NR 180

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Anthony S. Earl
Secretary

BOX 7921
MADISON, WISCONSIN 53707

IN REPLY REFER TO: _____

STATE OF WISCONSIN)
) ss
DEPARTMENT OF NATURAL RESOURCES)

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TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Anthony S. Earl, Secretary of the Department of Natural Resources and custodian of the official records of said Department, do hereby certify that the annexed copy of Natural Resources Board Order No. SW-23-79 was duly approved and adopted by this Department on September 26, 1979. I further certify that said copy has been compared by me with the original on file in this Department and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the Department at General Executive Facility #2 in the City of Madison, this 30th day of October, 1979.

Anthony S. Earl

Anthony S. Earl, Secretary

(SEAL)

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD

CREATING RULES

IN THE MATTER of creating sections NR 180.01, NR 180.02, NR 180.03, NR 180.04, NR 180.05, NR 180.06, NR 180.07, NR 180.08, NR 180.09, NR 180.10, NR 180.11, NR 180.12, NR 180.13, NR 180.14, NR 180.15, NR 180.17, NR 180.18, NR 180.19 and NR 180.20 of the Wisconsin Administrative Code pertaining to solid waste management	SW-23-79

Analysis Prepared by Department of Natural Resources

Chapter NR 180 is a complete revision to and replacement of chapter NR 151 as it relates to nonhazardous solid waste. NR 151 will remain in effect to regulate hazardous solid waste until new hazardous waste rules can be prepared and adopted.

In response to criticism that certain parts of NR 151 lack specificity, NR 180 has been made much more precise and definitive. In terms of technical requirements contained in NR 180, the majority of the information requested is consistent with operating practices the Department has used since 1975.

In addition to being more explicit, NR 180 includes major changes in the following areas:

A. Fees. The fees for plan review and licensing have been substantially increased. This increase was necessitated by chapter 377, laws of 1977, which requires that the Department fund a number of positions from program revenue. The fees will cover the revenue needed for these positions.

B. Procedure. NR 180 establishes what is required in a feasibility report and a plan of operation. It also outlines what might be submitted in an initial site report which is an optional submission by an applicant. This division of work elements into various parts is consistent with the procedural requirements of chapter 377, laws of 1977.

C. Long-term care. Chapter 377, laws of 1977, requires applicants to submit assurance of financial responsibility to provide for the costs for closure and long-term care in order to obtain Department approval. This section of the code establishes means by which such assurance can be made.

NR 180 will affect municipalities, industries and private landfill operators as well as anyone else who disposes of a solid waste. It will increase the cost of solid waste disposal for the reasons set forth in the attached fiscal note.

SW-23-79

Pursuant to the authority vested in the State of Wisconsin Natural Resources Board by sections 144.01, 144.025, 144.04, 144.045, 144.26, 144.30 to 144.35, 144.43 to 144.46, 144.54 and 227.014, Wis. Stats., and section 26, chapter 377, laws of 1977, the State of Wisconsin Natural Resources Board hereby creates rules as follows:

Chapter NR 180

Solid Waste Management Rules

NR 180

SOLID WASTE MANAGEMENT RULES

NR 180.01 Purpose. The purpose of these rules is to help ensure that efficient, nuisance-free, and environmentally acceptable solid waste management procedures are practiced in Wisconsin. The rules are adopted pursuant to ss. 144.01, 144.025, 144.04, 144.045, 144.26, 144.54, and 227.014, Stats. (1977), ss. 144.43 to 144.47, Stats., (as affected or created by ch. 34, laws of 1979) and s. 26, ch. 377, laws of 1977.

NR 180.02 Applicability.

(1) These rules govern all solid waste disposal sites and facilities as defined by s. 144.43 (5), Stats. (as created by ch. 34, laws of 1979), except hazardous waste sites and facilities and except that metallic mining operations as defined in s. 144.81 (5), Stats., not licensed by the department and not mining prior to June 3, 1978, shall be exempt from the provisions of this chapter until May 21, 1980. These rules shall be applicable to all metallic mining operations after May 20, 1980 if the department has not adopted specific rules for the identification and regulation of metallic mining wastes pursuant to s. 144.43(1m), Stats., by that date. When the department adopts rules pursuant to s. 144.43(1m), Stats., the rules shall be applicable to metallic prospecting and mining operations in this state to the exclusion of this chapter except where this chapter or portions thereof are specifically adopted under s. 144.43(1m), Stats. If prior to May 21, 1980, an application to mine is submitted, this chapter shall be applicable to that application until this chapter is superceded by rules adopted pursuant to s. 144.43(1m), Stats.

(2) The provisions of this chapter are not applicable to the design, construction or operation of industrial wastewater facilities, sewerage systems and waterworks treating liquid wastes approved under s. 144.04, Stats., and/or permitted under ch. 147, Stats., nor to sites used solely for the disposal of liquid municipal or industrial wastes which have been approved under s. 144.04, Stats., and/or permitted under ch. 147, Stats., except for sites used for the ultimate disposal of solid waste.

Note: Pursuant to s. 26, ch. 377, laws of 1977, sites and facilities utilized for the storage, transportation, treatment and disposal of hazardous wastes are regulated by the toxic and hazardous waste provisions in chapter NR 151, Wis. Adm. Code, until hazardous waste rules are adopted pursuant to ch. 377, laws of 1977.

NR 180.03 Severability. Should any section, paragraph, phrase, sentence or clause of this chapter be declared invalid or unconsititutional for any reason, the remainder of this chapter shall not be affected thereby.

NR 180.04 Definitions. The following special definitions are applicable to the terms used in this chapter:

(1) "Air curtain destructor" means a solid waste processing facility that combines a fixed wall, open pit and mechanical air supply which uses an excess of oxygen and turbulance to accomplish the smokeless combustion of clean wood wastes and similar combustible materials.

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

(3) "Closure" means those actions taken by the owner or operator of a solid waste site or facility to prepare the site for long-term care and to make it suitable for other uses.

(4) "Closure plan" means a written report and supplemental engineering plans detailing those actions that will be taken by the owner or operator to effect proper closure of a solid waste disposal site or facility.

(5) "Closing" means the time at which a solid waste disposal site or facility ceases to accept wastes, and includes those actions taken by the owner or operator of the facility to prepare the site for any required long-term care and make it suitable for other uses.

(6) "COD" means chemical oxygen demand.

(7) "Collection and transportation service" means a solid waste disposal operation which utilizes containers, vehicles or other means for the collection and transportation of solid waste.

(8) "Completeness" means a determination by the department that the minimum submittal requirements as established by this chapter for a plan or report have been met.

(9) "Construct" means to engage in a program of on-site construction, including but not limited to site clearing, grading, dredging or landfilling.

(10) "Construction observation report" means a written report submitted under the seal of a registered professional engineer advising that a solid waste disposal site or facility has been constructed in substantial compliance with a department approved plan of operation.

(11) "Containerized storage site or facility" means a mechanical or nonmechanical storage container, site or faciltiy designed and operated for storage and containment of solid waste.

(12) "Critical habitat areas" mean any habitat determined by the department to be critical to the continued existence of any endangered species listed in chapter 27, Wis. Adm. Code.

(13) "Demolition material" means solid waste resulting from the demolition or razing of buildings, roads and other man-made structures. Demolition material typically consists of concrete, bricks, bituminous concrete, wood, masonry and plaster, alone or in combinations.

(14) "Department" means the department of natural resources.

(15) "Design capacity" means the total volume in cubic yards of solid waste to be disposed of in a land disposal site or facility including the volume of daily and intermediate cover utilized in the facility, but not including final cover or topsoil.

(16) "Detrimental effect on ground or surface water" means having a significant damaging impact on ground or surface water quality for any present or future consumptive or nonconsumptive uses.

(17) "Discarded material" means material that is no longer of use to the generator of the material in the process from which it was generated.

(18) "Disposal" means the discharge, deposit, injection, dumping, or placing of any solid waste into or on any land or water so that such solid waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.

(19) "Dredge material" means any earth material removed from the bed of any surface water.

(20) "Establish" means to bring a solid waste disposal site or facility into existence.

(21) "Expand an existing site or facility" means to dispose of solid waste on land not previously licensed, to dispose of solid waste not in accordance with a department issued plan approval, if one exists, or to dispose of solid waste in a manner significantly different from past operations.

(22) "Feasibility report" means a report for a specific solid waste disposal site or facility that describes the site, surrounding area, and proposed operation in terms of land use, topography, soils, geology, groundwater, surface water, proposed waste quantities and characteristics, and preliminary site or facility design concepts.

(23) "Fill area" means the area proposed to receive or which is receiving direct application of solid waste.

(24) "Floodplain" means the land which has been or may be hereafter covered by flood water during the regional flood as defined in chapter NR 116, Wis. Adm. Code, and includes the floodway and the flood fringe as defined in chapter NR 116, Wis. Adm. Code.

(25) "Food chain crops" means tobacco, crops grown for human consumption, and pasture, forage and feed grain for animals whose products are consumed by humans.

(26) "Garbage" means discarded materials resulting from the handling, processing, storage and consumption of food.

(27) "Hazardous waste" means any solid waste identified by the department as hazardous pursuant to criteria promulgated by the department. Under s. 144.62(2)(a), Stats., the department criteria will be identical to the criteria promulgated by the United States environmental protection agency under s. 3001 (b) of the resource conservation and recovery act of 1976, P.L. 94-580.

(28) "Incinerator" means a solid waste facility designed and operated for controlled burning of solid wastes primarily to achieve volume and weight reduction and/or to change waste characteristics. Facilities which use solid waste as a supplemental fuel where less than 30 percent of the heat input to the facility is derived from such supplemental fuel are not classified as incinerators under this chapter.

(29) "Land disposal site or facility" means a solid waste disposal site or facility where solid waste is placed on land in a land spreading facility, a landfill, or surface impoundment facility for disposal purposes.

(30) "Landfill" means a solid waste land disposal site or facility, not classified as a landspreading facility or a surface impoundment facility, where solid waste is disposed on land without creating nuisances or hazards to public health or safety, by utilizing the principles of engineering to confine the solid waste to the smallest practical area, to reduce it to the smallest practical volume, and to cover it with a layer of earth at such intervals as may be necessary.

(31) "Landspreading facility" means a solid waste disposal facility where solid wastes are discharged, deposited, placed or injected in thin layers onto the land surface of the facility, or are incorporated into the top several feet of the surface soil, for agricultural, silvicultural and/or waste disposal purposes.

(32) "Leachate" means water or other liquid that has been contaminated by dissolved or suspended materials due to contact with solid waste or gases therefrom.

(33) "Long-term care" means the routine care, maintenance and monitoring of a solid waste land disposal facility following the closing of the facility.

(34) "Mining waste" means all waste soil, rock, mineral, liquid, vegetation and other material, directly resulting from or displaced by the prospecting or mining, and from the cleaning or preparation of minerals during prospecting or mining operations.

(35) "Municipal solid waste" means solid waste primarily generated by residential activities but may include minor amounts of commercial and industrial wastes that are in the total waste stream and are not hazardous.

(36) "Noncombustible materials" means solid waste which will not support combustion in the ambient atmosphere.

(37) "Noncontainerized storage site or facility" means a site or facility designed and operated for storage of solid waste, generally in volumes too large for containerized storage.

(38) "One-time disposal" means the disposal of small volumes of limited types of industrial, agricultural, or demolition solid waste on a one-time basis. Examples are the disposal of concrete, brick, stone, asphalt, wood, trees, logs, brush and material from demolished buildings, generally involving no more than 10,000 cubic yards with disposal taking place over a project life of less than 3 months.

(39) "Open burning" means combustion of solid waste where the products of combustion are emitted directly into the ambient air without passing through a stack or chimney. Open burning does not include the combustion occurring at a properly operated air curtain destructor or incinerator.

(40) "Open dump" means a land disposal site or facility which is not a sanitary landfill.

(41) "Person" means an individual, trust, firm, cooperative, institution, joint stock company, corporation (including a government corporation), partnership, association, state, municipality, commission, political subdivision of a state, interstate body or federal department, agency, or instrumentality.

(42) "Plan of operation" means a report submitted for a solid waste disposal site or facility that describes its location, design, construction, sanitation, operation, maintenance, closing and long-term care.

(43) "Population equivalent" means the population equal to the sum of the population of the geographical area based on the most recent department of administration census data, plus the seasonal population as determined by the department and not included in the census data, plus one person per thousand pounds per year of industrial, commercial, and agricultural wastes accepted at the solid waste disposal site or facility in question.

(44) "Pollution" means the contaminating or rendering unclean or impure the waters of the state, or making the same injurious to public health, harmful for commercial or recreational use, or deleterious to fish, bird, animal or plant life.

(45) "Processing facility" means a solid waste disposal site or facility at which solid waste is baled, shredded, pulverized, composted, classified, separated or altered by some means to facilitate further transfer, processing, utilization or disposal. Processing facilities do not include operations conducted by scrap metal, paper, fiber or plastic processors excluded from the definition of "solid waste disposal sites and facilities" in this section.

(46) "Proof of financial responsibility" means a bond, deposit, proof of an established escrow account or trust account ensuring that sufficient funds will be available to comply with the closure and long-term care requirements of this chapter and the approved plan of operation.

(47) "Putrescible waste" for purposes of NR 180.13(3)(a) 9 and NR 180.14(3)(f) means solid waste which contains organic matter capable of being decomposed by microorganisms and of such a character and proportion as to be capable of attracting or providing food for birds.

(48) "Refuse" means combustible and noncombustible rubbish, including, but not limited to, paper, wood, metal, glass, cloth and products thereof; litter and street rubbish, ashes; and lumber, concrete, and other debris resulting from the construction or demolition of structures.

(49) "Registered professional engineer" means a professional engineer registered as such with the Wisconsin examining board of architects, professional engineers, designers and land surveyors.

(50) "Salvageable material" means junk cars, machinery or equipment, scrap metal or other junk or scrap materials which are of further usefulness mainly as a raw material for reprocessing, or as imperfect stock from which replacement or spare parts can be extracted.

(51) "Salvage yard" means a solid waste disposal site or facility at which salvageable materials are stored or sold or at which wrecking, dismantling or demolition of salvageable materials are conducted. Salvage yards do not include operations conducted by scrap metal, paper, fiber or plastic processors excluded from the definition of "solid waste disposal sites and facilities" in this section, nor do salvage yards include small storage areas for equipment such as are normally found adjacent to industrial and commercial establishments.

(52) "Sanitary landfill" means a land disposal site or facility conforming to the applicable requirements of this chapter.

(53) "Seasonal population" means the seasonal transient population in an area over and above the year round population.

(54) "Sewerage system" means all structures, conduits and pipe lines by which sewage is collected and disposed of, except plumbing inside and in connection with buildings served, and service pipes from building to street main.

(55) "Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility.

(56) "Soil" means material that has been physically and chemically derived from the bedrock by nature.

(57) "Solid waste" means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, air pollution control facility and other discarded or salvageable material, including solid, liquid, semi-solid or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities, but does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows, or industrial discharges which are point sources subject to permits under ch. 147, Stats., or source, special nuclear or by-product material as defined under s. 140.52, Stats.

(58) "Solid waste disposal sites and facilities" means commercial and municipal establishments or operations such as, without limitation because of enumeration, sanitary landfills, dumps, land disposal sites, incinerators, auto junk yards, scrap metal salvage yards, transfer stations, storage facilities, collection and transportation services and other establishments or operations for the storage, collection, transportation, transfer, processing, treatment, recovery or disposal of solid waste. "Solid waste disposal sites and facilities" does not include a site or facility for the processing of scrap iron, steel or nonferrous metal using large machines to produce a principal product of scrap metal for sale or use for remelting purposes; nor does the term include a site or facility which uses large machines to sort, grade, compact or bale clean wastepaper, fibers or plastics, not mixed with other solid waste, or sale or use for recycling purposes.

(59) "Solid waste management" means the systematic administration of activities which provide for collection, source separation, storage, transportation, transfer, processing, treatment and disposal of solid waste.

(60) "Stabilization of waste" means any chemical, physical, or thermal treatment of a waste, either alone or in combination with biological processes, which results in a significant reduction of pathogenic organisms including viruses.

(61) "Stablilization of a land disposal site or facility" means the process of waste settlement and associated land surface maintenance to insure that the majority of settlement has occurred, that pockets or depressions caused by settlement have been re-filled or re-graded, and that the final land surface contours represent a stable condition for closure and site maintenance purposes.

(62) "Storage site or facility" means a solid waste disposal site or facility for the storage of solid waste, on a temporary basis in such a manner as not to constitute ultimate disposal of solid waste.

(63) "Surface impoundment facility" means a natural topographic depression, artificial excavation, or dike arrangement which is used for storage or disposal of waste fluids or semi-solids.

(64) "Termination" means the final actions taken by an owner or operator of a solid waste land disposal site or facility when formal responsibilities for long-term care cease.

(65) "Topsoil" means natural loam, sandy loam, silt loam, silt clay loam or clay loam humus-bearing soils or other material that will easily produce and sustain dense growths of vegetation capable of preventing wind and water erosion of the material itself and other materials beneath.

(66) "Transfer facility" means a solid waste disposal site or facility at which transferring of solid waste from one vehicle or container to another, generally of larger capacity, occurs prior to transporting to the point of processing or disposal.

(67) "Treatment work" means any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial waste of a liquid nature or necessary to recycle or reuse water at the most economical cost over the estimated life of the work, including intercepting sewers, outfall sewers, sewage appurtenances, extensions, improvements, remodeling, additions, and alterations thereof, elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, including site acquisition of the land that will be an integral part of the treatment process or is used for ultimate disposal of residues resulting from such treatment. Additionally, "treatment work" means any other method or system for preventing, abating, reducing, storing, treating, separating or disposing of municipal waste, including storm water runoff, or industrial waste, including waste in combined storm water and sanitary sewer systems.

(68) "USGS" means United States geological survey.

(69) "Waterworks" means all structures, conduits and appurtenances by means of which water is delivered to consumers except piping and fixtures inside buildings served, and service pipes from building to street main.

(70) "Well nest" means 2 or more wells installed within 10 feet of each other at the ground surface and constructed to varying depths.

(71) "Wetlands" mean those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. The permanent channels of streams and rivers and the open water of lakes and reservoirs are not included in this definition.

NR 180.05 License Periods and Fees

(1) No person shall maintain or operate a solid waste disposal site or facility unless the person has obtained an operating license from the department, except as otherwise provided in this chapter. The license period shall be 2 years beginning on October 1 and terminating on September 30 2 years later. The license period for land disposal sites and facilities shall begin on October 1 of even-numbered years. The license period for all other solid waste management sites or facilities shall begin on October 1 of odd-numbered years.

(a) Application for initial licensing of new solid waste disposal sites or facilities may be submitted at any time during the license period. Fees for initial licensing are proratable. The license period is divided into 4 6-month periods, with ¼ of the 2 year license fee applied to each period. The applicant for initial licensing of a site or facility shall submit the appropriate fees as shown in Table 1, "Fee Schedule".

(b) Application for renewal of a solid waste disposal license shall be submitted to the department by June 1 preceding the license period being applied for. Applicants failing to submit the relicensing application by June 1 shall pay a late processing fee equal to 50% of the renewal fee or $150.00 whichever is less, in addition to the relicensing fee. The department shall transmit application forms to renewal applicants by April 1.

(c) Application for an operating license shall be submitted on forms supplied by the department and shall be accompanied by the appropriate fees as shown in Table 1, "Fee Schedule".

(d) License fees for solid waste disposal sites or facilities are not refundable.

(2) No person shall establish or construct a solid waste disposal site or facility prior to obtaining written approval from the department of plans describing site or facility feasibility and/or operation, except as otherwise provided in this chapter. The plan review fee specified herein shall accompany all plans submitted to the department for approval. Plan review fees are not transferable, proratable or refundable.

(3) Following closure of a land disposal site or facility, the owner or any successor in interest shall be required to have a license during the period of owner responsibility indicated in s. 144.441, Stats. The

TABLE 1

FEE SCHEDULE

NR 180	FACILITY TYPE	LICENSE REQUIRED	PLAN REVIEW NECESSARY	PLAN REVIEW FEES		LICENSE FEE SCHEDULE			
				FEASIBILITY	OPERATING	INITIAL LICENCE PERIOD 0-6 mo.	6-12 mo.	12-18 mo.	18-24 mo. ALL 2 YR. RENEWALS
.07	STORAGE FACILITIES								
	CONTAINERIZED	NO	NO						
	NON-CONTAINERIZED	YES	YES	75	75	25	50	75	100
.08	COLLECTION & TRANSPORTATION	YES	NO			12.50	25	37.50	50
.09	TRANSFER FACILITIES	YES	YES		100	25	50	75	100
.10	PROCESSING FACILITIES[1]	YES	YES	200	200	75	150	225	300
.11	INCINERATORS[1]	YES	YES	200	200	75	150	225	300
.12	AIR CURTAIN DESTRUCTORS	YES	YES		125	25	50	75	100
.13	LAND DISPOSAL FACILITIES								
	LANDFILL 0-50,000 yd^3 *	YES	YES	100	100	37.50	75	112.50	150
	LANDFILL 50,000-500,000 yd^3 *	YES	YES	350	350	125	250	375	500
	LANDFILL >500,000 yd^3 *	YES	YES	600	600	250	500	750	1000
	SURFACE IMPOUNDMENTS	YES	YES	350	350	125	250	375	500
	CLOSURE PLANS	NO	YES		100				
	* MAXIMUM DESIGN CAPACITY								
.14	LAND SPREADING FACILITIES	YES	YES	100	100	37.50	75	112.50	150
.17	SALVAGE YARDS	YES	YES		100	37.50	75	112.50	150
.18	OTHER	YES	YES	100	100	25	50	75	100

[1] If an applicant chooses not to submit a feasibility report for a processing facility or incinerator, but rather makes the initial submission the plan of operation, the fee for review of the plan of operation shall be increased by the amount of the fee indicated under feasibility in this table.

license shall be issued in accordance with sub. (1) except that the fee shall be $50.00 per license period.

(4) For the purposes of plan review and license fees charged to land disposal facilities as provided in Table 1, the following shall apply:

(a) Plan review fees shall be charged on the basis of the maximum design capacity of the site, cell or module for which plans have been submitted. As an example, a feasibility report may be submitted for a 1 million cubic yard site requiring a review fee as specified for greater than 500,000 cubic yards; the plan of operation, however, may be submitted over a period of time in several modules. Each plan of operation review would be charged on the basis of the maximum design capacity of the module submitted.

(b) License fees shall be based on the total design capacity of the site being licensed including already deposited solid waste at the site. For sites which have not had a plan approval, the department shall make a reasonable estimate of the maximum design capacity of the site and shall charge a fee accordingly. For most township operated sites, the fee shall be as specified in the 0-50,000 cubic yard category.

NR 180.06 General Submittal Requirements.

(1) Unless otherwise specified in this chapter, all submittals for review and approval of any initial site report, feasibility report, plan of operation, construction observation report or closure plan shall include the following:

(a) The review fee specified in NR 180.05 in check or money order payable to the department (to be sent to the department district or area office as appropriate).

(b) A letter detailing the desired department action or response.

(c) Five copies of the plan or report prepared pursuant to the appropriate section of this chapter. Two copies shall be submitted to the department field office responsible for the area in which the site is located and 3 copies shall be submitted to the bureau of solid waste management in Madison. Review time starts when copies are received by the bureau. The plans and reports and all methods and procedures used to prepare them shall conform to the following:

1. Preparation. The submittal shall be under the seal of a registered professional engineer (except for salvage yards).

2. Investigation. All technical procedures used to investigate a solid waste disposal site or facility shall be the current standard procedures as specified by the American society for testing materials, USGS, standard methods for the examination of water and wastewater, or other equivalent or appropriate methods approved by the department. Test procedures used shall be specified. Any deviation from a standard method shall be explained in detail with reasons provided.

3. Format. All submittals shall include:

a. The required technical information as specified in this chapter.

b. Maps, figures, photographs and tables where applicable to clarify information or conclusions. The visuals shall be legible. All maps, plan sheets, drawings, isometrics, cross-sections and aerial photographs shall meet the following requirements:

1) Generally be no larger than 24 inches X 36 inches and no smaller than 8-1/2 inches x 11 inches.

2) Be of appropriate scale to show all required details in sufficient clarity.

3) Be numbered, referenced in the narrative, titled, have a legend of all symbols used, contain horizontal and vertical scales (where applicable), and specify drafting or origination dates.

4) Use uniform scales as much as practical.

5) Contain a north arrow.

6) Use USGS datum as basis for all elevations.

7) Plan sheets showing site construction, operation or closure topography, shall also show original topography.

8) Plan sheets for land disposal sites and facilities shall indicate a survey grid based on monuments established in the field specifically for that purpose.

9) All cross-sections shall show survey grid location and be referenced to major plan sheets.

c. An appendix listing names of all references, all necessary data, procedures and calculations.

(2) Unless otherwise specified in this chapter, no person shall operate or maintain a solid waste disposal site or facility without a license from the department.

(a) A submittal for initial licensing of any solid waste disposal site or facility shall include:

1. The license fee specified in NR 180.05 in check or money order payable to the department (to be sent to the department district or area office as appropriate).

2. A completed copy of the appropriate application form.

3. For all land disposal sites and facilities with plans of operation approved under this chapter and licensable land spreading facilities, proof of financial responsibility as specified in NR 180.15.

(b) A submittal for the relicensing of any solid waste disposal site or facility shall include:

1. The relicensing fee specified in NR 180.05 in check or money order payable to the department (to be sent to the department district or area office as appropriate).

2. A completed copy of the appropriate application form.

3. For all land disposal sites and facilities with plans of operation approved under this chapter and licensed land spreading facilities, proof of financial responsibility as specified in NR 180.15.

NR 180.07 Storage Facility Requirements.

(1) General. No person shall maintain or operate a solid waste storage site or facility unless the person has obtained an operating license from the department, except as otherwise provided in sub. (2). All waste shall be stored in containers unless its volume precludes practical containerized storage in which case it shall meet the noncontainerized storage requirements of this section.

(2) Exemptions.

(a) The following facilities are exempt from all requirements of this section:

1. Garbage cans for household wastes located on property where waste is generated.

2. Containerized storage facilities for municipal solid waste serving apartments, commercial establishments, business establishments, and industries which are located on the premises served.

3. Pit silos used for the storage of by-products from fruit or vegetable processing operations where such by-products are to be used for animal feed.

(b) Noncontainerized storage sites or facilities meeting the following criteria are exempt from all feasibility and engineering plan requirements, site certification and licensing requirements of this section but shall be conducted according to all other noncontainerized storage requirements of this section. The exemption shall be issued by the department in writing if the operator demonstrates that the facility shall meet all the following criteria:

1. The solid waste to be stored shall not be putrescible waste such as garbage and municipal refuse.

2. The waste shall be free of noxious odors and either not readily transported by wind or water or stored in such a manner as to prevent such transport.

3. The site or facility shall exist less than 6 months from the time of initial waste storage at the facility to the time of removal of all waste.

4. The amount of waste stored at the site or facility shall not exceed 2,500 cubic yards at any time during the 6 month period.

5. The total amount of waste stored at the site or facility during the allowable 6 month period shall not exceed 5,000 cubic yards.

(3) Feasibility report. Unless specifically exempted in par. (2)(b), no person shall establish or construct a noncontainerized storage facility without first obtaining approval of a feasibility report detailing the physical conditions of the site and subsequently obtaining approval of a plan of operation from the department. The report shall contain the applicable material required by NR 180.13(6). The applicant is encouraged to prepare and submit an initial site report as outlined in NR 180.13(5). Because of the wide variety of potential noncontainerized storage proposals, the department may waive in accordance with NR 180.20 in writing any of the requirements of a complete feasibility report detailed in NR 180.13(6) if the content of the initial site report so warrants.

(4) Plan of operation. Unless specifically exempted in par. (2)(b), no person shall establish or construct a noncontainerized storage facility or expand an existing operation until a plan of operation has been submitted in accordance with NR 180.06(1) and approved in writing by the department. The plan shall contain the applicable material required by NR 180.13(7). Because of the wide variety of potential noncontainerized storage proposals, the department may waive in accordance with NR 180.20 in writing any of the plan requirements of NR 180.13(7) depending on the specific site or facility as outlined in an approved initial site report or feasibility report for the facility.

(5) Construction observation report. The department may require submission by the applicant of a construction observation report pursuant to NR 180.06(1) for any noncontainerized storage site and facility. Where a report is required, operation of the site or facility shall not commence until the report is approved in writing by the department and until a license is issued.

(6) Locational criteria. Noncontainerized storage sites and facilities shall meet the locational criteria specified in NR 180.13(3) unless an exemption is granted. Storage sites proposed to be located in any area specified in NR 180.13(3) shall be designed to eliminate the problems inherent therein.

(7) Operational requirements. No person shall operate or maintain a storage site or facility except in conformance with an approved plan of operation, if required, and the following minimum requirements:

(a) For containerized storage sites and facilities:

1. Containerized storage facilities shall be durable, rust resistant, nonabsorbent, leak-proof, and easily cleanable. If garbage or similar putrescible wastes are to be stored, the containers shall have close-fitting, fly tight covers, constructed of light-weight durable material.

2. Covers and containers shall be maintained in good condition.

3. Containers handling municipal solid waste shall be removed and emptied at least once per week, or more often if conditions warrant. Containers handling non-putrescible industrial waste shall be removed and emptied as necessary, but no less often than once every 90 days.

4. All weather access shall be provided and maintained.

5. Effective means shall be provided to control flies, rodents and other vectors.

6. Objects too large for the containers shall be stored in a nuisance-free manner.

7. Periodic clean-up and maintenance of the storage container and site shall be conducted to keep it aesthetically pleasing and nuisance-free. This maintenance shall be the responsibility of the property owner where the containers are located as well as the owner of the containers.

8. Access restrictions including a lockable gate and attendant may be required by the department if nuisance conditions develop or mechanical compaction equipment is part of the facility.

9. Final disposal of solid waste shall not be permitted at a storage facility.

10. No burning of solid waste shall be conducted.

11. The facility shall be operated and maintained in a sanitary, nuisance-free manner so as to protect the environment and the public health.

(b) For noncontainerized storage sites and facilities:

1. Sites and facilities shall be operated in accordance with any plan approval for the site or facility.

2. All weather access shall be provided and maintained.

3. Effective means shall be provided to control flies, rodents, and other vectors.

4. Periodic maintenance or clean-up of the site shall be conducted to keep it aesthetically pleasing and nuisance-free.

5. Gates, fencing and an attendant shall be provided as specified by the department.

6. Final disposal of solid waste shall be provided as specified by the department.

7. No burning of solid waste shall be conducted.

8. The facility shall be operated and maintained in a sanitary, nuisance-free manner so as to protect the environment and the public health.

9. Adequate drainage shall be maintained on and around the facility.

10. The facility shall be screened from view of residences, state trunk highways and public parks within 1,000 feet.

(8) Monitoring. Water and gas monitoring of noncontainerized storage sites and facilities may be required by the department. Monitoring shall be conducted and results shall be submitted to the department by the site operator or owner as specified by the department. Monitoring may be required after site or facility closure.

(9) Closure. Any person who maintains or operates a noncontainerized storage site or facility or who permits the use of property for such purpose shall close the site in accordance with any plan approval issued by the department and the following minimum practices:

(a) At least 60 days prior to the closing of a site, the owner or operator shall notify the department in writing of the intent to close the site.

(b) All solid waste shall be removed from the site or facility in accordance with the conditions of the approved plan of operation. The waste shall be properly utilized or disposed in accordance with the requirements of this chapter.

(c) The surface of the site or facility shall be restored in conformity with the approved plan of operation, or restored to its original condition to the extent practicable.

NR 180.08 Collection and Transportation Service Requirements.

(1) General. No person shall maintain or operate a collection or transportation service unless the person has obtained an operating license from the department, except as otherwise provided in sub. (2).

(2) Exemptions. The following services are exempt from all requirements of this section:

(a) Services collecting and transporting only salvageable material, gravel pit spoils, quarry materials or earth materials.

(b) Services collecting and transporting only ordinary solid waste from a single household or amounting to less than 20 tons per year.

(c) Services consisting solely of vehicles collecting and transporting sludge from municipal waste-water or water supply treatment plants provided it is handled in accordance with ch. 147, Stats.

(d) Services collecting and transporting only waste materials regulated by chapter NR 113, Wis. Adm. Code, and licensed thereunder.

(e) Governmental services consisting solely of vehicles used to collect and transport roadside litter from town, village, city, county, state, and federal rights-of-way. Such litter shall be disposed of at a licensed disposal site.

(f) Services collecting and transporting dredge material regulated by permit or contract under s. 30.20, Stats.

(g) Services owned by an industry generating the waste materials where such waste material is disposed of at a site owned by that same industry and providing the transportation vehicles do not travel on publicly owned roads.

(h) Services collecting and transporting only whey and/or waste materials from fruit or vegetable processing operations.

(3) Operational requirements. No person shall operate or maintain a solid waste collection and transportation service except in accordance with the following minimum requirements:

(a) Each vehicle shall have lettered "WDNR" followed by the license number on the driver's door. The letters shall be at least 2 inches high with a minimum 1/2 inch brush stroke. The lettering colors shall contrast with the background to make it easy to read.

(b) Solid waste shall be collected from, transported to and disposed of only at facilities meeting the requirements of this chapter.

(c) All vehicles or containers used for the collection and transportation of solid waste shall be durable, easily cleanable and leakproof, if necessary, considering the type of waste and its moisture content. These vehicles and containers shall be cleaned frequently to prevent nuisances or insect breeding and shall be maintained in good repair.

(d) Vehicles or containers used for the collection and transportation of solid waste shall be loaded and moved in such a manner that the contents will not fall, spill or leak therefrom. Covers shall be provided, as necessary, to prevent littering and spillage. If spillage does occur the operator shall immediately return spilled materials to the vehicle and shall properly clean the spill area.

(4) Expansion or termination. The owner or operator shall notify the department in writing of any expansion or termination of a service or of any change in use of disposal sites 30 days prior to the effective date of such action.

(5) Responsibility. Except as otherwise provided in this chapter, any person generating solid waste shall be responsible for the collection and transportation of the waste to a solid waste disposal site or facility licensed by the department unless the person contracts with a collection and transportation service licensed by the department for that purpose.

NR 180.09 Transfer Facilities.

(1) General. No person shall maintain or operate a solid waste transfer site or facility unless the person has obtained an operating license from the department, except as otherwise provided in sub. (2) or if an exemption is granted pursuant to NR 180.20. Any person intending to establish or construct a solid waste transfer site or facility shall contact the department to arrange for an initial site inspection.

(2) Exemptions. Transfer facilities designed and operated to receive solid waste from individual users and from hand unloaded vehicles not exceeding one ton capacity are exempt from the plan approval and licensing requirements of this chapter but must be operated and maintained in conformance with the following practices:

(a) Containers shall be leakproof and manufactured of rot-proof material. A closeable cover shall not be required unless specifically requested in writing by the department.

(b) Where mechanical equipment is a part of the operation, access shall be limited to those times that attendants are on duty. Access restrictions and/or attendants may be required in writing by the department for a nonmechanical facility.

(c) Containers shall be removed or emptied at least once per week and more frequently if conditions warrant.

(d) The transfer station and adjacent area shall be kept clean and free of litter.

(e) No open burning of solid waste shall be conducted.

(f) Effective means shall be provided to control flies, rodents and other insects or vermin.

(g) An all-weather access and parking area shall be provided and maintained.

(3) Plan of operation. No person shall establish or construct a solid waste transfer site or facility or expand an existing operation unless the person has obtained approval of a plan of operation from the department, except as provided in sub. (2) or if an exemption is granted pursuant to NR 180.20. The plan of operation shall specify the intent and objectives of the proposal and indicate methods and procedures to minimize adverse environmental impacts of the proposed operation. The plan shall be submitted in accordance

with NR 180.06(1) and shall include plans and specifications denoting plant layout, building constuction, equipment placement and material handling systems within the plant. The plan of operation shall contain, at a minimum, the following information:

(a) Introduction and general information including:

1. Legal description of the site and site boundaries.

2. Adjacent land ownership and land use within ½ mile of the proposed site.

3. The operator of the site.

4. Site size.

5. Proposed life expectancy of the facility.

(b) Surface features of the proposed site including:

1. USGS 7-1/2 minute or 15 minute quadrangle map.

2. A vicinity map(s) indicating the following features within 1/4 mile of the facility:

a. Property boundaries of the proposed site.

b. Predominant surface water drainage features.

c. Surface water bodies.

d. Wetlands, flood plain and shoreline areas.

e. Roads and highways.

f. Industrial, commercial and residential buildings.

(c) Plot plan(s) of the transfer facility including:

1. Site plan indicating locations of all buildings, roadways, parking and storage areas.

2. Existing and proposed final ground surface contours.

3. Location of receiving or unloading areas and exit or material removal areas.

4. Location of proposed utilities servicing the transfer station.

5. Means of limiting access such as fencing, gates, natural barriers or other methods.

6. Method of screening the facility from the surrounding area.

(d) Building and equipment plans and drawings including:

1. Plans of all structures proposed at the facility including foundations, walls, floor elevations, and other construction items.

2. Cross-section drawings through the facility indicating process flow lines.

3. Cross-section drawings of each major piece of mechanical equipment.

4. Plans and drawings of supplemental construction areas, fixed or moveable equipment, electrical systems, and any other drawings necessary to fully describe the facility.

(e) A narrative shall be prepared outlining facility operations and regulations. This report shall include at a minimum:

1. Consistency of facility development with areawide solid waste plans, land use plans, or other areawide plans. Alternatives considered in the project planning phase shall be discussed.

2. Population and area to be served by the facility and projections for increased use in the future.

3. Type and quantity of waste to be handled and specific waste types not accepted at the facility.

4. Persons responsible for structural improvements, building maintenance and daily operation and control of the facility.

5. Types of vehicles used to transport solid waste into and out of the station.

6. Vehicle traffic routing at the facility and provisions for access to connecting roadways.

7. Methods of water supply and wastewater treatment.

8. Methods of volume reduction such as compacting, grinding, compression or tamping.

9. Design criteria used to select equipment capacity and building configuration and sizing.

10. Daily clean-up procedures.

11. Names and locations of all solid waste disposal operations to which waste from the transfer station may be hauled.

12. Procedures for alternate routing of waste during inoperable periods at the facility.

13. Appurtenances and procedures to handle heavy or bulky items and store solid waste beyond the end of the working day.

14. Equipment and procedures designed to control dust, odors, noise, fire and windblown paper.

(4) Locational criteria. No person shall establish, construct, operate, maintain or permit the use of property for a transfer site or facility in wetlands.

(5) Operational requirements. No person shall operate or maintain a transfer site or facility except in conformance with the approved plan of operation and the following minimum requirements:

(a) A sign, acceptable to the department, shall be posted at the entrance to the operation, which indicates the name, license number, and hours of use of the operation, penalty for unauthorized use, necessary safety precautions, and any other pertinent information specified by the department.

(b) A building, roofed and enclosed on at least 3 sides where applicable, or otherwise enclosed to satisfactorily control dust, papers, and other waste materials, shall be provided.

(c) Screening shall be provided for a transfer site or facility located within 500 feet of any residence.

(d) The site or facility shall be operated under the close supervision of responsible individuals who are thoroughly familiar with the requirements and the operational procedures of the transfer site or facility.

(e) Access shall be limited to those times that an attendant is on duty.

(f) There shall be no storage of solid waste in the building or yard for a period greater than 24 hours except in conformance with section NR 180.07 or in licensed collection and transportation units. Longer storage periods may be allowed for certain industrial and commercial waste depending on the design of the facility.

(g) Unloading of solid waste shall take place only within the enclosed structure and only in approved designated areas.

(h) Solid waste shall be confined to the unloading, loading and handling area.

(i) The transfer site or facility and adjacent area shall be kept clean and free of litter.

(j) Sewage solids or liquids or toxic or hazardous wastes in quantities detrimental to the normal operation of the transfer site or facility shall be excluded unless plans for special handling have been submitted to the department and approved in writing.

(k) Dust and odor generated by the unloading of solid waste and the operation of the transfer site or facility shall be controlled at all times.

(l) No open burning of solid waste shall be conducted.

(m) Solid waste which is burning or is at a temperature likely to cause fire or is of a highly flammable or explosive nature shall not be accepted at the transfer site or facility.

(n) Equipment shall be provided to control accidental fires and arrangements shall be made with the local fire protection agency to provide immediate services when needed.

(o) Means shall be provided to control flies, rodents, and other insects or vermin.

(p) Sanitary facilities shall be available for use by facility operators.

(q) Provision shall be made for needed maintenance of the transfer site or facility after each day of operation.

(r) Means of communication shall be provided for emergency purposes.

(s) An approved alternative method of waste processing or disposal shall be provided in the event that the transfer site or facility is rendered inoperable.

(6) Closure. Any person who operates or maintains a transfer site or facility or who permits the use of property for such purpose shall close the site in accordance with any plan approval issued by the department and the following minimum practices:

(a) The operator shall notify the department and all users of the facility in writing at least 60 days prior to closure of the facility.

(b) Access shall be restricted through the use of a fence, gate, plantings, or other appropriate means upon closure of the facility.

(c) The operator shall provide a sign notifying users of the facility of closure upon termination of operations.

NR 180.10 Solid Waste Processing Facilities.

(1) General. No person shall operate or maintain a solid waste processing site or facility unless the person has obtained an operating license from the department, except as provided in sub. (2). Any person intending to establish or construct a solid waste processing facility shall contact the department to arrange for an initial site inspection.

(2) Exemptions.

(a) Composting operations used for processing solid waste from a single family or household, a member of which is the owner, occupant or lessee of the property used for the solid waste processing operation are exempt from the licensing requirements of this section.

(b) Sites or facilities for the processing of scrap iron, steel or nonferrous metal using large machines to produce a principal product of scrap metal for sale or use for remelting purposes and sites or facilities which use large machines to sort, grade, compact or bale clean wastepaper, fibers or plastics, not mixed with other solid waste, for sale or use for recycling purposes are exempt from all requirements of this section.

(3) Feasibility report. Any person may submit to the department a feasibility report in accordance with NR 180.06(1) to solicit a preliminary indication of potential for the processing facility to be licensed for operation. Favorable determination based on department review of the feasibility study does not insure approval of the plan of operation. A feasibility report for a solid waste processing facility shall contain, at a minimum, the following information:

(a) A narrative describing:

1. Legal description of the site.

2. Present ownership of the site.

3. Proposed site size and boundaries and present land use of the site and the area within 1/2 mile of the site. Particular note shall be made of parks, hospitals, nursing homes and areas of archaeological and historical significance.

4. Area served, including population and major industries.

5. Consistency of facility development with areawide solid waste plans and land use plans. All alternatives considered shall be discussed.

6. Predominant types of vegetation and wildlife within proposed site boundaries.

7. A complete materials balance for the facility, specifying amounts and characteristics of solid waste received and amounts and characteristics of products and wastes generated by the facility.

8. Types of vehicles and access routes used to transport solid waste into and out of the facility, an analysis of estimated traffic flow patterns on access routes and within the facility site, and an analysis of increased quantities of traffic on access routes into and out of the facility.

9. Estimated quantities and characteristics of liquid wastes resulting from facility operation and methods of their treatment or disposal.

10. Person(s) responsible for plant construction and operation.

11. Quality and quantity of air discharge from plant operations.

12. Appurtenances and procedures intended to store solid waste beyond the end of the processing day; control dust, odors, fire, windblown materials and potential explosions; and handle refuse in the case of major processing facility breakdown.

13. Names and locations of all solid waste disposal sites and facilities at which solid waste from the processing plant will be disposed.

14. Overall facility layout including conceptual building design, sizing of receiving area, methods of processing, and sizing of major process equipment and/or process areas.

15. Potential markets for recovered solid wastes and potential contractual arrangements for recovered products.

16. A timetable for facility construction, shakedown and operation.

17. Operating schedule.

18. Provisions for protection of groundwater and surface waters during facility construction and operation.

19. Number of employes.

20. Conceptual design of equipment indicating capacity or size.

(b) The narrative shall be supplemented by the following maps and/or plans:

1. USGS quadrangle map. This shall be a 7-1/2 minute, topographic map, if available. The radius of coverage shall be sufficient to show sources of waste or a minimum of 3 miles. If impractical to show the facility locations relative to the source(s) of waste, a separate location map displaying this information shall be provided.

2. Plat map. This shall indicate property boundaries and zoning within 1/2 mile of the proposed facility and anticipated traffic routes within 2 miles of the facility.

3. Existing site conditions map. The extent of coverage shall be the entire site and the area within 1/2 mile of the site boundaries. The minimum scale shall be 1"=400'. Map details shall include proposed site boundary, property lines, easements and rights-of-way; buildings, foundations, roads, utilities and other structures; topography (for site only unless needed to define drainage patterns around facility), drainage swales, surface waters, wetlands, flood plains and similar drainage features; wooded areas; location of soil borings and test pits; features of historical and archaeological significance; and other physical site features as appropriate.

4. Proposed facility plan. This plan shall include proposed facility access roads and traffic patterns, buildings, scales, utility lines, drainage diversion, screening, means of access control, final topography, areas to be cleared of vegetation, and other design features. The extent of coverage and scale shall be the same as that for the existing site conditions.

5. Proposed process layout. The extent of coverage shall include the receiving, processing, and loadout areas. The minimum scale shall be 1"=20'. Plan details shall include conceptual design for receiving area configuration and traffic flow patterns, processing area and equipment configuration, loadout area and equipment configuration, traffic flow patterns, and other pertinent design features.

6. Cross-sections. At least one cross section shall be drawn through the receiving, processing (each process line, where applicable), and loadout areas indicating existing topography, limits of excavation, proposed final grades, conceptual design of building foundations and structure, conceptual design of processing equipment, major soil types, groundwater table and bedrock surface configuration, if encountered during surface investigations, and other pertinent design features. More cross-sections may be necessary depending on complexity of facility design.

(4) Plan of operation. No person shall establish or construct a processing facility or expand an existing operation prior to obtaining approval in writing from the department of a plan of operation for the facility. If a feasibility report has not been submitted for department review, the plan of operation shall contain the minimum requirements of the feasibility report specified in sub. (3) as well as the minimum requirements of the plan of operation. The plan of operation for a solid waste processing facility shall be submitted in accordance with NR 180.06(1) and shall contain, at a minimum, the following information:

(a) Complete construction plans and specifications detailing the exact configurations, locations, elevations, dimensions and construction and installation procedures for all structures, equipment and site modifications. Where practical, the minimum scales utilized shall be 1"=20' for buildings, equipment, and structures, and 1"=100' for site plans. To facilitate review, the construction plans and specifications shall include separate engineering drawings for the following:

1. Existing site conditions. The extent of coverage and plan details shall be the same as that required for a solid waste processing facility feasibility report set forth in sub. (3).

2. Construction conditions. A plot plan shall be submitted which indicates the appearance of the site during facility construction. The extent of coverage and scale shall be identical to the existing site conditions plot plan. The plot plan shall show limits of construction, areas to be cleared of vegetation and topsoil, demolition of existing structures, areas of borrow and fill, temporary or permanent drainage diversion, soil erosion protection measures, construction access roads, soil and stripped vegetation stockpiles or storage areas, equipment storage areas, and other details necessary to determine the impacts during facility construction.

3. Proposed facility plan. A plot plan shall be submitted showing the facility at completion of construction. The extent of coverage and scale shall be the same as the existing site conditions plot plan. Plan details shall include those required for the existing site conditions and any modifications thereto plus means of limiting access such as fencing, gates or natural barriers; method of screening the facility from the surrounding area; general layout of receiving, processing and loadout areas and equipment; traffic flow patterns; access roads; location of existing and proposed utilities to the facility; drainage flow patterns and structures; scales; signs; general processing flow patterns and other appropriate facility details; and location of discrete air contaminant discharges.

(b) Design report. The construction plans and specifications shall be supplemented with a design report providing a discussion of design features and logic not previously discussed in the feasibility report. The report shall discuss and, where applicable, show calculations for size and configuration of receiving area; size and configuration of processing equipment and/or areas, conveyors, blowers or other transport equipment, air pollution control units and associated duct work, methods of handling liquid wastes resulting from operations such as floor drains, sewers and water treatment facilities; heat balances, residence time and process temperature for incinerators, digestors, or other thermal processing equipment; size and configuration of loadout and storage facilities for process outputs; sizing of surface water drainage control structures; traffic queuing and flow patterns; design life of facility equipment, buildings and appurtenances; timetable for construction; methods of controlling windblown materials; and methods of screening the facility from the surrounding area.

(c) Operations and maintenance manual. A manual shall be prepared with separate sections specifying operating and maintenance procedures for the following:

1. Facility startup and process line shakedown. This shall include a discussion of personnel training; solid waste sources, quantities and characteristics to be processed; process line startup procedures and equipment performance evaluations; fire, dust and odor control systems; performance evaluations; process raw materials on hand at startup; process outputs testing; and other appropriate startup procedures.

2. Normal operations. This shall include a discussion of operating personnel responsibilities; hours of operation; daily processing schedule; routine process monitoring including monitoring quantity and quality of waste input; process output testing; equipment maintenance schedules;

methods of controlling explosions, fire, odors, and windblown materials; special waste handling procedures; method of controlling access; daily cleanup procedures; facility bypass procedures during major breakdowns and alternative means of disposal; person responsible for operation; facility licensee and owner; record keeping; emergency procedures for handling of freezeup during cold weather; methods to prevent solid waste from burning; and other pertinent information.

3. Amendments. After startup and shakedown, the manual may be amended to reflect actual operating conditions.

(5) Locational criteria. No person shall establish, construct, operate, maintain or permit the use of property for a solid waste processing facility within wetlands.

(6) Minimum requirements for facility design and operation.

(a) New and existing facilities. No person shall operate or maintain a solid waste processing site or facility except in conformance with the following requirements and with the terms and conditions of any plan approval for the facility:

1. A sign, acceptable to the department, shall be posted at the entrance to the facility which indicates the name, license number, and hours of use of the facility, penalty for unauthorized use, necessary safety precautions; and other pertinent information.

2. Screening shall be provided for any processing site or facility located within ½ mile of any residence.

3. Access to the processing site or facility shall be limited to those times that an attendent is on duty.

4. A processing site or facility shall be operated under the close supervision of responsible individuals who are thoroughly familiar with the requirements and operational procedures of the plant.

5. All solid waste, with the exception of that in the process line, shall be stored in conformance with NR 180.07.

6. Unloading of solid waste shall take place only in approved, designated areas.

7. The processing facility and adjacent area shall be kept clean and free of litter.

8. Liquids and sludges in quantities which may be detrimental to the normal operation of the processing facility shall be excluded unless plans specifically addressing the handling of these materials have been submitted to the department and approved in writing. This provision does not preclude a processing site or facility operator from excluding any other material from the processing facility.

9. Access to the processing site or facility shall be limited by means of fencing, natural barriers or other methods. Access roads utilized shall be of all-weather construction.

10. All processing sites or facilities located within a flood plain shall conform to the requirements of chapter NR 116, Wis. Adm. Code.

11. Equipment shall be provided to control accidental fires and arrangements shall be made with the local fire protection agency to provide immediate services when needed.

12. Effective means shall be taken to control flies, rodents and other insects or vermin.

13. An approved alternative method shall be provided for solid waste disposal in the event that the processing site or facility is rendered inoperable or is not able to completely process the solid waste.

14. By-products or residues shall be disposed of in sites established to receive such waste or be handled by an alternate method approved by the department.

15. The operation shall be conducted in a manner to prevent public health hazards and nuisances.

16. All wastewater resulting from the process shall be discharged into a sanitary sewer or other system approved by the department.

17. Odors resulting from the unloading of solid waste and the operation of the processing facility shall be controlled.

18. Solid waste which is of a highly flammable or explosive nature shall not be accepted at the processing site or facility.

19. No open burning of solid waste shall be conducted.

20. Materials resulting from composting or similar processes and offered for sale shall be stabilized to minimize the number of pathogenic organisms, shall be processed so as not to reheat upon standing, and shall be processed so as to contain no sharp particles which could cause injury to persons handling the compost.

21. Means of communication with emergency facilities shall be provided.

22. Dust generated by the unloading of solid waste and the operation of the processing site or facility shall be controlled in accordance with section NR 154.11, Wis. Adm. Code, so as not to create nuisance conditions.

23. Thermal processing facilities shall be designed and operated to provide adequate temperature and residence time in the combustion chamber to assure complete processing and be equipped with necessary air pollution control equipment to produce a noncombustible residue, result in no noxious odors and meet state air pollution control regulations.

24. Permanent records of facility performance shall be maintained and submitted to the department with the relicensing application or as specified in the plan approval. Such records shall indicate types, sources and amounts of solid waste processed, minor plant modifications performed, process monitoring data, amounts and characterization testing of process outputs, and other data as required by the department when granting the license.

(b) Additional requirements applicable to new and expanded facilities. No person shall construct, establish, operate or maintain a new solid waste processing site or facility or an expansion of an existing site or facility except in accordance with the requirements of par. (a), the approved plan of operation, and following additional requirements:

1. All access roads shall be constructed with a maximum grade no greater than 10%. The intersection of the access road with an existing highway shall be designed to provide sufficient site distance and provide for minimum interference with traffic on existing highways.

2. All installed processing equipment shall be enclosed to prevent nuisance conditions from developing.

3. All buildings enclosing processing equipment shall have a sloped concrete floor with floor drains connected to a sanitary sewer or other system approved by the department.

4. Maximum soil slopes for disturbed areas shall be 3 horizontal to 1 vertical.

5. All disturbed areas not used for facility access shall be graded, covered with 6 inches of topsoil and seeded or otherwise protected from soil erosion.

6. All borrow areas shall be abandoned in accordance with Wisconsin department of transportation procedures.

7. Processing, receiving or storage areas not covered by buildings shall be graded at a minimum 1% slope and surfaced with a material which will adequately support heavy equipment, resist frost action, provide a wearing surface and prevent contamination of ground water. Runoff from such areas shall be directed to a sanitary sewer or other system approved by the department.

8. All facilities operated more than 4 hours per day shall be equipped with a toilet and wash basin or have such facilities available within a reasonable distance.

9. Explosion-prone equipment such as primary shredders shall be placed in a separate room with explosion venting and/or explosion suppression equipment.

10. The receiving area and all dry processing units such as shredders, screens, air classification devices, magnetic separators and similar equipment and all conveyor transfer points where dust is generated shall be shrouded and equipped with dust collection and removal equipment. Any air collected in this manner shall be directed through appropriate air pollution control equipment before being discharged.

(7) Monitoring. Specific monitoring requirements and testing procedures in the monitoring program will be determined by the department based on a review of the nature and extent of the potential for environmental pollution. The department may require the owner or operator of any processing site or facility or any person who permits the use of property for such purpose to conduct monitoring as follows:

(a) Air quality monitoring and analysis.

(b) Product quality testing and analysis. The frequency of testing and parameters to be analyzed will be determined based on a review of the proposal and complexity of the product. The quality control program will correlate with the nature of the solid waste to be processed and final uses proposed for the material.

(c) Groundwater and surface water quality monitoring and analysis. The frequency and type of monitoring and analysis will be determined based on a review of the project.

(d) Periodic assessments of plant operation, process feasibility, and marketability analyses of processed materials.

(8) Closure. Any person who maintains or operates a processing site or facility or who permits the use of property for such purpose shall close the site or facility in accordance with the following practices unless otherwise specified by the department in writing:

(a) The operator shall notify the department and all users of the facility in writing at least 60 days prior to ceasing to accept solid waste.

(b) A sign shall be placed at the entrance to the site or facility notifying all users that the site is no longer accepting solid waste.

(c) Access to the site or facility shall be restricted through the use of a fence, gate or other appropriate means.

(d) The department may require the continuance of groundwater, surface water, and air quality monitoring after closure of the facility.

(e) The operator shall submit to the department for approval at least 60 days prior to facility closure, a plan for facility closure. The department will review the plan and notify the operator of the acceptability and completeness of the plan. If additional items are needed to properly close the facility the operator will be notified and appropriate additions shall be made to the closure plan.

(f) All aspects of facility closure other than monitoring shall be completed within 6 months after ceasing to accept solid waste.

NR 180.11 Incinerators.

(1) General. No person shall operate or maintain an incinerator unless the person has obtained an operating license from the department except as provided in sub. (2). Any person intending to establish or construct an incinerator site or facility shall contact the department to arrange for an initial site inspection.

(2) Exemptions. A license shall not be required for incinerators having a capacity of 1,000 pounds per hour or less except for incinerators used for the degradation of hazardous wastes. However, exempt incinerators shall be designed and operated in a manner to conform to emission limitations of state air pollution control regulations.

(3) Feasibility report. Any person may submit to the department a feasibility report in accordance with NR 180.06(1) to solicit a preliminary indication of potential for the incinerator facility to be licensed for operation. Favorable determination based on department review of the feasibility report does not insure approval of the plan of operation. The feasibility report for an incinerator facility shall contain, at a minimum, the following information:

(a) A map or aerial photograph of the area showing land use and zoning within 1/4 mile of the site. The map or aerial photograph shall be of sufficient scale to show all homes, industrial buildings, roads, and other applicable details and such details shall be identified and indicated on the map or aerial photograph.

(b) A plot plan of the incinerator site including means of limiting access such as fencing, gates, natural barriers; method of acceptably screening the facility from the surrounding area; general layout of equipment and flow pattern; road access; location of existing and proposed utilities serving the incinerator.

(c) A report which shall include the following information:

1. Population, area and facilities to be served by the incinerator.

2. Anticipated type and quantity of waste to be handled in the incinerator.

3. Persons responsible for incinerator operations.

4. Methods of treating or disposing of any liquid wastes or waste waters resulting from operation of the incinerator.

(4) Plan of operation. No person shall establish or construct an incinerator facility or expand an existing incinerator prior to obtaining approval in writing from the department of a plan of operation for the facility. If a feasibility report has not been submitted for department review, the plan of operation shall contain the minimum requirements of the feasibility report specified in sub. (3) as well as the minimum requirements of the plan of operation. The plan of operation for an incinerator shall contain, at a minimum, the following information:

(a) Appurtenances and procedures intended to store refuse beyond the end of the working day and to control dust, odors, fire outside the burning chamber, and windblown materials.

(b) Methods of volume reduction including compaction, compression, bailing, shredding, grinding, tamping, separating, or classifying.

(c) Daily clean-up procedures.

(d) Incinerator inspection and maintenance schedule and procedures.

(e) Detailed drawings and specifications of all structures, equipment and site.

(f) A report which includes furnace design criteria and expected performance data, including emission data.

(g) The site at which ash residue will be disposed and alternative sites available for use when the primary site is inoperative.

(5) Operational requirements. No person shall operate or maintain an incinerator except in conformance with the following minimum requirements and with the terms and conditions of any plan approval for the facility:

(a) The incinerator shall be so situated, equipped, operated, and maintained as to minimize interference with other activities in the area.

(b) Adequate shelter and sanitary facilities shall be available for personnel.

(c) A sign shall be posted at the entrance to the operations, which indicates the name, license number, and hours of operation of the facility.

(d) All solid waste disposed at the incinerator shall be confined to the designated storage area.

(e) Solid waste except for that in the process line shall be stored in conformance with NR 180.07.

(f) Dust shall be controlled in the unloading and charging areas.

(g) Permanent records shall be maintained including the weights of material incinerated, the quantity of resulting residue, hours of plant operation, combustion temperatures, residence time, and other pertinent information.

(h) Appropriate fire-fighting equipment shall be available in the storage and charging areas and elsewhere as needed.

(i) Arrangements shall be made with the local fire protection agency to provide adequate emergency fire-fighting forces.

(j) Means of communication with emergency facilities shall be provided.

(k) Adequate equipment shall be provided in the storage and charging areas and elsewhere as needed to allow cleaning after each day of operation or as may be required in order to maintain the plant in a sanitary condition.

(l) The charging openings as well as all equipment throughout the plant shall be provided with adequate safety equipment as prescribed in chapter Ind 1, Wis. Adm. Code.

(m) The incinerator shall be so designed and operated that it will not cause a nuisance because of the emission of noxious odors, gases, contaminants or particulate matter or exceed emission limitations established by state air pollution control regulations.

(n) Residue shall be disposed of at a solid waste disposal site or facility licensed by the department or be handled by an alternate method approved in writing by the department.

(o) All waste water from the incinerator shall be discharged into a sanitary sewer or other system approved in writing by the department.

(p) Upon completion of construction of a new incinerator and at least 10 days prior to initial operation, the department shall be notified to allow inspection of the incinerator both prior to and during any performance tests and initial operation.

(q) Performance tests of the incinerator may be required by the department. If required, a report covering the results of the performance tests with supporting data shall be prepared by the design engineer of the project and submitted to the department for approval.

(r) No open burning of solid waste shall be conducted.

(s) If for any reason the incinerator is rendered inoperable, an approved alternative method shall be used for solid waste disposal.

(6) Closure. The owner or operator shall notify the department 60 days prior to the termination of operation of an incinerator and shall submit any further information deemed necessary by the department to prevent environmental pollution.

NR 180.12 Air Curtain Destructors.

(1) General. No person shall operate or maintain an air curtain destructor site or facility unless the person has obtained an operating license from the department, except if an exemption is granted pursuant to NR 180.20. Any person intending to establish or construct an air curtain destructor site or facility shall contact the department to arrange for an initial site inspection.

(2) Plan of operation. No person shall establish or construct an air curtain destructor or expand an existing air curtain destructor prior to obtaining approval in writing from the department of a plan of operation for the facility. The air curtain destructor shall comply with all applicable requirements of chapters NR 154 and NR 155, Wis. Adm. Code. The plan of operation shall include at a minimum the following:

(a) A map or aerial photograph of the area showing land use, zoning, homes, industrial buildings, and roads within 1/4-mile of the site.

(b) A plot plan of the air curtain destructor facility showing means of limiting access, method of screening the facility from the surrounding area, general layout of equipment and flow pattern, access roads, and waste material storage areas.

(c) Construction plans of the burning pit.

(d) Plans and specifications of the blower unit and appurtenances.

(e) A report indicating the type and quantity of waste material to be consumed, planned method of charging, startup procedures, safety features to be used at the facility both during and after burning, proposed pit clean-out procedures, and methods to be employed in conforming to the minimum requirements of chapter NR 154, Wis. Adm. Code.

(f) The site at which ash residue will be disposed and alternative sites available for use when the primary site is inoperative.

(3) Operational requirements. No person shall construct, operate or maintain an air curtain destructor except in conformance with the following minimum requirements and with the terms and conditions of any plan approval for the facility:

(a) The burning pit shall be made of a material which will result in a pit of permanent dimensions. Maintenance shall be performed on the pit to keep its dimensions constant so as to keep the air curtain working properly.

(b) The burning pit floor shall be constructed in a manner which provides for proper drainage.

(c) The burning pit shall be oriented perpendicular to the prevailing wind with the plenum chamber and blower on the downwind side.

(d) The charging area shall be paved with a concrete pad for a distance of at least 10 feet from the edge of the burning pit and sloped away from the chamber. Adequate safety devices shall be provided to prevent loading equipment from falling into the burning pit.

(e) Only clean wood wastes and similar combustible materials shall be burned in an air curtain destructor.

(f) The main stockpile of waste material shall be kept a minimum of 100 feet from the burner.

(g) Charging shall be conducted in such a manner as to prevent waste material from protruding through the air curtain.

(h) Start-up shall be accomplished by using kindling material to ignite larger materials rather than using fuel oil, tires, or other rubber materials. If no kindling materials are included in the wastes, the burner operators shall obtain a large enough quantity of lightweight wood material to facilitate burner start-up. Where sufficient quantities of kindling material are unobtainable, other methods approved by the department in writing may be used.

(i) Burning shall be conducted only during daylight hours. Quantities of materials to be burned shall be restricted to allow for complete burnout while the site is attended.

(j) Fire-fighting equipment shall be kept at the site in case of emergency. Arrangements shall be made with the local municipality to provide fire protection. Fire breaks shall be provided where necessary.

(k) The burning pit shall be cleaned out on a regular schedule. In no case shall ashes be allowed to accumulate to a depth of greater than 3 feet, or such lesser depth as the manufacturer recommends.

(l) A minimum separating distance of 300 feet shall be maintained between the burner and the nearest residence. In the case of an air curtain destructor located at an existing land disposal operation, a minimum separating distance of 200 feet shall be maintained between the burner and the working face of the land disposal operation.

(m) The burner location shall be screened from the surrounding area.

(n) An air curtain destructor shall be surrounded by a fence with a lockable gate. The gate to the burner shall be kept locked when no attendant is on duty.

(o) An attendant shall be on duty at all times when the blower unit is in operation.

(p) Warning signs shall be posted at intervals around the entire air curtain destructor installation notifying people to keep out of the area.

(q) A sign, acceptable to the department shall be posted at the entrance to the operation which indicates the name, license number, and hours of use of the operation, penalty for nonauthorized use, necessary safety precautions, and any other pertinent information.

(r) Surface water shall be diverted away from the active operating area, the storage area and access areas.

(s) Ash resulting from the operation shall be disposed of at a facility approved by the department to receive such material.

(t) The facility shall be operated in a nuisance-free manner consistent with this chapter and in accordance with chapter NR 154, Wis. Adm. Code.

(4) Closure. Any person who operates or maintains an air curtain destructor, or permits the use of property for such purpose, shall close the site in accordance with any plan approval issued by the department and the following minimum practices:

(a) The pit shall be cleaned out, removed and properly backfilled.

(b) Provisions for alternate disposal of solid waste shall be provided.

(c) The facility area shall be cleaned up and all debris and litter collected and properly disposed.

(d) The department shall be notified in writing at least 60 days prior to the proposed closure date.

NR 180.13 Solid waste land disposal sites and facilities. (1) General. No person shall operate or maintain a solid waste land disposal site or facility unless the person has obtained an operating license from the department, except as otherwise provided in sub. (2).

NOTE: Solid waste land spreading sites and facilities are regulated under NR 180.14. Surface impoundments are regulated under this section unless they are for temporary storage, in which case they are regulated under NR 180.07.

(2) Exemptions. (a) The following sites and facilities are exempt from all requirements of this section:

1. Sites and facilities used for the disposal of solid waste from a single family or household on the property where it is generated.

2. Solid waste land spreading sites and facilities regulated under NR 180.14.

3. Industrial wastewater facilities, sewerage systems and waterworks treating liquid wastes approved under s. 144.04, Stats., and/or permitted under ch. 147, Stats. Such exemption does not apply to the disposal of sludges or other solid waste produced during the treatment process.

4. Riprapping projects using inert solid waste materials approved by the department under s. 30.12, Stats.

(b) The following sites and facilities must be established in conformance with the locational requirements of subds. (3)(a) 5, 6, 7, and 8 and must be operated and maintained in a nuisance-free and aesthetic manner but are exempt from licensing and the other requirements of this section:

1. Sites and facilities where only earth containing less than 25% by volume of concrete and building stone are disposed.

2. Sites and facilities for the one time disposal of industrial, agricultural or demolition solid waste. Although licensing is not required for this type of site or facility, written approval by the department is required prior to establishment of the operation. These sites and facilities shall be constructed, established, maintained, operated and closed in accordance with department requirements and consistent with the provisions of this chapter.

3. Sites and facilities for the exclusive disposal of spoils from sand, gravel or stone and crushed stone quarry operations and similar non-metallic earth materials.

4. Sites and facilities for the land disposal of dredge materials except for the following sites and facilities which must be licensed unless an exemption is granted pursuant to par. (c).

a. Sites and facilities for the disposal of more than 3,000 cubic yards of dredge materials from Lake Michigan, Lake Superior, the Wisconsin river, the Fox river, the Mississippi river, or from any inland lake or pond which has been treated with arsenicals for aquatic nuisance control.

b. Sites and facilities for the disposal of dredge materials where the department determines, based on available information, that a potential for ground or surface water pollution exists.

5. Sites and facilities for the disposal of wood residue from a saw mill, debarker or equivalent industry which produces less than 5,000 board feet of lumber per year or equivalent and the total disposal site volume is less than 500 cubic yards of wood residue.

(c) The department may grant an exemption in writing from any of the requirements of this section other than the locational requirements of subds. (3)(a) 7 and 8 for any site or facility for the land disposal of dredge materials not otherwise exempt under this subsection based upon a determination by the department that disposal of the dredge material will not result in environmental pollution as defined in s. 144.30(9), Stats. No exemptions shall be granted under this paragraph prior to field evaluation by the department. Based upon the field evaluation, the department may request and the owner or operator shall submit for review prior to a department determination a report indentifying all contaminants believed to be present in the dredge material, based upon a survey of known or suspected sources of contamination, as well as representative tests for contaminant existence and concentration and, when appropriate, a description of potential contaminant leaching and movement through soil and water regimes.

(d) Any operator engaged in mining as defined under s. 144.81(5), Stats., on May 21, 1978, may, but shall not be required to, seek approval of any feasibility report or plan of operation for any site for the disposal of solid waste resulting from such mining operations.

(3) Locational criteria. (a) No person shall establish, construct, operate, maintain, or permit the use of property for a solid waste land disposal site or facility within the following areas:

1. Within 1,000 feet of any navigable lake, pond or flowage.

2. Within 300 feet of a navigable river or stream.

3. Within a flood plain.

4. Within 1,000 feet of the nearest edge of the right-of-way of any state trunk highway, interstate or federal aid primary highway or the boundary of any public park, unless the site is screened by natural objects, plantings, fences or other appropriate means so as not to be visible from the highway or park.

5. Within wetlands.

6. Within critical habitat areas.

7. Within an area where the department after investigation finds that there is a reasonable probability that disposal of solid waste within such an area will have a detrimental effect on any surface water.

8. Within an area where the department after investigation finds that there is a reasonable probability that disposal of solid waste within such an area will have a detrimental effect on groundwater quality.

9. Within 10,000 feet of any airport runway used or planned to be used by turbojet aircraft or within 5,000 feet of any airport runway used only by piston type aircraft or within such other areas where a substantial bird hazard to aircraft would be created, unless a waiver is granted by the federal aviation administration, but this criteria is only applicable where such site or facility is used for disposing of putrescible waste such that a bird hazard to aircraft would be created.

10. Within 1,200 feet of any public or private water supply well.

(b) An applicant for an initial license or for approval of an expansion of an existing land disposal site or facility shall demonstrate to the department that the proposed site will be in compliance with all of the locational standards of this section for which no exemption has been granted. No exemptions from

compliance with subds. (a)7 and 8 will be granted by the department. Exemptions from compliance with subds. (a)1, 2, 3, 4, 6, 9, and 10 may be granted only upon demonstration by the applicant of circumstances which warrant such an exemption. Exemptions from compliance with subd. (a)5 may be granted only in accordance with the standards to be applied in decisions affecting wetlands set forth in section NR 1.95, Wis. Adm. Code. The factors which will be considered by the department in determining whether or not to grant an exemption include waste types and characteristics, site or facility design and operational considerations, availability of other environmentally suitable alternatives, compliance with other state and federal regulations and the public health, safety and welfare.

(4) Initial site inspection. Any person intending to establish a land disposal site or facility or expand an existing site shall contact the department to arrange for an initial site inspection.

(5) Initial site report. (a) Any person, prior to submitting a feasibility report, may submit an initial site report in accordance with NR 180.06(1) to the department. The purpose of submitting this report is to obtain a preliminary opinion from the department on the potential of the site for development and the advisability of spending additional time and funds to prepare a feasibility report. The department will review and respond to the initial site report within 90 days of receipt and at no cost to the applicant. A favorable determination under this section does not guarantee a favorable determination of site feasibility.

(b) An initial site report may be as detailed as the applicant chooses to make it. The greater the detail, the more certain the department can be in its response. For guidance purposes, the following indicates the type and extent of information that might be submitted in an initial site report:

1. General site information. The report should identify project title; name, address and phone number of primary contact persons for department correspondence; consultant(s); present property owner; proposed disposal site owner and operator; site location by quarter section; total acreage of property and proposed licensed acreage; proposed site life and disposal capacity; municipalities, industries and collection and transportation agencies to be served; estimated waste types and estimated weekly quantities to be disposed; anticipated covering frequency and mode of operation.

2. Regional geotechnical information. A discussion of the regional site setting should be included to provide a basis for comparison and interpretation of any site specific information obtained through field investigations. The discussion should be limited to information available from publications although some field verification and updating may be desirable. The term "regional" as utilized herein is intended to include that area which may affect or be affected by

the proposed site. In most instances this will be the proposed site, and the area within a 1/2-mile radius for sites with 50,000 cubic yards capacity or less and a one-mile radius for larger sites. The discussions should be supplemented by maps or cross-sections, where appropriate. The following items should be addressed:

a. Topography, including predominant topographic features.

b. Hydrology, including surface water drainage patterns and significant hydrologic features such as surface waters, springs, drainage divides and wetlands.

c. Geology, including the nature and distribution of bedrock and unconsolidated deposits.

d. Hydrogeology, including depth to groundwater, groundwater flow directions, recharge and discharge areas, groundwater divides, aquifers and the identification of the aquifer used by public and private wells within 1,200 feet of the proposed site.

e. Ground and surface water quality.

3. Land use information. A discussion of the present land use of the site and surrounding area should be included. The radius of coverage should extend to all areas that may affect or be affected by the proposed site. In most instances, this will be the proposed site and the area within 1/2-mile for sites with 50,000 cubic yards capacity or less and a one-mile radius for larger sites. The discussion should be supplemented by maps, where appropriate. The following items should be addressed:

a. Identification of adjacent landowners.

b. Zoning.

c. Present land uses with particular emphasis on known recreational, historic or archaeological areas.

d. Present or proposed access roads and weight restrictions.

4. Site specific geotechnical information. Where the applicant chooses to gather site specific data, the following should be considered:

a. Field investigations should be performed to define the site specific topography, soil types, and depth to bedrock and groundwater. These investigations should include:

1) A partial topographic survey of the area. This map should show the proposed fill area, property boundaries, proposed site boundary, soil borings performed and wells installed. The minimum scale should be one-inch = 500 feet with the contour interval sufficient to show site relief. It is recommended that this map consist of a blowup of a USGS map (7½ or 15 minute topographical), with supplemental information added as appropriate.

2) Soil borings extending to bedrock or 25 feet below the anticipated site base grade, whichever is less. The borings should be distributed in a grid pattern throughout the area. A minimum of 5 borings is recommended.

3) Three of the borings should be developed into groundwater observation wells where groundwater is within 25 feet of the anticipated base grade. Otherwise, one of the borings should be extended to 50 feet below the anticipated base grade or to groundwater or bedrock which ever is less and an observation well established.

4) Each major soil layer encountered during boring investigations should be analyzed for grain-size distribution and classified according to the unified soil classification system.

b. The results of the subsurface investigations should be summarized utilizing a series of geologic sections which connect the soil borings performed. Each section should show present topography, borings, wells, major soil layers, water table and bedrock.

5. Data analysis. The results of the field investigations, regional geotechnical information and land use information should be analyzed and preliminary conclusions and recommendations on site development made. This should include a discussion of the potential for the site to meet the locational requirements in sub. (3) and potential limitations on site development.

6. Appendix. The site boundaries should be shown on all maps included in the appendix. The appendix should include:

a. All raw data such as boring logs, soil tests, well construction data and water level measurements.

b. A plat map of the area.

c. A USGS quadrangle of the area, updated with locations of applicable wells installed after preparation of the quadrangle.

d. A soil conservation service soil map and interpretation, if available.

e. References.

(6) Feasibility report. (a) No person shall establish or construct a land disposal site or facility or expand an existing site or facility without first obtaining approval of a feasibility report describing the physical conditions of the proposed site and subsequently obtaining approval of a plan of operation from the department. The purpose of the feasibility report is to determine whether the site has potential for use as a solid waste disposal facility and to identify any conditions which the applicant must include in the plan of operation. The feasibility report shall be submitted in accordance with NR 180.06(1).

(b) For sites for the disposal of only municipal solid waste having a proposed capacity of 50,000 cubic yards or less, an initial site report prepared in accordance with par. (5)(b) shall qualify as a complete feasibility report. Sites for the disposal of industrial or commercial solid waste having a proposed capacity of 50,000 cubic yards or less may utilize the initial site report in lieu of a complete feasibility report depending upon the waste type to be disposed and the disposal location. Such allowance shall be at the discretion of the department. Where an initial site report is utilized in lieu of a complete feasibility report, all of the information specified in par. (5)(b) shall be provided to the department, as well as the information required in subd. (6)(c) 9.

(c) For sites other than those described in par. (b), the feasibility report shall contain, at a minimum, the following information:

1. All information specified in par. (5)(b) shall be submitted. Where an initial site report has been submitted this information may be included by reference with additional information addressing department review comments.

2. An existing site conditions plan sheet shall be prepared. This shall be a detailed topographic survey of the area of investigation. The minimum scale of this plan shall be one inch = 200 feet with a maximum 2-foot contour interval. All elevations shall be related to USGS datum. The plan shall indicate the property boundaries, proposed site boundary, fill area, survey grid and north arrow, homes, buildings, water supply wells, utility lines, man-made features, soil boring locations, observation well locations and other pertinent information.

3. Field and laboratory investigations shall be performed to further define site physical characteristics including soils, bedrock and groundwater. At a minimum, these investigations shall include:

a. Sufficient soil borings to adequately define the soil, bedrock, and groundwater conditions at the site. Under most site conditions, 5 soil borings for the first 5 acres and 3 borings for each additional 5 acres or portion thereof should be performed. A lesser number of borings may be made based on specific site conditions and site design. The borings shall be located in a grid pattern such that there is a minimum of one boring in each major geomorphic feature (e.g. ridges, lowlands and drainage swales). All borings shall extend a minimum of 25 feet below the anticipated site base grade or to bedrock, whichever is less.

b. Where soil conditions permit, soil samples shall be collected utilizing standard undisturbed soil sampling techniques. Samples shall not be composited for testing purposes. Soil samples shall be collected from each soil layer encountered and at maximum 5-foot intervals. All soil samples shall be described.

c. Boring logs shall be recorded for all borings. Each log shall include soil and rock descriptions and method of sampling, sample depth, date of boring, water level measurements and dates, and soil test data. All elevations shall be corrected to USGS datum.

d. For each major soil layer encountered, at least 3 soil samples shall be analyzed for grain size distribution (mechanical and/or hydrometer as appropriate to the soil type) and classified according to the unified soil classification system.

e. A minimum of 3 permeability tests shall be conducted for each major soil layer. At least one of the 3 tests shall be performed utilizing in-field testing procedures.

f. Soil borings shall be converted to water table observation wells and well nests in accordance with the following schedule:

1) Three water table observation wells and one well nest for the first 5 acres or portion thereof.

2) One observation well for each additional 5 acres or portion thereof.

3) One well nest for each additional 10 acres or portion thereof.

g. The construction of each well shall be recorded on logs. Well log information shall include the elevations of the ground surface, the bottom of the boring, well seals, and screened interval, and a description of well construction materials.

h. Upon completion, each well shall be properly developed by successive pumpings and back flushings until clear when soil conditions permit.

i. Once developed, all wells shall be pumped and successive water level measurements shall be made until stabilized readings are obtained.

j. Where public or private wells are present, stabilized water level readings from these wells may be required.

k. All soil borings and monitoring wells constructed for the purpose of gathering information for the initial site report or feasibility report shall be backfilled with a bentonite Portland cement slurry when such borings or wells are abandoned.

4. Data shall be presented as follows:

a. All raw data such as boring logs, well logs, soil tests and water level measurements shall be included in the report appendix.

b. A series of geologic cross-sections passing through all borings shall illustrate existing topography, soil borings, soil classification and other properties, interpreted soil stratigraphy, bedrock, well and stabilized water level readings.

c. A water table map shall be constructed based on stabilized water level readings. The existing site conditions plan shall be used as a base for this map. Seasonal changes in groundwater levels shall be predicted.

d. When more than 2 well nests have been constructed, groundwater flow net sections shall be prepared to illustrate horizontal and vertical flow directions. Where appropriate, this information may be illustrated on the geologic sections.

5. A preliminary water budget shall be prepared for the periods of time before construction, during active operations and after site closure. Factors to be considered in preparation of the water budget are precipitation, evaporation, runoff, infiltration, evapotranspiration, soil and solid waste moisture holding capacity and groundwater flow velocities and volume. The water budget information shall be related to the leachate generation rate and the effect of the site on groundwater water levels and quality.

6. The anticipated types, amounts, and characteristics of the solid waste to be disposed at the site shall be described. Except for municipal solid waste, the physical and chemical characteristics of the waste shall be analyzed and described.

7. Recommendations on design constraints for development of the site considering all available data, shall be made and reasons given for such recommendations. This shall include a discussion of the potential for the site to meet locational requirements in sub. (3). For expansion of existing facilities, the report shall include sufficient information to assess the effectiveness of the existing facility design and operation.

8. Based on the conclusions resulting from site analysis, a proposed site design shall be prepared. This shall consist of preliminary engineering plans and a general discussion of proposed operating procedures. This section of the report shall include, at a minimum, the following information:

a. A plan sheet showing proposed access, lateral extent of filling, and phases of site development. The existing site conditions map shall be utilized as a base for this sheet.

b. A series of north-south and east-west cross-sections showing present topography, proposed base grades and final grades. This information may be displayed on the geologic sections.

c. Preliminary cover balance calculations.

d. Proposed methods for leachate and gas control.

e. Proposed operating procedures including covering frequency, method of site development, method of access control, control of surface water, screening, and other special design features.

f. Proposed groundwater and other monitoring.

g. Proposed final use.

h. Proposed method of demonstrating financial responsibility and anticipated long-term care requirements.

9. To aid in determining the need for an environmental impact report or environmental impact statement, the feasibility report shall include a brief discussion of the following:

a. The purpose and need for the proposed project and for the recommended site shall be evaluated.

b. The probable adverse and beneficial physical, biological, social, economic and other impacts of proposed site development shall be identified and evaluated.

c. The probable adverse impacts of site development that cannot be avoided shall be identified and evaluated.

d. The irreversible or irretrievable commitments of resources if the site is developed as proposed shall be identified and evaluated.

e. The alternatives to the proposed site development shall be identified and evaluated.

f. The direct, indirect and cumulative effects of the proposed site development shall be identified and evaluated.

(d) Within 30 days after a feasibility report is submitted, the department shall either publish notice under s. 144.44(2)(d), Stats., that the report is complete or notify the applicant in writing that the report is not complete, specifying the information which must be submitted before the report is deemed complete. The department will determine whether or not the feasibility report is complete by determining whether or not the minimum requirements of this subsection have been met. Additional feasibility information may be required of the applicant after a determination that the feasibility report is complete only if the department establishes that a detailed review of the feasibility report indicates that site feasibility cannot be determined in the absence of such additional information.

(e) The department may by order require the submittal of any of the information specified in this section for any existing landfill.

(7) Plan of operation. (a) General. No person shall establish or construct a site or facility for the land disposal of solid waste or expand an existing land disposal site or facility until a plan of operation has been submitted in accordance with NR 180.06(1) and approved in writing by the department, except as otherwise provided herein. No person shall establish, construct, operate, maintain, close, provide long-term care for, or terminate a site or facility for the land disposal of solid waste except in accordance with this section and with the approved plan of operation, if required by this section. Only persons who have obtained a favorable determination of site feasibility from the department may submit a plan of operation for review and approval.

(b) Content. All plans of operation for land disposal sites and facilities shall contain complete plans and specifications necessary for the construction, operation, monitoring, closing, long-term care and termination of the project and any additional information the department may require for the analysis of environmental impacts of the project. Because these documents are to be used for the-day-to-day operation of the site, it is imperative that the information be presented in a manner that is clear and understandable. The plan of operation shall contain, at a minimum, the following information:

1. Engineering plans consisting of the following:

a. A title sheet indicating the project title, who prepared the plans, the person for whom the plans were prepared, a table of contents, and a location map showing the location of the site and the area to be served.

b. An existing site conditions plan sheet indicating site conditions prior to development. The details and extent of coverage shall be the same as that required for the existing site conditions map in subd. (6)(c) 2.

c. A base grade plan sheet indicating site base grades or the appearance of the site if it were excavated in its entirety to the base elevation, before installation of any engineering modifications or the beginning of any filling.

d. An engineering modifications plan sheet indicating the appearance of the site after installation of engineering modifications. More than one plan sheet may be required for complicated sites. This plan is required only for those sites with engineering modifications.

e. A final site topography plan sheet indicating the appearance of the site at closing including the details necessary to prepare the site for long-term care.

f. A series of phasing plan sheets showing the progression of site development through time. At a minimum, a separate plan shall be provided for initial site preparations and for each subsequent major phase or new area where substantial site preparation must be performed. Each such plan shall include a list of construction items and quantities necessary to prepare the phase indicated.

g. A site monitoring plan sheet showing the location of all devices for the monitoring of leachate production, groundwater quality and gas production and venting. This plan shall include a table indicating the parameters to be monitored for and the frequency of monitoring before and during site development. This plan sheet is required only for sites with a design capacity of more than 50,000 cubic yards.

h. A long-term care plan sheet showing the site at the completion of closing and indicating those items anticipated to be performed during the period of long-term care for the site. The plan shall include a table listing the items and the anticipated schedule for monitoring and maintenance. In many instances this information can be presented on the final site topography sheet.

i. When applicable, the following information shall be presented on the plan sheet(s):

1) All information required for the existing site conditions map as described in subd. (6)(c) 2, unless including this information leads to confusion with the data intended for display. However, in all instances, existing site topography shall be sketched lightly or otherwise indicated on the plan sheets required in pars. (c), (d), (e) and (f).

2) A survey grid with base lines and monuments to be used for field control.

3) Limits of filling for each major waste type or fill area.

4) All drainage patterns and surface water drainage control structures both within the actual fill area and at the site perimeter. Such structures may include berms, ditches, sedimentation basins, pumps, sumps, culverts, pipes, inlets, velocity breaks, sodding, erosion matting, or other methods of erosion control.

5) The direction and sequence of filling within each phase.

6) Ground surface contours at the time represented by the drawing. Spot elevations should be indicated for key features.

7) Areas to be cleared and grubbed and stripped of topsoil.

8) Borrow areas for liner materials, gas venting materials, berms, roadway construction, daily cover and final cover.

9) All soil stockpiles including daily and final cover, topsoil, liner materials, gas venting materials and other excavation.

10) Access roads and traffic flow patterns to and within the active fill area.

11) All temporary and permanent fencing.

12) The methods of screening such as berms, vegetation or special fencing.

13) Leachate collection, control and treatment systems which may include pipes, manholes, trenches, berms, collection sumps or basins, pumps, risers, liners and liner splices.

14) Gas, leachate and groundwater monitoring devices and systems.

15) Severe weather disposal areas.

16) Support buildings, scale, utilities, gates and signs.

17) Special waste handling areas.

18) Construction notes and references to details.

19) Other appropriate site features.

j. A series of site cross-sections shall be drawn perpendicular and parallel to the site base line at a maximum distance of 500 feet between cross-sections and at points of grade break and important construction features. The location of the cross-sections shall be shown on the appropriate plan sheet(s) and the section labeled using the site grid system. Where applicable, each cross-section shall show existing, proposed base and final grades; soil borings and monitoring wells which the section passes through or is adjacent to; soil types, bedrock and water table; leachate control, collection and monitoring systems; gas venting and monitoring systems; limits of filling for each major waste type; drainage control structures; access roads and ramps on the site perimeter and within the active fill area; the filling sequence or phases; and other appropriate site features.

k. Detailed drawings and typical sections for, as appropriate, drainage control structures, access roads, fencing, leachate and gas control systems and monitoring devices, buildings, signs and other construction details.

2. An operations manual and design report consisting of the following information:

a. The report shall identify the project title; engineering consultant(s); site owner, licensee and operator; proposed licensed acreage; site life and capacity; municipalities, industries and collection and transportation agencies served; waste types and quantities to be disposed; and any exemptions applied for.

b. Specifications for site construction and operation shall be presented, including detailed instructions to the site operator for all aspects of site construction and operation. References to specifications on the plan sheet shall be pointed out as well as additional instructions included, where appropriate. The specifications shall include, at a minimum the following information:

1) Initial site preparations including specifications for clearing and grubbing, topsoil stripping, other excavations, berm construction, drainage control structures, leachate collection system, access roads and entrance, screening, fencing, groundwater monitoring and other special design features.

2) A plan for initial site preparations including a discussion of the field measurements, photographs to be taken, sampling and testing procedures to be utilized to verify that the in-field conditions encountered were the same as those defined in the feasibility report, and to document that the site was constructed according to the engineering plans and specifications submitted for department approval.

3) Daily operations including a discussion of the timetable for development, waste types accepted or excluded, typical waste handling techniques, hours of operation, traffic routing, drainage and erosion control, windy, wet and cold weather operations, fire protection equipment, manpower, methods for handling of unusual waste types, methods for vector, dust and odor control, daily clean-up, direction of filling, salvaging, record keeping, parking for visitors and employes, monitoring, abandonment of filled areas, gas and leachate control methods, backup equipment with names and telephone numbers where equipment may be obtained, and other special design features. This may be developed as a removable section to improve accessibility for the site operator.

4) Development of subsequent phases consisting of a discussion of those items in subds. 2.b. 1), 2), and 3), above as they relate to the development of subsequent phases of the site.

5) Site closing information consisting of a discussion of the anticipated sequence of events for site closing and a discussion of those actions necessary to prepare the site for long-term care and final use.

6) Long-term care information including a discussion of the procedures to be utilized for the inspection and maintenance of runoff control structures, settlement, erosion damage, gas and leachate control feasibilities, monitoring for gas, leachate and groundwater, and other long-term care needs.

7) An economic analysis including an engineer's cost estimate for the construction of each major phase of site development, daily operation, site closing, and long-term care.

c. A design report shall be submitted which shall include supplemental discussions and design calculations to facilitate department review and provide supplemental information on financial responsibility and long-term care as required by ss. 144.44 and 144.441, Stats., including the following information:

1) A discussion of the reasoning and logic behind the design of the major features of the site, such as traffic routing, base grade and relationships to subsurface conditions, anticipated waste types and characteristics, phases of development, liner design, facility monitoring, and similar design features shall be provided. A list of the conditions of site development as stated in the department determination of site feasibility and the measures taken to meet the conditions shall be included. A discussion of all calculations, such as refuse-cover balance computations, stockpile sizing estimates, estimate of site life and runoff and leachate volume estimates shall be included. The calculations shall be summarized with the detailed equations presented in the appendix.

2) A detailed analysis in accordance with NR 180.15 shall be made of the financial responsibility for long-term care from the time of site closing to termination.

d. An appendix shall be submitted which shall include any additional data not previously presented, calculations, material specifications, operating agreements, leachate treatment agreements, documents related to long-term care funding and other appropriate information.

(c) Completeness. Within 30 days after a plan of operation is submitted, the department shall notify the applicant in writing that the plan is either complete or not complete, specifying the information which must be submitted before the report is deemed complete. The department will determine if the plan of operation is complete by determining whether or not the minimum requirements of this subsection have been met. Additional plan of operation information may be required of the applicant after a determination that the plan of operation is complete only if the department establishes that a detailed review of the plan of operation indicates that the plan of operation is insufficient in the absence of such additional information.

(8) The department may require that a registered professional engineer document site construction and render an opinion whether the site has been constructed and/or operated in substantial conformance with the plan of operation.

(9) Prior to licensing the owner or operator shall submit proof that a notation of the existence of the site has been recorded in the office of the register of deeds in each county in which a portion of the site is located.

(10) Minimum requirements for land disposal site or facility design and operation.

(a) New and existing sites and facilities. No person shall operate or maintain a new or existing land disposal site or facility except in conformance with any approved plan of operation and the following minimum requirements:

1. Open burning is prohibited, except where all of the following criteria are satisfied:

a. The site or facility serves a population equivalent of less than 2,500 or, if the operation is controlled by more than one municipality, a population equivalent of less than 2,500 for each such municipality. The department shall give consideration to seasonal variations in population in granting partial yearly burning exemptions.

b. All portions of the licensed site are greater than 1/4-mile from any residence or place of public gathering, or written consent is obtained from all residents and proprietors within 1/4-mile of the burning operation at the time the site is initially licensed.

c. The open burning does not include the burning of wet combustible rubbish, garbage, oily substances, asphalt, plastic or rubber products.

d. The burning operation is supervised by an attendant.

e. The burning is accomplished in a nuisance-free manner and does not create hazards for adjacent properties.

f. Adequate firebreaks are provided and provision is made to obtain the services of the local fire protection agency if needed.

g. The open burning is not in violation of any federal air pollution control rules, or any state air pollution control rules required to be adopted under applicable federal laws or regulations.

h. The operation is not located in one or more of the following counties: Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington or Waukesha.

2. No solid waste shall be deposited in such a manner that the solid waste or leachings therefrom will have a detrimental effect on any ground or surface water.

3. Deposition of solid waste shall be confined to as small an area as practical.

4. The deposition and active area shall be provided with facilities to confine windblown material within that area.

5. At the conclusion of each day of operation, all windblown material shall be collected, returned to the deposition area, and properly disposed of in accordance with the provisions of this section unless the operator establishes, to the satisfaction of the department, that all the following criteria are satified:

a. All windblown material cannot be collected using reasonable efforts because of conditions beyond the control of the operator.

b. The operator has collected and properly disposed of all windblown materials which can be collected using such reasonable efforts.

c. Nuisance conditions do not exist.

6. To provide for maximum compaction, each single layer of municipal solid waste shall be spread and compacted in 2-foot layers.

7. All unprocessed municipal solid waste shall be compacted and covered at the end of each operating day with a compacted layer of 6 inches of soil, except that the department may grant an exemption in writing for less frequent covering if the following criteria are satisfied:

a. For operations serving a population equivalent of less than 2,500:

1) All portions of the licensed operation shall be greater than ¼-mile from any residence or place of public gathering or written consent shall be obtained from all residents and proprietors living within ¼-mile of the operation at the time the site is initially licensed.

2) Potential nuisance conditions shall not be created.

3) The solid waste shall be compacted and covered with at least 6 inches of soil, no less frequently than once per month, except for the months of December, January, February and March.

b. For operations serving a population equivalent of 2,500 or greater:

1) All portions of the licensed operation shall be greater than ¼-mile from any residence or place of public gathering or written consent shall be obtained from all residents and proprietors living within ¼-mile of the operation at the time the site is initially licensed.

2) The operation does not receive any garbage or other putrescible wastes.

3) Potential nuisance conditions shall not be created.

4) The solid waste shall be compacted and covered with at least 6 inches of soil, no less frequently than once per month.

8. All processed municipal solid waste, industrial waste and commercial waste shall be compacted and covered at the end of each operating day with a compacted layer of 6 inches of soil, except the department may grant an exemption in writing for less frequent covering. In granting such exemptions, the department shall consider the characteristics of the solid waste, the leaching potential of the solid waste, and the potential for nuisance conditions if other than daily covering is utilized.

9. Surface water drainage shall be diverted away from the working area and off of the landfill operation.

10. Putrescible materials such as spoiled foods and animal carcasses shall be immediately covered and compacted.

11. Access to the facility shall be restricted through the use of fencing, natural barriers, or other methods approved in writing by the department.

12. Effective means shall be taken to limit access to the active disposal area to minimize exposure of the public to hazards.

13. Effective means shall be taken to control flies, rodents, and other insects and vermin.

14. All access roads to the active area of the operation shall be of all-weather construction and shall be maintained in good condition.

15. Equipment shall be provided to control accidental fires and arrangements shall be made with the local fire protection agency to acquire its services when needed.

16. An attendant shall be on duty at the operation at all times while it is open for public use.

17. A gate shall be provided at the entrance to the operation and it shall be kept locked when an attendant is not on duty.

18. The gate area shall be policed at the beginning of each day of operation to remove any solid waste which may have been indiscriminately dumped during periods when the site was closed.

19. A sign, acceptable to the department, shall be posted at the entrance to the operation of any site operated for public use which indicates the name, license number, and hours of use of the operation, penalty for unauthorized use, necessary safety precautions, and any other pertinent information.

20. The site shall be surrounded with rapidly growing trees, shrubbery, fencing, or other appropriate means to screen it from the surrounding area and to provide a wind break.

21. Effective means shall be utilized to prevent the migration of explosive gases from within the limits of waste fill. At no time shall the concentration of explosive gases in any facility structures (excluding gas control or recovery system components) or in the soil at or beyond the site property boundary exceed the lower explosive limit for such gases.

22. Any area to be utilized for the disposal of solid waste or borrow areas shall first be stripped of all topsoil and the topsoil shall be stockpiled to insure that adequate amounts are available for closure.

23. Effective means shall be taken to control dust resulting from site operation.

24. All soil borings and monitoring wells shall be backfilled with a bentonite Portland cement slurry when such borings or wells are abandoned.

25. Facility monitoring shall be performed in accordance with sub. (10).

26. Site closure shall be accomplished in accordance with the approved plan of operation or, for those sites with no approved plan of operation, in accordance with sub. (11).

27. Scavenging within the active disposal area is prohibited when such activity interferes with site operation.

28. Provisions for back-up equipment in the event of operating equipment breakdown shall be made.

29. A minimum separation distance of 20 feet shall be maintained between the limits of waste filling and adjacent property.

30. All topsoil within the site construction limits shall be salvaged and stored on-site in a nuisance-free manner for use in site closure.

31. Provisions shall be made for leachate treatment for all sites designed to contain and collect leachate.

32. Only wastes types and sources listed on the license or otherwise approved by the department in writing shall be accepted for disposal.

(b) Additional requirements applicable to new and expanded sites and facilities. No person shall construct, establish, operate or maintain a new land disposal site or facility or an expansion of an existing site or facility except in accordance with the requirements of par. (a), the approved plan of operation, and the following additional requirements.

1. All access roads shall be constructed with a maximum grade no greater than 10%. The intersection of the access road with an existing highway shall be designed to provide sufficient sight distance and provide for minimum interference with traffic on existing highways.

2. All surface water drainage ditches, culverts and other drainage control structures shall be designed for a 10 year, 24-hour rainfall event as defined in section NR 205.05, Wis. Adm. Code.

3. All base grades shall be designed and constructed with a minimum slope of one percent.

4. The final slopes of a completed land disposal site or facility shall be no less than 2% and no greater than 3 horizontal to one vertical unless the site or facility is specifically designed for a final use compatible with other slopes.

5. All sites shall have a final cover designed to minimize infiltration and subsequent leachate production.

6. All borrow areas shall be abandoned in accordance with Wisconsin department of transportation procedures.

7. A minimum separation distance of 100 feet shall be maintained between the limits of waste filling and adjacent property.

(11) Monitoring. The department may require the owner or operator of any land disposal site or facility, or any person who permits the use of property for such purpose, to conduct monitoring of groundwater, leachate, gas, surface water, or other physical features.

(a) Groundwater and leachate monitoring. The department may require the installation of groundwater and leachate monitoring wells, lysimeters, moisture probes, and similar devices, and water quality sampling and analysis programs to detect the effects of leachate on groundwater. The location of such monitoring devices shall be approved in writing by the department.

1. The number of required wells shall be approved by the department based on the site size, waste type(s), site design and the hydrogeologic and geologic setting of the site. Unless otherwise specified by the department, the minimum number of monitoring wells shall be in accordance with the following:

TABLE 3

Site Size (maximum design capacity)	Up-gradient Wells	Down-gradient Wells	Well Nests
0-50,000 cubic yards	1	2	0
50,000-500,000 cubic yards	2	2	1
500,000-up	2	4	2

2. Water level measurements and sampling of monitoring wells shall be accomplished in accordance with the schedule set forth in the plan of operation. This schedule may vary depending on site geology, hydrogeolgy and design. Sampling and test schedules for other groundwater monitoring devices shall be approved by the department. The results of all water elevation measurement and sampling shall be reported to the department within 60 days of sampling. All data shall be submitted on forms supplied by the department. Unless otherwise specified by the department, the minimum frequency shall be as follows:

TABLE 4

Site Size (maximum design capacity)	Within 15 days of:	Parameters (See Table 5)
50,000 cubic yards or less	March 15	All
	September 15	All
Greater than 50,000 cubic yards	March 15	All
	June 15	All
	September 15	All
	December 15	All

3. The methods of groundwater and leachate sample collection, preservation, and analysis shall be accomplished in accordance with standard methods for the examination of water and wastewater or other methods approved in writing by the department.

4. All monitoring wells shall be constructed utilizing a minimum 2-inch inside diameter PVC pipe or similar inert material.

5. The department may require the operator to sample public or private wells as part of a regular monitoring program or to determine the extent of groundwater contamination.

6. If for any reason a monitoring well or other monitoring device is destroyed or otherwise fails to properly function, the site operator shall immediately notify the department in writing. All such devices shall be properly abandoned and replaced with a functioning device within 60 days of notification to the department unless the operator is notified otherwise in writing by the department.

7. Sampling parameters shall be in accordance with Table 5 unless otherwise specified by the department. In most instances, additional parameters will be specified for paper mill sludge, fly or bottom ash, and foundry waste depending on the waste characteristics and process raw materials utilized. In all cases, the physical appearance of the water sample including odor, color and turbidity at the time of sampling shall be recorded.

TABLE 5

Waste Type Handled at Land Disposal Site	Parameters
Municipal Solid Waste	Water elevation, field pH, field conductivity, COD, dissolved iron, hardness, chloride, alkalinity.
Paper Mill Sludge	Same as above.
Fly or Bottom Ash	Water elevation, field pH, field conductivity, COD, hardness, alkalinity, sulfates, dissolved iron, boron.
Wood Waste	Water elevation, field pH, field conductivity, COD, hardness, dissolved iron, alkalinity.
Foundry Wastes	Water elevation, COD, field pH, field conductivity, hardness, sodium, alkalinity.
Other Solid Waste	As specified by the department.

8. No person shall begin filling operations at a new solid waste disposal site or facility until background groundwater quality in accordance with the parameters in Table 5 has been determined and results of such analyses submitted to the department.

(b) Gas monitoring. The department may require the installation of gas monitoring devices and sampling and analysis programs for protection against potential detrimental effects of gas production and to monitor the effectiveness of gas venting systems. Sample collection and analysis techniques shall be in accordance with standard methods.

(c) Surface water monitoring. The department may require monitoring of surface water runoff, leachate seeps, sump pumpings, sedimentation ponds and other surface water discharges resulting from site operation and of surface waters which may be affected by such discharges. Sampling times and parameters shall be as specified by the department.

(d) Monitoring of physical features. The department may require monitoring of air quality, landfill settlement, berm stability, vegetation growth, drainage control structures, or other aspects of site operation.

(e) Operations report. The department may request the owner or operator of any land disposal site or facility, or any person who permits the use of property for such purpose, to submit an operations report to assess the effectiveness and environmental acceptability of site operations. The contents of the report may include a discussion and analysis of entrance and access roads, windblown debris, confinement of active area, analysis of gas and leachate and other monitoring, cover to refuse ratios, surface water control and erosion control, revegetation, settlement, volume utilized, site users, leachate quantity and quality, slope stability, equipment performance and volume and type of waste accepted.

(12) Closure. (a) Any person who maintains or operates a land disposal site or facility, or who permits use of property for such purpose shall, when the fill area or a portion thereof reaches final grade, or when the department determines that closure is required, cease to accept waste and close the site or portion thereof in accordance with any plan approval issued by the department and the following minimum practices:

1. At least 120 days prior to the closing of the site, the owner or operator shall notify the department in writing of intent to close the site. At the same time, or preferably prior to this date, the owner or operator shall notify all users of the facility of intent to close the site.

2. Within 10 days after ceasing to accept waste, the following shall be accomplished at a minimum:

a. Access shall be restricted by the use of gates, fencing or other appropriate means to insure against further use of the site. In the event the site final use allows access, such access shall be restricted until site closure has been completed and approved by the department.

b. Notification of closure shall be posted at the gate by proper signs indicating date of closure and alternative disposal site(s).

c. Notice shall be published in a local newspaper and a copy of the notice shall be provided to the department within 10 days of the date of publication.

3. Within 60 days after ceasing to accept waste, closure shall be accomplished in the following manner:

a. The entire area previously used for disposal purposes shall be covered with at least 2 feet of compacted earth sloped adequately to allow surface water runoff. A specific soil type may be required by the department for this 2-foot layer. Fine grain soils should be utilized to minimize infiltration. Top slopes shall be no less than 2%. Side slopes shall be no steeper than 33%.

b. Surface water shall be diverted to limit potential for erosion and sedimentation. Wherever possible, surface water shall be diverted around previously filled areas. Where it is necessary to divert drainage over previously filled areas, drainage shall be conveyed by clay lined drainage swales having a minimum depth of 2 feet.

c. The finished surface of the filled area shall be covered with a minimum of 6 inches of topsoil.

4. Within 90 days after ceasing to accept waste, seeding, fertilizing and mulching of the finished surface shall be accomplished in accordance with the site final use. The seed type and amount of fertilizer shall be selected depending on the type and quality of topsoil and compatability with native vegetation.

5. Following closure of the land disposal site, the site shall be inspected and maintained by the owner or operator until it becomes stabilized or until the responsibility of the owner or operator terminates in accordance with the plan approval. The department may require installation of groundwater and leachate monitoring wells or other devices, groundwater and leachate quality sampling and analysis programs, gas monitoring and sampling and provisions for the protection against detrimental effects of leachate and gas migration from any land disposal site.

(13) Closure plans may be required by the department for sites and facilities not approved under this section. The department may require that the plans address any or all of the information outlined in subs. (6), (7), (10), and (11).

NR 180.14 Solid waste land spreading sites and facilities.

(1) General. No person shall operate or maintain a solid waste land spreading site or facility unless the person has obtained an operating license from the department, except as otherwise provided in sub. (2).

(2) Exemptions. (a) The following land spreading sites and facilities are exempt from the requirements of this section, but must be developed, operated and maintained in a safe, nuisance-free manner:

1. Sites used for the land spreading of nonhazardous solid waste from a single family or household, a member of which is the owner, occupant, or lessee of the property used for solid waste disposal.

2. Farms on which only nonhazardous agricultural solid wastes resulting from the operation of a farm, including farm animal manure, are disposed.

3. Sites receiving only sludge from a publicly-owned treatment work or a privately-owned domestic sewage treatment work having a permit under ch. 147, Stats., providing the sludge disposal is accomplished in accordance with the requirements of the permit.

4. Sites used exclusively for the disposal of waste regulated under chapter NR 113, Wis. Adm. Code.

5. Sites used for the disposal of treated liquid municipal or industrial wastewater approved under s. 144.04, Stats., and/or permitted under ch. 147, Stats.

6. Sites used for the land spreading of whey providing the whey is applied as a soil conditioner or fertilizer in accordance with accepted agricultural practices.

7. Sites used for the land spreading of by-products from canned, frozen or preserved fruit and vegetable processing operations providing the by-products are applied as soil conditioners or fertilizers in accordance with accepted agricultural practices.

8. Nonagricultural or nonsilvicultural sites used for the land spreading of solid waste or solid waste derived products with demonstrated soil conditioning or fertilizer value providing the material

is applied for soil amendment purposes. Examples of such sites are golf courses or public parks where compost material is land spread.

9. Sites used for the land spreading of lime sludges from papermills providing the sludge is applied as a soil conditioner or fertilizer in accordance with accepted agricultural practices.

10. Sites used for the land spreading of other wastes similar in nature to those identified in subds. 1-9 providing written approval is obtained from the department.

(b) The following land spreading sites and facilities are exempt from the licensing requirements of this section, but must obtain approval in writing from the department pursuant to sub. (4) prior to their establishment and operation and must meet all other applicable provisions of this section:

1. Agricultural or silvicultural sites used for the land spreading of nonhazardous solid waste demonstrated to have soil conditioning and/or fertilizer value, providing the waste is applied as a soil conditioner or fertilizer in accordance with accepted agricultural practices.

2. Land spreading sites utilized on a limited, controlled, experimental basis for the purpose of studying the feasibility of using a solid waste as a soil conditioner or fertilizer.

(c) Land spreading sites used solely for research purposes under the direction of a Wisconsin registered professional engineer or a scientist employed by a university located within this state are exempt from the licensing and plan submittal requirements of this section provided that they meet the following requirements:

1. The net plot area, excluding plot borders and buffer strips, shall not exceed 4 acres.

2. The available nitrogen and heavy metal additions averaged over the total plot area shall not exceed the rates recommended by the department for municipal sewage sludges.

3. The site shall be developed, operated, and maintained in a safe, nuisance-free manner consistent with the intent of this section.

4. Copies of the research proposal shall be provided to the department in advance of initiating the research and all reports and research publications pertaining to the site shall be provided to the department.

(3) Locational criteria. No person shall establish, construct, operate, maintain or permit the use of property as a land spreading site or facility within the following areas:

(a) Within wetlands

(b) Within 100 feet of any navigable body of water. A vegetative buffer strip shall be maintained between the navigable water and the application site.

(c) Within critical habitat areas.

(d) Within an area where the department after investigation finds that there is a reasonable probability that disposal of solid waste within such an area will have a detrimental effect on any surface water.

(e) Within an area where the department after investigation finds that there is a reasonable probability that disposal of solid waste within such an area will have a detrimental effect on groundwater quality.

(f) Within 10,000 feet of any airport runway used or planned to be used by turbojet aircraft or within 5,000 feet of any airport runway used only by piston type aircraft or within such other areas where a substantial potential bird hazard to aircraft would be created, unless a waiver is granted by the federal aviation administration, but this criteria is only applicable where such site or facility is used for disposing of putrescible waste such that a bird hazard to aircraft would be created.

(g) Within 1,000 feet of public water supply wells and/or 200 feet of private water supply wells.

(h) Within 500 feet of any residence, except that this distance may be reduced for the residence of the property owner on whose land solid waste is spread.

(4) Solid waste land spreading plan. No person shall establish or construct a solid waste land spreading site or facility or expand an existing site or facility without first obtaining written approval from the department of a solid waste land spreading plan except as otherwise provided herein. The land spreading plan shall include in a detailed and understandable fashion the following:

(a) A description and analysis of each waste type proposed for deposition at a land spreading facility. Data on waste types shall include, at a minimum the following information:

1. The sources, processes, and/or treatment systems from which the wastes originate.

2. Waste pretreatment or waste processing techniques required prior to land spreading.

3. The volumes of solid waste to be land spread, stored, and/or disposed.

4. The physical and chemical characteristics of the waste obtained from representative waste samples. The parameters to be analyzed for shall be consistent with the waste material and shall in general, include but not be limited to, the following:

a. Physical characteristics including solids fraction and organic fraction.

b. pH.

c. Nutrient content including nitrogen, phosphorous, and potassium.

d. Metals content including arsenic, cadmium, chromium, copper, lead, mercury, nickel and zinc.

e. Salt content including chlorides, fluorides and sulfates.

f. Biological populations including total coliform, fecal coliform and any virus known to exist in the waste material.

g. Other parameters such as oils and greases, phenolics, pesticides, toxic substances and persistent organics, if present in the waste material.

(b) An assessment and analysis of data including conclusions drawn concerning the potential benefits and adverse effects of the land spreading program. Such assessment shall include a demonstration that the waste has value as a soil conditioner or fertilizer. Demonstration methods may include:

1. Documentation of previous successful uses of the solid waste, or other solid wastes with similar compositions, properties, and characteristics.

2. Documentation of compliance with existing Wisconsin department of agricultural, trade and consumer protection regulations pertaining to the licensing and marketing of fertilizers or soil conditioners.

3. Successful completion of an approved experimental solid waste land spreading program.

4. Other justification for use of the solid waste subject to written department approval.

(c) A description of information on the characteristics of the sites to be used for the land spreading program including, at a minimum, the following:

1. The site locations including copies of soils maps, plat maps and U.S.G.S. topographic maps.

2. A description of the contracts or agreements covering use of the land including owner's name, address and telephone number.

3. A description of on-site land uses and current land uses on surrounding properties.

4. A description of the geology and hydrogeology of the site including the identification of all homes and/or private wells located within ¼ mile of the site.

5. A description of the crops to be grown or dominant vegetation on the site.

6. Soil test results from samples taken on-site. Parameters to be analyzed shall include soil pH, organic matter, available phosphorus, available potassium, and other parameters deemed necessary for analysis and design of the proposed operation.

7. A description of other soil additives to be used.

(d) Information on site design, site development and operating plans including, at a minimum, the following:

1. Provisions for interim waste storage and/or disposal when normal land spreading sites are unavailable or inaccessible, including:

a. Type of storage or disposal

b. Location of storage or disposal facility

c. Capacity of storage or disposal facility

d. Construction details

e. Property interest or contractual agreement allowing use of the storage or disposal facility.

f. Future anticipated use of the storage or disposal facility.

g. Evaluation of environmental effects resulting from use of the storage or disposal facility.

2. Proposed mode of waste transportation, including:

a. The transporter of the waste

b. The method of transportation

c. The type of vehicle used for waste transportation

d. Spill contingency plans and notification procedures

3. Proposed waste application rates, techniques, disposal frequencies and locations.

4. Proposed maximum rates of application (annual and cumulative) for nitrogen, cadmium, and other heavy metals.

5. Proposed crop monitoring, soil, groundwater and surface water monitoring.

6. Proposed record keeping and reporting procedures to be used for monitoring waste volumes applied, application rates, disposal locations, and cumulative waste loading applied to each site.

(e) For sites and facilities required to be licensed, proposed site closure, maintenance, and long-term care procedures, and final land use plans for each land spreading site.

(f) For sites and facilities required to be licensed, proof of financial responsibility as specified in NR 180.15.

(5) Operating requirements. No person shall operate or maintain a solid waste land spreading site or facility, except in conformance with an approved solid waste land spreading plan, if required, and the following minimum requirements:

(a) Only approved waste types shall be disposed at the site. Plans to accept additional waste types require separate written approval from the department.

(b) The solid waste land spreading plan may be amended at any time, subject to written approval of the department. Any proposed amendment shall contain the same type of information required in the original land spreading plan. The amended plan may not be put into effect until it has been approved by the department.

(c) No solid waste shall be land spread in a manner that causes detrimental effects on ground or surface water quality.

(d) Depending on the type of operation to be conducted, solid waste materials shall be plowed, disced, or otherwise incorporated into the surface soil layer at appropriate intervals as specified in the solid waste land spreading plan to minimize surface water runoff and surface leaching and to control objectionable odors.

(e) No solid waste shall be deposited in areas containing ponded or standing water.

(f) Maximum one time and/or cumulative application rates for cadmium and/or other heavy metals shall be strictly observed for disposal on land used for growing food chain crops.

(g) Waste materials with significant pathogen contents shall be properly stabilized prior to land spreading.

(h) Food chain crops grown on solid waste land spreading sites which have received waste applications containing pesticides or persistent organic materials shall not be marketed or used for human or animal consumption unless the crops meet all applicable contaminent levels as established by the United States food and drug administration.

(6) Monitoring. The owner or operator of every solid waste land spreading facility with an approved solid waste land spreading plan shall submit monitoring reports to the department on a frequency established in the land spreading plan. The report shall include the following information for each site utilized during the preceding reporting period:

(a) The amount of solid waste applied in tons per acre on a dry weight basis.

(b) The amount of nitrogen applied in pounds per acre on a dry weight basis.

(c) The amount of cadmium applied in pounds per acre on a dry weight basis.

(d) The total amount of each specific metal applied in pounds per acre as requested by the department on a dry weight basis.

(e) Other site monitoring results as specified in the approved land spreading plan.

(f) A description of any adverse environmental, health, or social effects that occurred due to solid waste disposal.

(g) A description of any action not in conformance with the approved land spreading plan.

(7) Closure. Any person who operates or maintains a licensed land spreading facility, or permits the use of property for such purpose shall accomplish closure, maintenance and long-term care of the facility in accordance with any solid waste land spreading plan approval issued by the department and with the following minimum practices:

(a) At least 120 days prior to the closing of a licensed solid waste land spreading facility, the owner or operator shall notify the department, in writing, of the intent to close the site. This notice shall include the following information:

1. The proposed final date by which all solid waste disposal or land spreading operations will be terminated.

2. The current waste types, sources, and volumes of solid wastes being deposited at the site.

3. The cumulative volumes of waste which were applied to the site during active operations.

4. The reasons and/or intent for closing the site.

5. The proposed future land uses of those areas previously used for waste deposition.

6. Special precautions to be utilized, if appropriate, to limit access to the facility, and to insure that no further solid waste materials are deposited after the closure date.

7. The proposed site closure, site monitoring, and long-term care procedures to be implemented following site closure. These procedures shall be in accordance with the approved solid waste land spreading plan or any proposed modifications to the plan.

8. The alternate licensed sites or approved facilities to be utilized for waste disposal and/or land spreading purposes following closure of the facility.

(b) The department will review the notice of intent to close the facility and will approve or disapprove in writing the proposed closure procedures. The department may require additional information, or may require additional closure, maintenance, and/or long-term care procedures to be implemented to insure proper closure of the site.

1. If the facility to be closed was initially licensed under this section, site closure, maintenance, and long-term care procedures shall be conducted in accordance with the approved solid waste land spreading plan unless subsequently modified, or unless otherwise specified by the department.

2. If the facility to be closed was not initially licensed under this section, a final site closure and long-term care and monitoring plan shall be prepared and submitted to the department for approval as part of the notice of intent for site closure.

(c) No person shall deposit any solid waste materials at a closed site without the prior written authorization of the department, and the approval of the site owner.

(d) Within 90 days of the final closure date of a site, all closure work shall be completely and finally performed in accordance with this subsection.

(e) Complete and proper final closure of a land spreading site may include, but not be limited to, the following:

1. Discing, plowing, or otherwise incorporating all deposited solid waste materials into the surface soil layers, or covering all land spreading areas with an adequate thickness of final earth cover material.

2. Providing for the control of surface water runoff to minimize adverse effects on surface and/or groundwater quality.

3. Establishing a vegetative cover to promote evapotranspiration and to control soil erosion, and/or otherwise preparing the land surface for the intended future land use.

4. Continuing to grow crops and conducting the associated monitoring work.

5. Performing the required environmental monitoring work associated with the approved final closure and long-term care plans.

(f) The department shall require long-term care as defined in s. 144.441, Stats., only of licensed land spreading facilities for which waste management fund monies may be expended in accordance with s. 144.44(3), Stats. The department may require the following provisions:

1. Erosion control and maintenance of vegetation.

2. Control of surface drainage.

3. Ground and/or surface water quality monitoring.

4. Gas monitoring.

5. Soils and/or crop testing programs.

6. The preparation and submittal of monitoring data and/or reports.

(8) Waste management fund. Land spreading sites and facilities which are exempt from licensing are not required to contribute to the waste management fund.

(9) Public participation. For sites requiring approval of a solid waste land spreading plan, the department prior to approval shall prepare an environmental impact assessment screening worksheet and provide opportunity for public comment according to the procedures established in chapter NR 150, Wis. Adm. Code, except that the notice shall be published as a class 1 notice under ch. 985, Stats. The department shall hold a hearing on the proposed land spreading plan if a written request for a hearing is filed by any county, city, village or town, or by any 6 persons within 30 days from the time the notice is published. A hearing under this subsection shall be held within 60 days after receipt of the request and shall be conducted as provided in s. 227.022, Stats. The hearing shall be held in an appropriate place designated by the department in one of the counties, cities, villages or towns which could be affected by the operation of a proposed site.

(10) Prior to licensing a site, the owner or operator shall submit proof that a notation of the existence of the site has been recorded in the office of the register of deeds in each county in which a portion of the site is located.

NR 180.15 Long-term care. (1) Owners of sites for the land disposal of solid wastes which are approved and licensed after May 20, 1978, or which were initially licensed between May 21, 1975, and May 20, 1978, and whose owner successfully applies before May 21, 1980, for a determination by the department that the site's design and plan of operation comply substantially with the requirements of this chapter, shall be responsible for the long-term care of the site for either 20 or 30 years after site closure, except as otherwise provided, unless the owner's responsibility is terminated earlier in accordance with s. 144.441(2)(d), Stats. The owner shall specify at the time of submittal of the plan of operation whether the owner chooses, subject to department approval, to be responsible for 20 years or 30 years.

(2) (a) Owners responsible for closure and long-term care of sites shall submit as part of the initial license application a bond payable to the state of Wisconsin, department of natural resources in the amount determined according to this section conditioned upon faithful performance by the owner and any successor in interest of all closure and long-term care requirements of the approved plan of operation.

(b) Bonds shall be issued by a surety company licensed to do business in this state. At the option of the owner, a performance bond or a forfeiture bond may be filed. Surety companies may have the opportunity to complete the closure and long-term care of the site in lieu of cash payment to the department.

(c) Each bond shall provide that the bond shall not be cancelled by the surety, except after not less than 90 days notice to the department in writing by registered or certified mail. Not less than 30 days prior to the expiration of the 90 day notice period, the owner must deliver to the department a replacement bond in absence of which all disposal operations shall immediately cease. If the surety company's license to do business is revoked or suspended, the site owner shall, within 30 days after receiving written notice thereof, deliver to the department a replacement bond in absence of which all disposal operations shall immediately cease.

(d) In lieu of a bond, the owner may deposit cash, certificates of deposit, or government securities with the department in the amount determined according to this section. Deposits placed with the department will be segregated and, if applicable, invested in an interest bearing account. The department shall have the right to use part or all of the funds to carry out the closure and long-

term care requirements of the approved plan of operation if the owner or operator fails to do so. The department shall mail notification of its intent to use funds for that purpose to the last known address of the owner or operator. If the owner or operator requests a hearing in writing within 60 days thereafter, the department shall prior to using the the funds, hold a hearing pursuant to s. 277.064, Stats., for the purpose of determining whether or not the long-term care requirements of the approved plan of operation have been carried out.

(e) In lieu of a bond or deposit, the owner may establish an escrow account with a bank licensed to do business in this state in the amount determined according to this section. The escrow account shall consist of cash, certificates of deposit, or government securities. The department shall be a party to the escrow agreement, which shall provide that there shall be no withdrawals from the escrow account except as authorized in writing by the department. The escrow agreement shall further provide that the department shall have the right to withdraw and use part or all of the funds in the escrow account to carry out the closure and long-term care requirements of the approved plan of operation if the owner or operator fails to do so. The department shall mail notification of its intent to use funds for that purpose to the last known address of the owner or operator. If the owner or operator requests a hearing in writing within 60 days thereafter, the department shall prior to using the funds, hold a hearing pursuant to s. 227.064, Stats., for the purpose of determining whether or not the long-term care requirements of the approved plan of operation have been carried out.

(f) In lieu of a bond, deposit, or escrow account, the owner may create an irrevocable trust exclusively for the purpose of ensuring that the owner and any successor in interest will comply with the closure and long-term care requirements of the approved plan of operation. The trust agreement shall designate a bank licensed to do business in this state as trustee and the state of Wisconsin, department of natural resources, as sole beneficiary. The trust corpus shall consist of cash, certificates of deposit or government securities in the amount determined according to this section. The trust agreement shall further provide that sufficient monies shall be paid from the trust fund to the beneficiary in the event that the owner or any successor in interest fails to complete such requirements. A copy of the trust agreement shall be submitted to the department for approval prior to issuance of the initial license. The department shall mail notification of its intent to use funds for that purpose to the last known address of the owner or operator. If the owner or operator requests a

hearing in writing within 60 days thereafter, the department shall prior to using the funds, hold a hearing pursuant to s. 227.064, Stats, for the purpose of determining whether or not the long-term care requirements of the approved plan of operation have been carried out.

(g) For the purpose of determining the amount of financial responsibility, the owner shall estimate the total cost of closure and the annual cost of long-term care of the site in current year dollars and submit the same together with all necessary justification to the department for approval.

(h) 1. To provide proof of financial responsibility to assure compliance with the closure requirements of the plan of operation, the owner shall deposit into an escrow account or trust account, cash, certificates of deposit or government securities equal to the cost estimate for closure, multiplied by the appropriate present value factor from table 6. If site life exceeds 20 years, the present value factor shall be determined by using the following formula: $PVF = \frac{1}{(1.02)^{SL}}$ where PVF equals the present value factor and SL equals the site life in years. If the owner chooses to utilize a bond or a deposit with the department, the amount of the bond or deposit shall be equal to the cost estimate for closure multiplied by the appropriate present value factor multiplied by the appropriate compound amount factor determined by using the following formula: $CAF = (1 + i)^{SL}$ where CAF equals the compound amount factor, i equals the interest rate payable on long-term certificates of deposit by a bank or other financial institution, and SL equals the site life in years. If the site is to be closed in phases during the active site life, the department shall not require proof of financial responsibility to assure compliance with the closure requirements in an amount exceeding that amount which will be necessary to complete closure of the next phase to be closed, discounted by the appropriate present value factor.

TABLE 6

Site Life in Years	Present Value Factor
1	.980
2	.961
3	.942
4	.924
5	.906
6	.888
7	.871
8	.853
9	.837
10	.820
11	.804
12	.788
13	.773
14	.758
15	.743
16	.728
17	.714
18	.700
19	.686
20	.673

2. When an owner has completed closure of any portion of the site other than a site which is to be closed in phases over the active site life, the owner may apply to the department for release of that portion of the bond or return of that amount of money held on deposit, in escrow, or in trust for closure of that portion of the site. Such application must be accompanied by an itemized list of costs incurred. Upon determination that a portion of the site has been satisfactorily closed, the department may authorize release of a portion of the funds or approve a reduction in the bond provided, however, that the amount remaining shall not be reduced to less than 120% of the estimated cost of completing closure of the landfill until complete closure is accomplished. Upon determination by the department that complete closure has been accomplished, the department shall authorize release and/or return of all funds accumulated in such accounts or give written permission for cancellation of the bond. Such determination shall be concluded within 90 days of the application. In the case of a site which is to be closed in phases, upon completion of closure of a phase and prior to operation of the next succeeding phase, the owner shall provide proof of financial responsibility to assure closure of the next phase.

3. The bond, deposit, escrow account or trust account in the amount calculated in subd. (h) 1. shall be established and proof of establishment submitted to the department as part of the initial license application.

(i) 1. To provide proof of financial responsibility to assure compliance with the long-term care provisions of the plan of operation, the owner shall deposit into an escrow account or trust account an annual cash payment which shall be calculated by multiplying the annual cost of long-term care of the site by 16.35 if the owner chooses to be responsible for the site for 20 years, or 22.40 if the owner chooses to be responsible for 30 years, and dividing that product by the sum of annuity factor from table 7 appropriate to the site life. If the site life exceeds 20 years, the sum of annuity factor can be determined by using the following formula: $SA = \frac{(1.02)^{SL} - 1}{.02}$ where SA equals the sum of annuity factor, and SL equals the site life in years. If the owner chooses to utilize a bond or a deposit with the department, the amount of the bond or deposit shall be adjusted on an annual basis such that it is equal to the annual cost of long-term care of the site multiplied by either 16.35 or 22.40 (20 or 30-year owner responsibility, respectively), with that product divided by the appropriate sum of annuity factor, and that dividend multiplied by the appropriate compound amount factor as defined in subd. (h) 1.

TABLE 7

Site Life in Years	Sum of Annuity Factor
1	1.00
2	2.020
3	3.060
4	4.122
5	5.204
6	6.308
7	7.434
8	8.583
9	9.755
10	10.950
11	12.169
12	13.412
13	14.680
14	15.974
15	17.293
16	18.639
17	20.012
18	21.412
19	22.841
20	24.297

2. One year after closure and annually thereafter for the period of owner responsibility, the owner, who has carried out all necessary long-term care during the preceding year, may make application to the department for reimbursement from the escrow account, trust account, or deposit with the department, or for reduction in the bond equal to the estimated costs for long-term care for that year. Such application must be accompanied by an itemized list of costs incurred. Upon determination that the expenditures incurred are in accordance with the long-term care requirements anticipated in the approved plan of operation, the department may authorize release of the funds or approve a reduction in the bond provided, however, that the amount remaining shall not be reduced to less than 20% of the total cost of long-term care during the period of owner responsibility until termination of that responsibility pursuant to s. 144.441, Stats. Such determination shall be concluded within 90 days of the application. Any funds remaining in the escrow account, trust account, or on deposit with the department at the termination of owner responsibility shall be released to the owner.

3. The bond, deposit, escrow account or trust account in the amount calculated in this paragraph shall be established prior to the issuance of the initial license and proof of increase in value in accordance with this paragraph shall be submitted to the department as part of each relicensing application.

(3) Any person acquiring rights of ownership, possession or operation of a licensed site shall be responsible for the closure and long-term care of the site and shall provide such assurance as the department shall require in this regard prior to the issuance of a new operating license.

NR 180.17 Salvage yards. (1) General. No person shall operate or maintain a salvage yard unless the person has obtained an operating license from the department, except as otherwise provided in sub. (2).

(2) Exemptions. Operations used exclusively for the storage of less than 7 junked automobiles are exempt from the requirements of this section.

(3) Locational criteria. No person shall establish, operate, maintain or permit the use of property for a salvage yard within the following areas:

(a) Within 1,000 feet of any navigable lake, pond or flowage.

(b) Within 300 feet of a navigable river or stream.

(c) Within a flood plain.

(d) Within an area from which the department after investigation finds there is a reasonable probability that solid waste or leachings therefrom may have a detrimental effect on any surface water.

(e) Within an area from which the department after investigation finds there is a reasonable probability that solid waste or leachings therefrom may have a detrimental effect on groundwater quality.

(f) Within 1,000 feet of the nearest edge of the right-of-way of any interstate or federal aid primary highway or the boundary of any public park, unless the site is screened by natural objects, plantings, fences or other appropriate means so as not to be visible from the highway or park.

(g) Within wetlands.

(h) Within a critical habitat area.

(4) Plan of operation. No person shall establish a new salvage yard or expand an existing salvage yard until a plan of operation has been submitted to and approved by the department in writing. The plan of operation shall include at a minimum the following:

(a) A map or aerial photograph of the area showing land use and zoning within 1/4-mile of the salvage yard boundaries. The map or aerial photograph shall be of sufficient scale to show all salvage yard boundaries, all homes, industrial buildings, roads, water courses, and other applicable details. All such details, plus the topography, and direction shall be identified and indicated on the map or aerial photograph.

(b) A plot plan of the site showing direction, dimensions, elevations, surface drainage, access roads, fencing, means for limiting access, method of screening, and proposed layout of operation covering location of salvage material processing area, nonsalvageable material storage area, and liquid material handling and storage area.

(c) A report indicating the following:

1. The type, expected quantity and source of material to be brought to the yard.

2. Present quality and types of salvage materials in inventory.

3. The type and amount of equipment to be provided at the yard for processing purposes.

4. The outlet for the salvaged material.

5. The means for on-site storage of nonsalvageable items and the means for disposal.

6. The means for on-site handling and storage of liquids generated or handled as part of the salvage yard operation and the outlet for these materials. These liquids may include but are not limited to gasoline, oils, fluids, antifreeze, acids, caustics and similar materials which require special handling and disposal to protect the environment.

7. Types and means for fencing and screening of the salvage yard property.

8. Procedures and types of emergency fire control.

9. Persons responsible for actual operation and maintenance of the yard.

10. Operation procedures which detail how compliance will be achieved with sub. (5).

(5) Operational requirements. No person shall operate or maintain a salvage yard except in conformance with the approved plan of operation and the following practices:

(a) Garbage or similar putrescible material shall not be present at a salvage yard.

(b) No salvage yard shall be operated at a solid waste land disposal operation unless both operations are completely separated or fenced.

(c) No open burning of solid waste shall be conducted.

(d) The boundaries of the salvage yard shall be marked with a fence or other object(s) to clearly define the boundary of the licensed acreage.

(e) An attendant shall be on duty at the yard at all times while the yard is open for business.

(f) The yard shall be surrounded by a solid fence, rapidly growing trees, shrubbery or other appropriate means to screen it from the surrounding area. If trees are used, they shall be capable of screening the yard all year or other methods shall be used in combination with the trees to provide screening during all seasons.

(g) A sign, acceptable to the department, shall be posted at the entrance which indicates the name and license number of the operation. The letters and numbers shall be a minimum of 2 inches high with 1/2-inch minimum width and in a color distinct from its background.

(h) The storage of nonsalvageable materials shall be conducted in compliance with NR 180.07.

(i) Any windblown material resulting from operation of the yard shall be collected daily and properly disposed.

(j) The operation shall be conducted in an orderly and aesthetic manner.

(6) Closure. Any person who maintains or operates a salvage yard or who permits use of property for such purpose shall, when the yard is closed by the operator or property owner, or when the department determines that closure is required, close the yard by removing all salvageable materials within a time period specified by the department, which shall be no greater than 120 days. The operator shall notify the department, in writing, 60 days prior to the date of closing a salvage yard.

NR 180.18 Other facility requirements not specifically covered by this chapter. Before any method of solid waste handling, processing, or disposal not otherwise provided for in this chapter is established, the department may require the applicant to conduct a feasibility study as outlined in this chapter. If the facility is determined by the department to be feasible, complete plans, specifications, and design data for the project detailing such areas as site locations, preparation, operation, monitoring, closure, and long-term care shall be submitted to and be approved in writing by the department prior to the commencement of operations. All such information shall be prepared and submitted by a registered professional engineer. An initial plan review fee and the annual license fee, as provided in NR 180.05, shall be submitted for each newly established method of solid waste handling, processing and disposal. Prior to operation of such a facility, a solid waste disposal operation license is required. The site and its operation shall conform to any department approved plan.

NR 180.19 Environmental impact. Every application for licensing under this chapter will be reviewed to determine whether the department will require the applicant to submit an environmental impact report pursuant to s. 23.11(5), Stats., or whether the department is required to prepare an environmental impact statement pursuant to chapter NR 150, Wis. Adm. Code.

NR 180.20 Exemptions. Exemptions from the requirements of this chapter may be granted in special cases except as otherwise provided. A person may apply for an exemption by providing the department with a request in writing and documentation justifying the need for the exemption. Before granting exemptions, the department shall take into account such factors as population of the area being served, amounts of waste generated, location of the disposal operation, nature of wastes, seasonal character of the disposal operation, and other significant factors. Exemptions may be granted to encourage the beneficial utilization of solid waste if the department finds that the waste utilization proposed would not result in environmental pollution and that regulation under this chapter would discourage such beneficial utilization or would not be warranted in light of the potential hazard to public health or the environment. All exemptions pertaining to a solid waste disposal operation will be granted in writing by the department. Exemptions shall be reviewed periodically with particular regard to any potential nuisance, hazard to public health and safety, or potential degradation of the environment.

CM-23-79

The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on September 26, 1979.

The foregoing rules will take effect upon publication as provided by section 227.026, Wis. Stats.

Dated at Madison, Wisconsin October 30, 1979

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

By Anthony S. Earl
Anthony S. Earl, Secretary

(SEAL)

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

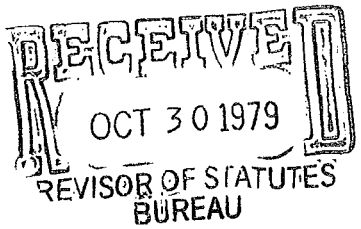
Anthony S. Earl
Secretary

BOX 7921
MADISON, WISCONSIN 53707

October 29, 1979

IN REPLY REFER TO: 1020

Mr. Orlan L. Prestegard
Revisor of Statutes
411 West
C A P I T O L



Dear Mr. Prestegard:

Enclosed are two copies, including one certified copy, of State of Wisconsin Natural Resources Board Order No. SW-23-79. These rules were submitted to the Assembly Environmental Resources Committee and the Senate Natural Resources Committee pursuant to section 227.018, Stats. There were no objections.

You will note that this order takes effect upon publication. Kindly publish it in the Administrative Code accordingly.

Sincerely,

Anthony S. Earl
Secretary

Enc.