness of such measures.

8.5.8.3. A plan for the handling of extremely noxious waste materials.

8.5.9. Hours of Operation. [Section 11-4-1520(A)(30)] The operating plan shall specify the hours of operation of the liquid waste handling facility, including processing, waste receipt, and maintenance activities. Those facilities requesting authorization for 24-hour per day operations shall provide information justifying the need for such authorization.

8.5.10. Groundwater Monitoring Plan. [Section 11-4-1520(B)(2)] The operating plan shall contain a comprehensive groundwater monitoring plan demonstrating that the groundwater monitoring system is capable of detecting a release from the facility. This plan shall include, but not be limited to:

8.5.10.1. A listing of constituents monitored at each monitoring point.

8.5.10.2. All documentation used to determine the list of constituents and the maximum allowable predicted concentration (MAPC) of each constituent at each monitoring point.

8.5.10.3. The schedule for sampling all monitoring wells including the constituents monitored during each routine sampling event.

8.5.10.4. Reporting requirements for quarterly groundwater samples. The quarterly monitoring results shall be provided to the Department of Environment. The quarterly submittal shall include a summary table that includes the results of the current monitoring results from the three previous monitoring events, the MAPC for the specific well, and the applicable groundwater quality standard (AGQS) for each constituent.

8.5.10.5. Procedures for verifying and reporting exceedances of MAPCs or AGQCs including procedures and schedule for the design and implementation of remedial actions in the event of a verified exceedance.

8.5.10.6. A requirement that copies of all documentation sent to the IEPA related to confirmation of monitored increase, assessment monitoring, assessment of potential groundwater impact, and remedial action be sent to the Department of Environment.

8.5.10.7. A description of the groundwater sampling procedures, including sampling equipment to be utilized.

8.5.11. Spill Prevention and Control. [Section 11-4-1520(B)(4)] The operating plan shall include a Spill Prevention and Control Plan. This plan shall include, but not be limited to:

8.5.11.1. Descriptions of the measures taken to prevent spills occurring at tanks, piping, pits, and treatment devices. This description shall include a schedule of routine inspections for leaks and spills.

8.5.11.2. Descriptions of the measures taken to control a spill should one occur.

8.5.11.3. A listing of the materials and equipment available on-site for use in controlling spills should one occur, including the location of the equipment within the facility.

8.5.11.4. Descriptions of the procedures used to document and report the spill to the Department of Environment and other agencies.

8.5.11.5. Descriptions of emergency procedures and evacuation plans for use in the event of an uncontrollable spill.

8.5.11.6. A listing of all safety equipment available at the facility, including the location of the equipment within the facility.

8.6 Closure Plan. [Section 11-4-1520(A)(27)] The application for a permit shall contain a closure plan to be implemented when waste activities cease at the liquid waste handling facility. Additional requirements for the closure plan may by included in additional sections. The closure plan shall include, at a minimum, the following components, in this order:

8.6.1. Closure Plan Activities. The closure plan shall include a listing of activities that will occur when waste related activities cease at the liquid waste handling facility including a listing of materials necessary for closure and a schedule for the completion of the closure activities.

8.6.2. Waste Removal. The closure plan shall include a plan for the removal of all waste material from the facility.

8.6.3. Equipment Decommissioning. The closure plan shall include a plan for the decommissioning and cleaning of all equipment and structures at the facility that contacted waste materials.

8.6.4. Cost Estimates. The closure plan shall include cost estimates for the completion of all closure activities. The cost estimates shall be based on the cost necessary for closure at anytime during the life of the facility and shall not be discounted to current values. The cost estimate shall reflect a worst case scenario.

8.6.5. Financing. The closure plan shall include a demonstration that sufficient financing is available to complete all closure activities.

8.7 Additional Requirements. [Section 11-4-1520(A)(30)]. The Commissioner may require additional information be submitted if it is determined that the information in the application is insufficient or if the nature of the liquid waste handling facility warrants additional information to ensure the facility can be operated as proposed.

9.0 Liquid Waste Handling Facility Location Standards.

All new and expanding liquid waste handling facilities seeking permits to operate within the City of Chicago shall be located in accordance with the following requirements. The requirements of this section do not exempt liquid waste handling facilities from securing additional approvals and permits as required by local, State, and Federal regulations. In all cases, the proposed facility location shall be such that public health, safety and welfare are protected.

9.1. Illinois Environmental Protection Act. All liquid waste handling facilities shall demonstrate compliance with Section 22.14 of the Act.

9.2. Schools and Hospitals. A liquid waste handling facility shall not be located within 800 feet of any property used for a school, hospital, nursing home, or convalescent center, unless written permission from the owner is provided for a closer distance.

9.3. Lake Michigan. A liquid waste handling facility shall not be located within the Lake Michigan and Chicago Lakefront Protection District as specified in Lake Michigan and Chicago Lakefront Protection Ordinance (Chapter 16-4 of the Chicago Municipal Code).

9.4. 100-Year Flood Plain. A liquid waste handling facility and all ancillary structures, including storage areas, shall not be located within the 100-year flood plain, unless the liquid waste handling facility can demonstrate compliance with the Chicago Flood Control Ordinance (Chapter 16-6 of the Chicago Municipal Code) and all other applicable state and federal requirements.

9.5. Wetlands. A liquid waste handling facility shall not have a negative impact on wetlands occurring on the subject site or near the subject site in accordance with Section 404 of the Clean Water Act (33 U.S.C. 1344) unless application is made and a permit received from the US Army Corps of Engineers and DOE approves such impact as part of the facility's permit.

9.6. Endangered Species. A liquid waste handling facility shall not pose a detrimental threat to any endangered species of plant, fish, or wildlife as defined by the Endangered Species Act (16 U.S.C. 1531 et seq.) or the Illinois Endangered Species Protection Act. (520 ILCS 10/1 et seq.).

9.7. Historic and Natural Areas. A liquid waste handling facility shall not pose a detrimental threat to any historic site as listed pursuant to the National Historic Preservation Act (16 U.S.C. 470 et seq.) or the Illinois Historic Preservation Act (20 ILCS 3410/1 et seq.) and designated in the Chicago Zoning Ordinance, or any natural landmark, as designated by the National Park Service, the Illinois State Historic Preservation Officer, or as a

Dedicated Illinois Nature Preserve pursuant to the Illinois Natural Areas Preservation Act (525 ILCS 30/1 et seq.).

10.0 Liquid Waste Handling Facility Operating Standards.

All liquid waste handling facilities permitted by the Department of Environment shall comply with the following operational standards:

10.1. Permit. The liquid waste handling facility shall be operated in accordance with the current permit application on file with the Department of Environment; the current, written permit issued by the Department of Environment; the Standard Conditions contained in the current, written permit; and the Special Conditions contained in the current, written permit. A copy of the permit shall be maintained at the facility and shall be reviewed by the facility site manager. If the current permit application and the current, written permit conflict, the permit shall govern.

10.2. Hours of Operation. The liquid waste handling facility shall only operate during those hours specified in the permit issued by the Department of Environment. In addition to the hours specified in the permit for the acceptance of waste materials, the permit may also specify hourly restrictions on other ancillary operations that occur at the facility.

10.3. Waste Volumes. Waste volume limits specified by the Department of Environment in the facility's permit shall not be exceeded.

10.4. Facility Cleaning. Receiving and storage pits or tanks shall be cleared of all waste and cleaned according to the schedule outlined in the permit application. The date of each cleaning shall be recorded in a log which shall be available for inspection by the Department. Floors, equipment, and anything else that may contact the waste shall be spot cleaned on a daily basis and shall be completely cleaned on a weekly basis.

10.5. Vehicles and Equipment. The liquid waste handling facility shall have sufficient vehicles and equipment available at all times to process all incoming volumes of waste materials.

10.6. Air Quality. The liquid waste handling facility shall not significantly impact air quality off-site.

10.7. Utilities. All necessary utilities shall be available with sufficient capacity to serve the liquid waste handling facility and its operations. In the event of a disruption of any utility service, a contingency plan shall exist to provide back-up capacity or to provide procedures for safe operation during the disruption.

10.8. Equipment Maintenance. Equipment and vehicles used at the facility shall undergo routine maintenance. The liquid waste handling facility shall develop a maintenance plan for all equipment and vehicles used in facility operations. The owner and operator shall prevent the usage of any vehicle or equipment that is in need of repair.

10.9. Waste Screening. The liquid waste handling facility shall accept only those materials permitted by the Department of Environment and listed in the facility's current, written permit. All waste loads shall be screened in accordance with the load checking plan included in the application for a permit and approved by the Department. The operator shall monitor for unauthorized waste. Any unauthorized waste shall be immediately removed from the facility, in accordance with the conditions of the Department of Environment permit. The operator shall notify the Department of Environment by phone within 24 hours and in writing within two business days of any acceptance of unauthorized wastes, documenting the proper removal and disposal of the unauthorized waste.

10.10. Fire Prevention and Accident Safety Plan. The liquid waste handling facility shall have an approved fire prevention and accident safety plan; shall operate in compliance with the performance standards for fire and explosive hazards; and shall install and maintain fire suppression equipment as specified in the Chicago Zoning Ordinance, the building regulations and applicable fire prevention regulations of the Chicago Municipal Code.

10.11. Site Security. The liquid waste handling facility shall have all operations screened from view of all passersby. A fence or natural barrier shall be constructed and maintained to prevent unauthorized access to the site.

10.12. Traffic. The liquid waste handling facility shall not cause the back up of vehicles onto public roads or rights-of-way at any time. No vehicles used in the operations of the liquid waste handling facility shall be parked or wait along public streets or rights-of-way. The liquid waste handling facility shall have sufficient parking available for all personnel, visitors, and vehicles used for the operations of the liquid waste handling facility.

10.13. Noise. The liquid waste handling facility shall comply with the performance standards for noise specified in the Chicago Municipal Code.

10.14. Odor Control. The liquid waste handling facility shall operate in accordance with an approved odor control plan for the prevention and treatment of malodors from the liquid waste handling facility.

10.15. Rodent/Vector Control. The entire liquid waste handling facility shall be inspected by a vector control specialist for rodents and other vectors at least monthly. A record of the most current inspection and eleven previous inspections shall be maintained at the liquid waste handling facility.

10.16. Stormwater. Any precipitation which accumulates in the secondary containment system shall be removed within 24 hours of the time such accumulation is observed, or before the area overflows, whichever comes first. If necessary, the facility shall analyze and treat the stormwater collected from the secondary containment system to ensure that no constituents violate the appropriate discharge requirements of the MWRDGC.

10.17. Daily Inspections. The facility operator shall conduct daily inspections for:

- leaks, spills and excess corrosion for all tanks, piping systems, and any other ancillary equipment at the facility.
- cracks, spilling, standing liquid and any evidence of stains or residuals for all secondary containment systems.
- the detection of leaks, spills and deterioration of containers and the containment system.

Records of all such inspections shall be made and maintained at the facility.

10.18. Inspections. The liquid waste handling facility, its records and permits, shall be available to the Commissioner or authorized agent for inspections at all times during normal business hours and upon reasonable notice at other times to ensure compliance with the Municipal Code and these regulations.

10.19. Facility Operating Record. The facility shall maintain an on-site operating record which shall include, at a minimum, information regarding: facility cleaning; daily inspections; the date, time and description of emergencies; date and time of vector control activities and inspections; and date and time of receipt of unauthorized waste and action taken.

10.20. Record keeping. The operator of the liquid waste handling facility shall record the following information for each load of waste entering the facility: date/time received, type of waste, volume of waste, treatment method, volume of residuals, and date/location of residual disposal. Recordkeeping shall include the proper manifesting of any waste transported from the site. These records shall be kept at the facility and shall be available for inspection by the Department.

10.21. Reporting. The operator of the liquid waste handling facility shall submit quarterly reports to the Department containing the following information: results of groundwater sample analysis, monthly totals of waste volumes received, monthly totals of treated waste intended for disposal, monthly totals of treated waste intended for reuse, and monthly totals of wastewater discharged to the wastewater treatment facility. These reports shall be submitted within 45 days from the end of each quarter. This information may be submitted as part of a facility's monthly Environmental Control Fund payments.

10.22. Correspondence. The operator shall provide the Department with copies of all correspondence to or from the IEPA, the USEPA and the Army Corp of Engineers including, but not limited to: notices of violation, letters, permit applications, reports, groundwater monitoring reports, and annual reports.

11.0 Liquid Waste Handling Facility Design Standards.

Liquid waste handling facilities permitted by the Department of Environment shall comply with the following design standards. These standards shall comply to new facilities and the expansion of existing facilities.

11.1. Liquid Waste Handling Facility. The transfer, storage, treatment, and handling of waste materials shall be performed in a manner that prevents all precipitation from contacting the wastes.

11.2. Building Layout. The building layout shall allow for the free flow of material through the liquid waste handling facility.

11.3. Processing. The liquid waste handling area shall conform to Occupational Safety and Health Administration regulations including confined space regulations. All processing equipment shall have lockout devices and guarding. Equipment shall be explosion-proof and/or be equipped with explosion suppression controls if the potential for an explosive atmosphere is present. Emergency stopping devices shall be supplied for processing, mixing, and/or treatment equipment. Any elevated platform shall have at least two access points. Processing equipment shall be sufficient to maintain the design throughout capacity specified in the permit.

11.4. Foundation Analysis. The proposed foundation shall be suitable for the building design and function and shall meet all applicable regulations.

11.5. Piping Systems. The piping for the liquid waste handling facility shall be designed and constructed to resist the pressures and temperatures expected at the facility. The piping shall be constructed of a material that resists corrosion and is compatible with the waste or other materials handled by the facility.

11.6. Tank Design. Tanks at the facility shall be constructed of materials that are compatible with the waste or other materials stored in the tank. Tanks shall be leak-free and shall be capable of withstanding the pressures expected within the tanks. Tanks shall be equipped or located such that precipitation cannot enter the tank.

11.7. Pit Design. Pits at the facility shall be constructed of materials that are compatible with the waste or other materials stored in the pit. Pits shall be leak-free and shall be capable of withstanding the pressure expected within the pits. Pits shall be equipped or located such that precipitation cannot enter the pit. Pits constructed of concrete shall use epoxy coated rebar and shall be lined with a suitable material making the pit impervious to liquids.

11.8. Secondary Containment. Secondary Containment volume shall be equivalent to the volume of the largest tank plus precipitation from a 25 year, 24 hour rainfall event. The secondary containment installations shall allow for the complete removal of any spilled waste or other materials.

11.9. Monitoring Wells. Monitoring wells and piezometers shall be constructed in accordance with IEPA standards. All wells and piezometers shall be equipped with locking covers to prevent tampering. Monitoring wells shall be constructed and developed in accordance to IEPA regulations and applicable state laws. A minimum of one upgradient well and two downgradient wells shall be installed. The upgradient wells shall be located as close to the facility property boundary as practical. The downgradient wells shall be located as far away from the property line as practical so as to detect a release before contamination leaves the facility property.

11.10. Lighting. The light levels of each area, including the tipping floor, processing line, equipment maintenance areas, washrooms, office, storage areas, and other rooms shall conform to accepted standards. Exit lighting shall be provided at each exit.

11.11. Heating, Ventilation and Air Conditioning. Heating, ventilation and air conditioning systems shall be capable of maintaining comfort and minimum fresh air requirements. Fresh air quantities shall be provided taking into consideration exhaust emission and employee fresh air requirements. An air filtering system shall also be designed and installed to meet all applicable regulations for maximum dust and contaminant levels in occupied spaces.

11.12. Roadways. The liquid waste handling facility shall be designed and operated to allow traffic to flow smoothly into, through, and out of the site without interfering with other vehicles or the operations of the liquid waste handling facility. Interior roads shall be designed to withstand the loads expected at the facility. At a minimum, all roads and parking areas shall be paved or provided with other DOE approved dust control measures.

11.13. Parking. The liquid waste handling facility shall have sufficient parking for all vehicles involved in its operation.

11.14. Fueling Facilities. If equipment and vehicles will be fueled on site, a fueling station shall be constructed that provides secondary containment of flammable materials. The fueling station shall be designed and constructed in accordance with the Chicago Municipal Code and shall be approved by the State Fire Marshall's Office and the Chicago Fire Department.

11.15. Screening. The liquid waste handling facility shall have adequate screening or fencing to control noise, dust, and prevent unauthorized access.

TRANSFER STATION APPLICATION REQUIREMENTS AND LOCATION, OPERATING AND DESIGN STANDARDS

12.0 Transfer Station Permit Requirements.

A complete, detailed permit application, containing at a minimum the information required in Sections 12.1 through 12.7, shall be required for the following:

- developing and operating a new transfer station facility;
- expanding an existing transfer station facility;
- modifying an existing facility's permitted operations; and
- renewing an existing facility permit except when the Short Form application process may be used as outlined in Section 3.0 of these regulations.

The application shall contain narratives, drawings, diagrams, analyses, and calculations necessary to satisfy the requirements of these regulations and demonstrate that the transfer station facility will be designed and operated to protect the public health, safety, and welfare at all times.

12.1. Owner's Authorization. [Section 11-4-1520(A)(1)] The application for a permit shall include a notarized letter, signed by the property owner that authorizes use of the property for a transfer station. This letter is required even if the applicant is the owner of the property.

12.2. Property Taxes. [Section 11-4-1520(A)(2)] The application for permit shall include evidence of payment of real estate property taxes by providing copies of the most recent tax bill and check; or by providing a copy of the most recent tax bill that has been stamped paid by the Cook County Assessor's office. The PIN numbers for all areas of the facility shall also be provided.

12.3. Variance in the Nature of a Special Use. [Section 11-4-1520(A)(3)] For new or expanding facilities the application for a permit shall contain all reports and information to necessary to obtain a Variance in the Nature of a Special Use (Special Use Variance) from the Zoning Board of Appeals (ZBA). If the transfer station facility has an existing Special Use Variance, the application shall contain copies of the variance issued by the ZBA and a demonstration that the transfer station facility is in compliance with the Special Use Variance and any conditions attached to the variance.

12.4. Design Report. The application for a permit shall contain a design report for the transfer station facility that shall include the following components, in order:

12.4.1. Plot Plan. [Section 11-4-1520(A)(4)] The design report shall contain a plot plan drawing(s) of the transfer station facility. This drawing(s) shall be prepared at a legible scale, no smaller than one inch equals 100 feet. The plot plan drawing(s) shall include the following components, at a minimum:

12.4.1.1. The transfer station facility site boundaries and the location of all facility buildings, access roads, parking areas, and any ancillary structures or features.

12.4.1.2. Topographic contours, at a minimum two-foot contour interval, of the transfer station site.

12.4.1.3. The extent and composition of the buffer zone required by the Chicago Zoning Ordinance.

12.4.1.4. Any characteristic or feature that has a location standard established in Section 13.0 of these regulations or any other applicable standards. The plans shall identify the characteristic or feature and indicate the setback distance from the transfer station facility boundary.

12.4.2. USGS Site Location Map.[Section 11-4-1520(A)(30)] The design report shall contain a USGS 7.5 Minute Quadrangle Map that provides sufficient coverage to include the following:

12.4.2.1. The delineated boundaries of the transfer station site.

12.4.2.2. A clearly marked one-mile radius around the entire site to identify features including residential property, streams, rivers, ponds, lakes, wetlands, roads, highways, schools and parks within this one-mile perimeter.

12.4.3. Aerial Photograph Drawing(s). [Section 11-4-1520(A)(30)] For new and expanding facilities the design report shall contain an aerial photograph drawing(s) that provides sufficient coverage to include the following:

12.4.3.1. The delineated boundaries of the transfer station facility and site property.

12.4.3.2. A clearly marked ½-mile radius around the entire site to identify features including residential property, streams, rivers, ponds, lakes, wetlands, roads, highways, schools and parks within this ½-mile perimeter.

12.4.3.3. Zoning districts clearly delineated with a ½-mile radius of the facility site. The district boundaries and their respective designations shall be clearly marked.

12.4.3.4. Any characteristic or feature that has a location standard established in Section 13.0 of these regulations or any other applicable standards. The drawing(s) shall identify the characteristic or feature and indicate the setback distance from the transfer station facility boundary.

12.4.4. General Layout of the Facility. [Section 11-4-1520(A)(5)] The design report shall contain sufficient scale drawings to describe the general layout of the transfer station. These drawings shall include and indicate, but not be limited to:

12.4.4.1. The main areas of the transfer station facility, at a legible scale, not less than one inch equals 100 feet. The scale shall be represented on each drawing in graphical format.

12.4.4.2. The internal and external layout of all buildings and structures.

12.4.4.3. The layout and location of all fixed equipment including, but not limited to compactors, balers, scales, sorting/processing equipment, and conveyors.

12.4.4.4. The limits of waste processing, handling and/or staging areas.

12.4.4.5. All pertinent features of the storm water management system (e.g. inlets, storm water pipelines, catch basins, and detention ponds).

12.4.4.6. All pertinent features of the wastewater management system (e.g. floor drains, sumps, oil filter/separators, sewer lines and treatment facilities).

12.4.4.7. The locations of the primary utilities within and adjacent to the transfer station facility.

12.4.4.8. The locations of the primary water sources and water distribution system components for employee consumption, fire suppression, facility cleaning, and dust control.

12.4.4.9. The locations of all fire suppression equipment (e.g. sprinklers, hoses, and extinguishers) and flammable material storage areas.

12.4.4.10. The locations of all site control features and all screening devices such as fences, gates, and signage

12.4.4.11. The locations and layout of all parking and queuing areas, including the number of parking spaces and the maximum number of trucks that can be queued at one time in the allotted queuing area.

12.4.4.12. The locations and layout of all employee facilities.

12.4.4.13. The location of all first-aid equipment and other emergency supplies and equipment.

12.4.5. Survey. [Section 11-4-1520(A)(6)] The design report shall contain a Legal Plat of Survey, prepared by a Professional Surveyor, that depicts the transfer station site boundaries.

12.4.6. Legal Description. [Section 11-4-1520(A)(7)] The design report shall contain legal descriptions, prepared by a Professional Surveyor, that describe the transfer station site boundaries and are identical to those provided with the financial security required by Section 11-4-370 of the Municipal Code.

12.4.7. Utilities. [Section 11-4-1520(A)(8)] For new and expanding facilities, the design report shall demonstrate that adequate utility capacity is readily available for the operations of the transfer station facility. Utilities may include, but are not limited to: electricity, potable water, process water, telephone, and natural gas. The information in the design report regarding utilities shall include:

12.4.7.1. A plan scaled drawing showing the location of all utilities within and adjacent to the transfer station facility.

12.4.7.2. Calculations demonstrating the peak utility demands for proper operation of the transfer station facility. This shall include, but is not limited to water, sewage and gas and/or electrical demands.

12.4.7.3. A demonstration that sufficient utility capacity is available to the transfer station facility to satisfy the demands calculated in 12.4.7.2. Such documentation may be in the form of an approval letter or permit from the utility provider.

12.4.8. Water Sources. [Section 11-4-1520(A)(11)] The design report shall demonstrate that sufficient quantities of water or other appropriate materials for fire protection, employee consumption, dust control, and cleaning are available. For this demonstration, the design report shall include:

12.4.8.1. The locations of each source of water and/or other material.

12.4.8.2. The total amount of water and/or other materials available from each source.

12.4.8.3. The rate at which water and/or other materials can be obtained from each source.

12.4.8.4. A listing of equipment and their specifications that are used to pump, distribute and/or convey water and/or other materials.

12.4.9. Site Security. [Section 11-4-1520(A)(13)] The design report shall demonstrate that the transfer station facility is secure from unauthorized access at all times. This demonstration shall include, at a minimum:

12.4.9.1. A description and specifications of the fences, gates, signs, and other barriers that prevent unauthorized access to the transfer station facility.

12.4.9.2. A description of the security measures taken during both operating hours and closed hours.

12.4.10. Back-Up Capacity. [Section 11-4-1520(A)(14)] The design report shall demonstrate that the transfer station facility has sufficient back-up capacity for the removal, storage, or covering of all wastes in the event of an equipment failure or emergency situation. This demonstration shall include, but not be limited to:

12.4.10.1. Details and calculations demonstrating the back-up capacity of the transfer station facility. Specifically list all redundancies or emergency back-up capacity built into the system equipment and staffing.

12.4.10.2. Detailed descriptions of procedures necessary to remove, containerize, or dispose of one day's waste flow into the transfer station facility.

12.4.10.3. A plan for managing the flow of waste and other materials processed at the transfer station facility during equipment failure or emergency situations.

12.4.11. Structures and Fixed Equipment. [Section 11-4-1520(A)(17)] The design report shall demonstrate that all structures and fixed equipment are designed so that the transfer station facility can be operated as proposed and in a safe manner. This demonstration shall include, but not be limited to:

12.4.11.1. Detailed design drawings and manufacturers specification sheets for all structures and fixed equipment.

12.4.11.2. Calculations of the waste handling capacity of all structures and fixed equipment.

12.4.11.3. An operating and maintenance plan for all structures and fixed equipment.

12.4.11.4. New facilities shall include a Construction Quality Assurance (CQA) Plan that provides testing and acceptance procedures for construction of all structures and fixed equipment.

12.4.12. Floor and Storage Capacity. [Section 11-4-1520(A)(19)] The design report shall demonstrate that sufficient floor and staging capacity exists to accommodate the unloading of peak volumes of inbound material; to load out peak volumes of outbound materials; and to store recyclable materials. This demonstration shall include, but not be limited to:

12.4.12.1. Detailed calculations of the volume available for the unloading of waste and recycled materials on the tipping floor(s); for the loadout of materials in the loadout areas; and for the storage of recyclable materials in any storage area.

12.4.12.2. Drawings of the maximum horizontal and vertical limits of waste or recyclable materials on the tipping floor(s), loadout area, and in all staging areas.

12.4.12.3. Estimates of the volume of incoming materials during the peak inflow period of the day, in cubic yards per hour. This estimate shall reflect peak waste volume seasons, if applicable.

12.4.13. Water Drainage. [Section 11-4-1520(A)(20)] The design report shall demonstrate that adequate systems exist to handle storm water and wastewater flows from the transfer station facility. This demonstration shall include:

12.4.13.1. Drawings, specifications, and design calculations to demonstrate effective control of run-on and run-off from the transfer station facility.

12.4.13.2. Copies of the facility's NPDES and MWRD discharge permits or anticipated submittal date, if applicable, and/or any other permit issued by the IEPA Bureau of Water.

12.4.13.3. Documentation that any receiving sewer system has sufficient capacity to handle the quantity of stormwater and wastewater generated by the transfer station facility. Such documentation may be in the form of an approval letter or permit from the utility provider.

12.4.13.4. Drawings, specifications, and design calculations to demonstrate effective handling, storage, treatment, and/or disposal of wastewater generated by the transfer station facility.

12.4.14. Traffic. [Section 11-4-1520(A)(21)] The design report shall demonstrate that traffic generated for the transfer station facility will not significantly affect existing traffic flows, and that the points of ingress and egress are designed according to Illinois Department of Transportation (IDOT) standards. For new, expanding and existing facilities, this demonstration shall include, but not be limited to:

12.4.14.1. Calculations of the average and maximum number of vehicles generated by the transfer station facility as well as an hourly breakdown of facility vehicle traffic.

12.4.14.2. Diagrams of the points of ingress and egress depicting the layout of ingress/egress points, sight distances, and improvements necessary to minimize accidents at the ingress/egress points.

12.4.14.3. A listing of roads and highways designated for use by traffic generated by the transfer station facility.

12.4.14.4 A stacking plan showing the number of waste handling vehicles and the location of these vehicles during the maximum peak service hour.

12.4.14.5. A demonstration that traffic generated by the transfer station facility will not interfere with the flow of traffic or exceed the intended level of service of any public street or right-of-way.

For new and expanding facilities, this demonstration shall include the components listed in Sections 12.4.14.1. through 12.4.14.5., in addition to:

12.4.14.6. Traffic counts taken in hourly intervals at all ingress/egress points during the anticipated operating hours of the transfer station facility. The entire operating period shall be represented in this traffic count study and shall identify the peak hours of traffic volumes occurring in the morning and afternoon. The traffic counts shall include a classification of vehicles.

12.4.14.7. A description of the measures taken to reduce the impact of the transfer station facility generated traffic on the existing traffic flows.

12.4.15. Parking. [Section 11-4-1520(A)(22)] The design report shall demonstrate that sufficient parking exists at the transfer station facility. This demonstration shall include:

12.4.15.1. A listing of the number of employees at the transfer station facility and the corresponding number of parking spaces.

12.4.15.2. A layout of all parking areas including short-term truck parking and truck queuing areas. This layout may be shown on the general layout required in Section 12.4.4.

12.4.16. Employee Facilities. [Section 11-4-1520(A)(23)] The design report shall contain a description of the employee facilities available at the transfer station facility. At a minimum, these employee facilities shall include washrooms, toilets, and potable water.

12.4.17. Screening. [Section 11-4-1520(A)(25)] The design report shall demonstrate that the screening or fencing of the transfer station facility will adequately control noise, dust, blowing litter, and will prevent unauthorized access. This demonstration shall include:

12.4.17.1. A description of the screening or fencing for the transfer station facility site.

12.4.17.2. A detailed drawing of the construction of the screening or fencing and the placement around the transfer station facility. The drawing may be included in the general layout required in Section 12.4.4.

12.4.17.3. A demonstration that the screening or fencing will control noise, dust, blowing litter, and unauthorized access.

12.4.18. Buffer Zone. [Section 11-4-1520(A)(28)] The design report shall describe the buffer zone surrounding the transfer station facility and shall demonstrate that it meets the description of a buffer zone required for a transfer station facility by the Chicago Zoning Ordinance.

12.4.19. Environmental Assessment. [Section 11-4-1520(A)(29)] For new or expanding facilities, the design report shall include a complete copy of the Environmental Assessment prepared pursuant to the Chicago Zoning Ordinance. The application shall also include responses and/or additional information related to any recommendations included in the Environmental Assessment.

12.5. Operating Plan. The application for permit shall contain an operating plan for the transfer station facility that shall include, at a minimum, the following components, in order:

12.5.1. Types of Waste. [Section 11-4-1520(A)(9)] The operating plan shall include a detailed description of the types of waste and volumes of each waste type accepted at the facility. It shall also include the waste screening measures employed by the facility to ensure that unauthorized wastes are not accepted. This discussion shall include, but not be limited to:

12.5.1.1. A list of all the types of waste and the daily volumes of each type of waste accepted or proposed to be accepted at the transfer station facility. The list shall be specific and shall not include terms such as "other", "general", "miscellaneous", or similar terms that are vague in nature. Each item included in the list of waste types shall be accompanied by a description of the materials.

12.5.1.2. A description of the service area from which the different types of waste will be accepted.

12.5.1.3. A waste screening plan that provides for monitoring and random inspection of waste entering the transfer station facility.

12.5.1.4. An emergency response plan for the immediate segregation and removal of all unauthorized wastes from the transfer station facility.

12.5.2. Quantity of Waste. [Section 11-4-1520(A)(10)] The operating plan shall include a discussion about the daily quantities of waste accepted at the facility during average and peak volume seasons. The operating plan shall also include a demonstration of the facility's ability to handle the accepted quantity. This discussion shall include, but not be limited to:

12.5.2.1. A list of the average and peak quantities of each type of waste that will be accepted at the transfer station facility during the term of the permit. The estimated waste quantities shall be provided on a tons per day basis or cubic yards per day basis for each waste type and shall include a daily average quantity calculated on a monthly basis and a maximum peak waste season daily quantity for each waste type.

12.5.2.2. A demonstration that the transfer station facility has the ability to determine and record the amounts of waste entering and exiting the transfer station facility.

12.5.3. Devices, Apparatus, Processes. [Section 11-4-1520(A)(18)] The operating plan shall include a demonstration, through detailed calculations, waste flow diagrams, and operating guidelines, that the transfer station facility is capable of processing the average and maximum peak season daily quantities of waste anticipated for the transfer station facility. Waste flow diagrams shall indicate the quantity of waste material flow between each process or device on the diagram. The diagrams shall also indicate equipment processing rates, staffing requirements, floor staging capacity, mean staging time, and inflow/outflow rates. The demonstration shall incorporate operating hours, peak periods, peak quantities, processing capacities, number of employees, and all other applicable factors.

12.5.4. Fire Prevention. [Section 11-4-1520(A)(12)] The transfer station facility shall comply with the requirements of the Chicago Municipal Code and all applicable local, State, and Federal laws and regulations relating to fire prevention. The operating plan shall include a Fire Prevention and Response Plan. At a minimum, the Fire Prevention and Response Plan shall include:

12.5.4.1. A description of the safety measures employed to prevent fires.

12.5.4.2. The location of, and handling procedures for flammable liquids and chemicals stored at the transfer station facility.

12.5.4.3. Details and specifications of a fire detection system for the transfer station facility.

12.5.4.4. Specifications and locations of all fire suppression equipment including, but not limited to extinguishers, automatic sprinklers, and hoses.

12.5.4.5. A description of the responsibilities of all employees in the event of a fire.

12.5.5. Emergency Communications. [Section 11-4-1520(A)(15)] The operating plan shall contain a description of the emergency communication system. This description shall include, but not be limited to:

12.5.5.1. A listing of all equipment available for routine communications and emergency communications.

12.5.5.2. A listing of authorities that may be contacted in the event of an emergency situation.

12.5.5.3. A description of the internal chain-of-command in the event of an emergency, including a description of responsibilities.

12.5.6. First Aid Equipment. [Section 11-4-1520(A)(16)] The operating plan shall contain a description of the first aid equipment available at the transfer station facility. This description shall include, but not be limited to:

12.5.6.1. A listing of first aid supplies available at the transfer station facility.

12.5.6.2. A description of the location of first aid equipment.

12.5.6.3. The designation of employees that receive Red Cross approved first aid training.

12.5.7. Rodent/Vector Control. [Section 11-4-1520(A)(24)] The operating plan shall contain a plan for the effective prevention and control of rodents and other vectors. At a minimum, this plan shall include:

12.5.7.1 A minimum of bi-weekly inspections conducted by a vector control specialist of the entire transfer station facility for rodents and other vectors. A record of the most current inspection and eleven previous inspections shall be maintained at the transfer station facility.

12.5.7.2. A detailed description of all measures employed to prevent infestation by rodents and vectors, including good housekeeping practices used to control rodents and vectors.

12.5.7.3. A detailed description of all measures and controls employed (e.g. bait stations and traps) to provide for the control of rodents and vectors.

12.5.8. Odor Control. [Section 11-4-1520(A)(26)] The operating plan shall provide a plan for the prevention and treatment of malodors from the transfer station facility. This plan shall include, but not be limited to:

12.5.8.1. A description of the methods, including good housekeeping measures, employed at the transfer station facility to prevent malodors from migrating off-site. This description shall include an assessment of the effectiveness of such methods.

12.5.8.2. A description of the response measures taken once malodors are detected off-site including an assessment of the effectiveness of such measures.

12.5.8.3. A plan for the handling of extremely noxious waste materials.

12.5.8.4. A plan for the prohibition of waste materials that repeatedly cause malodor problems at the facility.

12.5.9. Vehicles. [Section 11-4-1520(D)(1)] The operating plan shall describe the site vehicles. This description shall include:

12.5.9.1. A list of all types of vehicles proposed to be maintained at the transfer station facility.

12.5.9.2. The quantity of each type of operating vehicle maintained at the transfer station facility.

12.5.9.3. The intended use and operating plan for each vehicle.

12.5.9.4. The number of employees qualified to operate each vehicle.

12.5.9.5. The quantity of material each vehicle is expected to be able to process or transport.

12.5.10. Disposal Facilities. [Section 11-4-1520(D)(2)] The operating plan shall identify all waste disposal facilities to which waste from the station will be hauled. The information shall include:

12.5.10.1. The name and location of all waste disposal facilities.

12.5.10.2. The proposed traffic routes to each disposal facility.

12.5.10.3. The estimated travel distances and times to each disposal facility.

12.5.10.4. Alternate sites for the disposal of all waste streams accepted, in the event that any of the waste disposal facilities becomes unavailable.

12.5.11. Volume Reduction. [Section 11-4-1520(D)(3)] The operating plan shall describe any procedures used to reduce the volume of waste. The application shall also describe the operating procedures for any equipment used for volume reduction. The information regarding volume reduction shall include:

12.5.11.1. A listing of all equipment used to reduce volume of waste at the facility.

12.5.11.2. The processing capacities of all equipment used for volume reduction.

12.5.11.3. Operational plans for all equipment and personnel used for volume reduction.

12.5.12. Litter. [Section 11-4-1520(D)(4)]. The operating plan shall describe all methods used to curtail windblown materials, including the following:

12.5.12.1. The use of structures, fences, natural barriers, or other devices used to prevent material from blowing off-site.

12.5.12.2. Operational plans for the prevention of material blowing off-site. This may include the use of manual labor pickers, mechanical collection devices, the use of portable fences, or the temporary closure of the facility on windy days.

12.5.13. Dust Control. [Section 11-4-1520 (A)(25)]. The operating plan shall describe in detail all methods used to adequately control and minimize any dust emissions occurring both on-site and off-site, including the following:

12.5.13.1. A detailed description of available staffing and all equipment/devices that are maintained on-site and are dedicated for dust control (e.g. location of water sources, water hoses, mechanical street sweepers, water truck, and brooms.)

12.5.13.2. Operational plans for the prevention and minimization of dust emissions on-site and off-site. This may include the use of watering devices, water trucks, brooms, and mechanical street sweepers.

12.5.14. Daily Cleaning. [Section 11-4-1520(D)(5)] The operating plan shall demonstrate that the daily cleaning procedures are sufficient to minimize the presence of vectors and odors. This demonstration shall include, but not be limited to:

12.5.14.1. A description of daily cleaning activities.

12.5.14.2. A schedule indicating the hours for the initiation and completion of daily cleaning activities.

12.5.14.3. A description of materials and equipment and quantities necessary to complete the daily cleaning activities.

12.5.14.4. A description of the staffing that will be dedicated to conducting the required daily cleaning activities.

12.5.15. Waste Removal. [Section 11-4-1520(D)(6)] The operating plan shall demonstrate that the hours of operation and the operating plan are sufficient to ensure that all waste will be removed from the transfer station facility at the end of each operating day. The transfer station facility shall remove all wastes and processed materials from the transfer station facility by the end of the day.

For 24 hour per day facilities, the facility shall have a period during each day in which all waste is removed from the facility. In addition all waste shall be removed from the facility within 24-hours from receipt.

12.5.16 Hours of Operation. [Section 11-4-1520(A)(30)] The operating plan shall specify the hours of operation of the transfer station facility, including processing, waste receipt, and maintenance activities. Those facilities requesting authorization for 24-hour per day operations shall provide information justifying the need for said authorization.

12.6. Closure Plan. [Section 11-4-1520(A)(27)] The application for permit shall contain a closure plan to be implemented when waste activities cease at the transfer station facility. Additional requirements for the closure plan may be included in additional sections. The closure plan shall include, at a minimum, the following components, in this order:

12.6.1. Closure Plan Activities. The closure plan shall include a listing of activities that will occur when waste related activities cease at the transfer station facility including a listing of materials necessary for closure and a schedule for the completion of the closure activities.

12.6.2. Waste Removal. The closure plan shall include a plan for the removal of all waste material from the facility.

12.6.3. Equipment Decommissioning. The closure plan shall include a plan for the decommissioning and cleaning of all equipment and structures at the facility that contacted waste materials.

12.6.4. Cost Estimates. The closure plan shall include cost estimates for the completion of all closure activities. The cost estimates shall be based on the cost necessary for closure at anytime during the life of the facility and shall not be discounted to current values. The cost estimate shall reflect a worst case scenario.

12.6.5. Financing. The closure plan shall include a demonstration that sufficient financing is available to complete all closure activities.

12.7 Additional Requirements. [Section 11-4-1520(A)(30)] The Commissioner may require additional information be submitted if it is determined that the information in the application is insufficient or if the nature of the transfer station facility warrants additional information to ensure the facility can be operated as proposed.

13.0 Transfer Station Location Standards.

All new and expanding transfer station facilities seeking permits to operate within the city of Chicago shall be located in accordance with the following requirements. The requirements of this Section do not exempt transfer station facilities from securing additional approvals and permits that as required by local, State, and Federal regulations. In all cases, the proposed facility location shall be such that public health, safety and welfare are protected.

13.1. Illinois Environmental Protection Act. All transfer station facilities shall demonstrate compliance with Section 22.14 of the Act.

13.2. Schools and Hospitals. A transfer station facility shall not be located within 800 feet of any property used for a school, hospital, nursing home, or convalescent center, unless written permission from the owner is provided for a closer distance.

13.3. Lake Michigan. A transfer station facility shall not be located within the Lake Michigan and Chicago Lakefront Protection District as specified in Lake Michigan and Chicago Lakefront Protection Ordinance (Chapter 16-4 of the Chicago Municipal Code).

13.4. 100-Year Flood Plain. A transfer station and all ancillary structures, including storage areas, shall not be located within the 100-year flood plain, unless the transfer station facility can demonstrate compliance with the Chicago Flood Control Ordinance (Chapter 16-6 of the Chicago Municipal Code) and all other applicable state and federal requirements.

13.5. Wetlands. A transfer station shall not have a negative impact on wetlands occurring on the subject site or near the subject site in accordance with Section 404 of the Clean Water Act (33 U.S.C. 1344) unless application is made and a permit received from the US Army Corps of Engineers and DOE approves such impact it as part of the facility's permit.

13.6. Endangered Species. A transfer station facility shall not pose a threat to any endangered species of plant, fish, or wildlife as defined by the Endangered Species Act (16 U.S.C. 1531 et seq.) or the Illinois Endangered Species Protection Act. (520 ILCS 10/1 et seq.).

13.7. Historic and Natural Areas. A transfer station facility shall not pose a threat to any historic site as listed pursuant to the National Historic Preservation Act (16 U.S.C. 470 et seq.) or the Illinois Historic Preservation Act (20 ILCS 3410/1 et seq.), and designated in the Chicago Zoning Ordinance, or any natural landmark, as designated by the National Park Service, the Illinois State Historic Preservation Officer, or as a Dedicated Illinois Nature Preserve pursuant to the Illinois Natural Areas Preservation Act (525 ILCS 30/1 et seq.).

14.0 Transfer Station Operating Standards.

All transfer station facilities permitted by the Department of Environment shall comply with the following operational standards.

14.1. Permit. The transfer station facility shall be operated in accordance with the current permit application on file with the Department of Environment; the current, written permit issued by the Department of Environment; the Standard Conditions contained in the current, written permit; and the Special Conditions contained in the current, written permit. A copy of the permit shall be maintained at the facility and shall be reviewed by the facility site manager. If the current permit application and the current, written permit conflict, the permit shall govern.

14.2. Hours of Operation. The transfer station facility shall operate only during those hours specified in the permit issued by the Department of Environment. In addition to the hours specified in the permit for the acceptance of waste materials, the permit may also specify hourly restrictions on other ancillary operations that occur at the facility.

All waste must be removed from the facility by the end of the operating day. If in an emergency, the facility stores waste overnight, all such waste shall be fully containerized. All waste must be removed from the facility within 24 hours of receipt. No waste shall remain at the facility when the facility is not scheduled to be open the following day.

14.3. Waste Volumes. Waste volume limits specified by the Department of Environment in the facility's permit may not be exceeded. If the facility is required to receive volumes which exceed the permitted volume to respond to an emergency situation, a written record of the date, time, and reason shall be made part of the site's operating record. The Department of Environment shall be notified by phone within 24 hours and in writing within two business days.

14.4. Facility Cleaning. The building, floors, loadout pit, equipment, containers and all facility areas, including, but not limited to, the area on which waste is handled or processed, shall be cleaned at the end of each operating day. All floors shall be cleaned utilizing a mechanical street sweeper with vacuum and water spray systems (or other equipment that provides similar results). No debris or washdown waters shall be discharged directly into the sewer system. Similarly, all areas used for truck traffic shall be cleaned on an as-needed basis utilizing the same (or similar) street sweeper to minimize dust and remove mud, both on and off-site. Spot cleaning of the facility including pushwalls, processing and handling equipment, and anything else that may contact the waste shall be performed on an as-needed basis each operating day.

A complete washdown of all facility floors, pushwalls, processing and handling equipment and any other areas or equipment that may contact waste shall be performed at least weekly. The Department of Environment reserves the right to require additional cleaning as deemed necessary. A written schedule shall be maintained on-site of all regularly scheduled cleaning operations and shall be made available for review by the Department of Environment.

If any unauthorized or hazardous waste is detected on the tipping floor, the material shall be containerized and removed from the site, the area surrounding the location of the material shall be cleared, and the floor shall be spot cleaned immediately after removal of the material. All cleaning materials contacting the unauthorized or hazardous waste shall also be containerized and removed from the site.

14.5. Vehicles and Equipment. The transfer station facility shall have sufficient vehicles and equipment available at all times to process all incoming volumes of waste materials.

14.6. Transfer Trailers and Containers. The transfer station facility shall have sufficient number of transfer trailers and/or containers to be able to hold any residual waste at the end of day. All transfer vehicles shall be sealed or tarped. All leaking containers and torn tarps shall be decommissioned and replaced or repaired.

14.7. Litter. The transfer station facility shall be operated to prevent wind blown litter off-site. At a minimum, all wind blown litter shall be picked up on a daily basis. All vehicles entering and exiting the site shall have devices capable of preventing windblown material. Any vehicle entering the site without sufficient devices to prevent windblown material shall be notified and upon subsequent violations shall be rejected.

14.8. Air Quality. The transfer station facility shall not significantly impact air quality off-site.

14.9. Utilities. All necessary utilities shall be available with sufficient capacity to serve the transfer station facility and its operations. In the event of a disruption of any utility service, a contingency plan shall exist to provide back-up capacity or to provide procedures for safe operation during the disruption.

14.10. Equipment Maintenance. Equipment and vehicles used at the facility shall undergo routine maintenance. The transfer station facility shall develop a maintenance plan for all equipment and vehicles used in facility operations. The owner and operator shall prevent the usage of any vehicle or equipment that is in need of repair.

14.11. Waste Screening. The transfer station facility shall accept only those materials permitted by the Department of Environment and listed in the facility's current, written permit. All waste loads shall be screened in accordance with the load checking plan approved by the

Department of Environment. The operator shall monitor for unauthorized waste. Random inspections of a minimum of three loads entering the transfer station facility shall be conducted on a weekly basis, unless otherwise permitted by the Department of Environment. Any unauthorized wastes shall be immediately removed from the facility, in accordance with the conditions of the Department of Environment permit. The operator shall notify the Department of Environment by phone within 24 hours and in writing within two business days of acceptance of any unauthorized wastes, documenting the proper removal and disposal of the unauthorized waste.

14.12. Waste Handling. All waste handling activities including unloading, screening, processing, and loading shall be conducted on a paved surface, under roof.

14.13. Fire Prevention and Accident Safety Plan. The transfer station facility shall have an approved fire prevention and accident safety plan; shall operate in compliance with the performance standards for fire and explosive hazards; and shall install and maintain fire suppression equipment as specified in the Chicago Zoning Ordinance, the building regulations and applicable fire prevention regulations of the Chicago Municipal Code.

14.14. Grading and Site Pavement. All driveways, access roads, parking areas and other areas used for truck traffic shall be properly graded and paved to prevent or minimize any dust emissions and the tracking of mud off-site. Further, site grading and pavement shall be properly maintained and repaired as often as necessary to maintain the integrity and effectiveness for mud and dust control.

14.15. Site Security. The transfer station facility shall have all operations screened from view of all passersby. A fence or natural barrier shall be constructed and maintained to prevent unauthorized access to the site.

14.16. Traffic. The transfer station facility shall not cause the back up of vehicles onto public roads or rights-of-way at any time. No vehicles used in the operations of the transfer station facility shall be parked or wait along public streets or rights-of-way. The transfer station facility shall have sufficient parking available for all personnel, visitors, and vehicles used for the operations of the transfer station facility.

14.17. Noise. The transfer station facility shall comply with the performance standards for noise specified in the Chicago Municipal Code.

14.18. Odor Control. The transfer station facility shall operate in accordance with an approved odor control plan for the prevention and treatment of malodors from the transfer station facility.

14.19. Dust Control. The facility shall operate in accordance with an approved dust control plan for the prevention or minimization of dust emissions occurring both on and off-site.

14.20. Rodent/Vector Control. The facility shall employee effective vector control and prevention measures in accordance with an approved vector control plan to prevent infestations by rodents and vectors. A minimum of bi-weekly inspections shall be conducted by a vector control specialist of the entire transfer station site for rodents and other vectors. A record of the most current inspection and eleven previous inspections shall be maintained at the facility.

14.21. Vehicle Recordkeeping. A record of all vehicles utilizing the facility shall be maintained and made available for inspection by the Department of Environment and the local police district. This record shall include the date, gross vehicle weight, vehicle type and the hauling company name.

14.22. Blue Bag Recycling. If the facility participates in a "Blue Bag" recycling program or receives Blue Bags in the delivered waste stream, the facility shall recover no less than 96% by weight of all intact, delivered Blue Bags. Further the facility shall recover no less than 92% by weight of the recyclables within the recovered Blue Bags. If the facility cannot meet these recovery standards, it shall not accept loads which contain "Blue Bags."

14.23. Recordkeeping. The facility shall maintain an on-site operating record which shall include, at a minimum, information regarding: facility cleaning; the date, time and description of emergencies; date and time of vector control activities and inspections; and date and time of receipt of unauthorized waste and action taken.

14.24. Inspections. The transfer station facility, its permits, and operating records shall be available to the Commissioner or authorized agent for inspection at all times during normal business hours and upon reasonable notice at other times to ensure compliance with the Municipal Code and these regulations.

14.25. Correspondence. The operator shall provide the Department with copies of all correspondence to or from the IEPA, the USEPA and the Army Corp of Engineers including, but not limited to: notices of violation, letters, permit applications, reports, groundwater monitoring reports, and annual reports.

15.0 Transfer Station Design Standards.

Transfer stations permitted by the Department of Environment shall also comply with the following design standards. These standards shall apply to new facilities and the expansion of existing facilities.

15.1. Transfer Station Building. The transfer of waste materials shall be performed in a building with a roof or overhang that blocks all precipitation from contacting the waste.

15.2. Tipping Floor. All unloading and handling of waste shall be conducted in a building with adequate area. The floor shall be abrasion-resistant and capable of withstanding compressive and vibratory loads resulting from unloading vehicles. The tipping floor shall be large enough to accommodate the peak volumes of material inflow into the facility.

15.3. Building Layout. The building layout shall allow for the free flow of material through the transfer station facility.

15.4. Pushwalls. Pushwalls shall be constructed where waste will come in contact with any interior wall. The pushwall shall be designed to resist the deadload of the waste piled next to it and the live load of equipment pushing waste onto the wall. A load factor of 1.4 for dead loads and 1.7 for live loads shall be used in the design of the pushwalls. The pushwalls shall be designed to resist both dynamic failure and overturning and shall resist an impact load of 100 kips.

15.5. Processing. The transfer station area shall conform to Occupational Safety and Health Administration standards including confined space standards. All processing equipment shall have electric lockout devices and guarding. Size reduction equipment shall be explosion-proof and/or be equipped with explosion suppression controls. Emergency stopping devices shall be supplied for processing, baling, and/or compaction equipment. Any elevated platform shall have at least two access points. Processing equipment shall be sufficient to maintain the design throughput capacity specified in the permit.

15.6. Foundation Analysis. The proposed foundation shall be suitable for the building design and function.

15.7. Lighting. The light levels of each area, including the tipping floor, processing line, equipment maintenance areas, washrooms, office, storage areas, and other rooms shall conform to accepted standards. Exit lighting shall be provided at each exit.

15.8. Heating, Ventilation and Air Conditioning. Heating, ventilation and air conditioning systems shall be capable of maintaining comfort and minimum fresh air requirements.

Fresh air quantities shall be provided taking into consideration exhaust emission and employee fresh air requirements. An air filtering system shall also be designed and installed to meet OSHA standards for maximum dust levels in an occupied space.

15.9. Roadways. The transfer station facility shall be designed and operated to allow traffic to flow smoothly into, through, and out of the site without interfering with other vehicles or the operations of the transfer station. Interior roads shall be designed to withstand the loads expected at the transfer station facility. At a minimum, all roads and parking areas shall be paved.

15.10. Parking. The transfer station facility shall have sufficient parking for all vehicles involved in the operations of the transfer station facility.

15.11. Fueling Facilities. If equipment and vehicles will be fueled on site, a fueling station shall be constructed that provides secondary containment of flammable materials. The fueling station shall be designed and constructed in accordance with the Chicago Municipal Code and shall be approved by the State Fire Marshall's Office and the Chicago Fire Department.

15.12. Screening. The transfer station facility shall have adequate screening or fencing to control noise, dust, blowing litter, and to prevent unauthorized access.