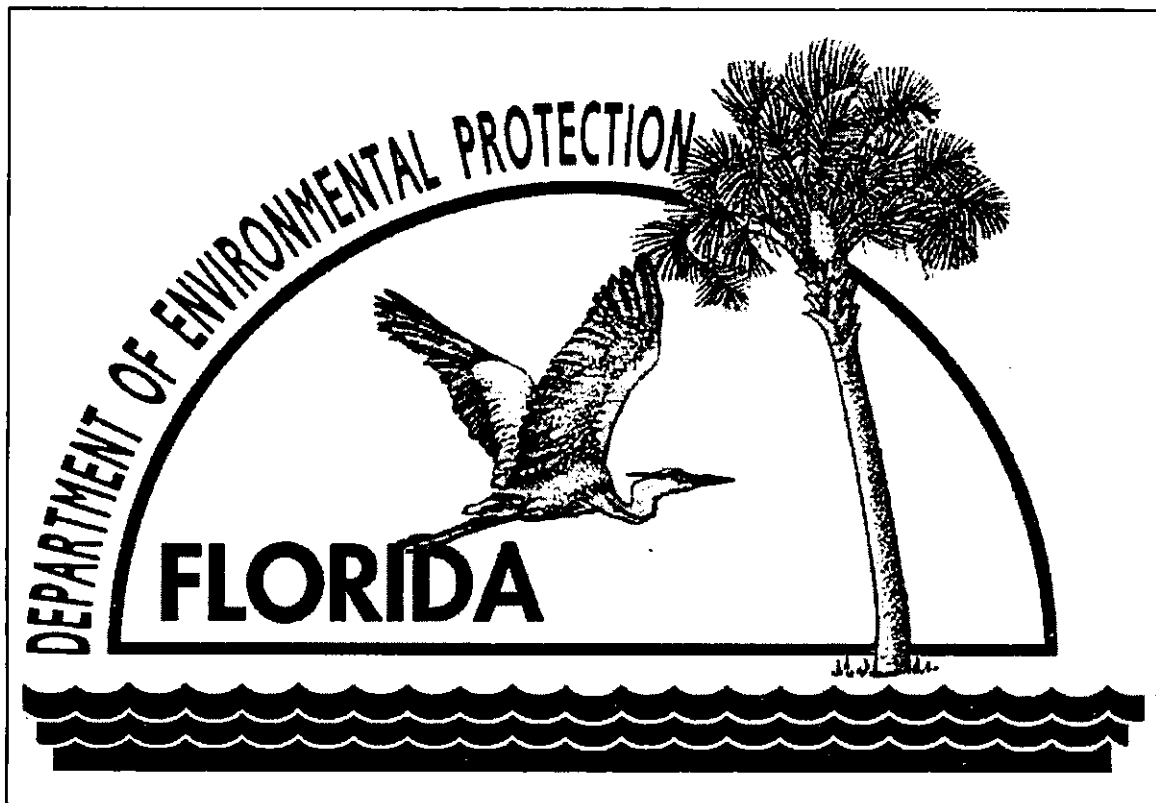


**COMPILATION OF FLORIDA'S SOLID WASTE
REGULATIONS FROM 1966 TO 1997**

January 26, 2001



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BACKGROUND AND PURPOSE

From time to time the Department receives requests for copies of old solid waste regulations contained in the Florida Administrative Code (F.A.C.). These requests are usually prompted by a desire to know what requirements applied to an older solid waste facility when it was constructed, operated or closed. In some cases, the requirements that applied may be unclear because they have changed significantly since the early 1960's. In other cases, confusion may have been created because the Department allowed some facilities to operate under older regulations even after they were changed. For example, landfills that had completed construction of their disposal units under older liner requirements were generally allowed to be filled to their permitted design dimensions without having to retrofit the disposal units to newer liner requirements.

In response to these requests, the Department has prepared this document in an effort to make the older rule information more available. It attempts to compile all available regulations, current and historical, that pertained to solid waste facilities in Florida.

Landfills in Florida were initially regulated by the Florida State Board of Health, Bureau of Entomology in Jacksonville, Florida. The Department does not know if any regulations were promulgated by this agency when it regulated landfills. By 1964 the State Board of Health was combined with Social Services to form the Florida Department of Health and Rehabilitative Services (DHRS). The DHRS Division of Health was given the responsibility of regulating solid waste facilities. The Department has one rule promulgated by the DHRS to regulate landfills which was titled "Garbage and Rubbish" and was effective approximately November 25, 1966. About 1965, the Department of Air and Water Pollution Control (DAWPC) was also created. This agency appeared to primarily regulate incinerators in the State.

In 1970, the DAWPC was renamed the Department of Pollution Control (DPC). The responsibility for regulating solid waste facilities was transferred to this agency which developed its own regulations. Two versions of regulations from the DPC are available which were effective on October 1, 1974 and

approximately November 16, 1976. Since most of the DHRS rules were transferred directly to the 1974 DPC rule, it appears that the DPC did not actually began regulating solid waste facilities until 1974.

On July 1, 1975, the name the Department was changed from DPC to the Department of Environmental Regulation¹ (DER). The Department retained this name until it was merged with the Department of Natural Resources (DNR) on July 1, 1993. At that time a new agency was created called the Department of Environmental Protection (DEP). This action by the 1993 Legislature launched a year-long effort to fully merge the two agencies (DNR and DER) that resulted in 1994 Legislation ratifying the new agency's organization.

Each change in the Department generally resulted in new regulations being promulgated although the substantive changes to the rules may have been minimal. The available regulations compiled in this document and their effective dates are summarized in TABLE 1.

¹ Even though the name of the Department changed in 1975, it continued to promulgate a rule in 1976 under the previous name, i.e. DPC.

TABLE 1. CHAPTER TITLES AND EFFECTIVE DATES

CHAPTER TITLE DEPARTMENT	EFFECTIVE DATE
Garbage and Rubbish, Chapter 10D-12, F.A.C. Health and Rehabilitative Services	~11/25/1966
Resource Recovery and Management Part I: Solid Waste Facilities, Chapter 17-7, F.A.C. Department of Pollution Control	10/01/1974
Resource Recovery and Management Part I: Solid Waste Facilities, Chapter 17-7, F.A.C. Department of Pollution Control	~11/16/1976
Resource Recovery and Management Part I: Solid Waste Facilities, Chapter 17-7, F.A.C. Department of Environmental Regulation	05/25/1979
Resource Recovery and Management Parts I-V, Chapter 17-7, F.A.C. Department of Environmental Regulation	12/10/1985
Solid Waste, Chapter 17-701, F.A.C. Department of Environmental Regulation	08/02/1989
Solid Waste Management Facilities Chapter 17-701, F.A.C. Department of Environmental Regulation	07/19/1990
Solid Waste Management Facilities Chapter 17-701, F.A.C. Department of Environmental Regulation	01/06/1993
Solid Waste Management Facilities Chapter 17-701, F.A.C. Department of Environmental Regulation	01/02/1994
Solid Waste Management Facilities Chapter 17-701, F.A.C. Department of Environmental Regulation	05/19/1994
Solid Waste Management Facilities Chapter 62-701, F.A.C. Department of Environmental Protection	04/23/1997

Garbage and Rubbish,
Chapter 10D-12, F.A.C.
Health and Rehabilitative Services
Effective ~11/25/1966

RULES

STATE OF FLORIDA

DEPARTMENT OF HEALTH AND

REHABILITATIVE SERVICES

DIVISION OF HEALTH

CHAPTER 10D-12

GARBAGE AND RUBBISH

- 10D-12.01 Garbage and rubbish — general
- 10D-12.02 Definitions
- 10D-12.03 Garbage storage and collection
- 10D-12.04 Collection and disposal responsibilities
- 10D-12.05 Garbage feeding of hogs
- 10D-12.06 Disposal of garbage and rubbish
- 10D-12.07 Sanitary landfills
- 10D-12.08 Incineration
- 10D-12.09 Composting
- 10D-12.10 Other stabilization methods
- 10D-12.11 Disposal of pathological wastes

10D-12.01 Garbage and rubbish — general.
Responsibilities and operational procedures relative to the sanitary storage, collection and disposal of garbage and rubbish.

General Authority 381.031(1)(c)3 FS. Law Implemented 381.031(1)(2)3, 381.311, 386 FS.

10D-12.02 Definitions.

(1) "Garbage" — Waste products of all animal or vegetable matter resulting from growing, processing, marketing and preparation of food items including containers in which packaged.

(2) "Rubbish" — Waste material not of a putrescible nature; included are stumps and logs, car bodies, refrigerators, stoves, tires, building and road materials, tree trimmings, paper boxes and similar material.

(3) "Offal" — Waste animal matter from butcher, slaughter and packing houses.

(4) "Dead animals" — Dead animals not intended to be used for food purposes.

(5) "Manure" — Body waste of animals and fowl and cleanings from all barns, stables, corrals or pens used for stabling, caging or penning of animals or fowl.

(6) "Sanitary landfill" — A planned method of compacting and completely covering garbage in a prepared area so as to prevent sanitary nuisances and insect and rodent breeding and harborage.

(7) "Composting" — A controlled method utilizing biochemical decomposition of garbage in a completely nuisance free manner resulting in a safe, stable final product.

(8) "Incineration" — Pertinent terms shall be defined as follows:

(a) "Auxiliary Fuel Firing Equipment" — Equipment to supply additional heat, by the combustion of an auxiliary fuel, for the purpose of attaining temperatures sufficiently high to dry and ignite the waste material, to maintain ignition thereof, and to promote complete combustion of combustible materials.

(b) "Baffle" — Any refractory construction intended to change the direction of flow of the product of combustion.

(c) "Barometric Damper" — A hinged or pivoted balanced blade so as to admit air to the breeching, flue connection or stack, thereby automatically maintaining a constant draft in the incinerator.

(d) "Breeching or Flue Connection" — A passage for conducting the products of combustion to the stack or chimney.

(e) "Bridge Wall" — A partition wall between chambers over which pass the products of combustion.

(f) "Burning Area" — The horizontal projected area of grate, hearth, or combination thereof on which active burning takes place.

(g) "Burning Rate" — The amount of waste incinerated, usually expressed in pounds per hour per square foot of burning area.

(h) "Butterfly Damper" — A plate or blade installed in a duct, breeching, flue connection or stack, arranged to move horizontally across the duct, breeching, flue connection or stack.

(i) "Bypass" — An arrangement of breechings of flue connections and dampers to permit the alternate use of two or more pieces of equipment by directing or diverting the flow of the products of combustion.

(j) "Capacity" — The amount of waste incinerated, usually expressed in pounds per hour with the characteristics or type of waste stipulated.

(k) "Checkerwork" — A pattern of multiple openings in refractory through which the products of combustion pass to promote turbulent mixing of the gases.

(l) "Curtain Wall" — A partition wall between chambers under which pass the products of combustion.

(m) "Down Pass" — Chamber or gas passage placed between two chambers to carry the products of combustion in a downward direction.

(n) "Drop Arch" — Any vertical refractory wall supported by arch construction.

(o) "Drying Hearth" — A surface within the primary chamber upon which wet waste material is deposited for drying, prior to burning.

(p) "Excess Air" — The air remaining after a fuel has been completely burned, or that air supplied in addition to the theoretical quantity.

(q) "Forced Draft" — The pressure difference created by the action of a fan, blower, or ejector, which supplies the primary combustion air above atmospheric pressure.

Effective = 11-25-66

(d) "Fly Ash" — Suspended particulate matter in products of combustion.

(e) "Fly Ash Collector" — Auxiliary equipment designed to remove fly ash in dry form from the products of combustion.

(f) "Grate" — Surface with suitable openings to support the fuel bed and permit passage of air through the burning fuel. It is usually located in the primary combustion chamber and is designed to permit removal of unburned residue, and may be horizontal or inclined, stationary or movable.

(g) "Guillotine Damper" — An adjustable blade installed vertically in a breeching or flue connection arranged to move vertically across the breeching or flue connection usually counter-balanced for easy operation.

(h) "Heating Value" — The heat released by combustion of a unit quantity of waste or fuel, measured in British Thermal Units (B.T.U.).

(i) "Heat of Combustion" — The heat released by combustion of a unit quantity of waste or fuel, measured in British Thermal Units (B.T.U.).

(j) "Heat Release Rate" — The amount of heat liberated during the process of complete combustion and expressed in B.T.U. per hour per cubic foot of the internal furnace volume in which such combustion takes place.

(k) "Hot Drying Hearth" — A surface upon which wet material is placed to dry by the action of hot combustion gases that pass successively over the wet material and under the hearth.

(l) "Incineration" — The process of igniting and burning combustible waste under properly designed and controlled conditions to carbon dioxide and water vapor.

(m) "Incinerator" — A properly designed combustion apparatus in which combustible wastes are ignited and burned to carbon dioxide and water vapor, and from which the solid residues contain little or no combustible material.

(n) "Induced Draft" — The pressure difference created by the action of a fan, blower, or ejector, which is located between the incinerator and the stack, or at the stack exit.

(o) "Mixing Chamber" — Chamber usually placed between the primary combustion chamber and the secondary combustion chamber where thorough mixing of the products of combustion is accomplished by turbulence created by increased velocities of the gases, checkerwork and/or turns in direction of the gas flow.

(p) "Natural Draft" — The pressure difference created by stack or chimney due to its height and the temperature difference between the flue gases and the atmosphere.

(q) "Primary Air" — Any air controlled with respect to quantity and direction, force or induced, supplied through or adjacent to the fuel bed, for the purpose of promoting combustion of the combustible materials in the fuel bed.

(r) "Primary Combustion Chamber" — Chamber within an incinerator where primary ignition and burning of the waste occurs.

(s) "Scrubber or Gas Washer" — Auxiliary equipment designed to remove pollutants in wet form from the products of combustion.

(t) "Secondary Air" — Any air, controlled with respect to quantity and direction, supplied

beyond the fuel bed, as through ports in the wall or bridge wall of the primary combustion chamber (overfire air), or the secondary combustion chamber, for the purpose of completing combustion of combustible materials in the gases from the fuel bed, or to reduce operating temperature within the incinerator.

(u) "Secondary Combustion Chamber" — Chamber where unburned combustible materials from the primary chamber are completely burned.

(v) "Settling or Expansion Chamber" — Any chamber designed to reduce the velocity of the products of combustion to promote the settling of fly ash from the gas stream.

(w) "Spark Arrestor" — A device to prevent sparks, embers, or other ignited material above a given size from being expelled to the atmosphere.

(x) "Stack, Chimney or Flue" — A vertical passage for conducting products of combustion to the atmosphere.

(y) "Standard Conditions" — Standard conditions shall mean a temperature of 68°F and a pressure of 14.7 pounds per square inch gage, dry basis.

(z) "Theoretical Air" — The exact amount of air required to supply oxygen for complete combustion of a given quantity of a specific fuel.

(aa) "Underfire Air" — Any air controlled with respect to quantity and direction, forced or induced, supplied beneath the grate, that passes through the fuel bed.

General Authority 381.031(1)(g)3 F.S. Law Implemented 381.031(1)(g)3 F.S. History—Amended 10-20-64.

10D-12.03 Garbage storage and Collections. Garbage shall be retained in watertight receptacles of impervious material which are provided with tight fitting covers suitable to protect the contents from flies, insects, rats and other animals. Garbage collection shall be made at such intervals and collection equipment shall be of such design as meets the approval of the Division of Health.

General Authority 381.031(1)(g)2 F.S. Law Implemented 381.031(1)(g)3 F.S.

10D-12.04 Collection and disposal responsibilities.

(1) Municipalities shall be responsible for providing an adequate, efficient and sanitary system of collecting, transporting and disposing of garbage and rubbish from all buildings and establishments creating garbage or rubbish throughout the municipality in a manner approved by the Division of Health.

(2) Persons, firms, corporations and other governmental bodies or agencies providing garbage collection, and/or disposal services to any person, place or establishment shall manage such service in a completely nuisance free manner as provided herein. General Authority 381.031(1)(g)3 F.S. Law Implemented 381.031(1)(g)3, 381.271, 381.11, 386 F.S.

10D-12.05 Garbage feeding of hogs. Feeding garbage, offal or dead animals to hogs without first adequately cooking said materials in a manner prescribed by the Department of Agriculture and Consumer Services in accordance with provision of 585.50 F.S. is prohibited. A feeding permit shall be obtained from the Department of Agriculture and Consumer Services in accordance with provisions of 585.50 F.S. and approval granted by the local health

department before such feeding program commences. After cooking the garbage shall be fed to hogs on supervised feeding platforms. Platforms and surrounding areas shall be maintained in such a manner as to prevent fly breeding, rat harborage or sanitary nuisance of any kind.

General Authority 381.031(1)(c)3 F.S. Law Implemented 381.031(1)(c)3, 386.10, 585.50, 585.51 F.S.

10D-12.06 Disposal of garbage and rubbish.

(1) Garbage, offal, dead animals and manure, or rubbish mixed with garbage, offal, dead animals and manure, or any combination thereof, shall be disposed of by incineration, burial, sanitary landfill or other method approved by the Division of Health. Such materials shall not be disposed of by being placed in any natural or artificial body of water or on the water shed of any surface public water supply; nor within one-half mile of any habitation or place of business where it may become a sanitary nuisance or menace to health through the breeding of flies and/or harboring of rodents; nor shall such material be dumped on or upon public highway, road or alley of this state or within one-half mile of such public highway, road or alley or other place except when said material has been rendered completely stable by a process approved by the Division of Health. The responsibility for disposal of dead animals, etc., shall be carried out at the owner's expense.

(2) Sanitary landfills, incinerators, composting operations and any other garbage and rubbish disposal or stabilizing method or device shall be maintained and operated in a sanitary nuisance free manner.

(3) No food or food products of any kind incorporated into garbage or otherwise deposited at a garbage disposal area or operation of any type shall be recovered and utilized for human consumption.

General Authority 381.031(1)(c)3 F.S. Law Implemented 381.031(1)(c)3, 386 F.S.

10D-12.07 Sanitary landfills.

(1) Responsibilities.

(a) Counties and mosquito control districts participating in the state arthropod control program and which operate or propose to operate one, or more, sanitary landfills, shall comply with provisions of Chapter 386 F.S. and all applicable provisions of this chapter.

(b) Counties, municipalities, individuals, corporations or organizations not subject to the requirements of Chapter 386 F.S. which operate or propose to operate, one, or more, sanitary landfills, shall comply with all applicable provisions of this chapter. They shall submit to the local health department of the county in which the landfill operation is proposed, an operational work plan including a map showing proposed work locations.

(c) Following receipt of the proposed operational work plan from the local health department, the Division of Health will review said plan and make such field investigations deemed necessary prior to approval, or disapproval, of the proposal. Approval by the Division of Health shall be received before operations are initiated.

(d) Landfill site locations may be changed at any time provided no radical change is made from the original plan and local health department approval is obtained prior to re-locating.

(2) Operations - Topography of Florida is such that sites which vary from high dry ground to low lying ponded areas must be utilized for landfill operations. When working in watered areas the trench or pit should be kept dewatered during operating periods.

(a) A separate disposal area shall be provided for rubbish. This material may be burned only when atmospheric conditions are satisfactory and no nuisance will result from such burning in accordance with local health department recommendations.

(b) Separate trenches shall be provided for the disposal of offal and dead animals and for the disposal of sewage sludge from septic tanks and other sources. Material in such trenches shall be covered with six (6) inches of earth at the end of each day. The final covering of such trenches shall consist of at least a twenty-four (24) inch depth of sand, sandy loam or similar cover materials. A lesser depth of other soil types may be permitted following approval of the Division of Health.

(c) The site of operations shall be easily accessible by trucks and cars. An all-weather road shall be maintained at all times to the location where garbage is dumped.

(d) Garbage shall be disposed of by compacting and all exposed surfaces of the compacted materials shall be covered with earth to form a closed cell at the end of each day's operation.

(e) The face of the working fill shall be kept as narrow as is consistent with proper operation of trucks and equipment in order that the area of waste material exposed during the operating day will be minimized.

(f) Burning of garbage prior to covering shall not be permitted except in unusual circumstances as approved by the Division of Health.

(g) Garbage shall be placed in layers not exceeding a compacted depth of six (6) feet. There shall be at least a twenty-four (24) inch depth of sand, sandy loam or similar cover material used to close out each cell. A lesser depth of other soil types such as clays, gumbo and crushed rock may be permitted following approval of the Division of Health. Operations compacting depths less than six (6) feet may reduce the daily earth cover proportionately; provided, that not less than six (6) inches of cover material is used in closing out each day's operation. A final cover depth of twenty-four (24) inches of compacted earth shall be used in closing out all cells unless otherwise approved by the Division of Health.

(h) Where the top of the compacted fill is above normal ground elevation, side slopes shall have a minimum cover of twenty-four (24) inches, unless otherwise approved and a slope of not less than two (2) feet horizontally to one (1) foot vertically. The top of the fill shall be graded so as to drain all waters from the surface. Slopes should be seeded with grass promptly after completion.

(i) Water spraying of exposed waste material and adjacent surfaces shall be used when necessary to allay dust.

(j) Blowing of papers shall be prevented, insofar as possible, by the use of movable fencing or other appropriate means. The landfill and immediate surrounding area shall be kept in a clean condition.

(1) Where scavengers are permitted, they shall be closely supervised and not allowed to interfere with operations.

(i) Effluents of surface water resulting from landfill operations shall be drained, collected by piping or treated with effective chemicals as a temporary measure in order to prevent mosquito production and disagreeable odors.

(iii) The agency or person responsible for construction and operation of the landfill shall maintain an inspection program for the control of rodents. After filling operations are completed, the maintenance program shall be continued until the fill has become stabilized to assure prompt repair of cracks, depressions and erosion of the surface and side slopes.

(ii) Operation and maintenance shall be under the direction of a qualified person.

(c) An operation report form shall be submitted monthly concerning daily operations.

General Authority 381.031(1)(f) FS. Law Implemented 381.031(1)(f) FS. History—Amended 10-20-64.

10D-12.08 Incineration.

(1) Classifications.

(a) Incinerators — Incinerators to burn Types I, II and III waste shall be classified by their rated capacity as follows:

1. Municipal incinerators — Those having a rated capacity of one-thousand (1000) pounds per hour or greater.

2. Commercial incinerators — Those having a rated capacity of one-hundred (100) to one-thousand (1000) pounds per hour.

3. Domestic incinerators — Those having a rated capacity of less than one-hundred (100) pounds per hour.

4. Other — this category shall include incinerators designed to burn Types IV, V, or VI wastes.

(b) Waste — Waste shall be classified as follows:

1. Type I Waste — Rubbish, consisting of combustible waste such as paper, cartons, rags, wood scraps, sawdust, foliage, and floor sweepings from domestic, commercial and industrial activities.

2. Type II Waste — Refuse, consisting of an approximately even mixture of rubbish and garbage by weight.

3. Type III Waste — Garbage, consisting of animal and vegetable wastes from restaurants, cafeterias, hotels, hospitals, markets, and like installations.

4. Type IV Waste — Human and animal remains, consisting of carcasses, organs, solid organic wastes from hospitals, laboratories, abattoirs, animal pounds and similar sources.

5. Type V Waste — By-product waste, gaseous, liquid or semi-liquid, such as tar, paints, solvents, sludge, fumes, etc., from industrial operations.

6. Type VI Waste — Solid by-product waste, such as rubber, plastics, wood waste, etc., from industrial operations.

(c) The various types of waste shall be considered to have the following composition and characteristics:

Type Waste	Non-Combustibles	Moisture	Heating Value, Btu/lb.	Heating Value, Btu/lb.
I	10%	25%	6,500	3,140
II	7%	50%	4,200	1,140
III	5%	50%	2,500	1,140
IV	5%	85%	1,500	1,140
V	Considered according to waste analysis.			
VI	Considered according to waste analysis.			

(2) Approval — It shall be unlawful for any person, persons, firm, corporation, company, institution, municipality or community to install or alter any incinerator or incinerator appliances without first having received approval from the Department of Air and Water Pollution Control.

(a) Plans and accompanying documents for incinerators shall be submitted to the Department of Air and Water Pollution Control for review and possible approval.

(b) An incinerator may only be used to burn the type of waste for which it was approved.

(3) Applications — Upon request, the Department of Air and Water Pollution Control shall provide application forms and data sheets necessary for Department of Air and Water Pollution Control approval of incinerators. All applications shall be prepared by an engineer registered in Florida and submitted in quadruplicate and shall contain the following information:

(a) Statement that engineering drawings for the incinerator have been approved by the governing body of the applicant (city commissioners, corporation, board, etc.)

(b) Prints of drawings of the work project which contain sufficient detail to clearly appraise the board of the work to be undertaken.

(c) Incinerator data sheets.

(d) Plot plan showing the location, type and height of all buildings within a five hundred (500) foot radius of the incinerator installation.

(e) A set of operating instructions for the incinerator.

(f) A letter from the owner of the installation indicating that he has read the incinerator operating instructions and understands that he may be restricted from future use of the incinerator, if it is not operated in accordance with these instructions.

(g) Additional data may be requested by the Department of Air and Water Pollution Control after initial application for purposes of clarification.

(4) Design criteria — The incinerator for each proposed installation shall be reviewed and considered for approval on its own merits and compliance with the criteria outlined below where applicable, and with good sanitary engineering practices.

(a) Municipal — Municipal incinerators shall be reviewed on the basis of information presented and in accordance with good sanitary engineering practices.

(b) Commercial — Commercial incinerators shall be designed in accordance with the criteria listed below:

1. Incinerator size based upon heat release.

a. The minimum total heat release shall equal 5000 BTU per pound. This shall be based upon the BTU value of any supplemental fuel (BTU per pound), plus the heating value of the refuse (BTU per pound).

b. The total effective furnace volume heat release shall approximate 29,000 British Thermal Units per cubic foot per hour (BTU/ft³/hr.).

c. The total heat release in the incinerator shall be able to maintain an average temperature of 1700 degrees Fahrenheit in the primary chamber.

d. Heat release — The total heat release in the primary combustion chamber shall approximate 40,000 British Thermal Units per cubic foot per hour (BTU/ft³/hr.).

e. Burning area — The minimum burning area shall be based upon the I.I.A. maximum burning rate table from Incinerator Institute of America Incinerator Standards, 7th Edition (Burning rate = Waste type factor x log of capacity per hour). This area shall be the grate area for incinerators designed to burn Type I waste, and shall be equal to the sum of the hearth and grate areas for incinerators designed to burn Type II and III wastes.

2. Air Requirements.

a. Air ports shall be designed to admit a total of 100% excess air to the primary chamber.

b. 20% ± 20% of the total combustion air shall be used as underfire air.

c. All combustion air shall be added in the primary chamber.

3. Velocity considerations — Velocities at points of interest shall be as listed below:

	Velocity (ft/sec)	Temperature (°F at which Velocity is reported)
a. Flame Port	35 ± 20%	1700
b. Mixing Chamber (Down Pass)	35 ± 20%	1600
c. Secondary Chamber (max.)	35 ± 20%	1600
d. Stack	35 ± 20%	1200
e. Air ports (indraft)	20 ± 20%	Ambient

4. Stacks.

a. All stacks shall be constructed to withstand an internal temperature of 1800°F.

b. All stacks shall be equipped with an adequate spark arrester.

c. All stacks shall be at least ten (10) feet above the highest point of any building within one-hundred (100) feet of the stack center line.

d. A test port, 3 1/8" inside diameter, shall be installed in every incinerator stack (approximately eight (8) stack diameters above the barometric damper).

5. Other Considerations:

a. All incinerator units shall be refractory lined in accordance with I.I.A. Standards 7th Edition.

b. Only end or side charging is recommended.

c. All units shall have a properly located barometric damper installed. Guillotine or stack dampers are recommended.

d. The use of step grates is not recommended.

e. All incinerator charging rooms shall have adequate refuse storage space.

f. All incinerators shall be assured a sufficient supply of fresh air for proper fuel combustion. Design of ventilating system for personnel and proper incinerator operation shall comply with the safety and fire code of the respective authorities having jurisdiction.

g. All units shall be of multiple chamber design.

6. Chute Load Mechanisms — Chute fed incinerators shall comply with the following conditions:

a. The charging hopper shall be located directly beneath the charging chute and directly above the incinerator.

b. A refractory lined charging hopper shall connect the charging chute with the primary chamber of the incinerator. The hopper shall have a refractory lining not less than four and one-half (4 1/2) inches thick and a steel casing of not less than twelve (12) gauge.

c. The charging hopper shall be connected to both the charging chute and the incinerator primary chamber to refractory fire gates. The metal casing shall be at least twelve (12) gauge. The gates shall have a refractory lining not less than four and one-half (4 1/2) inches thick. The charging hopper shall have an access door.

d. The volume of the charging hopper shall not exceed the volume of the incinerator primary chamber.

e. The control panel for the incinerator and hopper shall incorporate a timer which can be adjusted for automatic charging cycles at time intervals as determined for the specific installation.

f. Hand operated switches shall be provided which permit the operator to move either gate for servicing.

g. Adequate limit switches shall be incorporated in the control panel to avoid any possibility of both charging gates being open at the same time during either automatic or manual operation.

h. To insure proper preheating of the incinerator, a temperature controller shall be incorporated in the control panel so that the temperature in the secondary combustion chamber will be at least 300°F before charging cycle can start. This may be accomplished by an auxiliary burner. A controller shall also be provided for cutting off the burner when the primary chamber temperature exceeds 1600°F.

i. An alarm shall be provided which will sound when malfunctions in automatic controls occur.

j. The charging chute shall be provided with adequate means for sanitizing, fire protection, and drainage.

(c) Domestic — Domestic incinerators shall be reviewed on the basis of information presented. A surety bond to insure adequate and satisfactory performance shall be required on all makes and models until such time as said units have been proven capable of operation without creating nuisance conditions.

(d) Other.

1. Incinerators for Type IV Waste.

a. Hearth — The waste shall be burned on a hot hearth heated from below by the hot gases resulting from the combustion of the waste and heated from above by the direct action of the primary burner.

b. Primary chamber volume — The primary chamber volume shall approximate 0.25 cu. ft./No./hr. of waste at rated capacity.

c. Burners — Two burners shall be provided; one in the primary chamber and one in the secondary chamber. The primary burner shall supply 5000

HEATERS, and the secondary burner shall supply 30000 BTU per hour.

(2) Incinerators for Types V or VI Waste. Such incinerators shall be reviewed on the basis of information presented to the Department of Air and Water Pollution Control.

(3) Safety. — The incinerator shall have the safe charging door suspended so it will provide explosion relief in the event of an emergency.

(6) Prohibitions. — Flue-fed incinerators are prohibited.

(7) Disposal. — Residue from burning shall be disposed of in a nuisance free manner and proposals for said disposal shall be submitted for review and approval at the time of submitting original plans and applications for the incinerator.

(8) Stack Emissions. — Stack particulate emissions shall not exceed a grain loading of 0.2 grains per standard dry cubic foot of exhaust gas corrected to 50% excess air volume.

(9) Experimental installations. — Plans for incinerators designed for special applications will be reviewed by the Department of Air and Water Pollution Control in accordance with good engineering practices. In certain instances, such installations may be approved on an experimental basis.

General Authority 381.031(1)(g)3 FS. Law Implemented 381.031(1)(g)3, 381.031(1)(g)7 FS. History—Amended 10-20-64.

10D-12.09 Composting.

(1) Standards. — In view of the lack of precise definition of design criteria, proposed composting plants shall be reviewed in light of information presented to the Division of Health and other information available.

(2) Approval. — It shall be unlawful for any person, persons, firm, corporation, company, institution, municipality or community to install or alter composting plants without first having received approval from the Division of Health. Plans and accompanying documents for composting plants shall be submitted to the Division of Health, through the local health department of the county involved, for review and consideration of approval.

(3) Application. — Upon request, the Division of Health shall provide application forms and data sheets necessary for Division of Health approval. All applications shall be submitted in quadruplicate and shall contain the following information:

(a) A statement that plans for the project have been approved by the governing body of the applicant.

(b) Plans of drawings of the work project which contain sufficient detail to identify the Division of Health of the work to be made.

(c) Data sheets.

(d) Such additional data as may be requested by the Division of Health after initial application for purpose of clarification, anticipated use or to suggest any changes in the scope of the project, actual or anticipated.

(4) Products. — Offered for sale shall contain no pathogenic organisms, shall not reheat upon standing, shall cause no odors and shall contain no sharp particles which would cause injury to personnel handling the compost. By-products removed shall be handled in a sanitary manner.

General Authority 381.031(1)(g)3 FS. Law Implemented 381.031(1)(g)3 FS.

10D-12.10 Other stabilization methods. Before any other method of stabilizing garbage, rubbish, offal or other such materials is constructed or placed in operation, complete plans, specifications and design data shall be submitted to the Division of Health, through the local health department of the county involved, for review and consideration of approval.

General Authority 381.031(1)(g)3 FS. Law Implemented 381.031(1)(g)3 FS.

10D-12.11 Disposal of pathological wastes.

(1) Pathological Wastes. — All human and animal remains as described in 10D-12.08(1)(b)4., and including such items as cloth, bandages, cartons and other materials which have been in contact with such materials.

(2) The handling and disposal of all pathological waste shall be in accordance with procedures approved by the Division of Health and The Department of Air and Water Pollution Control. Disposal shall be by incineration or other method approved by the Division of Health and Department of Air and Water Pollution Control, and is expressly considered to be Type IV waste as heretofore classified in 10D-12.08.

General Authority 381.031(1)(g)3 FS. Law Implemented 381.031(1)(g)1, 2, 3, 7, 8, 380.01, 385.09, 400.10(1)(a)(c) FS. History—New 11-25-66.

**Resource Recovery and Management
Part I: Solid Waste Facilities,
Chapter 17-7, F.A.C.
Department of Pollution Control
Effective 10/01/1974**

RULES

OF THE

DEPARTMENT OF POLLUTION CONTROL

CHAPTER 17-7

RESOURCE RECOVERY AND MANAGEMENT

PART I: SOLID WASTE FACILITIES

- 17-7.01 Declaration of Intent
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17-7.01 Declaration of Intent.

The Florida Department of Pollution Control finds and declares that improper disposal of solid waste on or in the land and use of dumps as a means of final disposal results in or contributes to air pollution, water pollution, and land blight. The Department further finds that regulation of land disposal of solid waste will reduce air pollution, water pollution and the use of the land as an uncontrolled receptacle for improperly treated waste. The Department further finds that properly designed, operated and monitored disposal of solid waste on or in the land enhances the environment.

It is the intent of the Department to require that solid waste disposal be conducted in a manner and under conditions that will eliminate the dangerous and deleterious effects of improper solid waste disposal upon air quality, water quality, soils and human health.

The Department shall plan for and regulate the storage, collection, transport, separation, processing, recycling and disposal of solid waste in order to protect the public safety, health and welfare, to enhance the environment for the people of the state, and to recover resources which have the potential for further use, and to assure that the final irreducible residue disposed on or in the land enhances the environment.

The Department will establish, maintain and promote a cooperative state program of planning and technical assistance for resource recovery and management; require counties and municipalities to plan for and provide efficient, environmentally acceptable resource recovery and management; review design and issue permits for operation of resource recovery and management facilities; promote the application of resource recovery systems which preserve and enhance the quality of air, water and land resources.

Pursuant to Sections 403.061(3),(7) and Sections 403.701 through 403.713, Florida Statutes, the execution and enforcement of any section regarding actual or potential pollution of the air or

waters is under the jurisdiction of the Department of Pollution Control. Chapter 17-7 F.A.C. replaces all applicable sections of Chapter 10 D-12 F.A.C.

General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713 FS. Chapter 74-342. History—New 10-1-74.

17-7.02 Definitions.

The following words, phrases or terms as used in this Chapter, unless the context indicates otherwise, shall have the following meaning:

(1) "Solid Waste" is garbage, rubbish, refuse, or other discarded solid or semi-solid materials resulting from domestic, commercial, industrial, agricultural activities and Governmental operations excluding solids or dissolved material in domestic sewage or other significant pollutants in water resources such as silt, dissolved or suspended solids in industrial waste water effluents, dissolved materials in irrigation return flows or other common water pollutants.

(2) "Resource Recovery" means the process by which materials, excluding those under control of the Atomic Energy Commission, which still have useful physical or chemical properties after serving a specific purpose are reused or recycled for the same or other purposes, including use as an energy source.

(3) "Recycling" means the reuse of solid waste in manufacture, agriculture, power production, or other process.

(4) "Resource Management" means the process by which solid waste is collected, transported, stored, separated, processed, or disposed of in any other way according to an orderly, purposeful, and planned program.

(5) "Resource Recovery and Management Facility" means any solid waste disposal area, volume reduction plant, or other facility the purpose of which is resource recovery or the disposal, recycling, processing, or storage of solid waste.

(6) "Sanitary Landfill" is a disposal facility employing an engineered method of disposing of solid waste on land in a manner which minimizes environmental hazards by spreading the solid wastes in thin layers, compacting the solid wastes to the smallest practical volume, and applying cover material once each working day.

(7) "Dump" is a land disposal site at which solid waste is disposed of in a manner which does not protect the environment and is exposed to the elements, vectors and scavengers.

(8) "Ground Water" is subsurface water in the zone of saturation of the earth's crust. The top of this zone of saturation is commonly defined as the water table.

(9) "Hazardous Wastes" are materials or combinations of materials which require special management techniques because of their acute and/or chronic effects on air and water quality; on fish,

wildlife, or other biota; and on the health and welfare of the public. These materials include, but are not limited to, volatile, chemical, biological, explosive, flammable, radioactive and toxic materials.

(10) "Abandoned Vehicles" are passenger automobiles, trucks, trailers, farm equipment, etc., that have no remaining useful life and are left unattended on public or private property.

(11) "White Goods" are inoperative and discarded refrigerators, ranges, washers, water heaters and other similar domestic and commercial appliances.

(12) "Volume Reduction Plant" includes, but is not limited to, incinerators, pulverizers, compactors, shredding and baling plants, transfer stations, composting plants and other plants which accept and process solid waste for recycling or disposal.

(13) "Cell" is a volume of solid waste compacted on an inclined plane and enclosed by a layer of earth.

(14) "Lift" is a completed horizontal series of cells.

(15) "Daily Cover" is a six (6) inch layer of compacted earth used to enclose a cell once each working day.

(16) "Intermediate Cover" is a layer of compacted earth one foot in depth applied to a partially completed landfill where final cover is not to be applied within one year of cell completion.

(17) "Final Cover" is a layer of compacted earth two feet in depth applied to a completed landfill the top six (6) inches of which is loosely compacted to promote plant growth.

(18) "Leachate" is a liquid that has percolated through solid waste and contains dissolved or suspended materials that may contaminate surface or underground waters used as sources of food, water supplies, recreation, etc.

(19) "Working Face" is that portion of a sanitary landfill where waste is discharged, spread and compacted prior to placement of daily cover.

(20) "Monitoring Wells" are strategically located shallow and deep wells from which water samples are drawn for analysis of possible contaminants and from which direction of ground water flow is determined.

(21) "Infectious Wastes" are those wastes resulting from the operation of medical clinics, hospitals, abattoirs, and other facilities producing waste which may consist of, but are not limited to, human and animal parts, contaminated bandages, pathological specimens, hypodermic needles, contaminated clothing, and surgical gloves.

(22) "Putrescible Wastes" are materials capable of decomposition, causing environmental nuisances and/or obnoxious odors.

(23) "Milled Refuse" is refuse that has been mechanically ground, shredded or pulverized.

General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713 FS. Chapter 74-342. History--Transferred from 10D-12.02, 10-1-74.

17-7.03 Solid Waste Resource Recovery and Management Responsibilities.

(1) All counties, municipalities or other governmental agencies shall be responsible for providing adequate, safe and sanitary resource recovery and management facilities within their

respective jurisdictions. This responsibility may be delegated to a private operator through a franchise or contract.

(2) Garbage storage and collections. Putrescible wastes which are set out for individual collection by a collection service shall be retained in watertight receptacles of impervious material which are provided with tight fitting closures suitable to protect the contents from flies, insects, rats and other animals. Garbage collection shall be made at such intervals and collection equipment shall be of such design as meets the approval of the Department.

(3) All facility operators other than counties, municipalities or other governmental agencies shall post a performance bond or other approved security with the agency within whose jurisdiction the site is located in an amount consistent with the scope of the operation.

(4) The person making application for a resource recovery and management facility permit shall submit to the Department four copies of an engineering plan of the proposed operation prepared by a Professional Engineer registered in the State of Florida. Said Engineer shall be required to make periodic inspections of the facility to insure that design integrity is maintained.

(5) All plans and applications for a permit to construct and operate a sanitary landfill shall be signed by a Professional Engineer registered in the State of Florida in accordance with the provisions of Chapter 471 FS. If the person is acting as a public officer employed by the State, a county or a municipality and where the total estimated cost is less than ten thousand dollars, this requirement may be waived in accordance with Chapter 471.05(4) FS.

(6) The Department, following a review of the facility plans, shall impose such revisions as necessary, including provisos, in connection with the issuance of a permit for construction and/or operation.

The Department may consider minimized requirements for those counties, municipalities and small communities having a very small population of a principally rural nature if the Department determines that no significant threat to environmental quality or public health will result.

(7) Permits. —

(a) After January 1, 1975, no resource recovery and management facility or site shall be operated, maintained, constructed, expanded, or modified without an appropriate and currently valid permit issued by the Department as defined in Chapter 17-4 F.A.C. Provided that no public nuisance or any condition adversely affecting the public health is created and provided that the activity does not violate other state or local laws, ordinances, rules, regulations or orders, no permit under this section shall be required for the following activities:

1. Persons who dispose of solid waste resulting from their own activities on their own property;
2. Normal farming operations.

(b) Existing resource recovery and management facilities which meet the criteria of this rule may be issued an operation permit upon application and approval by the Department.

(c) Temporary operating permits may be issued to existing resource recovery and management facilities upon submission of a compliance schedule to correct deficiencies. An operation permit shall be issued by the Department when the facility meets all criteria.

Failure to correct deficiencies within the compliance schedule will result in formal enforcement procedures.

(8) All persons operating existing facilities on the effective date of this rule shall take necessary corrective actions as expeditiously as possible so as to be in full compliance with these regulations no later than July 1, 1977.

(9) Garbage feeding of hogs or other animals. Feeding of garbage to hogs without first adequately cooking said material in a manner prescribed by the Department of Agriculture and Consumer Services in accordance with provision of Chapter 585.50 FS. is prohibited. A feeding permit shall be obtained from the Department of Agriculture and Consumer Services, and approval granted by the Department of Pollution Control before such feeding commences. After cooking, the garbage shall be fed to hogs on impervious feeding platforms. Platforms and surrounding areas shall be maintained in such a manner as to prevent environmental nuisances.

General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713 FS. Chapter 74-342. History—Transferred from 10D-12.03, 10D-12.04, 10D-12.07, 10-1-74.

17-7.04 Prohibitions.

(1) No solid waste shall be disposed of except by sanitary landfill, incineration, recycling process, or other method approved by the Department and consistent with applicable approved county or municipal programs.

(2) Unless otherwise approved by the Department and/or based on installation of approved control measures, no solid waste shall be disposed of by being placed:

(a) in or within 200 feet of any natural or artificial body of water, except canals used to lower site water tables, or on the watershed of any surface public water supply where leachate or runoff may result in violation of city, county, State or Federal Laws and regulations concerning the pollution of ground or surface waters.

(b) on the banks of a stream known to be hydraulically connected to any aquifer.

(c) in a sink hole or in the immediate area thereof.

(d) in a limestone, or gravel pit.

(e) in an area subject to frequent and periodic flooding unless drainage provisions approved by the Department are installed.

(f) where the water table is less than five (5) feet below normal ground surface, unless otherwise approved by the Department, following installation of permanent control methods.

(g) in an area immediately adjacent to or within the cone of influence of public water supply pumping.

(h) within two hundred (200) feet of any habitation or place of business that is served by a public water supply system or within one thousand (1000) feet of any habitation or place of business that is served by an individual potable shallow water supply well located on the premises.

(i) in any area open to public view from any major thoroughfare without proper screening where it can practically be provided.

(j) on any public highway, road or alley or the right-of-way thereof.

(k) within the boundaries of any airport property whether such airport be for public, private or limited use (FS. 330.30, Florida Administrative Rules 14-60).

(l) within two (2) miles of the closest point of any runway at any airport licensed by the State of Florida or any airport operated by the Federal Government which are or may be used by turbo-jet aircraft; or within one mile of any aircraft runway used only by piston engine type aircraft unless it has been determined by the Federal Aviation Administration that the proposed facility poses no safety hazard to aircraft in the vicinity.

(m) no burning of solid waste shall be permitted at any land disposal site except in accordance with the provisions of Chapter 17-5 F.A.C.

(n) in any other than the above defined areas that in the opinion of the Department would result in damage to the environment.

(3) Hazardous Waste: The land disposal or incineration of hazardous waste which would create a condition harmful to the environment, shall at the owners expense, be rendered safe and sanitary prior to delivery to the disposal facility. Should a hazardous waste be of such a chemical composition that it cannot be rendered innocuous, the producer of such wastes must confer with appropriate authorities or the Department to determine a safe disposal or storage method.

(4) Infectious waste shall be properly incinerated or processed by an alternate method which has been approved by the Department. No raw infectious waste shall be deposited in any sanitary landfill.

(5) Transportation and disposal of solid waste into or through the State, into or across county or municipal boundaries shall not be impeded provided such transport and disposal is in accordance with the provisions of this rule; does not degrade the environment, cause a health hazard or create a physical or aesthetic nuisance.

(6) The construction of buildings, sewage, or gas or water supply mains, parking lots, or paved areas on or through completed portions of sites filled with solid waste is prohibited unless specifically approved by the Department.

(7) These prohibitions do not apply to those persons exempted by 403.707(1) FS.

General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713 FS. History—Transferred from 10D-12.06, 10D-12.07, 10-1-74.

17-7.05 Sanitary Landfill Criteria.

(1) Location Requirements.

(a) Soil Survey

Solid waste shall be disposed of only in areas where an adequate soil survey by a qualified U.S.D.A. Soil Conservation Service or other Soil Scientist has been made using the U.S.D.A. Soil Conservation Service taxonomy. The degree of limitation of the soils found shall be rated in accordance with the U.S.D.A. Soil Conservation Service Guide for Interpreting Engineering Uses of Soils. Such requirement may be waived by the Department only after being advised in writing by the Soil Scientist that the soils are such that a determination of soil series is not possible.

(b) Hydrological Survey

Solid waste shall be disposed of only in areas where an adequate hydrological survey has been made. Where this is not feasible the best available information from Water Management Districts, U.S. Geological Survey, Florida Bureau of Geology or other acceptable sources shall be required.

(c) Site Requirements

The land disposal site location shall:

1. be easily accessible by collection vehicles, automobiles and where applicable, transfer vehicles;
2. safeguard against water pollution originating from the disposal of solid waste;
3. have an adequate quantity of acceptable earth cover available. The cover material should be easily workable, compactable, and should not contain organic matter conducive to the harborage and/or breeding of vectors;
4. conform with the proper zoning.

(2) Operation Plans — The proposed operational plans shall include:

(a) Map or aerial photograph of the area showing land use and zoning within $\frac{1}{4}$ mile of the solid waste disposal site. This photograph shall be of sufficient scale to show all homes, industrial buildings, wells, watercourses, dry runs, rock out-croppings, roads and other significant details.

(b) Plot plan of the site showing dimensions, location of soil borings, proposed trenching plan and original elevation, cover stock piles, and fencing. Cross sections shall be included on the plot plan or on separate sheets showing both the original and proposed fill elevations. The scale of the plot plan should not be greater than 200 feet to the inch.

(c) The design of the sanitary landfill shall include one or more topographic maps at a scale of not over 200 feet to the inch with 5-foot contour intervals. These maps shall show: the proposed fill area; any borrow area; access roads; grades required for proper drainage of each lift and typical cross section of a lift; special drainage devices if necessary; fencing; equipment facilities; and all other pertinent information.

(d) A report shall accompany the plans indicating:

1. population and area to be served by the proposed site.
2. anticipated type, annual quantity and source of solid waste, expressed in cubic yards of compacted materials.
3. anticipated life of the site.
4. geological formations and groundwater elevations to a depth of at least 10 feet below proposed excavations and lowest elevation of the site. Such data shall be obtained by soil borings or other appropriate means.
5. soil map, interpretive guide sheets, and a report giving the suitability of the site for such an operation.
6. source and characteristics of cover material.
7. type and amount of equipment to be provided at the site for excavating, earth moving, spreading, compaction and other needs.
8. persons responsible for actual operation and maintenance of the site and intended operating procedures.

(e) Operational design features. The disposal site shall be provided with operation features and appurtenances necessary to maintain a clean and orderly operation. These minimum features are:

1. operational plans to direct and control the use of the site;

2. the site shall be surrounded by a fence or other suitable barrier;

3. an all-weather access road to the site. A special area with a stabilized roadway shall be provided within the site for wet weather operations.

4. signs indicating name of operating authority, traffic flow, hours of operation, and charges for disposal (if any);

5. scales for weighing solid waste received at the landfill; or, in lieu thereof, estimates of the number of cubic yards received. Quantitative records shall be forwarded to the Department upon request.

6. suitable dust control methods such as approved chemicals, oils, or water sprays;

7. litter control devices; portable fences, or other suitable means.

8. fire protection and fire-fighting facilities adequate to insure the safety of employees and provisions to deal with accidental burning of solid waste within the sanitary landfill;

9. emergency first aid equipment to provide adequate treatment of accidents, especially those associated with hazardous wastes.

(f) Personnel and Facilities. In order to provide proper staffing and suitable facilities the following shall be required at all sites, except where otherwise approved by the Department, in writing, for sites serving less than 5,000 people.

1. A trained equipment operator in full time attendance during operating hours.

2. Employees shall be trained in the proper and safe operation of all equipment and first aid procedures.

3. Communication facilities for use in emergencies.

(g) Equipment. To assure adequate operation the following is required:

1. equipment sufficient for spreading, compacting, and covering operations;

2. sufficient reserve equipment, or arrangements to provide alternate equipment within 24 hours following equipment breakdown;

3. safety devices on equipment to shield and protect the operators from potential hazards during operation;

(h) The Department recommends:

1. A potable water supply.
2. A suitable employee shelter.
3. Handwashing and toilet facilities.
4. Equipment wash-out facilities.
5. Electric service for operations and repairs.
6. Equipment shelter for maintenance and storage of parts, equipment and tools.

(3) Operations.

(a) At the time of design approval or at any time ground water contamination is suspected the Department shall have the option to require the installation of monitoring wells and may specify the number, location, and depth of monitoring wells in addition to the frequency of samples to be taken, and the analyses to be run.

(b) A minimum separation of five (5) feet shall be maintained between putrescible solid waste and anticipated high ground water table. Nonputrescible and insoluble materials such as brick, stone, concrete, and similar materials but not yard clippings, asphalt

or other bituminous materials may be deposited below the anticipated high ground water table if in the determination of the Department such deposition will not result in the pollution of ground water. The Department may at its discretion waive this requirement if it finds adequate controls such as perimeter ditches or well point systems are provided. Exceptions will not normally be granted for areas where the soil is saturated or the capillary fringe reaches the soil surface an average of more than two months per year, seven out of ten years.

(c) Sanitary landfills shall provide for the collection, control and treatment of surface runoff from the site to meet established water quality standards of the receiving waters.

(d) Any leachate emanating from a landfill shall be collected and treated if it is a potential source of water pollution.

(e) The grade of the completed refuse cells and lifts in addition to the final cover shall drain the surface runoff water to prevent uncontrolled ponding. Thus, it is best to slightly overdesign initial grades so that good drainage will be maintained after final settlement.

(f) All completed portions of sanitary landfills which have received final cover and no future vehicular traffic is anticipated shall be planted with grass or acceptable cover vegetation to minimize infiltration, erosion and dust.

(g) All sanitary landfills where gas generated by decomposition of wastes cannot readily be dispersed into the atmosphere shall be provided with a gas control system. This requirement is particularly applicable to all multiple lift sites.

(h) all solid waste shall be spread in layers of approximately two (2) feet in thickness and compacted to approximately one (1) foot in thickness before the next layer is applied.

(i) All solid waste except materials such as abandoned vehicles, white goods and certain hazardous wastes as specified by the Department shall be compacted to form cells which have a vertical depth not to exceed ten (10) feet with working face and side grades at a slope of approximately thirty (30) degrees.

(j) All cells shall receive a compacted cover of six (6) inches of earth once each working day.

(k) The working face of a cell shall be kept as narrow as is consistent with the proper operation of trucks and equipment to minimize exposed areas.

(l) An intermediate cover of one (1) foot of compacted earth in addition to the daily six (6) inch cover shall be applied within seven (7) days of cell completion if final cover is not to be applied within one (1) year of cell completion especially on all sites where multiple lifts are to be constructed.

(m) All completed cells shall receive a final cover of two (2) feet of earth compacted in six (6) inch layers within one (1) year of cell completion with the final six (6) inches loosely compacted to promote plant growth.

(n) The side slopes in addition to the top of all completed sanitary landfills constructed five (5) feet or more above surrounding ground elevation shall have a minimum of three and one half (3½) feet of compacted earth cover (which is the sum of daily, intermediate and final cover). The sides shall have a slope not to exceed one (1) foot vertical to three (3) feet horizontal to minimize erosion.

(o) Pesticides used to control rodents, flies and other insects shall be as specified by the Florida Department of Agriculture and Consumer Services. (Chapter 5 E-2).

(p) Scavengers shall not be permitted at any sanitary landfill site.

(q) Alternate procedures not included in this section shall require Department approval. General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701, through 403.713 FS. Chapter 74-342. History—Transferred from 10D-12.07, 10-1-74.

17-7.06 Special Waste Handling.

(1) Disposal of waste sludges and liquids, including septic tank contents referred to in 17-13.09, shall be with special consideration of air and water pollution and health and safety of landfill employees. Appropriate provisions shall be made for handling these waste materials in a landfill, only where alternate disposal methods are not available and when such disposal does not violate laws and regulations.

(2) If abandoned vehicles are brought to the site, they may be stored temporarily in a separate area, provided arrangements have been made for frequent removal to an automobile shredding, or compacting plant. If such arrangement has not been made all abandoned automobiles, white goods and similar materials shall be compacted before being placed in the fill area to minimize voids.

(3) In the event of natural disasters, in which large accumulations of debris are created—such as trees and buildings that have been destroyed, the debris may be transported to an area remote from habitation, and burned, in accordance with Chapter 17-5.08(1).

(4) Landfilling milled solid waste without daily soil cover can be an environmentally acceptable method of final disposal. The same engineering principles involved in sanitary landfill sites must be employed, including a properly designed, and operated milling facility. The Department will grant approvals contingent upon the following conditions:

(a) Particle size. Seventy percent (70) of all milled refuse, dry weight, shall be capable of passing through a three (3) inch screen.

(b) Waste must be spread to a smooth contour and compacted promptly after placement and left undisturbed to prevent odors. Wind blowing of milled refuse and paper shall be controlled.

(c) Gas entrapment in milled solid waste is minimal, however, addition of cover or possible migration of gases through fissures, etc., requires the same attention to gas control as a sanitary landfill.

(d) All solid waste storage areas in the milling facility must be maintained and cleaned at the end of each day's operations, or during continuous operation, as necessary, to prevent fly, rodent or other vector problems. All milling equipment must be maintained to control spillage and to achieve the required milled product quality.

(e) An operational plan must include provision for removal and proper disposal of wastes within 24 hours should the mill facility break down or operational quality is diminished. The operational plan must include provision for a stock pile of emergency soil cover material and a plan to convert the operation to a sanitary landfill.

(f) Upon completion of the site, it shall be closed, covered with a final one(1) foot thick soil

cover and shall be seeded or planted with grass or suitable cover vegetation to minimize erosion.
General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713 FS. Chapter 74-342. History—Transferred from 10D-12.07, 10-1-74.

17-7.07 Dump Closing.

It shall be required of all persons operating land disposal sites which are dumps, as defined in Section 17.02(7) to eliminate or convert them to sanitary landfills as expeditiously as possible but no later than July 1, 1977. The sites shall be closed in accordance with the following criteria:

- (1) Access to the site shall be restricted by a fence or other appropriate and effective means.
- (2) Information signs shall be placed at the entrance to the site and on roads leading to the site stating that it is closed, the penalty for dumping at the site, the location and hours of operation of the alternate approved site and the name of the operating agency.
- (3) A responsible person shall be assigned to supervise the closing procedures on a full time basis during the closing operations.
- (4) Burning of solid waste shall be prohibited except upon approval by the Department.
- (5) The site shall be closed to incoming solid waste as soon as the alternate site is in operation.
- (6) Steps shall be taken, where potential water pollution exists, to prevent its continuance by diverting surface waters around the site, removing wastes from the water table or by other means approved by the Department.
- (7) Upon completion, the closed site shall be seeded or planted with grass or suitable cover vegetation to minimize erosion.

General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713 FS. Chapter 74-342. History—Transferred from 10D-12.07, 10-1-74.

17-7.08 Supervision and Inspection.

(1) Supervision of the operation shall be the responsibility of a qualified person experienced in the operation of a resource recovery and management facility.

(2) Routine inspections and evaluations of facility operations shall be made by the Department. A notice of deficiencies, with recommendations for their correction, shall be provided to the person responsible for the operation.

(3) Inspection of a completed sanitary landfill shall be made by the Department before the earthmoving equipment is removed from the site. Any corrective work shall be performed before the landfill project is accepted by the Department as completed. Arrangements shall be made for the repair or restoration of the final cover as required for at least two years following completion.

General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713 FS. Chapter 74-342. History—Transferred from 10D-12.07, 10-1-74.

17-7.09 Volume Reduction Plants.

(1) Permits will be required for all volume reduction plants as defined in Section 17-7.02(12).

(2) Volume reduction plants shall be designed and operated to meet all applicable rules of the Department including Chapters 17-2 and 17-3 F.A.C. and shall be reviewed for permitting based on the receipt of comprehensive data on the process and its relative potential as a pollution source.

(3) Recovered resources resulting from such facilities and which may be offered for sale shall comply with applicable regulations of all appropriate State agencies.

(4) Experimental methods and operations will be reviewed by the Department for a permit based on purpose and design effectiveness.

General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713 FS. Chapter 74-342. History—New 10-1-74.

17-7.10 Application for Permit.

STATE OF FLORIDA

DEPARTMENT OF POLLUTION CONTROL.

CONSTRUCT ()
 APPLICATION TO A SOLID WASTE
 OPERATE ()
 RESOURCE RECOVERY AND MANAGEMENT FACILITY

Applicant:
 (Owner or authorized agent)

Street Address:

Mailing Address:
 (If different from above)

(City)

(County)

Location of Site:

(Township, Range, Section, & Lat., Long.)

(Name of Access Road and Crossroad)

Towns and Areas to be Served:

Population Served: _____ Area of Site: _____ Acres

Date Site Ready to Receive Refuse: _____

General Requirements

A permit is required for each Resource Recovery and Management Facility. Separate applications for each permit, four copies each, should be submitted to the Regional Office of the Department of Pollution Control. Complete appropriate sections of the application for the type of facility proposed: sanitary landfill, incinerator, volume reduction plant, etc.

Each application shall be accompanied by an application fee of \$20.00 payable by check drawn in favor of "State of Florida, Department of Pollution Control."

Applicant has the responsibility to provide copies of the application to appropriate city, county and/or regional pollution control agencies, established pursuant to Section 403.182 Florida Statutes. Applicant shall also clear the application through appropriate local planning agencies. Comments from

any of these agencies shall be forwarded with the application to the Department.

Information contained in the application shall conform to requirements of Chapter 17-7 F.A.C. All entries should be typed or printed in ink. If additional space is needed, separate, properly identified sheets of paper may be attached.

All documents submitted to support the application should be on 8.5" x 11" paper.

Processing of the application will begin when the foregoing requirements have been met.

Permit Number _____ Issue Date _____

Review Date _____ Expiration Date _____

(1) Statement by Applicant and Engineer

A. Applicant

The undersigned owner, or authorized representative*, of _____ is aware that statements made in this form and attached exhibits are an application for a _____ Permit from the Florida Department of Pollution Control and certifies that the information in this application is true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403 Florida Statutes and all the rules and regulations of the Department. It is understood that the Permit is not transferable, and, if granted a permit, the Department will be notified prior to the sale or legal transfer of the permitted establishment.

Signature of owner or agent

Name and Title

Date: _____
*Attach letter of authorization

B. Professional Engineer Registered in Florida

This is to certify that the engineering features of this resource recovery and management facility have been designed/examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgement, this facility, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department. It is agreed that the undersigned will provide the applicant with a set of instructions for proper maintenance and operation of the facility.

Signature: _____ Mailing Address: _____

Name: _____ Telephone No.: _____

(please type) _____ Date: _____
Florida Registration Number _____
(please affix seal)

(2) Sanitary landfill including milled refuse disposal sites requirements. Required Attachments
(Submit in the order listed)

1. Maps

- A. A location map drawn to a scale of one inch equals one half mile showing the contours and elevation of the area surrounding the site.
- B. A topographic map of the site drawn to a scale not to exceed one inch equals two hundred feet showing existing and final grades.

2. Drawings which shall include:

- A. Property lines
- B. Land use including existing habitations; other structures; public roads and highways; shallow and deep wells; trees; etc.
- C. Area and depth of the proposed fill
- D. All borrow areas
- E. Location and elevation of surface and highest ground waters
- F. A wind rose to show prevailing winds
- G. Special provisions for surface and subsurface drainage and erosion control

- H. Leachate treatment and control provisions
- I. Necessary provisions for gas control
- J. Method of operation and completion
- K. Cross sections showing typical lifts not to exceed ten feet compacted depth of refuse
- L. The necessary grade for proper drainage of each lift and the final grade of the completed operation
- M. Locations of stockpiled cover material
- N. Access routes, approach roads and on-site roads
- O. Fencing, direction and information signs
- P. Weighing facilities, locker room; toilet and shower facilities; equipment shelter, and wash-out facilities
- Q. Locations of existing and proposed utilities
- R. Fire Control and potable water supply locations

3. Hydrogeological Report which shall include:

- A. Thickness and character of the overburden (soil)
- B. Character of bedrock
- C. Depth of the water table and potentiometric surfaces
- D. Depth to the shallow ground water aquifer and artesian aquifer
- E. Local and regional ground water flow systems
- F. Chemical quality of surface and ground water. (See Page 24 - A Handbook for Sanitary Landfills in Florida for list of substances to be tested for.)
- G. Frequency and extent of flooding of the area.
- H. Nature and volume of the waste materials to be buried

4. Soils Survey which shall include

- A. Depth to seasonal high watertable
- B. Soil Series
- C. Soil Drainage Class
- D. Flooding
- E. Permeability
- F. Slope
- G. Soil Texture (dominant to depth of 60")
- H. Depth to bedrock
- I. Stoniness Class
- J. Rockiness Class

5. Equipment - Discuss

- A. Present - types, sizes, numbers
- B. Proposed - types, sizes, numbers

6. Discuss projected amount of waste to be handled including basis for projection.

7. Operating procedures - explain methods of

- A. Controlling the length and width of the working face
- B. Disposing of large items, special industrial, and hazardous wastes
- C. Confining papers to the site
- D. Waste handling in the wake of a natural disaster
- E. Emergency provisions for insect and rodent control
- F. Providing adequate site supervision
- G. Controlling unauthorized fires
- H. Maintaining an all weather access road
- I. Posting operating hours, fee schedule, waste restrictions, the name, address and phone number of the operating agent
- J. Locating signs to direct traffic

8. Land Disposal Data Form

NOTE: Additional information may be required as determined by the Department.

(3) Land Disposal Site Data Form

LAND DISPOSAL SITE DATA FORM
(Fill in and check blocks as appropriate.)

DELETE
ADD
CHANGE
INACTIVE

CONTROL NO. _____

1. COUNTY		2. SITE		3. DATE	
4. STREET ADDRESS					
5. LOCATION UTM		TOWNSHIP		RANGE SECTION	
6. RESPONSIBLE OPERATING AUTHORITY					
7. OWNERSHIP			8. ADDRESS		
9. PHONE NO.			10. POPULATION SERVED		
11. NO. OF ACRES		12. METHOD OF OPERATION		(a) TRENCH ☐ (c) WETLAND ☐ (e) DUMP ☐ (b) AREA ☐ (d) HIGH-RISE ☐ (f) OTHER ☐	
13. TOPOGRAPHY		(a) QUARRY ☐ (c) STRIPMINE ☐ (e) GULLY ☐ (g) MARSH ☐ (b) BORROW PIT ☐ (d) HILLSIDE ☐ (f) LEVEL AREA ☐		14. SCALES YES ☐ NO ☐	
15. SURROUNDING LAND-USE		(a) RESIDENTIAL ☐ (c) AGRICULTURAL ☐ (e) VACANT ☐ (b) COMMERCIAL ☐ (d) INDUSTRIAL ☐			
16. ZONING		(a) RESIDENTIAL ☐ (c) AGRICULTURAL ☐ (e) VACANT ☐ (b) COMMERCIAL ☐ (d) INDUSTRIAL ☐		17. YEAR BEGUN	
18. PLANNED FINAL USE		(a) PARK ☐ (c) BUILDING CONSTRUCTION ☐ (e) NONE ☐ (b) PARKING LOT ☐ (d) AIRPORT ☐ (f) OTHER ☐			
19. TYPES OF WASTE RECEIVED		(a) RESIDENTIAL ☐ (e) SEPTIC TANK PUMPINGS ☐ (i) HAZARDOUS, CLINT- ☐ (b) COMMERCIAL ☐ (f) SEWAGE SLUDGE ☐ (j) CAL, HOSPITAL ☐ (c) INDUSTRIAL ☐ (g) INCINERATOR RESIDUE ☐ (j) WATER TREATMENT, ☐ (d) AGRICULTURAL ☐ (h) DEAD ANIMALS ☐ SLUDGE ☐		20. BURNING YES ☐ NO ☐	
21. DAYS OPEN FOR DISPOSAL		S M T W T F S		22. FREQUENCY OF COVER NONE ☐ S M T W T F S	
23. DEPTH OF WATER TABLE		24. SOIL PERMEABILITY			
25. NO. OF WELLS WITHIN ONE MILE		SHALLOW DEEP		26. FLOODING (a) NONE ☐ (c) OCCASIONAL ☐ (b) RARE ☐ (d) FREQUENT ☐	
27. NO. OF ROADWAYS ADJACENT TO SITE		28. SLOPE OF SITE			
29. NO. OF RESIDENCES OR BUSINESSES WITHIN 1000 FEET		30. SOIL SERIES			
31. SOIL TEXTURE		(a) SAND ☐ (c) LOAMY-SAND ☐ (e) SANDY CLAY LOAM ☐ (b) SANDY-LOAM ☐ (d) SANDY CLAY ☐ (f) CLAY ☐		32. YES ☐ NO ☐	
33. MONITORING WELLS		34. POTENTIAL WATER POLLUTION		(a) IMMEDIATE ☐ (c) LOW ☐ (b) HIGH ☐	
35. DUMPING IN WATER		36. PERIMETER DITCH		37. LINER YES ☐ NO ☐	
38. LINER TYPE		(a) PLASTIC ☐ (c) BENTONITE ☐ (e) OTHER ☐ (b) ASPHALT ☐ (d) CLAY ☐ (f) NONE ☐		39. WELL POINT SYSTEM YES ☐ NO ☐	
40. OXIDATION POND		41. POND AREA		42. DEPTH OF SOILS TO BEDROCK	
43. EVIDENCE OF LEACHING		44. FINAL LEACHATE TREATMENT NEEDED		YES ☐ NO ☐	
45. FINAL TREATMENT		(a) CHLORINATION ☐ (c) OZONATION ☐ (e) OTHER ☐ (b) AERATION ☐ (d) ADVANCED ☐ (f) NONE ☐		46. RODENT PROBLEM YES ☐ NO ☐	
47. DISCHARGE		(a) CANAL ☐ (c) STREAM ☐ (e) OTHER ☐ (b) DITCH ☐ (d) LAKE ☐ (f) MARSH ☐		48. RODENT CONTROL YES ☐ NO ☐	
49. CELL DEPTH OF REFUSE		50. INSECT PROBLEM		51. INSECT CONTROL YES ☐ NO ☐	
52. BLOWING PAPER CONTROL		YES ☐ NO ☐		53. FULL TIME ATTENDANT YES ☐ NO ☐	
54. ALL WEATHER ACCESS ROAD		YES ☐ NO ☐		55. GAS CONTROL YES ☐ NO ☐	
56. SPREADING OF REFUSE IN 2 FT. LAYERS		YES ☐ NO ☐			
57. ONE (1) FT. INTERMEDIATE COVER APPLIED WITHIN ONE (1) WEEK CELL COMPLETION		YES ☐ NO ☐			
58. TWO (2) FT. FINAL COVER APPLIED WITHIN ONE (1) YEAR CELL COMPLETION		YES ☐ NO ☐			
59. EQUIPMENT AVAILABLE DAILY		(a) CRAWLER TRACTOR ☐ (c) HYDRAULIC BACK HOE ☐ (e) PAN SCRAPER ☐ (g) BRUSH HOG ☐ (b) RUBBER TIRE TRACTOR ☐ (d) LANDFILL COMPACTOR ☐ (f) DRAGLINE ☐ (h) TRASH PUMPS ☐			
60. PROPOSED COST OF OPERATION		\$/CU. YD.			
61. NAME OF PERSON COMPLETING FORM					
62. REVIEW DATE		63. PERMIT NO.		64. ISSUE DATE	
				65. EXPIRATION DATE	

STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL
INSTRUCTIONS FOR THE
"LAND DISPOSAL SITE DATA FORM"

The purpose of these instructions is to provide information to those filling out the "Land Disposal Site Data Form" so that the data is complete and it can be processed in Tallahassee without delay. This form is designed for computerization so as to enable the Department to have instant access to information on all registered land disposal sites operated in the State of Florida. This data form must be completed by the applicant as follows:

The control number and the delete, add, change and inactive block are for the Department's use only.

1. County — This is self-explanatory.
2. Site — The name of the land disposal site — not to exceed 30 spaces. Abbreviate if necessary.
3. Date — The date of this report shall be expressed as the month, day, year, in numbers, (i.e., 1-1-73).
4. Address — The actual address of the land disposal site or the route by which access to the site is made, not to exceed 70 spaces.
5. Location — The location of the disposal site in both UTM Co-ordinates and the township, range and section.
6. Responsible Operating Authority — The authority responsible for the operation of the disposal site. Abbreviate where necessary so as to not exceed 40 spaces.
7. Ownership — The agency or individual who owns or leases this particular site. Abbreviate if necessary, so as not to exceed 30 spaces.
8. Address — The mailing address of the agency shown in Item 7. Abbreviate if necessary so as not to exceed 30 spaces.
9. Phone Number — The phone number of the agency shown in Item 7.
10. Population Served — The population which this disposal site is estimated to serve.
11. Number of Acres — The total number of acres of land purchased or leased for the operation of this site.
12. Method of Operation — More than one item may be checked.
13. Topography — The topography of the area in which the site is located. Check one only.
14. Scales — Check whether scales are available at the site to determine the weight of the waste received.
15. Surrounding Land-Use — Check as many blocks as are appropriate to give the predominant land use within the immediate area of the site. If there is no specific surrounding land use then (e) Vacant would be checked.
16. Zoning — Check if the site is located in an area which is zoned. If there is no zoning in the area, then (e) Vacant shall be checked.
17. Year Begun — Year in which the operation of this site is to be begun or was begun.
18. Planned Final Use — Check if there is a planned final use which is listed; however, if there is no final use established for the site, check (e) None; or if the final use is not listed, then check (f) Other. Check only one.
19. Types of Waste Received — Check all types of waste received at this site.
20. Burning — Chapter 17-5 prohibits open burning; however, check to denote whether new sites plan to use air curtain incinerators to handle land clearing waste.
21. Days Open for Disposal — Circle the days on which the site is open for disposal.
22. Frequency of Cover — Circle the days on which the site receives a 6" cover of compacted earth. If the site receives cover at intervals less frequently than once per week, then check none.
23. Depth of Water Table — Indicate the depth to the seasonal high shallow ground water aquifer in feet.
24. Soil Permeability — Indicate the rate at which water will percolate through the soil in terms of inches per hour.
25. Number of Wells Within One Mile — Indicate the number of private water supply wells within one mile of the site to the left of the word — Shallow. Indicate the number of public water supply wells or deep wells within one mile of the site to the left of the word — Deep.
26. Flooding — Periods when the water-table rises above the surface — If two per/yr. or greater, check (d) Frequent. If one per/yr., check (c) Occasional. If less than once in (2) two years, check (b) Rare.
27. Number of Roadways Adjacent to Site —
28. Slope of Site — Indicate the general slope of the site area expressed as a percentage.
29. Number of Residences or Businesses Within 1000 Feet
30. Soil Series — Indicate the predominant soil series at the site to a depth of at least 60". This information may be obtained from the required soils survey.
31. Soil Texture — Check the one which best describes the general soil texture at the site.
32. Fenced — This refers to permanent fencing surrounding the site.
33. Monitoring Wells — Check to indicate whether test wells exist to monitor any degradation of groundwater quality.
34. Potential Water Pollution — This should be evaluated on the basis of the relationship between the bottom of the landfill and the water table; the types of underlying soils; the type and amount of material used for cover; and types of materials being disposed of at the site.
35. Dumping In Water — This is self-explanatory.
36. Perimeter Ditch — This indicates the existence of a suitable ditch surrounding the site for the interception of surface and subsurface waters which would normally flow through or from the site; the collection of leachate, and runoff, and the transmission of these liquids to receiving waters or to a treatment pond.
37. Liner — Indicate whether an impervious material is being placed on undisturbed earth on which solid waste is deposited to retard the movement of leachate into the shallow groundwater aquifer.
38. Liner Type — Check one of the materials listed which is being used for a liner.
39. Well Point System — Indicate whether there is a well point system used to lower the water table in the immediate area of the landfill.
40. Oxidation Pond — Check whether or not there exists a pond to receive liquids collected in the perimeter ditch and/or leachate collection system to oxidize or, otherwise treat these liquids and remove settleable solids.
41. Pond Area — Indicate area in acres.
42. Depth of Soils to Bedrock — Indicate the measured depth of soil in feet between the surface and bedrock. This information may be obtained from the required geological survey.
43. Evidence of Leaching — Leaching often manifests itself in the form of springs of dark liquid coming from the sides of land disposal sites or through the contamination of nearby shallow water wells. On new sites, this has to be a judgement evaluation based on designs under similar conditions.
44. Final Treatment Needed — Indicate whether liquids collected from existing or proposed sites will need final treatment prior to discharge.
45. Final Treatment — If final treatment is indicated in Item 44, then check this item to enable the Department to determine if the proper type of treatment is to be provided. It may be either a single type or a combination of methods; however, if a single method is to be used other than those listed, then check (e) Other. If it is a combination of (a) (b) or (c), in addition to spray irrigation, then check (d) Advanced.
46. Rodent Problem — Indicate whether a proposed or an existing site has or will have a need for rodent control measures.
47. Discharge — Check the receiving waters into which the collected liquids from the perimeter ditch or oxidation pond are discharged. Do not check more than one.
48. Rodent Control — This is to be used in conjunction with Item 46 to indicate whether rodent control is being adequately provided.
49. Cell Depth of Refuse — Vertical depth in feet of refuse between the base and the top surface of compacted refuse before cover material is added.
50. Insect Problem — The same basis as Item 46.
51. Insect Control — The same basis as Item 48.
52. Blowing Paper Control — Indicate control if the site is policed daily and a portable snowfence or other measure is used to help control blowing papers.
53. Full Time Attendant — This is self-explanatory.
54. All Weather Access Road — This is self-explanatory.
55. Gas Control — Are special relief devices provided to

- collect and disperse methane and other gases?
56. Spreading of Refuse in 2 Feet Layers — When constructing a refuse cell in a sanitary landfill, the refuse should be spread in two foot layers and compacted to a thickness of one foot in order to achieve maximum compaction.
 57. One Foot Intermediate Cover Applied Within One Week of Cell Completion — This is self-explanatory.
 58. Two Foot Final Cover Applied Within One Year of Cell Completion — This is self-explanatory.
 59. Equipment Available Daily — The types of equipment available daily for sanitary landfill operation. Check as many as are applicable.
 60. Proposed Cost of Operation — This should be an estimate of the cost of operation at an existing site or projected cost of operation at a proposed site.
 61. Name of Person Completing Form — This is self-explanatory.

Items 62, 63, 64, and 65 are for Department use only.

(4) Volume Reduction Plant Requirements. These pertain to incinerators, pulverizers, compactors, shredding and baling plants, transfer stations, composting plants and other plants which accept and process solid waste for recycling or disposal.

1. Maps

(a) Location map drawn to a scale of one inch equals one half mile, showing general geographic features of the area surrounding the site.

(b) Topographic map of the site drawn to a scale of one inch equals 200 feet, showing existing and final contours.

2. Drawings, to include:

(a) Property lines, site dimensions.

(b) Land use, including habitations and other structures, roads, wells, vegetation, etc.

(c) Equipment used in the operation with equipment components shown in sufficient detail to indicate method of operations.

(d) Process flow, materials handling and storage.

(e) Location of existing and proposed utilities.

(f) Access routes, approach roads and on-site roads.

3. Process description to show:

(a) Method of operation.

(b) Type and volume of materials processed.

(c) Population and area served.

(d) Employee facilities.

(e) Provisions for disposal of residual waste after processing.

(f) Type of materials recovered and disposition of same.

(g) Process water and treatment after use.

(h) Auxiliary fuel.

(i) Schedule of operations.

(j) Site management.

(k) General maintenance procedures.

4. Emergency procedures

(a) Alternate waste handling procedures in the event of equipment breakdown, natural disasters.

(b) Corrective or alternate procedures in the event of diminished operational quality.

General Authority 403.061 FS. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713 FS. Chapter 74-342. History—New 10-1-74.

(5) Volume Reduction Plant Data

VOLUME REDUCTION PLANT DATA			
Control No. _____		(Dept. Use)	
1. County	2. Site Name	3. Date	
4. Street Address			
5. Location, UTM or Lat. & Long.		Township	Range Section
6. Operating Authority			
7. Owner		8. Address	
9. Phone No.		10. Population Served	
11. Adjacent Land Use		(a) Residential _____ (c) Agricultural _____ (e) Other _____ (b) Commercial _____ (d) Industrial _____	
12. Operations Hours/Day		13. Days Operated S M T W T F S	
14. Type of Operation		(a) Incineration _____ (d) Shredding _____ (g) Pyrolysis _____ (b) Baling _____ (e) Composting _____ (h) Other _____ (c) Compacting _____ (f) Transfer Stn. _____	
15. Waste Received Tons/Day		or Cu. Yds./Day	
RESOURCE OR ENERGY RECOVERY FACILITY			
16. Material Recovered, Tons/Week			
(a) Paper _____		(e) Glass _____	
(b) Ferrous Metals _____		(f) Non-Ferrous Metals _____	
(c) Aluminum _____		(g) Rubber _____	
(d) Plastics _____		(h) Other _____	
17. Energy Recovery			
(a) Hi-Pressure Steam Lbs./Hr. _____		(e) Gas, Cubic Ft./Hr. _____	
(b) Low-Pressure Steam Lbs./Hr. _____		(f) Gas, BTU/Hr. _____	
(c) Electricity KW/Hr. _____		(g) Oil, Gal/Hr. _____	
(d) Chilled Water Gal/Hr. _____		(h) Oil, BTU/Hr. _____	
		(i) Other Quantity _____	
18. Process Water		19. Final Residue	
(a) Discharged To _____		(a) % of Waste Received _____	
(b) Treatment _____		(b) Disposal To _____	
(c) Recycled _____			
20. Supplementary Fuel		21. Estimated Operating Cost	
(a) Type _____		(a) Total/Waste Ton \$ _____	
(b) Quantity/Hr. _____		(b) Material Salvage Value \$ _____	
		(c) Net Operating Cost \$ _____	

17-7.11 Permit Forms.

(1) Temporary operation permit

STATE OF FLORIDA

DEPARTMENT OF POLLUTION CONTROL

TEMPORARY OPERATION PERMIT

FOR A SOLID WASTE RESOURCE RECOVERY
AND MANAGEMENT FACILITY

Permit no. _____ Date _____

Pursuant to the provisions of section 403.061(16) and 403.707 of Chapter 403 Florida Statutes and Chapters 17-4 and 17-7 Florida Administrative Code. This permit is issued to:

For the operation of the following:

Located at: _____

In accordance with the application dated _____

and in conformity with the statements and supporting data entered therein, all of which are filed with the department and are considered apart of this permit.

This permit shall be effective from the date of issue until _____

or until revoked or surrendered and shall be subject to all laws of the state and the rules and regulations of the department.

REGIONAL ENGINEER_____
PETER P. BALJET
EXECUTIVE DIRECTOR

(2) Construction Permit.

STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL
CONSTRUCTION PERMIT

FOR A SOLID WASTE RESOURCE RECOVERY
AND MANAGEMENT FACILITY

Permit no. _____ Date _____

Pursuant to the provisions of section 403.061(16) and 403.707 of Chapter 403 Florida Statutes and Chapters 17-4 and 17-7 Florida Administrative Code. This permit is issued to:

For the operation of the following:

Located at: _____

In accordance with the application dated _____
and in conformity with the statements and supporting data entered therein, all of which are
filed with the department and are considered apart of this permit.

This permit shall be effective from the date of issue until _____
or until revoked or surrendered and shall be subject to all laws of the state and the rules
and regulations of the department.

REGIONAL ENGINEER_____
PETER P. SALJET
EXECUTIVE DIRECTOR

(3) Operation Permit.

STATE OF FLORIDA
DEPARTMENT OF POLLUTION CONTROL
OPERATION PERMIT

**FOR A SOLID WASTE RESOURCE RECOVERY
AND MANAGEMENT FACILITY**

Permit no. _____ Date _____

Pursuant to the provisions of section 403.061(16) and 403.707 of Chapter 403 Florida Statutes and Chapters 17-4 and 17-7 Florida Administrative Code. This permit is issued to:

For the operation of the following:

Located at: _____

In accordance with the application dated _____
and in conformity with the statements and supporting data entered therein, all of which are
filed with the department and are considered apart of this permit.

This permit shall be effective from the date of issue until _____

or until revoked or surrendered and shall be subject to all laws of the state and the rules
and regulations of the department.

REGIONAL ENGINEER_____
PETER P. BALJET
EXECUTIVE DIRECTOR

Resource Recovery and Management
Part I: Solid Waste Facilities,
Chapter 17-7, F.A.C.
Department of Pollution Control
Effective ~11/16/1976

RULES

OF THE

DEPARTMENT OF POLLUTION CONTROL

CHAPTER 17-7

RESOURCE RECOVERY AND MANAGEMENT
PART I: SOLID WASTE FACILITIES

17-7.01 Declaration of Intent

17-7.02 Definitions

17-7.03 Resource and Recovery

17-7.04 Prohibitions

17-7.05 Sanitary Landfill Criteria

(1) Location Requirements

(2) Operations Plans

(3) Operations - (a) General

17-7.06 Special Waste Handling

17-7.07 Dump Closing and Conversion

17-7.08 Supervision and Inspection

17-7.09 Volume Reduction Plants

17-7.10 Applications for Permit

17-7.11 Permit Forms

Part II: State Resource Recovery and Management

17-7.20 Declaration and Intent

17-7.21 Definitions

17-7.22 State Agency Responsibilities

17-7.23 Guidelines for Resource Recovery

Management Programs

17-7.24 Resource Recovery Area Designations

17-7.25 Local Agency Responsibility

17-7.26 Local Agency Submittal

17-7.27 Extension Procedures

17-7.28 Permitting

17-7.29 Amendment to an Approved Program

17-7.30 Approval of Local or Regional Resource

Recovery and Management Programs

17-7.31 Declaration and Intent

The Florida Department of Pollution Control

finds and declares that improper disposal of solid

waste on or in the land and use of dumps as a means

of final disposal results in or contributes to air

pollution, water pollution, and land blight. The

Department further finds that regulation of land

disposal of solid waste will reduce air pollution, water

pollution and the use of the land as an uncontrolled

recyclable for improperly treated waste. The

Department further finds that properly designed,

operated and monitored disposal of solid waste on or

in the land enhances the environment.

It is the intent of the Department to require

that solid waste disposal be conducted in a manner

and under conditions that will eliminate the

dangerous and deleterious effects of improper solid

waste disposal upon air quality, water quality, soils

and human health.

The Department shall plan for and regulate the

storage, collection, transport, separation, processing,

recycling and disposal of solid waste in order to

protect the public safety, health and welfare, to

enhance the environment for the people of the state,

and to recover resources which have the potential for

further use, and to assure that the final irreducible

residue disposed on or in the land enhances the

environment.

In thin layers, compacting the solid wastes to the smallest practical volume, and applying cover material once each working day.

(7) "Dump" is a land disposal site at which solid waste is deposited in a manner which does not protect the environment and is exposed to the elements, vectors and scavengers.

(8) "Ground Water" is subsurface water in the zone of saturation of the earth's crust. The top of this zone of saturation is commonly defined as the water table.

(9) "Hazardous Wastes" are materials or combinations of materials which require special management techniques because of their acute and/or chronic effects on air and water quality; on fish, wildlife, or other biota; and on the health and welfare of the public. These materials include, but are not limited to, volatile, chemical, biological, explosive, flammable, radioactive and toxic materials.

(10) "Abandoned Vehicle" is a passenger automobile, trucks, trailers, farm equipment, etc., that have no remaining useful life and are left unattended on public or private property.

(11) "White Goods" are inoperative and discarded refrigerators, ranges, washers, water heaters and other similar domestic and commercial appliances.

(12) "Volume Reduction Plant" includes, but is not limited to, incinerators, pulverizers, compactors, shredding and baling plants, transfer stations, composting plants and other plants which accept and process solid waste for recycling or disposal.

(13) "Cell" is a volume of solid waste compacted on an inclined plane and enclosed by a layer of earth.

(14) "Lift" is a completed horizontal series of cells.

(15) "Daily Cover" is a six (6) inch layer of compacted earth used to enclose a cell once each working day.

(16) "Intermediate Cover" is a layer of compacted earth one foot in depth applied to a partially completed landfill where final cover is not to be applied within one year of cell completion.

(17) "Final Cover" is a layer of compacted earth two feet in depth applied to a completed landfill the top six (6) inches of which is loosely compacted to promote plant growth.

(18) "Leachate" is a liquid that has percolated through solid waste and contains dissolved or suspended materials that may contaminate surface or underground waters used as sources of food, water supplies, recreation, etc.

(19) "Working Face" is that portion of a sanitary landfill where waste is discharged, spread and compacted prior to placement of daily cover.

(20) "Monitoring Wells" are strategically located shallow and deep wells from which water samples are drawn for analysis of possible contaminants and from which direction of ground water flow is determined.

(21) "Infectious Wastes" are those wastes resulting from the operation of medical clinics, hospitals, abattoirs, and other facilities producing waste which may consist of, but are not limited to, human and animal parts, contaminated bandages, pathological specimens, hypodermic needles, contaminated clothing, and surgical gloves.

(22) "Putrescible Wastes" are materials capable of decomposition, causing environmental nuisances and/or obnoxious odors.

(23) "Milled Refuse" is refuse that has been mechanically ground, shredded or pulverized.

(24) "Yard Trash" is vegetative matter resulting from landscaping maintenance such as tree and shrub trimmings, grass clippings and palm fronds.

(25) "Composting" means a controlled process of degrading organic matter by micro-organisms resulting in a humus material which is useful as a soil conditioner.

(26) "Composting Facility" means a facility where organic matter is processed by natural or mechanical means to aid the microbial decomposition of the organic matter. Processing may include simply exposure resulting in natural decay or physically turning, windrowing, aerating or other mechanical reduction of the organic matter.

Specific Authority: F.S. 403.001, 403.002, 403.003, 403.004, 403.005, 403.006, 403.007, 403.008, 403.009, 403.010, 403.011, 403.012, 403.013, 403.014, 403.015, 403.016, 403.017, 403.018, 403.019, 403.020, 403.021, 403.022, 403.023, 403.024, 403.025, 403.026, 403.027, 403.028, 403.029, 403.030, 403.031, 403.032, 403.033, 403.034, 403.035, 403.036, 403.037, 403.038, 403.039, 403.040, 403.041, 403.042, 403.043, 403.044, 403.045, 403.046, 403.047, 403.048, 403.049, 403.050, 403.051, 403.052, 403.053, 403.054, 403.055, 403.056, 403.057, 403.058, 403.059, 403.060, 403.061, 403.062, 403.063, 403.064, 403.065, 403.066, 403.067, 403.068, 403.069, 403.070, 403.071, 403.072, 403.073, 403.074, 403.075, 403.076, 403.077, 403.078, 403.079, 403.080, 403.081, 403.082, 403.083, 403.084, 403.085, 403.086, 403.087, 403.088, 403.089, 403.090, 403.091, 403.092, 403.093, 403.094, 403.095, 403.096, 403.097, 403.098, 403.099, 403.100, 403.101, 403.102, 403.103, 403.104, 403.105, 403.106, 403.107, 403.108, 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403.886, 403.887, 403.888, 403.889, 403.890, 403.891, 403.892, 403.893, 403.894, 403.895, 403.896, 403.897, 403.898, 403.899, 4

The Department may consider minimized requirements for those counties, municipalities and small communities having a very small population of a principally rural nature if the Department determines that no significant threat to environmental quality or public health will result.

(7) Permit. —

(a) After January 1, 1975, no resource recovery and management facility or site shall be operated, maintained, constructed, expanded, or modified without an appropriate and currently valid permit issued by the Department as defined in Chapter 17-4 F.A.C. Provided that no public health or any condition adversely affecting the public health is created and provided that the activity does not violate other state or local laws, ordinances, rules, regulations or orders, no permit under this section shall be required for the following activities:

1. Persons who dispose of solid waste resulting from their own activities on their own property;

2. Normal farming operations;

(b) Existing resource recovery and management facilities which meet the criteria of this rule may be issued an operation permit upon application and approval by the Department.

(c) Temporary operating permits may be issued to existing resource recovery and management facilities upon submission of a compliance schedule to correct deficiencies. An operation permit shall be issued by the Department when the facility meets all criteria.

Failure to correct deficiencies within the compliance schedule will result in formal enforcement proceedings.

(d) All persons operating existing facilities on the effective date of this rule shall take necessary corrective actions as expeditiously as possible so as to be in full compliance with these regulations no later than July 1, 1977.

(9) Garbage feeding of hogs or other animals. Feeding of garbage to hogs without first adequately cooking said material in a manner prescribed by the Department of Agriculture and Consumer Services in accordance with provision of Chapter 585.50 F.S. is prohibited. A feeding permit shall be obtained from the Department of Agriculture and Consumer Services, and approval granted by the Department of Pollution Control before such feeding commences. After cooking, the garbage shall be fed to hogs on impervious feeding platforms. Platforms and surrounding areas shall be maintained in such a manner as to prevent environmental nuisances.

(10) No solid waste shall be disposed of except by sanitary landfill, incineration, recycling process or other method approved by the Department and consistent with applicable approved county or municipal programs.

(2) Unless otherwise approved by the Department and/or based on installation of approved control measures, no solid waste shall be disposed of by being placed:

(a) in or within 200 feet of any natural or

municipal boundaries shall not be impeded provided such transport and disposal is in accordance with the provisions of this rule; does not degrade the environment, cause a health hazard or create a physical or aesthetic nuisance.

(6) The construction of buildings, sewage, or gas or water supply mains, parking lots, or paved areas on or through completed portions of sites filled with solid waste is prohibited unless specifically approved by the Department.

(7) These prohibitions do not apply to those persons exempted by 403.70(1) F.S. Specific Authority 403.061 F.S. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713 F.S. History—Transferred from 10B-12.08, 10B-13.01, 10B-13.02.

17-7.05 Sanitary Landfill Criteria

17-7.05.01 Location Requirements

(a) Soil Survey

Solid waste shall be disposed of only in areas where an adequate soil survey by a qualified U.S.D.A. Soil Conservation Service or other Soil Scientist has been made using the U.S.D.A. Soil Conservation Service taxonomy. The degree of limitation of the soils found shall be stated in accordance with the U.S.D.A. Soil Conservation Service Guide for Interpreting Engineering Uses of Soils. Such requirement may be waived by the Department only after being advised in writing by the Soil Scientist that the soils are such that a determination of soil series is not possible.

(b) Hydrological Survey

Solid waste shall be disposed of only in areas where an adequate hydrological survey has been made. Where this is not feasible the best available information from Water Management District, U.S. Geological Survey, Florida Bureau of Geology or other acceptable sources shall be required.

(c) Site Requirements

The land disposal site location shall:

1. be easily accessible by collection vehicles, automobiles and where applicable, transfer vehicles;
2. safeguard against water pollution originating from the disposal of solid waste;
3. have an adequate quantity of acceptable earth cover available. The cover material should be easily workable, compactable, and should not contain organic matter conducive to the harborage and/or breeding of vectors;
4. conform with the proper zoning.

(3) Operation Plans — The proposed operational plans shall include:

(a) Map or aerial photograph of the area showing land use and zoning within 1/4 mile of the solid waste disposal site. This photograph shall be of sufficient scale to show all homes, industrial buildings, wells, watercourses, dry runs, rock outcroppings, roads and other significant details.

(b) Plot plan of the site showing dimensions, location of soil borings, proposed trenching plan and original elevation, cover stock piles, and fencing. Cross sections shall be included on the plot plan or on separate sheets showing both the original and proposed fill elevations. The scale of the plot plan should not be greater than 200 feet to the inch.

(c) The design of the sanitary landfill shall include one or more topographic maps at a scale of not over 200 feet to the inch with 5-foot contour intervals. These maps shall show: the proposed fill

area; any borrow area; access roads; grades required for proper drainage of each lift and typical cross section of a lift; special drainage devices if necessary; fencing; equipment facilities; and all other pertinent information.

(d) A report shall accompany the plans indicating:

1. population and area to be served by the proposed site;
2. anticipated type, annual quantity and source of solid waste, expressed in cubic yards of compacted materials;
3. anticipated life of the site;
4. geological formations and groundwater elevations to a depth of at least 10 feet below proposed excavations and lowest elevation of the site. Such data shall be obtained by soil borings or other appropriate means;
5. soil map, interpretive guide sheets, and a report giving the suitability of the site for such an operation;
6. source and characteristics of cover material;
7. type and amount of equipment to be provided at the site for excavating, earth moving, spreading, compaction and other needs;
8. persons responsible for actual operation and maintenance of the site and intended operating procedures;
- (e) Operational design features. The disposal site shall be provided with operation features and appliances necessary to maintain a clean and orderly operation. These minimum features are:

1. operational plans to direct and control the use of the site;
2. the site shall be surrounded by a fence or other suitable barrier;
3. an all-weather access road to the site. A special area with a stabilized roadway shall be provided within the site for wet weather operations.
4. signs indicating name of operating authority, traffic flow, hours of operation, and charges for disposal (if any);
5. scales for weighing solid waste received at the landfill; or, in lieu thereof, estimates of the number of cubic yards received. Quantitative records shall be forwarded to the Department upon request;
6. suitable dust control methods such as approved chemicals, oils, or water sprays;
7. litter control devices, portable fences, or other suitable means;
8. fire protection and fire fighting facilities adequate to insure the safety of employees and provisions to deal with accidental burning of solid waste within the sanitary landfill.

9. emergency first aid equipment to provide adequate treatment of accidents, especially those associated with hazardous wastes.

(f) Personnel and Facilities. In order to provide proper staffing and suitable facilities the following shall be required at all sites, except where otherwise approved by the Department, in writing, for sites serving less than 5,000 people:

1. A trained equipment operator in full time attendance during operating hours.
2. Employees shall be trained in the proper and safe operation of all equipment and first aid procedures.
3. Communication facilities for use in emergencies.

(c) Equipment. To assure adequate operation the following is required:

1. Equipment sufficient for spreading, compacting, and covering operations;
2. Sufficient reserve equipment, or arrangements to provide alternate equipment within 24 hours following equipment breakdown;
3. Safety devices on equipment to shield and protect the operators from potential hazards during operation;
- (b) The Department recommends:
 1. A potable water supply;
 2. A suitable employee shelter;
 3. Handwashing and toilet facilities;
 4. Equipment wash-out facilities;
 5. Electric service for operations and repair;
 6. Equipment shelter for maintenance and storage of parts, equipment and tools.

(13) Operations:

(a) At the time of design approval or at any time ground water contamination is suspected the Department shall have the option to require the installation of monitoring wells and may specify the number, location, and depth of monitoring wells in addition to the frequency of samples to be taken, and the analysis to be run.

(b) A minimum separation of five (5) feet shall be maintained between putrescible solid waste and autoclaved high ground water table. Nonputrescible and incombustible materials such as brick, stone, concrete, and similar materials but not yard clippings, asphalt or other bituminous materials may be deposited below the anticipated high ground water table if in the determination of the Department such deposition will not result in the pollution of ground water. The Department may at its discretion waive this requirement if it finds adequate controls such as perimeter ditches or well point systems are provided. Exceptions will not normally be granted for areas where the soil is saturated or the capillary fringe reaches the soil surface an average of more than two months per year, seven out of ten years.

(c) Sanitary landfills shall provide for the collection, control and treatment of surface runoff from the site to meet established water quality standards of the receiving waters.

(d) Any leachate emanating from a landfill shall be collected and treated if it is a potential source of water pollution.

(e) The grade of the completed refuse cells and lifts in addition to the final cover shall drain the surface runoff water to prevent uncontrolled ponding. Thus, it is best to slightly overdesign initial grades so that good drainage will be maintained after final settlement.

(f) All completed portions of sanitary landfills which have received final cover and no future vehicular traffic is anticipated shall be planted with grass or acceptable cover vegetation to minimize infiltration, erosion and dust.

(g) All sanitary landfills where gas generated by decomposition of wastes cannot readily be dispersed into the atmosphere shall be provided with a gas control system. This requirement is particularly applicable to all multiple lifts sites.

(h) All solid waste shall be spread in layers of approximately two (2) feet in thickness and compacted to approximately one (1) foot in

thickness before the next layer is applied.

(i) All solid waste except materials such as abandoned vehicles, white goods and certain hazardous wastes as specified by the Department shall be compacted in firm cells which have a vertical depth not to exceed ten (10) feet with working face and side grades at a slope of approximately thirty (30) degrees.

(j) All cells shall receive a compacted cover of six (6) inches of earth once each working day.

(k) The working face of a cell shall be kept as narrow as is consistent with the proper operation of trucks and equipment to minimize exposed areas.

(l) An intermediate cover of one (1) foot of compacted earth in addition to the daily six (6) inch cover shall be applied within seven (7) days of cell completion if final cover is not to be applied within one (1) year of cell completion especially on all sites where multiple lifts are to be constructed.

(m) All completed cells shall receive a final cover of two (2) feet of earth compacted in six (6) inch layers within one (1) year of cell completion with the final six (6) inches loosely compacted to promote plant growth.

(n) The side slopes in addition to the top of all completed sanitary landfills constructed five (5) feet or more above surrounding ground elevation shall have a minimum of three and one half (3 1/2) feet of compacted earth cover (which is the sum of daily, intermediate and final cover). The sides shall have a slope not to exceed one (1) foot vertical to three (3) feet horizontal to minimize erosion.

(o) Pesticides used to control rodents, flies and other insects shall be as specified by the Florida Department of Agriculture and Consumer Services, (Chapter 5-E-2).

(p) Uncontrolled and unauthorized scavenging shall not be permitted at any sanitary landfill site. Controlled salvaging may be permitted by the local authority responsible for the facility.

(q) Alternate procedures not included in this section shall require Department approval.

(14) Yard Trash Site Criteria. The following criteria shall apply only to yard trash sites:

(a) Site Requirements. The yard trash site location shall comply with the prohibitions under Section 17-7.04(2) relating to location.

1. be easily accessible by collection vehicles, automobiles and where applicable, transfer vehicles; from the disposal of solid waste;

2. safeguard against water pollution originating from the disposal of solid waste;

3. have an adequate quantity of acceptable earth cover available. The cover material should be easily workable, compactable, and should not contain organic matter conducive to the harborage and/or breeding of vectors;

4. conform with the proper zoning.

(b) Operation Plans — The proposed operational plans shall include:

1. Map or aerial photograph of the area showing land use and zoning within one-fourth (1/4) mile of the solid waste disposal site. This photograph shall be of sufficient scale to show all homes, industrial buildings, wells, watercourses, dry run, rock outcroppings, roads and other significant details.

2. A report shall accompany the plans indicating:

a. Source and characteristics of cover material.

17-7.06 Special Waste Handling:

(1) Disposal of waste sludges and liquids including septic tank contents referred to in 17-3.09, shall be with special consideration of air and water pollution and health and safety of landfill employees.

Appropriate provisions shall be made for handling these waste materials in a landfill, only where alternate disposal methods are not available and when such disposal does not violate laws and regulations.

(2) If abandoned vehicles are brought to the site, they may be stored temporarily in a separate area, provided arrangements have been made for frequent removal to an automobile shredding, or compacting plant. If such arrangement has not been made all abandoned automobiles, white goods and similar materials shall be compacted before being placed in the fill area to minimize voids.

(3) In the event of natural disasters, in which large accumulations of debris are created — such as trees and buildings that have been destroyed from blizzards, and burned, in accordance with Chapter 17-5.06(1).

(4) Landfilling milled solid waste without daily soil cover can be an environmentally acceptable method of final disposal. The same engineering principles involved in sanitary landfill sites must be employed, including a properly designed, and operated milling facility. The Department will grant approvals contingent upon the following conditions:

(a) Particle size. Seventy percent (70%) of all milled refuse, dry weight, shall be capable of passing through a three (3) inch screen.

(b) Waste must be spread to a smooth contour and compacted promptly after placement and left undisturbed to prevent odors. Wind blowing of milled refuse and paper shall be controlled.

(c) Gas entrapment in milled solid waste is minimal. However, addition of cover or possible migration of gases through fissures, etc., requires the same attention to gas control as a sanitary landfill.

(d) All solid waste storage areas in the milling facility must be maintained and cleaned at the end of each day's operations, or during continuous operation, as necessary, to prevent fly, rodent or other vector problems. All milling equipment must be maintained to control spillage and to achieve the required milled product quality.

(e) An operational plan must include provision for removal and proper disposal of waste within 24 hours should the mill facility break down or operational quality is diminished. The operational plan must include provision for a stock pile of emergency soil cover material and a plan to convert the operation to a sanitary landfill.

(f) Upon completion of the site, it shall be closed, covered with a final one (1) foot thick soil cover and shall be seeded or planted with grass or suitable cover vegetation to minimize erosion.

Specific Authority 403.061 FS Law Implemented 403.021, 403.031, 403.061, 403.081, 403.101 through 403.113 FS, Chapter 14.322, Funnery—Transferred from 10B-12.81, 10-1-14.

17-7.07 Dump Closing:

It shall be required of all persons operating land disposal sites which are dumps, as defined in Section 17.02(7) to eliminate or convert them to sanitary landfills as expeditiously as possible but no later than

July 1, 1977. The site shall be closed in accordance with the following criteria:

- (1) Access to the site shall be restricted by a fence or other appropriate and effective means.
- (2) Information signs shall be placed at the entrance to the site and on roads leading to the site stating that it is closed, the penalty for dumping at the site, the location and hours of operation of the alternate approved site and the name of the operating agency.
- (3) A responsible person shall be assigned to supervise the closing procedures on a full time basis during the closing operations.
- (4) Burning of solid waste shall be prohibited except upon approval by the Department.
- (5) The site shall be closed to incoming solid waste as soon as the alternate site is in operation.
- (6) Steps shall be taken, where potential water pollution exists, to prevent the contamination by diverting surface waters around the site, removing wastes from the water table, or by other means approved by the Department.
- (7) Upon completion, the closed site shall be seeded or planted with grass or suitable cover vegetation to minimize erosion.

Specific Authority 403.061 F.S. Law Implemented 471.021, 403.031, 403.061, 403.061, 103.701 through 403.713 F.S. Chapter 14-342. History—Transferred from 10D-12.01, 10-174.

17-7.08 Supervision and Inspection.

- (1) Supervision of the operation shall be the responsibility of a qualified person experienced in the operation of a resource recovery and management facility.
- (2) Routine inspections and evaluations of

facility operations shall be made by the Department. A notice of deficiencies, with recommendations for their correction, shall be provided to the person responsible for the operation.

- (3) Inspection of a completed sanitary landfill shall be made by the Department before the earthmoving equipment is removed from the site. Any corrective work shall be performed before the landfill project is accepted by the Department as completed. Arrangements shall be made for the repair or restoration of the final cover as required for at least two years following completion.

Specific Authority 403.061 F.S. Law Implemented 403.031, 403.031, 403.061, 403.061, 403.701 through 403.713 F.S. Chapter 14-342. History—Transferred from 10D-12.01, 10-174.

17-7.09 Volume Reduction Plants.

- (1) Permits will be required for all volume reduction plants as defined in Section 17-7.02(12).
- (2) Volume reduction plants shall be designed and operated to meet all applicable rules of the Department including Chapters 17-2 and 17-3 F.A.C. and shall be reviewed for permitting based on the receipt of comprehensive data on the process and its relative potential as a pollution source.
- (3) Recovered resources resulting from such facilities and which may be offered for sale shall comply with applicable regulations of all appropriate State agencies.
- (4) Experimental methods and operations will be reviewed by the Department for a permit based on purpose and design effectiveness.

Specific Authority 403.061 F.S. Law Implemented 403.031, 403.031, 403.061, 403.061, 403.701 through 403.713 F.S. Chapter 14-342. History—New 10-174.

PART II: STATE RESOURCE RECOVERY AND MANAGEMENT PROGRAM

MANAGEMENT PROGRAM

17-7.20 Declaration and Intent. The Florida Department of Environmental Regulation does hereby establish a State Resource Recovery and Management Program under the authority granted by Chapter 403.705 F.S. as follows:

"403.705 State resource recovery and management program.

- (1) The state resource recovery and management program shall provide guidelines for the orderly collection, transportation, storage, separation, processing, recovery, recycling and disposal of solid waste throughout the state, encourage coordinated local activity within a common geographical area, and investigate the present status of solid waste management in the state with positive proposals for local action to correct deficiencies in present resource recovery and management processes.

All counties and municipalities are required to adopt a local Resource Recovery and Management Program pursuant to the provisions of Chapter 403.705 F.S. as follows:

- (1) Within two (2) years after the department adopts the state resource recovery and management program, all counties and municipalities shall adopt, either solely or in cooperation with other counties

responsibility of the public agency or agencies involved.

The ultimate goal of the program is: Development and implementation of a continuing state-wide resource recovery and management program to recover all usable materials and energy contained in solid waste, with proper disposal of residual and hazardous wastes.

Specific Authority 403.704(1) F.S. Law Implemented 403.105, 403.706 F.S. History—New 7-20-76.

17-7.21 Definitions. The following words, phrases or terms as used in this Chapter, unless the context indicates otherwise, shall have the following meaning:

- (1) "Agricultural Waste" means the solid waste that results from the raising and slaughtering of animals and the processing of animal products, orchard and field crops which are stored, transported or disposed of as an unwanted waste material and which may be a potential pollution source.
- (2) "Available Market" means any person, user or enterprise, willing to enter into a long term contract or agreement to purchase materials or energy recovered from solid waste.
- (3) "Bailing" means a method of reducing and retaining solid waste volume by mechanical compaction to achieve high density per unit volume to affect cost savings in transfer, hauling and disposal.
- (4) "Bulky Wastes" means items whose large size or weight precludes or complicates their handling by normal collection, processing, or disposal methods.
- (5) "Council" means the Florida Resource Recovery Council.
- (6) "Dead Animals" means animals that have died from any cause and which are left on public or private property without proper burial.
- (7) "Designated Areas" means those areas which are recommended by the Resource Recovery Council pursuant to Section 403.710(4) F.S. to plan for and engage in recycling or resource recovery programs, and are designated in Section 17-7.24, F.A.C.
- (8) "Energy Recovery" means the conversion of solid waste into energy or a marketable fuel.
- (9) "Generation" means the act or process of producing solid waste, or a marketable energy fuel.
- (10) "Implement" means to carry out, accomplish, give practical effect to and ensure actual fulfillment by concrete means or provide instruments or means of expression for.
- (11) "Implementation Schedule" means a timetable for carrying out a local plan.
- (12) "Local Agency" means a county or a municipality.
- (13) "Local Solid Waste Program" means a local resource recovery and management program as described in Section 17-7.23 of this rule which includes a plan and an implementation schedule.
- (14) "Materials Recovery" means any manual or mechanical process in which one or more of the various components in solid waste are separated, concentrated, and reused.
- (15) "Non-Designated Areas" means those areas which are not recommended by the Resource Recovery Council to plan for resource recovery.
- (16) "Planning Area" means the area defined by a local agency or agencies for solid waste management and resource recovery management

Planning.

- (17) "Post-collection recovery" means manual or mechanical separation and recovery of materials from mixed municipal solid waste upon delivery at a resource recovery and management facility.
- (18) "Promiscuous Dump" means an unauthorized site where indiscriminate deposits of solid waste are made by unlicensed persons.
- (19) "Recoverable Resources" means post-consumer materials which still have useful physical or chemical properties after serving a specific purpose and can be reused or recycled for the same or other purposes.
- (20) "Regional Agency" means one or more public agencies joining together by inter-local agreement for a stated period of time or by special Act of the Legislature, to assume the responsibility for resource recovery and management. General Authority: Chapter 163, F.S.
- (21) "Rural Contaminized Collection System" means a collection system which involves mechanically serviceable containers, strategically located throughout an area (much like road side litter barrels) that are picked up on a regular schedule by a truck and their contents delivered to a transfer station, solid waste processing or disposal facility.
- (22) "Sanitary Nuisance" means the commission of any act by a person, or the keeping, maintaining, propagation, existence or permission of anything by a person by which the health or lives of individuals may be threatened or impaired or by which disease may be caused.
- (23) "Shredding" means a process of reducing the particle size of solid waste through use of grinding, shredding, milling or rasping machines.
- (24) "Sludge" means a semi-liquid sediment.
- (25) "Source Separation" means the setting aside of separated recyclable waste materials at the point of generation (household or commercial) by the generator.
- (26) "Special Wastes" means those wastes that require extraordinary management. They include, but are not limited to, abandoned automobiles, white goods, used tires, waste oil, sludges, dead animals, agricultural and industrial wastes.
- (27) "State Program" means the Resource Recovery and Management Program described in Chapter 403.705 and 403.706, F.S. and this rule.
- (28) "Ton" means a short ton, 2000 pounds.
- (29) "Transfer Station" means a facility where solid waste from several relatively small vehicles is placed into one relatively large vehicle before being transferred to a solid waste processing or disposal facility.
- (30) "Treatment" means the process of altering the character, physical or chemical condition of the waste to prevent pollution of water, air or soil to safeguard the public health or enable the waste to be recycled.
- (31) "Vector" means a carrier, usually anthropod, that is capable of transmitting a pathogen from one organism to another.
- (32) "Volume Reduction Plant" includes, but is not limited to, incinerators, pulverizers, compactors, shredding plants and other plants which stations, composting plants and other plants which accept and process solid waste for recycling or disposal.
- (33) "Waste Oil" means all types of waste-oil, including waste automotive lubricants, industrial

waste oils, and other that may be a potential pollution source.

(34) "Yard Trash" means vegetative matter resulting from landscaping maintenance such as tree and shrub trimmings, grass clippings and palm fronds. Specific Authority: 403.704(1) F.S. Law Implemented: 403.704 F.S. History—New 1-20-76.

17-7.22 State Agency Responsibilities.

The Department shall:

(a) have responsibility for the implementation and enforcement of the provisions of the Florida Resource Recovery and Management Act and the requirements of this rule.

(b) provide technical assistance to all local agencies in the development of their local programs.

(c) prepare and adopt by rule the State Resource Recovery and Management Program to guide local agencies in the preparation of local plans.

(d) review the design of and issue permits for the operation of resource recovery and management facilities.

(e) have responsibility for reviewing, renewing and approving local resource recovery and management programs submitted in accordance with Chapter 403.705(1) F.S., using the criteria in Sections 17-7.23, 7.24 and 7.25 of this rule.

(2) Resource Recovery Council. The Council shall:

(a) specifically recommend to the Department those counties, municipalities, or regions which will generate sufficient solid waste to make it economically practical to plan for recycling of solid waste and which therefore should be required to engage in recycling or resource recovery programs.

(b) Provide technical assistance to those areas designated to plan for resource recovery.

(c) review local programs that are submitted to the Department for approval and make whatever recommendations and findings it deems necessary. Specific Authority: 403.704.4 03.701, 403.710 F.S. Law Implemented: 403.704-403.707, 403.710 F.S. History—New 7-20-76.

17-7.23 Guidelines for Resource Recovery and Management Programs. Each local agency shall submit to the Department its local Resource Recovery and Management Program pursuant to Section 403.705 and Sections 17-7.24, 7.25 and 7.26 which is consistent with and implements the following guidelines:

(1) Storage of Solid Waste Prior to Collection.

(a) In all cases in which garbage and rubbish are combined, the standards for garbage shall prevail. The property owner or occupant shall store solid waste on his premises or property or shall require it to be stored or handled in such a manner as to prevent the propagation, harborage, or attraction of vectors, or the creation of a nuisance.

(b) All garbage and putrescible matter or mixed garbage and rubbish shall be deposited in containers which are either non-absorbent, watertight, vector resistant, durable, easily cleaned and designed for safe handling; or in paper or plastic bags having sufficient strength and water tightness and which are designed for the containment of refuse.

(c) Containers shall be of an adequate size and in sufficient numbers to contain without overflowing all the refuse, except yard trash, that a household or other establishment generates within the designated

period of time between collections. All containers shall be maintained in a sound, clean condition free from putrescible residue.

(d) Containers shall be free of all sharp edges and any inside structures which would prevent the free discharge of the contents.

(e) External stationary storage bins for putrescible solid waste shall be prohibited from being built or added on to existing or new buildings. New installations of underground receptacles shall be prohibited. Existing receptacles may continue in use until they become impractical to repair.

(f) Hazardous wastes shall be stored in such a manner and in such a container as to preclude transmission of disease or cause injury to collection and disposal personnel and the general public.

(g) Each refrigerated room and/or refrigerator used for the storage of putrescible wastes shall be thoroughly cleaned after each removal of putrescible waste. Waste water from such cleaning shall be disposed of by a sanitary method.

(h) Mechanically serviced containers (bulk containers) shall be designed or equipped so as to prevent spillage or leakage during on-site storage and/or transport. The container shall be easily cleanable and located on firm, level ground or a concrete pad, and shall be easily accessible by the collection vehicle.

(2) Collection and Removal of Solid Waste.

(a) Frequency of solid waste removal. The owner or tenant of any premises, business establishment or industry shall be responsible for the satisfactory removal of all solid waste accumulated by him on his property or his premises.

Where a residence is located on the normal route of an organized collection service, public or private, the occupant shall subscribe to the service. Excepting disruptions in normal collection schedules, putrescible wastes shall be collected a minimum of two times per week to prevent propagation, harborage, or attraction of flies, rodents or other vectors, and the creation of nuisances. Store frequent removal of putrescible wastes may be required by local agencies.

(b) Regulation of Collection Operators. Each person providing residential, commercial, or industrial solid waste collection service shall comply with all local government licenses, permits, or written approval requirements applicable to the jurisdiction in which such services are provided. Each local agency or regional agency, if any, shall maintain a complete listing of all persons holding written approvals to provide solid waste collection services within their jurisdiction. The listing shall contain the name and address of each such person, its office telephone number, and the number and types of vehicles used by such person in providing solid waste collection services.

(c) Collection Operator Qualifications. Local or regional agencies which authorize or designate persons or firms to provide solid waste collection services to the general public within their jurisdiction through contract or franchise, shall obtain sufficient information to show that such person or firm has adequate financial resources and experience to properly conduct the operation authorized.

(d) Equipment used in collection and transportation of solid waste shall be constructed, operated and maintained in such a manner as to

minimize the health and safety hazards to solid waste personnel and the public. Equipment shall be maintained in good mechanical condition and kept clean to prevent propagation and attraction of vectors and the creation of nuisances. It is recommended that they meet the standards established by the American National Standards Institute (ANSI) Section 245.1, Safety Standards for Refuse Collection Equipment as of the effective date(s) established in ANSI Section 245.1.

(e) All vehicles and equipment used for collection and transportation of solid waste shall be enclosed or adequate provisions shall be made for enclosed cover to prevent contents from escaping in accordance with Chapter 316 F.S.

(f) Where the backyard, carry-out system of collection is used, the common practice of collection personnel dumping garbage at the curb in any manner other than in an acceptable container for household refuse shall be prohibited.

(g) All rural collection systems shall be operated in a safe, efficient manner, and shall be in compliance with all applicable local and state regulations.

(3) Transportation — Transfer Stations. These standards shall not apply to container stations which are provided to serve as community or multi-residence receptacles for residential refuse, nor do they apply to storage receptacles for commercial solid wastes; a container used to store construction or demolition wastes at places of generation; or containers used to store salvaged materials.

(a) Transfer stations shall not be constructed or operated without a Department permit issued in accordance with Part 1 of this rule and specifically Chapter 17-7.09 and 17-7.05(2)(c)(i)(g)(h).

(b) The transfer facility shall be provided with operational appliances necessary to maintain a clean and orderly operation. The appropriate minimum features given in Part 1 of this rule Chapter 17-7.05(2)(c)(i)(g)(h) shall apply.

(c) The transfer station operator shall keep accurate records of materials handled at the station. Such records should include weights or volumes of waste handled in a manner and form approved by the Department. Accurate records should be kept for operational control and resource recovery planning. The records shall be open to inspection by Department representatives, health inspectors and other authorized regulatory and enforcement agencies during normal business hours.

(d) The transfer station shall be properly staffed to deal with all aspects of the station operation. Adequate supervision of personnel shall be provided.

(e) Transfer stations open to the public shall have an attendant on duty during operating hours to insure that health, fire or safety problems are not inflicted upon or caused by the public.

(f) Transfer stations shall be operated and maintained to comply with all applicable regulations. Proper operation shall include unloading of wastes to prevent them from becoming a litter or nuisance; cleaning of all loose materials or liquid spills or on a cleaning schedule approved by the Department; removal of all solid wastes every 48 hours or in accordance with an approved schedule.

(g) Salvaging in a controlled manner is allowed provided it does not interfere with other aspects of

the transfer station operation. Uncontrolled scavenging is prohibited.

(4) Public Recycling of Disposal Sites. The location of all solid waste disposal sites shall be a matter of record in the County property recording office for future reference in the event any problem arises concerning the site.

(5) Hazardous Waste, Hazardous and infectious waste as defined, shall be handled and disposed of only in accordance with Chapter 17-7.04(3)(4) and the following:

(a) Any solid waste facility accepting hazardous waste for treatment, storage or disposal shall provide protection for the quality of the air, surface and subsurface waters and for the protection of the health and welfare of the public.

(b) The owner of hazardous waste that cannot be recycled, reprocessed, or treated to render it innocuous shall provide the Department with evidence that it cannot be treated and request disposal guidance.

(c) Any facility that disposes of known hazardous wastes following approval by the Department shall record the date, quantity, chemical and trade names, chemical properties, name and address of the source and transporter of the waste. The facility operator shall have authority to reject any waste that is not properly identified.

(d) Records designating the location of buried hazardous wastes within a landfill site shall be maintained during the life of the site by the agency responsible for operation of the site. These records shall be reviewed by the Department during facility inspections. Records shall be submitted to the Department and appropriate local office of legal jurisdiction upon closing of the site.

(e) Monitoring wells shall be installed at all land disposal sites that are designated for hazardous waste disposal. A sampling and analysis program approved by the Department shall be conducted to determine if any pollution problem is created by the deposited wastes.

(f) Hazardous waste shipping requirements:

(i) When shipping hazardous wastes, the generator or owner of the hazardous wastes shall package, identify and label such materials in accordance with the Code of Federal Regulations, Title 49, Transportation, Parts 100.199, Oct. 1, 1974, which are hereby incorporated and made a part of this rule.

(ii) The generator and driver of any truck, a crew member of any train, or the captain of any vessel or aircraft carrying such hazardous wastes, with a list setting forth the hazardous waste carried, the amount of such waste and the general physical and chemical properties of such wastes, such list, when appropriate, should include information on antitoxics, first aid or safety measures to be taken in case of accidental contact with the particular waste being carried. The person carrying or handling the hazardous waste shall have the list in his possession while carrying or handling the hazardous waste and shall release the list to a person responsible for the treatment or disposal of the hazardous waste at the time of delivery. The list shall be a matter of record at the disposal facility. Such list shall be shown on demand to any Department official, officer of the Florida Highway Patrol, or any local law enforcement

officer.

(g) Hazardous waste storage requirements:

(1) Hazardous wastes whose uncontrolled release into the environment would cause acute and/or chronic effects on air and water quality; on fish, wildlife, or other biota; and on the health and welfare of the public shall be stored only in special facilities where due regard has been given to the hazardous nature of the waste, protective enclosures, and operating procedures, and where adequate measures are taken to assure personal safety, accident prevention, and detection of potential environmental damages.

(2) Rules of the State Fire Marshal Chapter 4A-2, 4A-20, et al., pertaining to explosives and hazardous chemicals should be consulted where applicable.

(c) Special Wastes.

(a) Dead animals.

1. Dead animals on public property shall be collected and disposed of promptly to prevent them from becoming a sanitary nuisance.

2. The local agency should establish a service to assure prompt pickup and disposal of dead animals.

3. If an animal is known or suspected to have died of a communicable disease, the handling and disposal of the carcass shall be in accordance with Chapter 8-3.041 F.S.

(b) Abandoned Vehicles. The local agency should provide for the removal of abandoned vehicles from public and private property, title release, pickup and removal authority, the designation of a storage area and a recycle or disposal system.

(c) White Goods. The local agency should provide for collection, disposal or recycling of white goods.

(d) Sludges. Sludges which may be hazardous due to their chemical composition shall be disposed of in accordance with Chapter 17-7, Part I, Section 17.7.04(3). Other sludges shall be disposed of in accordance with Chapter 17-7, Part I, Section 17.7.06(1).

(e) Industrial Waste.

The disposal of industrial waste shall be the responsibility of the producer of such waste and shall be in accordance with applicable state and local regulations.

(f) Processing and Recycling of Solid Waste. (a) All residual solid wastes resulting from a recovery process shall be disposed of in a sanitary landfill or by other approved methods.

(b) All processed water or wastewater shall be treated as required by approved methods before discharge into receiving waters.

(c) All gaseous emissions shall be in compliance with air quality standards.

(d) Recovered materials shall be stored in a controlled area, designed and operated to prevent environmental contamination.

(e) All solid waste, recovered materials or residues handled at a volume reduction plant shall be stored in a manner so as not to constitute a fire or safety hazard or a sanitary nuisance, and shall comply with all applicable local and state regulations.

(f) Volume reduction plants shall have adequate storage areas, cleaning and maintenance schedules as outlined in Chapter 17-7.06(4)(e).

(g) All volume reduction plants shall provide a

suitable system for the collection and treatment when necessary of all leachate and other liquid wastes such as wash-down water produced as a result of the operation of such a facility. Discharge to an available sanitary sewer is acceptable.

(h) Volume reduction plants shall be designed so as to divert surface water away from all open storage areas.

(i) Alternate or sufficient overcapacity waste handling capability for proper disposal of solid waste shall be provided in the event of diminished operational quality or overflows due to leakdowns or natural disasters.

(j) Volume reduction plants shall be operated so as to handle solid wastes on a first-in, first-out basis. At no time shall any stored solid waste be allowed to remain unprocessed for more than forty-eight (48) hours unless adequate provisions are made to control flies and odors.

(k) Adequate fire control facilities shall be provided at all volume reduction plants.

(8) Title to Solid Wastes and Quantity Guarantees.

(a) Local agencies that undertake construction and operation of a material or energy resource recovery facility shall guarantee delivery of solid wastes generated within their jurisdiction to insure uninterrupted facility operation. Guarantees must be supported by contracts with local collection services or as a condition of inter-local agreements.

(b) The title to solid wastes subject to collection by a collection service operator shall be subject to local ordinance, act, or contract conditions.

(c) Property rights in materials or substances having commercial value, collected or held for reuse, recycling or resale, that have not been discarded, will not be infringed upon or restricted by a local agency.

(d) The producer of hazardous waste may be liable for any damage or injury caused by hazardous waste introduced by him into a solid waste collection system regardless of title convenience as in (b) above.

(9) Maintenance and Monitoring of Disposal Sites. Local agencies shall provide for continuous maintenance and monitoring of land disposal sites after the sites are no longer used for disposal.

Maintenance shall include vegetative cover, erosion control, prevention of ponding and precluding the deposited wastes from becoming a hazard or nuisance. Monitoring shall include sampling, collection and treatment of leachate for as long as the leachate may be a possible pollution source. Additional maintenance and monitoring may be required by the Department depending on specific circumstances.

(10) More Stringent or Extensive Local Programs Possible. Nothing in these minimum standards shall be construed to prevent the governing body of any county or municipality from providing by ordinance or regulation, requirements which are stricter or more extensive than those imposed by this Section.

Specific Authority: 403.704(1) F.S. Law Implemented: 403.705, 403.706 F.S. History: New 7-20-76.

17-7.24 Resource Recovery Area Designations. The Resource Recovery Council has determined the economic value of the energy contained in the solid waste generated by the major population areas of the

state and the potential markets for that energy. The economic factors were determined on a county basis but resource recovery programs should be developed to encourage coordinated local activity within a common geographic area rather than by political jurisdiction. Local agencies shall determine the planning arrangement which will best provide the coordination and flexibility under varying local circumstances to plan for and engage in resource recovery.

The following designated counties, recommended to the Department of Environmental Regulation by the Resource Recovery Council, including each municipality located therein, shall submit to the Department, separately, or in coordination with other local or regional government entities, a local resource recovery and management program required by Section 403.706(1) F.S. which includes provisions for recycling or resource recovery:

Alachua	Hillsborough	Pinellas
Bay	Lee	Polk
Brevard	Leon	Sarasota
Dade	Manatee	Seminole
Duval	Orange	Volusia
Escambia	Palm Beach	
	Pasco	

All areas not listed are "non-designated" areas which are not presently required to plan for an engage in resource recovery. This does not preclude those local jurisdictions from undertaking resource recovery if they so choose.

The resource recovery area designations above are based on the best evidence available to the Department on the date of adoption of this rule. If a designated area determines, at some future time, that the preponderance of evidence indicates that it is not economically practical to plan for and to engage in recycling and resource recovery, it may file a petition to amend this rule pursuant to Section 120.54(4) F.S. Specific Authority: 403.704(1) F.S. Law Implemented: 403.705, 403.706, 403.710(4) F.S. History: New 7-20-76, Amended 11-6-76.

17-7.25 Local Agency Responsibility.

(1) Local Program Adoption. Each local agency, within two (2) years after adoption of the State Resource Recovery and Management Program, shall either solely or in cooperation with other counties and/or municipalities, prepare and adopt a local resource recovery and management program. The program adopted by the local agency shall implement the provisions of the state program for either "non-designated areas" or "designated areas" as appropriate, by adequately providing for the collection, transportation, storage, separation, processing, recovery, recycling, or disposal of solid waste generated or existing within the boundaries of the county or incorporated limits of the municipality or in the area served thereby.

(2) Programs for Non-Designated Areas. The comprehensive resource recovery and management program prepared by the appropriate local agency for submission to the Department of Environmental Regulation for its approval shall include the following documentation:

(a) a description of existing solid waste

management practices, population, solid waste generation sources, quantities and characteristics. (b) the solid waste management systems preferred by the local agency, projected population, and waste generation sources, quantities and characteristics. Proposed systems may combine several storage, collection, transportation and disposal methods.

(c) comparison of proposed systems on an economic basis, including costs and benefits of public health and environmental protection. An analysis of the system shall consider the capacities, costs, source of revenue for system operation, functions, organization, general location, operating method, design considerations, required permits and licenses, and staging of construction. Financial and management structure and public information programs shall be included in the analysis.

(d) consideration of the use of private industry in the solid waste management system.

(e) investigation of cooperation with other jurisdictions and development of intergovernmental agreements to form regional solid waste management agencies that may be mutually beneficial.

(f) the acquisition of suitable land with appropriate zoning for solid waste management facilities.

(g) the inclusion of special waste and hazardous waste control.

(h) a disaster plan which shall be an integral part of the total program.

(3) Programs for Designated Areas. A resource recovery and management program shall be prepared by the appropriate agency in accordance with the requirements contained in Subsection (2) above applicable to non-designated areas, but shall also include a resource recovery element which contains the following:

(a) existing resource recovery and recycling activities, both public and private.

(b) a study of available and potential stable long-term markets for recovered materials and refuse derived fuels, transportation and associated logistical factors.

(c) an analysis of the economics of technology options.

(d) an analysis of the economics of waste reduction options.

(e) selection of a reliable technology compatible with local circumstances.

(f) an assessment of energy requirements, financing, management, operation, and environmental factors pertinent to the chosen technology.

(4) Implementation Schedules. Each program shall show how and when the various phases of the local program will be implemented.

Specific Authority: 403.704(1) F.S. Law Implemented: 403.705, 403.706 F.S. History: New 7-20-76.

17-7.26 Local Program Submittal.

(1) Resource Recovery and Management Programs prepared and adopted in accordance with Section 17-7.23 and 17-7.24 shall be submitted by local agencies to the Department for approval. Prior to submittal, the programs shall be reviewed by all local and regional planning agencies involved in the programs. Prior to Department approval, the Council shall review the resource recovery and management programs and make recommendations and findings if deemed necessary. Upon review by the Council and

approval by the Department, the program shall be implemented by the local agency.

(2) Local agencies shall adopt and submit their respective programs to the Department for approval no later than July 1, 1978. The programs shall be submitted in accordance with the following:

(a) Provide four (4) copies on 8 1/2 by 11 inch paper. Unsize maps or drawings may be folded to this size.

(b) Comments from all appropriate planning agencies and copies of inter-local agreements from involved local agencies shall accompany the programs submitted.

Specific Authority 403.704(1) FS. Law Implemented 403.705, 403.706 FS. History-New 7-20-76.

17-7.27 Extension Procedures. The time limit stated in Section 17-7.23 for the preparation and submission of a local resource recovery and management plan may be extended upon application to the Department by the local agency. Applications for a time extension shall not be granted unless they are supported by evidence that good faith efforts by the local agency to meet the requirements of this rule have been and are being made.

Specific Authority 403.705 FS. Law Implemented 403.706 FS. History-New 7-20-76.

17-7.28 Permitting. Rules governing the permitting of resource recovery and management facilities are contained in Chapter 17-7 Part I of this rule.

Specific Authority 403.704(1) FS. Law Implemented 403.706(5), 403.707(1) FS. History-New 7-20-76.

17-7.29 Amendment to an Approved Program.

(1) The procedure for amendment of a program approved by the Department shall be as for approval of the original program. A specific amendment is one that proposes to change methods of handling, practices, technologies, or financial and management arrangements contained in the program.

(2) Minor corrections, updates, or modifications of the program shall not be considered amendments.

Specific Authority 403.704(1) FS. Law Implemented 403.705 FS. History-New 7-20-76.

17-7.30 Approval of Local or Regional Resource Recovery and Management Programs. The Resource Recovery Council will review and the Department evaluate and approve, local or regional programs based on evaluation of information which shall be contained in each program. Information on the following topics is considered essential to enable proper evaluation of each program.

(1) Background Data

(a) Jurisdiction: definition of the scope and authority of the planning area.

(b) Physical Conditions: description of environmental conditions, geology, soils, climatology, drainage basins, other pertinent physical features.

(2) Existing Conditions: description of specific existing conditions affecting management of solid wastes.

(a) Storage practices, collection practices and routes.

(b) Quantities and types of wastes generated and collected, i.e., residential, commercial, hazardous, industrial, municipal, sludges.

(c) Disposal and processing facilities.

(d) General management practices; i.e., objectives.

(b) An indication of current waste composition in the planning area.

(c) An evaluation and selection of markets for the recovery of energy or material, location, type, characteristics and estimated revenues.

(d) A summary description of technologies or resource recovery methods to be used.

(e) An assessment of the economic feasibility of the proposed resource recovery program.

(f) Provision for disposal of residuals, including site location, volume and type of residuals.

(5) Cost Estimates for Each Element of the Local Resource Recovery and Management Program. Shall be included in the Program. Include cost estimates for:

(a) Background research.

(b) Planning efforts.

(c) Development of solid waste management organization.

(d) Land acquisition.

(e) Collection and transportation systems.

17-7.30 Application for Permit.

STATE OF FLORIDA

DEPARTMENT OF POLLUTION CONTROL.

CONSTRUCT ()
OPERATE ()
A SOLID WASTE

RESOURCE RECOVERY AND MANAGEMENT FACILITY

Applicant:
(Owner or authorized agent)

Street Address:

Mailing Address:
(If different from above)

Location of Site:

(City)

(County)

(Township, Range, Section, & Lat., Long.)

(Name of Access Road and Crossroad)

Towns and Areas to be Served:

Population Served: _____

Area of Site: _____ Acres

Date Site Ready to Receive Refuse:

General Requirements

A permit is required for each Resource Recovery and Regional Office of the Department of Pollution Management Facility. Separate applications for each Control. Complete appropriate sections of the permit, four copies each, should be submitted to the application for the type of facility proposed: sanitary

Landfill, incinerator, volume reduction plant, etc.
Each application shall be accompanied by an application fee of \$20.00 payable by check drawn in favor of "State of Florida, Department of Pollution Control."
Applicant has the responsibility to provide copies of the application to appropriate city, county and/or regional pollution control agencies, established pursuant to Section 403.182, Florida Statutes. Applicant shall also clear the application through appropriate local planning agencies. Comments from any of these agencies shall be forwarded with the application to the Department.
Information contained in the application shall conform to requirements of Chapter 17-7 F.A.C. All entries should be typed or printed in ink. If additional space is needed, separate, properly identified sheets of paper may be attached.

All documents submitted to support the application should be on 5.5" x 11" paper.
Processing of the application will begin when the foregoing requirements have been met.

Permit Number _____ Issue Date _____
Review Date _____ Expiration Date _____

(1) Statement by Applicant and Engineer
A. Applicant _____
The undersigned owner, or authorized representative, of _____, a waste management facility, makes in this form and attached exhibits an application for a permit from the Florida Department of Pollution Control and certifies that the information in this application is true and correct. Further, the undersigned agrees to comply with the provisions of Chapter 403 Florida Statutes and all the rules and regulations of the Department. It is understood that the permit is not transferable, and if granted a permit, the Department will be notified prior to the sale or legal transfer of the permitted establishment.

Signature of owner or agent _____
Name and Title _____
Date: _____
"Attach letter of authorization

B. Professional Engineer Registered in Florida
This is to certify that the engineering features of this resource recovery and management facility have been designed, supervised by me and found to conform to engineering standards applicable to such facilities. In my professional judgment, this facility, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department, and with a set of instructions for proper maintenance and operation of the facility.

Signature _____
Name: _____ Telephone No.: _____
Florida Registration Number: _____ Date: _____
(Please also see)

(2) Sanitary landfill including mulled refuse disposal sites (submit in the order listed)
1. Maps
A. A location map drawn to a scale of one inch equals one half mile showing the contours and elevation of the site surrounding the site.
B. A topographic map of the site drawn to a scale not to exceed one inch equals two

NOTE: Additional information may be required as determined by the Department.

hundred feet showing existing and final property lines.
A. Drawings which shall include:
B. Land use including existing habitation; other structures; public roads and highways; shallow and deep water; trees, etc.
C. Area and depth of the proposed fill.
D. Location and elevation of surface and highest ground water.
E. A wind rose to show prevailing winds.
F. Special provisions for surface and subsurface drainage and erosion control.
G. Leachate treatment and control provisions.
H. Necessary provisions for air emission.
I. Other information showing typical site not to exceed ten feet compacted depth of refuse each bit and the final grade of the completed operation.
J. Locations of stockpiled cover material.
K. Access roads, approach roads and on-site parking, direction and information signs.
L. Weighing facilities, locker room, toilet and shower facilities, equipment shelter, and wash-out facilities.
M. Locations of existing and proposed utilities.
N. Fuel Control and portable water supply locations.
O. Hydrogeologic Report which shall include:
P. Thickness and character of the overburden (soil).
Q. Character of bedrock.
R. Depth of the water table and potentiometric surfaces.
S. Depth to the shallow ground water aquifer.
T. Local and regional ground water flow systems.
U. Chemical quality of surface and ground water. (See Page 24 - A Handbook for Sanitary Landfills in Florida for list of substances to be tested for).
V. Frequency and extent of flooding of the site.
W. Nature and volume of the waste materials to be buried.
X. Solid Survey which shall include:
Y. Depth to seasonal high water table.
Z. Soil Series.
AA. Soil Drainage Class.
AB. Flooding.
AC. Seismicity.
AD. Soil Texture (dominant to depth of 60").
AE. Depth to bedrock.
AF. Rockiness Class.
AG. Equipment - Discus:
AH. Present types, size, number.
AI. Proposed types and number.
AJ. Discussed method of waste to be handled including basis for protection.
AK. Operating procedures - explain methods of the working face.
AL. Controlling the length and width of the disposal unit.
AM. Disposing of large items, special industrial, and hazardous waste to the site.
AN. Weathering of the site.
AO. Weathering in the waste of a natural quarry.
AP. Emergency provisions for insect and rodent control.
AQ. Providing adequate site supervision.
AR. Controlling unauthorized access.
AS. Maintaining and weather access road.
AT. Weathering of the site.
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YC. Weathering of the site.
YD. Weathering of the site.
YE. Weathering of the site.
YF. Weathering of the site.
YG. Weathering of the site.
YH. Weathering of the site.
YI. Weathering of the site.
YJ. Weathering of the site.
YK. Weathering of the site.
YL. Weathering of the site.
YM. Weathering of the site.
YN. Weathering of the site.
YO. Weathering of the site.
YP. Weathering of the site.
YQ. Weathering of the site.
YR. Weathering of the site.
YS. Weathering of the site.
YT. Weathering of the site.
YU. Weathering of the site.
YV. Weathering of the site.
YW. Weathering of the site.
YX. Weathering of the site.
YY. Weathering of the site.
YZ. Weathering of the site.
ZA. Weathering of the site.
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ZL. Weathering of the site.
ZM. Weathering of the site.
ZN. Weathering of the site.
ZO. Weathering of the site.
ZP. Weathering of the site.
ZQ. Weathering of the site.
ZR. Weathering of the site.
ZS. Weathering of the site.
ZT. Weathering of the site.
ZU. Weathering of the site.
ZV. Weathering of the site.
ZW. Weathering of the site.
ZX. Weathering of the site.
ZY. Weathering of the site.
ZZ. Weathering of the site.

- collect and dispose materials and other wastes) spreading of refuse on 2 feet layers — When constructing a refuse pile in a sanitary landfill, the refuse should be placed in two foot layers and compacted to a minimum of one foot in order to insure proper consolidation.
47. One Foot Instrumentation Control — Applied Within One Week of Cell Completion. — This is self-explanatory.
48. Two Foot Fuel Cover Applied Within One Year of Cell Completion. — This is self-explanatory.
49. Equipment Available Daily. — The type of equipment available daily for sanitary landfill operation. Check as many as are applicable.
50. Process Description to show: (a) Method of operation. (b) Type and volume of materials processed. (c) Population and area served. (d) Employee facilities. (e) Provisions for disposal of residual waste after processing. (f) Type of materials recovered and disposition of same. (g) Process water and treatment after use. (h) Auxiliary fuel. (i) Schedule of operations. (j) Site management. (k) General maintenance procedures. (l) Emergency procedures. (m) Alternate waste handling procedures in the event of equipment breakdown, natural disasters. (n) Corrective or alternate procedures in the event of diminished operational quality.
51. Name of Person Completing Form — This is self-explanatory.
- Items 52, 53, 54, and 55 are for Department use only.
- (4) Volume Reduction Plant Requirements. These pertain to incinerators, pulverizers, compactors, shredding and baling plants, transfer stations, composting plants and other plants which accept and process solid waste for recycling or disposal.
1. Maps (a) Location map drawn to a scale of one inch equals one half mile, showing general geographic features of the area surrounding the site. (b) Topographic map of the site drawn to a scale of one inch equals 200 feet, showing existing and final contours.
2. Drawings, to include: (a) Property lines, site dimensions.

- the number of public water supply wells or deep wells within one mile of the site to the left of the word —
26. Plugging — Periods when the water table rises above the surface of the site, or water, check (a) frequent, (b) occasional, (c) check (b) Rare.
27. Number of Roadways Adjacent to Site —
28. Slope of Site — Indicate the general slope of the site as experienced as a percentage.
29. Number of Incidents or Runovers Within 1000 Feet —
30. Soil Strata — Indicate the composition and location of the strata in the site. If the strata are not known, the information may be obtained from the records of the local survey.
31. Soil Texture — Check the one which best describes the soil texture of the site.
32. Perimeter Fencing — This refers to permanent fencing surrounding the site.
33. Monitoring Wells — Check to indicate whether test wells exist to monitor any degradation of groundwater quality.
34. Potential Water Pollution — This should be evaluated on the basis of the relationship between the bottom of the landfill and the amount of material used for cover; soil types of materials being disposed of at the site.
35. Dumping in Water — This indicates the existence of a suitable ditch surrounding the site for the collection of flow through on-site runoff and the transmission of these waters to receiving waters or to a treatment pond.
36. Leachate — Indicate whether an impervious material is being placed to retard the movement of leachate into the shallow groundwater aquifer.
37. Liner Type — Check one of the materials listed which is used as a liner.
38. Well Point System — Indicate whether there is a well point system used to lower the water table in the immediate area of the landfill.
39. Oxidation Pond — Check whether or not there exists a pond to receive liquids collected in the immediate area and/or leachate collected in a tank or sump or otherwise treat their liquids and remove settleable solids.
40. Pond Area — Indicate area in acres.
41. Depth of Soil to Bedrock — Indicate the measured depth of soil in feet between the surface and bedrock. This information may be obtained from the required geologic survey.
42. Evidence of Leaching — Leaching often manifests itself in the form of dark liquid coming from the bottom of land disposal sites or through contamination of nearby shallow water wells. On new sites, this has to be a judgment evaluation based on design under similar conditions.
43. Final Treatment Needed — Indicate whether liquids collected from existing or proposed sites will need final treatment prior to discharge into a water body.
44. Final Treatment — Check this item to enable the Department to determine if the proper type of treatment is to be provided. It may be either a single type or a combination of methods; however, if a single method is to be used other than those listed, check (f) Other. If it is a combination of methods, check (g) Other. If it is a combination of methods, check (g) Other. If it is a combination of methods, check (g) Other. If it is a combination of methods, check (g) Other.
45. Discharge — Check the receiving waters into which the collected liquids from the perimeter ditch or pond are discharged. Do not check (a) if the liquids are discharged to a body of water.
46. Rodent Control — Indicate whether rodent control is being adequately provided.
47. Cell Depth of Refuse — Vertical depth in feet of refuse between the base and the top surface of completed refuse before cover material is added.
48. Insect Problem — The same basis as item 46.
49. Insect Control — Indicate control if the site is blow-down covered with a portable snow fence or other measure is used to help control blowing papers.
50. Full Time Attendant — This is self-explanatory.
51. All Weather Access Road — This is self-explanatory.
52. Gas Control — Are special relief devices provided to

(5) Volume Reduction Plant Data

Control No.		VOLUME REDUCTION PLANT DATA (Dept. Use)	
1. County	2. Site Name	3. Date	4. Date
5. Location, UTM or Lat. & Long. &			
6. Operating Authority			
7. Owner			
8. Address			
9. Phone No.			
10. Population Served			
11. Adjacent Land Use			
12. Operations (a) Residential (b) Commercial (c) Industrial (d) Other			
13. Days Operated			
14. Type of Operation (a) Incineration (b) Baling (c) Composting (d) Shredding (e) Pyrolysis (f) Other			
15. Waste Received (a) Paper (b) Ferrous Metals (c) Non-Ferrous Metals (d) Glass (e) Rubber (f) Plastic (g) Other			
16. Material Recovered, Tons/Week (a) Paper (b) Ferrous Metals (c) Non-Ferrous Metals (d) Glass (e) Rubber (f) Plastic (g) Other			
17. Energy Recovery (a) Bi-Pressure Steam (b) Low-Pressure Steam (c) Electricity (d) Chilled Water (e) Gas, Cable Pk./Mtr. (f) Gas, BTU/Mtr. (g) Oil, Gal/Mtr. (h) Oil, BTU/Mtr. (i) Other			
18. Process Water (a) Discharged To (b) Treatment (c) Recycled (d) Quantity/Mtr.			
19. Supplementary Fuel (a) Type (b) Quantity/Mtr. (c) Estimated Operating Cost (d) Total/Waste Ton (e) Material Salvage Value (f) Net Operating Cost			

17-7.31 Permit Forms.

(1) Temporary operation permit

STATE OF FLORIDA

DEPARTMENT OF POLLUTION CONTROL

TEMPORARY OPERATION PERMIT

FOR A SOLID WASTE RESOURCE RECOVERY AND MANAGEMENT FACILITY

Permit no. _____ Date _____
 Pursuant to the provisions of section 403.06(1)(a) and 403.07 of Chapter 403 Florida Statutes and Chapter 17-4 and 17-7 Florida Administrative Code. This permit is issued to:

For the operation of the following:

Located at:

In accordance with the application dated _____

and in conformity with the statements and supporting data entered therein, all of which are filed with the department and are considered a part of this permit.

This permit shall be effective from the date of issue until _____

or until revoked or surrendered and shall be subject to all laws of the state and the rules and regulations of the department.

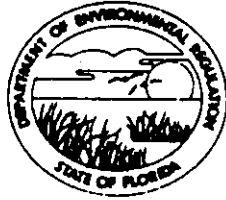
REGIONAL ENGINEER

PETER P. BALLET
 EXECUTIVE DIRECTOR



Resource Recovery and Management
Part I: Solid Waste Facilities,
Chapter 17-7, F.A.C.
Department of Environmental Regulation
Effective 05/25/1979

TOWERS OFFICE BUILDING
BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM
GOVERNOR
JACOB D. VARN
SECRETARY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

ATTACHED IS A COPY OF CHAPTER 17-7, FLORIDA ADMINISTRATIVE
CODE, AS ADOPTED BY THE ENVIRONMENTAL REGULATION COMMISSION
ON MARCH 28, 1979, AND FILED WITH THE SECRETARY OF STATE
ON MAY 4, 1979. THE EFFECTIVE DATE OF THIS RULE IS
MAY 25, 1979.

IF YOU HAVE ANY QUESTIONS CONCERNING THIS RULE, PLEASE
CONTACT A DEPARTMENT DISTRICT OFFICE OR THE SOLID WASTE
SECTION AT THE LETTERHEAD ADDRESS OR AT TELEPHONE NUMBER
904/488-0300.

100-5-25-79

RULES

OF THE

DEPARTMENT OF ENVIRONMENTAL REGULATION

CHAPTER 17-7

RESOURCE RECOVERY AND MANAGEMENT

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- 17-7.42 Preliminary Examination of Resource Recovery Equipment
- 17-7.43 Final Examination and Certification of Resource Recovery Equipment
- 17-7.44 Criteria for Resource Recovery Equipment

17-7.01 Declaration and Intent.

It is the intention of the Environmental Regulation Commission that the Department of Environmental Regulation encourage, in all appropriate ways, reclamation processes which will reclaim waste material for beneficial uses.

The Florida Department of Environmental Regulation finds and declares that improper disposal of solid waste and use of open dumps as a means of final disposal results in or contributes to air pollution, water pollution, and land blight. The Department further finds that proper methods of disposal of solid waste will reduce air pollution, water pollution and the use of the land as an uncontrolled receptacle for improperly treated waste. The Department further finds that properly designed, operated and monitored disposal of solid waste enhances the environment.

It is the intent of the Department to require that solid waste disposal be conducted in a manner and under conditions which will reduce the waste of recoverable resources and eliminate the dangerous and deleterious effects of improper solid waste disposal upon air quality, water quality, and human health, safety and welfare.

The purpose of this rule is to implement the provisions of the Florida Resource Recovery and Management Act, which directs the Department to plan for and regulate the storage, collection, transportation, separation, processing, recycling and disposal of solid waste in order to protect the public safety, health and welfare, to enhance the environment for the people of the state, and to recover resources which have the potential for further use, and to assure that the final irreducible residue is disposed of in a manner which enhances the environment.

The Department shall establish, maintain and promote a cooperative state program of planning and technical assistance for resource recovery and management; encourage and require designated counties and municipalities to plan for and provide efficient, environmentally acceptable resource recovery and management; review the design of and issue permits for construction and operation of resource recovery and management facilities; promote the application of resource recovery systems which preserve and enhance the quality of air, water and land resources; and establish a system for the examination and certification of resource recovery equipment.

Pursuant to Sections 403.061 and Sections 403.701 through 403.713, Florida Statutes, the execution and enforcement of any section regarding actual or potential pollution of air or waters is under the jurisdiction of the Department of Environmental Regulation. Chapter 17-7 F.A.C.

replaces all applicable sections of Chapter 10 D-12 F.A.C.

Specific Authority 403.061, 403.704 F.S. Law Implemented 403.021, 403.061, 403.087, 403.701 through 403.715 F.S. History—New 10-1-74, Amended 5-24-79.

17-7.02 Definitions.

The following words, phrases or terms as used in this Chapter, unless the context indicates otherwise, shall have the following meaning:

(1) "Agricultural Wastes" means the solid wastes resulting from the rearing and slaughtering of animals and the processing of animal products, orchard and field crops which are stored, transported or disposed of as an unwanted waste material.

(2) "Aquifer" means a zone below the surface of the earth capable of producing usable quantities of water through wells or springs.

(3) "Available Market" means any person, user or enterprise, willing to enter into a long-term contract or agreement to purchase materials or energy recovered from solid waste.

(4) "Baling" means a method of reducing and restraining solid waste volume by mechanical compaction to achieve high density per unit volume.

(5) "Base Flood" means a flood that has a 1% or greater change of recurring in any year, or a flood of a magnitude equalled or exceeded once in 100 years on the average over a long period. In any given 100 year interval such a flood may not occur, or more than one such flood may occur.

(6) "Bulky Wastes" means items whose large size or weight precludes or complicates their handling by normal collection, processing, or disposal methods.

(7) "Cell" means a volume of solid waste received since the last previous application of initial cover. The compacted waste and subsequent initial cover constitute a cell.

(8) "Composting" means a controlled process of degrading organic matter by micro-organisms which results in a humus material.

(9) "Composting Facility" means a facility where organic matter is processed by natural or mechanical means to aid the microbial decomposition of the organic matter. Processing may include simple exposure resulting in a natural decay or physically turning, windrowing, aerating or other mechanical reduction of the organic matter.

(10) "Construction and Demolition Debris" means non-hazardous material generally considered not to be water soluble, including but not limited to steel, concrete, glass, brick, asphalt roofing material, or lumber from a construction or demolition project. Contamination of construction and demolition debris with any amount of other types of solid waste will cause it to be classified as other than construction and demolition debris.

(11) "Council" means the Florida Resource Recovery Council.

(12) "Designated Counties" means those counties which are designated pursuant to Sections 403.705, 706 and 710, F.S., to plan for and engage in resource recovery and management programs and are listed as follows:

Alachua	Hillsborough	Pinellas
Bay	Lee	Polk
Brevard	Leon	Sarasota
Broward	Manatee	Seminole
Dade	Orange	Volusia
Duval	Palm Beach	
Escambia	Pasco	

(13) "Energy Recovery" means the conversion of solid waste into energy or a marketable fuel.

(14) "Final Cover" means a layer of compacted earth two (2) feet in depth applied to a completed landfill. It may consist of initial cover (6 inches) and intermediate cover (12 inches), with the remaining top six inches being loosely compacted to promote plant growth.

(15) "Garbage" means all kitchen and table food waste, animal or vegetative waste that is attendant with or results from the storage, preparation, cooking or handling of food materials.

(16) "Generation" means the act or process of producing either solid waste or a marketable fuel.

(17) "Ground Water" means water beneath the surface of the ground, whether or not it is flowing through known and definite channels.

(18) "Hazardous Wastes" means materials or combinations of materials which require special management techniques because of their acute or chronic effects on air and water quality, on fish, wildlife, or other biota, and on the health and welfare of the public. These materials may include, but are not limited to, volatile, chemical, biological, explosive, flammable, radioactive and toxic materials.

(19) "Implement" means to carry out, accomplish, give practical effect to and ensure actual fulfillment by concrete means or by providing instruments or means of accomplishment.

(20) "Implementation Schedule" means a timetable for carrying out a local plan.

(21) "Infectious Wastes" means those wastes which may cause disease or reasonably be suspected of harboring pathogenic organisms; included are wastes resulting from the operation of medical clinics, hospitals, and other facilities producing wastes which may consist of, but are not limited to, diseased human and animal parts, contaminated bandages, pathological specimens, hypodermic needles, contaminated clothing, and surgical gloves.

(22) "Initial Cover" means a six (6) inch layer of compacted earth used to enclose a cell prior to intermediate or final cover.

(23) "Intermediate Cover" means a layer of compacted earth one (1) foot in depth applied to either a partially completed landfill where final cover is not to be applied within one year of cell completion or to multiple lifts if an additional lift on the cell is not used within one year.

(24) "Leachate" means a liquid which has emerged from solid waste and contains dissolved or suspended materials.

(25) "Lift" means a completed horizontal series of cells.

(26) "Local Agency" means any special district, authority, a county, a municipality, or any other political subdivision.

(27) "Local Solid Waste Program" means a local resource recovery and management program as described in Part II of this rule which includes a plan and an implementation schedule.

(28) "Materials Recovery" means any process by which one or more of the various components in solid waste was separated, concentrated, and reused.

(29) "Milled Refuse" means refuse that has been mechanically ground, shredded or pulverized.

(30) "Monitoring Wells" are strategically located wells from which water samples are drawn for water quality analysis.

(31) "Non-Designated Areas" means those areas which are not recommended by the Resource Recovery Council to plan for a resource recovery and management program.

(32) "Open Burning" means the burning of any material under such conditions that the products of combustion are emitted directly into the open atmosphere.

(33) "Open Dump" means a site for the disposal of solid waste which does not comply with the criteria of Chapter 17-7, F.A.C.

(34) "Person" means any and all persons, natural or artificial, including any individual, firm, or association; any municipal or private corporation organized or existing under the laws of Florida or any other state; any county of this state; and any governmental agency of this state or the Federal Government.

(35) "Planning Area" means the area defined by a local agency or agencies for solid waste management and resource recovery management planning.

(36) "Promiscuous Dump" means an unauthorized site where indiscriminate deposits of solid waste are made.

(37) "Recovered Materials" means materials which are recovered from the solid waste stream by separation, collection, or other means for reuse or resale.

(38) "Recycling" means the reuse of solid waste in manufacturing, agriculture, power production, or other processes.

(39) "Regional Agency" means one or more public agencies joined together by inter-local agreements for a stated period of time or by special Act of the Legislature, to assume the responsibility for resource recovery and management.

(40) "Resource Management" means the process by which solid waste is collected, transported, stored, separated, processed, or disposed of in any other way according to an orderly, purposeful, and planned program.

(41) "Resource Recovery" means the process by which materials, excluding those under control of the Nuclear Regulatory Commission, which still have useful physical or chemical properties after serving a specific purpose are reused or recycled for the same or other purpose, including use as an energy source.

(42) "Resource Recovery and Management Facility" means any solid waste disposal area, volume reduction plant, or other facility the purpose of which is resource recovery or the disposal, recycling, processing, or storage of solid waste.

(43) "Rural Containerized Collection System" means a collection system which involves

mechanically serviceable containers, strategically located throughout an area, the contents of which are picked up on a regular schedule by a truck and their contents delivered to a transfer station or solid waste processing or disposal facility.

(44) "Sanitary Landfill" means a facility, excluding those exempted under Subsection 17-7.03(2)(a)1. of this rule, for the disposal of solid waste on land which meets the criteria of Chapter 17-7, F.A.C.

(45) "Sanitary Nuisance" means a condition created by any person, or the keeping, maintaining, propagation, existence, or permitting of anything by a person which the health or lives of individuals may be threatened or impaired, or by which disease may be caused or transmitted.

(46) "Shallow Water Supply Well" means any potable water well which pumps water from an unconfined water table aquifer.

(47) "Shredding" means a process of reducing the particle size of solid waste through the use of grinding, shredding, milling or rasping machines.

(48) "Sludge" means an solid, or semi-solid, or liquid generated from any waste water treatment plant, water supply treatment plant, air pollution control facility, septic tank, grease trap, portable toilets and related operations, or any other such waste having similar characteristics or effects.

(49) "Solid Waste" means garbage, rubbish, refuse, or other discharged solid or semi-solid materials resulting from domestic, commercial, industrial, agricultural, and governmental operations, but does not include solids or dissolved material in domestic sewage effluent or other significant pollutants in water resources such as silt, dissolved or suspended solids in industrial waste water effluents, dissolved materials in irrigation return flows or other common water pollutants.

(50) "Source Separation" means the setting aside of separated recyclable waste materials at their point of generation (household or commercial) by the generator.

(51) "Special Wastes" means those wastes that require extraordinary management. They include but are not limited to, abandoned automobiles, white goods, used tires, waste oil, sludges, dead animals, agricultural and industrial wastes, septic tank pumpings, and infectious and hazardous wastes.

(52) "Stabilized" means that biological and chemical decomposition of the wastes has ceased or diminished to a level so that such decomposition no longer poses a pollution, health, or safety hazard.

(53) "State Program" means the Resource Recovery and Management Program described in Chapter 403.705 and 403.706, FS, and this rule.

(54) "Ton" means a short ton, 2000 pounds (.9078 metric tons).

(55) "Transfer Station" means a facility where solid waste from several relatively small vehicles is placed into a larger vehicle before being transferred to a solid waste processing or disposal facility.

(56) "Trash" means combinations of yard trash and construction and demolition debris along with other debris such as paper, cardboard, cloth, glass, white goods, street sweepings, vehicle tires and other like matter.

(57) "Treatment" means the process of

altering the character, or physical or chemical condition of the waste to prevent pollution of water, air or soil, to safeguard the public health or enable the waste to be recycled.

(58) "Vector" means a carrier organism that is capable of transmitting a pathogen from one organism to another.

(59) "Volume Reduction Plant" includes, but is not limited to, incinerators, pulverizers, compactors, shredding and baling plants, composting plants and other plants which accept and process solid waste for recycling or disposal.

(60) "Waste Oil" means all types of waste oils, including waste automotive lubricants, industrial waste oils, and petroleum compounds.

(61) "White Goods" means inoperative and discarded refrigerators, ranges, washers, water heaters, and other similar domestic and commercial appliances.

(62) "Working Face" means that portion of a sanitary landfill where waste is discharged, spread and compacted prior to placement of initial cover.

(63) "Yard Trash" means vegetative matter resulting from landscaping maintenance or land clearing operations and includes materials such as tree and shrub trimmings, grass clippings, palm fronds, trees and tree stumps.

All other definitions found in Chapter 403, F.S., and Chapter 17-7, F.A.C., to the extent that they are consistent with the definitions of this Chapter, are applicable to the terms used in this Chapter.

Specific Authority 403.061, 403.704 F.S. Law Implemented 403.021, 403.031, 403.061, 403.087, 403.701 through 403.715 F.S. History—Transferred from 10D-12.02, 10-1-74, Revised 7-20-76, Amended 5-24-79.

17-7.03 Solid Waste Resource Recovery and Management Bond and Permit Requirements.

(1) Bonds:

All persons engaged in the operation of sanitary landfills other than counties, municipalities or other governmental agencies and persons operating local agency-owned facilities under contract, shall post a performance bond or other approved security with the local agency within whose jurisdiction the site is located in the amount determined by the local agency to be consistent with the estimated cost of properly closing the site in accordance with Chapter 17-7.07, F.A.C. The requirements of this provision may be waived in writing by the local agency within whose jurisdiction the site is located. A copy of such performance bond or other security or the written waiver of same shall be provided to the department as a part of the permit application.

(2) Permit Requirements

(a) No resource recovery and management facility or site shall be operated, maintained, constructed, expanded, or modified without an appropriate and currently valid permit issued by the Department as defined in Chapter 17-4, F.A.C.

1. However, no permit under this section shall be required for the following activities provided that no public nuisance or condition adversely affecting the public health, safety and welfare is created and provided that the activity does not violate other state or local laws, ordinances, rules, regulations or orders including the Florida Air and Water Pollution Control Act, the Florida Safe Drinking Water Act, and standards adopted thereunder.

a. Disposal by persons of solid waste resulting from their own activities on their own property. This exemption shall not apply when solid wastes generated on more than one property are collected and disposed of at one disposal site.

b. Normal farming operations.

c. Solid waste disposal areas limited to the disposal of construction and demolition debris.

2. A determination by the department of whether an activity creates a public nuisance or condition adversely affecting the public health, safety or welfare shall include consideration of whether the activity violates the prohibitions set forth in Section 17-7.04 of this rule.

(b) The person making application for a resource recovery and management facility permit shall submit to the Department four copies of an engineering plan for the proposed construction and operation of the facility prepared by a Professional Engineer registered in the State of Florida in accordance with provisions of Chapter 471, F.S. Said Engineer shall be required to make periodic inspections during construction of the facility to insure that design integrity is maintained. If the person is acting as a public officer employed by the State, a county or a municipality and where that person estimates the initial construction cost is less than ten thousand dollars, this requirement may be waived in accordance with Chapter 471.05(4), F.S. Any law to the contrary notwithstanding, the construction cost of a solid waste disposal area shall not include land acquisition cost or the cost of equipment used to construct and maintain the same.

(c) The department, following a review of the resource recovery and management facility application and plan, shall:

1. Issue a construction or operation permit if the plan provides reasonable assurances that the requirements and standards of Chapter 17-7, F.A.C. and Chapter 403, F.S. will be met.

2. Issue a construction or operation permit which includes conditions and provisions to ensure compliance with Chapter 17-7, F.A.C., and Chapter 403, F.S.

3. Deny the issuance of a construction or operation permit if the plan does not provide reasonable assurances that the requirements of Chapter 17-7, F.A.C., and Chapter 403, F.S. will be met.

Specific Authority 403.061, 403.704 F.S. Law Implemented 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708 F.S. History—Transferred from 10D-12.03, 10D-12.04, 10D-12.07, 10-1-74, Amended 5-24-79.

17-7.04 Prohibitions.

(1) No solid waste shall be disposed of except by sanitary landfill, incineration, recycling process, or other method approved by the Department and consistent with this chapter and applicable approved local agency programs or regulations.

(2) Unless permanent leachate control methods are installed, no solid waste shall be disposed of by being placed:

(a) in an open sink hole or in the immediate area thereof.

(b) in a limestone, or gravel pit.

(c) in an area immediately adjacent to or within 500 feet of an existing or approved shallow water supply well unless disposal takes place in a sanitary landfill which was originally permitted before the shallow water supply well was in

existence.

(d) in a dewatered pit.

(3) No solid waste shall be disposed of:

(a) in an area subject to frequent and periodic flooding unless drainage provisions approved by the Department are installed.

(b) in any natural or artificial body of water including ground water.

(c) within 200 feet of any natural or artificial body of water, except canals used to lower site water tables or bodies of water, contained completely within the site, which do not discharge from the site.

(d) in any area open to public view from any major thoroughfare without proper screening where it can practically be provided.

(e) on the right of way of any public highway, road, or alley.

(f) within the boundaries of any airport property whether such airport be for public, private or limited use.

(g) within ten thousand (10,000) feet of the closest point of any runway at any airport licensed by the State of Florida, owned or operated by the United States, or subject to regulation by the Federal Aviation Administration which may be used by turbo-jet aircraft, or within five thousand (5,000) feet of any runway at any such airport used only by piston engine type aircraft unless it has been determined by the Federal Aviation Administration, the Florida Department of Transportation, or other appropriate federal or state agency charged with preventing airport hazards, that the proposed solid waste facility poses no safety hazard to aircraft in the vicinity.

(4) no open burning of solid waste shall be permitted at any land disposal site except in accordance with the provisions of Chapter 17-5 F.A.C. No burning of solid waste shall be allowed for the purpose of the instruction and training of organized fire fighters or industrial employees.

(5) Hazardous Waste: Any hazardous waste which is intended to be disposed of by land disposal or incineration and which can be reasonably expected to create a condition harmful to human health or air or water quality shall at the owner's expense, be rendered non-hazardous prior to delivery to the disposal facility. Should a hazardous waste be of such composition that it cannot be rendered non-hazardous, the producer of such wastes must confer with the Department to determine a safe disposal or storage method and shall dispose of or store the waste by a method which is approved by the department. The approved method shall be determined on a case by case basis and shall be governed by the nature of the hazardous waste and its potential impact on air and water resources and public health, safety and welfare.

(6) Infectious waste shall be properly incinerated or processed by an alternate method which has been approved by the Department. No untreated infectious waste shall be deposited in any sanitary landfill.

(7) Transportation and disposal of solid wastes into or through the State, into or across county or municipal boundaries shall not be impeded provided such transport and disposal is in accordance with the provisions of this rule, does not degrade the environment, create a physical or

aesthetic nuisance, or endanger or impair the public's health or welfare.

Specific Authority 403.061, 403.704 F.S. Law Implemented 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708 F.S. History—Transferred from 10D-12.06, 10D-12.07, 10-1-74, Amended 5-24-79.

17-7.05 Sanitary Landfill Criteria.

(1) Classification of Sanitary Landfills. Sanitary landfills are classified into three (3) different classes based upon the amount and type of wastes received at the landfill. There are varying requirements throughout this rule depending upon the class of landfill.

(a) Class I landfills are those which receive solid waste, and which receive a monthly average of 20 tons or more of solid waste per day as weighed by scale if available, or 50 cubic yards or more of solid waste per day as measured in place after covering. Such sites shall receive an initial cover at the end of each working day. If such a site is limited to the receipt of only trash or yard trash it shall be classified as a Class III landfill.

(b) Class II landfills are those which receive solid waste, and which receive a monthly average of 20 tons or less of solid waste per day as weighed by scales if available, or less than 50 cubic yards of solid waste per day as measured in place after covering. Such sites shall receive an initial cover at least once every four days. If Class II sites receive sewage or industrial sludges, dead animals, rendering wastes, or other nuisance wastes, Class I covering frequency shall be required. If such a site is limited to the receipt of only trash or yard trash types of solid waste, it shall be classified as a Class III landfill.

(c) Class III landfills are those which receive only trash or yard trash. Such sites are required to apply initial cover once every week. However, Class III sites which are operated as composting facilities are not required to apply initial cover. If trash or yard trash is mixed with other types of solid waste, the disposal site shall be classified as Class I or II landfills, depending upon the amount of wastes received at each site.

(d) More frequent cover may be required at Class II and Class III sites if necessary to prevent health and environmental problems. The department shall consider proximity to nearby residences and wells, evidence of dumping of unauthorized wastes, unlawful fires, littering of nearby property, odor problems, presence of vectors, and any other demonstrable potential or existing problems at such sites when making this determination.

(2) Location Requirements.

(a) Soil Survey

Solid waste shall be disposed of only in areas where a soil survey has been made using the U.S.D.A. Soil Conservation Service taxonomy. The degree of limitation of the soil found shall be rated in accordance with the U.S.D.A. Soil Conservation Service Guide for Interpreting Engineering Uses of Soils. Such requirement may be waived by the Department only after being advised in writing by the Soil Scientist that the soils are such that a determination of soil series is not possible. This information can be included in the hydrogeological survey. The Soil Survey is not required for Class III sites and for sites where this information is included in the hydrogeological survey.

(b) Hydrogeological Survey

Solid waste shall be disposed of only in areas where a hydrogeological survey has been made. For Class I sites the hydrogeological survey shall include but not be limited to the determination of the depth of the water table, direction of groundwater flow and soil characteristics. For all other sites the best available information from Water Management Districts, U.S. Geological Survey, Florida Bureau of Geology or other acceptable sources shall be required.

(c) Site Requirements

The land disposal site location shall:

1. be easily accessible by collection vehicles, automobiles and where applicable, transfer vehicles;
2. safeguard against water pollution originating from the disposal of solid waste;
3. have an adequate quantity of acceptable earth cover available. The cover material shall be easily workable and compactable.
4. conform with the proper zoning.

(3) Operational Plans - The proposed operational plans shall include:

(a) Map or aerial photograph of the area showing land use and zoning within $\frac{1}{4}$ mile of the solid waste disposal site using the Florida Land Use Cover and Forms Classification System, (available from the Department). This map or photograph which shall be taken within one year of permit application, shall be of sufficient scale to show all homes, industrial buildings, wells, watercourses, dry runs, rock out-croppings, roads and other significant details.

(b) Plot plan of the site showing dimensions, location of soil borings, proposed trenching plan and original elevation, cover stock piles, and fencing. Cross sections shall be included on the plot plan or on separate sheets showing both the original and proposed fill elevations. The scale of the plot plan should not be greater than 200 feet to the inch. The plot plan is not required for Class III sites.

(c) The design of the sanitary landfill shall include one or more topographic maps at a scale of not over 200 feet to the inch with 5-foot contour intervals. These maps shall show: the proposed fill area; any borrow area; access roads; grades required for proper drainage of each lift and typical cross section of a lift; special drainage devices if necessary; fencing; equipment facilities; and all other pertinent information.

(d) A report shall accompany the plans indicating:

1. population and area to be served by the proposed site.
2. anticipated type, annual quantity and source of solid waste, expressed in tons or cubic yards of compacted materials.
3. anticipated life of the site.
4. geological formations and groundwater elevations to a depth of at least 10 feet below proposed excavations and lowest elevation of the site. Such data shall be obtained by soil borings or other appropriate means. This information is not required for Class III sites.
5. soil map, interpretive guide sheets, and a report giving the suitability of the site for such an operation.
6. source and characteristics of cover material.

7. contingency plan, including alternate waste handling and disposal methods, in case of an emergency such as equipment failure or natural disaster.

8. persons responsible for actual operation and maintenance of the site and intended operating procedures.

9. A plan for gas control if gas generation from the site is expected.

10. operational plans to direct and control the use of the site.

11. plan for controlling the type of waste received at the site; plans shall specify inspection procedures, number and location of spotters and procedures to be followed if prohibited types of waste are discovered.

(e) All sites shall be designed to meet the water quality standards of Chapter 17-3 and 17-4, F.A.C., at the site's boundary. These design features may incorporate natural hydrogeological conditions, which include biological, chemical and physical systems and dilution factors.

(4) Operations.

(a) Monitoring Wells

1. Within nine (9) months after the effective date of this rule.

a. Class I sanitary landfill sites shall provide a minimum of three (3) monitoring wells. At a new site these wells shall be installed before disposal of solid waste takes place. The location of these wells shall be in accordance with the hydrogeology of the site and the predicted behavior of groundwater flow. At least one monitoring well shall be located upgradient to the landfill site, a second well shall be located at the downstream boundary of the first section filled or to be filled in the landfill site, and a third well shall be installed at the downgradient boundary of the landfill site. These wells shall be screened throughout the saturated trapped thickness of the aquifer. If the hydrogeologic characteristics of the site indicate that more than one downstream well is required to detect leachate generation and movement, the department may require additional downstream monitoring wells.

b. Class II landfill sites shall have at least one (1) monitoring well, which shall be placed at or close to the downstream boundary of the landfill site in the direction of groundwater flow. The Department may require additional monitoring wells at Class II sites no farther than one (1) mile from the site if a significant change in the initial quality of the water has occurred in the downstream monitoring well which may adversely affect the beneficial uses of the water. These additional wells may be public or private water supply wells if they are suitable for use in determining water quality.

2. Construction of monitoring wells and the collection of samples shall be in accordance with EPA recommended methods as contained in "Procedures Manual for Ground Water Monitoring at Solid Waste Disposal Facilities" (EPA/530/SW-611) (available from the Department), which is hereby incorporated by reference into these regulations. The wells shall be deep enough to insure that groundwater samples can be obtained with the groundwater table elevation at its estimated lowest point and shall be protected from damage or destruction. Samples shall be analyzed in accordance with the methods described in Chapter 17-4, F.A.C.,

which are hereby incorporated by reference into these regulations. Analyses shall be performed by laboratories which are approved by the Department of Health and Rehabilitative Services to conduct analyses pursuant to Section 403.863, F.S., the State Public Water Supply Laboratory Certification Program.

3. At the time of original permit application or at the time of renewal of the permit, after the effective date of this rule, all sanitary landfill sites are required to establish the background water quality by testing for the following parameters:

- a. conductivity
- b. nitrates
- c. iron
- d. chemical oxygen demand

e. other parameters if determined necessary by the department depending upon the nature of the waste received or the hydrogeological characteristics of the area or site.

4. Sampling shall be made by the sanitary landfill site operator or his delegated representative at no longer than six (6) month intervals after the background water quality has been established and operation of the site is begun. The samples shall be analyzed for the following key parameters:

- a. Conductivity
- b. Nitrates
- c. Chemical Oxygen Demand
- d. Other parameters, appropriate to a

particular area or site, may be used in lieu of the foregoing provided the applicant demonstrates to the department that the substitutions are adequate indicators of leachate.

5. The disposal facility operator shall be responsible for forwarding the sample analyses reports to the district office within ten (10) working days after the analyses report is received.

6. Additional sampling at more frequent intervals and analyses for extended parameters other than key parameters may be required by the department if a change, other than the normal seasonal changes, is detected in the value of the key parameters when compared with background values. Extended parameters may include any of those leachate indicators which are listed in the EPA publication "Procedures Manual for Ground Water Monitoring at Solid Waste Disposal Facilities (EPA/530/SW-611)" (available from the Department).

7. At least one week before sampling for extended parameters the facility operator or his representative shall inform the department so that a representative of the department may be present to collect a split sample.

(b) Operational design features. The disposal site shall be provided with operation features and appurtenances necessary to maintain a clean and orderly operation. These minimum features are:

1. An effective barrier designed to prevent unauthorized entry and dumping into the landfill site.

2. An all-weather access road to the site. A special area with a stabilized roadway shall be provided within the site for wet weather operations.

3. Signs indicating name of operating authority, traffic flow, hours of operation, and charges for disposal (if any).

4. Scales for weighing solid waste received at the landfill, or in lieu thereof, estimates the number of cubic yards received at all Class I and Class II sites. Quantitative records shall be forwarded to the Department upon request.

5. Dust control methods such as approved chemicals, oils, or water sprays.

6. Litter control devices; portable fences, or other suitable means.

7. Fire protection and fire-fighting facilities adequate to insure the safety of employees and provisions to deal with accidental burning of solid waste within the sanitary landfill.

(c) Personnel and Facilities. In order to insure proper staffing and suitable facilities the following shall be required:

1. During hours of operation, an attendant at Class I sites. The Department may require an attendant at Class II or Class III sites if the Department affirmatively demonstrates that such a requirement is necessary to prevent unlawful fires, unauthorized dumping, or littering of nearby property.

2. Communication facilities for use in emergencies at Class I sites.

(d) Equipment. To insure adequate operation the following is required:

1. Equipment sufficient for excavating, spreading, compacting, covering operations, and other transportation and earthmoving needs.

2. Sufficient reserve equipment, or arrangements to provide alternate equipment within 24 hours following equipment breakdown.

3. Safety devices on equipment to shield and protect the operators from potential hazards during operation.

(e) The Department recommends but does not require:

1. A potable water supply.
2. A suitable employee shelter.
3. Handwashing and toilet facilities.
4. Equipment wash-out facilities.
5. Electric service for operations and repairs.
6. Equipment shelter for maintenance and storage of parts, equipment and tools.

7. Emergency first aid equipment to provide adequate treatment of an injured person in case of an accident.

8. That employees be trained in the proper and safe operation of all equipment and first aid procedures.

(f) Sanitary landfills shall provide for the collection, control and treatment of surface runoff from the site as necessary to meet the water quality standards of Chapters 17-3 and 17-4, F.A.C., for the receiving waters at the boundary of the site. The design of such treatment facility shall be reviewed and approved by the Department as a part of the permit required for the sanitary landfill.

(g) Any leachate emanating from a landfill shall be collected and treated as necessary to meet the water quality standards of Chapters 17-3 and 17-4, F.A.C., for receiving waters at the boundary of the site. The design of the treatment facility shall be reviewed and approved by the Department as a part of the permit required for the sanitary landfill.

(h) The grade of the completed refuse cells and lifts in addition to the final cover shall drain

the surface runoff water to prevent uncontrolled ponding.

(i) All completed portions of sanitary landfills which have received final cover and at which no future vehicular traffic is anticipated shall be planted with grass or acceptable cover vegetation to minimize infiltration, erosion and dust.

(j) All sanitary landfills where gas generated by decomposition of wastes is not readily dispersed into the atmosphere shall be provided with a gas control system. In no case shall emissions from such gas control systems be allowed to result in violation of air quality standards pursuant to Chapter 403, F.S.

(k) All solid waste at Class I and Class II sites shall be spread in layers of approximately two (2) feet in thickness and compacted to approximately one (1) foot in thickness before the next layer is applied. Solid waste at all Class III sites, except those yard trash sites which are operated as composting facilities, shall be spread in layers and compacted once every week using suitable heavy equipment. Bulky materials such as tree stumps or large pieces of concrete which are not easily compacted should be worked into other materials as much as practical. Following such compaction the solid waste at all sites, except Class III sites which are operated as composting facilities shall be covered with initial cover.

(l) All compacted solid waste shall be formed into cells with working face and side grades at a slope of approximately thirty (30) degrees. Cell depth shall be constrained by the type of operation in use (area, trench), the daily volume of waste, width of the working face, and good safety practices.

(m) The working face of a cell shall be kept as narrow as is consistent with the proper operation of trucks and equipment to minimize exposed areas.

(n) An intermediate cover of one (1) foot of compacted earth in addition to six (6) inch initial cover shall be applied within seven (7) days of cell completion if final cover is not to be applied within one (1) year of cell completion.

(o) Pesticides used to control rodents, flies and other insects shall be as specified by the Florida Department of Agriculture and Consumer Services. (Chapter 5E-2, F.A.C.).

(p) Uncontrolled and unauthorized scavenging shall not be permitted at any sanitary landfill site. Controlled salvaging may be permitted by the local authority responsible for the facility.

(q) Alternate procedures not included in this section shall be considered in a variance application submitted pursuant to Section 403.201, F.S., and Chapter 17-1, F.A.C.

Specific Authority 403.061, 403.704 F.S. Law Implemented 403.702, 403.704, 403.705, 403.707, 403.708 F.S. History—Transferred from 10D-12.07, 10-1-74. Revised 5-11-75, 7-20-76, Amended 5-24-79.

17-7.06 Special Waste Handling.

(1) Disposal of waste sludges, including septic tank contents referred to in Chapter 10D-6, F.A.C., shall be consistent with special consideration of potential air and water pollution and the increased threat to the health and safety of landfill employees. Waste sludges shall be disposed of in a sanitary landfill accepting municipal solid waste only where alternate disposal methods are not available and when such disposal does not violate

laws and regulations.

(2) Abandoned vehicles brought to the site may be stored temporarily in a separate area, provided arrangements have been made for frequent removal to an automobile recycler. If such arrangement has not been made all abandoned vehicles, white goods and similar materials shall be compacted to minimize voids before being placed in the fill area.

(3) In the event of a natural disaster, during which large volumes of debris are accumulated (such as trees and buildings that have been destroyed) the debris may be transported to an area remote from habitation, and burned, in accordance with Section 17-5.08(1), F.A.C.

(4) Landfilling milled solid waste without daily soil cover may be an environmentally acceptable method of final disposal. However, the same engineering principles required for a sanitary landfill site must be employed, including a properly designed and operated milling facility. The Department will grant approval for such disposal method contingent upon the following conditions:

(a) Particle size. Seventy percent (70%) of all milled refuse, dry weight, shall be capable of passing through a three (3) inch screen.

(b) Waste shall be spread to a smooth contour and compacted promptly after placement and left undisturbed to prevent odors. Wind blowing of milled refuse and paper shall be controlled.

(c) All solid waste storage areas in the milling facility must be maintained and cleaned at the end of each day's operations, or during continuous operation, as necessary, to prevent fly, rodent or other vector problems. All milling equipment shall be designed and maintained to control spillage and to achieve the required milled product quality.

(d) An operational plan shall include provision for removal and proper disposal of wastes within 24 hours should the mill facility breakdown or operational quality be diminished. The operational plan shall include provision for a stock pile of emergency soil cover material and a plan to convert the operation to a sanitary landfill.

(e) Leachate collection and treatment as necessary to meet water quality standards of Chapters 17-3 and 17-4, F.A.C., shall be provided at all milled solid waste sites. The design of the treatment facility shall be reviewed and approved by the department as a part of the permit required for the milled solid waste site.

(f) Upon completion of the site, it shall be closed, covered with a final one(1) foot thick soil cover and shall be seeded or planted with grass or suitable cover vegetation to minimize erosion.

Specific Authority 403.061, 403.704 F.S. Law Implemented 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708 F.S. History—Transferred from 10D-12.07, 10-1-74. Amended 5-24-79.

17-7.07 Closing Procedure for All Land Disposal Sites.

All land disposal sites (sanitary landfills and open dumps) shall be closed in accordance with the following criteria:

(1) Access to the site shall be restricted by an effective barrier designed to prevent unauthorized entry into the landfill site.

(2) Information signs shall be placed at the entrance to the site and on roads leading to the site

stating that it is closed, the penalty for dumping at the site, the location and hours of operation of the alternate approved site and the name of the operating agency.

(3) A responsible person shall be assigned to supervise the closing procedures on a full time basis during the closing operations.

(4) Two (2) feet of final cover material is required before final closing of the site. The cover material shall be compacted in six (6) inch layers with the final six (6) inches loosely compacted to promote plant growth. The sides of all completed landfills shall have a slope not steeper than one (1) foot vertical to three (3) feet horizontal to minimize erosion.

(5) Upon completion, the closed site shall be seeded or planted with grass or suitable cover vegetation.

(6) Upon completion, the closed site shall be properly maintained. This includes erosion control, maintenance of grass cover, prevention of ponding and prevention of deposited waste from becoming a hazard or nuisance until the site is stabilized.

(7) Continued monitoring of the potential polluting sites is required. This will include collection and treatment of leachates until the site is stabilized.

(8) Upon completion the closed site must be publicly recorded in the county property recording office.

(9) The requirements in Section 17-7.07(1), (2), (3), (4), (5), and (8) shall be completed within one year of the closing of the site to incoming waste.

Specific Authority 403.061, 403.704 FS. Law Implemented 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708 FS. History—New 10-1-74, Amended 5-24-79.

17-7.08 SEE LAST PAGE

17-7.09 Volume Reduction Plants.

(1) Permits shall be required for all volume reduction plants as defined in Section 17-7.02(59)

(2) Volume reduction plants shall be designed and operated to meet all applicable rules of the Department including Chapters 17-2 and 17-3, F.A.C., and shall be reviewed for permitting based on the receipt of comprehensive data on the process and its relative potential as a pollution source.

(3) All volume reduction plants shall provide a suitable system for the collection and treatment necessary to meet water quality standards of all leachate and other liquid wastes such as wash-down water produced as a result of the operation of such a facility.

(4) Volume reduction plants shall be designed so as to divert surface water away from all open storage areas.

(5) Alternate or sufficient overcapacity waste handling capability for proper disposal of solid waste shall be provided in the event of diminished operational quality or overloads due to breakdowns or natural disasters.

(6) Volume reduction plants shall be operated so as to handle solid wastes on a first-in, first-out basis. At no time shall any stored solid waste be allowed to remain unprocessed for more than forty-eight (48) hours unless adequate provisions are made to control flies, rodents and odors.

(7) Adequate fire control facilities shall be provided at all volume reduction plants.

(8) All solid waste storage areas in the volume reduction plant shall be maintained and cleaned at the end of each day's operations or during continuous operation, as necessary, to prevent fly, rodent and other vector problems. All milling equipment must be designed and maintained to control spillage and to achieve the required milled product quality.

(9) All solid waste, recovered materials or residues handled at a volume reduction plant, shall be stored in a manner so as not to constitute a fire or safety hazard or a sanitary nuisance, and shall comply with all applicable local and state regulations.

(10) Recovered resources resulting from such facilities and which may be offered for sale shall comply with applicable regulations of all appropriate State agencies.

(11) Experimental methods and operations will be reviewed by the Department for a permit based on purpose and design effectiveness.

Specific Authority 403.061, 403.704 FS. Law Implemented 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708 FS. History—New 10-1-74, Amended 5-24-79.

17-7.091 Transfer Stations.

(1) Transfer stations shall not be constructed or operated without a permit.

(2) The transfer station shall be provided with operational appurtenances necessary to maintain a clean and orderly operation. These minimum features are:

(a) An effective barrier designed to prevent unauthorized entry and dumping into the transfer station.

(b) Fire protection and fire fighting equipment to insure the safety of employees, and provisions to deal with accidental burning of solid waste within the transfer station.

(c) Communication facilities for use in emergencies.

(d) The transfer station operator shall keep accurate records of materials handled at the station. Such records shall include weights or volumes of waste handled in a manner and form approved by the department. Accurate records shall be kept for operational control and resource recovery planning. The records shall be open for inspection by department representatives, health inspectors and other authorized regulatory and enforcement agencies during normal business hours.

(e) The transfer station shall be properly staffed to deal with all aspects of the station operation and to insure that health, fire or safety problems are not inflicted upon or caused by the public.

(f) Transfer stations shall be operated and maintained to comply with all applicable regulations. Proper operation shall include unloading or wastes to prevent them from becoming a hazard or nuisance; cleaning of all loose materials or litter daily or on a cleaning schedule approved by the department; removal of all solid wastes every 48 hours or in accordance with an approved schedule.

(g) Salvaging in a controlled manner is allowed provided it does not interfere with other aspects of the transfer station operation. Uncontrolled scavenging is prohibited.

(h) Equipment sufficient for operational needs.

(i) The department recommends but does not require:

1. a potable water supply
2. a suitable employee shelter
3. hand washing and toilet facilities
4. equipment washout facilities
5. electric service for operations and repairs
6. equipment shelter for maintenance and storage of parts, equipment and tools.
7. emergency first aid equipment to provide adequate treatment of an injured person in case of an accident.

8. that employees be trained in the proper and safe operation of all equipment and first aid procedures.

(3) Subsection 17-7.091(1) and (2) shall not apply to commercially available standard roll-off containers or similar wheeled containers which are provided to serve as a community or multi-residence receptacles for residential refuse, nor do they apply to storage receptacles for commercial solid wastes or containers used to store salvage materials.

Specific Authority 403.061, 403.7044 FS. Law Implemented 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708 FS. History—New 5-24-79.

17-7.10 Applications for Permit.

Specific Authority 403.061 FS. Law Implemented 403.061, 403.701 through 403.715 FS. History—New 10-1-74, Repealed 5-24-79.

17-7.11 Permit Forms.

Specific Authority 403.061 FS. Law Implemented 403.031, 403.061, 403.071 through 403.715 FS. History—New 10-1-74, Amended 2-18-79, Repealed 5-24-79.

PART II STATE RESOURCE AND MANAGEMENT PROGRAM

17-7.20 Declaration and Intent. The Florida Department of Environmental Regulation does hereby establish a State Resource Recovery and Management Program pursuant to the authority granted by Sections 403.705 and 706, F.S.

Counties and municipalities in areas designated in Section 17-7.24(1) of this rule shall adopt and submit for department approval by July 1, 1979, a local resource recovery and management program. This program shall include a plan and implementation schedule consistent with criteria listed in Sections 17-7.24, 17-7.25, and 17-7.26 of this rule.

Specific Authority 403.061, 403.704(1) FS. Law Implemented 403.705, 403.706 FS. History—New 7-20-76, Amended 5-24-79.

17-7.21 Definitions. The definitions in Part I of this rule are applicable to the terms used in this part.

Specific Authority 403.061, 403.704(1) FS. Law Implemented 403.705, 403.706 FS. History—New 7-20-76, Amended 5-24-79.

17-7.22 State Agency Responsibilities.

(1) Department of Environmental Regulation. The Department shall:

(a) implement and enforce the provisions of the Florida Resource Recovery and Management Act and the requirements of this rule.

(b) provide technical assistance to all local agencies in the development of their local programs.

(c) review and approve or disapprove local resource recovery and management programs submitted in accordance with Chapter 403.706(1)

F.S., using the criteria in Sections 17-7.24, 17-7.25, and 17-7.26 of this rule.

(2) Resource Recovery Council. The Council shall:

(a) specifically recommend to the Department those counties, municipalities, or regions which will generate sufficient solid waste to make it economically practical to plan for recycling of solid waste.

(b) provide technical assistance to those areas designated to plan for resource recovery.

(c) review local programs from the designated areas that are submitted to the Department for approval and make any recommendations and findings it deems necessary.

Specific Authority 403.061, 403.704, 403.710 FS. Law Implemented 403.704, 403.705, 403.706, 403.710 FS. History—New 7-20-76, Amended 5-24-79.

17-7.23 Guidelines for Resource Recovery and Management Programs.

Specific Authority 403.061, 403.704(1) FS. Law Implemented 403.705, 403.706 FS. History—New 7-20-76, Amended and Renumbered as 17-7.251, 5-24-79.

17-7.24 Resource Recovery Area Designations.

(1) By July 1, 1979, the following designated counties shall submit to the department singularly or in coordination with other local or regional governmental entities a local resource recovery and management program as required by Section 403.706(1) F.S.:

Alachua	Hillsborough	Pinellas
Bay	Lee	Polk
Brevard	Leon	Sarasota
Broward	Manatee	Seminole
Dade	Orange	Volusia
Duval	Palm Beach	
Escambia	Pasco	

(2) Each resource recovery and management program shall include an implementation schedule which provides a timetable indicating when the total program as well as its component parts shall be carried out.

(3) None of the designated counties or municipalities therein are required to participate in the resource recovery aspect of the resource recovery and management program if the governing body of such county or municipality has determined that participation in such a program is not economically feasible for that county or municipality. Such a determination shall be made and justified in the local resource recovery and management program to be submitted by July 1, 1979.

(4) A county and its municipalities may jointly determine which local government agency shall administer the local resource recovery and management program. If, by December 1, 1978, no inter-local agreement had been effectuated, the board of county commissioners shall administer and be responsible for the disposal of all solid waste and for the local resource recovery and management program for the entire county.

Specific Authority 403.061, 403.704(1) FS. Law Implemented 403.705, 403.706, 403.710(4) FS. History—New 7-20-76, Amended 11-18-76, 5-24-79.

17-7.25 Local Agency Responsibilities.

(1) The resource recovery and management program shall implement the provisions of the state program for designated counties by adequately

providing for the receiving in bulk, storage, separation, processing, recovery, recycling, or disposal of solid waste generated or existing within boundaries of the county or incorporated limits of the municipality or in the area served thereby.

(2) The resource recovery and management program shall be submitted to the department. The Resource Recovery Council will review and the department will evaluate and approve or disapprove the local or regional resource recovery and management program based upon the information contained in each program. The resource recovery and management program shall include the following:

- (a) Background data:
 1. description of the scope and authority of the planning area.
 2. a description of environmental conditions, geology, soils, climatology, drainage basins, and other pertinent physical features.
- (b) Existing Conditions: description of specific existing conditions affecting management of solid waste.
 1. storage practices, collection practices and routes.
 2. quantities and types of wastes generated and collected; i.e., residential, commercial, hazardous, infectious, industrial, municipal, sludges.
 3. disposal and processing facilities.
 4. general management practices; i.e., manpower, waste collectors (public, private), terms of contracts, equipment utilization.
 5. population served, size and density.
 6. land use and zoning; i.e., residential, commercial industrial, agricultural, extractive, recreational, solid waste facilities and other major land uses.
 7. transportation routes: roads, railroads, bargeways; available for use in solid waste management.
 8. expenditures for solid waste management, collection, transportation, disposal, and costs for each in labor, fuel, maintenance, overhead, capital equipment, supervision.
 9. public finance practices.
 10. status, source and amount of revenues to support the solid waste management system.
 11. other significant conditions related to existing solid waste management practices in the jurisdiction.

(c) Future conditions, problems and requirements: Information obtained in (b) can be used to forecast future conditions, problems that may arise due to those conditions and what may be required to resolve those problems.

1. anticipated conditions:
 - a. population projections
 - b. solid waste generation increase (decrease) by type, source and quantity
 - c. land use changes, zoning modifications
2. future problems defined in terms of location, extent, persistence and control difficulties:
 - a. environmental
 - b. financial
 - c. technical
 - d. institutional
 - e. legal
 - f. political
 - g. other

3. Future requirements or objectives:

- a. solid waste management organizational structure
 - b. implementation of state criteria and guidelines
 - c. disposal facilities requirements; vehicles operating equipment
 - d. land acquisition for future installations; environmental requirements; soil surveys, hydrogeological studies, other.
 - e. intergovernmental agreements or special acts to form local agencies or regional authorities to manage solid waste functions.
 - f. how municipal plans and county plans complement each other
 - g. public relations plan to inform citizens about the solid waste management system
 - h. development of local ordinances or regulation to enforce the local program
 - i. development of an area disaster plan
- (d) The solid waste management systems preferred by the local agency. Proposed systems may combine several storage, collection, transportation and disposal methods.
- (e) Resource Recovery Program. All designated counties shall include an assessment of the economic feasibility of a resource recovery program to that county. Those designated counties which plan to participate in the resource recovery aspect of a resource recovery and management program shall include the following:
1. existing resource recovery and recycling activities, both public and private.
 2. a brief description of resource recovery objectives.
 3. an evaluation and selection of markets for the recovery of energy or material, location, type, characteristics, and estimated revenues.
 4. an indication of current waste composition in the planning area.
 5. an analysis of the economics of technology options.
 6. an analysis of the economics of waste reduction options.
 7. selection of a reliable technology compatible with local circumstances.
 8. an assessment of the economic feasibility of the proposed resource recovery program.
 9. an assessment of energy requirements, financing, management, operation, and environmental factors pertinent to the chosen technology.
 10. provision for disposal of residuals, including site location, volume and type of residuals.
- (f) Cost estimates for each element of the local resource recovery and management program shall be included in the program. Include cost estimates for:
1. background research.
 2. planning efforts.
 3. development of solid waste management organization.
 4. land acquisition.
 - a. capital costs for vehicles, processing equipment, transfer stations.
 - b. operation and maintenance costs; manpower, utilities.
 5. disposal

- a. landfill development.
- b. landfill operation, maintenance, equipment, labor, utilities.
- c. processing equipment.

(3) Programs for non-designated counties shall conform to the requirements of the Local Government Comprehensive Planning Act, Chapter 163.3161 et seq., F.S.

(4) The local resource recovery and management program may be based on an existing solid waste management study providing the study reflects the requirements of this Chapter.

Specific Authority 403.061, 403.704(1) F.S. Law Implemented 403.705, 403.706 F.S. History—New 7-20-76. Amended 5-24-79.

17-7.251 Guidelines for a Resource Recovery and Management Program.

The following are guidelines which should be considered when developing a resource recovery and management program:

- (1) Storage of solid waste prior to collection.
 - (a) In all cases in which garbage and other solid wastes are combined, the criteria for garbage should prevail. The property owner or occupant should store solid waste on his premises or property or should require it to be stored or handled in such a manner as to prevent the propagation, harborage, or attraction of vectors, or the creation of a nuisance.
 - (b) All garbage of garbage mixed with other solid waste should be deposited in containers which are either non-absorbent, watertight, vector resistant, durable, easily cleaned and designed for safe handling; or in paper or plastic bags having sufficient strength and water tightness and which are designed for the containment of refuse.
 - (c) Containers should be of an adequate size and in sufficient numbers to contain without overflowing all the refuse, except yard trash, that a household or other establishment generates within the designated period of time between collections. All containers should be maintained in a sound, clean condition.
 - (d) Containers should be free of all sharp edges and any inside structures which would prevent the free discharge of the contents.
 - (e) External stationary storage bins for garbage should be prohibited from being built or added on to existing or new buildings. New installations of underground receptacles should be prohibited. Existing receptacles may continue in use until they become impractical to repair.
 - (f) Hazardous wastes as defined in Part I of this rule should be stored in such a manner and in such a container as to preclude transmission of disease or cause injury to collection and disposal personnel and the general public.
 - (g) Each refrigerated room and/or refrigerator used for the storage of garbage should be thoroughly cleaned after each removal of garbage. Waste water from such cleaning should be disposed of by a sanitary method.
 - (h) Mechanically serviced containers (bulk containers) should be designed or equipped so as to prevent spillage or leakage during on-site storage and/or transport. The container should be easily cleanable and located on firm, level ground or a concrete pad, and should be easily accessible by the collection vehicle.

(2) Collection and Removal of Solid Waste.

(a) Frequency of solid waste removal. The owner or tenant of any premises, business establishment or industry should be responsible for the satisfactory removal of all solid wastes accumulated by him on his property or his premises. Where a residence is located on the normal route of an organized collection service, public or private, the occupant should subscribe to the service. Excepting disruptions in normal collection schedules, garbage should be collected a minimum of two times per week to prevent propagation, harborage, or attraction of flies, rodents or other vectors, and the creation of nuisances. More frequent removal of garbage may be required by local agencies.

(b) Regulation of Collection Operators. Each person providing residential, commercial, or industrial solid waste collection service should comply with all local government licenses, permits, or written approval requirements applicable to the jurisdiction in which such services are provided. Each local agency, or regional agency, if any should maintain a complete listing of all persons holding written approvals to provide solid waste collection services within their jurisdiction. The listing should contain the name and address of each such person, its office telephone number, and the number and types of vehicles used by such person in providing solid waste collection services.

(c) Collection Operator Qualifications. Local or regional agencies which authorize or designate persons or firms to provide solid waste collection services to the general public within their jurisdiction through contract or franchise, should obtain sufficient information to show that such person or firm has adequate financial resources and experience to properly conduct the operation authorized.

(d) Equipment used in collection and transportation of solid waste should be constructed, operated and maintained in such a manner as to minimize the health and safety hazards to solid waste personnel and the public. Equipment should be maintained in good mechanical condition and kept clean to prevent propagation and attraction of vectors and the creation of nuisances. It is recommended that they meet the standards established by the American National Standards Institute (ANSI Section 245.1, Safety Standards for Refuse Collection Equipment) as of the effective date(s) established in ANSI Section 245.1.

(e) All vehicles and equipment used for collection and transportation of solid waste should be enclosed or adequate provisions should be made for suitable cover to prevent contents from escaping in accordance with Chapter 316 F.S.

(f) When the backyard, carry-out system of collection is used, the common practice of collection personnel dumping garbage at the curb in any manner other than in an acceptable container for household refuse should be prohibited.

(g) All rural collection systems should be operated in a safe, efficient manner, and should be in compliance with all applicable local and state regulations.

(3) Public Recordings of Disposal Sites.

The location of all solid waste disposal sites should be made a matter of record in the county

property recording office for future reference in the event any problem arises concerning the sites.

(4) Hazardous Waste. Hazardous and infectious waste as defined in this rule should be handled and disposed of only in accordance with Section 17-7.04(5)(6) and the following:

(a) Any solid waste facility accepting hazardous waste for treatment, storage or disposal should provide protection for the quality of air, surface and groundwater and the health and welfare of the public.

(b) The owner of hazardous waste that cannot be recycled, reprocessed, or treated to render it innocuous should provide the department with evidence that it cannot be treated and request disposal guidance.

(c) Any facility that disposes of known hazardous wastes following approval by the department should record the date, quantity, chemical and trade names, chemical properties, name and address of the source and transporter of the waste. The facility operator should have authority to reject any waste that is not properly identified.

(d) Records designating the location of buried hazardous wastes within a landfill site should be maintained during the life of the site by the agency responsible for operation of the site. These records should be reviewed by the department during facility inspection. Records should be submitted to the department and appropriate local office of legal jurisdiction upon closing of the site.

(e) At least three (3) monitoring wells should be required at each new hazardous waste disposal site. The location of the wells should be in accordance with the hydrogeology of the site and the predicted behavior of groundwater flow. At least one monitoring well should be located upgradient to the disposal site; the second well should be located in the first section to be filled in the disposal site; thus the well should be installed downgradient and close to or at the boundary of the disposal site; this well should be screened throughout the saturated thickness of the aquifer. The monitoring wells should be constructed in accordance with "Procedures Manual for Groundwater Monitoring at Solid Waste Disposal Facilities" (EPA/530/SW-611).

Sampling should be made by the hazardous waste disposal site operator, or his delegated representative at no longer than six-month intervals after the background water quality has been established and operation of the site is begun. The collection and analysis of samples should be in accordance with USEPA recommended methods as described in "Procedures Manual for Groundwater Monitoring at Solid Waste Disposal Facilities" (EPA/530/SW-611), analyses should be performed for the following parameters by a department approved laboratory:

1. conductivity or chlorides
2. nitrates
3. metals (cadmium, chromium, copper, and lead)
4. total organic carbon or chemical oxygen demand

5. additional tests should be required for specific indicators depending upon the type of hazardous waste being disposed.

The hazardous waste disposal site operator should forward the sample analysis reports to the department district office within ten working days after the analysis report is received. Additional sampling and analysis may be recommended for other parameters and at more frequent intervals if indicated by trends in the foregoing contaminants.

(f) Hazardous waste shipping requirements:

1. When shipping hazardous wastes, the generator or owner of the hazardous wastes should package, identify and label such materials in accordance with the Code of Federal Regulations, Title 49, Transportation, Parts 100-199, Oct. 1, 1974.

2. The generator of hazardous wastes should provide the transporter and driver of any truck, a crew member of any train, or the captain of any vessel or aircraft carrying such hazardous waste with a list setting forth the hazardous waste carried, the amount of such waste and the general physical and chemical properties of such wastes. Such list, when appropriate, should include information on antidotes, first aid, or safety measures to be taken in case of accidental contact with the particular waste being carried. The person carrying or handling the hazardous waste should have the list in his possession while carrying or handling the hazardous waste and should release the list to a person responsible for the treatment or disposal of the hazardous waste at the time of delivery. The list should be a matter of record at the disposal facility. Such list should be shown on demand to any Department official, officer of the Florida Highway Patrol, or any local law enforcement officer.

(g) Hazardous waste storage requirements:

1. Hazardous wastes whose uncontrolled release into the environment would cause acute and/or chronic effects on air and water quality; on fish, wildlife, or other biota; and on the health and welfare of the public should be stored only in special facilities where due regard has been given to the hazardous nature of the waste, protective enclosures, and operating procedures, and where adequate measures are taken to assure personal safety, accident prevention, and detection of potential environmental damages.

2. Rules of the State Fire Marshall Chapter 4A-2, 4A-20, FAC. et al, pertaining to explosives and hazardous chemicals should be consulted where applicable.

(5) Special Wastes.

(a) Dead animals.

1. Dead animals on public property should be collected and disposed of promptly to prevent them from becoming a sanitary nuisance.

2. A service should be established to assure prompt pickup and disposal of dead animals.

3. If an animal is known or suspected to have died of a communicable disease, the handling and disposal of the carcass should be in accordance with Chapter 823.041 F.S.

(b) Abandoned Vehicles. A local agency should provide for the removal of abandoned vehicles from public and private property, title release, pickup and removal authority, the designation of a storage area and a recycle or disposal system.

(c) White goods. A local agency should provide for collection, disposal or recycling of white

goods.

(d) Sludges. Sludges which may be hazardous due to their chemical composition should be disposed of in accordance with Part I, Section 17-7.04(5) of this rule. Other sludges should be disposed of in accordance with Part I, Section 17-7.06(1) of this rule.

(e) Industrial Waste.

The disposal of industrial waste should be the responsibility of the producer of such waste and should be in accordance with Chapter 17-3 FAC and any other applicable state and local regulations.

(6) Processing/Recycling of Solid Waste.

(a) All residual solid wastes resulting from a recovery process should be disposed of in a sanitary landfill or by other approved methods.

(b) All processed water or wastewater should be treated as required by approved methods before discharge into receiving waters.

(c) All gaseous emissions should be in compliance with air quality standards.

(d) Recovered materials should be stored in a controlled area, designed and operated to prevent environmental contamination.

(7) Solid Wastes Quantity Guarantees to Resource Recovery Facilities.

(a) Local agencies that undertake construction and operation of a material or energy resource recovery facility should guarantee delivery of solid wastes generated within their jurisdiction to insure uninterrupted facility operation. Such assurances must be supported by adequate authority, or by contracts with local collection services, or as a condition of inter-local agreements.

Specific Authority 403.061, 403.704(1) FS. Law Implemented 403.705, 403.706 FS. History—New 5-24-79.

17-7.26 Local Program Submittal.

(1) Resource Recovery and Management Programs, prepared and adopted in accordance with Section 17-7.25 and 17-7.24 shall be submitted by local agencies to the Department for approval. Prior to submittal, the programs shall be reviewed by all local and regional planning agencies involved in the programs. Prior to Department approval, the Council shall review the resource recovery and management programs and make recommendations and findings it deems necessary. Upon review by the Council and approval by the Department, the program shall be implemented by the local agency in accordance with the implementation schedule included in the program.

(2) Local agencies shall adopt and submit their respective programs to the Department for approval no later than July 1, 1979. The programs shall be submitted in accordance with the following:

(a) Provide four (4) copies on 8½ by 11 inch paper. Oversize maps or drawings may be folded to this size.

(b) Comments from all appropriate planning agencies and copies of inter-local agreements from involved local agencies shall accompany the programs submitted.

Specific Authority 403.061, 403.704(1) FS. Law Implemented 403.705, 403.706 FS. History—New 7-20-76, Amended 5-24-79.

17-7.27 Extension Procedures. The time limit stated in Section 17-7.24 and 17-7.25 of this rule for the preparation and submittal of a local resource recovery and management plan may be extended upon application to the Department by the local agency. Applications for a time extension shall not be granted unless they are supported by evidence that good faith efforts by the local agency to meet the requirements of this rule have been and are being made. Application for time extensions shall be submitted to the department in writing, shall describe what progress has been made regarding the resource recovery and management plan, and shall provide the expected date of completion of the plan. Specific Authority 403.061, 403.705 FS. Law Implemented 403.705, 403.706 FS. History—New 7-20-76, Amended 5-24-79.

17-7.28 Permitting.

Specific Authority 403.704(1) FS. Law Implemented 403.706(5), 403.707(1) FS. History—New 7-20-76, Repealed 5-24-79.

17-7.29 Amendment to an Approved Program.

(1) The procedure for amendment of a program approved by the Department shall be the same as for approval of the original program. An amendment is one that proposes to change methods of handling, practices, technologies, or financial and management arrangements contained in the program.

(2) Minor corrections, updates, or modifications of the program shall not be considered an amendment.

Specific Authority 403.061, 403.704(1) FS. Law Implemented 403.705, 403.706 FS. History—New 7-20-76, Amended 5-24-79.

17-7.30 Approval of Local or Regional Resource Recovery and Management Programs.

Specific Authority 403.704(1) FS. Law Implemented 403.705(1), 403.706 FS. History—New 11-16-76, Repealed 5-24-79.

PART III: CERTIFICATION OF

RESOURCE RECOVERY EQUIPMENT

17-7.40 Declaration and Intent. The State of Florida Department of Environmental Regulation promulgates this part of this chapter to establish a system for the examination and certification of resource recovery equipment pursuant to Section 403.715, F.S., for the purpose of implementing the tax exemptions provided by Section 212.08(7)(p), F.S. This system shall also reflect the legislative mandate to encourage recycling pursuant to Section 403.702(1)(e), F.S. The system shall consist of a procedure for a preliminary examination of possible resource recovery equipment based on a review of plans, specifications, or other descriptions if the equipment is not available for inspection at the time when tax is due, and a procedure for a final examination and a certification of resource recovery equipment after the equipment is available for inspection.

Specific Authority 403.715 FS. Law Implemented 212.08(7)(p), 403.715, 403.702(1)(e) FS. History—New 5-24-79.

17-7.41 Definitions. The following words, phrases or terms as used in this Part, unless the context indicates otherwise, shall have the following meaning:

(1) "Department" means the Florida Department of Environmental Regulation.

(2) "Resource recovery equipment" means equipment or machinery exclusively and integrally used in the actual process of recovering material or energy resources from solid waste, and which is purchased after July 1, 1978.

Specific Authority 403.703(1), 403.703(8) F.S. Law Implemented 212.08(7)(p), 403.715 F.S. History—New 5-24-79.

17-7.42 Preliminary Examination of Resource Recovery Equipment. When tax may become or has become due pursuant to Chapter 212, F.S., on equipment which may be resource recovery equipment as defined in Section 403.703(8), and such equipment is not available for inspection by the Department of Environmental Regulation, the prospective purchaser or purchaser of such equipment may apply to the department for a preliminary examination report based on a review of plans, specifications, equipment lists, and other descriptions in the application. The preliminary examination report of proposed resource recovery equipment may be considered by the Department of Revenue as a prerequisite for delay of tax due on such equipment as indicated in rules promulgated by the Department of Revenue. The department shall utilize the following procedure when preliminary examining resource recovery equipment:

(1) Application for preliminary examination of resource recovery equipment shall be submitted to the department on a form prescribed by the department. The application must include the following information:

- (a) identity of the applicant.
- (b) identity of county or municipality that will eventually own or benefit from the resource recovery equipment.
- (c) a list and brief description of resource recovery equipment and the estimated cost thereof which the applicant declares is subject to this exemption.
- (d) plans or other descriptions of the resource recovery facility or project for which the resource recovery equipment is to be used. Application will not be complete until these plans or descriptions are of sufficient detail to indicate how the proposed resource recovery equipment is to be integrated into this facility or project.

(2) The department shall issue a written report specifying which equipment on the application may be resource recovery equipment. This report shall be issued within 30 days of receipt of a properly completed application. Copies of the preliminary examination report shall be sent to the applicant and the Department of Revenue.

(3) The results of the preliminary examination shall not preclude granting or denying certification following final examination for the same equipment pursuant to Section 17-7.43, F.A.C. A preliminary examination is not required to obtain certification.

(4) Application for preliminary examination or final examination and certification of all equipment to be used in a resource recovery facility or project should be submitted to the department in one package whenever possible.

Specific Authority 403.715 F.S. Law Implemented 212.08(7)(p), 403.715 F.S. History—New 5-24-79.

17-7.43 Final Examination and Certification of Resource Recovery Equipment. Final examination of resource recovery equipment shall be a requirement for tax exemptions as indicated in Section 212.08(7)(p), F.S. The department shall utilize the following procedure in granting or denying certification of resource recovery equipment:

(1) After equipment is installed, application for final examination and certification of resource recovery equipment shall be submitted to the department on a form prescribed by the department. The application must include the information required in Section 17-7.42(1), and the department shall request additional information if required for proper completion of the application. If the applicant has submitted a preliminary examination application form for the same equipment, submission of an updated copy of the preliminary application form shall satisfy this requirement.

(2) When the proposed resource recovery equipment is installed, a representative of the department shall inspect the equipment within thirty (30) days of receipt of a properly completed application.

(3) Within thirty (30) days of such inspection, the department shall issue a written decision granting or denying certification.

Specific Authority 403.715 F.S. Law Implemented 212.08(7)(p), 403.715 F.S. History—New 5-24-79.

17-7.44 Criteria for Resource Recovery Equipment. The department shall use the following criteria when determining whether equipment shall be certified as resource recovery equipment.

(1) Resource recovery equipment includes all equipment or machinery exclusively and integrally used in the actual process of recovering material or energy resources from solid waste, and which is purchased after July 1, 1978. Resource recovery equipment does not include:

- (a) An article of equipment being used for purposes other than resource recovery, even though such equipment is also used in the resource recovery process.
- (b) Land or buildings. A building includes the walls, roof, ceiling, floor, and all other necessary supporting structures to enclose an area, but excludes structures used exclusively for the support of resource recovery equipment.
- (c) Equipment used to transport materials or energy resources recovered from solid waste from the site where the recovery process takes place. Energy resources recovered from solid wastes may include refuse-derived fuel, gas or liquid fuel derived from solid waste, heat or steam derived from solid waste, or electricity derived from solid waste.

(2) Resource recovery equipment shall be a unit which by itself provides a significant function

in the resource recovery process. Examples of such equipment include, but are not limited to, conveyors, pumps, and fans. The department shall not certify components of resource recovery equipment such as nuts, bolts, and belts.

(3) Resource recovery equipment may include fixtures exclusively and integrally used in the actual process of recovering material or energy resources

from solid waste. Examples of such equipment include, but are not limited to, bridge cranes and fixed storage bins.

(4) Resource recovery equipment need not be specifically designed for the recycling process.

Specific Authority 403.715 F.S. Law Implemented 212.08(7)(p), 403.715 F.S. History—New 5-24-79.

17-7.08 Supervision and inspection.

(1) Supervision of the operation shall be the responsibility of a qualified person experienced in the operation of a resource recovery and management facility.

(2) Routine inspections and evaluations of facility operations shall be made by the Department. A notice of deficiencies with recommendations for their correction, shall be provided to the person responsible for the operation.

(3) Inspection of a completed sanitary landfill shall be made by the Department before the earthmoving equipment is removed from the site. Any corrective work shall be performed before the landfill project is accepted by the Department as completed. Arrangements shall be made for the repair or restoration of the final cover as required for at least two years following completion.

Specific Authority 403.061 F.S. Law Implemented 403.021.

403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708.

F.S. History—Transferred from 100-12.07, 10-1-74.

Resource Recovery and Management
Parts I-V,
Chapter 17-7, F.A.C.
Department of Environmental Regulation
Effective 12/10/1985

Effective 12-10-85

CHAPTER 17-7

RESOURCE RECOVERY AND MANAGEMENT

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PART I

SOLID WASTE FACILITIES

17-7.001 Declaration and Intent.

It is the intention of the Environmental Regulation Commission that the Department of Environmental Regulation encourage, in all appropriate ways, reclamation processes which will reclaim waste material for beneficial uses.

The Florida Department of Environmental Regulation finds and declares that improper disposal of solid waste and use of open dumps as a means of final disposal results in or contributes to air pollution, water pollution, and land blight. The Department further finds that proper methods of disposal of solid waste will reduce air pollution, water pollution and the use of the land as an uncontrolled receptacle for improperly treated waste. The Department further finds that properly designed, operated and monitored disposal of solid waste enhances the environment.

It is the intent of the Department to require that solid waste disposal be conducted in a manner and under conditions which will reduce the waste of recoverable resources and eliminate the dangerous and deleterious effects of improper solid waste disposal upon air quality, water quality, and human health, safety and welfare.

The purpose of this rule is to implement the provisions of the Florida Resource Recovery and Management Act, which directs the Department to plan for and regulate the storage, collection, transportation, separation, processing, recycling and disposal of solid waste in order to protect the public safety, health and welfare, to enhance the environment for the people of the state, and to recover resources which have the potential for further use, and to assure that the final irreducible residue is disposed of in a manner which enhances the environment.

The Department shall establish, maintain and promote a cooperative state program of planning and technical assistance for resource recovery and management; encourage and require designated counties and municipalities to plan for and provide efficient, environmentally acceptable resource recovery and management; review the design of and issue permits for construction and operation of resource recovery and management facilities; promote the application of resource recovery systems which preserve and enhance the quality of air, water and land resources; and establish a system for the examination and certification of resource recovery equipment.

Pursuant to Sections 403.061 and Sections 403.701 through 403.713, Florida Statutes, the execution and enforcement of any section regarding actual or potential pollution of air or waters is under the jurisdiction of the Department of Environmental Regulation. Chapter 17-7 F.A.C. replaces all applicable sections of Chapter 10 D-12 F.A.C.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.701 through 403.715, F.S.

History: New 10-1-74, Amended 5-24-79, Previously Numbered as 17-7.01.

17-7.001 -- 17-7.001(History)

12-10-85

17-7.020 Definitions.

The following words, phrases or terms as used in this Chapter, unless the context indicates otherwise, shall have the following meaning:

(1) "Agricultural Wastes" means the solid wastes resulting from the rearing and slaughtering of animals and the processing of animal products, orchard and field crops which are stored, transported or disposed of as an unwanted waste material.

(2) "ASTM" means the American Society for Testing and Materials.

(3) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells, springs or surface water.

(4) "Available Market" means any person, user or enterprise, willing to enter into a long-term contract or agreement to purchase materials or energy recovered from solid waste.

(5) "Base Flood" means a flood that has a 1% or greater chance of recurring in any year, or a flood of a magnitude equalled or exceeded once in 100 years on the average over a long period. In any given 100 year interval such a flood may not occur, or more than one such flood may occur.

(6) "Bulky Wastes" means items whose large size or weight precludes or complicates their handling by normal collection, processing, or disposal methods.

(7) "Cell" means a volume of solid waste received since the last previous application of initial cover. The compacted waste and subsequent initial cover constitute a cell.

(8) "Closing" means the time at which a resource recovery and management facility ceases to accept wastes, and includes those actions taken by the owner or operator of the facility to prepare the facility for any necessary monitoring and maintenance after closing.

(9) "Closure" means the cessation of operation of a resource recovery and management facility and the act of securing such a facility so that it will pose no significant threat to human health or the environment. This includes closing, long term monitoring, maintenance and financial responsibility.

(10) "Closure Plan" means written reports and engineering plans detailing those actions that will be taken by the owner or operator of a resource recovery and management facility to effect proper closure of that facility.

(11) "cm/sec" means centimeters per second.

(12) "Composting" means a controlled process of degrading organic matter by micro-organisms which results in a humus material.

(13) "Composting Facility" means a facility where organic matter is processed by natural or mechanical means to aid the microbial decomposition of the organic matter. Processing may include simple exposure resulting in a natural decay or physically turning, windrowing, aerating or other mechanical reduction of the organic matter.

(14) "Construction and Demolition Debris" means non-hazardous material generally considered not to be water soluble, including but not limited to steel, concrete, glass, brick, asphalt roofing material, or lumber from a construction or demolition project including trees and vegetation from land clearing for a construction project. Contamination of construction and

demolition debris with any amount of other types of solid waste will cause it to be classified as other than construction and demolition debris.

(15) "Controlled Burning" means forced draft burning used for the combustion of solid waste with control of combustion air to maintain adequate temperature for efficient combustion, containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and control of the emission of combustion products.

(16) "Designated Counties" means those counties which are designated pursuant to Sections 403.705, .706 and .710, F.S., to plan for and engage in resource recovery and management programs and are listed as follows:

Alachua	Hillsborough	Pasco
Bay	Lee	Pinellas
—Brevard	Leon	Polk
Broward	Manatee	Sarasota
Dade	—Orange	—Seminole
Duval	Palm Beach	—Volusia
Escambia		

(17) "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or upon any land or water so that such solid waste or hazardous waste or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including groundwaters, or otherwise enter the environment.

(18) "Disposal facility" means a facility at which disposal of solid waste occurs.

(19) "Energy Recovery" means the conversion of solid waste into energy or a marketable fuel.

(20) "Final Cover" means the material used to cover the top and sides of a landfill when fill operations cease.

(21) "Garbage" means all kitchen and table food waste, animal or vegetative waste that is attendant with or results from the storage, preparation, cooking or handling of food materials.

(22) "Generation" means the act or process of producing either solid waste or a marketable fuel.

(23) "Ground Water" means water beneath the surface of the ground, whether or not it is flowing through known and definite channels.

(24) "Hazardous Wastes" means a solid waste identified by the Department as a hazardous waste in Florida Administrative Code Rule 17-30.

(25) "Implement" means to carry out, accomplish, give practical effect to and ensure actual fulfillment by concrete means or by providing instruments or means of accomplishment.

(26) "Implementation Schedule" means a timetable for carrying out a local plan.

(27) "Infectious Wastes" means those wastes which may cause disease or reasonably be suspected of harboring pathogenic organisms; included are wastes resulting from the operation of medical clinics, hospitals, and other facilities producing wastes which may consist of, but are not limited to, diseased human and animal parts, contaminated bandages, pathological specimens, hypodermic needles, contaminated clothing, and surgical gloves.

(28) "Initial Cover" means a 6-inch layer of compacted earth, or other suitable material as approved by the Department, used to enclose a volume of solid waste prior to intermediate or final cover.

(29) "Intermediate Cover" means a layer of compacted earth one (1) foot in depth applied to a partially completed landfill.

(30) "Landfill" or "Sanitary Landfill" means a disposal facility, excluding those exempted under Subsection 17-7.030(1)(a)1. of this rule, which meets the criteria of Chapter 17-7 Florida Administrative Code. This term shall not include:

(a) a land spreading site; or

(b) a surface impoundment; or

(c) an injection well defined under and subject to the provisions of Chapter 17-28, Florida Administrative Code.

(31) "Leachate" means liquid that has passed through or emerged from solid waste and contains soluble, suspended or miscible materials.

(32) "Lift" means a completed horizontal series of cells.

(33) "Liner" means a continuous layer of low permeability natural or man-made materials, beneath or on the sides of a landfill, or landfill trench, which controls the downward or lateral escape of waste constituents, or leachate.

(34) "Local Agency" means any special district, authority, a county, a municipality, or any other political subdivision.

(35) "Local Solid Waste Program" means a local resource recovery and management program as described in Part II of this rule which includes a plan and an implementation schedule.

(36) "Materials Recovery" means any process by which one or more of the various components in solid waste was separated, concentrated, and reused.

(37) "Milled Refuse" means refuse that has been mechanically ground, shredded or pulverized.

(38) "Monitoring Wells" are strategically located wells from which water samples are drawn for water quality analysis.

(39) "Normal farming operations" means the customary and generally accepted activities, practices and procedures that farmers adopt, use or engage in during the production and preparation for market of poultry, livestock, and associated farm products; and in the production and harvesting of agricultural crops which include agronomic, horticultural, and silvicultural crops. Included is the management, collection, storage, composting, transportation and utilization of organic agricultural waste, manure, and wastes solely derived from agricultural crops. For the purposes of Part IV of this Chapter, normal farming operations include the land application of Grade I sludge in accordance with the utilization criteria of Part IV, Chapter 17-7, Florida Administrative Code. Not included in normal farming operations is the use of Grade II or Grade III sludges (except Grade II processed domestic sludge).

(40) "Open Burning" means the burning of any material under such conditions that the products of combustion are emitted directly into the open atmosphere.

(41) "Open Dump" means a site for the disposal of solid waste which does not comply with the criteria of Chapter 17-7, F.A.C.

(42) "Person" means any and all persons, natural or artificial, including any individual, firm, or association; any municipal or private corporation organized or existing under the laws of Florida or any other state; any county of this state; and any governmental agency of this state or the Federal Government.

(43) "Planning Area" means the area defined by a local agency or agencies for solid waste management and resource recovery management planning.

(44) "Promiscuous Dump" means an unauthorized site where indiscriminate deposits of solid waste are made.

(45) "Recovered Materials" means materials which are recovered from the solid waste stream by separation, collection, or other means for reuse or resale.

(46) "Recycling" means the reuse of solid waste in manufacturing, agriculture, power production, or other processes.

(47) "Regional Agency" means one or more public agencies joined together by inter-local agreements for a stated period of time or by special Act of the Legislature, to assume the responsibility for resource recovery and management.

(48) "Residential waste" means a mixture of garbage and trash resulting from the normal housekeeping activities of a residential unit.

(49) "Resource Management" means the process by which solid waste is collected, transported, stored, separated, processed, or disposed of in any other way according to an orderly, purposeful, and planned program.

(50) "Resource Recovery" means the process by which materials, excluding those under control of the Nuclear Regulatory Commission, which still have useful physical or chemical properties after serving a specific purpose are reused or recycled for the same or other purpose, including use as an energy source.

(51) "Resource Recovery and Management Facility" means any solid waste disposal area, volume reduction plant, or other facility the purpose of which is resource recovery or the disposal, recycling, processing, or storage of solid waste.

(52) "Rural Containerized Collection System" means a collection system which involves mechanically serviceable containers, strategically located throughout an area, the contents of which are picked up on a regular schedule by a truck and their contents delivered to a transfer station or solid waste processing or disposal facility.

(53) "Sanitary Nuisance" means a condition created by any person, or the keeping, maintaining, propagation, existence, or permitting of anything by a person which the health or lives of individuals may be threatened or impaired, or by which disease may be caused or transmitted.

(54) "Shallow Water Supply Well" means any potable water well which pumps water from an unconfined water table aquifer.

(55) "Shredding" means a process of reducing the particle size of solid waste through the use of grinding, shredding, milling or rasping machines.

(56) "Site" means the area of land or water within the property boundaries of a resource recovery and management facility where one or more solid waste treatment, resource recovery, recycling, storage or disposal areas are located.

(57) "Sludge" means any solid, or semi-solid, or liquid generated from any waste water treatment plant, water supply treatment plant, air pollution control facility, septic tank, grease trap, portable toilets and related operations, or any other such waste having similar characteristics or effects.

(58) "Solid Waste" means sludge from a waste treatment works, water supply treatment plant, or air pollution control facility or garbage, rubbish, refuse, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations. Materials not regulated as solid wastes pursuant to Florida Administrative Code Rule 17-7 are: nuclear source or byproduct materials regulated under Chapter 404 F.S. or under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; fluids or wastes associated with natural gas or crude oil exploration or production. Solid waste does not include scrap, or new or used material, separated at the point of generation and held for purposes of recycling, subject to state and local public health and safety laws.

(59) "Source Separation" means the setting aside of separated recyclable waste materials at their point of generation (household or commercial) by the generator.

(60) "Special Wastes" means those wastes that require extraordinary management. They include but are not limited to, abandoned automobiles, white goods, used tires, waste oil, sludges, dead animals, agricultural and industrial wastes, septic tank pumpings, and infectious and hazardous wastes.

(61) "Stabilized" means that biological and chemical decomposition of the wastes has ceased or diminished to a level so that such decomposition no longer poses a pollution, health, or safety hazard.

(62) "State Program" means the Resource Recovery and Management Program described in Chapter 403.705 and 403.706, FS, and this rule.

(63) "Ton" means a short ton, 2,000 pounds (.9078 metric tons).

(64) "Transfer Station" means a facility where solid waste from several relatively small vehicles is placed into a larger vehicle before being transferred to a solid waste processing or disposal facility.

(65) "Trash" means combinations of yard trash and construction and demolition debris along with other debris such as paper, cardboard, cloth, glass, street sweepings, vehicle tires and other like matter.

(66) "Treatment" means the process of altering the character, or physical or chemical condition of the waste to prevent pollution of water, air or soil, to safeguard the public health or enable the waste to be recycled.

(67) "Vector" means a carrier organism that is capable of transmitting a pathogen from one organism to another.

(68) "Volume Reduction Plant" includes, but is not limited to, incinerators, pulverizers, compactors, shredding and baling plants, composting plants and other plants which accept and process solid waste for recycling or disposal. *VRP's must have permits. See 17-7.020(1)*

(69) "Waste Oil" means all types of waste oils, including waste

automotive lubricants, industrial waste oils, and petroleum compounds.

(70) "White Goods" means inoperative and discarded refrigerators, ranges, washers, water heaters, and other similar domestic and commercial appliances.

(71) "Working Face" means that portion of a sanitary landfill where waste is discharged, spread and compacted prior to placement of initial cover.

(72) "Yard Trash" means vegetative matter resulting from landscaping maintenance or land clearing operations and includes materials such as tree and shrub trimmings, grass clippings, palm fronds, trees and tree stumps.

All other definitions found in Chapter 403, F.S., and Chapter 17-7, F.A.C., to the extent that they are consistent with the definitions of this Chapter, are applicable to the terms used in this Chapter.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.715, F.S.

History: Transferred from 10D-12.02, 10-1-74; Revised 7-20-76; Amended 5-24-79, 6-13-84, 4-25-85, 7-1-85; Previously Numbered as 17-7.02; Amended 12-10-85.

17-7.030 Solid Waste Resource Recovery and Management Permit Requirements.

(1) Permit Requirements. No resource recovery and management facility or site shall be operated, maintained, constructed, expanded, modified, or closed without an appropriate and currently valid permit issued by the Department as defined in Florida Administrative Code Rule 17-4.

(a) However, no permit under this section shall be required for the following activities provided that no public nuisance or condition adversely affecting the public health, safety and welfare is created and provided that the activity does not violate other state or local laws, ordinances, rules, regulations or orders including the Florida Air and Water Pollution Control Act, the Florida Safe Drinking Water Act, and standards adopted thereunder.

1. Disposal by persons of solid waste resulting from their own activities on their own property. This exemption shall not apply when solid wastes, other than construction and demolition debris and waste from normal farming operations, generated on non-contiguous property are collected and disposed of at one disposal site. However, persons disposing of solid wastes resulting from their own activities on their own property shall file a written notification to the Department of their disposal activities pursuant to the requirements of Florida Administrative Code Rule 17-7.120.

2. Normal farming operations.

3. Solid waste disposal areas limited to the disposal of construction and demolition debris.

(b) A determination by the department of whether an activity creates a public nuisance or condition adversely affecting the public health, safety or welfare shall include consideration of whether the activity violates the prohibitions set forth in Section 17-7.040 of this rule.

(2) Permit Application. The person making application for a resource recovery and management facility permit shall submit to the respective Department district office having jurisdiction where the facility is located a minimum of 6 copies of a permit application, engineering plans, and all supporting data and reports for the proposed construction, operation, and

closure of the facility prepared by a Professional Engineer registered in the State of Florida in accordance with provisions of Chapter 471, F.S. Said Engineer or another qualified Professional Engineer shall be required to make periodic inspections during construction of the facility to ensure that design integrity is maintained. If the person is acting as a public officer employed by the State, a county or a municipality and where that person estimates the initial construction cost is less than ten thousand dollars, this requirement may be waived in accordance with Chapter 471.003(2), F.S. Any law to the contrary notwithstanding, for purposes of this subsection, the construction cost of a solid waste disposal area shall not include land acquisition cost or the cost of equipment used to construct and maintain the same.

(3) Preparation of application. The application for a permit shall be prepared and signed by the applicant on form 17-7.130(1). The application shall include all information necessary for the Department to make an evaluation of the proposed facility to ensure that it will pose no significant threat to public health or the environment. The permit application and supporting information shall include the following:

- (a) A letter of transmittal to the Department;
- (b) A table of contents listing the main sections of the application;
- (c) The permit fee specified in Florida Administrative Code Rule 17-4.05 in check or money order payable to the Department;
- (d) Engineer seal. Data presented in support of the application shall be sealed in accordance with requirements of Section 471.025 F.S. by a registered professional engineer authorized to practice in the State of Florida;
- (e) Engineer's appointment to act on behalf of the applicant;
- (f) All construction, operation, closure, and ground water monitoring plans, data, drawings, photographs, and reports to support the application;
- (g) All maps, plan sheets, drawings, isometrics, cross-sections, or aerial photographs shall be legible and:
 1. Signed and sealed by the registered professional engineer responsible for their preparation. Wherever possible drawings should be no larger than 24 by 36 inches, folded to 9x12 inches. Illustrations, tables or drawings reduced in size should be no smaller than 8 1/2 by 11 inches;
 2. Of appropriate scale to show clearly all required details;
 3. Numbered, referenced to the narrative, titled, have a legend of symbols used, contain horizontal and vertical scales (where applicable), and specify drafting or origination dates;
 4. Use uniform scales as much as possible, contain a north arrow, use National Geodetic Vertical Datum (NGVD) as a basis for all elevations.
- (h) A copy of any lease agreement, transfer of property agreement with right of entry for long-term care, or any other agreement between operator and property owner by which the facility may be affected;
- (i) Financial documents assigned to the Department which ensure the financial responsibility for the closing and long-term care of the facility.

(4) An applicant for a permit to construct, expand, or close a resource recovery and management facility shall publish and provide proof of publication to the Department, at his own expense, a Notice of Application in

See 17-103.150(1)

17-7.030(2) -- 17-7.030(4)

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a newspaper of general circulation in accordance with Florida Administrative Code Rule 17-103.150.

(5) Water Management District Report. Upon receipt of a construction permit application for a Class I or Class II landfill the Department shall, within 7 days, provide a copy of the application to the water management district having jurisdiction where the landfill is to be located. The water management district shall prepare a report as to the impact on water resources and shall submit the report to the Department no later than 30 days prior to the deadline for final agency action by the Department.

(6) Construction, Operation and Closure Permits. The Department, following an evaluation of a permit application and all supporting information, shall:

(a) Issue a construction permit for a new solid waste management facility. After all significant initial construction has been completed and prior to operation or acceptance of any solid waste the engineer or the authorized public officer shall complete an Application to Operate Only Resource Recovery and Management Facility - Certification of Construction Completion, Department Form 17-7.130(2), and contact the Department to arrange for Department representatives to inspect the facility in the company of the permittee, the engineer, and the proposed on-site facility operator. The inspection is to ensure that the facility has been developed in accordance with the approved permit. The facility shall not be operated or accept solid waste until the Department has found that all applicable submissions required for the permit, including financial responsibility documentation have been received and found acceptable; or

(b) Issue an operation permit for new facilities that have been satisfactorily constructed, or to existing facilities which are being operated in accordance with this rule at the time for renewal of their permit; or

(c) Issue a closure permit for closing and long term care of landfills that have satisfied the requirements of Florida Administrative Code Rules 17-7.070 through 17-7.076 and other applicable laws and rules. Permits shall be renewed in accordance with Florida Administrative Code Rule 17-4.07; or

(d) Deny the issuance of a permit if reasonable assurances are not provided that the requirements of Florida Administrative Code Rule 17-7 and other applicable laws and rules will be satisfied.

(7) Time period for construction and operation permits. Landfills are generally long term projects which may be constructed in sections or phases at different time periods throughout the lifetime of the landfill. The Department may approve a permit for construction and operation of the entire facility with permit conditions requiring the permittee to advise the Department when construction is begun on each new section or phase of the landfill and when each section or phase is completed. Permits are issued subject to modification in accordance with Florida Administrative Code Rule 17-4.08.

(8) A copy of the Department approved engineering drawings, plans, reports, operational plan, and supporting information shall be kept at the facility at all times for reference and inspections.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10-D12.03, 10D-12.04, 10D-12.07, 10-1-74 Amended 5-24-79, 6-13-84, 7-1-85; Previously Numbered as 17-7.03; Amended 12-10-85.

17-7.040 Prohibitions.

(1) No solid waste shall be disposed of except by sanitary landfill, incineration, recycling process, or other method approved by the Department and consistent with this chapter and applicable approved local agency programs or regulations.

(2) No solid waste shall be disposed of by being placed:

(a) in an open sink hole or in an area where geological formations or subterranean features would not provide support for a landfill.

(b) in a limestone, or gravel pit.

(c) in an area immediately adjacent to or within 500 feet of an existing or approved shallow water supply well unless disposal takes place in a sanitary landfill which was originally permitted before the shallow water supply well was in existence.

(d) in a dewatered pit unless permanent leachate containment and special design techniques are used to ensure the integrity of the landfill liner.

(e) in an area subject to frequent and periodic flooding unless drainage provisions approved by the Department are installed.

(f) in any natural or artificial body of water including ground water.

(g) within 200 feet of any natural or artificial body of water, except bodies of water contained completely within the sanitary landfill site, which do not discharge from the site. A person may dispose of solid waste within the 200 foot setback area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards under Chapter 17-3, F.A.C. Stormwater control methods shall meet stormwater requirements of Chapter 17-25, F.A.C. However, nothing contained herein shall prohibit the Department from imposing conditions necessary to assure that solid waste disposed of within the 200 foot setback area will not cause pollution from the site in contravention of Department rules.

(h) in any area open to public view from any major thoroughfare without proper screening where it can practically be provided.

(i) on the right of way of any public highway, road, or alley.

(j) within the boundaries of any airport property whether such airport be for public, private or limited use.

(k) within ten thousand (10,000) feet of the closest point of any runway at any airport licensed by the State of Florida, owned or operated by the United States, or subject to regulation by the Federal Aviation Administration which may be used by turbo-jet aircraft; or within five thousand (5,000) feet of any runway at any such airport used only by piston engine type aircraft unless it has been determined by the Federal Aviation Administration, the Florida Department of Transportation, or other appropriate federal or state agency charged with preventing airport hazards, that the proposed solid waste facility poses no safety hazards, that the proposed solid waste facility poses no safety hazard to aircraft in the vicinity.

(3) Burning of solid waste shall not be permitted at any landfill except in accordance with Florida Administrative Code Rule 17-7.060(1) and (3).

(4) Hazardous Waste: Any hazardous waste which is intended to be disposed of by land disposal or incineration and which can be reasonably expected to create a condition harmful to human health or air or water quality shall ~~be~~ at the owner's expense, be rendered non-hazardous prior to delivery to the disposal facility. Should a hazardous waste be of such composition that it cannot be rendered non-hazardous, the producer of such wastes must confer with the Department to determine a safe disposal or storage method and shall dispose of or store the waste by a method which is approved by the department. The approved method shall be determined on a case by case basis and shall be governed by the nature of the hazardous waste and its potential impact on air and water resources and public health, safety and welfare.

(5) Infectious waste shall be properly incinerated or processed by an alternate method which has been approved by the Department. No untreated infectious waste shall be deposited in any sanitary landfill.

(6) Transportation and disposal of solid wastes into or through the State, into or across county or municipal boundaries shall not be impeded provided such transport and disposal is in accordance with the provisions of this rule, does not degrade the environment, create a physical or aesthetic nuisance, or endanger or impair the public's health or welfare.

(7) The Department shall not issue a construction permit for a new sanitary landfill within 3,000 ft. of Class I surface waters.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.06, 10D-12.07, 10-1-74; Amended 5-24-79, 5-27-82; Previously Numbered as 17-7.04; Amended 12-10-85.

17-7.050 Sanitary Landfill Criteria.

Applicability. The criteria contained in Florida Administrative Code Rules 17-7.050 and 17-7.060 are applicable to all new landfill construction permits issued by the Department after the effective date of this rule. All permits issued prior to the effective date of this rule which contain conditions not in conformance with this rule shall be re-submitted to the District Office of the Department which issued the permit for purposes of modification of the permit to conform to this rule. The re-submission shall occur at least 90 days prior to the initial placement of waste into any trench or disposal area after January 1, 1987.

(1) Classification of Sanitary Landfills. Sanitary landfills are classified into three (3) different classes based on the amount and type of wastes received at the landfill. There are varying requirements throughout this rule depending upon the class of landfill.

(a) Class I landfills are those which receive an average of 20 tons or more of solid waste per day as weighed by scale if available, or 50 cubic yards or more of solid waste per day as measured in place after covering. Such sites shall receive an initial cover at the end of each working day in accordance with Florida Administrative Code Rule 17-7.050(5)(m).

17-7.040(3) -- 17-7.050(1)(a)

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(b) Class II landfills are those which receive an average of less than 20 tons of solid waste per day as weighed by scales if available, or less than 50 cubic yards of solid waste per day as measured in place after covering. Such sites shall receive an initial cover at least once every four days. If Class II sites receive sewage or industrial sludges, dead animals, rendering wastes, or other nuisance wastes, Class I covering frequency shall be required.

(c) Class III landfills are those which receive only trash or yard trash. Class III sites which are operated as trash facilities, based on site specific information, may be exempt from the liner and leachate and gas controls required in Florida Administrative Code Rules 17-7.050(4)(a), (b), (c), (d), (e), (f), (i), (j), and 17-7.050(5)(i), and are required to apply initial cover once every week. In determining whether a Class III landfill qualifies for the exemptions from certain requirements of Rule 17-7.050 the Department shall consider the hydrogeology, types of waste, and methods used to control types of waste received for disposal. Class III sites which are operated as yard trash composting facilities are not required to apply initial cover and, additionally, are exempt from Florida Administrative Code Rules 17-7.050(2)(a) and (b); (3); (4) and 17-7.050(5)(a), (c)4., (d), (f), (h), (i), (j), (k), (l), (m), (n), and (o). If trash or yard trash is mixed with other types of solid waste, the disposal site shall be classified as a Class I or II landfill.

(d) More frequent cover may be required at Class II and Class III sites if necessary to prevent health and environmental problems. The department shall consider proximity to nearby residences and wells, evidence of dumping of unauthorized wastes, unlawful fires, littering of nearby property, odor problems, presence of vectors, and any other demonstrable potential or existing problems at such sites when making this determination.

(2) Location Requirements.

(a) Solid waste shall be disposed of only in landfills where a ground water monitoring plan, including a hydrogeological survey, has been completed in accordance with Florida Administrative Code Rules 17-4.245(6) and 17-7.050.

(b) The land disposal site location shall provide support for the landfill including total wastes to be disposed of, cover material, and structures to be built on the site. Site structural acceptability will be subject to Department approval. A hydrogeological survey is required and it shall comply with Florida Administrative Code Rule 17-4.245(6)(d)1. and include a foundation analysis, prior to construction, to determine the structural integrity of the subgrade to support the loads and stresses imposed by the landfill; or, if feasible, acceptable geotechnical measures necessary to modify the structural integrity to accommodate the imposed loads and stresses. These loads shall not cause failure of the liner or other containment system. The strength of the subgrade shall be determined using appropriate ASTM methods, or equivalent methods, and the foundation shall be analyzed for all appropriate short-term, end of construction, and long term conditions.

(c) Site Requirements.

The land disposal site location shall:

1. be easily accessible by collection vehicles, automobiles and where applicable, transfer vehicles;

17-7.050(1)(b) -- 17-7.050(2)(c)1.

2. safeguard against water pollution originating from the disposal of solid waste;

3. have an adequate quantity of acceptable earth cover available. The cover material shall be easily workable and compactable.

4. conform with the proper zoning.

(3) Landfill Design. Class I and Class II landfills shall have a liner. Landfills may be designed for sectioned, or phased, construction and closure at scheduled intervals throughout the life of the landfill. Landfill closure design shall address applicable requirements of Florida Administrative Code Rules 17-7.071 through 17-7.076. Landfill design plans shall include:

(a) A map or aerial photograph of the area showing land use and zoning within 1 mile of the landfill. This map, or photograph which shall be taken within one year of the permit application, shall be of sufficient scale to show all homes, industrial buildings, wells, watercourses, dry runs, rock out-croppings, roads and other significant details. All significant features shall be indicated and labeled on the map or aerial photograph;

(b) A plot plan of the site showing dimensions, location of soil borings, proposed trenching or disposal areas plan, original elevations, and proposed final contours, any previously filled waste disposal areas, and fencing. Cross sections shall be included on the plot plan or on separate sheets showing both the original and proposed fill elevations. The scale of the plot plan should not be greater than 200 feet to the inch;

(c) Topographic maps at a scale of not over 200 feet to the inch with 5-foot contour intervals. These maps shall show: the proposed fill area; any borrow area; access roads; grades required for proper drainage and a typical cross section of a lift; special drainage devices, if necessary; fencing; equipment facilities; and all other pertinent information;

(d) A report on the:

1. Current and projected population and area to be served by the proposed site.

2. Anticipated type, annual quantity and source of solid waste, expressed in tons or cubic yards of compacted materials.

3. Anticipated life of the site.

4. Source and characteristics of cover material.

(e) Ground water monitoring plan.

(4) Landfill performance and design standards. Performance standards established by the following criteria are the standards which the landfill is to achieve. Design standards are also presented herein which may be used to achieve the performance standards. Alternative designs which achieve performance standards may be used upon approval by the Department.

(a) Liner construction or installation. Construction or installation of liners shall be in accordance with the methods and procedures given in Lining of Waste Impoundment and Disposal Facilities, EPA publication SW-870, March 1983, which is hereby incorporated into this rule by reference. Copies of this document may be inspected at the Department's district offices.

(b) Liner performance standards. The liner must be:

1. Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients

Class I & II
Landfills
Design

Leakage
Prevention
Design

Performance
vs
Design
Standards

Performance
Standards

(including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

2. Installed upon a base, or in a hydrogeological setting capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

3. Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(c) Liner Quality Control Plans.

1. Soil liners shall have a soil and liner quality control plan to provide construction and operating personnel with adequate information to assure continuous compliance with the soil and liner construction requirements. The plan shall include specifications and construction methods which use established engineering practices for compaction of clay soils to form a liner and provide for soil and liner quality control testing procedures and sampling frequency. Sampling and testing shall be conducted in the field during construction and after completion by qualified personnel under the direction of the professional engineer in charge to assure the liner will meet the performance standards.

2. Synthetic liners shall be installed in accordance with a Department approved quality control plan which incorporates the manufacturer's specifications and recommendations.

(d) Liner Design Standards.

1. Soil liners:

a. Shall be a minimum of 3 feet of soil e.g., clay, with an in-place saturated hydraulic conductivity not greater than 1×10^{-7} cm/sec. Saturated hydraulic conductivity shall not be increased above 1×10^{-7} cm/sec as a result of contact with the leachate generated by the landfill. Testing of the saturated hydraulic conductivity and the effect of leachate on soil permeability shall be performed in accordance with test methods given in EPA publication SW-870, ASTM test procedures or other tests which may be approved by the Department;

b. Shall not have any lenses, cracks, channels, root holes, pipes or other structural inconsistencies that can increase the saturated hydraulic conductivity of the liner above 1×10^{-7} cm/sec. The design shall illustrate and describe those instances in which over excavation of permeable areas and backfilling may be necessary to seal the permeable area e.g., when sand filled sinkholes are encountered. Where recompacted emplaced soil liners are used, they shall be placed in layers not exceeding 12 inches before compaction to maximize the effectiveness of compaction;

c. May consist of in-situ soils provided they meet the specifications for soil liners. Testing of in-situ soil shall be performed in accordance with the soil liner quality control plan.

2. Synthetic liners:

a. Shall consist of at least a reinforced 30 mil membrane or a 60 mil unreinforced membrane that meets minimum requirements of the National Sanitation Foundation Standard Number 54, Flexible Membrane Liners, November, 1983, which standard is hereby incorporated into this rule by reference, copies of

this document may be inspected at the Department's district offices;

b. Shall be protected from physical damage from above and below the membrane, by bedding soil material underlying the liner and a minimum 24 inch thick protective soil layer on top of the membrane; both the bedding and protective layer shall be free of rocks, roots, debris, sharps or particles larger than 1/4 inch. The lower 12 inches of material in contact with the top of the liner, if sufficiently permeable, may be used as a drainage layer; and

c. Shall have factory and field seams that equal or exceed the strength requirements defined by National Sanitation Foundation Standard 54 for that lining material. All field seams must be visually inspected and pressure or vacuum tested for seam continuity using suitable non-destructive techniques.

3. Other liner materials. Constructed liners other than compacted clay soils e.g., asphalt, polymeric membranes, concrete, bentonite slurry or admixture or other suitable material, may be approved by the Department if it can be shown that these alternative materials will have performance equivalent to those stated for soil liners.

(e) Leachate control performance standards. Landfills shall have a leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The leachate depth on top of the liner shall not exceed one foot depth of leachate. The leachate collection and removal system shall:

≤ 1' head

1. Be constructed of materials that are chemically resistant to the waste disposed of in the landfill and the leachate expected to be generated;

2. Be of sufficient strength and thickness to prevent collapse under pressures exerted by overlying wastes, cover materials, and by any equipment used at the landfill;

3. Be designed and operated to function without clogging through the active life and closure period of the landfill; and

4. Be designed and constructed to provide for removal of the leachate within the drainage system to a central collection point for treatment and disposal.

(f) Leachate Control System Design Standards. Leachate collection and removal systems shall have:

1. At least a 12 inch drainage layer above the liner with a hydraulic conductivity permeability of not less than 1×10^{-3} cm/sec at a slope to promote drainage;

2. A drainage tile or pipe collection system of appropriate size and spacing, sumps and pumps or other means to efficiently remove leachate. The design shall demonstrate through calculations in the permit application that a maximum one-foot depth of leachate on the liner will be achieved; and

3. Granular material or synthetic fabric filter overlying or surrounding the leachate collection and removal system to prevent clogging of the collection system by infiltration of fines from the waste or drainage layer; and have a method to test that the system is not clogged and a method for cleaning the system if it becomes clogged.

(g) Surface water management system performance standards. Landfills shall have surface water management systems designed, constructed, operated, and maintained to prevent surface water flow onto waste filled

areas, and a storm water run-off control system designed, constructed, operated, and maintained to collect and control stormwater to meet requirements of Florida Administrative Code Rule 17-25 and requirements of the respective water management district.

(h) Surface Water Management System Design Standards.

1. Storm water controls should be specifically designed and sized according to local drainage patterns, soil permeability, annual precipitation, area land use, and other characteristics of the contributing watershed;

2. Retention and detention ponds and drainage ways shall be designed, constructed, and maintained to meet the requirements of Florida Administrative Code Rule 17-25, or requirements of the water management district where the Department has delegated storm water permitting to a water management district;

3. Stormwater management systems shall be designed to minimize to the maximum extent possible the mixing of stormwater with leachate. Stormwater or other surface water which comes into contact with the solid waste or mixes with leachate shall be considered leachate and shall be treated to meet applicable standards of Florida Administrative Code Rules 17-3 and 17-4 at the point of discharge.

(i) Gas control system performance standards. Landfills shall have a gas control system to prevent: Explosion and fires due to the accumulation of methane concentrations on-site or off-site; damage to vegetation on final cover of closed portions of the landfill or vegetation beyond the perimeter of the property on which the landfill is located; and objectionable odors off site.

(j) Gas control system design standards. Landfill gas control systems may:

1. Be designed for site-specific conditions and be installed in each section of the landfill that has been filled to design dimensions; and

2. Be installed to reduce gas pressure in the interior of the landfill by collecting the gasses to prevent them from moving laterally. Collection pipes, pathways, or vents shall be installed to the lower regions of the filled waste or where the more anaerobic conditions exist. The gas control system shall not interfere with or cause failure of the liner or leachate control systems.

(5) Operations.

(a) Ground Water Monitoring.

1. Monitor well location, construction, and collection of samples shall be as specified in Florida Administrative Code Rules 17-3.401, 17-4.245, and 17-4.246. Guidance for construction of monitor wells and collection of samples is contained in Procedures Manual for Ground Water Monitoring at Solid Waste Disposal Facilities (EPA/530/SW-611).

2. Sampling and testing of ground water at landfills shall be in accordance with Florida Administrative Code Rule Sections 17-3.401, 17-4.245, 17-4.246, and 17-22.105.

3. When requested by the Department the facility operator shall inform the department of the next sampling schedule so that a representative of the Department may be present to collect a split sample.

(b) Operation Plan. An operation plan shall be submitted with all landfill construction permit applications. The operation plan shall provide written instructions for the daily operation of the landfill. The plan shall be revised when operational procedures change. The plan shall include detailed procedures such as:

1. Designation of persons responsible for operation and maintenance of the facility;
2. Contingency operations, alternate waste handling and disposal methods in case of emergency such as a natural disaster or equipment failure;
3. Controlling the type of waste received at the site. The plan shall specify inspection procedures, number and location of spotters and procedures to be followed if prohibited wastes are discovered;
4. Weighing or measuring incoming waste;
5. Vehicle traffic control and unloading;
6. Method and sequence of filling waste;
7. Waste compaction and application of cover;
8. Operations of gas, leachate, and storm water controls;
9. Ground water monitoring.

(c) Operational design features. The disposal site shall be provided with operation features and appurtenances necessary to maintain a clean and orderly operation. These minimum features are:

1. An effective barrier designed to prevent unauthorized entry and dumping into the landfill site.
2. An all-weather access road to the site. A special area with a stabilized roadway shall be provided within the site for wet weather operations.
3. Signs indicating name of operating authority, traffic flow hours of operation, and charges for disposal (if any).
4. Scales for weighing solid waste received at the landfill, or in lieu thereof, estimates the number of cubic yards received at all Class I and Class II sites. Quantitative records shall be forwarded to the Department upon request.
5. Dust control methods such as approved chemicals, oils, or water sprays.
6. Litter control devices, portable fences, or other suitable means.
7. Fire protection and fire-fighting facilities adequate to insure the safety of employees and provisions to deal with accidental burning of solid waste within the sanitary landfill.

(d) Personnel and Facilities. In order to insure proper staffing and suitable facilities the following shall be required:

1. During hours of operation, an attendant at Class I sites. The Department may require an attendant at Class II or Class III sites if the Department affirmatively demonstrates that such a requirement is necessary to prevent unlawful fires, unauthorized dumping, or littering of nearby property.
2. Communication facilities for use in emergencies at Class I sites.

(e) Equipment. To insure adequate operation the following is required:

1. Equipment sufficient for excavating, spreading, compacting, covering operations, and other transportation and earthmoving needs.
2. Sufficient reserve equipment, or arrangements to provide alternate

equipment within 24 hours following equipment breakdown.

3. Safety devices on equipment to shield and protect the operators from potential hazards during operation.

(f) The Department recommends but does not require:

1. A potable water supply.
2. A suitable employee shelter.
3. Handwashing and toilet facilities.
4. Equipment wash-out facilities.
5. Electric service for operations and repairs.
6. Equipment shelter for maintenance and storage of parts, equipment and tools.
7. Emergency first aid equipment to provide adequate treatment of an injured person in case of an accident.

8. That employees be trained in the proper and safe operation of all equipment and first aid procedures.

(g) Sanitary landfills shall be operated to provide for the collection, control and treatment of surface runoff from the site as necessary to meet the applicable standards of Florida Administrative Code Rules 17-3, 17-4, and 17-25;

(h) Any leachate emanating from a landfill shall be collected and treated as necessary to meet the applicable standards of Florida Administrative Code Rules 17-3, 17-4, and 17-25;

(i) Gas control systems shall be operated and maintained in accordance with the gas control system design. Operational procedures shall include measures to prevent damage to vents, and equipment repair or replacement as expeditiously as possible if damaged or destroyed;

(j) All solid waste at Class I and Class II sites shall be spread in layers of approximately two (2) feet in thickness and compacted to approximately one (1) foot in thickness or as thin a layer as practical before the next layer is applied. Solid waste at all Class III sites, except those yard trash sites which are operated as composting facilities, shall be spread in layers and compacted once every week using suitable heavy equipment. Bulky materials such as tree stumps or large pieces of concrete which are not easily compacted should be worked into other materials as much as practical.

(k) All compacted solid waste shall be formed into cells with the working face, and side grades above land surface, at a slope no greater than thirty (30) degrees. Cell depth shall be constrained by the type of operation in use (area, trench), the daily volume of waste, width of the working face, and good safety practices.

(l) The working face of a cell shall be only wide enough to efficiently accommodate vehicles discharging waste and to minimize the exposed area and the use of unnecessary cover material;

(m) Initial cover shall be applied to enclose each landfill waste disposal cell except the working face which may be left uncovered if solid waste will be placed on the working face within 18 hours. Any adverse environmental or health effects such as blowing litter, odors, flies, or rats resulting from this practice shall be cause to place initial cover on the working face. Initial cover shall be applied to landfills as follows:

1. Class I; at the end of each working day;
2. Class II; every four days;
3. Class III; once every week;

(n) An intermediate cover of one (1) foot of compacted earth in addition to the six (6) inch initial cover shall be applied within seven (7) days of cell completion at all landfills if final cover or an additional lift is not to be applied within 180 days of cell completion.

(o) Portions of landfills which have been filled with waste to the extent of designed dimensions shall be closed in accordance with the closure plan required in Florida Administrative Code Rules 17-7.050(3) and 17-7.070 through 17-7.076;

(p) Pesticides used to control rodents, flies and other insects shall be as specified by the Florida Department of Agriculture and Consumer Services.

(q) Uncontrolled and unauthorized scavenging shall not be permitted at any sanitary landfill site. Controlled salvaging may be permitted by the local authority responsible for the facility.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.07, 10-1-74; Revised 5-11-75, 7-20-76; Amended 5-24-79; Previously Numbered as 17-7.05; Amended 12-10-85.

17-7.060 Special Waste Handling.

(1) Controlled burning of solid wastes shall be accomplished in an incinerator, with the exception of controlled burning of only vegetative wastes, such as yard trash, which may be done in a permitted, properly operated incinerator or trench burner. A trench burner is an installation consisting of an open pit with fixed walls and a mechanically forced draft air supply to provide excess oxygen and turbulence to accomplish smokeless combustion of clean wood wastes and vegetative matter.

(2) Abandoned vehicles brought to the site may be stored temporarily in a separate area, provided arrangements have been made for frequent removal to an automobile recycler. If such arrangement has not been made all abandoned vehicles, white good and similar materials shall be compacted to minimize voids before being placed in the fill area.

(3) In the event of a natural disaster, during which large volumes of debris are accumulated (such as trees and buildings that have been destroyed) the debris may be transported to an area remote from habitation, and burned, in accordance with Florida Administrative Code Rule 17-5.09(1).

(4) Landfilling milled solid waste without daily soil cover may be an environmentally acceptable method of final disposal. However, the same engineering principles required for a sanitary landfill site must be employed, including a properly designed and operated milling facility. The Department will grant approval for such disposal method contingent upon the following conditions:

(a) Particle size. Seventy percent (70%) of all milled refuse, dry weight, shall be capable of passing through a three (3) inch screen.

(b) Waste shall be spread to a smooth contour and compacted promptly after placement and left undisturbed to prevent odors. Wind blowing of milled

refuse and paper shall be controlled.

(c) All solid waste storage areas in the milling facility must be maintained and cleaned at the end of each day's operations, or during continuous operation, as necessary, to prevent fly, rodent or other vector problems. All milling equipment shall be designed and maintained to control spillage and to achieve the required milled product quality.

(d) An operational plan shall include provision for removal and proper disposal of wastes within 24 hours should the mill facility breakdown or operational quality be diminished. The operational plan shall include provision for a stock pile of emergency soil cover material and a plan to convert the operation to a sanitary landfill.

(e) Leachate collection and treatment as necessary to meet water quality standards of Chapters 17-3 and 17-4, F.A.C., shall be provided at all milled solid waste sites. The design of the treatment facility shall be reviewed and approved by the department as a part of the permit required for the milled solid waste site.

(f) Upon completion of the site, it shall be closed, covered with a final one (1) foot thick soil cover and shall be seeded or planted with grass or suitable cover vegetation to minimize erosion.

(5) Asbestos-containing solid waste shall be covered daily with a pro per dust suppressant or six inches of non-asbestos material, or disposed of in an area where proper warning signs and fences or barriers are present, as described in 40 CFR 61.25. This federal Environmental Protection Agency regulation (40 CFR 61.25) is hereby adopted and incorporated in this rule by reference as it is stated in the October 14, 1975, Federal Register (40 FR 199), and as amended in the April 5, 1984, Federal Register (49 FR 13658). For purposes of this rule, the term "Administrator," when used in 40 CFR 61.25, shall mean Secretary of the Department of Environmental Regulation. Additionally, any asbestos-containing solid waste disposed of at a Class I or Class II Sanitary Landfill shall be disposed of according to the requirements of Section 17-7.050, F.A.C.

Specific Authority: 403.061, 403.704, 403.705, 403.8055, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.07, 10-1-74; Amended 5-24-79, 11-25-82, 7-10-84; Previously Numbered as 17-7.06; Amended 12-10-85.

17-7.070 Closure of Landfills. This section contains the minimum permit application requirements to close a landfill and monitor and maintain the closed facility after closing so that it will pose no significant threat to human health or the environment. If an applicant cannot provide reasonable assurance that the requirements of Florida Administrative Code Rules 17-3 and 17-4 will not be violated, then the Department may impose additional closure requirements on a landfill based upon site specific conditions. In subsequent rules regarding landfill construction and operation, the Department shall assure that Florida Administrative Code Rule 17-7.070 through 17-7.076 are consistent and conforming.

(1) Effective Date and applicability. Effective July 1, 1985, Florida

Administrative Code rules 17-7.070 through 17-7.076 shall apply to all portions of landfills receiving waste, portions of landfills not having final cover, and all future landfills requiring solid waste permits, with the following exceptions:

(a) Any site at which a person disposes of solid wastes resulting from his own activities on his own property, pursuant to the exemption created in section 403.707(2), Florida Statutes.

(b) Any dredge spoil site permitted or exempt from permitting under Chapter 403 Florida Statutes.

(c) Any yard trash composting site at which only vegetative material was disposed.

(d) Any area limited solely to the disposal of construction and demolition debris.

(e) Any portion of a landfill for which a modification of an operation permit to close or a closure plan has been approved by the department as of July 1, 1985.

(2) Permit Applications. Construction permit applications for new landfills shall include general plans and schedules for closure of the facility.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 10-1-74; Amended 5-24-79, 7-1-85; Previously Numbered as 17-7.07; Amended 12-10-85.

17-7.071 Closure Schedule. At least one year prior to the projected date when wastes will no longer be accepted, the landfill owner or operator shall provide a written notice to the Department District Office and local pollution control agency with a schedule for cessation of waste acceptance and closure of the landfill. The closure schedule shall become an addendum to the currently valid facility permit. If unforeseen circumstances do not allow the one year notification, notice shall be provided as soon as the need to close the facility becomes apparent.

(1) Notice and advice to users. At least 120 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall advise users of the intent to close the facility by posting signs at the entrance of the facility giving the date of closing, the location of alternative disposal facilities and name of the person responsible for closing the landfill. These signs shall be maintained throughout the closing period. If unforeseen circumstances do not allow the 120 day notice to users, notice shall be provided as soon as the need to close the facility becomes apparent.

(2) Notice to the Public. Within 10 days prior to the date when wastes will no longer be accepted at the landfill a notice shall be published in the legal advertising section of a newspaper of general circulation in the county where the activity is proposed, and the applicant shall provide proof of publication to the Department within 7 days of publication.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85.

any site
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closure plan
required for
construction
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17-7.072

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RESOURCE RECOVERY AND MANAGEMENT

17-7

Closure permit application as required by 17-7.072

17-7.072 Closure Permit Application Submittal. At least 90 days prior to the date when wastes will no longer be accepted, the landfill owner or operator who does not possess an approved closure plan shall submit a closure permit application to the Department. Landfill owners or operators that have a closure plan which was submitted and approved as part of the landfill construction permit shall resubmit that closure plan, revised to agree with the requirements of Florida Administrative Code Rule 17-7.073, to the Department no less than 90 days prior to the scheduled closing day. Upon approval by the Department the closure plan shall become an addendum to the currently valid permit.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85.

17-7.073 Closure Plan Requirements. All closure plans shall address the following eight parts contained in this sub-section, and for non-applicable requirements, shall contain an explanation of why the requirement is not applicable. Valid information on record in a previously approved permit or approved groundwater permit or groundwater monitoring plan may be used to satisfy the applicable requirements of this subsection.

- (1) General landfill information report. This report shall contain:
 - (a) Identification of the landfill;
 - (b) Name, address and phone number of primary contact persons;
 - (c) Identification of persons or consultants preparing this report;
 - (d) Present property owner; landfill operator;
 - (e) Location by township, range and section, and latitude and longitude of main entrance or operators office of the landfill;
 - (f) Total acreage of waste disposal area; total acreage of landfill property;
 - (g) Legal description of property on which the landfill is located;
 - (h) History of landfill: when constructed; description of fill operations, sequence of trenching, cell construction, or sequence of areas filled;
 - (i) Identity of types of waste disposed of in the completed landfills; based on records, composition studies, operator memory, major waste depositors, or other information sources.
- (2) Area information report. An information report on the area in which the landfill is located shall be included in the closure plan. The report may use verifiable information available from published documents. The term "area" means that area which may affect or has been affected by or will be affected by, the landfill, and at a minimum includes the land within a one mile radius of the landfill. The report should be supplemented by maps and cross-section drawings. The following topics shall be addressed in the report:
 - (a) Topography;
 - (b) Hydrology, including surface water drainage patterns and hydrologic features such as surface waters, springs, drainage divides and wetlands;
 - (c) Geology, including the nature and distribution of lithology, unconsolidated deposits, major confining units and sinkholes;
 - (d) Hydrogeology, including depth to groundwater table, groundwater flow

17-7.072 -- 17-7.073(2)(d)

12-10-85

directions, recharge and discharge areas, used by public and private wells within 1 mile of the landfill;

(e) Ground and surface water quality;

(f) Land use information. The report shall include a discussion and maps indicating:

1. Identification of adjacent landowners;

2. Zoning;

3. Present land uses;

4. Roads, highways, rights-of-way, or other easement.

(3) Groundwater monitoring plan and site specific information. The closure plan shall include an approved groundwater monitoring plan containing site specific information which meets the criteria specified in Florida Administrative Code Rule 17-4.245(6)(d).

(4) Gas migration investigation. A report on methane gas where actual or potential gas migration exists i.e., in landfills that have been in operation for a year and contain organic wastes disposed of in porous soils which allows or would allow migration of gas off the landfill property. Gas migration test points shall be located along property boundaries, or alternate boundaries approved by the Department, particularly, those adjacent to off-site occupied structures within 100 feet of the property boundary or where distressed vegetation is present. Test points are required along each boundary segment spaced as needed to detect gas migration. Test points should extend 3 feet below ground surface. Where sand, gravel, or more gas permeable soil strata may interconnect the waste deposit and the property boundary, multiple depth sampling points should be used, with the uppermost one 3 feet deep and additional ones in the permeable layers. A combustible gas indicator meter is recommended to determine methane concentrations as a percent of the lower explosive limit (LEL). Lower explosive limit means the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at a temperature of 25 degrees Celsius and atmospheric pressure. Methane concentrations shall not exceed the LEL at the property boundary or 25% of the LEL within structures on the property.

(5) Assessment of effectiveness of existing landfill design and operation. Based on the area information report, the groundwater monitoring plan, and the gas migration report, a landfill assessment shall be prepared which discusses the effects of the landfill on adjacent ground and surface waters, and the landfill area. Specific concerns to be addressed are:

(a) Effectiveness and results of the groundwater investigation;

(b) Effects of surface water runoff, drainage patterns, existing storm water controls;

(c) Extent and effects of methane gas migration, LEL percentage readings in migration paths, and description of the gas venting system if one is installed;

(d) Condition of existing cover, thicknesses and types of soils or materials used for cover, and effectiveness of cover material as a leachate control mechanism;

(e) The nature and characteristics of the wastes disposed of at the landfill.

(6) Closure design plan. A closure design plan shall be prepared based on the area information report, groundwater monitoring plan, and assessment of the effectiveness of the existing landfill design and operation. The closure design plan shall consist of engineering plans and a report on closing procedures which shall apply to the closing of the landfill and the monitoring and maintenance during the long term care period. The closure design plan shall include the following information:

(a) A plan sheet showing phases of site closing;

(b) Drawings showing existing topography and proposed final grades;

(c) Final cover installation plans showing the sequence of applying final cover, including thickness and type of material that will be used. All waste filled areas shall have a final cover designed to minimize infiltration and subsequent leachate generation, based on water balance calculations and leachate controls used. Final cover may consist of synthetic membranes, soils, or chemically or physically amended soils approved by the Department, underlaying at least six inches of top soil or soils that will sustain vegetative growth, to achieve a minimum thickness of two feet of soils or one foot of soils and synthetic or soil admixtures above the waste material. The types of materials used in a final cover are dependent upon the leachate control system used. Nothing in this rule shall be construed to require final cover which is incompatible with the leachate control system, including a system which utilized permeable final cover, which has been permitted by the department and meets all other applicable department standards and criteria.

1. The final cover shall be placed over the entire surface of each completed portion of the filled areas within 180 days after the final waste deposit date. The final cover of the filled area shall be seeded or planted with vegetation to control erosion. Where the final cover is intended to be a moisture infiltration seal, vegetational species planted shall be drought resistant and such that the roots will not penetrate the seal and thus provide a channel for moisture infiltration.

2. Side slopes and all other grades shall be designed to minimize erosion of the final cover material. Such designs shall consider the erosion susceptibility of the earthen material proposed for final cover relative to historical rainfall patterns for the area, the period between application of the final cover and establishment of vegetative growth, and special maintenance procedures proposed to insure that infiltration is minimized earthen material exists after vegetative growth is established.

a. Side slopes of all above-ground disposal areas shall not exceed a 33 percent grade, 3 feet horizontal run to 1 foot vertical rise, to minimize erosion.

b. Top gradients of final cover on landfill areas should not normally exceed 4 percent grade, 100 feet horizontal run to 4 feet vertical rise, considering total fill height, and expected subsidence caused by decomposing waste, and be designed to prevent ponding or low spots and minimize erosion. Alternate gradients, justified by the landfill design, may be approved by the Department.

c. Fill areas of new landfills which are constructed above land surface shall incorporate drainage and erosion control structures in accordance with

good engineering practice.

3. The closure design plan shall describe provisions for cover material for the long term care erosion control, filling areas of subsidence or other depressions, maintaining berms, and general maintenance of the facility, and specify the anticipated source and amount of material necessary for proper closure of the landfill.

(d) Type of leachate control system proposed. The leachate control system shall be designed to prevent leachate from escaping beyond the approved zone of discharge for the landfill and to meet the requirements of Chapter 17-3 and 17-4, Florida Administrative Code;

no leachate
control system
approved zone
of discharge.

(e) Compliance with groundwater protection requirements. The closure design plan shall show how the landfill will meet the requirements of Sections 17-4.245 and 17-4.246 Florida Administrative Code. The groundwater monitoring plan and sampling schedule may be adjusted for a landfill where groundwater contamination is not evident or corrective measures have been taken to correct contamination.

(f) Type of gas or odor control which may be used. Control systems shall be installed at landfills which have a gas or odor problem as determined in the gas migration investigation report. Monitoring for methane gas at the property boundary shall be performed at regularly scheduled intervals to determine the effectiveness of the migration controls. If the investigation indicates that gas and odors will not be a problem, gas and odor control systems may, with Department approval, be omitted from the closing design plan. The plan shall include an explanation of why they were omitted. The Department shall require gas migration investigations where the potential for migration exists and require control systems to be installed any time gas or odors become evident;

(g) Proposed method of stormwater control. This shall include control of stormwater occurring on the landfill property. Stormwater from areas adjacent to the landfill property shall be prevented from coming on or into waste filled areas or cells. Other surface waters, such as streams or canals which originate off of, or other surface water bodies which adjoin the landfill property, shall be prevented from flooding waste filled areas or cells. Infiltration of stormwater into the waste shall be precluded or minimized by the leachate control system. Stormwater or other surface water which mixes with leachate shall be considered to be leachate and shall be treated to meet the water quality standards of rules 17-3 and 17-4, Florida Administrative Code at the point of discharge. The stormwater control plan shall meet the requirements of Chapter 17-25, Florida Administrative Code, and requirements of the respective water management district.

(h) Proposed method of access control. The closure design plan shall describe how access to the closed landfill shall be restricted to prevent any future waste dumping or use of the facility by unauthorized persons. Restricted access shall remain in force until the landfill is stabilized and there is no evidence that facility property is being used as an unauthorized dump site. In the event that use of the property during the long term care period is planned, access shall be restricted until landfill closing is completed and approved by the Department;

(i) Final Use. The closure design shall contain a description of any proposed final use of the landfill property.

(7) Closure Operation Plan. The closure operation plan shall;

(a) Describe the actions which will be taken to close the landfill, such as placement of cover, grading, construction of berms, ditches, roads, retention-detention ponds, installation or closure of wells and boreholes, installation of fencing or seeding of vegetation, protection of on-site utilities and easements;

(b) Provide a time schedule for completion of the closing and long term care;

(c) Contain appropriate references to the Closure Design Plan, area information report, groundwater monitoring plan, and other supporting documents;

(d) Describe the proposed method of demonstrating financial responsibility for the long term monitoring and maintenance;

(e) Indicate any additional equipment and personnel needed to complete closure of the landfill;

(f) Modification of the plan based on a showing of good cause by the permittee may be approved by the Department. The permittee shall submit to the Department a revised plan prior to implementation of any necessary deviation. In the event that a necessary deviation is the result of unforeseen circumstances and there is insufficient time to prepare and submit a revised plan, the owner or operator shall immediately contact the Department and obtain an interim authorization pending the submission and review of the revised plan. Interim authorization shall not exceed 30 days during which time the revised plan shall be prepared and submitted to the Department.

(8) Certification by registered professional engineer. Information, plans, and drawings presented in support of a closure permit for a landfill shall be prepared under the direction of, and certified by, a registered professional engineer authorized to practice in the State of Florida in accordance with the provisions of Chapter 471, Florida Statutes. A letter of appointment shall be submitted by the proper federal, state, county, municipal or agency employee, or company official, or individual, confirming that the engineer is authorized to prepare plans and specifications. The professional engineer or another qualified engineer shall be required to make periodic inspections during the closing of the facility to insure closure is being accomplished according to the closure plan.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85.

17-7.074 Closure Procedures. Upon approval of the closure plan and issuance of the closure permit by the Department, the landfill owner or operator shall close the landfill in accordance with the approved plans and any special permit provisions.

(1) Closing inspections. The Department may specify in the closure permit that particular closing steps or operations must be inspected and approved by the Department before proceeding with subsequent closure actions.

(2) Survey monuments. Concrete monuments shall be installed to mark the

boundaries of the landfill property and other permanent markers installed to outline the general waste filled areas. These latter markers shall be tied to one or more of the boundary markers by a survey performed by an engineer or a registered land surveyor. The location and elevation of all markers shall be shown on a site plan filed with the "Declaration to the Public" described in subsection (4) below.

(3) Final survey and as built report. When landfill operations have been conducted which have raised the final elevations higher than 10 feet above the natural land surface, a final survey shall be performed by an engineer or a registered surveyor to verify that final contours and elevations of the facility are in accordance with the plans as approved in the permit. Aerial mapping techniques which provide equivalent survey accuracy may be substituted for the survey. The survey or aerial mapping information shall be a report which also includes information reflecting the as-built conditions of the landfill. Contours should be shown at no greater than 5 foot intervals. The landfill owner or operator shall submit this report to the Department in accordance with the closing schedule.

High water
level
(7-11-85 survey)

(4) Declaration to the public. After closing operations are inspected and approved by the Department, the landfill owner or operator shall file a declaration to the public in the deed records in the office of the county clerk of the county in which the landfill is located. The declaration shall include a legal description of the property on which the landfill is located and a site plan specifying the area actually filled with solid waste. The declaration shall also include a notice that any future owner or user of the site should consult with the Department prior to planning or initiating any activity involving the disturbance of the landfill cover, monitoring system or other control structures. A certified copy of the declaration shall be filed with the Department.

Conf. survey
signature
of
landfill owner

(5) Official date of closing. Upon receipt of the documents required in paragraphs (3) and (4) of this section, the Department shall, within 30 days, acknowledge by letter to the facility operator, that notice of termination of operations and closing of the facility has been received. The date of this letter shall be the official date of landfill closing for purposes of determining the long term care period.

(6) Use of closed landfill areas. Closed landfill areas, if disturbed, are a potential hazard to public health, groundwater and the environment. The Department retains regulatory control over any activities which may affect the integrity of the environmental protection measures such as the landfill cover, drainage, liners, monitoring system or leachate and stormwater controls. Consultation with the Department is required prior to conducting activities at the closed landfill.

(7) Construction on closed landfill. Pursuant to s.403.705(1), Florida Statutes, the following guidance is provided for use of a closed landfill.

(a) Enclosed ground level and underground structures should be avoided due to the potential for explosive concentrations of methane gas. Special construction and ventilation techniques must be employed if such structures are contemplated.

(b) Ponding of water, excessive irrigation, or plowing to a depth below

the topsoil should not be done unless there is assurance that percolation of moisture into the buried waste will not occur.

(c) Concentrated weight loadings should be avoided to prevent uneven settlement.

(d) The effectiveness of landfill cover and any liners or barriers must not be disturbed when structures are built, particularly when pilings are used.

(e) Underground utilities and similar installations that are placed within 200 feet of, or cross any side of any filled areas should be avoided. If they cannot, a properly located gas barrier or ventilation system should be placed at each property boundary crossed to prevent methane gas migration along the utility line to off-site structures.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85.

17-7.075 Long Term Care. The following long term care provisions shall apply to landfills after closing operations have been completed.

(1) Long term care period. The owner or operator of any landfill in operation after the effective date of this rule shall be responsible for monitoring and maintenance of the facility in accordance with an approved closure plan for 20 years from the date of closing. Prior to the expiration of the post closing monitoring and maintenance period the Department may extend the time period if it finds extension is necessary if the closure design or closure operation plan is found to be ineffective.

(2) Reduced long term care period. The owner or operator of a landfill may apply to the Department for a reduced long-term care schedule if reasonable assurance is provided to the Department that there is no significant threat to human health or the environment and if the landfill:

(a) Has been constructed and operated in accordance with approved standards, has a leachate control system, has a liner or

(b) Was closed with appropriate final cover, good vegetative cover established, and a good monitoring system installed and;

(c) Has a 10 year history of no leachate detected in the monitoring system, no leachate collected after closing, no detrimental erosion of cover, and subsidence of waste has ceased.

(3) Right of access. It is the responsibility of the owner or operator to possess or acquire a sufficient interest in, or a right to use the property for which a permit is issued, including the access route onto the property to carry out the requirements of this rule. The issuance of a permit by the Department does not convey any property rights or interest in real or personal property, invasion of personal rights, or impairment of previous contract rights; nor any infringement of federal, state, or local laws or regulations outside the authority under which a permit is issued. The permittee must retain the right of entry to the landfill property for the long term care period, after termination of solid waste operations, for inspection, monitoring and maintenance of the site.

(4) Successors in interest. Any person acquiring rights or ownership,

17-7.076

possession or operation of a permitted landfill through lease or transfer of property shall be subject to all requirements of the permit for the facility and shall provide any required proof of financial responsibility to the Department in accordance with this rule. Any lease or transfer of property shall include specific conditions to delineate:

(a) The previous owner or operator is responsible for closure and shall maintain any required proof of financial responsibility until the person acquiring ownership, possession or operation of the landfill establishes the required proof of financial responsibility with the Department;

(b) Responsibility for the continuance of monitoring, maintenance, and correction of deficiencies or problems;

(c) Mineral rights attached to the property and the rights to any recoverable materials that may be buried on the property or landfill gasses that may be produced. A Department permit shall be required if any on-site operations subsequent to closing of a landfill involve disturbing the landfill.

(5) Transfer of Permit. Transfer of landfill permit shall be in accordance with the provisions of Chapter 17-4.12 Fla. Admin. Code and this rule.

(6) Replacement of monitoring devices. If a monitoring well or other device required by the monitoring plan is destroyed or fails to operate for any reason, the landfill owner or operator shall, immediately upon discovery, notify the Department in writing. All inoperative monitoring devices shall be replaced with functioning devices within 60 days of the discovery of the malfunctioning unit unless the landfill owner or operator is notified otherwise in writing by the Department.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85.

exceptions all 17-7.076(1)(e)

17-7.076 Financial Responsibility.

(1) Cost estimates. - 2 major categories of long-term care costs

(a) For the purpose of determining the amount of proof of financial responsibility that is required in subsection 17-7.076(3) the owner or operator shall estimate the total cost of closure for the time period in the landfill operation when the extent and manner of its operation make closing most expensive, and shall estimate the annual cost of long-term care and submit the estimate together with all necessary justification for approval to the Department. The costs shall be based on a third party performing the work, reported on a per unit basis. The source of estimates shall be indicated;

(b) Closing costs shall be based on the nature and characteristics of the wastes disposed of at the site and shall include estimated costs of cover material, topsoil, seeding, fertilizing, mulching and labor;

(c) Long-term care costs shall include land surface care, gas monitoring, leachate pumping, transportation, monitoring and treatment; and groundwater monitoring, collection and analysis.

(2) Government owned landfills. After July 1, 1985, federal, state, county, or municipal governments or special districts which own a landfill shall provide the department with a plan or documentation of how they will

finance the closure of the facility. The plan or documentation shall be submitted with the initial construction permit application. For existing, but not closed landfills, it shall be submitted by July 1, 1986.

(3) Non-government owned landfills. After July 1, 1985, any person applying for a permit to construct a new landfill which is not owned by federal, state, county or municipal government or special districts, shall obtain and submit proof of financial responsibility 60 days prior to acceptance of solid waste as a condition of the permit. Owners or operators of existing but not closed landfills shall submit proof of financial responsibility to the Department, by July 1, 1986. Proof of financial responsibility shall be submitted on forms provided by the Department in accordance with the requirements of this Section 17-7.076, F.A.C.

(a) 40 CFR Part 264 Subpart H which contains EPA's rules on financial requirements for owners and operators of hazardous waste facilities are hereby adopted as financial requirements for purposes of this rule and incorporated by reference as those rules appear in 40 CFR 264 revised as of July 1, 1984, except:

(b) the following sections of 40 CFR Part 264 Subpart H are specifically not adopted as part of this rule:

1. 264.140; 264.141(a); 264.141(e); 264.143(f); 264.145(f); 264.147; 264.149; 264.150; and 264.151(f)(g)(h)(i) and (j).

2. All references to 40 CFR Part 265.

3. All references to sections or subparts of 40 CFR 264 not contained in Subpart H.

4. All references to EPA Regions.

5. All references to RCRA, Section 3008 of RCRA, or RCRA permits.

(c) References in 40 CFR 264 Subpart H to the United States Environmental Protection Agency or to EPA shall mean the State of Florida Department of Environmental Regulation; to Regional Administrator shall mean the Secretary of DER; to EPA identification number shall mean the DER Identification Number; to hazardous waste shall mean solid waste; and to hazardous waste treatment, storage or disposal facilities shall mean landfills.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85.

17-7.077 Permit Application Requirements.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Transferred to 17-7.030(3), 12-10-85.

17-7.078 Approval of Alternative Procedures and Requirements.

(1) The owner or operator of a landfill subject to the provisions of Sections 17-7.030 and 17-7.050 through 17-7.077 may request in writing a determination by the Secretary that a requirement shall not apply to such landfill, and shall request approval of alternate procedures or requirements.

(2) The request shall set forth at a minimum the following information:

(a) Specific landfill for which an exception is sought;

(b) The specific provisions of Sections 17-7.030 through 17-7.077 from which an exception is sought;

(c) The basis for the exception, including but not limited to the hardship which would result from compliance with the established provision;

(d) The alternate procedure or requirement for which approval is sought and a demonstration that the alternate procedure or requirement provides an equal degree of protection for the public and the environment;

(e) A demonstration of the effectiveness of the proposed alternate procedure.

(3) The Secretary shall specify by order each alternate procedure or requirement approved for an individual landfill in accordance with this section or shall issue an order denying the request for such approval. The Department's order shall be final agency action, reviewable in accordance with section 120.57, Florida Statutes.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Amended 12-10-85.

17-7.080 Supervision and Inspection.

(1) Supervision of the operation shall be the responsibility of a qualified person experienced in the operation of a resource recovery and management facility.

(2) Routine inspections and evaluations of facility operations shall be made by the Department. A notice of deficiencies, with recommendations for their correction, shall be provided to the person responsible for the operation. *DEF Inspection*

(3) Inspection of a completed sanitary landfill shall be made by the Department before the earthmoving equipment is removed from the site. Any corrective work shall be performed before the landfill project is accepted by the Department as completed. Arrangements shall be made for the repair or restoration of the final cover as required for at least two years following completion.

Specific Authority: 403.061, F.S. Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713, F.S., Chapter 74-342. History: Transferred from 10D-12.07, 10-1-74; Previously Numbered as 17-7.08.

17-7.090 Volume Reduction Plants.

(1) Permits shall be required for all volume reduction plants as defined in Section 17-7.020(59). *From 17-7.020*

(2) Volume reduction plants shall be designed and operated to meet all applicable rules of the Department including Chapters 17-2 and 17-3, F.A.C., and shall be reviewed for permitting based on the receipt of comprehensive data on the process and its relative potential as a pollution source.

(3) All volume reduction plants shall provide a suitable system for the collection and treatment necessary to meet water quality standards of all leachate and other liquid wastes such as wash-down water produced as a result of the operation of such a facility.

(4) Volume reduction plants shall be designed so as to divert surface

water away from all open storage areas.

(5) Alternate or sufficient overcapacity waste handling capability for proper disposal of solid waste shall be provided in the event of diminished operational quality or overloads due to breakdowns or natural disasters.

(6) Volume reduction plants shall be operated so as to handle solid wastes on a first-in, first-out basis. At no time shall any stored solid waste be allowed to remain unprocessed for more than forty-eight (48) hours unless adequate provisions are made to control flies, rodents and odors.

(7) Adequate fire control facilities shall be provided at all volume reduction plants.

(8) All solid waste storage areas in the volume reduction plant shall be maintained and cleaned at the end of each day's operations or during continuous operation, as necessary, to prevent fly, rodent and other vector problems. All milling equipment must be designed and maintained to control spillage and to achieve the required milled product quality.

(9) All solid waste, recovered materials or residues handled at a volume reduction plant, shall be stored in a manner so as not to constitute a fire or safety hazard or a sanitary nuisance, and shall comply with all applicable local and state regulations.

(10) Recovered resources resulting from such facilities and which may be offered for sale shall comply with applicable regulations of all appropriate State agencies.

(11) Experimental methods and operations will be reviewed by the Department for a permit based on purpose and design effectiveness.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 10-1-74, Amended 5-24-79, Previously Numbered as 17-7.09.

17-7.091 Transfer Stations.

(1) Transfer stations shall not be constructed or operated without a permit.

(2) The transfer station shall be provided with operational appurtenances necessary to maintain a clean and orderly operation. These minimum features are:

(a) An effective barrier designed to prevent unauthorized entry and dumping into the transfer station.

(b) Fire protection and fire fighting equipment to insure the safety of employees, and provisions to deal with accidental burning of solid waste within the transfer station.

(c) Communication facilities for use in emergencies.

(d) The transfer station operator shall keep accurate records of materials handled at the station. Such records shall include weights or volumes of waste handled in a manner and form approved by the department. Accurate records shall be kept for operational control and resource recovery planning. The records shall be open for inspection by department representatives, health inspectors and other authorized regulatory and enforcement agencies during normal business hours.

(e) The transfer station shall be properly staffed to deal with all aspects of the station operation and to insure that health, fire or safety problems are not inflicted upon or caused by the public.

(f) Transfer stations shall be operated and maintained to comply with all applicable regulations. Proper operation shall include unloading of wastes to prevent them from becoming a hazard or nuisance; cleaning of all loose materials or litter daily or on a cleaning schedule approved by the department; removal of all solid wastes every 48 hours or in accordance with an approved schedule.

(g) Salvaging in a controlled manner is allowed provided it does not interfere with other aspects of the transfer station operation. Uncontrolled scavenging is prohibited.

(h) Equipment sufficient for operational needs.

(i) The department recommends but does not require:

1. a potable water supply
2. a suitable employee shelter
3. hand washing and toilet facilities
4. equipment washout facilities
5. electric service for operations and repairs
6. equipment shelter for maintenance and storage of parts, equipment and tools.

7. emergency first aid equipment to provide adequate treatment of an injured person in case of an accident.

8. that employees be trained in the proper and safe operation of all equipment and first aid procedures.

(3) Subsection 17-7.091(1) and (2) shall not apply to commercially available standard roll-off containers or similar wheeled containers which are provided to serve as a community or multi-residence receptacles for residential refuse, nor do they apply to storage receptacles for commercial solid wastes or containers used to store salvage materials.

Specific Authority: 403.061, 403.7044, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 5-24-79.

17-7.10 Applications for Permit.

Specific Authority: 403.061, F.S.

Law Implemented: 403.061, 403.701 through 403.715, F.S.

History: New 10-1-74, Repealed 5-24-79.

17-7.11 Permit Forms.

Specific Authority: 403.061, F.S.

Law Implemented: 403.031, 403.061, 403.071 through 403.715, F.S.

History: New 10-1-74, Amended 2-18-79, Repealed 5-24-79.

17-7.120 Notification of Disposal Activity.

(1) Applicability.

This section shall apply to persons disposing of solid waste resulting

from their own activities on their own property. All such persons shall file written notification of their disposal activities to the department on forms prescribed by the department.

(2) Exemptions.

(a) The following persons shall be exempt from the notification requirements of this section:

1. Persons who dispose of only residential solid waste.
2. Persons who dispose of solid wastes resulting solely from normal farming operations.
3. Persons who dispose of solid waste limited solely to construction and demolition debris.
4. Persons whose activities are sources exempt from permit requirements pursuant to Florida Administrative Code Rule 17-4.04 and 17-4.245(4)(c).
5. Persons whose activities are exempt from the groundwater monitoring requirements of Florida Administrative Code Rule 17-4.245(6)(j).

(b) The following persons may submit a certification of their status, as prescribed in the notification form, in lieu of completion of the notification form:

1. Persons who have submitted complete groundwater monitoring plans for solid waste disposal sites prepared pursuant to Florida Administrative Code Rule 17-4.245(6)(c). Upon review of the monitoring plan, the department may require the submittal of any additional information necessary to meet the requirements of Florida Administrative Code Rule 17-7.120(4).

2. Persons whose solid waste disposal activities are currently performed subject to valid department permits or certifications.

(3) Notification Submission.

(a) Persons subject to the requirements of this section shall notify the department of their solid waste disposal activity according to the following schedule:

1. For persons located within the geographic areas of the Tampa Bay Regional Planning Council, the South Florida Regional Planning Council, the Northeast Florida Regional Planning Council and the East Central Florida Regional Planning Council and Volusia County by July 1, 1985.

2. For persons located within the geographic areas of the Treasure Coast Regional Planning Council, the Southwest Florida Regional Council, and the Central Florida Regional Planning Council by December 31, 1985.

3. For persons located within the geographic area of the Apalachee Regional Planning Council, the North Central Florida Regional Planning Council, and the Withlacoochee Regional Planning Council, and Jefferson County by December 31, 1986.

(b) Persons initiating new disposal activity shall notify the department within 10 days after beginning disposal.

(c) Any person who, subsequent to notification, modifies the type of waste disposed, the location of disposal or the management practice used to control disposal shall notify the department of the modification within 10 days after beginning the modified disposal activity.

(4) Notification Information Requirements.

Persons required to notify the department of solid waste disposal

activity shall provide the following information on forms prescribed by the department:

(a) A description of the location of the property used for solid waste disposal.

(b) A list of the types of solid waste that are being disposed of.

(c) An estimate of the annual quantity of each type of solid waste disposed of.

(d) A description of the size and location of each disposal area on the property.

(e) A description of the disposal processes and operating procedures used to manage the disposal of solid waste.

(f) A description of the status of groundwater monitoring at the site.

(5) Evaluation of Notification Information.

(a) The department will evaluate the information provided on the notification forms. The department may perform inspections at a disposal facility to determine whether the solid wastes disposed are managed consistent with the notification information provided to the department.

(b) If the department determines that the solid waste disposal activity at a disposal facility:

1. creates a public nuisance or any condition adversely affecting the environment or public health; or

2. violates other state or local laws, ordinances, rules, regulations or orders; then the department shall require the owner or operator of the disposal facility to obtain a solid waste permit or to otherwise correct these conditions or violations.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.707, F.S.

History: New 6-13-84, Amended 4-25-85, Previously Numbered as 17-7.12.

17-7.130 Forms. The forms and instructions used by the Department in the Solid Waste Management Program are adopted and incorporated by reference in this section. The forms are listed by rule number, which is also the form number, and with the subject title and effective date. Copies of forms may be obtained by writing to the Director, Division of Environmental Permitting, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32301.

(1) Application for Permit to Construct/Operate a Solid Waste Resource Recovery and Management Facility, December 10, 1985.

(2) Application to Operate Only Resource Recovery and Management Facility - Certification of Construction Completion, November 30, 1982.

(3) Application for: Preliminary Examination/Final Examination and Certification of Resource Recovery Equipment, November 30, 1982.

(4) Land Application Field Package for Grade I Sludges, June 16, 1984.

(5) General Permit Application for Grade II Sludges, June 16, 1984.

(6) Solid Waste Disposal Notification Form, October 1, 1984.

(7) Application for Registration Used Oil Collection and Recycling Facilities and Transporters, February 25, 1985.

(8) Annual Report by Used Oil Facilities and Transporters, February 25, 1985.

- (9) Used Oil Recordkeeping Form, February 25, 1985.
- (10) Application for Permit to Close a Solid Waste Resource Recovery and Management Facility, July 1, 1985.
- (11) Solid Waste Facility Trust Fund Agreement to Demonstrate Closure and/or Post-Closure Financial Assurance, Solid Waste Facility Standby Trust Fund Agreement, Solid Waste Facility Irrevocable Letter of Credit, Solid Waste Facility Closure/Post-Closure Insurance Certificate, Solid Waste Facility Financial Guarantee Bond, Solid Waste Facility Performance Bond, July 1, 1985. Specific Authority: 120.53(1), 403.061, F.S.
Law Implemented: 120.53(1), 120.55, 403.0875, F.S.
History: New 11-30-82, Amended 6-16-84, 9-12-84, 2-25-85, 7-1-85, Transferred from 17-1.206 and Amended 12-10-85.

PART II

STATE RESOURCE RECOVERY AND MANAGEMENT PROGRAM

17-7.200 Declaration and Intent. The Florida Department of Environmental Regulation does hereby establish a State Resource Recovery and Management Program pursuant to the authority granted by Sections 403.705 and 706, F.S.

Counties and municipalities in areas designated in Section 17-7.240(1) of this rule shall adopt and submit for department approval by July 1, 1979, a local resource recovery and management program. This program shall include a plan and implementation schedule consistent with criteria listed in Sections 17-7.240, 17-7.250, and 17-7.260 of this rule.

Specific Authority: 403.061, 403.704(1), F.S.

Law Implemented: 403.705, 403.706, F.S.

History: New 7-20-76, Amended 5-24-79, Previously Numbered as 17-7.20.

17-7.210 Definitions. The definitions in Part I of this rule are applicable to the terms used in this part.

Specific Authority: 403.061, 403.704(1), F.S.

Law Implemented: 403.705, 403.706, F.S.

History: New 7-20-76, Amended 5-24-79, Previously Numbered as 17-7.21.

17-7.220 State Agency Responsibilities.

(1) Department of Environmental Regulation. The Department shall:

(a) implement and enforce the provisions of the Florida Resource Recovery and Management Act and the requirements of this rule.

(b) provide technical assistance to all local agencies in the development of their local programs.

(c) review and approve or disapprove local resource recovery and management programs submitted in accordance with Chapter 403.706(1) F.S., using the criteria in Sections 17-7.240, 17-7.250, and 17-7.260 of this rule.

(2) Resource Recovery Council. The Council shall:

(a) Specifically recommend to the Department those counties, municipalities, or regions which will generate sufficient solid waste to make it economically practical to plan for recycling of solid waste.

(b) provide technical assistance to those areas designated to plan for resource recovery.

(c) review local programs from the designated areas that are submitted to the Department for approval and make any recommendations and findings it deems necessary.

Specific Authority: 403.061, 403.704, 403.710, F.S.

Law Implemented: 403.704, 403.705, 403.706, 403.710, F.S.

History: New 7-20-76, Amended 5-24-79, Previously Numbered as 17-7.22.

17-7.200 -- 17-7.220(History)

12-10-85

17-7.23 Guidelines for Resource Recovery and Management Programs.

Specific Authority: 403.061, 403.704(1), F.S.

Law Implemented: 403.705, 403.706, F.S.

History: New 7-20-76, Amended and Renumbered as 17-7.251, 5-24-79.

17-7.240 Resource Recovery Area Designations.

(1) By July 1, 1979, the following designated counties shall submit to the department singularly or in coordination with other local or regional governmental entities a local resource recovery and management program as required by Section 403.706(1), F.S.:

Alachua	Hillsborough	Pinellas
Bay	Lee	Polk
Brevard	Leon	Sarasota
Broward	Manatee	Seminole
Dade	Orange	Volusia
Duval	Palm Beach	
Escambia	Pasco	

(2) Each resource recovery and management program shall include an implementation schedule which provides a timetable indicating when the total program as well as its component parts shall be carried out.

(3) None of the designated counties or municipalities therein are required to participate in the resource recovery aspect of the resource recovery and management program if the governing body of such county or municipality has determined that participation in such a program is not economically feasible for that county or municipality. Such a determination shall be made and justified in the local resource recovery and management program to be submitted by July 1, 1979.

(4) A county and its municipalities may jointly determine which local government agency shall administer the local resource recovery and management program. If, by December 1, 1978, no inter-local agreement had been effectuated, the board of county commissioners shall administer and be responsible for the disposal of all solid waste and for the local resource recovery and management program for the entire county.

Specific Authority: 403.061, 403.704(1), F.S.

Law Implemented: 403.705, 403.706, 403.710(4), F.S.

History: New 7-20-76, Amended 11-16-76, 5-24-79, Previously Numbered as 17-7.24.

17-7.250 Local Agency Responsibilities.

(1) The resource recovery and management program shall implement the provisions of the state program for designated counties by adequately providing for the receiving in bulk, storage, separation, processing, recovery, recycling, or disposal of solid waste generated or existing within boundaries of the county or incorporated limits of the municipality or in the area served thereby.

17-7.23 -- 17-7.250(1)

12-10-85

(2) The resource recovery and management program shall be submitted to the department. The Resource Recovery Council will review and the department will evaluate and approve or disapprove the local or regional resource recovery and management program based upon the information contained in each program. The resource recovery and management program shall include the following:

(a) Background data:

1. description of the scope and authority of the planning area.
2. a description of environmental conditions, geology, soils, climatology, drainage basins, and other pertinent physical features.

(b) Existing Conditions: description of specific existing conditions affecting management of solid waste.

1. storage practices, collection practices and routes.
2. quantities and types of wastes generated and collected; i.e., residential, commercial, hazardous, infectious, industrial, municipal, sludges.
3. disposal and processing facilities.
4. general management practices; i.e., manpower, waste collectors (public, private), terms of contracts, equipment utilization.
5. population served, size and density.
6. land use and zoning; i.e., residential, commercial, industrial, agricultural, extractive, recreational, solid waste facilities and other major land uses.
7. transportation routes; roads, railroads, bargeways; available for use in solid waste management.
8. expenditures for solid waste management, collection, transportation, disposal, and costs for each in labor, fuel, maintenance, overhead, capital equipment, supervision.
9. public finance practices.
10. status, source and amount of revenues to support the solid waste management system.
11. other significant conditions related to existing solid waste management practices in the jurisdiction.

(c) Future conditions, problems and requirements: Information obtained in (b) can be used to forecast future conditions, problems that may arise due to those conditions and what may be required to resolve those problems.

1. anticipated conditions:
 - a. population projections.
 - b. solid waste generation increase (decrease) by type, source and quantity.
 - c. land use changes, zoning modifications.
2. future problems defined in terms of location, extent, persistence and control difficulties:
 - a. environmental
 - b. financial
 - c. technical
 - d. institutional
 - e. legal
 - f. political

- g. other
- 3. Future requirements or objectives:
 - a. solid waste management organizational structure.
 - b. implementation of state criteria and guidelines.
 - c. disposal facilities requirements; vehicles operating equipment.
 - d. land acquisition for future installations; environmental requirements; soil surveys, hydrogeological studies, other.
 - e. intergovernmental agreements or special acts to form local agencies or regional authorities to manage solid waste functions.
 - f. how municipal plans and county plans complement each other.
 - g. public relations plan to inform citizens about the solid waste management system.
 - h. development of local ordinances or regulation to enforce the local program.
 - i. development of an area disaster plan.

(d) The solid waste management systems preferred by the local agency. Proposed systems may combine several storage, collection, transportation and disposal methods.

(e) Resource Recovery Program. All designated counties shall include an assessment of the economic feasibility of a resource recovery program to that county. Those designated counties which plan to participate in the resource recovery aspect of a resource recovery and management program shall include the following:

1. existing resource recovery and recycling activities, both public and private.
2. a brief description of resource recovery objectives.
3. an evaluation and selection of markets for the recovery of energy or material, location, type, characteristics, and estimated revenues.
4. an indication of current waste composition in the planning area.
5. an analysis of the economics of technology options.
6. an analysis of the economics of waste reduction options.
7. selection of a reliable technology compatible with local circumstances.
8. an assessment of the economic feasibility of the proposed resource recovery program.
9. an assessment of energy requirements, financing, management, operation, and environmental factors pertinent to the chosen technology.
10. provision for disposal of residuals, including site location, volume and type of residuals.

(f) Cost estimates for each element of the local resource recovery and management program shall be included in the program. Include cost estimates for:

1. background research.
2. planning efforts.
3. development of solid waste management organization.
4. land acquisition.
 - a. capital costs for vehicles, processing equipment, transfer stations.
 - b. operation and maintenance costs; manpower, utilities.

17-7.250(2)(c)2.g. -- 17-7.250(2)(f)4.b.

5. disposal.

a. landfill development.

b. landfill operation, maintenance, equipment, labor, utilities.

c. processing equipment.

(3) Programs for non-designated counties shall conform to the requirements of the Local Government Comprehensive Planning Act, Chapter 163.3161 et seq., F.S.

(4) The local resource recovery and management program may be based on an existing solid waste management study providing the study reflects the requirements of this Chapter.

Specific Authority: 403.061, 403.704(1), F.S.

Law Implemented: 403.705, 403.706, F.S.

History: New 7-20-76, Amended 5-24-79, Previously Numbered as 17-25.

17-7.251 Guidelines for a Resource Recovery and Management Program.

The following are guidelines which should be considered when developing a resource recovery and management program:

(1) Storage of solid waste prior to collection.

(a) In all cases in which garbage and other solid wastes are combined, the criteria for garbage should prevail. The property owner or occupant should store solid waste on his premises or property or should require it to be stored or handled in such a manner as to prevent the propagation, harborage, or attraction of vectors, or the creation of a nuisance.

(b) All garbage or garbage mixed with other solid waste should be deposited in containers which are either non-absorbent, watertight, vector resistant, durable, easily cleaned and designed for safe handling; or in paper or plastic bags having sufficient strength and water tightness and which are designed for the containment of refuse.

(c) Containers should be of an adequate size and in sufficient numbers to contain without overflowing all the refuse, except yard trash, that a household or other establishment generates within the designated period of time between collections. All containers should be maintained in a sound, clean condition.

(d) Containers should be free of all sharp edges and any inside structures which would prevent the free discharge of the contents.

(e) External stationary storage bins for garbage should be prohibited from being built or added on to existing or new buildings. New installations of underground receptacles should be prohibited. Existing receptacles may continue in use until they become impractical to repair.

(f) Hazardous wastes as defined in Part I of this rule should be stored in such a manner and in such a container as to preclude transmission of disease or cause injury to collection and disposal personnel and the general public.

(g) Each refrigerated room and/or refrigerator used for the storage of garbage should be thoroughly cleaned after each removal of garbage. Waste water from such cleaning should be disposed of by a sanitary method.

(h) Mechanically serviced containers (bulk containers) should be designed or equipped so as to prevent spillage or leakage during on-site storage and/or

transport. The container should be easily cleanable and located on firm, level ground or a concrete pad, and should be easily accessible by the collection vehicle.

(2) Collection and Removal of Solid Waste.

(a) Frequency of solid waste removal. The owner or tenant of any premises, business establishment or industry should be responsible for the satisfactory removal of all solid wastes accumulated by him on his property or his premises. Where a residence is located on the normal route of an organized collection service, public or private, the occupant should subscribe to the service. Excepting disruptions in normal collection schedules, garbage should be collected a minimum of two times per week or prevent propagation, harborage, or attraction of flies, rodents or other vectors, and the creation of nuisances. More frequent removal of garbage may be required by local agencies.

(b) Regulation of Collection Operators. Each person providing residential, commercial, or industrial solid waste collection service should comply with all local government licenses, permits, or written approval requirements applicable to the jurisdiction in which such services are provided. Each local agency, or regional agency, if any should maintain a complete listing of all persons holding written approvals to provide solid waste collection services within their jurisdiction. The listing should contain the name and address of each such person, its office telephone number, and the number and types of vehicles used by such person in providing solid waste collection services.

(c) Collection Operator Qualifications. Local or regional agencies which authorize or designate persons or firms to provide solid waste collection services to the general public within their jurisdiction through contract or franchise, should obtain sufficient information to show that such person or firm has adequate financial resources and experience to properly conduct the operation authorized.

(d) Equipment used in collection and transportation of solid waste should be constructed, operated and maintained in such a manner as to minimize the health and safety hazards to solid waste personnel and the public. Equipment should be maintained in good mechanical condition and kept clean to prevent propagation and attraction of vectors and the creation of nuisances. It is recommended that they meet the standards established by the American National Standards Institute (ANSI Section 245.1, Safety Standards for Refuse Collection Equipment) as of the effective date(s) established in ANSI Section 245.1.

(e) All vehicles and equipment used for collection and transportation of solid waste should be enclosed or adequate provisions should be made for suitable cover to prevent contents from escaping in accordance with Chapter 316 F.S.

(f) When the backyard, carry-out system of collection is used, the common practice of collection personnel dumping garbage at the curb in any manner other than in an acceptable container for household refuse should be prohibited.

17-7.251(1)(h) -- 17-7.251(2)(f)

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(g) All rural collection systems should be operated in a safe, efficient manner, and should be in compliance with all applicable local and state regulations.

(3) Public Recordings of Disposal Sites.

The location of all solid waste disposal sites should be made a matter of record in the county property recording office for future reference in the event any problem arises concerning the sites.

(4) Hazardous Waste. Hazardous and Infectious waste as defined in this rule should be handled and disposed of only in accordance with Section 17-7.040(5)(6) and the following:

(a) Any solid waste facility accepting hazardous waste for treatment, storage or disposal should provide protection for the quality of air, surface and groundwater and the health and welfare of the public.

(b) The owner of hazardous waste that cannot be recycled, reprocessed, or treated to render it innocuous should provide the department with evidence that it cannot be treated and request disposal guidance.

(c) Any facility that disposes of known hazardous wastes following approval by the department should record the date, quantity, chemical and trade names, chemical properties, name and address of the source and transporter of the waste. The facility operator should have authority to reject any waste that is not properly identified.

(d) Records designating the location of buried hazardous wastes within a landfill site should be maintained during the life of the site by the agency responsible for operation of the site. These records should be reviewed by the department during facility inspection. Records should be submitted to the department and appropriate local office of legal jurisdiction upon closing of the site.

(e) At least three (3) monitoring wells should be required at each new hazardous waste disposal site. The location of the wells should be in accordance with the hydrogeology of the site and the predicted behavior of groundwater flow. At least one monitoring well should be located upgradient to the disposal site; the second well should be located in the first section to be filled in the disposal site; thus the well should be installed downgradient and close to or at the boundary of the disposal site; this well should be screened throughout the saturated thickness of the aquifer. The monitoring wells should be constructed in accordance with "Procedures Manual for Ground Water Monitoring at Solid Waste Disposal Facilities" (EPA/530/SW-611).

Sampling should be made by the hazardous waste disposal site operator, or his delegated representative at no longer than six-month intervals after the background water quality has been established and operation of the site is begun. The collection and analysis of samples should be in accordance with USEPA recommended methods as described in "Procedures Manual for Ground Water Monitoring at Solid Waste Disposal Facilities" (EPA/530/SW-611), analyses should be performed for the following parameters by a department approved laboratory:

1. conductivity or chlorides.
2. nitrates.
3. metals (cadmium, chromium, copper, and lead).

17-7.251(2)(g) -- 17-7.251(4)(e)3.

4. total organic carbon or chemical oxygen demand.
5. additional tests should be required for specific indicators depending upon the type of hazardous waste being disposed.

The hazardous waste disposal site operator should forward the sample analysis reports to the department district office within ten working days after the analysis report is received. Additional sampling and analysis may be recommended for other parameters and at more frequent intervals if indicated by trends in the foregoing contaminants.

(f) Hazardous waste shipping requirements:

1. When shipping hazardous wastes, the generator or owner of the hazardous wastes should package, identify and label such materials in accordance with the Code of Federal Regulations, Title 49, Transportation, Parts 100-199, Oct. 1, 1974.

2. The generator of hazardous wastes should provide the transporter and driver of any truck, a crew member of any train, or the captain of any vessel or aircraft carrying such hazardous waste with a list setting forth the hazardous waste carried, the amount of such waste and the general physical and chemical properties of such wastes. Such list, when appropriate, should include information on antidotes, first aid, or safety measures to be taken in case of accidental contact with the particular waste being carried. The person carrying or handling the hazardous waste should have the list in his possession while carrying or handling the hazardous waste and should release the list to a person responsible for the treatment or disposal of the hazardous waste at the time of delivery. The list should be a matter of record at the disposal facility. Such list should be shown on demand to any Department official, officer of the Florida Highway Patrol, or any local law enforcement officer.

(g) Hazardous waste storage requirements:

1. Hazardous wastes whose uncontrolled release into the environment would cause acute and/or chronic effects on air and water quality; on fish, wildlife, or other biota; and on the health and welfare of the public should be stored only in special facilities where due regard has been given to the hazardous nature of the waste, protective enclosures, and operating procedures, and where adequate measures are taken to assure personal safety, accident prevention, and detection of potential environmental damages.

2. Rules of the State Fire Marshall Chapter 4A-2, 4A-20, FAC, et al, pertaining to explosives and hazardous chemicals should be consulted where applicable.

(5) Special Wastes.

(a) Dead animals.

1. Dead animals on public property should be collected and disposed of promptly to prevent them from becoming a sanitary nuisance.

2. A service should be established to assure prompt pickup and disposal of dead animals.

3. If an animal is known or suspected to have died of a communicable disease, the handling and disposal of the carcass should be in accordance with Chapter 823.041, F.S.

17-7.251(4)(e)4. -- 17-7.251(5)(a)3.

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(b) Abandoned Vehicles. A local agency should provide for the removal of abandoned vehicles from public and private property, title release, pickup and removal authority, the designation of a storage area and a recycle or disposal system.

(c) White goods. A local agency should provide for collection, disposal or recycling of white goods.

(d) Sludges. Sludges which may be hazardous due to their chemical composition should be disposed of in accordance with Part I, Section 17-7.040(5) of this rule. Other sludges should be disposed of in accordance with Part I, Section 17-7.060(1) of this rule.

*sludge
disposal*

(e) Industrial Waste.

The disposal of industrial waste should be the responsibility of the producer of such waste and should be in accordance with Chapter 17-3, FAC and any other applicable state and local regulations.

(6) Processing Recycling of Solid Waste.

(a) All residual solid wastes resulting from a recovery process should be disposed of in a sanitary landfill or by other approved methods.

(b) All processed water or wastewater should be treated as required by approved methods before discharge into receiving waters.

(c) All gaseous emissions should be in compliance with air quality standards.

(d) Recovered materials should be stored in a controlled area, designed and operated to prevent environmental contamination.

(7) Solid Wastes Quantity Guarantees to Resource Recovery Facilities.

(a) Local agencies that undertake construction and operation of a material or energy resource recovery facility should guarantee delivery of solid wastes generated within their jurisdiction to insure uninterrupted facility operation. Such assurances must be supported by adequate authority, or by contacts with local collection services, or as a condition of inter-local agreements.

Specific Authority: 403.061, 403.704(1), F.S. Law Implemented: 403.705, 403.706, F.S. History: New 5-24-79, Previously Numbered as 17-7.25.

17-7.260 Local Program Submittal.

(1) Resource Recovery and Management Programs, prepared and adopted in accordance with Section 17-7.250 and 17-7.240 shall be submitted by local agencies to the Department for approval. Prior to submittal, the programs shall be reviewed by all local and regional planning agencies involved in the programs. Prior to Department approval, the Council shall review the resource recovery and management programs and make recommendations and findings it deems necessary. Upon review by the Council and approval by the Department, the program shall be implemented by the local agency in accordance with the implementation schedule included in the program.

(2) Local agencies shall adopt and submit their respective programs to the Department for approval no later than July 1, 1979. The programs shall be submitted in accordance with the following:

(a) Provide four (4) copies on 8 1/2 by 11 inch paper. Oversize maps or drawings may be folded to this size.

(b) Comments from all appropriate planning agencies and copies of inter-local agreements from involved local agencies shall accompany the programs submitted.

Specific Authority: 403.061, 403.704(1), F.S.

Law Implemented: 403.705, 403.706, F.S.

History: New 7-20-76, Amended 5-24-79, Previously Numbered as 17-7.26.

17-7.270 Extension Procedures. The time limit stated in Section 17-7.240 and 17-7.250 of this rule for the preparation and submittal of a local resource recovery and management plan may be extended upon application to the Department by the local agency. Applications for a time extension shall not be granted unless they are supported by evidence that good faith efforts by the local agency to meet the requirements of this rule have been and are being made. Application for time extensions shall be submitted to the department in writing, shall describe what progress has been made regarding the resource recovery and management plan, and shall provide the expected date of completion of the plan.

Specific Authority: 403.061, 403.705, F.S.

Law Implemented: 403.705, 403.706, F.S.

History: New 7-20-76, Amended 5-24-79, Previously Numbered as 17-7.27.

17-7.28 Permitting.

Specific Authority: 403.704(1), F.S.

Law Implemented: 403.706(5), 403.707(1), F.S.

History: New 7-20-76, Repealed 5-24-79.

17-7.290 Amendment to an Approved Program.

(1) The procedure for amendment of a program approved by the Department shall be the same as for approval of the original program. An amendment is one that proposes to change methods of handling, practices, technologies, or financial and management arrangements contained in the program.

(2) Minor corrections, updates, or modifications of the program shall not be considered an amendment.

Specific Authority: 403.061, 403.704(1), F.S.

Law Implemented: 403.705, 403.706, F.S.

History: New 7-20-76, Amended 5-24-79, Previously Numbered as 17-7.29.

17-7.30 Approval of Local or Regional Resource Recovery and Management Programs.

Specific Authority: 403.704(1), F.S.

Law Implemented: 403.705(1), 403.706, F.S.

History: New 11-16-76, Repealed 5-24-79.

17-7.260(2)(b) -- 17-7.30(History)

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PART III

CERTIFICATION OF RESOURCE RECOVERY EQUIPMENT

17-7.400 Declaration and Intent. The State of Florida Department of Environmental Regulation promulgates this part of this chapter to establish a system for the examination and certification of resource recovery equipment pursuant to Section 403.715, F.S., for the purpose of implementing the tax exemptions provided by Section 212.08(7)(p), F.S. This system shall also reflect the legislative mandate to encourage recycling pursuant to Section 403.702(1)(e), F.S. The system shall consist of a procedure for a preliminary examination of possible resource recovery equipment based on a review of plans, specifications, or other descriptions if the equipment is not available for inspection at the time when tax is due, and a procedure for a final examination and a certification of resource recovery equipment after the equipment is available for inspection.

Specific Authority: 403.715, F.S.

Law Implemented: 212.08(7)(p), 403.715, 403.702(1)(e), F.S.

History: New 5-24-79, Previously Numbered as 17-7.40.

17-7.410 Definitions. The following words, phrases or terms as used in this Part, unless the context indicates otherwise, shall have the following meaning:

(1) "Department" means the Florida Department of Environmental Regulation.

(2) "Resource recovery equipment" means equipment or machinery exclusively and integrally used in the actual process of recovering material or energy resources from solid waste, and which is purchased after July 1, 1978.

Specific Authority: 403.703(1), 403.703(8), F.S.

Law Implemented: 212.08(7)(p), 403.715, F.S.

History: New 5-24-79, Previously Numbered as 17-7.41.

17-7.420 Preliminary Examination of Resource Recovery Equipment. When tax may become or has become due pursuant to Chapter 212, F.S., on equipment which may be resource recovery equipment as defined in Section 403.703(8), and such equipment is not available for inspection by the Department of Environmental Regulation, the prospective purchaser or purchaser of such equipment may apply to the department for a preliminary examination report based on a review of plans, specifications, equipment lists, and other descriptions in the application. The preliminary examination report of proposed resource recovery equipment may be considered by the Department of Revenue as a prerequisite for delay of tax due on such equipment as indicated in rules promulgated by the Department of Revenue. The department shall utilize the following procedure when preliminary examining resource recovery equipment:

(1) Application for preliminary examination of resource recovery equipment shall be submitted to the department on a form prescribed by the department. The application must include the following information:

- (a) identity of the applicant.
- (b) identity of county or municipality that will eventually own or benefit from the resource recovery equipment.
- (c) a list and brief description of resource recovery equipment and the estimated cost thereof which the applicant declares is subject to this exemption.
- (d) plans or other descriptions of the resource recovery facility or project for which the resource recovery equipment is to be used. Application will not be complete until these plans or descriptions are of sufficient detail to indicate how the proposed resource recovery equipment is to be integrated into this facility or project.
- (2) The department shall issue a written report specifying which equipment on the application may be resource recovery equipment. This report shall be issued within 30 days of receipt of a properly completed application. Copies of the preliminary examination report shall be sent to the applicant and the Department of Revenue.
- (3) The results of the preliminary examination shall not preclude granting or denying certification following final examination for the same equipment pursuant to Section 17-7.430, F.A.C. A preliminary examination is not required to obtain certification.
- (4) Application for preliminary examination or final examination and certification of all equipment to be used in a resource recovery facility or project should be submitted to the department in one package whenever possible.

Specific Authority: 403.715, F.S.

Law Implemented: 212.08(7)(p), 403.715, F.S.

History: New 5-24-79, Previously Numbered as 17-7.42.

17-7.430 Final Examination and Certification of Resource Recovery Equipment. Final examination of resource recovery equipment shall be a requirement for tax exemptions as indicated in Section 212.08(7)(p), F.S. The department shall utilize the following procedure in granting or denying certification of resource recovery equipment:

(1) After equipment is installed, application for final examination and certification of resource recovery equipment shall be submitted to the department on a form prescribed by the department. The application must include the information required in Section 17-7.420(1), and the department shall request additional information if required for proper completion of the application. If the applicant has submitted a preliminary examination application form for the same equipment, submission of an updated copy of the preliminary application form shall satisfy this requirement.

(2) When the proposed resource recovery equipment is installed, a representative of the department shall inspect the equipment within thirty (30) days of receipt of a properly completed application.

(3) Within thirty (30) days of such inspection, the department shall issue a written decision granting or denying certification.

Specific Authority: 403.715, F.S.

Law Implemented: 212.08(7)(p), 403.715, F.S.

History: New 5-24-79, Previously Numbered as 17-7.43.

17-7.440 Criteria for Resource Recovery Equipment. The department shall use the following criteria when determining whether equipment shall be certified as resource recovery equipment.

(1) Resource recovery equipment includes all equipment or machinery exclusively and integrally used in the actual process of recovering material or energy resources from solid waste, and which is purchased after July 1, 1978. Resource recovery equipment does not include:

(a) An article of equipment being used for purposes other than resource recovery, even though such equipment is also used in the resource recovery process.

(b) Land or buildings. A building includes the walls, roof, ceiling, floor, and all other necessary supporting structures to enclose an area, but excludes structures used exclusively for the support of resource recovery equipment.

(c) Equipment used to transport materials or energy resources recovered from solid waste from the site where the recovery process takes place. Energy resources recovered from solid wastes may include refuse-derived fuel, gas or liquid fuel derived from solid waste, heat or steam derived from solid waste, or electricity derived from solid waste.

(2) Resource recovery equipment shall be a unit which by itself provides a significant function in the resource recovery process. Examples of such equipment include, but are not limited to, conveyors, pumps, and fans. The department shall not certify components of resource recovery equipment such as nuts, bolts, and belts.

(3) Resource recovery equipment may include fixtures exclusively and integrally used in the actual process of recovering material or energy resources from solid waste. Examples of such equipment include, but are not limited to, bridge cranes and fixed storage bins.

(4) Resource recovery equipment need not be specifically designed for the recycling process.

Specific Authority: 403.715, F.S.

Law Implemented: 212.08(7)(p), 403.715, F.S.

History: New 5-24-79, Previously Numbered as 17-7.44.

17-7.440 -- 17-7.440(History)

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PART IV

DOMESTIC SLUDGE CLASSIFICATION, UTILIZATION,
AND DISPOSAL CRITERIA**17-7.500 Declaration and Intent.**

The Florida Department of Environmental Regulation (department) is empowered to plan for and regulate the collection, transport, storage, separation, processing, recycling, and disposal of solid wastes including sludges, and to protect the air and waters of the state from pollution. The department is also charged with the promotion of recycling, reuse, or treatment of solid wastes.

The department finds and declares that the improper management and disposal of sludges contributes to air and water pollution and presents a threat to the public health, safety and welfare. The department also finds and declares that in order to regulate the management and disposal of sludges in a manner that is effective but yet not overly burdensome, regulations specific to management and disposal of sludges must be applied.

Therefore, it is the intent of the department to regulate the management and disposal of domestic sludges generated by new and existing sources in a manner to assure protection of the environment and public health. The department also intends in this rule to encourage the proper recycling, reuse, treatment, or agricultural use of certain domestic sludges. Industrial sludges, industrial wastewater treatment sludges, air treatment sludges, and water supply treatment sludges are not regulated by this part.

The department intends to require resource recovery and management facility permits for sludge treatment, storage, and disposal facilities as directed by law. However, the department recognizes that special conditions exist for permitting sludge facilities, and by this rule intends to clarify when sludge sites qualify for exemptions from such permits as part of normal farming operations, and intends to establish a general permit rule for sludges that are not significantly contaminated.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.701 through 403.715, F.S.

History: New 6-16-84, Previously Numbered as 17-7.50.

17-7.510 Definitions.

The following words, phrases or terms as used in this part, unless the context indicates otherwise, shall have the following meaning:

- (1) "Aerosol" means airborne droplets or particles.
- (2) "Agricultural Lands" means all lands being used for agricultural purposes.
- (3) "Department" means the Florida Department of Environmental Regulation.

17-7.500 -- 17-7.510(3)

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131°F
(4) "Composted Domestic Sludge" means sludge that has been composted at or above 55°C for three consecutive days in a mechanical composter or an aerated pile, or at or above 55°C for fifteen consecutive days in a windrow and at least five turnings of the windrow.

(5) "Conservation Plan" means a formal document, prepared or approved by a local Soil and Water Conservation District Board organized pursuant to Chapter 582, Florida Statutes, which outlines a system of management practices to control soil erosion, reduce sediment loss or protect the water quality on a specific parcel of property.

(6) "Dewatered" means a content of 12 percent or greater solids (by weight) in a sludge.

7 12% solids
(7) "Disinfection" means the selective destruction of pathogens in wastewater effluent or sludge as described in Chapter 7 of EPA 625/1-79-011, "Process Design Manual for Sludge Treatment and Disposal." This manual is adopted and made a part of this rule by reference. A copy of this document may be obtained by writing the department, and may be inspected at all DER offices.

17-7.540(6)(c)
(8) "Domestic Septage" means all solid wastes containing human feces, or residuals of such, which have not been stabilized or disinfected. Not included are food service sludges and industrial sludges.

(9) "Domestic Sludge" means a solid waste resulting from sewage, septage, or food service operations, or any other such waste having similar characteristics. Domestic sludge may be liquid, semisolid, or solid but does not include the treated effluent from a domestic wastewater treatment plant.

(10) "Domestic Sludge Disposal" means the disposal of domestic sludge in accordance with disposal criteria presented in Part IV, Chapter 17-7, Florida Administrative Code.

(11) "Domestic (Sewage) Wastewater Treatment Sludge" means any sludge generated by a domestic wastewater treatment plant.

(12) "Dried Sludge" means sludge that contains more than 89 percent solids by weight.

(13) "Dry Weight" means the weight measured after oven drying at 103°-105°C to constant weight.

(14) "Food Service Sludges" means oils, greases, and grease trap pumpings generated in the food service industry.

(15) "Human Food Chain Crops" means all crops which may be harvested for human consumption; all crops which may be fed to animals which may be consumed by humans.

(16) "Incorporation into the soil" means the injection of sludge beneath the surface of the soil or the mixing of sludge with the surface soil.

(17) "Industrial Sludges" means all sludges that are primarily composed of materials generated through a manufacturing or other industrial process.

(18) "Land Reclamation" means the restoration of productivity to lands made barren through processes such as erosion, mining or land clearing.

(19) "Licensed Septage Hauling Service" means a person or service licensed to haul septage by the Florida Department of Health and Rehabilitative Services.

(20) "Lime Stabilization" means the addition of sufficient quantities of lime to raise and maintain a sludge at a pH of 12.0 for two hours with such process being as described in Chapter 6 EPA 625/1-79-001, "Process Design Manual for Sludge Treatment and Disposal." This document is adopted and made a part of this rule by reference. A copy of this document may be obtained by writing the department, and may be inspected at all DER offices.

(21) "Liquid Sludge" means any sludge that flows freely through piping, pumps, and liquid conveyance, transport, and spreading systems.

(22) "Pathogens" means disease-producing organisms.

(23) "pH of Sludge-Soil Mixture" means the value obtained by sampling the soil to the depth of sludge placement and analyzing by the electrometric method. ("Methods of Soil Analysis, Agronomy Monograph No. 9, "C.A. Black, ed., American Society of Agronomy, Madison, Wisconsin, pp. 914-926, 1965.") This manual is adopted and made a part of this rule by reference. A copy of this document may be obtained by writing the department, and may be inspected at all DER offices.

(24) "Processed Domestic Sludge" means any domestic sludge that has been stabilized, disinfected, dried, and also pelletized or granulated, and distributed as a soil conditioner or fertilizer constituent.

(25) "Restricted Public Access" means that an area is not easily accessible to the general public.

(26) "Root Crops" means plants with edible parts which parts are grown below the surface of the soil.

(27) "Sludge" means a solid waste pollution control residual which is generated by any industrial or domestic wastewater treatment plant, water supply treatment plant, air pollution control facility, septic tank, grease trap, portable toilet or related operation, or any other such waste having similar characteristics. Sludge may be a solid, liquid, or semisolid waste but does not include the treated effluent from a wastewater treatment plant.

(28) "Sludge Disposal Facility" means all contiguous land and structures, other appurtenances, and improvements on the land, used for sludge disposal or spreading of sludge on the land.

(29) "Sludge Generator" means any facility that, as a normal function of its operation, produces a sludge. Residential septic tanks are excluded.

(30) "Sludge Land Application Area" means the area of land used for sludge application.

(31) "Sludge Land Application Area Boundary" means the outermost perimeter of the sludge land application area as it would exist at completion of the application activity.

(32) "Sludge Pasteurization" means the heating of a sludge to 70°C for at least 30 minutes, or the heating of sludge to a temperature higher or lower than 70°C for a duration that produces a similar kill of microorganisms.

(33) "Sludge Ponds and Lagoons" are containment areas containing only sludge.

(34) "Stabilization" means the use of a treatment to render sludge or septage less odorous and putrescible, and to reduce the pathogenic content as described in Chapter 6 of EPA 625/1-79-011, "Process Design Manual for Sludge Treatment and Disposal." This manual is adopted and made a part of this rule

by reference. A copy of this document may be obtained by writing the department, and may be inspected at all DER offices.

(35) "Toxic Substances" means any of the following:

(a) Hazardous wastes as defined in Chapter 17-30, Florida Administrative Code;

(b) Hazardous substances as defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767;

(c) A pollutant as defined in Chapter 376, Florida Statutes;

(d) A substance which is or is suspected to be carcinogenic, mutagenic, teratogenic, or toxic to human beings, or are acutely toxic as defined in the Fla. Admin. Code 17-3.021(1), or

(e) A substance which poses a serious danger to the public health, safety, or welfare.

(36) "Treatment" means the process of altering the character, or physical or chemical condition of the waste to prevent pollution of water, air or soil, to safeguard the public health or enable the waste to be recycled.

(37) "Type I Facility" means a wastewater facility having a design average daily flow of 500,000 gallons per day or greater.

(38) "Type II Facility" means a wastewater facility having a design average daily flow of 100,000 to, 499,999 gallons per day.

(39) "Type III Facility" means a wastewater facility having a design average daily flow of 2,000 to, 99,000 gallons per day.

(40) "Wastewater" means the combination of the liquid and water-carried wastes from waste generation sites, together with any entrained surface and groundwaters which may be present.

(41) "Water Saturated Soil" means soil in which the spaces between the grains are filled with water.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.715, 403.72, F.S.

History: New 6-16-84, Previously Numbered as 17-7.51.

17-7.520 Permit Requirements.

(1) No sludge disposal or land application site shall be constructed, operated, modified, maintained, or expanded without a currently valid permit from the department unless exempted pursuant to Fla. Admin. Code Rule 17-7.030(2).

(2) Land application of any of the following sludges pursuant to the requirements of Fla. Admin. Code Rule 17-7.540(4), is considered normal farming operations and thus exempt from permitting requirements pursuant to Section 403.707(2)(a), Florida Statutes;

(a) Grade I domestic sludge as classified in Fla. Admin. Code Rule 17-7.540(4).

(b) Grade I composted sludge as classified in Fla. Admin. Code Rule 17-7.540(4).

(c) Domestic septage properly treated by lime stabilization, sludge pasteurization, or other process which produces similar kills of microorganisms.

17-7.510(34) -- 17-7.520(2)(c)

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(d) Food service sludge properly treated by lime stabilization, sludge pasteurization, or other process which produces similar kills of micro-organisms.

(e) Grade I or II processed domestic sludge.

(3) Land application of Grade II domestic wastewater treatment sludge or Grade II composted domestic sludge which must be applied pursuant to the requirements of Section 17-7.540(5) is not a normal farming operation and must be performed pursuant to a general permit as provided in Fla. Admin. Code Rule 17-4.64, unless that sludge is applied to land owned by the generator. Applicable general permit requirements are stated in Florida Administrative Code Rules 17-4.54 and 17-4.64.

(4) Any sludge land application area that does not fulfill the requirements of a general permit under Fla. Admin. Code Rule 17-7.540(5) shall require a solid waste disposal site permit from the department as required in Part I of Chapter 17-7, Florida Administrative Code.

Specific Authority: 403.061, 403.704, 403.814, F.S.

Law Implemented: 403.061, 403.701 through 403.715, 403.814, F.S.

History: New 6-16-84, Previously Numbered as 17-7.52.

17-7.530 General Prohibitions for Domestic Sludges.

(1) Ocean disposal of sludges and disposal of sludges in any natural or artificial body of water including groundwater is prohibited by Fla. Admin. Code Rule 17-7.040(3)(b).

(2) Sludge ponds and sludge lagoons shall only be constructed for the temporary storage or temporary treatment of domestic sludge. Such ponds and lagoons containing domestic sludge shall be designed and utilized so that a sludge residence time of less than 12 months is assured. Ponds or lagoons in use on the effective date of this rule for the permanent storage (final disposal) of domestic sludge shall be phased out of use or converted to temporary holding areas at time of permit renewal, but in no case later than five years subsequent to the effective date of this rule. Florida Administrative Code Rule 17-4.245 shall apply to all domestic sludge ponds and lagoons containing domestic sludge.

(3) All domestic sludges other than processed domestic sludge and composted domestic sludge are prohibited from use on playgrounds, parks, golf courses, lawns, hospital grounds, or other unrestricted areas where frequent human contact with the soil is likely to occur.

(4) Sludges which are hazardous wastes, as determined pursuant to Chapter 17-30, Florida Administrative Code, shall only be managed according to the requirements of that chapter.

(5) The prohibitions of Fla. Admin. Code Rule 17-7.040 apply except those prohibitions described in Fla. Admin. Code Rule 17-7.040(3)(d), (e), (f), and (g) or any prohibition in conflict with the rules established in this part.

(6) No sludge may be disposed into a collection/transmission system without prior consent of the owner of that system.

(7) No domestic sludge shall be disposed of or applied to the land except in accordance with the provisions of this rule. A permit pursuant to this chapter is required unless such sludge is used in normal farming operations or

is disposed of on the generator's own property and is treated and handled in compliance with all applicable department rules.

(8) Pursuant to Fla. Admin. Code Rule 17-2.620(2), no person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor.

(9) The spraying of liquid sludge shall be conducted so that the formation of aerosols is minimized by utilization of best management practices.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 6-16-84, Previously Numbered as 17-7.53.

17-7.540 Criteria for Land Application or Disposal of Domestic Wastewater Treatment Sludge.

(1) All domestic wastewater treatment sludge shall be disposed of pursuant to the requirements of Fla. Admin. Code Rule 17-7.540(6). However, such sludges that have been analyzed pursuant to Fla. Admin. Code Rule 17-7.540(2) and have been determined to be a Grade I or Grade II sludge pursuant to criteria specified in Fla. Admin. Code Rule 17-7.540(3) may be applied to the land without a permit or under a general permit according to the criteria provided in Fla. Admin. Code Rule 17-7.540(4) and (5).

(2) Sludge meeting the following criteria shall be classified as Grade I or II.

(a) The interval between reported sludge analyses used for sludge classification shall be no greater than three months for a Type I domestic wastewater treatment facility, six months for a Type II domestic wastewater treatment facility, and 12 months for a Type III domestic wastewater treatment facility.

(b) Parameters to be analyzed:

Total Nitrogen	- % dry weight	
Total Phosphorus	- % dry weight	
Total Potassium	- % dry weight	
Cadmium	- mg/kg dry weight	10 ppm by wt
Copper	- mg/kg dry weight	
Lead	- mg/kg dry weight	
Nickel	- mg/kg dry weight	
Zinc	- mg/kg dry weight	
pH	- standard units	
Total Solids	- %	12.5% by wt

(c) Analysis of additional parameters may be required by the department based on changes in the quality of the wastewater or sludge as a result of: new discharges to the treatment plant, changes in wastewater treatment processes or process efficiency, changes in the utilization and/or disposal of the sludge, the potential presence of toxic substances in the sludge, or other considerations. The department may determine that certain listed parameters no longer require analysis or may be tested for less frequently than prescribed above where monitoring data show insignificant changes in sludge quality.

17-7.530(7) -- 17-7.540(2)(c)

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(d) Sampling points, minimum sludge sample numbers, and sampling intervals shall be specified in the wastewater facility operation permit. All samples for sludge classification shall be representative and taken after final sludge treatment but prior to utilization disposal.

(e) Samples for sludge analysis shall be collected as follows: One "grab" sample shall be taken in a clean glass container on two separate days each week for two consecutive weeks. These samples (approximately one quart each) shall be split, composited, and preserved as taken, in three one-gallon glass containers fitted with Teflon-lined caps or stoppers and refrigerated at 4°C. One of the gallon containers shall be maintained at a pH of less than 2 with sulfuric acid, and one shall be maintained at a pH of less than 2 with nitric acid. The third one-gallon container shall not contain a preservative. Directly after the second week sampling period, the three composite samples shall be thoroughly agitated and a quart subsample removed from each for analysis and placed in a glass container with a Teflon-lined cap or stopper. The quart samples shall be clearly labeled, including the date of collection, and shall be packed with ice in a well-insulated shipping container and forwarded to an analytical laboratory so as to insure receipt within 30 hours of packing. However, if no organic analysis is being required by the department, the glass containers fitted with Teflon-lined caps or stoppers may be replaced by polyethylene containers.

(f) Samples shall be analyzed in accordance with methods described in Section XXV Miscellaneous Analysis for Soils, Sediments and Sludges, Part B, Domestic Sludge Analysis Methodology of the department's "Standard Operating Procedures Manual". Part B, of Section XXV of this manual is adopted and made a part of this rule by reference. A copy of this document may be obtained by writing the Department, and may be inspected at all DER offices. Sampling and testing methods shall be done in accordance with the requirements of Fla. Admin. Code Rule 17-4.246.

(3) After completion of required analyses pursuant to Fla. Admin. Code Rule 17-7.540(2), domestic wastewater treatment sludge shall be classified as Grade I, II or III. A sludge is classified as a Grade I sludge if concentrations of all of the parameters listed below are less than the limiting criteria for Grade I sludges and the sludge is stabilized, and in the case of composted domestic sludge, the sludge is disinfected. A sludge is classified as a Grade II sludge if concentrations of any of the parameters listed below fall within the criteria for Grade II sludges but no parameters have concentrations above Grade II criteria and the sludge is stabilized and in the case of composted domestic sludge the sludge is disinfected. A Grade I sludge will be reclassified as a Grade II sludge if the one-year moving average of analysis results exceeds the maximum levels for Grade I sludge or the results for any one analysis exceed the maximum Grade I levels by 15 percent. A sludge is classified as a Grade III sludge if concentrations of any of the parameters listed below are greater than any of the criteria established for Grade III sludges and the sludge is not a hazardous waste as defined by Chapter 17-30, Florida Administrative Code.

17-7.540(2)(d) -- 17-7.540(3)

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Chemical Criteria in mg/kg dry weight

Parameter	Grade		
	I	II	III
Cadmium	<30	30- 100	>100
Copper	<900	900- 3000	>3000
Lead	<1000	1000- 1500	>1500
Nickel	<100	100- 500	>500
Zinc	<1800	1800-10,000	>10,000

GRADE I
 (4) Criteria for Land Application of Grade I Domestic Wastewater Treatment Sludge.

Domestic wastewater treatment sludge analyzed pursuant to Fla. Admin. Code Rule 17-7.540(2) which meets the criteria specified in Fla. Admin. Code Rule 17-7.540(3) for a Grade I sludge, which has not been found to contain significant concentration of toxic substances, may be applied to the land if the following conditions are met.

(a) Application is limited to sod farms, pasturelands, forests, highway shoulders and medians, plant nursery use, land reclamation projects and soil used for growing human food chain crops (excluding rootcrops, leafy vegetables, tobacco, and vegetables to be eaten raw).

(b) Use on playgrounds, parks, golf courses, lawns, hospital grounds, or other unrestricted public access areas where frequent human contact is likely to occur is restricted to processed domestic sludge and composted domestic sludge.

(c) Grade I - Application Rates. Application rates (gallons or pounds per acre per year) of Grade I domestic wastewater treatment sludge are limited by the nitrogen content of the sludge. The maximum annual application rate of total nitrogen is 500 pounds per acre during any 12-month period. In no case shall more than six dry tons of sludge be applied per acre per year.

(d) Grade I - Site Requirements

1. Buffer Zone Requirements - The sludge land application area shall be located no closer than 3,000 feet from any Class I water body or 200 feet from any other natural or artificial body of water, except canals used for irrigation purposes or bodies of water completely within and not discharging from the site. The sludge land application area shall be located no closer than 300 feet from shallow private water supply wells as defined in Fla. Admin. Code Rule 17-7.020(46) and occupied buildings (residences, offices, manufacturing facilities, etc.). The sludge land application area shall be located no closer than 500 feet from shallow public water supply wells as defined in Fla. Admin. Code Rule 17-7.020(46). Processed domestic sludge and composted domestic sludge are exempted from the above specified buffer zone requirements.

2. Soil Requirements - The pH of the sludge-soil mixture shall be 6.5 or greater at the time of sludge application. When growing human food chain crops, testing of the pH parameter shall be done on a semi-annual basis, otherwise testing shall be done annually.

3. Water Table Requirements - A minimum unsaturated depth of two feet is required above water table level at the time of sludge application to the soil. Water table level shall be determined by observing the standing water level in a three foot depth hole dug within the preceding 24 hours on the area to be used, or by measuring the water level in a monitoring well evacuated

within 24 hours prior to measurement. No sludge land application may be conducted during rain storms or during periods in which surface soils of the sludge land application area are water saturated.

4. Special Requirements

a. Sludge land application area topographical grades must be eight percent or less. *local 1985*

b. The sludge land application area and an area 200 feet wide adjacent to and exterior of the sludge land application area boundary shall contain no subsurface fractures, solution cavities, or sink holes.

c. Restriction of public access - The general public shall be restricted from the sludge land application area for a period of 12 months after each application. Processed domestic sludge and composted domestic sludge land application areas are exempted.

d. Florida water quality criteria and standards as provided in Chapters 17-3 and 17-4, Florida Administrative Code, shall not be violated as a result of land application of sludge. Water quality testing of Grade I sludge application areas may be required if the department determines that sludge application not conforming to this section is evident. If water quality violations are indicated, the site owner shall cease any further sludge land application and have water quality tests performed as the department requires.

e. When applied to unvegetated soils, stabilized domestic sludge other than processed domestic sludge and composted domestic sludge shall be incorporated into the soil within 48 hours of application.

f. Depth of Permeable Soil - A layer of permeable soil of more than 2.0 feet thickness shall cover the surface of the land application area.

g. Pasture vegetation on which sludge has been spread shall not be fed to livestock for a period of 30 days from the last application of sludge.

h. Sludge land application areas shall not be used for domestic animal grazing for a period of 30 days following the last application of sludge.

i. No human food chain crops except hay, silage, or orchard crops shall be harvested from a sludge land application area for a period of 60 days following the last application of sludge.

j. No sludge shall be applied directly onto those portions of human food chain crops which are to be harvested and removed from the sludge land application area except hay on properly cropped and raked pastureland.

k. Domestic sludges may not be used for the cultivation of root crops, leafy vegetables, tobacco, or vegetables to be eaten raw.

l. Permanent records of actual application areas and application rates must be kept. These records must be maintained by the site owner and the sludge land applicator for a period of five years, and must be available for inspection upon request by the department, The Department of Health and Rehabilitative Services, or Local Environmental Program. *Sludge Records*

Sludge Records shall include:

- (i) Date of sludge shipment or application.
- (ii) Weather conditions when delivered.
- (iii) Location of sludge destination.
- (iv) Amount of sludge applied or delivered.

17-7.540(4)(d)3. -- 17-7.540(4)(d)4.1.(iv)

- (v) Grade of sludge.
- (vi) Sludge use agreements.
- (vii) Area of land where sludge is going to be applied, location and designated future use of the land.
- (viii) pH.
- (ix) Water table.
- (x) Topographic grades.
- (xi) Vegetational status of sludge land application area.
- (xii) Incorporation of sludge.
- (xiii) Depth of permeable soil.

(e) Persons who haul or use less than three cubic yards of Grade I Sludge per month are exempt from the requirements of 17-7.540(4).

(5) Criteria for Land Application of Grade II Domestic Wastewater Treatment Sludge.

Domestic wastewater treatment sludge analyzed pursuant to Fla. Admin. Code Rule 17-7.540(2) which meets the criteria for a Grade II sludge specified in Fla. Admin. Code Rule 17-7.540(3), and which has not been found to contain significant concentration of toxic substances, may be applied to the land if the following conditions are met:

(a) Application is limited to sod farms, pasturelands, forests, highway shoulders and medians, plant nursery use, land reclamation projects, and to soil used for growing human food chain crops (excluding rootcrops, leafy vegetables, vegetables to be eaten raw, and tobacco).

(b) Use on playgrounds, parks, golf courses, lawns, hospital grounds, or other unrestricted public access areas where frequent human contact is likely to occur is restricted to processed domestic sludge and composted domestic sludge.

(c) Total application amounts of Grade II domestic wastewater treatment sludge shall be restricted by limits set on heavy metal applications to agricultural lands. Maximum total heavy metal applications are (in pounds per acre):

Maximum
 Cadmium - 4.45 lb/acre
 Nickel - 111. lb/acre
 Copper - 111. lb/acre
 Zinc - 222. lb/acre
 Lead - 445. lb/acre

(d) Grade II - Application Rates. No more than 10% of the total allowable amount of any criteria parameter shall be applied during any 12 month period. In no case shall more than 500 pounds of total nitrogen or more than six dry tons of sludge solids per acre per year be applied to lands used for growing human food chain crops.

(e) Grade II - Site Requirements

1. Buffer Zone Requirements - The sludge land application area shall be located no closer than 3,000 feet from any Class I water body or 200 feet from any other natural or artificial body of water, except canals used for irrigation purposes or bodies of water completely within the site which do not discharge from the site. The sludge land application area shall be located no closer than 300 feet from shallow private water supply wells, and occupied

buildings (residences, offices, manufacturing facilities, etc.). The sludge land application area shall be located no closer than 500 feet from public water supply wells. Processed domestic sludge and composted domestic sludge are exempted from buffer zone requirements.

2. Soil Requirements - When application is to land used for production of human food-chain crops, the pH of the sludge-soil mixture shall be 6.5 or greater at the time of sludge application. When growing human food chain crops, testing of the pH parameter shall be done on a semi-annual basis, otherwise testing shall be done annually. Each site shall have a Conservation Plan which indicates that suitable soil infiltration rates and stormwater run-off control measures exist at the site.

Conservation
Plan
slope and the
Grades =

3. Water Table Requirements - A minimum unsaturated depth of two feet is required above high water table level at the time of sludge application to the soil. Water table level shall be determined by observing the standing water level in a three-foot depth hole dug within the preceding 24 hours on the area to be used, or by measuring the water level in a monitoring well evacuated within 24 hours prior to measurement. No sludge land application may be conducted during periods in which surface soils of the sludge land application area are water saturated.

4. Special Requirements

a. Sludge land application area topographical grades must be eight percent or less.

Grade 8%

b. The sludge land application area and an area 200 feet wide adjacent to and exterior of the sludge land application area boundary shall contain no subsurface fractures, solution cavities, or sink holes.

c. The general public shall be restricted from the sludge land application area for a period of 12 months after each application. Processed domestic sludge and composted domestic sludge land application areas are exempted.

d. Florida water quality criteria and standards as provided in Chapters 17-3 and 17-4, Florida Administrative Code, shall not be violated. Water quality testing of Grade II sludge application areas may be required if the department determines that sludge application not conforming to this section is evident. If water quality violations are indicated, the site owner shall cease any further sludge land application and have water quality tests performed as the department requires.

e. When applied to unvegetated soils, stabilized domestic sludge, other than processed domestic sludge or composted domestic sludge, shall be incorporated into the soil within 48 hours.

f. Depth of Permeable Soil - A layer of permeable soil of more than 2.0 feet thickness shall cover the surface of the land application area.

g. Pasture vegetation on which sludge has been spread shall not be cut or fed to livestock for a period of 30 days from the last application of sludge.

h. Sludge land application areas shall not be used for domestic animal grazing for a period of 30 days following the last application of sludge.

i. No human food chain crops except hay, silage or orchard crops shall be harvested from a sludge land application area for a period of 60 days following the last application of sludge.

17-7.540(5)(e)1. -- 17-7.540(5)(e)4.i.

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j. No sludge shall be applied directly onto those portions of human food chain crops that are to be harvested and removed from the sludge land application area except hay on properly cropped and raked pastureland.

k. Domestic sludges shall not be used for the cultivation of root crops, leafy vegetables, tobacco, or vegetables to be eaten raw.

l. Stormwater runoff generated by storms up to a 10-year 1-hour event shall be prevented from entering or leaving the sludge land application area. Berms shall be placed for this purpose, if necessary.

m. Permanent records of actual application areas and application rates must be kept. These records must be maintained by both the site owner and the sludge land applicator for a period of five years, and must be available for inspection upon request by the FDER, Department of Health and Rehabilitative Services, or Local Environmental Program.

Sludge Records shall include:

- (i) Date of sludge shipment or application.
- (ii) Weather conditions when delivered.
- (iii) Location of sludge destination.
- (iv) Amount of sludge applied or delivered.
- (v) Analysis of sludge pursuant to generator's permit.
- (vi) Quality of sludge.
- (vii) Sludge use agreements.
- (viii) Area of land where sludge is going to be applied, location and designated future use of the land.
- (ix) pH.
- (x) Water table.
- (xi) Topographic grades.
- (xii) Vegetational status of sludge land application area.
- (xiii) Incorporation of sludge.
- (xiv) Depth of permeable soil.

(6) Disposal Criteria for Grade III Domestic Wastewater Treatment Sludge.

All Grade III sludges and all Grade I and II sludges not to be applied to the land pursuant to Fla. Admin. Code Rule 17-7.540(4) or (5), and domestic wastewater treatment sludges not analyzed pursuant to Fla. Admin. Code Rule 17-7.540(2) shall be disposed of as follows:

(a) Sludge disposal shall be carried out at permitted or exempted solid waste disposal sites pursuant to Fla. Admin. Code Rule 17-7.030(2).

(b) Disposal of sludge shall be in compliance with Class I landfill criteria pursuant to Fla. Admin. Code Rule 17-7.050, except the covering requirements in Fla. Admin. Code Rule 17-7.050(1)(a).

(c) Sludge to be disposed of in conjunction with municipal solid waste (codisposal) shall be dewatered.

(d) Plans for sludge drying beds, sealed lagoons or other treatment facilities to be located at permitted solid waste disposal sites shall be submitted to the department as part of the permit application. Such drying beds shall not be located within 100 feet of municipal solid waste cells.

(e) Burning of sludge in volume reduction plants shall be pursuant to Fla. Admin. Code Rule 17-7.090.

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17-7.540(5)(e)4.j. -- 17-7.540(6)(e)

12% for codisposal

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(7) Land Reclamation - Grade I and Grade II.

All Grade I and grade II domestic sludges may be used in land reclamation projects if the following conditions are met.

(a) Land Reclamation Application Quantity - Total application amounts are restricted by limits set on heavy metal applications to agricultural lands. Application of heavy metals may not exceed those figures listed in Fla. Admin. Code Rule 17-7.540(5)(c).

(b) Maximum total allowable application quantity shall be 30 dry tons/acre with such application to be accomplished within a one-year period on any given acre of sludge land reclamation area. The maximum allowable quantity shall not be altered by a change in the ownership of the land.

(c) The applied material shall be incorporated into the soil within 48 hours following application.

(d) Seed of a turf-forming grass shall be planted as soon as practicable, but in no case later than three months following cessation of sludge application.

(e) There shall be no occupied building (office, residence, etc.) or shallow drinking water supply well as defined in Fla. Admin. Code Rule 17-7.020(46) within 500 feet of the sludge land application area.

(f) There shall be no production of human food chain crops on the sludge land application area for a period of two years following cessation of sludge application.

(g) There shall be no surface water bodies within 500 feet of the sludge land application area.

(h) Public access shall be restricted for one year after sludge application.

(i) Topographical grades must be six percent or less before and after sludge application.

(j) Topographical grading shall be completed before sludge application begins.

(k) Stormwater runoff generated by storms up to a 10-year 1-hour event shall be prevented from entering or leaving the sludge land application area. Berms shall be placed for this purpose, if necessary.

(l) Florida water quality standards as established in Chapter 17-3 and required by permit in Chapter 17-4, Florida Administrative Code, shall not be violated. Water quality testing of Grade I sludge application areas may be required if the department determines that sludge application not conforming to this section is evident. If water quality violations are indicated, the site owner shall suspend any further sludge application and have water quality tests run as the department requires.

(m) Water Table Requirements - A minimum unsaturated depth of two feet is required above water table level at the time of sludge application to the soil. Water table level shall be determined by observing the standing water level in a three-foot depth hole dug within the preceding 24 hours on the area to be used, or by measuring the water level in a monitoring well evacuated within 24 hours prior to measurement. No sludge land application may be conducted during rain storms or during periods in which surface soils of the sludge land application area are water saturated.

(n) In addition to the above requirements, land reclamation projects at mining reclamation sites shall be in compliance with any applicable DER and Florida Department of Natural Resources rules concerning mining reclamation.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 6-16-84, Previously Numbered as 17-7.54.

17-7.550 Criteria for Land Application or Disposal of Domestic Septage.

(1) Discharge of domestic septage into permitted domestic wastewater treatment facilities shall be pursuant to the requirements of Chapter 17-6, Florida Administrative Code.

(2) Application of domestic septage to the land, other than in sanitary landfills as specified in Fla. Admin. Code Rule 17-7.540(6), shall be pursuant to Grade I requirements as described in Fla. Admin. Code Rule 17-7.540(4), if such sludge has been properly treated by lime stabilization, sludge pasteurization, or other process which produces similar kills of microorganisms.

(3) Untreated domestic septage may not be applied to the land.

(4) The disposal of domestic septage in sanitary landfills shall be pursuant to disposal requirements for Grade III sludges as specified in Fla. Admin. Code Rule 17-7.540(6).

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 6-16-84, Previously Numbered as 17-7.55.

17-7.560 Criteria for Land Application or Disposal of Food Service Sludges.

(1) Food service sludges may be discharged into permitted domestic wastewater treatment facilities pursuant to the requirements of Chapter 17-6, Florida Administrative Code.

(2) Food service sludges may be applied to the land pursuant to Grade I requirements as described in Fla. Admin. Code Rule 17-7.540(4) if such sludge has been properly treated by lime stabilization, sludge pasteurization, or other process which produces similar kills of microorganisms.

(3) Untreated food service sludge may not be applied to the land.

(4) The disposal of food service sludge shall be pursuant to the disposal requirements for Grade III sludges as specified in Fla. Admin. Code Rule 17-7.540(b)(6). (6)(b)

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 6-16-84, Previously Numbered as 17-7.56.

17-7.570 Criteria for Land Application or Disposal of Processed Domestic Sludges.

(1) Grade I and Grade II sludges which qualify as processed domestic sludges shall be land applied pursuant to the criteria of Fla. Admin. Code

17-7.540(7)(n) -- 17-7.570(1)

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Rule 17-7.540(4), except that the records required by section 17-7.540(4)(d)4.l. can, as an alternative, be kept by generators instead of site owners or sludge land applicators and shall include only monthly summaries of (a) the amount of sludge delivered, (b) the amount of sludge applied, (c) the grade of sludge, and (d) a general description of the land where applied.

(2) Generators of processed domestic sludge who produce such sludge in Florida or who deliver such sludge to Florida for use or final disposal in Florida, shall file a quarterly sludge analysis report and a quarterly sludge shipping and sales report with the Office of Solid Waste of the department.

(3) Parameters to be tested for as part of the sludge analysis report are:

Total Nitrogen - % dry weight
 Total Phosphorus - % dry weight
 Total Potassium - % dry weight
 Cadmium - mg/kg dry weight
 Copper - mg/kg dry weight
 Lead - mg/kg dry weight
 Nickel - mg/kg dry weight
 Zinc - mg/kg dry weight
 Total Solids - %

(4) Individual application rates shall be computed as follows:

Allowable lbs/acre/yr Cd $\div$ ppm Cd in sludge =
 lbs sludge/acre/year

In the case of a 100 ppm Cd sludge and in a 20 year time span, this would be:

$0.225 \div 0.000100 = 2,250$ lbs/acre/year of dry sludge.

A mixed commercial fertilizer using 10% by weight of this sludge would have a maximum allowable application rate of 22,500 lbs per acre per year. Maximum application rates must be made available to sludge users by the manufacturer.

(5) The agricultural use of processed sludge in accordance with this section is considered a normal farming operation and thus exempt from permitting requirements.

Specific Authority: 403.061, 403.704, F.S. Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S. History: New 6-16-84, Previously Numbered as 17-7.57.

17-7.580 Criteria for Land Application or Disposal of Composted Domestic Sludges.

(1) Composted domestic sludge shall be disposed of pursuant to the requirements of Fla. Admin. Code Rule 17-7.540(6). However, such sludge which has been analyzed pursuant to Fla. Admin. Code Rule 17-7.540(2) and has been determined to be a Grade I or Grade II sludge pursuant to criteria specified in Fla. Admin. Code Rule 17-7.540(3) may be utilized according to the criteria provided in Fla. Admin. Code Rule 17-7.540(4) and (5), respectively.

(2) Technical criteria for composting as described in Chapter 12 of EPA 625/1-79-011, "Process Design Manual for Sludge Treatment and Disposal." This manual is adopted and made a part of this rule by reference. A copy of this

document may be obtained by writing the department, and may be inspected at all DER offices.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 6-16-84, Previously Numbered as 17-7.58.

17-7.590 Effective Date.

This rule shall be effective 180 days after being filed with the Department of State.

Specific Authority: 120.54(12)(9), 403.061(7), F.S.

Law Implemented: 120.54(12)(9), 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 6-16-84, Previously Numbered as 17-7.59.

**Solid Waste,
Chapter 17-701, F.A.C.
Department of Environmental Regulation
Effective 08/02/1989**

CHAPTER 17-701
SOLID WASTE

17-701.001	Declaration and Intent.
17-701.020	Definitions.
17-701.030	Solid Waste Resource Recovery and Management Permit Requirements.
17-701.040	Prohibitions.
17-701.050	Sanitary Landfill Criteria.
17-701.060	Special Waste Handling.
17-701.061	Construction and Demolition Debris Disposal.
17-701.070	Closure of Landfills.
17-701.071	Closure Schedule.
17-701.072	Closure Permit Application Submittal.
17-701.073	Closure Plan Requirements.
17-701.074	Closure Procedures.
17-701.075	Long Term Care.
17-701.076	Financial Responsibility.
17-701.078	Approval of Alternative Procedures and Requirements.
17-701.803	General Permit for Off-Site Disposal of Construction and Demolition Debris.
17-701.080	Supervision and Inspection.
17-701.090	Volume Reduction Plants.
17-701.091	Transfer Stations.
17-701.120	Notification of Disposal Activity.
17-701.130	Forms.
17-701.801	General Permit for Solid Waste Transfer Station.
17-701.802	General Permit for Land Application of Grade II Domestic Wastewater Treatment Sludge.
17-701.803	General Permit for Off-Site Disposal of Construction and Demolition Debris.
17-701.900	Forms.

17-701.001 Declaration and Intent.
It is the intention of the Environmental Regulation Commission that the Department of Environmental Regulation encourage, in all appropriate ways, reclamation processes which will reclaim waste material for beneficial uses.

The Florida Department of Environmental Regulation finds and declares that improper disposal of solid waste and use of open dumps as a means of final disposal results in or contributes to air pollution, water pollution, and land blight. The Department further finds that proper methods of disposal of solid waste will reduce air pollution, water pollution and the use of the land as an uncontrolled receptacle for improperly treated waste. The Department further finds that properly designed, operated and monitored disposal of solid waste enhances the environment.

It is the intent of the Department to require that solid waste disposal be conducted in a manner and under conditions which will reduce the waste of recoverable resources and eliminate the dangerous and deleterious effects of improper solid waste disposal upon air quality, water quality, and human health, safety and welfare.

The purpose of this rule is to implement the provisions of the Florida Resource Recovery and Management Act, which directs the Department to plan for and regulate the storage, collection, transportation, separation, processing, recycling and disposal of solid waste in order to protect the public safety, health and welfare, to enhance the environment for the people of the state, and to recover resources which have the potential for further use, and to assure that the final irreducible residue is disposed of in a manner which enhances the environment.

The Department shall establish, maintain and promote a cooperative state program of planning and technical assistance for resource recovery and management; encourage and require designated counties and municipalities to plan for and provide efficient, environmentally acceptable resource recovery and management; review the design of and issue permits for construction and operation of resource recovery and management facilities; promote the application of resource recovery systems which preserve and enhance the quality of air, water and land resources; and establish a system for the examination and certification of resource recovery equipment.

Pursuant to Sections 403.061 and Sections 403.701 through 403.713, Florida Statutes, the execution and enforcement of any section regarding actual or potential pollution of air or waters is under the jurisdiction of the Department of Environmental Regulation. Chapter 17-7 F.A.C. replaces all applicable sections of Chapter 10 D-12 F.A.C.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.701 through 403.715, F.S.

History: New 10-1-74; Amended 5-24-79; Previously Numbered as 17-7.01; Formerly 17-7.001.

17-701.001 -- 17-701.001(History)

17-701.020 Definitions.

The following words, phrases or terms as used in this Chapter, unless the context indicates otherwise, shall have the following meaning:

- (1) "Agricultural Wastes" means the solid wastes resulting from the rearing and slaughtering of animals and the processing of animal products, orchard and field crops which are stored, transported or disposed of as an unwanted waste material.
- (2) "ASTM" means the American Society for Testing and Materials.
- (3) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells, springs or surface water.
- (4) "Available Market" means any person, user or enterprise, willing to enter into a long-term contract or agreement to purchase materials or energy recovered from solid waste.
- (5) "Base Flood" means a flood that has a 1% or greater chance of recurring in any year, or a flood of a magnitude equalled or exceeded once in 100 years on the average over a long period. In any given 100 year interval such a flood may not occur, or more than one such flood may occur.
- (6) "Bulky Wastes" means items whose large size or weight precludes or complicates their handling by normal collection, processing, or disposal methods.
- (7) "Cell" means a volume of solid waste received since the last previous application of initial cover. The compacted waste and subsequent initial cover constitute a cell.
- (8) "Closing" means the time at which a resource recovery and management facility ceases to accept wastes, and includes those actions taken by the owner or operator of the facility to prepare the facility for any necessary monitoring and maintenance after closing.
- (9) "Closure" means the cessation of operation of a resource recovery and management facility and the act of securing such a facility so that it will pose no significant threat to human health or the environment. This includes closing, long term monitoring, maintenance and financial responsibility.
- (10) "Closure Plan" means written reports and engineering plans detailing those actions that will be taken by the owner or operator of a resource recovery and management facility to effect proper closure of that facility.

(11) "cm/sec" means centimeters per second.

(12) "Composting" means a controlled process of degrading organic matter by micro-organisms which results in a humus material.

(13) "Composting Facility" means a facility where organic matter is processed by natural or mechanical means to aid the microbial decomposition of the organic matter. Processing may include simple exposure resulting in a natural decay or physically turning, windrowing, aerating or other mechanical reduction of the organic matter.

17-701.020 -- 17-701.020(13)

(14) "Construction and demolition debris" means materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt roofing material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project or from the renovation or maintenance of a structure. The term includes rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project. Mixing of construction and demolition debris with other types of solid waste, including material which is not from the actual construction or destruction of a structure, will cause it to be classified as other than construction and demolition debris.

(15) "Controlled Burning" means forced draft burning used for the combustion of solid waste with control of combustion air to maintain adequate temperature for efficient combustion, containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and control of the emission of combustion products.

(16) "Designated Counties" means those counties which are designated pursuant to Sections 403.705, .706 and .710, F.S., to plan for and engage in resource recovery and management programs and are listed as follows:

Alachua	Hillsborough	Pinellas
Bay	Lee	Polk
Brevard	Leon	Sarasota
Broward	Manatee	Seminole
Dade	Orange	Volusia
Duval	Palm Beach	
Escambia	Pasco	

(17) "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or upon any land or water so that such solid waste or hazardous waste or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including groundwaters, or otherwise enter the environment.

(18) "Disposal facility" means a facility at which disposal of solid waste occurs.

(19) "Energy Recovery" means the conversion of solid waste into energy or a marketable fuel.

(20) "Final Cover" means the material used to cover the top and sides of a landfill when fill operations cease.

(21) "Garbage" means all kitchen and table food waste, animal or vegetative waste that is attendant with or results from the storage, preparation, cooking or handling of food materials.

(22) "Generation" means the act or process of producing either solid waste or a marketable fuel.

(23) "Ground Water" means water beneath the surface of the ground, whether or not it is flowing through known and definite channels.

(24) "Hazardous Wastes" means a solid waste identified by the Department as a hazardous waste in Florida Administrative Code Rule 17-730.

17-701.020(14) -- 17-701.020(24)

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(25) "Implement" means to carry out, accomplish, give practical effect to and ensure actual fulfillment by concrete means or by providing instruments or means of accomplishment.

(26) "Implementation Schedule" means a timetable for carrying out a local plan.

(27) "Infectious Wastes" means those wastes which may cause disease or reasonably be suspected of harboring pathogenic organisms; included are wastes resulting from the operation of medical clinics, hospitals, and other facilities producing wastes which may consist of, but are not limited to, diseased human and animal parts, contaminated bandages, pathological specimens, hypodermic needles, contaminated clothing, and surgical gloves.

(28) "Initial Cover" means a 6-inch layer of compacted earth, or other suitable material as approved by the Department, used to enclose a volume of solid waste prior to intermediate or final cover.

(29) "Intermediate Cover" means a layer of compacted earth one (1) foot in depth applied to a partially completed landfill.

(30) "Landfill" or "Sanitary Landfill" means a disposal facility, excluding those exempted under Subsection 17-701.030(1)(a)11, of this rule, which meets the criteria of Chapter 17-7 Florida Administrative Code. This term shall not include:

(a) a land spreading site; or

(b) a surface impoundment; or

(c) an injection well defined under and subject to the provisions of Chapter 17-28, Florida Administrative Code.

(31) "Leachate" means liquid that has passed through or emerged from solid waste and contains soluble, suspended or miscible materials.

(32) "Lift" means a completed horizontal series of cells.

(33) "Liner" means a continuous layer of low permeability natural or man-made materials, beneath or on the sides of a landfill, or landfill trench, which controls the downward or lateral escape of waste constituents, or leachate.

(34) "Local Agency" means any special district, authority, a county, a municipality, or any other political subdivision.

(35) "Local Solid Waste Program" means a local resource recovery and management program as described in Part II of this rule which includes a plan and an implementation schedule.

(36) "Materials Recovery" means any process by which one or more of the various components in solid waste was separated, concentrated, and reused.

(37) "Milled Refuse" means refuse that has been mechanically ground, shredded or pulverized.

(38) "Monitoring Wells" are strategically located wells from which water samples are drawn for water quality analysis.

17-701.020(25) -- 17-701.020(38)

(39) "Normal farming operations" means the customary and generally accepted activities, practices and procedures that farmers adopt, use or engage in during the production and preparation for market of poultry, livestock, and associated farm products; and in the production and harvesting of agricultural crops which include agronomic, horticultural, and silvicultural crops. Included is the management, collection, storage, composting, transportation and utilization of organic agricultural waste, manure, and wastes solely derived from agricultural crops. For the purposes of Part IV of this Chapter, normal farming operations include the land application of Grade I sludge in accordance with the utilization criteria of Part IV, Chapter 17-7, Florida Administrative Code. Not included in normal farming operations is the use of Grade II or Grade III sludges (except Grade II processed domestic sludge).

(40) "Open Burning" means the burning of any material under such conditions that the products of combustion are emitted directly into the open atmosphere.

(41) "Open Dump" means a site for the disposal of solid waste which does not comply with the criteria of Chapter 17-7, F.A.C.

(42) "Person" means any and all persons, natural or artificial, including any individual, firm, or association; any municipal or private corporation organized or existing under the laws of Florida or any other state; any county of this state; and any governmental agency of this state or the Federal Government.

(43) "Planning Area" means the area defined by a local agency or agencies for solid waste management and resource recovery management planning.

(44) "Promiscuous Dump" means an unauthorized site where indiscriminate deposits of solid waste are made.

(45) "Recovered Materials" means materials which are recovered from the solid waste stream by separation, collection, or other means for reuse or resale.

(46) "Recycling" means the reuse of solid waste in manufacturing, agriculture, power production, or other processes.

(47) "Regional Agency" means one or more public agencies joined together by inter-local agreements for a stated period of time or by special Act of the Legislature, to assume the responsibility for resource recovery and management.

(48) "Residential waste" means a mixture of garbage and trash resulting from the normal housekeeping activities of a residential unit.

(49) "Resource Management" means the process by which solid waste is collected, transported, stored, separated, processed, or disposed of in any other way according to an orderly, purposeful, and planned program.

(50) "Resource Recovery" means the process by which materials, excluding those under control of the Nuclear Regulatory Commission, which still have useful physical or chemical properties after serving a specific purpose are reused or recycled for the same or other purpose, including use as an energy source.

17-701.020(39) -- 17-701.020(50)

(51) "Resource Recovery and Management Facility" means any solid waste disposal area, volume reduction plant, or other facility the purpose of which is resource recovery or the disposal, recycling, processing, or storage of solid waste.

(52) "Rural Containerized Collection System" means a collection system which involves mechanically serviceable containers, strategically located throughout an area, the contents of which are picked up on a regular schedule by a truck and their contents delivered to a transfer station or solid waste processing or disposal facility.

(53) "Sanitary Nuisance" means a condition created by any person, or the keeping, maintaining, propagation, existence, or permitting of anything by a person which the health or lives of individuals may be threatened or impaired, or by which disease may be caused or transmitted.

(54) "Shallow Water Supply Well" means any potable water well which pumps water from an unconfined water table aquifer.

(55) "Shredding" means a process of reducing the particle size of solid waste through the use of grinding, shredding, milling or rasping machines.

(56) "Site" means the area of land or water within the property boundaries of a resource recovery and management facility where one or more solid waste treatment, resource recovery, recycling, storage or disposal areas are located.

(57) "Sludge" means any solid, or semi-solid, or liquid generated from any waste water treatment plant, water supply treatment plant, air pollution control facility, septic tank, grease trap, portable toilets and related operations, or any other such waste having similar characteristics or effects.

(58) "Solid Waste" means sludge from a waste treatment works, water supply treatment plant, or air pollution control facility or garbage, rubbish, refuse, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations. Materials not regulated as solid wastes pursuant to Florida Administrative Code Rule 17-7 are: nuclear source or byproduct materials regulated under Chapter 404 F.S. or under the Federal Atomic Energy Act of 1954 as amended, suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; fluids or wastes associated with natural gas or crude oil exploration or production. Solid waste does not include scrap, or new or used material, separated at the point of generation and held for purposes of recycling, subject to state and local public health and safety laws.

(59) "Source Separation" means the setting aside of separated recyclable waste materials at their point of generation (household or commercial) by the generator.

(60) "Special Wastes" means those wastes that require extraordinary management. They include but are not limited to, abandoned automobiles, white goods, used tires, waste oil, sludges, dead animals, agricultural and industrial wastes, septic tank pumpings, and infectious and hazardous wastes.

17-701.020(51) -- 17-701.020(60)

(61) "Stabilized" means that biological and chemical decomposition of the wastes has ceased or diminished to a level so that such decomposition no longer poses a pollution, health, or safety hazard.

(62) "State Program" means the Resource Recovery and Management Program described in Chapter 403.705 and 403.706, F.S. and this rule.

(63) "Ton" means a short ton, 2,000 pounds (.9078 metric tons).

(64) "Transfer Station" means a facility where solid waste from several relatively small vehicles is placed into a larger vehicle before being transferred to a solid waste processing or disposal facility.

(65) "Trash" means combinations of yard trash and construction and demolition debris along with other debris such as paper, cardboard, cloth, glass, street sweepings, vehicle tires and other like matter.

(66) "Treatment" means the process of altering the character, or physical or chemical condition of the waste to prevent pollution of water, air or soil, to safeguard the public health or enable the waste to be recycled.

(67) "Vector" means a carrier organism that is capable of transmitting a pathogen from one organism to another.

(68) "Volume Reduction Plant" includes, but is not limited to, incinerators, pulverizers, compactors, shredding and baling plants, composting plants and other plants which accept and process solid waste for recycling or disposal.

(69) "Waste Oil" means all types of waste oils, including waste automotive lubricants, industrial waste oils, and petroleum compounds.

(70) "White Goods" means inoperative and discarded refrigerators, ranges, washers, water heaters, and other similar domestic and commercial appliances.

(71) "Working Face" means that portion of a sanitary landfill where waste is discharged, spread and compacted prior to placement of initial cover.

(72) "Yard Trash" means vegetative matter resulting from landscaping maintenance or land clearing operations and includes materials such as tree and shrub trimmings, grass clippings, palm fronds, trees and tree stumps.

(73) "Clean debris" means any solid waste which is virtually inert and which is not a pollution threat to ground water or surface waters and is not a fire hazard, and which is likely to retain its physical and chemical structure under expected conditions of disposal or use. The term includes brick, glass, ceramics and uncontaminated concrete including embedded pipe or steel. Mixing of clean debris with other types of solid waste will cause it to be classified as other than clean debris. Clean debris which is disposed of shall be considered construction and demolition debris.

(74) "Existing unit" means any solid waste disposal unit that is receiving solid waste and has not received final cover.

(75) "Facility" means all contiguous land and structures, other appurtenances and improvements on the land used for solid waste management.

17-701.020(61) -- 17-701.020(75)

(76) "Fill" means man-made deposits of earth or waste materials used to fill excavations, to increase the vertical or horizontal extent of land or solid waste disposal units or to build embankments.

(77) "Off-site" means any location which is not on the property where the waste is generated.

(78) "Solid waste disposal unit" means a discrete area of land used for the disposal of solid waste.

All other definitions found in Chapter 403, F.S., and Chapter 17-7, F.A.C., to the extent that they are consistent with the definitions of this Chapter, are applicable to the terms used in this Chapter.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.715, F.S.

History: Transferred from 10D-12.02, 10-1-74; Revised 7-20-76; Amended 5-24-79, 6-13-84, 4-25-85, 7-1-85; Previously Numbered as 17-7.02; Amended 12-10-85; Formerly 17-7.020; Amended 8-2-89.

17-701.030 Solid Waste Resource Recovery and Management Permit Requirements.

(1) Permit Requirements. No resource recovery and management facility or site shall be operated, maintained, constructed, expanded, modified, or closed without an appropriate and currently valid permit issued by the Department as defined in Florida Administrative Code Rule 17-4.

(a) However, no permit under this section shall be required for the following activities provided that no public nuisance or condition adversely affecting the public health, safety and welfare is created and provided that the activity does not violate other state or local laws, ordinances, rules, regulations or orders including the Florida Air and Water Pollution Control Act, the Florida Safe Drinking Water Act, and standards adopted thereunder.

1. Disposal by persons of solid waste resulting from their own activities on their own property. This exemption shall not apply when solid wastes, other than construction and demolition debris and waste from normal farming operations, generated on non-contiguous property are collected and disposed of at one disposal site. However, persons disposing of solid wastes resulting from their own activities on their own property shall file a written notification to the Department of their disposal activities pursuant to the requirements of Florida Administrative Code Rule 17-701.120.

2. Normal farming operations.

3. Solid waste disposal areas limited to the disposal of construction and demolition debris.

(b) A determination by the department of whether an activity creates a public nuisance or condition adversely affecting the public health, safety or welfare shall include consideration of whether the activity violates the prohibitions set forth in Section 17-701.040 of this rule.

17-701.020(76) -- 17-701.030(1)(b)

(2) Permit Application. The person making application for a resource recovery and management facility permit shall submit to the respective Department district office having jurisdiction where the facility is located a minimum of 6 copies of a permit application, engineering plans, and all supporting data and reports for the proposed construction, operation, and closure of the facility prepared by a Professional Engineer registered in the State of Florida in accordance with provisions of Chapter 471, F.S. Said Engineer or another qualified Professional Engineer shall be required to make periodic inspections during construction of the facility to ensure that design integrity is maintained. If the person is acting as a public officer employed by the State, a county or a municipality and where that person estimates the initial construction cost is less than ten thousand dollars, this requirement may be waived in accordance with Chapter 471.003(2), F.S. Any law to the contrary notwithstanding, for purposes of this subsection, the construction cost of a solid waste disposal area shall not include land acquisition cost or the cost of equipment used to construct and maintain the same.

(3) Preparation of application. The application for a permit shall be prepared and signed by the applicant on form 17-701.130(1). The application shall include all information necessary for the Department to make an evaluation of the proposed facility to ensure that it will pose no significant threat to public health or the environment. The permit application and supporting information shall include the following:

(a) A letter of transmittal to the Department;

(b) A table of contents listing the main sections of the application;

(c) The permit fee specified in Florida Administrative Code Rule 17-4.050 in check or money order payable to the Department;

(d) Engineer seal. Data presented in support of the application shall be sealed in accordance with requirements of Section 471.025 F.S. by a registered professional engineer authorized to practice in the State of Florida;

(e) Engineer's appointment to act on behalf of the applicant;

(f) All construction, operation, closure, and ground water monitoring plans, data, drawings, photographs, and reports to support the application;

(g) All maps, plan sheets, drawings, isometrics, cross-sections, or aerial photographs shall be legible and:

1. Signed and sealed by the registered professional engineer responsible for their preparation. Wherever possible drawings should be no larger than 24 by 36 inches, folded to 9x12 inches. Illustrations, tables or drawings reduced in size should be no smaller than 8 1/2 by 11 inches;

2. Of appropriate scale to show clearly all required details;

3. Numbered, referenced to the narrative, titled, have a legend of symbols used, contain horizontal and vertical scales (where applicable), and specify drafting or origination dates;

17-701.030(2) -- 17-701.030(3)(g)3.

4. Use uniform scales as much as possible, contain a north arrow, use National Geodetic Vertical Datum (NGVD) as a basis for all elevations.

(h) A copy of any lease agreement, transfer of property agreement with right of entry for long-term care, or any other agreement between operator and property owner by which the facility may be affected;

(i) Financial documents assigned to the Department which ensure the financial responsibility for the closing and long-term care of the facility.

(4) An applicant for a permit to construct, expand, or close a resource recovery and management facility shall publish and provide proof of publication to the Department, at his own expense, a Notice of Application in a newspaper of general circulation in accordance with Florida Administrative Code Rule 17-103.150.

(5) Water Management District Report. Upon receipt of a construction permit application for a Class I or Class II landfill the Department shall, within 7 days, provide a copy of the application to the water management district having jurisdiction where the landfill is to be located. The water management district shall prepare a report as to the impact on water resources and shall submit the report to the Department no later than 30 days prior to the deadline for final agency action by the Department.

(6) Construction, Operation and Closure Permits. The Department, following an evaluation of a permit application and all supporting information, shall:

(a) Issue a construction permit for a new solid waste management facility.

After all significant initial construction has been completed and prior to operation or acceptance of any solid waste the engineer or the authorized public officer shall complete an Application to Operate Only Resource Recovery and Management Facility - Certification of Construction Completion, Department Form 17-701.130(2), and contact the Department to arrange for Department representatives to inspect the facility in the company of the permittee, the engineer, and the proposed on-site facility operator. The inspection is to ensure that the facility has been developed in accordance with the approved permit. The facility shall not be operated or accept solid waste until the Department has found that all applicable submissions required for the permit, including financial responsibility documentation have been received and found acceptable; or

(b) Issue an operation permit for new facilities that have been satisfactorily constructed, or to existing facilities which are being operated in accordance with this rule at the time for renewal of their permit; or

(c) Issue a closure permit for closing and long term care of landfills that have satisfied the requirements of Florida Administrative Code Rules 17-701.070 through 17-701.076 and other applicable laws and rules. Permits shall be renewed in accordance with Florida Administrative Code Rule 17-4.070; or

(d) Deny the issuance of a permit if reasonable assurances are not provided that the requirements of Florida Administrative Code Rule 17-7 and other applicable laws and rules will be satisfied.

17-701.030(3X)g4. -- 17-701.030(6X)d

(7) Time period for construction and operation permits. Landfills are generally long term projects which may be constructed in sections or phases at different time periods throughout the lifetime of the landfill. The Department may approve a permit for construction and operation of the entire facility with permit conditions requiring the permittee to advise the Department when construction is begun on each new section or phase of the landfill and when each section or phase is completed. Permits are issued subject to modification in accordance with Florida Administrative Code Rule 17-4.080.

(8) A copy of the Department approved engineering drawings, plans, reports, operational plan, and supporting information shall be kept at the facility at all times for reference and inspections.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10-012.03, 10D-12.04, 10D-12.07, 10-1-74; Amended 5-24-79, 6-13-84, 7-1-85; Previously Numbered as 17-7.03; Amended 12-10-85; Formerly 17-7.030.

17-701.040 Prohibitions.

(1) No solid waste shall be disposed of except by sanitary landfill, incineration, recycling process, or other method approved by the Department and consistent with this chapter and applicable approved local agency programs or regulations.

(2) No solid waste shall be disposed of by being placed:

(a) in an open sink hole or in an area where geological formations or subterranean features would not provide support for a landfill.

(b) in a limestone, or gravel pit.

(c) in an area immediately adjacent to or within 500 feet of an existing or approved shallow water supply well unless disposal takes place in a sanitary landfill which was originally permitted before the shallow water supply well was in existence.

(d) in a dewatered pit unless permanent leachate containment and special design techniques are used to ensure the integrity of the landfill liner.

(e) in an area subject to frequent and periodic flooding unless drainage provisions approved by the Department are installed.

(f) in any natural or artificial body of water including ground water.

(g) within 200 feet of any natural or artificial body of water, except bodies of water contained completely within the sanitary landfill site, which do not discharge from the site. A person may dispose of solid waste within the 200 foot setback area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards under Chapter 17-3, F.A.C. Stormwater control methods shall meet stormwater requirements of Chapter 17-25, F.A.C. However, nothing contained herein shall prohibit the Department from imposing conditions necessary to assure that solid waste disposed of within the 200 foot setback area will not cause pollution from the site in contravention of Department rules.

17-701.030(7) -- 17-701.040(2X)g

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(h) in any area open to public view from any major thoroughfare without proper screening where it can practically be provided.

(i) on the right of way of any public highway, road, or alley.

(j) within the boundaries of any airport property whether such airport be for public, private or limited use.

(k) within ten thousand (10,000) feet of the closest point of any runway at any airport licensed by the State of Florida, owned or operated by the United States, or subject to regulation by the Federal Aviation Administration which may be used by turbo-jet aircraft; or within five thousand (5,000) feet of any runway at any such airport used only by piston engine type aircraft unless it has been determined by the Federal Aviation Administration, the Florida Department of Transportation, or other appropriate federal or state agency charged with preventing airport hazards, that the proposed solid waste facility poses no safety hazards, that the proposed solid waste facility poses no safety hazard to aircraft in the vicinity.

(3) Burning of solid waste shall not be permitted at any landfill except in accordance with Florida Administrative Code Rule 17-701.060(1) and (3).

(4) Hazardous Waste: Any hazardous waste which is intended to be disposed of by land disposal or incineration and which can be reasonably expected to create a condition harmful to human health or air or water quality shall be at the owner's expense, be rendered non-hazardous prior to delivery to the disposal facility. Should a hazardous waste be of such composition that it cannot be rendered non-hazardous, the producer of such wastes must confer with the Department to determine a safe disposal or storage method and shall dispose of or store the waste by a method which is approved by the department. The approved method shall be determined on a case by case basis and shall be governed by the nature of the hazardous waste and its potential impact on air and water resources and public health, safety and welfare.

(5) Infectious waste shall be properly incinerated or processed by an alternate method which has been approved by the Department. No untreated infectious waste shall be deposited in any sanitary landfill.

(6) Transportation and disposal of solid wastes into or through the State, into or across county or municipal boundaries shall not be impeded provided such transport and disposal is in accordance with the provisions of this rule, does not degrade the environment, create a physical or aesthetic nuisance, or endanger or impair the public's health or welfare.

(7) The Department shall not issue a construction permit for a new sanitary landfill within 3,000 ft. of Class I surface waters.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.06, 10D-12.07, 10-1-74; Amended 5-24-79, 5-27-82; Previously Numbered as 17-7.04; Amended 12-10-85; Formerly 17-7.040.

17-701.040(2)(h) -- 17-701.040(History)

17-701.050 Sanitary Landfill Criteria.

Applicability. The criteria contained in Florida Administrative Code Rules 17-701.050 and 17-701.060 are applicable to all new landfill construction permits issued by the Department after the effective date of this rule. All permits issued prior to the effective date of this rule which contain conditions not in conformance with this rule shall be re-submitted to the District Office of the Department which issued the permit for purposes of modification of the permit to conform to this rule. The re-submission shall occur at least 90 days prior to the initial placement of waste into any trench or disposal area after January 1, 1987.

(1) Classification of Sanitary Landfills. Sanitary landfills are classified into three (3) different classes based on the amount and type of wastes received at the landfill. There are varying requirements throughout this rule depending upon the class of landfill.

(a) Class I landfills are those which receive an average of 20 tons or more of solid waste per day as weighed by scale if available, or 50 cubic yards or more of solid waste per day as measured in place after covering. Such sites shall receive an initial cover at the end of each working day in accordance with Florida Administrative Code Rule 17-701.050(5)(m).

(b) Class II landfills are those which receive an average of less than 20 tons of solid waste per day as weighed by scales if available, or less than 50 cubic yards of solid waste per day as measured in place after covering. Such sites shall receive an initial cover at least once every four days. If Class II sites receive sewage or industrial sludges, dead animals, rendering wastes, or other nuisance wastes, Class I covering frequency shall be required.

(c) Class III landfills are those which receive only trash or yard trash. Class III sites which are operated as trash facilities, based on site specific information, may be exempt from the liner and leachate and gas controls required in Florida Administrative Code Rules 17-701.050(4)(a),(b), (c), (d), (e), (f), (i), (j), and 17-701.050(5)(i), and are required to apply initial cover once every week. In determining whether a Class III landfill qualifies for the exemptions from certain requirements of Rule 17-701.050 the Department shall consider the hydrogeology, types of waste, and methods used to control types of waste received for disposal. Class III sites which are operated as yard trash composting facilities are not required to apply initial cover and, additionally, are exempt from Florida Administrative Code Rules 17-701.050(2)(a) and (b); (3); (4) and 17-701.050(5)(a), (c)(4), (d), (f), (h), (i), (j), (k), (l), (m), (n), and (o). If trash or yard trash is mixed with other types of solid waste, the disposal site shall be classified as a Class I or II landfill.

(d) More frequent cover may be required at Class II and Class III sites if necessary to prevent health and environmental problems. The department shall consider proximity to nearby residences and wells, evidence of dumping of unauthorized wastes, unlawful fires, littering of nearby property, odor problems, presence of vectors, and any other demonstrable potential or existing problems at such sites when making this determination.

17-701.050 -- 17-701.050(1)(d)

(2) Location Requirements.

(a) Solid waste shall be disposed of only in landfills where a ground water monitoring plan, including a hydrogeological survey, has been completed in accordance with Florida Administrative Code Rules 17-28.700(6) and 17-701.050.

(b) The land disposal site location shall provide support for the landfill including total wastes to be disposed of, cover material, and structures to be built on the site. Site structural acceptability will be subject to Department approval. A hydrogeological survey is required and it shall comply with Florida Administrative Code Rule 17-28.700(6)(X)(1), and include a foundation analysis, prior to construction, to determine the structural integrity of the subgrade to support the loads and stresses imposed by the landfill; or, if feasible, acceptable geotechnical measures necessary to modify the structural integrity to accommodate the imposed loads and stresses. These loads shall not cause failure of the liner or other containment system. The strength of the subgrade shall be determined using appropriate ASTM methods, or equivalent methods, and the foundation shall be analyzed for all appropriate short-term, end of construction, and long term conditions.

(c) Site Requirements.

The land disposal site location shall:

1. be easily accessible by collection vehicles, automobiles and where applicable, transfer vehicles;
2. safeguard against water pollution originating from the disposal of solid waste;
3. have an adequate quantity of acceptable earth cover available. The cover material shall be easily workable and compactable.
4. conform with the proper zoning.

(3) Landfill Design. Class I and Class II landfills shall have a liner. Landfills may be designed for sectioned, or phased, construction and closure at scheduled intervals throughout the life of the landfill. Landfill closure design shall address applicable requirements of Florida Administrative Code Rules 17-701.071 through 17-701.076. Landfill design plans shall include:

(a) A map or aerial photograph of the area showing land use and zoning within 1 mile of the landfill. This map, or photograph which shall be taken within one year of the permit application, shall be of sufficient scale to show all homes, industrial buildings, wells, watercourses, dry runs, rock out-croppings, roads and other significant details. All significant features shall be indicated and labeled on the map or aerial photograph;

(b) A plot plan of the site showing dimensions, location of soil borings, proposed trenching or disposal areas plan, original elevations, and proposed final contours, any previously filled waste disposal areas, and fencing. Cross sections shall be included on the plot plan or on separate sheets showing both the original and proposed fill elevations. The scale of the plot plan should not be greater than 200 feet to the inch;

17-701.050(2) -- 17-701.050(3)(b)

(c) Topographic maps at a scale of not over 200 feet to the inch with 5-foot contour intervals. These maps shall show: the proposed fill area; any borrow area; access roads; grades required for proper drainage and a typical cross section of a lift; special drainage devices, if necessary; fencing; equipment facilities; and all other pertinent information;

(d) A report on the:

1. Current and projected population and area to be served by the proposed site.
2. Anticipated type, annual quantity and source of solid waste, expressed in tons or cubic yards of compacted materials.
3. Anticipated life of the site.

4. Source and characteristics of cover material.
- (e) Ground water monitoring plan.

(4) Landfill performance and design standards. Performance standards established by the following criteria are the standards which the landfill is to achieve. Design standards are also presented herein which may be used to achieve the performance standards. Alternative designs which achieve performance standards may be used upon approval by the Department.

(a) Liner construction or installation. Construction or installation of liners shall be in accordance with the methods and procedures given in Lining of Waste Impoundment and Disposal Facilities, EPA publication SW-870, March 1983, which is hereby incorporated into this rule by reference. Copies of this document may be inspected at the Department's district offices.

(b) Liner performance standards. The liner must be:

1. Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;
2. Installed upon a base, or in a hydrogeological setting capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and
3. Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(c) Liner Quality Control Plans.

1. Soil liners shall have a soil and liner quality control plan to provide construction and operating personnel with adequate information to assure continuous compliance with the soil and liner construction requirements. The plan shall include specifications and construction methods which use established engineering practices for compaction of clay soils to form a liner and provide for soil and liner quality control testing procedures and sampling frequency. Sampling and testing shall be conducted in the field during construction and after completion by qualified personnel under the direction of the professional engineer in charge to assure the liner will meet the performance standards.

17-701.050(3)(c) -- 17-701.050(4)(c)(1).

2. Synthetic liners shall be installed in accordance with a Department approved quality control plan which incorporates the manufacturer's specifications and recommendations.

(d) Liner Design Standards.

1. Soil liners:

a. Shall be a minimum of 3 feet of soil e.g., clay, with an in-place saturated hydraulic conductivity not greater than 1×10^{-7} cm/sec. Saturated hydraulic conductivity shall not be increased above 1×10^{-7} cm/sec as a result of contact with the leachate generated by the landfill. Testing of the saturated hydraulic conductivity and the effect of leachate on soil permeability shall be performed in accordance with test methods given in EPA publication SW-870, ASTM test procedures or other tests which may be approved by the Department;

b. Shall not have any lenses, cracks, channels, root holes, pipes or other structural inconsistencies that can increase the saturated hydraulic conductivity of the liner above 1×10^{-7} cm/sec. The design shall illustrate and describe those instances in which over excavation of permeable areas and backfilling may be necessary to seal the permeable area e.g., when sand filled sinkholes are encountered. Where recompacted emplaced soil liners are used, they shall be placed in layers not exceeding 12 inches before compaction to maximize the effectiveness of compaction;

c. May consist of in-situ soils provided they meet the specifications for soil liners. Testing of in-situ soil shall be performed in accordance with the soil liner quality control plan.

2. Synthetic liners:

a. Shall consist of at least a reinforced 30 mil membrane or a 60 mil unreinforced membrane that meets minimum requirements of the National Sanitation Foundation Standard Number 54, Flexible Membrane Liners, November, 1983, which standard is hereby incorporated into this rule by reference, copies of this document may be inspected at the Department's district offices;

b. Shall be protected from physical damage from above and below the membrane, by bedding soil material underlying the liner and a minimum 24 inch thick protective soil layer on top of the membrane; both the bedding and protective layer shall be free of rocks, roots, debris, sharps or particles larger than 1/4 inch. The lower 12 inches of material in contact with the top of the liner, if sufficiently permeable, may be used as a drainage layer; and

c. Shall have factory and field seams that equal or exceed the strength requirements defined by National Sanitation Foundation Standard 54 for that lining material. All field seams must be visually inspected and pressure or vacuum tested for seam continuity using suitable non-destructive techniques.

3. Other liner materials. Constructed liners other than compacted clay soils e.g., asphalt, polymeric membranes, concrete, bentonite slurry or admixture or other suitable material, may be approved by the Department if it can be shown that these alternative materials will have performance equivalent to those stated for soil liners.

17-701.050(4)(c)2.-- 17-701.050(4)(d)3.

(e) Leachate control performance standards. Landfills shall have a leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The leachate depth on top of the liner shall not exceed one foot depth of leachate. The leachate collection and removal system shall:

1. Be constructed of materials that are chemically resistant to the waste disposed of in the landfill and the leachate expected to be generated;

2. Be of sufficient strength and thickness to prevent collapse under pressures exerted by overlying wastes, cover materials, and by any equipment used at the landfill;

3. Be designed and operated to function without clogging through the active life and closure period of the landfill; and

4. Be designed and constructed to provide for removal of the leachate within the drainage system to a central collection point for treatment and disposal.

(f) Leachate Control System Design Standards. Leachate collection and removal systems shall have:

1. At least a 12 inch drainage layer above the liner with a hydraulic conductivity permeability of not less than 1×10^{-3} cm/sec at a slope to promote drainage;

2. A drainage tile or pipe collection system of appropriate size and spacing; sumps and pumps or other means to efficiently remove leachate. The design shall demonstrate through calculations in the permit application that a maximum one-foot depth of leachate on the liner will be achieved; and

3. Granular material or synthetic fabric filter overlying or surrounding the leachate collection and removal system to prevent clogging of the collection system by infiltration of fines from the waste or drainage layer; and have a method to test that the system is not clogged and a method for cleaning the system if it becomes clogged.

(g) Surface water management system performance standards. Landfills shall have surface water management systems designed, constructed, operated, and maintained to prevent surface water flow onto waste filled areas, and a storm water run-off control system designed, constructed, operated, and maintained to collect and control stormwater to meet requirements of Florida Administrative Code Rule 17-25 and requirements of the respective water management district.

(h) Surface Water Management System Design Standards.

1. Storm water controls should be specifically designed and sized according to local drainage patterns, soil permeability, annual precipitation, area land use, and other characteristics of the contributing watershed;

2. Retention and detention ponds and drainage ways shall be designed, constructed, and maintained to meet the requirements of Florida Administrative Code Rule 17-25, or requirements of the water management district where the Department has delegated storm water permitting to a water management district;

17-701.050(4)(e) -- 17-701.050(4)(h)2.

3. Stormwater management systems shall be designed to minimize to the maximum extent possible the mixing of stormwater with leachate. Stormwater or other surface water which comes into contact with the solid waste or mixes with leachate shall be considered leachate and shall be treated to meet applicable standards of Florida Administrative Code Rules 17-3 and 17-4 at the point of discharge.

(i) Gas control system performance standards. Landfills shall have a gas control system to prevent: Explosion and fires due to the accumulation of methane concentrations on-site or off-site; damage to vegetation on final cover of closed portions of the landfill or vegetation beyond the perimeter of the property on which the landfill is located; and objectionable odors off site.

(j) Gas control system design standards. Landfill gas control systems may:

1. Be designed for site-specific conditions and be installed in each section of the landfill that has been filled to design dimensions; and
2. Be installed to reduce gas pressure in the interior of the landfill by collecting the gases to prevent them from moving laterally. Collection pipes, pathways, or vents shall be installed to the lower regions of the filled waste or where the more anaerobic conditions exist. The gas control system shall not interfere with or cause failure of the liner or leachate control systems.

(5) Operations.

(a) Ground Water Monitoring.

1. Monitor well location, construction, and collection of samples shall be as specified in Florida Administrative Code Rules 17-3.401, 17-28.700, and 17-4.246. Guidance for construction of monitor wells and collection of samples is contained in Procedures Manual for Ground Water Monitoring at Solid Waste Disposal Facilities (EPA/530/SW-611).

2. Sampling and testing of ground water at landfills shall be in accordance with Florida Administrative Code Rule Sections 17-3.401, 17-28.700, 17-4.246, and 17-22, Part III and IV.

3. When requested by the Department the facility operator shall inform the department of the next sampling schedule so that a representative of the Department may be present to collect a split sample.

(b) Operation Plan. An operation plan shall be submitted with all landfill construction permit applications. The operation plan shall provide written instructions for the daily operation of the landfill. The plan shall be revised when operational procedures change. The plan shall include detailed procedures such as:

1. Designation of persons responsible for operation and maintenance of the facility;
2. Contingency operations, alternate waste handling and disposal methods in case of emergency such as a natural disaster or equipment failure;
3. Controlling the type of waste received at the site. The plan shall specify inspection procedures, number and location of spotters and procedures to be followed if prohibited wastes are discovered;
4. Weighing or measuring incoming waste;

17-701.050(4)(h)3. -- 17-701.050(5)(k)4.

5. Vehicle traffic control and unloading;
6. Method and sequence of filling waste;
7. Waste compaction and application of cover;
8. Operations of gas, leachate, and storm water controls;
9. Ground water monitoring.

(c) Operational design features. The disposal site shall be provided with operation features and appurtenances necessary to maintain a clean and orderly operation. These minimum features are:

1. An effective barrier designed to prevent unauthorized entry and dumping into the landfill site.
2. An all-weather access road to the site. A special area with a stabilized roadway shall be provided within the site for wet weather operations.
3. Signs indicating name of operating authority, traffic flow hours of operation, and charges for disposal (if any).

4. Scales for weighing solid waste received at the landfill, or in lieu thereof, estimates the number of cubic yards received at all Class I and Class II sites. Quantitative records shall be forwarded to the Department upon request.

5. Dust control methods such as approved chemicals, oils, or water sprays.

6. Litter control devices, portable fences, or other suitable means.

7. Fire protection and fire-fighting facilities adequate to insure the safety of employees and provisions to deal with accidental burning of solid waste within the sanitary landfill.

(d) Personnel and Facilities. In order to insure proper staffing and suitable facilities the following shall be required:

1. During hours of operation, an attendant at Class I sites. The Department may require an attendant at Class II or Class III sites if the Department affirmatively demonstrates that such a requirement is necessary to prevent unlawful fires, unauthorized dumping, or littering of nearby property.

2. Communication facilities for use in emergencies at Class I sites.

(e) Equipment. To insure adequate operation the following is required:

1. Equipment sufficient for excavating, spreading, compacting, covering operations, and other transportation and earthmoving needs.
2. Sufficient reserve equipment, or arrangements to provide alternate equipment within 24 hours following equipment breakdown.
3. Safety devices on equipment to shield and protect the operators from potential hazards during operation.

(f) The Department recommends but does not require:

1. A potable water supply.
2. A suitable employee shelter.
3. Handwashing and toilet facilities.
4. Equipment wash-out facilities.
5. Electric service for operations and repairs.
6. Equipment shelter for maintenance and storage of parts, equipment and tools.

17-701.050(5)(k)5. -- 17-701.050(5)(k)6.

7. Emergency first aid equipment to provide adequate treatment of an injured person in case of an accident.

8. That employees be trained in the proper and safe operation of all equipment and first aid procedures.

(g) Sanitary landfills shall be operated to provide for the collection, control and treatment of surface runoff from the site as necessary to meet the applicable standards of Florida Administrative Code Rules 17-3, 17-4, and 17-25;

(h) Any leachate emanating from a landfill shall be collected and treated as necessary to meet the applicable standards of Florida Administrative Code Rules 17-3, 17-4, and 17-25;

(i) Gas control systems shall be operated and maintained in accordance with the gas control system design. Operational procedures shall include measures to prevent damage to vents, and equipment repair or replacement as expeditiously as possible if damaged or destroyed;

(j) All solid waste at Class I and Class II sites shall be spread in layers of approximately two (2) feet in thickness and compacted to approximately one (1) foot in thickness or as thin a layer as practical before the next layer is applied. Solid waste at all Class III sites, except those yard trash sites which are operated as composting facilities, shall be spread in layers and compacted once every week using suitable heavy equipment. Bulky materials such as tree stumps or large pieces of concrete which are not easily compacted should be worked into other materials as much as practical.

(k) All compacted solid waste shall be formed into cells with the working face, and side grades above land surface, at a slope no greater than thirty (30) degrees. Cell depth shall be constrained by the type of operation in use (area, trench), the daily volume of waste, width of the working face, and good safety practices.

(l) The working face of a cell shall be only wide enough to efficiently accommodate vehicles discharging waste and to minimize the exposed area and the use of unnecessary cover material;

(m) Initial cover shall be applied to enclose each landfill waste disposal cell except the working face which may be left uncovered if solid waste will be placed on the working face within 18 hours. Any adverse environmental or health effects such as blowing litter, odors, flies, or rats resulting from this practice shall be cause to place initial cover on the working face. Initial cover shall be applied to landfills as follows:

1. Class I; at the end of each working day;

2. Class II; every four days;

3. Class III; once every week;

(n) An intermediate cover of one (1) foot of compacted earth in addition to the six (6) inch initial cover shall be applied within seven (7) days of cell completion at all landfills if final cover or an additional lift is not to be applied within 180 days of cell completion.

(o) Portions of landfills which have been filled with waste to the extent of designed dimensions shall be closed in accordance with the closure plan required in Florida Administrative Code Rules 17-701.050(3) and 17-701.070 through 17-701.076;

17-701.050(5)(f)7. -- 17-701.050(5)(o)

(p) Pesticides used to control rodents, flies and other insects shall be as specified by the Florida Department of Agriculture and Consumer Services.

(q) Uncontrolled and unauthorized scavenging shall not be permitted at any sanitary landfill site. Controlled salvaging may be permitted by the local authority responsible for the facility.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.07, 10-1-74; Revised 5-11-75; 7-20-76; Amended 5-24-79; Previously Numbered as 17-7.05; Amended 12-10-85; Formerly 17-7.050.

17-701.060 Special Waste Handling.

(1) Controlled burning of solid wastes shall be accomplished in an incinerator, with the exception of controlled burning of only vegetative wastes, such as yard trash, which may be done in a permitted, properly operated incinerator or trench burner. A trench burner is an installation consisting of an open pit with fixed walls and a mechanically forced draft air supply to provide excess oxygen and turbulence to accomplish smokeless combustion of clean wood wastes and vegetative matter.

(2) Abandoned vehicles brought to the site may be stored temporarily in a separate area, provided arrangements have been made for frequent removal to an automobile recycler. If such arrangement has not been made all abandoned vehicles, white good and similar materials shall be compacted to minimize voids before being placed in the fill area.

(3) In the event of a natural disaster, during which large volumes of debris are accumulated (such as trees and buildings that have been destroyed) the debris may be transported to an area remote from habitation, and burned, in accordance with Florida Administrative Code Rule 17-5.090(1).

(4) Landfilling milled solid waste without daily soil cover may be an environmentally acceptable method of final disposal. However, the same engineering principles required for a sanitary landfill site must be employed, including a properly designed and operated milling facility. The Department will grant approval for such disposal method contingent upon the following conditions:

(a) Particle size. Seventy percent (70%) of all milled refuse, dry weight, shall be capable of passing through a three (3) inch screen.

(b) Waste shall be spread to a smooth contour and compacted promptly after placement and left undisturbed to prevent odors. Wind blowing of milled refuse and paper shall be controlled.

(c) All solid waste storage areas in the milling facility must be maintained and cleaned at the end of each day's operations, or during continuous operation, as necessary, to prevent fly, rodent or other vector problems. All milling equipment shall be designed and maintained to control spillage and to achieve the required milled product quality.

(d) An operational plan shall include provision for removal and proper disposal of wastes within 24 hours should the mill facility breakdown or operational quality be diminished. The operational plan shall include provision for a stock pile of emergency soil cover material and a plan to convert the operation to a sanitary landfill.

17-701.050(5)(p) -- 17-701.060(4)(d)

(e) Leachate collection and treatment as necessary to meet water quality standards of Chapters 17-3 and 17-4, F.A.C., shall be provided at all milled solid waste sites. The design of the treatment facility shall be reviewed and approved by the department as a part of the permit required for the milled solid waste site.

(f) Upon completion of the site, it shall be closed, covered with a final one (1) foot thick soil cover and shall be seeded or planted with grass or suitable cover vegetation to minimize erosion.

(5) Asbestos-containing solid waste shall be covered daily with a proper dust suppressant or six inches of non-asbestos material, or disposed of in an area where proper warning signs and fences or barriers are present, as described in 40 CFR 61.25. This federal Environmental Protection Agency regulation (40 CFR 61.25) is hereby adopted and incorporated in this rule by reference as it is stated in the October 14, 1975, Federal Register (40 FR 199), and as amended in the April 5, 1984, Federal Register (49 FR 13658). For purposes of this rule, the term "Administrator," when used in 40 CFR 61.25, shall mean Secretary of the Department of Environmental Regulation. Additionally, any asbestos-containing solid waste disposed of at a Class I or Class II Sanitary Landfill shall be disposed of according to the requirements of Section 17-701.050, F.A.C.

Specific Authority: 403.061, 403.704; 403.705, 403.8055, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 100-12.07, 10-1-74; Amended 5-24-79, 11-25-82, 7-10-84; Previously Numbered as 17-7.06; Amended 12-10-85; Formerly 17-7.060.

17-701.061 Construction and Demolition Debris Disposal

(1) Clean debris may be used as fill material in any area, including waters of the State, subject to receipt of a dredge and fill permit from the Department where applicable. Clean debris used as fill material is not solid waste, and such use does not require a solid waste permit under this rule. Clean debris that is not used as fill material shall be disposed of as construction and demolition debris.

(2) Construction and demolition debris may be disposed of in a permitted landfill. However, pursuant to Section 403.706(2), F.S. each county must initiate by July 1, 1989, a program to develop segregated disposal areas for construction and demolition debris. This program shall be designed to assure that all construction and demolition debris is disposed in segregated areas after August 1, 1990. The cover requirements for a segregated construction and demolition debris disposal area within a permitted landfill shall be those in Rule 17-701.803(9), F.A.C.

(3) Construction and demolition debris which is disposed of on the property where it is generated, or on property which is adjacent or contiguous to and under common ownership and control as that property where the waste is generated, is exempt from the permitting requirements of Chapter 17-701, F.A.C. However, such disposal is subject to the provisions of Rule 17-701.040, F.A.C. Such disposal areas must also be closed, graded and vegetated as specified in Rule 17-701.803(9), F.A.C.

17-701.060(4)(e) -- 17-701.061(3)

(4) Construction and demolition debris may be disposed of off-site at a facility operating under a general permit pursuant to Rules 17-4, Part III and 17-701.803, F.A.C., or at a solid waste facility permitted under Rule 17-701, F.A.C. Such a facility operating under a general permit shall accept only construction and demolition debris for disposal. Owners and operators of a new disposal facilities for construction and demolition debris shall comply with this rule after the effective date of this rule. Owners or operators of existing facilities for the off-site disposal of construction and demolition debris shall comply with the general permit requirements of this section within 90 days after the effective date of this rule.

(5) Nothing in this rule shall prevent the burning or recycling of construction and demolition debris in accordance with Department rules.

(6) Construction and demolition debris may be disposed of only in accordance with one of the methods authorized above.

Specific Authority: 403.061, 403.704, 403.707, F.S.

Law Implemented: 403.706, 403.707, F.S.

History: New 8-2-89.

17-701.070 Closure of Landfills. This section contains the minimum permit application requirements to close a landfill and monitor and maintain the closed facility after closing so that it will pose no significant threat to human health or the environment. If an applicant cannot provide reasonable assurance that the requirements of Florida Administrative Code Rules 17-3 and 17-4 will not be violated, then the Department may impose additional closure requirements on a landfill based upon site specific conditions. In subsequent rules regarding landfill construction and operation, the Department shall assure that Florida Administrative Code Rule 17-701.070 through 17-701.076 are consistent and conforming.

(1) Effective Date and applicability. Effective July 1, 1985, Florida Administrative Code rules 17-701.070 through 17-701.076 shall apply to all portions of landfills receiving waste, portions of landfills not having final cover, and all future landfills requiring solid waste permits, with the following exceptions:

(a) Any site at which a person disposes of solid wastes resulting from his own activities on his own property, pursuant to the exemption created in section 403.707(2), Florida Statutes.

(b) Any dredge spoil site permitted or exempt from permitting under Chapter 403 Florida Statutes.

(c) Any yard trash composting site at which only vegetative material was disposed.

(d) Any area limited solely to the disposal of construction and demolition debris.

(e) Any portion of a landfill for which a modification of an operation permit to close or a closure plan has been approved by the department as of July 1, 1985.

17-701.061(4) -- 17-701.070(1)(e)

(2) Permit Applications. Construction permit applications for new landfills shall include general plans and schedules for closure of the facility.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 10-1-74; Amended 5-24-79, 7-1-85; Previously Numbered as 17-7.07; Amended 12-10-85; Formerly 17-7.070.

17-701.071 Closure Schedule. At least one year prior to the projected date when wastes will no longer be accepted, the landfill owner or operator shall provide a written notice to the Department District Office and local pollution control agency with a schedule for cessation of waste acceptance and closure of the landfill. The closure schedule shall become an addendum to the currently valid facility permit. If unforeseen circumstances do not allow the one year notification, notice shall be provided as soon as the need to close the facility becomes apparent.

(1) Notice and advice to users. At least 120 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall advise users of the intent to close the facility by posting signs at the entrance of the facility giving the date of closing, the location of alternative disposal facilities and name of the person responsible for closing the landfill. These signs shall be maintained throughout the closing period. If unforeseen circumstances do not allow the 120 day notice to users, notice shall be provided as soon as the need to close the facility becomes apparent.

(2) Notice to the Public. Within 10 days prior to the date when wastes will no longer be accepted at the landfill a notice shall be published in the legal advertising section of a newspaper of general circulation in the county where the activity is proposed, and the applicant shall provide proof of publication to the Department within 7 days of publication.

Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.071.

17-701.072 Closure Permit Application Submittal. At least 90 days prior to the date when wastes will no longer be accepted, the landfill owner or operator who does not possess an approved closure plan shall submit a closure permit application to the Department. Landfill owners or operators that have a closure plan which was submitted and approved as part of the landfill construction permit shall resubmit that closure plan, and revised to agree with the requirements of Florida Administrative Code Rule 17-701.073, to the Department no less than 90 days prior to the scheduled closing day. Upon approval by the Department the closure plan shall become an addendum to the currently valid permit.

Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.072.

17-701.073 Closure Plan Requirements. All closure plans shall address the following eight parts contained in this sub-section, and for non-applicable requirements, shall contain an explanation of why the requirement is not applicable. Valid information on record in a previously approved permit or approved groundwater permit or groundwater monitoring plan may be used to satisfy the applicable requirements of this subsection.

- (1) General landfill information report. This report shall contain:
 - (a) Identification of the landfill;
 - (b) Name, address and phone number of primary contact persons;
 - (c) Identification of persons or consultants preparing this report;
 - (d) Present property owner; landfill operator;
 - (e) Location by township, range and section, and latitude and longitude of main entrance or operators office of the landfill;
 - (f) Total acreage of waste disposal area; total acreage of landfill property;
 - (g) Legal description of property on which the landfill is located;
 - (h) History of landfill: when constructed; description of fill operations, sequence of trenching, cell construction, or sequence of areas filled;
 - (i) Identity of types of waste disposed of in the completed landfills; based on records, composition studies, operator memory, major waste depositors, or other information sources.
- (2) Area information report. An information report on the area in which the landfill is located shall be included in the closure plan. The report may use verifiable information available from published documents. The term "area" means that area which may affect or has been affected by or will be affected by, the landfill, and at a minimum includes the land within a one mile radius of the landfill. The report should be supplemented by maps and cross-section drawings. The following topics shall be addressed in the report:
 - (a) Topography;
 - (b) Hydrology, including surface water drainage patterns and hydrologic features such as surface waters, springs, drainage divides and wetlands;
 - (c) Geology, including the nature and distribution of lithology, unconsolidated deposits, major confining units and sinkholes;
 - (d) Hydrogeology, including depth to groundwater table, groundwater flow directions, recharge and discharge areas, used by public and private wells within 1 mile of the landfill;
 - (e) Ground and surface water quality;
 - (f) Land use information. The report shall include a discussion and maps indicating:
 1. Identification of adjacent landowners;
 2. Zoning;
 3. Present land uses;
 4. Roads, highways, rights-of-way, or other easement.

(3) Groundwater monitoring plan and site specific information. The closure plan shall include an approved groundwater monitoring plan containing site specific information which meets the criteria specified in Florida Administrative Code Rule 17-28.700(6)(d).

(4) Gas migration investigation. A report on methane gas where actual or potential gas migration exists i.e., in landfills that have been in operation for a year and contain organic wastes disposed of in porous soils which allows or would allow migration of gas off the landfill property. Gas migration test points shall be located along property boundaries, or alternate boundaries approved by the Department, particularly, those adjacent to off-site occupied structures within 100 feet of the property boundary or where distressed vegetation is present. Test points are required along each boundary segment spaced as needed to detect gas migration. Test points should extend 3 feet below ground surface. Where sand, gravel, or more gas permeable soil strata may interconnect the waste deposit and the property boundary, multiple depth sampling points should be used, with the uppermost one 3 feet deep and additional ones in the permeable layers. A combustible gas indicator meter is recommended to determine methane concentrations as a percent of the lower explosive limit (LEL). Lower explosive limit means the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at a temperature of 25 degrees Celsius and atmospheric pressure. Methane concentrations shall not exceed the LEL at the property boundary or 25% of the LEL within structures on the property.

(5) Assessment of effectiveness of existing landfill design and operation. Based on the area information report, the groundwater monitoring plan, and the gas migration report, a landfill assessment shall be prepared which discusses the effects of the landfill on adjacent ground and surface waters, and the landfill area. Specific concerns to be addressed are:

- (a) Effectiveness and results of the groundwater investigation;
- (b) Effects of surface water runoff, drainage patterns, existing storm water controls;
- (c) Extent and effects of methane gas migration, LEL percentage readings in migration paths, and description of the gas venting system if one is installed;
- (d) Condition of existing cover, thicknesses and types of soils or materials used for cover, and effectiveness of cover material as a leachate control mechanism;
- (e) The nature and characteristics of the wastes disposed of at the landfill.
- (6) Closure design plan. A closure design plan shall be prepared based on the area information report, groundwater monitoring plan, and assessment of the effectiveness of the existing landfill design and operation. The closure design plan shall consist of engineering plans and a report on closing procedures which shall apply to the closing of the landfill and the monitoring and maintenance during the long term care period. The closure design plan shall include the following information:
 - (a) A plan sheet showing phases of site closing;

17-701.073(3) -- 17-701.073(6)(a)

(b) Drawings showing existing topography and proposed final grades;

(c) Final cover installation plans showing the sequence of applying final cover, including thickness and type of material that will be used. All waste filled areas shall have a final cover designed to minimize infiltration and subsequent leachate generation, based on water balance calculations and leachate controls used. Final cover may consist of synthetic membranes, soils, or chemically or physically amended soils approved by the Department, underlaying at least six inches of top soil or soils that will sustain vegetative growth, to achieve a minimum thickness of two feet of soils or one foot of soils and synthetic or soil admixtures above the waste material. The types of materials used in a final cover are dependent upon the leachate control system used. Nothing in this rule shall be construed to require final cover which is incompatible with the leachate control system, including a system which utilized permeable final cover, which has been permitted by the department and meets all other applicable department standards and criteria.

1. The final cover shall be placed over the entire surface of each completed portion of the filled areas within 180 days after the final waste deposit date. The final cover of the filled area shall be seeded or planted with vegetation to control erosion. Where the final cover is intended to be a moisture infiltration seal, vegetational species planted shall be drought resistant and such that the roots will not penetrate the seal and thus provide a channel for moisture infiltration.

2. Side slopes and all other grades shall be designed to minimize erosion of the final cover material. Such designs shall consider the erosion susceptibility of the earthen material proposed for final cover relative to historical rainfall patterns for the area, the period between application of the final cover and establishment of vegetative growth, and special maintenance procedures proposed to insure that infiltration is minimized earthen material exists after vegetative growth is established.

a. Side slopes of all above-ground disposal areas shall not exceed a 33 percent grade, 3 feet horizontal run to 1 foot vertical rise, to minimize erosion.

b. Top gradients of final cover on landfill areas should not normally exceed 4 percent grade, 100 feet horizontal run to 4 feet vertical rise, considering total fill height, and expected subsidence caused by decomposing waste, and be designed to prevent ponding or low spots and minimize erosion. Alternate gradients, justified by the landfill design, may be approved by the Department.

c. Fill areas of new landfills which are constructed above land surface shall incorporate drainage and erosion control structures in accordance with good engineering practice.

3. The closure design plan shall describe provisions for cover material for the long term care erosion control, filling areas of subsidence or other depressions, maintaining berms, and general maintenance of the facility, and specify the anticipated source and amount of material necessary for proper closure of the landfill.

17-701.073(6)(b) -- 17-701.073(6)(c)3.

(d) Type of leachate control system proposed. The leachate control system shall be designed to prevent leachate from escaping beyond the approved zone of discharge for the landfill and to meet the requirements of Chapter 17-3 and 17-4, Florida Administrative Code;

(e) Compliance with groundwater protection requirements. The closure design plan shall show how the landfill will meet the requirements of Sections 17-28.700 and 17-4.246 Florida Administrative Code. The groundwater monitoring plan and sampling schedule may be adjusted for a landfill where groundwater contamination is not evident or corrective measures have been taken to correct contamination.

(f) Type of gas or odor control which may be used. Control systems shall be installed at landfills which have a gas or odor problem as determined in the gas migration investigation report. Monitoring for methane gas at the property boundary shall be performed at regularly scheduled intervals to determine the effectiveness of the migration controls. If the investigation indicates that gas and odors will not be a problem, gas and odor control systems may, with Department approval, be omitted from the closing design plan. The plan shall include an explanation of why they were omitted. The Department shall require gas migration investigations where the potential for migration exists and require control systems to be installed any time gas or odors become evident;

(g) Proposed method of stormwater control. This shall include control of stormwater occurring on the landfill property. Stormwater from areas adjacent to the landfill property shall be prevented from coming on or into waste filled areas or cells. Other surface waters, such as streams or canals which originate off of, or other surface water bodies which adjoin the landfill property, shall be prevented from flooding waste filled areas or cells. Infiltration of stormwater into the waste shall be precluded or minimized by the leachate control system. Stormwater or other surface water which mixes with leachate shall be considered to be leachate and shall be treated to meet the water quality standards of rules 17-3 and 17-4, Florida Administrative Code at the point of discharge. The stormwater control plan shall meet the requirements of Chapter 17-25, Florida Administrative Code, and requirements of the respective water management district.

(h) Proposed method of access control. The closure design plan shall describe how access to the closed landfill shall be restricted to prevent any future waste dumping or use of the facility by unauthorized persons. Restricted access shall remain in force until the landfill is stabilized and there is no evidence that facility property is being used as an unauthorized dump site. In the event that use of the property during the long term care period is planned, access shall be restricted until landfill closing is completed and approved by the Department;

(i) Final Use. The closure design shall contain a description of any proposed final use of the landfill property.

(7) Closure Operation Plan. The closure operation plan shall;

17-701.073(6)(d) -- 17-701.073(7)

(a) Describe the actions which will be taken to close the landfill, such as placement of cover, grading, construction of berms, ditches, roads, retention-detention ponds, installation or closure of wells and boreholes, installation of fencing or seeding of vegetation, protection of on-site utilities and easements;

(b) Provide a time schedule for completion of the closing and long term care;

(c) Contain appropriate references to the Closure Design Plan, area information report, groundwater monitoring plan, and other supporting documents;

(d) Describe the proposed method of demonstrating financial responsibility for the long term monitoring and maintenance;

(e) Indicate any additional equipment and personnel needed to complete closure of the landfill;

(f) Modification of the plan based on a showing of good cause by the permittee may be approved by the Department. The permittee shall submit to the Department a revised plan prior to implementation of any necessary deviation. In the event that a necessary deviation is the result of unforeseen circumstances and there is insufficient time to prepare and submit a revised plan, the owner or operator shall immediately contact the Department and obtain an interim authorization pending the submission and review of the revised plan. Interim authorization shall not exceed 30 days during which time the revised plan shall be prepared and submitted to the Department.

(g) Certification by registered professional engineer. Information, plans, and drawings presented in support of a closure permit for a landfill shall be prepared under the direction of, and certified by, a registered professional engineer authorized to practice in the State of Florida in accordance with the provisions of Chapter 471, Florida Statutes. A letter of appointment shall be submitted by the proper federal, state, county, municipal or agency employee, or company official, or individual, confirming that the engineer is authorized to prepare plans and specifications. The professional engineer or another qualified engineer shall be required to make periodic inspections during the closing of the facility to insure closure is being accomplished according to the closure plan.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Formerly 17-7.073.

17-701.074 Closure Procedures. Upon approval of the closure plan and issuance of the closure permit by the Department, the landfill owner or operator shall close the landfill in accordance with the approved plans and any special permit provisions.

(1) Closing inspections. The Department may specify in the closure permit that particular closing steps or operations must be inspected and approved by the Department before proceeding with subsequent closure actions.

17-701.073(7)(a) -- 17-701.074(1)

(2) Survey monuments: Concrete monuments shall be installed to mark the boundaries of the landfill property and other permanent markers installed to outline the general waste filled areas. These latter markers shall be tied to one or more of the boundary markers by a survey performed by an engineer or a registered land surveyor. The location and elevation of all markers shall be shown on a site plan filed with the "Declaration to the Public" described in subsection (4) below.

(3) Final survey and as built report: When landfill operations have been conducted which have raised the final elevations higher than 10 feet above the natural land surface, a final survey shall be performed by an engineer or a registered surveyor to verify that final contours and elevations of the facility are in accordance with the plans as approved in the permit. Aerial mapping techniques which provide equivalent survey accuracy may be substituted for the survey. The survey or aerial mapping information shall be a report which also includes information reflecting the as-built conditions of the landfill. Contours should be shown at no greater than 5 foot intervals. The landfill owner or operator shall submit this report to the Department in accordance with the closing schedule.

(4) Declaration to the public: After closing operations are inspected and approved by the Department, the landfill owner or operator shall file a declaration to the public in the deed records in the office of the county clerk of the county in which the landfill is located. The declaration shall include a legal description of the property on which the landfill is located and a site plan specifying the area actually filled with solid waste. The declaration shall also include a notice that any future owner or user of the site should consult with the Department prior to planning or initiating any activity involving the disturbance of the landfill cover, monitoring system or other control structures. A certified copy of the declaration shall be filed with the Department.

(5) Official date of closing: Upon receipt of the documents required in paragraphs (3) and (4) of this section, the Department shall, within 30 days, acknowledge by letter to the facility operator, that notice of termination of operations and closing of the facility has been received. The date of this letter shall be the official date of landfill closing for purposes of determining the long term care period.

(6) Use of closed landfill areas: Closed landfill areas, if disturbed, are a potential hazard to public health, groundwater and the environment. The Department retains regulatory control over any activities which may affect the integrity of the environmental protection measures such as the landfill cover, drainage, liners, monitoring system or leachate and stormwater controls. Consultation with the Department is required prior to conducting activities at the closed landfill.

(7) Construction on closed landfill: Pursuant to s. 403.705(1), Florida Statutes, the following guidance is provided for use of a closed landfill.

(a) Enclosed ground level and underground structures should be avoided due to the potential for explosive concentrations of methane gas. Special construction and ventilation techniques must be employed if such structures are contemplated.

17-701.074(2) -- 17-701.074(7Xa)

(b) Ponding of water, excessive irrigation, or plowing to a depth below the topsoil should not be done unless there is assurance that percolation of moisture into the buried waste will not occur.

(c) Concentrated weight loadings should be avoided to prevent uneven settlement.

(d) The effectiveness of landfill cover and any liners or barriers must not be disturbed when structures are built, particularly when pilings are used.

(e) Underground utilities and similar installations that are placed within 200 feet of, or cross any side of any filled areas should be avoided. If they cannot, a properly located gas barrier or ventilation system should be placed at each property boundary crossed to prevent methane gas migration along the utility line to off-site structures.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Formerly 17-7.074.

17-701.075 Long Term Care: The following long term care provisions shall apply to landfills after closing operations have been completed:

(1) Long term care period: The owner or operator of any landfill in operation after the effective date of this rule shall be responsible for monitoring and maintenance of the facility in accordance with an approved closure plan for 20 years from the date of closing. Prior to the expiration of the post closing monitoring and maintenance period the Department may extend the time period if it finds extension is necessary if the closure design or closure operation plan is found to be ineffective.

(2) Reduced long term care period: The owner or operator of a landfill may apply to the Department for a reduced long-term care schedule if reasonable assurance is provided to the Department that there is no significant threat to human health or the environment and if the landfill:

(a) Has been constructed and operated in accordance with approved standards, has a leachate control system, has a liner or

(b) Was closed with appropriate final cover, good vegetative cover established, and a good monitoring system installed and;

(c) Has a 10 year history of no leachate detected in the monitoring system, no leachate collected after closing, no detrimental erosion of cover, and subsidence of waste has ceased.

(3) Right of access: It is the responsibility of the owner or operator to possess or acquire a sufficient interest in, or a right to use the property for which a permit is issued, including the access route onto the property to carry out the requirements of this rule. The issuance of a permit by the Department does not convey any property rights or interest in real or personal property, invasion of personal rights, or impairment of previous contract rights; nor any infringement of federal, state, or local laws or regulations outside the authority under which a permit is issued. The permittee must retain the right of entry to the landfill property for the long term care period, after termination of solid waste operations, for inspection, monitoring and maintenance of the site.

17-701.074(7Xb) -- 17-701.075(3)

(4) Successors in interest. Any person acquiring rights or ownership, possession or operation of a permitted landfill through lease or transfer of property shall be subject to all requirements of the permit for the facility and shall provide any required proof of financial responsibility to the Department in accordance with this rule. Any lease or transfer of property shall include specific conditions to delineate:

(a) The previous owner or operator is responsible for closure and shall maintain any required proof of financial responsibility until the person acquiring ownership, possession or operation of the landfill establishes the required proof of financial responsibility with the Department;

(b) Responsibility for the continuance of monitoring, maintenance, and correction of deficiencies or problems;

(c) Mineral rights attached to the property and the rights to any recoverable materials that may be buried on the property or landfill gases that may be produced. A Department permit shall be required if any on-site operations subsequent to closing of a landfill involve disturbing the landfill.

(5) Transfer of Permit. Transfer of landfill permit shall be in accordance with the provisions of Chapter 17-4.120 Fla. Admin. Code and this rule.

(6) Replacement of monitoring devices. If a monitoring well or other device required by the monitoring plan is destroyed or fails to operate for any reason, the landfill owner or operator shall, immediately upon discovery, notify the Department in writing. All inoperative monitoring devices shall be replaced with functioning devices within 60 days of the discovery of the malfunctioning unit unless the landfill owner or operator is notified otherwise in writing by the Department.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Formerly 17-7.075.

17-701.076 Financial Responsibility.

(1) Cost estimates.

(a) For the purpose of determining the amount of proof of financial responsibility that is required in subsection 17-701.076(3) the owner or operator shall estimate the total cost of closure for the time period in the landfill operation when the extent and manner of its operation make closing most expensive, and shall estimate the annual cost of long-term care and submit the estimate together with all necessary justification for approval to the Department. The costs shall be based on a third party performing the work, reported on a per unit basis. The source of estimates shall be indicated;

(b) Closing costs shall be based on the nature and characteristics of the wastes disposed of at the site and shall include estimated costs of cover material, topsoil, seeding, fertilizing, mulching and labor;

(c) Long-term care costs shall include land surface care, gas monitoring, leachate pumping, transportation, monitoring and treatment; and groundwater monitoring, collection and analysis.

17-701.075(4) -- 17-701.076(1)(c)

(2) Government owned landfills. After July 1, 1985, federal, state, county, or municipal governments or special districts which own a landfill shall provide the department with a plan or documentation of how they will finance the closure of the facility. The plan or documentation shall be submitted with the initial construction permit application. For existing, but not closed landfills, it shall be submitted by July 1, 1986.

(3) Non-government owned landfills. After July 1, 1985, any person applying for a permit to construct a new landfill which is not owned by federal, state, county or municipal government or special districts, shall obtain and submit proof of financial responsibility 60 days prior to acceptance of solid waste as a condition of the permit. Owners or operators of existing but not closed landfills shall submit proof of financial responsibility to the Department, by July 1, 1986. Proof of financial responsibility shall be submitted on forms provided by the Department in accordance with the requirements of this Section 17-701.076, F.A.C.

(a) 40 CFR Part 264 Subpart H which contains EPA's rules on financial requirements for owners and operators of hazardous waste facilities are hereby adopted as financial requirements for purposes of this rule and incorporated by reference as those rules appear in 40 CFR 264 revised as of July 1, 1984, except:

(b) the following sections of 40 CFR Part 264 Subpart H are specifically not adopted as part of this rule:

1. 264.140; 264.141(a); 264.141(e); 264.143(f); 264.145(f); 264.147; 264.149; 264.150; and 264.151(f)(g)(h)(i) and (j).

2. All references to 40 CFR Part 265.

3. All references to sections or subparts of 40 CFR 264 not contained in Subpart H.

4. All references to EPA Regions.

5. All references to RCRA, Section 3008 of RCRA, or RCRA permits.

(c) References in 40 CFR 264 Subpart H to the United States Environmental Protection Agency or to EPA shall mean the State of Florida Department of Environmental Regulation; to Regional Administrator shall mean the Secretary of DER; to EPA identification number shall mean the DER Identification Number; to hazardous waste shall mean solid waste; and to hazardous waste treatment, storage or disposal facilities shall mean landfills.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Formerly 17-7.076.

17-701.077 Permit Application Requirements.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Transferred to 17-701.030(M3), 12-10-85.

17-701.076(2) -- 17-701.077

17-701.078 Approval of Alternative Procedures and Requirements.

(1) The owner or operator of a landfill subject to the provisions of Sections 17-701.030 and 17-701.050 through 17-701.030(3) may request in writing a determination by the Secretary that a requirement shall not apply to such landfill, and shall request approval of alternate procedures or requirements.

(2) The request shall set forth at a minimum the following information:

- (a) Specific landfill for which an exception is sought;
 - (b) The specific provisions of Sections 17-701.030 through 17-701.030(3) from which an exception is sought;
 - (c) The basis for the exception, including but not limited to the hardship which would result from compliance with the established provision;
 - (d) The alternate procedure or requirement for which approval is sought and a demonstration that the alternate procedure or requirement provides an equal degree of protection for the public and the environment;
 - (e) A demonstration of the effectiveness of the proposed alternate procedure.
- (3) The Secretary shall specify by order each alternate procedure or requirement approved for an individual landfill in accordance with this section or shall issue an order denying the request for such approval. The Department's order shall be final agency action, reviewable in accordance with section 120.57, Florida Statutes.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Amended 12-10-85; Formerly 17-7.078.

17-701.080 Supervision and Inspection.

(1) Supervision of the operation shall be the responsibility of a qualified person experienced in the operation of a resource recovery and management facility.

(2) Routine inspections and evaluations of facility operations shall be made by the Department. A notice of deficiencies, with recommendations for their correction, shall be provided to the person responsible for the operation.

(3) Inspection of a completed sanitary landfill shall be made by the Department before the earthmoving equipment is removed from the site. Any corrective work shall be performed before the landfill project is accepted by the Department as completed. Arrangements shall be made for the repair or restoration of the final cover as required for at least two years following completion.

Specific Authority: 403.061, F.S.
Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713, F.S., Chapter 74-342.

History: Transferred from 10D-12.07, 10-1-74; Previously Numbered as 17-7.08; Formerly 17-7.080.

17-701.090 Volume Reduction Plants.

(1) Permits shall be required for all volume reduction plants as defined in Section 17-701.020(59).

17-701.078 -- 17-701.090(1)

(2) Volume reduction plants shall be designed and operated to meet all applicable rules of the Department including Chapters 17-2 and 17-3, F.A.C., and shall be reviewed for permitting based on the receipt of comprehensive data on the process and its relative potential as a pollution source.

(3) All volume reduction plants shall provide a suitable system for the collection and treatment necessary to meet water quality standards of all leachate and other liquid wastes such as wash-down water produced as a result of the operation of such a facility.

(4) Volume reduction plants shall be designed so as to divert surface water away from all open storage areas.

(5) Alternate or sufficient overcapacity waste handling capability for proper disposal of solid waste shall be provided in the event of diminished operational quality or overloads due to breakdowns or natural disasters.

(6) Volume reduction plants shall be operated so as to handle solid wastes on a first-in, first-out basis. At no time shall any stored solid waste be allowed to remain unprocessed for more than forty-eight (48) hours unless adequate provisions are made to control flies, rodents and odors.

(7) Adequate fire control facilities shall be provided at all volume reduction plants.

(8) All solid waste storage areas in the volume reduction plant shall be maintained and cleaned at the end of each day's operations or during continuous operation, as necessary, to prevent fly, rodent and other vector problems. All milling equipment must be designed and maintained to control spillage and to achieve the required milled product quality.

(9) All solid waste, recovered materials or residues handled at a volume reduction plant, shall be stored in a manner so as not to constitute a fire or safety hazard or a sanitary nuisance, and shall comply with all applicable local and state regulations.

(10) Recovered resources resulting from such facilities and which may be offered for sale shall comply with applicable regulations of all appropriate State agencies.

(11) Experimental methods and operations will be reviewed by the Department for a permit based on purpose and design effectiveness.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 10-1-74; Amended 5-24-79; Previously Numbered as 17-7.09; Formerly 17-7.090.

17-701.091 Transfer Stations.

(1) Transfer stations shall not be constructed or operated without a permit.

(2) The transfer station shall be provided with operational appurtenances necessary to maintain a clean and orderly operation. These minimum features are:

17-701.090(2) -- 17-701.091(2)

(a) An effective barrier designed to prevent unauthorized entry and dumping into the transfer station.

(b) Fire protection and fire fighting equipment to insure the safety of employees, and provisions to deal with accidental burning of solid waste within the transfer station.

(c) Communication facilities for use in emergencies.

(d) The transfer station operator shall keep accurate records of materials handled at the station. Such records shall include weights or volumes of waste handled in a manner and form approved by the department. Accurate records shall be kept for operational control and resource recovery planning. The records shall be open for inspection by department representatives, health inspectors and other authorized regulatory and enforcement agencies during normal business hours.

(e) The transfer station shall be properly staffed to deal with all aspects of the station operation and to insure that health, fire or safety problems are not inflicted upon or caused by the public.

(f) Transfer stations shall be operated and maintained to comply with all applicable regulations. Proper operation shall include unloading of wastes to prevent them from becoming a hazard or nuisance; cleaning of all loose materials or litter daily or on a cleaning schedule approved by the department; removal of all solid wastes every 48 hours or in accordance with an approved schedule.

(g) Salvaging in a controlled manner is allowed provided it does not interfere with other aspects of the transfer station operation. Uncontrolled scavenging is prohibited.

(h) Equipment sufficient for operational needs.

(i) The department recommends but does not require:

1. a potable water supply
2. a suitable employee shelter
3. hand washing and toilet facilities
4. equipment washout facilities
5. electric service for operations and repairs
6. equipment shelter for maintenance and storage of parts, equipment and tools.
7. emergency first aid equipment to provide adequate treatment of an injured person in case of an accident.
8. that employees be trained in the proper and safe operation of all equipment and first aid procedures.

(3) Subsection 17-701.091(1) and (2) shall not apply to commercially available standard roll-off containers or similar wheeled containers which are provided to serve as a community or multi-residence receptacles for residential refuse, nor do they apply to storage receptacles for commercial solid wastes or containers used to store salvage materials.

Specific Authority: 403.061, 403.7044, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 5-24-79; Formerly 17-7.091.

17-701.091(2)(Xa) -- 17-701.091 (History)

17-701.120 Notification of Disposal Activity.

(1) Applicability.

This section shall apply to persons disposing of solid waste resulting from their own activities on their own property. All such persons shall file written notification of their disposal activities to the department on forms prescribed by the department.

(2) Exemptions.

(a) The following persons shall be exempt from the notification requirements of this section:

1. Persons who dispose of only residential solid waste.
2. Persons who dispose of solid wastes resulting solely from normal farming operations.
3. Persons who dispose of solid waste limited solely to construction and demolition debris.
4. Persons whose activities are sources exempt from permit requirements pursuant to Florida Administrative Code Rule 17-4.040 and 17-28.700(4)(c).
5. Persons whose activities are exempt from the groundwater monitoring requirements of Florida Administrative Code Rule 17-28.700(6)(k).

(b) The following persons may submit a certification of their status, as prescribed in the notification form, in lieu of completion of the notification form:

1. Persons who have submitted complete groundwater monitoring plans for solid waste disposal sites prepared pursuant to Florida Administrative Code Rule 17-28.700(6)(c). Upon review of the monitoring plan, the department may require the submittal of any additional information necessary to meet the requirements of Florida Administrative Code Rule 17-701.120(4).
2. Persons whose solid waste disposal activities are currently performed subject to valid department permits or certifications.

(3) Notification Submission.

(a) Persons subject to the requirements of this section shall notify the department of their solid waste disposal activity according to the following schedule:

1. For persons located within the geographic areas of the Tampa Bay Regional Planning Council, the South Florida Regional Planning Council, the Northeast Florida Regional Planning Council and the East Central Florida Regional Planning Council and Volusia County by July 1, 1985.

2. For persons located within the geographic areas of the Treasure Coast Regional Planning Council, the Southwest Florida Regional Council, and the Central Florida Regional Planning Council by December 31, 1985.

3. For persons located within the geographic area of the Apalachee Regional Planning Council, the North Central Florida Regional Planning Council, and the Withlacoochee Regional Planning Council, and Jefferson County by December 31, 1986.

(b) Persons initiating new disposal activity shall notify the department within 10 days after beginning disposal.

17-701.120 -- 17-701.120(3)(b)

(c) Any person who, subsequent to notification, modifies the type of waste disposed, the location of disposal or the management practice used to control disposal shall notify the department of the modification within 10 days after beginning the modified disposal activity.

(4) Notification Information Requirements.

Persons required to notify the department of solid waste disposal activity shall provide the following information on forms prescribed by the department:

- A description of the location of the property used for solid waste disposal.
- A list of the types of solid waste that are being disposed of.
- An estimate of the annual quantity of each type of solid waste disposed of.
- A description of the size and location of each disposal area on the property.
- A description of the disposal processes and operating procedures used to manage the disposal of solid waste.
- A description of the status of groundwater monitoring at the site.
- Evaluation of Notification Information.
 - The department will evaluate the information provided on the notification forms. The department may perform inspections at a disposal facility to determine whether the solid wastes disposed are managed consistent with the notification information provided to the department.
 - If the department determines that the solid waste disposal activity at a disposal facility:
 - creates a public nuisance or any condition adversely affecting the environment or public health; or
 - violates other state or local laws, ordinances, rules, regulations or orders; then the department shall require the owner or operator of the disposal facility to obtain a solid waste permit or to otherwise correct these conditions or violations.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.707, F.S.
History: New 6-13-84; Amended 4-25-85; Previously Numbered as 17-7.12; Formerly 17-7.120.

17-701.130 Forms. The forms and instructions used by the Department in the Solid Waste Management Program are adopted and incorporated by reference in this section. The forms are listed by rule number, which is also the form number, and with the subject title and effective date. Copies of forms may be obtained by writing to the Director, Division of Environmental Permitting, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32301.

- Application for Permit to Construct/Operate a Solid Waste Resource Recovery and Management Facility, December 10, 1985.
- Application to Operate Only Resource Recovery and Management Facility - Certification of Construction Completion, November 30, 1982.

17-701.130(c) -- 17-701.130(2)

(3) Application for: Preliminary Examination/Final Examination and Certification of Resource Recovery Equipment, November 30, 1982.

(4) Land Application Field Package for Grade I Sludges, June 16, 1984.

(5) General Permit Application for Grade II Sludges, June 16, 1984.

(6) Solid Waste Disposal Notification Form, October 1, 1984.

(7) Application for Registration Used Oil Collection and Recycling Facilities and Transporters, February 25, 1985.

(8) Annual Report by Used Oil Facilities and Transporters, February 25, 1985.

(9) Used Oil Recordkeeping Form, February 25, 1985.

(10) Application for Permit to Close a Solid Waste Resource Recovery and Management Facility, July 1, 1985.

(11) Solid Waste Facility Trust Fund Agreement to Demonstrate Closure and/or Post-Closure Financial Assurance, Solid Waste Facility Standby Trust Fund Agreement, Solid Waste Facility Irrevocable Letter of Credit, Solid Waste Facility Closure/Post-Closure Insurance Certificate, Solid Waste Facility Financial Guarantee Bond, Solid Waste Facility Performance Bond, July 1, 1985.

Specific Authority: 120.53(1), 403.061, F.S.

Law Implemented: 120.53(1), 120.55, 403.0875, F.S.

History: New 11-30-82; Amended 6-16-84, 9-12-84, 2-25-85, 7-1-85; Formerly 17-1.206 and Amended 12-10-85; Formerly 17-7.130.

17-701.801 General Permit for Solid Waste Transfer Station.

(1) A general permit is hereby granted to any person for the construction and operation of a solid waste transfer station that has been designed or will be operated in accordance with the standards and criteria set forth in Fla. Admin. Code Rule 17-701.091.

(2) This general permit is subject to the general conditions of Rule 17-4.540 and the following specific conditions:

- Within thirty (30) days of completion of construction, the engineer of record shall certify to the Department that the permitted construction is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.
 - Monthly operating reports shall be filed with the Department and the local pollution control office, where applicable, which contain information on the volume, type and frequencies of waste being received. Reports shall be submitted no later than the fifteenth day of the succeeding month.
 - No hazardous or infectious waste shall be accepted at the transfer station.
 - This general permit does not relieve the permittee of the responsibility for obtaining a dredge and fill permit where it is required.
- Specific Authority: 403.814(1), F.S.
Law Implemented: 403.061, 403.087, 403.088, 403.702-403.73, 403.814, F.S.
History: New 7-8-82. Previously numbered as 17-4.61. Formerly 17-4.610. Formerly 17-7.801.

17-701.130(3) -- 17-701.801 (History)

17-701.802 General Permit for Land Application of Grade II Domestic Wastewater Treatment Sludge.

(1) As a result of the potential harm to human health or the environment resulting from sludge disposal activities, it is important that public notice be given before a general permit for such activities is utilized. Therefore, a general permit is hereby granted to any person for land application of Grade II domestic wastewater treatment sludge; provided:

(a) The person intending to apply the sludge to the land submits a completed General Permit Application for Grade II Sludges, as specified in Fla. Admin. Code Rule 17-701.060.

(b) The permit applicant, within 14 days of notice to the department, has published in a newspaper of general circulation in the area affected, a notice of the intended land application of Grade II sludge. The notice shall include the name of the applicant and a brief description of the proposed activity and location.

(c) The sludge is land applied pursuant to the requirements of Fla. Admin. Code Rule 17-7.540(5).

(2) The general permit shall be subject to the general conditions of Fla. Admin. Code Rule 17-4.540.

Specific Authority: 403.814, F.S.

Law Implemented: 403.061, 403.087, 403.702, through 403.715, 403.814, F.S.
History: New 6-16-84. Previously numbered as 17-4.64. Formerly 17-4.640, Formerly 17-7.802.

17-701.803 General Permit for Off-site Disposal of Construction and Demolition Debris.

(1) The owner or operator of the construction and demolition debris disposal facility shall notify the Department in writing on form 17-701.900(1) of the facility location, size in acres, general description of the facility operations, planned active life of the facility and the mailing address and phone number of the owner and operator. Owners and operators of Solid Waste Facilities which have a permit under Rule 17-701, F.A.C. to receive construction and demolition debris are exempt from this requirements.

(2) The owner or operator of the disposal facility shall certify in writing to the Department that the owner or operator will operate the disposal facility in accordance with the requirements of this section and that they either own the land or have legal authorization from the land owner to use the land for a disposal facility.

(3) The disposal facility is exempt from the requirements of Rule 17-701.050 and 17-701.070 through 17-701.076, F.A.C., provided that none of the Prohibitions contained in Rule 17-701.040, F.A.C., or the water quality standards contained in Chapters 17-3 and 17-28, F.A.C., shall be violated.

(4) Stormwater shall be controlled in accordance with Chapter 17-25, F.A.C., and any water management district rules.

17-701.802 -- 17-701.803(4)

(5) The disposal facility shall have equipment for temporary storage and transport for solid waste, other than construction and demolition debris, to an authorized disposal facility. Such solid waste which is accepted by the facility shall be segregated and disposed of in accordance with Department rules.

(6) Construction and demolition debris shall be compacted as necessary to assure that the requirements of section (9) below can be met.

(7) Access to the disposal facility shall be controlled during the active life of the facility by fencing or other effective barriers to prevent disposal of solid waste other than construction and demolition debris.

(8) Operation of a facility under a general permit constitutes consent for Department personnel to inspect the site during normal business hours for compliance with Department rules.

(9) Final cover and seeding or planting of vegetative cover shall be placed on each disposal unit within 180 days after final receipt of wastes. Final cover shall consist of a 24-inch-thick soil layer, the upper six inches of which shall be capable of supporting vegetation and shall be graded to eliminate ponding, promote drainage, and minimize erosion.

(10) The owner or operator shall notify the Department within 30 days after closing, covering, and seeding the facility as required in (9) above.

Specific Authority: 403.061, 403.704, 403.707, 403.814, F.S.

Law Implemented: 403.707, 403.814, F.S.

History: New 8-2-89.

17-701.900 Forms

The forms used by the Department in the Solid Waste Management Program are adopted and incorporated by reference in this section. The form is listed by rule number, which is also the form number, and with the subject, title and effective date. Copies of forms may be obtained by writing to the:

Department of Environmental Regulation

Solid Waste Section

Tallahassee, Florida 32399-2400

(1) DER form 17-701.900(1), Notification of a General Construction and Demolition Debris Solid Waste Management Facility, August 1, 1989.

Specific Authority: 120.53(1), 403.061, 403.704, F.S.

Law Implemented: 120.53(1), 403.707, F.S.

History: New 8-2-89.

17-701.803(5) -- 17-701.900 (History)

Solid Waste Management Facilities
Chapter 17-701, F.A.C.
Department of Environmental Regulation
Effective 07/19/1990

CHAPTER 17-701

SOLID WASTE MANAGEMENT FACILITIES

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- 17-701.803 General Permit for Off-Site Disposal of Construction and Demolition Debris.
- 17-701.900 Forms.

effective 7-19-1990

17-701.001 Declaration and Intent.

It is the intention of the Environmental Regulation Commission that the Department of Environmental Regulation encourage, in all appropriate ways, reclamation processes which will reclaim waste material for beneficial uses.

The Florida Department of Environmental Regulation finds and declares that improper disposal of solid waste and use of open dumps as a means of final disposal results in or contributes to air pollution, water pollution, and land blight. The Department further finds that proper methods of disposal of solid waste will reduce air pollution, water pollution and the use of the land as an uncontrolled receptacle for improperly treated waste. The Department further finds that properly designed, operated and monitored disposal of solid waste enhances the environment.

It is the intent of the Department to require that solid waste disposal be conducted in a manner and under conditions which will reduce the waste of recoverable resources and eliminate the dangerous and deleterious effects of improper solid waste disposal upon air quality, water quality, and human health, safety and welfare.

The purpose of this rule is to implement the provisions of the Florida Resource Recovery and Management Act, which directs the Department to plan for and regulate the storage, collection, transportation, separation, processing, recycling and disposal of solid waste in order to protect the public safety, health and welfare, to enhance the environment for the people of the state, and to recover resources which have the potential for further use, and to assure that the final irreducible residue is disposed of in a manner which enhances the environment.

The Department shall establish, maintain and promote a cooperative state program of planning and technical assistance for solid waste management; encourage and require counties and municipalities to plan for and provide efficient, environmentally acceptable solid waste management; review the design of and issue permits for construction and operation and closure of solid waste and management facilities; and promote recovery of materials from solid waste to preserve and enhance the quality of air, water and land resources.

Pursuant to Sections 403.061 and Sections 403.701 through 403.715, Florida Statutes, the execution and enforcement of any section regarding actual or potential pollution of air or waters is under the jurisdiction of the Department of Environmental Regulation. Chapter 17-701, F.A.C. replaces all applicable sections of Chapter 10 D-12 F.A.C.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.701 through 403.8055, F.S.

History: New 10-1-74; Amended 5-24-79; Previously Numbered as 17-7.01; Formerly 17-7.001, Amended 6-25-90.

17-701.001 -- 17-701.001(History)

17-701.020 Definitions.

The following words, phrases or terms as used in this Chapter, and in Chapters 17-702 through 17-729, F.A.C., unless the context indicates otherwise, shall have the following meaning:

(1) "Agricultural Wastes" means the solid wastes resulting from the rearing and slaughtering of animals and the processing of animal products, orchard and field crops which are stored, transported or disposed of as an unwanted waste material.

(2) "ASTM" means the American Society for Testing and Materials.

(3) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells, springs or surface water.

(4) "Available Market" means any person, user or enterprise, willing to enter into a long-term contract or agreement to purchase materials or energy recovered from solid waste.

(5) "Base Flood" means a flood that has a 1% or greater chance of recurring in any year, or a flood of a magnitude equalled or exceeded once in 100 years on the average over a long period. In any given 100 year interval such a flood may not occur, or more than one such flood may occur.

(6) "Biohazardous waste" has the meaning given it in Chapter 17-712, F.A.C.

(7) "Biological waste" has the meaning given it in Chapter 17-712, F.A.C.

(8) "Bulky Wastes" means items whose large size or weight precludes or complicates their handling by normal collection, processing, or disposal methods.

(9) "Cell" means a volume of solid waste received since the last previous application of initial cover. The compacted waste and subsequent initial cover constitute a cell and usually contain wastes deposited in one day.

(10) "Clean debris" means any solid waste which is virtually inert, which is not a pollution threat to ground water or surface waters, is not a fire hazard, and is likely to retain its physical and chemical structure under expected conditions of disposal or use. The term includes brick, glass, ceramics, and uncontaminated concrete including embedded pipe or steel.

(11) "Closing" means the time at which a solid waste management facility ceases to accept wastes, and includes those actions taken by the owner or operator of the facility to prepare the facility for any necessary monitoring and maintenance after closing.

(12) "Closure" means the cessation of operation of a solid waste management facility and the act of securing such a facility so that it will pose no significant threat to human health or the environment. This includes closing, long term monitoring, maintenance and financial responsibility.

(13) "Closure Plan" means written reports and engineering plans detailing those actions that will be taken by the owner or operator of a solid waste management facility to effect proper closure of that facility.

(14) "cm/sec" means centimeters per second.

(15) "Composite liner" means a liner comprised of both a flexible membrane liner and a soil component.

17-701.020 -- 17-701.020(15)

(16) "Construction and demolition debris" means materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt roofing material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project or from the renovation or maintenance of a structure. The term includes rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project. Mixing of construction and demolition debris with other types of solid waste, including material which is not from the actual construction or destruction of a structure, will cause it to be classified as other than construction and demolition debris.

(17) "Controlled Burning" means forced draft burning used for the combustion of solid waste with control of combustion air to maintain adequate temperature for efficient combustion, containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and control of the emission of combustion products.

(18) "Department" means the State of Florida Department of Environmental Regulation.

(19) "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or upon any land or water so that such solid waste or hazardous waste or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including groundwaters, or otherwise enter the environment.

(20) "Energy Recovery" means the conversion of solid waste into energy or a marketable fuel.

(21) "Final Cover" means the material used to cover the top and sides of a landfill when fill operations cease.

(22) "Garbage" means all kitchen and table food waste, animal or vegetative waste that is attendant with or results from the storage, preparation, cooking or handling of food materials.

(23) "Generation" means the act or process of producing solid or hazardous waste marketable fuel.

(24) "Ground water" means water beneath the surface of the ground, whether or not it is flowing through known and definite channels.

(25) "Hazardous waste" means a solid waste identified by the Department as a hazardous waste in Florida Administrative Code Rule 17-730.

17-701.020(14) -- 17-701.020(24)

(26) "Implement" means to carry out, accomplish, give practical effect to and ensure actual fulfillment by concrete means or by providing instruments or means of accomplishment.

(27) "Implementation Schedule" means a timetable for carrying out a local plan.

(28) "Initial Cover" means a 6-inch layer of compacted earth, or other suitable material as approved by the Department, used to enclose a volume of solid waste prior to intermediate or final cover.

(29) "Intermediate Cover" means a layer of compacted earth one foot in depth applied to a solid waste disposal unit.

(30) "Landfill" or "Sanitary Landfill" means a solid waste disposal facility, excluding those exempted under Subsection 17-701.030(3), of this rule, which meets the criteria of Chapter 17-701 Florida Administrative Code. This term shall not include:

(a) a land spreading site; or

(b) a surface impoundment; or

(c) an injection well defined under and subject to the provisions of Chapter 17-28, Florida Administrative Code.

(31) "Leachate" means liquid that has passed through or emerged from solid waste and may contain soluble, suspended or miscible materials.

(32) "Lift" means a completed horizontal series of cells.

(33) "Liner" means a continuous layer of low permeability natural or man-made materials, beneath or on the sides of a landfill, or landfill trench, which controls the downward or lateral escape of waste constituents, or leachate.

(34) "Local Agency" means any special district, authority, a county, a municipality, or any other political subdivision.

(35) "Materials Recovery" means any process by which one or more of the various components in solid waste was separated, concentrated, and reused.

(36) "Milled Refuse" means refuse that has been mechanically ground, shredded or pulverized.

(37) "Monitoring Wells" are strategically located wells from which water samples are drawn for water quality analysis.

17-701.020(26) -- 17-701.020(37)

(38) "Normal farming operations" means the customary and generally accepted activities, practices and procedures that farmers adopt, use or engage in during the production and preparation for market of poultry, livestock, and associated farm products; and in the production, harvesting or packaging of agricultural crops which include agronomic, horticultural, and silvicultural crops. Included is the management, collection, storage, composting, transportation and utilization of organic agricultural waste, manure, and wastes solely derived from agricultural crops.

(39) "On-site" means on the same or geographically contiguous property which may be divided by a public or private right-of-way.

(40) "Open Burning" means the burning of any material under such conditions that the products of combustion are emitted directly into the open atmosphere.

(41) "Open Dump" means a site for the disposal of solid waste which does not comply with the criteria of Chapter 17-701, F.A.C.

(42) "Person" means any and all persons, natural or artificial, including any individual, firm, or association; any municipal or private corporation organized or existing under the laws of Florida or any other state; any county of this state; and any governmental agency of this state or the Federal Government.

(43) "Planning Area" means the area defined by a local agency or agencies for solid waste management and resource recovery management planning.

(44) "Processing" means any technique designed to change the physical, chemical, or biological character or composition of any solid waste so as to render it safe for transport; amenable to recovery, storage or recycling; safe for disposal; or reduced in volume or concentration.

(45) "Promiscuous Dump" means an unauthorized site where indiscriminate deposits of solid waste are made.

(46) "Recovered materials" means those materials which have known recycling potential, can be feasibly recycled, and have been diverted or removed from the solid waste stream for sale, use, or reuse, by separation, collection, or processing.

(47) "Recyclable material" means those materials which are capable of being recycled and which would otherwise be processed or disposed of as solid waste.

(48) "Recycling" means any process by which solid waste, or materials which would otherwise become solid waste, are collected, separated, or processed and reused or returned to use in the form of raw materials or products.

(49) "Regional authority" means one or more public agencies joined together by inter-local agreements for a stated period of time or by special Act of the Legislature, to assume the responsibility for solid waste management.

(50) "Residential waste" means a mixture of garbage and trash resulting from the normal housekeeping activities of a residential unit.

(51) "Resource Recovery" means the process of recovering materials or energy from solid waste, excluding those under control of the Nuclear Regulatory Commission.

17-701.020(38) -- 17-701.020(51)

(52) "Rural Containerized Collection System" means a collection system which involves mechanically serviceable containers, strategically located throughout an area, the contents of which are picked up on a regular schedule by a truck and their contents delivered to a transfer station or solid waste processing or disposal facility.

(53) "Sanitary Nuisance" means a condition created by any person, or the keeping, maintaining, propagation, existence, or permitting of anything by a person by which the health or lives of individuals may be threatened or impaired, or by which disease may be caused or transmitted.

(54) "Shallow Water Supply Well" means any potable water well which pumps water from an unconfined water table aquifer.

(55) "Shredding" means a process of reducing the particle size of solid waste through the use of grinding, shredding, milling or rasping machines.

(56) "Site" means the area of land or water within the property boundaries of a solid waste management facility where one or more solid waste processing, resource recovery, recycling, storage or disposal areas are located.

(57) "Solid Waste" means garbage, refuse, yard trash, clean debris, white goods, special waste, ashes, sludge, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations. Materials not regulated as solid wastes pursuant to this Chapter are: nuclear source or byproduct materials regulated under Chapter 404, F.S., or under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.

(58) "Solid waste disposal facility" means any solid waste management facility which is the final resting place for solid waste, including landfills and incineration facilities that produce ash from the process of incinerating municipal solid waste.

(59) "Solid waste disposal unit" means a discrete area of land used for the disposal of solid waste, consisting of one or more cells.

(60) "Solid waste management" means the process by which solid waste is collected, transported, stored, separated, processed, or disposed of in any other way, according to an orderly, purposeful, and planned program.

(61) "Solid waste management facility" means any solid waste disposal area, volume reduction plant, transfer station, or other facility, the purpose of which is resource recovery or the disposal, recycling, processing, or storage of solid waste. The term does not include facilities which use or ship recovered materials unless such facilities are managing solid waste.

(62) "Source Separation" means the setting aside of separated recyclable waste materials at their point of generation (household or commercial) by the generator.

(63) "Special Wastes" means solid wastes that can require special handling and management. They include but are not limited to, white goods, whole tires, used oil, mattresses, furniture, lead-acid batteries, and biological wastes.

17-701.020(51) -- 17-701.020(63)

(64) "Stabilized" means that biological and chemical decomposition of the wastes has ceased or diminished to a level so that such decomposition no longer poses a pollution, health, or safety hazard.

(65) "State Program" means the Solid Waste and Management Program described in Sections 403.705 and 403.706, F.S., and this rule.

(66) "Ton" means a short ton, 2,000 pounds (.9078 metric tons).

(67) "Transfer Station" means a site the primary purpose of which is to store or hold solid waste for transport to a processing or disposal facility. It does not include green boxes, compactor units, permanent dumpsters, and other containers from which such wastes are transported to a landfill or other solid waste management facility.

(68) "Trash" means combinations of yard trash and construction and demolition debris along with other debris such as paper, cardboard, cloth, glass, street sweepings, plastics and other like matter.

(69) "Used oil" has the meaning given it in Chapter 17-710, F.A.C.

(70) "Vector" means a carrier organism that is capable of transmitting a pathogen from one organism to another.

(71) "Volume Reduction Plant" means incinerators, pulverizers, compactors, shredding and baling plants, composting plants and other plants which accept and process solid waste for recycling or disposal.

(72) "Waste tire" has the meaning given it in Chapter 17-711, F.A.C.

(73) "White Goods" means inoperative and discarded refrigerators, ranges, washers, water heaters, freezers, and other similar domestic and commercial large appliances.

(74) "Working Face" means that portion of a sanitary landfill where waste is discharged, spread and compacted prior to placement of initial cover.

(75) "Yard Trash" means vegetative matter resulting from landscaping maintenance or land clearing operations and includes materials such as tree and shrub trimmings, grass clippings, palm fronds, trees and tree stumps.

(76) "Clean debris" means any solid waste which is virtually inert and which is not a pollution threat to ground water or surface waters and is not a fire hazard, and which is likely to retain its physical and chemical structure under expected conditions of disposal or use. The term includes brick, glass, ceramics and uncontaminated concrete including embedded pipe or steel. Mixing of clean debris with other types of solid waste will cause it to be classified as other than clean debris. Clean debris which is disposed of shall be considered construction and demolition debris.

(77) "Existing unit" means any solid waste disposal unit that is receiving solid waste and has not received final cover.

(78) "Facility" means all contiguous land and structures, other appurtenances and improvements on the land used for solid waste management.

17-701.020(64) -- 17-701.020(78)

(79) "Fill" means man-made deposits of earth or waste materials used to fill excavations, to increase the vertical or horizontal extent of land or solid waste disposal units or to build embankments.

(80) "Off-site" means any location which is not on the property where the waste is generated.

(81) "Solid waste disposal unit" means a discrete area of land used for the disposal of solid waste.

All other definitions found in Chapter 403, F.S., and Chapter 17-701, F.A.C., to the extent that they are consistent with the definitions of this Chapter, are applicable to the terms used in this Chapter.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.8055, F.S.

History: Transferred from 10D-12.02, 10-1-74; Revised 7-20-76; Amended 5-24-79, 6-13-84, 4-25-85, 7-1-85; Previously Numbered as 17-7.02; Amended 12-10-85; Formerly 17-7.020; Amended 8-2-89, 6-25-90.

17-701.030 Solid Waste Management Permit Requirements.

(1) Permit Requirements. No solid waste and management facility or site shall be operated, maintained, constructed, expanded, modified, or closed without an appropriate and currently valid permit issued by the Department.

(2) When determining whether the applicant has provided reasonable assurances that Department standards will be met, the Department shall, pursuant to the provisions of Rule 17-4.070(5), F.A.C., consider repeated violations of applicable statutes, rules, orders or permit conditions caused by a permit applicant, relating to the operation of any solid waste management facility in this state for which the applicant is deemed to be responsible. For purposes of this paragraph, the following words have the following definitions:

1. "Applicant" means the owner or operator of the facility in this state which includes a business entity, a parent of a subsidiary corporation, a partner, a corporate officer or director, or a stockholder holding more than 50 percent of the corporate stock.

2. "Responsible" means that an applicant owned or operated a solid waste management facility in this state, including transportation equipment or mobile processing equipment, which was subject to a Department notice of violation, judicial action initiated by the Department, or criminal prosecution for violations of Chapter 403 or the rules promulgated thereunder.

(3) Exemptions. No permit under this section shall be required for the following activities provided that no public nuisance or any condition adversely affecting the environmental or public health, is created and provided that the activity does not violate other state or local laws, ordinances, rules, regulations or orders:

(a) Disposal by persons of solid waste resulting from their own activities on their own property, provided such waste is either from their residential property or is rocks, soils, trees, tree remains and other vegetative matter which normally results from land development operations.

(b) Disposal by persons of solid waste resulting from their own activities on their property, provided the environmental effects of such disposal on ground water and surface waters are:

1. Addressed or authorized by a site certification issued under Chapter 403, Part II, F.S., Electrical Power Plant Siting;
 2. Addressed or authorized by a permit issued by the Department, including solid waste management permits or other environmental permits modified to include conditions for proper disposal; or
 3. Addressed or authorized by, or specifically exempted from the requirement to obtain, a ground water monitoring plan approved by the Department;
- (c) On-site disposal of construction and demolition debris, provided that disposal conforms to Rule 17-701.061(3), F.A.C.;
 - (d) Clean debris which is used as fill material;
 - (e) Normal farming operations;
 - (f) Storage of solid waste in containers on property which is owned, rented or leased by the persons who generated the waste from their own activities which occurred on the property;
 - (g) Disposal by persons of solid waste resulting from their own activities on their own property, if that waste disposal occurred before October 1, 1988.
- (4) Permit Application. The person making application for a solid waste management facility permit shall submit to the respective Department district office having jurisdiction where the facility is located a minimum of 6 copies each of a permit application, engineering plans, and all supporting data and reports for the proposed construction, operation, and closure of the facility prepared by a Professional Engineer registered in the State of Florida in accordance with provisions of Chapter 471, F.S. Said Engineer or another qualified Professional Engineer shall be required to make periodic inspections during construction of the facility to ensure that design integrity is maintained. If the person is acting as a public officer employed by the State, a county or a municipality and where that person estimates the initial construction cost is less than ten thousand dollars, this requirement may be waived in accordance with Chapter 471.003(2), F.S. Any law to the contrary notwithstanding, for purposes of this subsection, the construction cost of a solid waste management facility shall not include land acquisition cost or the cost of equipment used to construct and maintain the same.
- (5) Preparation of application. The application for a permit shall be prepared and signed by the applicant on form 17-701.130(1). The application shall include all information necessary for the Department to make an evaluation of the proposed facility to ensure that it will pose no significant threat to public health or the environment. The permit application and supporting information shall include the following:
- (a) A letter of transmittal to the Department;
 - (b) A table of contents listing the main sections of the application;
 - (c) The permit fee specified in Florida Administrative Code Rule 17-4.050 in check or money order payable to the Department;
 - (d) Engineer seal. Data presented in support of the application shall be sealed in accordance with requirements of Section 471.025 F.S. by a registered professional engineer authorized to practice in the State of Florida;

17-701.030(3)(b)1. -- 17-701.030(5)(d)

- (e) Engineer's appointment to act on behalf of the applicant;
 - (f) All construction, operation, closure, and ground water monitoring plans, data, drawings, photographs, and reports to support the application;
 - (g) All maps, plan sheets, drawings, isometrics, cross-sections, or aerial photographs shall be legible and:
 - 1. Signed and sealed by the registered professional engineer responsible for their preparation. Wherever possible drawings should be no larger than 24 by 36 inches, folded to 9x12 inches. Illustrations, tables or drawings reduced in size should be no smaller than 8 1/2 by 11 inches;
 - 2. Of appropriate scale to show clearly all required details;
 - 3. Numbered, referenced to the narrative, titled, have a legend of symbols used, contain horizontal and vertical scales (where applicable), and specify drafting or origination dates;
 - 4. Use uniform scales as much as possible, contain a north arrow, use National Geodetic Vertical Datum (NGVD) as a basis for all elevations.
 - (h) A copy of any lease agreement, transfer of property agreement with right of entry for long-term care, or any other agreement between operator and property owner by which the facility may be affected;
 - (i) Financial documents assigned to the Department which ensure the financial responsibility for the closing and long-term care of the facility.
 - (j) For facilities owned or operated by a County, a description of the proposed recycling facilities or activities, if any, at the site and a description of whether, and the extent to which, the proposed recycling facilities or activities will contribute to the County's achievement of the recycling goals contained in Section 403.706, F.S.
- (6) Notice of Application. An applicant for a permit to construct, expand, or close a solid waste and management facility shall publish and provide proof of publication to the Department, at his own expense, a Notice of Application in a newspaper of general circulation in accordance with Florida Administrative Code Rule 17-103.150.
- (7) Water Management District Report. Upon receipt of a construction permit application for a Class I or Class II landfill the Department shall, within 7 days, provide a copy of the application to the water management district having jurisdiction where the landfill is to be located. The water management district shall prepare an advisory report as to the impact on water resources. This report shall contain the water management district's recommendations about the disposition of the application and shall be submitted to the Department no later than 30 days prior to the deadline for final agency action by the Department.
- (8) Construction, Operation and Closure Permits. The Department, following an evaluation of a permit application and all supporting information, shall:

(a) Issue a construction and operation permit for a new solid waste management facility. After all significant initial construction has been completed and prior to operation or acceptance of any solid waste the engineer or the authorized public officer shall complete an Application to Operate Only Resource Recovery and Management Facility - Certification of Construction Completion, Department Form 17-701.130(2), and contact the Department to arrange for Department representatives to inspect the facility in the company of the permittee, the engineer, and the proposed on-site facility operator. The inspection is to ensure that the facility has been developed in accordance with the approved permit. The facility shall not be operated or accept solid waste until the Department has found that all applicable submissions required for the permit, including financial responsibility documentation have been received and found acceptable; or

(b) Issue an operation permit for new facilities that have been satisfactorily constructed, or to existing facilities which are being operated in accordance with this rule at the time for renewal of their permit; or

(c) Issue a closure permit for closing and long term care of landfills that have satisfied the requirements of Florida Administrative Code Rules 17-701.070 through 17-701.076 and other applicable laws and rules. Permits shall be renewed in accordance with Florida Administrative Code Rule 17-4.070; or

(d) Deny the issuance of a permit if reasonable assurances are not provided that the requirements of Florida Administrative Code Rule 17-701 and other applicable laws and rules will be satisfied.

(9) Time period for construction and operation permits. Landfills are generally long term projects which may be constructed in sections or phases at different time periods throughout the lifetime of the landfill. The Department may approve a permit for construction and operation of the entire facility with permit conditions requiring the permittee to advise the Department when construction is begun on each new section or phase of the landfill and when each section or phase is completed. Permits are issued subject to modification in accordance with Florida Administrative Code Rule 17-4.080.

(10) A copy of the Department approved engineering drawings, plans, reports, operational plan, and supporting information shall be kept at the facility at all times for reference and inspections.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10-D12.03, 10D-12.04, 10D-12.07, 10-1-74; Amended 5-24-79, 6-13-84, 7-1-85; Previously Numbered as 17-7.03; Amended 12-10-85; Formerly 17-7.030, Amended 6-25-90.

17-701.040 Prohibitions.

(1) No solid waste shall be disposed of except by sanitary landfill, incineration, recycling process, or other method approved by the Department and consistent with this chapter and applicable approved local agency programs or regulations.

17-701.030(8)(a) -- 17-701.040(1)

- (2) No solid waste shall be disposed of by being placed:
- (a) in an open sink hole or in an area where geological formations or subterranean features would not provide support for a landfill.
 - (b) in a limestone, or gravel pit.
 - (c) in an area immediately adjacent to or within 500 feet of an existing or approved shallow water supply well unless disposal takes place in a sanitary landfill which was originally permitted before the shallow water supply well was in existence.
 - (d) in a dewatered pit unless permanent leachate containment and special design techniques are used to ensure the integrity of the landfill liner.
 - (e) in an area subject to frequent and periodic flooding unless drainage provisions approved by the Department are installed.
 - (f) in any natural or artificial body of water including ground water.
 - (g) within 200 feet of any natural or artificial body of water, except bodies of water contained completely within the sanitary landfill site, which do not discharge from the site. A person may dispose of solid waste within the 200 foot setback area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards under Chapter 17-3, F.A.C. Stormwater control methods shall meet stormwater requirements of Chapter 17-25, F.A.C. However, nothing contained herein shall prohibit the Department from imposing conditions necessary to assure that solid waste disposed of within the 200 foot setback area will not cause pollution from the site in contravention of Department rules.
 - (h) in any area open to public view from any major thoroughfare without proper screening where it can practically be provided.
 - (i) on the right of way of any public highway, road, or alley.
 - (j) within the boundaries of any airport property whether such airport be for public, private or limited use.
 - (k) within ten thousand (10,000) feet of the closest point of any runway at any airport licensed by the State of Florida, owned or operated by the United States, or subject to regulation by the Federal Aviation Administration which may be used by turbo-jet aircraft; or within five thousand (5,000) feet of any runway at any such airport used only by piston engine type aircraft unless it has been determined by the Federal Aviation Administration, the Florida Department of Transportation, or other appropriate federal or state agency charged with preventing airport hazards, that the proposed solid waste facility poses no safety hazards, that the proposed solid waste facility poses no safety hazard to aircraft in the vicinity.
- (3) Burning of solid waste shall not be permitted at any landfill except in accordance with Florida Administrative Code Rule 17-701.060(1) and (3).

17-701.040(2) -- 17-701.040(3)

(4) Hazardous Waste: Any hazardous waste which is intended to be disposed of by land disposal or incineration and which can be reasonably expected to create a condition harmful to human health or air or water quality shall be at the owner's expense, be rendered non-hazardous prior to delivery to the disposal facility. Should a hazardous waste be of such composition that it cannot be rendered non-hazardous, the producer of such wastes must confer with the Department to determine a safe disposal or storage method and shall dispose of or store the waste by a method which is approved by the department. The approved method shall be determined on a case by case basis and shall be governed by the nature of the hazardous waste and its potential impact on air and water resources and public health, safety and welfare.

(5) Biohazardous waste shall be properly incinerated or processed by an alternate method which has been approved by the Department. No untreated biohazardous waste shall be knowingly deposited in any sanitary landfill.

(6) Transportation and disposal of solid wastes into or through the State, into or across county or municipal boundaries shall not be impeded provided such transport and disposal is in accordance with the provisions of this rule, does not degrade the environment, create a physical or aesthetic nuisance, or endanger or impair the public's health or welfare.

(7) The Department shall not issue a construction permit for a new sanitary landfill within 3,000 ft. of Class I surface waters.

(8) Special wastes. After the dates specified, no person who knows or who should know of the nature of such solid waste shall dispose of the following wastes in any landfill:

(a) Lead-acid batteries, after January 1, 1989.

(b) Used oil, after October 1, 1988, except as provided in Chapter 17-710, F.A.C.;

(c) Yard trash, after January 1, 1992, except in unlined landfills classified by Department rule. Yard trash that is separated from other solid waste at the point of generation may be accepted at a solid waste disposal unit that composts the yard trash, pursuant to Chapter 17-709, F.A.C.

(d) White goods, after January 1, 1990.

(e) Whole waste tires, after July 1, 1989, except as provided in Chapter 17-711, F.A.C.

(9) No person who knows or who should know of the nature of such solid waste shall dispose of lead-acid batteries in any waste-to-energy plant after January 1, 1989. Lead-acid batteries shall be accepted as trade-ins for new lead-acid batteries by all persons who sell these types of batteries at retail;

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.06, 10D-12.07, 10-1-74; Amended 5-24-79, 5-27-82; Previously Numbered as 17-7.04; Amended 12-10-85; Formerly 17-7.040; Amended 6-25-90.

17-701.040(4) -- 17-701.040(History)

07-19-90

17-701.050 Sanitary Landfill Criteria.**(1) Applicability.**

(a) This rule, except for Rule 17-701.050(5)(d)1., F.A.C., shall apply to all new landfill construction permits issued by the Department after December 10, 1985. All permits issued prior to December 10, 1985, which contain conditions not in conformance with this rule shall be submitted to the District Office of the Department which issued the permit for purposes of modification of the permit to conform to this rule. The submission shall occur at least 90 days prior to the initial placement of waste into any solid waste disposal unit after January 1, 1987.

(b) Rule 17-701.050(5)(d)1., F.A.C., shall apply to all new landfill construction permits issued by the Department after August 1, 1990.

(c) All permits issued prior to August 1, 1990, which contain conditions not in conformance with Rule 17-701.050(5)(d)1., F.A.C., shall be submitted to the District Office of the Department which issued the permit for purposes of modification of the permit to conform to this rule. The submission shall occur at least 90 days prior to the initial placement of waste into any solid waste disposal unit for which construction is not completed prior to January 1, 1992, or for which construction is not completed prior to the expiration of the facility's construction or operation permit issued prior to August 1, 1990, whichever is later.

(d) Rule 17-701.050(5)(d)1., F.A.C., shall not apply to any solid waste disposal unit for which construction is completed prior to the later of the dates specified in (c) above. Such solid waste disposal unit may be operated until filled to its permitted or modified design dimensions, which, if such unit is lined, may include any future vertical expansion over the liner.

(e) For purposes of Rule 17-701.050(1), F.A.C., a permit issued prior to August 1, 1990, is deemed to include a completed permit application received by the Department prior to August 1, 1990.

(2) Classification of Sanitary Landfills. Sanitary landfills are classified into three (3) different classes based on the amount and type of wastes received at the landfill. There are varying requirements throughout this rule depending upon the class of landfill.

(a) Class I landfills are those which receive an average of 20 tons or more of solid waste per day as weighed by scale if available, or 50 cubic yards or more of solid waste per day as measured in place after covering. Such sites shall receive an initial cover at the end of each working day in accordance with Florida Administrative Code Rule 17-701.050(6)(m).

(b) Class II landfills are those which receive an average of less than 20 tons of solid waste per day as weighed by scales if available, or less than 50 cubic yards of solid waste per day as measured in place after covering. Such sites shall receive an initial cover at least once every four days. If Class II sites receive sewage or industrial sludges, dead animals, rendering wastes, or other nuisance wastes, Class I covering frequency shall be required.

17-701.050 -- 17-701.050(2)(b)

(c) Class III landfills are those which receive only trash or yard trash. Class III sites which are operated as trash facilities, based on site specific information, may be exempt from the liner and leachate and gas controls required in Florida Administrative Code Rules 17-701.050(5)(a),(b), (c), (d), (e), (f), (i), (j), and 17-701.050(6)(i), and are required to apply initial cover once every week. In determining whether a Class III landfill qualifies for the exemptions from certain requirements of Rule 17-701.050 the Department shall consider the hydrogeology, types of waste, and methods used to control types of waste received for disposal. Class III sites which are operated as yard trash composting facilities are not required to apply initial cover and, additionally, are exempt from Florida Administrative Code Rules 17-701.050(2)(a) and (b); (3); (4) and 17-701.050(5)(a), (c)4., (d), (f), (h), (i), (j), (k), (l), (m), (n), and (o). If trash or yard trash is mixed with other types of solid waste, the disposal site shall be classified as a Class I or II landfill.

(d) More frequent cover may be required at Class II and Class III sites if necessary to prevent health and environmental problems. The department shall consider proximity to nearby residences and wells, evidence of dumping of unauthorized wastes, unlawful fires, littering of nearby property, odor problems, presence of vectors, and any other demonstrable potential or existing problems at such sites when making this determination.

(3) Location Requirements.

(a) Solid waste shall be disposed of only in landfills where a ground water monitoring plan, including a hydrogeological survey, has been completed in accordance with Florida Administrative Code Rules 17-28.700(6) and 17-701.050.

(b) The land disposal site location shall provide support for the landfill including total wastes to be disposed of, cover material, and structures to be built on the site. Site structural acceptability will be subject to Department approval. A hydrogeological survey is required and it shall comply with Florida Administrative Code Rule 17-28.700(6)(d)1. and include a foundation analysis, prior to construction, to determine the structural integrity of the subgrade to support the loads and stresses imposed by the landfill; or, if feasible, acceptable geotechnical measures necessary to modify the structural integrity to accommodate the imposed loads and stresses. These loads shall not cause failure of the liner or other containment system. The strength of the subgrade shall be determined using appropriate ASTM methods, or equivalent methods, and the foundation shall be analyzed for all appropriate short-term, end of construction, and long term conditions.

(c) Site Requirements.

The land disposal site location shall:

1. be easily accessible by collection vehicles, automobiles and where applicable, transfer vehicles;

17-701.050(2)(c)--17-701.050(3)(c)1.

2. Safeguard against water pollution originating from the disposal of solid waste;
3. Have an adequate quantity of acceptable earth cover available. The cover material shall be easily workable and compactable.

4. Conform with the proper zoning.

(4) Landfill Design. Class I and Class II landfills shall have a liner. Landfills may be designed for sectioned, or phased, construction and closure at scheduled intervals throughout the life of the landfill. Landfill closure design shall address applicable requirements of Florida Administrative Code Rules 17-701.071 through 17-701.076. Landfill design plans shall include:

(a) A map or aerial photograph of the area showing land use and zoning within 1 mile of the landfill. This map, or photograph which shall be taken within one year of the permit application, shall be of sufficient scale to show all homes, industrial buildings, wells, watercourses, dry runs, rock out-croppings, roads and other significant details. All significant features shall be indicated and labeled on the map or aerial photograph;

(b) A plot plan of the site showing dimensions, location of soil borings, proposed trenching or disposal areas plan, original elevations, and proposed final contours, any previously filled waste disposal areas, and fencing. Cross sections shall be included on the plot plan or on separate sheets showing both the original and proposed fill elevations. The scale of the plot plan should not be greater than 200 feet to the inch;

(c) Topographic maps at a scale of not over 200 feet to the inch with 5-foot contour intervals. These maps shall show: the proposed fill area; any borrow area; access roads; grades required for proper drainage and a typical cross section of a lift; special drainage devices, if necessary; fencing; equipment facilities; and all other pertinent information;

(d) A report on the:

1. Current and projected population and area to be served by the proposed site.
2. Anticipated type, annual quantity and source of solid waste, expressed in tons or cubic yards of compacted materials.
3. Anticipated life of the site.
4. Source and characteristics of cover material.

(e) Ground water monitoring plan.

(5) Landfill performance and design standards. Performance standards established by the following criteria are the standards which the landfill is to achieve. Design standards are also presented herein which may be used to achieve the performance standards. Alternative designs which achieve performance standards may be used upon approval by the Department. Achievement of performance standards will be presumed to provide reasonable assurance that the water quality standards and criteria of Rule 17-3, F.A.C., will be met.

(a) Liner construction or installation. Construction or installation of liners shall be in accordance with the methods and procedures given in Lining of Waste Containment and Other Impoundment Facilities, EPA publication, EPA/600/2-88/052, September, 1988 which is hereby incorporated into this rule by reference. Copies of this document may be inspected at the Department's district offices.

17-701.050(3)(c)2.--17-701.050(5)(a)

(b) Liner performance standards. The liner must be:

1. Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

2. Installed upon a base, or in a hydrogeological setting capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

3. Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(c) Liner Quality Control Plans.

1. Soil liners shall have a soil and liner quality control plan to provide construction and operating personnel with adequate information to assure continuous compliance with the soil and liner construction requirements. The plan shall include specifications and construction methods which use established engineering practices for compaction of clay soils to form a liner and provide for soil and liner quality control testing procedures and sampling frequency. Sampling and testing shall be conducted in the field during construction and after completion by qualified personnel under the direction of the professional engineer in charge to assure the liner will meet the performance standards.

2. Synthetic liners shall be installed in accordance with a Department approved quality control plan which incorporates the manufacturer's specifications and recommendations.

(d) Liner Design Standards.

1. All new landfills permitted after August 1, 1990, as well as other landfills specified in Rule 17-701.050(1), F.A.C., shall have a leachate collection and removal system and either a composite liner or a double flexible membrane liner.

a. The upper component of the composite liner shall be a 60-mil or thicker flexible membrane liner with a water vapor transmission rate of 1×10^{-11} cm/sec or less as determined by ASTM Method E96-80, procedure BW, Annual Book of ASTM Standards, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09 or other methods approved by the Department. A primary leachate collection and removal system, and a drainage layer shall be installed above the flexible membrane liner. The drainage layer shall be designed to reduce the leachate head on the liner to one inch within one week following the design 25 year, 24 hour storm event. The lower component of the composite liner shall consist of at least an eighteen inch thick layer of compacted soil with a maximum hydraulic conductivity of 1×10^{-7} centimeters per second. The flexible membrane liner component shall be installed in direct and uniform contact with the compacted soil component to retard leachate migration if a leak in the flexible membrane liner should occur. Differing soil layer thicknesses and hydraulic conductivities which provide equivalent engineering properties and hydraulic characteristics may be used subject to the provisions of Rule 17-701.078, F.A.C. Hydraulic conductivity of the soil layer shall be determined by testing undisturbed samples of the installed soil layer.

17-701.050(5)(b)--17-701.050(5)(d)1.a.

b. Double liner systems shall consist of upper and lower 60-mil minimum thickness flexible membrane liners, with a water vapor transmission rate of 1×10^{-11} cm/sec or less; a primary leachate collection and removal system lying above the upper flexible membrane liner; and a leak detection and secondary leachate collection system between the upper and lower liners. The lower liner shall be placed directly on a sub-base which is a minimum 6" thick and has a hydraulic conductivity of less than or equal to 1×10^{-5} cm/sec. There shall be a drainage layer, with a minimum transmissivity of 1×10^{-3} m²/sec, between the two liners. This drainage layer shall not be allowed to become completely saturated.

2. Existing permitted landfills, as well as other landfills specified in Rule 17-701.050(1), F.A.C., shall have a leachate collection and removal system and either a soil liner or a single flexible membrane.

a. Soil liners shall be a minimum of 3 feet of soil e.g., clay, with an in-place saturated hydraulic conductivity not greater than 1×10^{-7} cm/sec. Saturated hydraulic conductivity shall not be increased above 1×10^{-7} cm/sec as a result of contact with the leachate generated by the landfill. Testing of the saturated hydraulic conductivity and the effect of leachate on soil permeability shall be performed in accordance with test methods given in EPA publication SW-870, ASTM test procedures or other tests which may be approved by the Department.

b. Synthetic liners shall consist of at least a reinforced 30 mil membrane or a 60 mil unreinforced membrane that meets minimum requirements of the National Sanitation Foundation Standard Number 54, Flexible Membrane Liners, November, 1983, which standard is hereby incorporated into this rule by reference, copies of this document may be inspected at the Department's district offices.

3. Soil components of liners shall not have any lenses, cracks, channels, root holes, pipes or other structural inconsistencies that can increase the saturated hydraulic conductivity of the soil component above 1×10^{-7} cm/sec. The design shall illustrate and describe those instances in which over excavation of permeable areas and backfilling may be necessary to seal the permeable area, for example when sand-filled sinkholes are encountered. The soil component shall be placed and compacted in layers to achieve the designed performance.

4. The soil component of the liner may consist of in-situ soils, provided they meet the specifications for soil liners. Testing of in-situ soil shall be performed in accordance with the site specific Construction Quality Assurance Plan.

5. Constructed liners other than compacted clay soils e.g., asphalt, polymeric membranes, concrete, bentonite slurry or admixture or other suitable material, may be approved by the Department if it can be shown that these alternative materials will have performance equivalent to those stated for soil liners.

17-701.050(5)(d)1.b.-17-701.050(5)(d)

6. Flexible membrane liners shall be protected from physical damage from above and below the membrane. A minimum 24 inch thick protective layer of soil or other material approved by the Department shall be installed on top of the upper membrane. All materials in direct contact with the liner shall be free of rocks, roots, debris, sharps or particles larger than 3/8 inch. The lower 12 inches of material in contact with the top of the liner, if sufficiently permeable, may be used as a drainage layer. A filter fabric shall be installed above the drainage layer.

(e) Leachate control performance standards. Landfills shall have a leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The leachate depth on top of the liner shall not exceed one foot depth of leachate. The leachate collection and removal system shall:

1. Be constructed of materials that are chemically resistant to the waste disposed of in the landfill and the leachate expected to be generated;

2. Be of sufficient strength and thickness to prevent collapse under pressures exerted by overlying wastes, cover materials, and by any equipment used at the landfill;

3. Be designed and operated to function without clogging through the active life and closure period of the landfill; and

4. Be designed and constructed to provide for removal of the leachate within the drainage system to a central collection point for treatment and disposal.

(f) Leachate Control System Design Standards. Leachate collection and removal systems shall have:

1. At least a 12 inch drainage layer above the liner with a hydraulic conductivity of not less than 1×10^{-3} cm/sec at a slope to promote drainage;

2. A drainage tile or pipe collection system of appropriate size and spacing, sumps and pumps or other means to efficiently remove leachate.

3. Granular material or synthetic fabric filter overlying or surrounding the leachate collection and removal system to prevent clogging of the collection system by infiltration of fines from the waste or drainage layer; and have a method to test that the system is not clogged and a method for cleaning the system if it becomes clogged.

(g) Surface water management system performance standards. Landfills shall have surface water management systems designed, constructed, operated, and maintained to prevent surface water flow onto waste filled areas, and a storm water run-off control system designed, constructed, operated, and maintained to collect and control stormwater to meet requirements of Florida Administrative Code Rule 17-25 and requirements of the respective water management district.

(h) Surface Water Management System Design Standards.

1. Storm water controls should be specifically designed and sized according to local drainage patterns, soil permeability, annual precipitation, area land use, and other characteristics of the contributing watershed;

17-701.050(5)(d)5.b.--17-701.050(5)(h)1.b.

2. Retention and detention ponds and drainage ways shall be designed, constructed, and maintained to meet the requirements of Florida Administrative Code Rule 17-25, or requirements of the water management district where the Department has delegated storm water permitting to a water management district;

3. Stormwater management systems shall be designed to minimize to the maximum extent possible the mixing of stormwater with leachate. Stormwater or other surface water which comes into contact with the solid waste or mixes with leachate shall be considered leachate and shall be treated to meet applicable standards of Florida Administrative Code Rules 17-3 and 17-4 at the point of discharge.

(i) Gas control system performance standards. Landfills shall have a gas control system to prevent: Explosion and fires due to the accumulation of methane concentrations on-site or off-site; damage to vegetation on final cover of closed portions of the landfill or vegetation beyond the perimeter of the property on which the landfill is located; and objectionable odors off site.

(j) Gas control system design standards. Landfill gas control systems may:

1. Be designed for site-specific conditions and be installed in each section of the landfill that has been filled to design dimensions; and

2. Be installed to reduce gas pressure in the interior of the landfill by collecting the gasses to prevent them from moving laterally. Collection pipes, pathways, or vents shall be installed to the lower regions of the filled waste or where the more anaerobic conditions exist. The gas control system shall not interfere with or cause failure of the liner or leachate control systems.

(6) Operations.

(a) Ground Water Monitoring.

1. Monitor well location, construction, and collection of samples shall be as specified in Florida Administrative Code Rules 17-3.401, 17-28.700, and 17-4.246. Guidance for construction of monitor wells and collection of samples is contained in Procedures Manual for Ground Water Monitoring at Solid Waste Disposal Facilities (EPA/530/SW-611).

2. Sampling and testing of ground water at landfills shall be in accordance with Florida Administrative Code Rule Sections 17-3.401, 17-28.700, 17-4.246, and 17-22, Part III and IV.

3. When requested by the Department the facility operator shall inform the department of the next sampling schedule so that a representative of the Department may be present to collect a split sample.

(b) Operation Plan. An operation plan shall be submitted with all landfill construction permit applications. The operation plan shall provide written instructions for the daily operation of the landfill. The plan shall be revised when operational procedures change. The plan shall include detailed procedures such as:

17-701.050(5)(h)2.b.-17-701.050(6)(b)3.

1. Designation of persons responsible for operation and maintenance of the facility;
2. Contingency operations, alternate waste handling and disposal methods in case of emergency such as a natural disaster or equipment failure;
3. Controlling the type of waste received at the site. The plan shall specify inspection procedures, number and location of spotters and procedures to be followed if prohibited wastes are discovered;
4. Weighing or measuring incoming waste;
5. Vehicle traffic control and unloading;
6. Method and sequence of filling waste;
7. Waste compaction and application of cover;
8. Operations of gas, leachate, and storm water controls;
9. Ground water monitoring.

(c) Operational design features. The disposal site shall be provided with operation features and appurtenances necessary to maintain a clean and orderly operation. These minimum features are:

1. An effective barrier designed to prevent unauthorized entry and dumping into the landfill site.
2. An all-weather access road to the site. A special area with a stabilized roadway shall be provided within the site for wet weather operations.
3. Signs indicating name of operating authority, traffic flow hours of operation, and charges for disposal (if any).
4. Scales for weighing solid waste received at the landfill, or in lieu thereof, estimates the number of cubic yards received at all Class I and Class II sites. Quantitative records shall be forwarded to the Department upon request.
5. Dust control methods such as approved chemicals, oils, or water sprays.
6. Litter control devices, portable fences, or other suitable means.
7. Fire protection and fire-fighting facilities adequate to insure the safety of employees and provisions to deal with accidental burning of solid waste within the sanitary landfill.

(d) Personnel and Facilities. In order to insure proper staffing and suitable facilities the following shall be required:

1. During hours of operation, an attendant at Class I sites. The Department may require an attendant at Class II or Class III sites if the Department affirmatively demonstrates that such a requirement is necessary to prevent unlawful fires, unauthorized dumping, or littering of nearby property.
2. Communication facilities for use in emergencies at Class I sites.

(e) Equipment. To insure adequate operation the following is required:

1. Equipment sufficient for excavating, spreading, compacting, covering operations, and other transportation and earthmoving needs.
2. Sufficient reserve equipment, or arrangements to provide alternate equipment within 24 hours following equipment breakdown.

17-701.050(6)(b)3.-17-701.050(6)(e)2.

3. Safety devices on equipment to shield and protect the operators from potential hazards during operation.

(f) The Department recommends but does not require:

1. A potable water supply.
2. A suitable employee shelter.
3. Handwashing and toilet facilities.
4. Equipment wash-out facilities.
5. Electric service for operations and repairs.
6. Equipment shelter for maintenance and storage of parts, equipment and tools.
7. Emergency first aid equipment to provide adequate treatment of an injured person in case of an accident.

8. That employees be trained in the proper and safe operation of all equipment and first aid procedures.

(g) Sanitary landfills shall be operated to provide for the collection, control and treatment of surface runoff from the site as necessary to meet the applicable standards of Florida Administrative Code Rules 17-3, 17-4, and 17-25;

(h) Any leachate emanating from a landfill shall be collected and treated as necessary to meet the applicable standards of Florida Administrative Code Rules 17-3, 17-4, and 17-25;

(i) Gas control systems shall be operated and maintained in accordance with the gas control system design. Operational procedures shall include measures to prevent damage to vents, and equipment repair or replacement as expeditiously as possible if damaged or destroyed;

(j) All solid waste at Class I and Class II sites shall be spread in layers of approximately two (2) feet in thickness and compacted to approximately one (1) foot in thickness or as thin a layer as practical before the next layer is applied. Solid waste at all Class III sites, except those yard trash sites which are operated as composting facilities, shall be spread in layers and compacted once every week using suitable heavy equipment. Bulky materials such as tree stumps or large pieces of concrete which are not easily compacted should be worked into other materials as much as practical.

(k) All compacted solid waste shall be formed into cells with the working face, and side grades above land surface, at a slope no greater than thirty (30) degrees. Cell depth shall be constrained by the type of operation in use (area, trench), the daily volume of waste, width of the working face, and good safety practices.

(l) The working face of a cell shall be only wide enough to efficiently accommodate vehicles discharging waste and to minimize the exposed area and the use of unnecessary cover material;

17-701.050(6)(e)3.-17-701.050(6)(l)

(m) Initial cover shall be applied to enclose each landfill waste disposal cell except the working face which may be left uncovered if solid waste will be placed on the working face within 18 hours. Any adverse environmental or health effects such as blowing litter, odors, flies, or rats resulting from this practice shall be cause to place initial cover on the working face. Initial cover shall be applied to landfills as follows:

1. Class I; at the end of each working day;
2. Class II; every four days;
3. Class III; once every week;

(n) An intermediate cover of one (1) foot of compacted earth in addition to the six (6) inch initial cover shall be applied within seven (7) days of cell completion at all landfills if final cover or an additional lift is not to be applied within 180 days of cell completion.

(o) Portions of landfills which have been filled with waste to the extent of designed dimensions shall be closed in accordance with the closure plan required in Florida Administrative Code Rules 17-701.050(3) and 17-701.070 through 17-701.076;

(p) Pesticides used to control rodents, flies and other insects shall be as specified by the Florida Department of Agriculture and Consumer Services.

(q) Uncontrolled and unauthorized scavenging shall not be permitted at any sanitary landfill site. Controlled salvaging may be permitted by the local authority responsible for the facility.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.07, 10-1-74; Revised 5-11-75, 7-20-76; Amended 5-24-79; Previously Numbered as 17-7.05; Amended 12-10-85; Formerly 17-7.050; Amended: 7-19-90.

17-701.060 Special Waste Handling.

(1) Controlled burning of solid wastes shall be accomplished in an incinerator, with the exception of controlled burning of only vegetative wastes, such as yard trash, which may be done in a permitted, properly operated incinerator or trench burner. A trench burner is an installation consisting of an open pit with fixed walls and a mechanically forced draft air supply to provide excess oxygen and turbulence to accomplish smokeless combustion of clean wood wastes and vegetative matter.

(2) Abandoned vehicles brought to the site may be stored temporarily in a separate area, provided arrangements have been made for frequent removal to an automobile recycler. If such arrangement has not been made all abandoned vehicles, white good and similar materials shall be compacted to minimize voids before being placed in the fill area.

(3) In the event of a natural disaster, during which large volumes of debris are accumulated (such as trees and buildings that have been destroyed) the debris may be transported to an area remote from habitation, and burned, in accordance with Florida Administrative Code Rule 17-5.090(1).

17-701.050(6)(I)--17-701.060(3)

07-19-90

(4) Landfilling milled solid waste without daily soil cover may be an environmentally acceptable method of final disposal. However, the same engineering principles required for a sanitary landfill site must be employed, including a properly designed and operated milling facility. The Department will grant approval for such disposal method contingent upon the following conditions:

(a) Particle size. Seventy percent (70%) of all milled refuse, dry weight, shall be capable of passing through a three (3) inch screen.

(b) Waste shall be spread to a smooth contour and compacted promptly after placement and left undisturbed to prevent odors. Wind blowing of milled refuse and paper shall be controlled.

(c) All solid waste storage areas in the milling facility must be maintained and cleaned at the end of each day's operations, or during continuous operation, as necessary, to prevent fly, rodent or other vector problems. All milling equipment shall be designed and maintained to control spillage and to achieve the required milled product quality.

(d) An operational plan shall include provision for removal and proper disposal of wastes within 24 hours should the mill facility breakdown or operational quality be diminished. The operational plan shall include provision for a stock pile of emergency soil cover material and a plan to convert the operation to a sanitary landfill.

(e) Leachate collection and treatment as necessary to meet water quality standards of Chapters 17-3 and 17-4, F.A.C., shall be provided at all milled solid waste sites. The design of the treatment facility shall be reviewed and approved by the department as a part of the permit required for the milled solid waste site.

(f) Upon completion of the site, it shall be closed, covered with a final one (1) foot thick soil cover and shall be seeded or planted with grass or suitable cover vegetation to minimize erosion.

(5) Asbestos-containing solid waste shall be covered daily with a proper dust suppressant or six inches of non-asbestos material, or disposed of in an area where proper warning signs and fences or barriers are present, as described in 40 CFR 61.25. This federal Environmental Protection Agency regulation (40 CFR 61.25) is hereby adopted and incorporated in this rule by reference as it is stated in the October 14, 1975, Federal Register (40 FR 199), and as amended in the April 5, 1984, Federal Register (49 FR 13658). For purposes of this rule, the term "Administrator," when used in 40 CFR 61.25, shall mean Secretary of the Department of Environmental Regulation. Additionally, any asbestos-containing solid waste disposed of at a Class I or Class II Sanitary Landfill shall be disposed of according to the requirements of Section 17-701.050, F.A.C.

Specific Authority: 403.061, 403.704, 403.705, 403.8055, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.07, 10-1-74; Amended 5-24-79, 11-25-82, 7-10-84; Previously Numbered as 17-7.06; Amended 12-10-85; Formerly 17-7.060.

17-701.060(4)--17-701.060(5)

17-701.061 Construction and Demolition Debris Disposal

(1) Clean debris may be used as fill material in any area, including waters of the State, subject to receipt of a dredge and fill permit from the Department where applicable. Clean debris used as fill material is not solid waste, and such use does not require a solid waste permit under this rule. Clean debris that is not used as fill material shall be disposed of as construction and demolition debris.

(2) Construction and demolition debris may be disposed of in a permitted landfill. However, pursuant to Section 403.706(2), F.S. each county must initiate by July 1, 1989, a program to develop segregated disposal areas for construction and demolition debris. This program shall be designed to assure that all construction and demolition debris is disposed in segregated areas after August 1, 1990. The cover requirements for a segregated construction and demolition debris disposal area within a permitted landfill shall be those in Rule 17-701.803(9), F.A.C.

(3) Construction and demolition debris which is disposed of on the property where it is generated, or on property which is adjacent or contiguous to and under common ownership and control as that property where the waste is generated, is exempt from the permitting requirements of Chapter 17-701, F.A.C. However, such disposal is subject to the provisions of Rule 17-701.040, F.A.C. Such disposal areas must also be closed, graded and vegetated as specified in Rule 17-701.803(9), F.A.C.

(4) Construction and demolition debris may be disposed of off-site at a facility operating under a general permit pursuant to Rules 17-4, Part III and 17-701.803, F.A.C., or at a solid waste facility permitted under Rule 17-701, F.A.C. Such a facility operating under a general permit shall accept only construction and demolition debris for disposal. Owners and operators of a new disposal facilities for construction and demolition debris shall comply with this rule after the effective date of this rule. Owners or operators of existing facilities for the off-site disposal of construction and demolition debris shall comply with the general permit requirements of this section within 90 days after the effective date of this rule.

(5) Nothing in this rule shall prevent the burning or recycling of construction and demolition debris in accordance with Department rules.

(6) Construction and demolition debris may be disposed of only in accordance with one of the methods authorized above.

Specific Authority: 403.061, 403.704, 403.707, F.S.

Law Implemented: 403.706, 403.707, F.S.

History: New 8-2-89.

17-701.061 - 17-701.061 (History)

17-701.070 Closure of Landfills. This section contains the minimum permit application requirements to close a landfill and monitor and maintain the closed facility after closing so that it will pose no significant threat to human health or the environment. If an applicant cannot provide reasonable assurance that the requirements of Florida Administrative Code Rules 17-3 and 17-4 will not be violated, then the Department may impose additional closure requirements on a landfill based upon site specific conditions. In subsequent rules regarding landfill construction and operation, the Department shall assure that Florida Administrative Code Rule 17-701.070 through 17-701.076 are consistent and conforming.

(1) **Effective Date and applicability.** Effective July 1, 1985, Florida Administrative Code rules 17-701.070 through 17-701.076 shall apply to all portions of landfills receiving waste, portions of landfills not having final cover, and all future landfills requiring solid waste permits, with the following exceptions:

(a) Any site at which a person disposes of solid wastes resulting from his own activities on his own property, pursuant to the exemption created in section 403.707(2), Florida Statutes.

(b) Any dredge spoil site permitted or exempt from permitting under Chapter 403 Florida Statutes.

(c) Any yard trash composting site at which only vegetative material was disposed.

(d) Any area limited solely to the disposal of construction and demolition debris.

(e) Any portion of a landfill for which a modification of an operation permit to close or a closure plan has been approved by the department as of July 1, 1985.

(2) **Permit Applications.** Construction permit applications for new landfills shall include general plans and schedules for closure of the facility.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 10-1-74; Amended 5-24-79, 7-1-85; Previously Numbered as 17-7.07; Amended 12-10-85; Formerly 17-7.070.

17-701.071 Closure Schedule. At least one year prior to the projected date when wastes will no longer be accepted, the landfill owner or operator shall provide a written notice to the Department District Office and local pollution control agency with a schedule for cessation of waste acceptance and closure of the landfill. The closure schedule shall become an addendum to the currently valid facility permit. If unforeseen circumstances do not allow the one year notification, notice shall be provided as soon as the need to close the facility becomes apparent.

17-701.070--17-701.071

(1) Notice and advice to users. At least 120 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall advise users of the intent to close the facility by posting signs at the entrance of the facility giving the date of closing, the location of alternative disposal facilities and name of the person responsible for closing the landfill. These signs shall be maintained throughout the closing period. If unforeseen circumstances do not allow the 120 day notice to users, notice shall be provided as soon as the need to close the facility becomes apparent.

(2) Notice to the Public. Within 10 days prior to the date when wastes will no longer be accepted at the landfill a notice shall be published in the legal advertising section of a newspaper of general circulation in the county where the activity is proposed, and the applicant shall provide proof of publication to the Department within 7 days of publication.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Formerly 17-7.071.

17-701.072 Closure Permit Application Submittal. At least 90 days prior to the date when wastes will no longer be accepted, the landfill owner or operator who does not possess an approved closure plan shall submit a closure permit application to the Department. Landfill owners or operators that have a closure plan which was submitted and approved as part of the landfill construction permit shall resubmit that closure plan, revised to agree with the requirements of Florida Administrative Code Rule 17-701.073, to the Department no less than 90 days prior to the scheduled closing day. Upon approval by the Department the closure plan shall become an addendum to the currently valid permit.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Formerly 17-7.072.

17-701.073 Closure Plan Requirements. All closure plans shall address the following eight parts contained in this sub-section, and for non-applicable requirements, shall contain an explanation of why the requirement is not applicable. Valid information on record in a previously approved permit or approved groundwater permit or groundwater monitoring plan may be used to satisfy the applicable requirements of this subsection.

(1) General landfill information report. This report shall contain:

(a) Identification of the landfill;

(b) Name, address and phone number of primary contact persons;

(c) Identification of persons or consultants preparing this report;

(d) Present property owner; landfill operator;

(e) Location by township, range and section, and latitude and longitude of main entrance or operators office of the landfill;

17-701.070(1)-17-701.073(1)(e)

- (f) Total acreage of waste disposal area; total acreage of landfill property;
- (g) Legal description of property on which the landfill is located;
- (h) History of landfill: when constructed; description of fill operations, sequence of trenching, cell construction, or sequence of areas filled;
- (i) Identity of types of waste disposed of in the completed landfills; based on records, composition studies, operator memory, major waste depositors, or other information sources.

(2) Area information report. An information report on the area in which the landfill is located shall be included in the closure plan. The report may use verifiable information available from published documents. The term "area" means that area which may affect or has been affected by or will be affected by, the landfill, and at a minimum includes the land within a one mile radius of the landfill. The report should be supplemented by maps and cross-section drawings. The following topics shall be addressed in the report:

- (a) Topography;
- (b) Hydrology, including surface water drainage patterns and hydrologic features such as surface waters, springs, drainage divides and wetlands;
- (c) Geology, including the nature and distribution of lithology, unconsolidated deposits, major confining units and sinkholes;
- (d) Hydrogeology, including depth to groundwater table, groundwater flow directions, recharge and discharge areas, used by public and private wells within 1 mile of the landfill;
- (e) Ground and surface water quality;
- (f) Land use information. The report shall include a discussion and maps indicating:
 - 1. Identification of adjacent landowners;
 - 2. Zoning;
 - 3. Present land uses;
 - 4. Roads, highways, rights-of-way, or other easement.

17-701.073 -- 17-701.073(2)(f)4.

(3) Groundwater monitoring plan and site specific information. The closure plan shall include an approved groundwater monitoring plan containing site specific information which meets the criteria specified in Florida Administrative Code Rule 17-28.700(6)(d).

(4) Gas migration investigation. A report on methane gas where actual or potential gas migration exists i.e., in landfills that have been in operation for a year and contain organic wastes disposed of in porous soils which allows or would allow migration of gas off the landfill property. Gas migration test points shall be located along property boundaries, or alternate boundaries approved by the Department, particularly, those adjacent to off-site occupied structures within 100 feet of the property boundary or where distressed vegetation is present. Test points are required along each boundary segment spaced as needed to detect gas migration. Test points should extend 3 feet below ground surface. Where sand, gravel, or more gas permeable soil strata may interconnect the waste deposit and the property boundary, multiple depth sampling points should be used, with the uppermost one 3 feet deep and additional ones in the permeable layers. A combustible gas indicator meter is recommended to determine methane concentrations as a percent of the lower explosive limit (LEL). Lower explosive limit means the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at a temperature of 25 degrees Celsius and atmospheric pressure. Methane concentrations shall not exceed the LEL at the property boundary or 25% of the LEL within structures on the property.

(5) Assessment of effectiveness of existing landfill design and operation. Based on the area information report, the groundwater monitoring plan, and the gas migration report, a landfill assessment shall be prepared which discusses the effects of the landfill on adjacent ground and surface waters, and the landfill area. Specific concerns to be addressed are:

- (a) Effectiveness and results of the groundwater investigation;
- (b) Effects of surface water runoff, drainage patterns, existing storm water controls;
- (c) Extent and effects of methane gas migration, LEL percentage readings in migration paths, and description of the gas venting system if one is installed;
- (d) Condition of existing cover, thicknesses and types of soils or materials used for cover, and effectiveness of cover material as a leachate control mechanism;
- (e) The nature and characteristics of the wastes disposed of at the landfill.

(6) Closure design plan. A closure design plan shall be prepared based on the area information report, groundwater monitoring plan, and assessment of the effectiveness of the existing landfill design and operation. The closure design plan shall consist of engineering plans and a report on closing procedures which shall apply to the closing of the landfill and the monitoring and maintenance during the long term care period. The closure design plan shall include the following information:

- (a) A plan sheet showing phases of site closing;

17-701.073(3) -- 17-701.073(6)(a)

(b) Drawings showing existing topography and proposed final grades;

(c) Final cover installation plans showing the sequence of applying final cover, including thickness and type of material that will be used. All waste filled areas shall have a final cover designed to minimize infiltration and subsequent leachate generation, based on water balance calculations and leachate controls used. Final cover may consist of synthetic membranes, soils, or chemically or physically amended soils approved by the Department, underlaying at least six inches of top soil, or soils that will sustain vegetative growth, to achieve a minimum thickness of two feet of soils or one foot of soils and synthetic or soil admixtures above the waste material. The types of materials used in a final cover are dependent upon the leachate control system used. Nothing in this rule shall be construed to require final cover which is incompatible with the leachate control system, including a system which utilized permeable final cover, which has been permitted by the department and meets all other applicable department standards and criteria.

1. The final cover shall be placed over the entire surface of each completed portion of the filled areas within 180 days after the final waste deposit date. The final cover of the filled area shall be seeded or planted with vegetation to control erosion. Where the final cover is intended to be a moisture infiltration seal, vegetational species planted shall be drought resistant and such that the roots will not penetrate the seal and thus provide a channel for moisture infiltration.

2. Side slopes and all other grades shall be designed to minimize erosion of the final cover material. Such designs shall consider the erosion susceptibility of the earthen material proposed for final cover relative to historical rainfall patterns for the area, the period between application of the final cover and establishment of vegetative growth, and special maintenance procedures proposed to insure that infiltration is minimized earthen material exists after vegetative growth is established.

a. Side slopes of all above-ground disposal areas shall not exceed a 33 percent grade, 3 feet horizontal run to 1 foot vertical rise, to minimize erosion.

b. Top gradients of final cover on landfill areas should not normally exceed 4 percent grade, 100 feet horizontal run to 4 feet vertical rise, considering total fill height, and expected subsidence caused by decomposing waste, and be designed to prevent ponding or low spots and minimize erosion. Alternate gradients, justified by the landfill design, may be approved by the Department.

c. Fill areas of new landfills which are constructed above land surface shall incorporate drainage and erosion control structures in accordance with good engineering practice.

3. The closure design plan shall describe provisions for cover material for the long term care erosion control, filling areas of subsidence or other depressions, maintaining berms, and general maintenance of the facility, and specify the anticipated source and amount of material necessary for proper closure of the landfill.

17-701.073(6)(b) -- 17-701.073(6)(c)3.

(d) Type of leachate control system proposed. The leachate control system shall be designed to prevent leachate from escaping beyond the approved zone of discharge for the landfill and to meet the requirements of Chapter 17-3 and 17-4, Florida Administrative Code;

(e) Compliance with groundwater protection requirements. The closure design plan shall show how the landfill will meet the requirements of Sections 17-28.700 and 17-4.246 Florida Administrative Code. The groundwater monitoring plan and sampling schedule may be adjusted for a landfill where groundwater contamination is not evident or corrective measures have been taken to correct contamination.

(f) Type of gas or odor control which may be used. Control systems shall be installed at landfills which have a gas or odor problem as determined in the gas migration investigation report. Monitoring for methane gas at the property boundary shall be performed at regularly scheduled intervals to determine the effectiveness of the migration controls. If the investigation indicates that gas and odors will not be a problem, gas and odor control systems may, with Department approval, be omitted from the closing design plan. The plan shall include an explanation of why they were omitted. The Department shall require gas migration investigations where the potential for migration exists and require control systems to be installed any time gas or odors become evident;

(g) Proposed method of stormwater control. This shall include control of stormwater occurring on the landfill property. Stormwater from areas adjacent to the landfill property shall be prevented from coming on or into waste filled areas or cells. Other surface waters, such as streams or canals which originate off of, or other surface water bodies which adjoin the landfill property, shall be prevented from flooding waste filled areas or cells. Infiltration of stormwater into the waste shall be precluded or minimized by the leachate control system. Stormwater or other surface water which mixes with leachate shall be considered to be leachate and shall be treated to meet the water quality standards of rules 17-3 and 17-4, Florida Administrative Code at the point of discharge. The stormwater control plan shall meet the requirements of Chapter 17-25, Florida Administrative Code, and requirements of the respective water management district.

(h) Proposed method of access control. The closure design plan shall describe how access to the closed landfill shall be restricted to prevent any future waste dumping or use of the facility by unauthorized persons. Restricted access shall remain in force until the landfill is stabilized and there is no evidence that facility property is being used as an unauthorized dump site. In the event that use of the property during the long term care period is planned, access shall be restricted until landfill closing is completed and approved by the Department;

(i) Final Use. The closure design shall contain a description of any proposed final use of the landfill property.

(7) Closure Operation Plan. The closure operation plan shall;

17-701.073(6)(d) -- 17-701.073(7)

(a) Describe the actions which will be taken to close the landfill, such as placement of cover, grading, construction of berms, ditches, roads, retention-detention ponds, installation or closure of wells and boreholes, installation of fencing or seeding of vegetation, protection of on-site utilities and easements;

(b) Provide a time schedule for completion of the closing and long term care;

(c) Contain appropriate references to the Closure Design Plan, area information report, groundwater monitoring plan, and other supporting documents;

(d) Describe the proposed method of demonstrating financial responsibility for the long term monitoring and maintenance;

(e) Indicate any additional equipment and personnel needed to complete closure of the landfill;

(f) Modification of the plan based on a showing of good cause by the permittee may be approved by the Department. The permittee shall submit to the Department a revised plan prior to implementation of any necessary deviation. In the event that a necessary deviation is the result of unforeseen circumstances and there is insufficient time to prepare and submit a revised plan, the owner or operator shall immediately contact the Department and obtain an interim authorization pending the submission and review of the revised plan. Interim authorization shall not exceed 30 days during which time the revised plan shall be prepared and submitted to the Department.

(8) Certification by registered professional engineer. Information, plans, and drawings presented in support of a closure permit for a landfill shall be prepared under the direction of, and certified by, a registered professional engineer authorized to practice in the State of Florida in accordance with the provisions of Chapter 471, Florida Statutes. A letter of appointment shall be submitted by the proper federal, state, county, municipal or agency employee, or company official, or individual, confirming that the engineer is authorized to prepare plans and specifications. The professional engineer or another qualified engineer shall be required to make periodic inspections during the closing of the facility to insure closure is being accomplished according to the closure plan.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Formerly 17-7.073.

17-701.074 Closure Procedures. Upon approval of the closure plan and issuance of the closure permit by the Department, the landfill owner or operator shall close the landfill in accordance with the approved plans and any special permit provisions.

(1) Closing inspections. The Department may specify in the closure permit that particular closing steps or operations must be inspected and approved by the Department before proceeding with subsequent closure actions.

17-701.073(7)(a) -- 17-701.074(1)

(2) Survey monuments. Concrete monuments shall be installed to mark the boundaries of the landfill property and other permanent markers installed to outline the general waste filled areas. These latter markers shall be tied to one or more of the boundary markers by a survey performed by an engineer or a registered land surveyor. The location and elevation of all markers shall be shown on a site plan filed with the "Declaration to the Public" described in subsection (4) below.

(3) Final survey and as built report. When landfill operations have been conducted which have raised the final elevations higher than 10 feet above the natural land surface, a final survey shall be performed by an engineer or a registered surveyor to verify that final contours and elevations of the facility are in accordance with the plans as approved in the permit. Aerial mapping techniques which provide equivalent survey accuracy may be substituted for the survey. The survey or aerial mapping information shall be a report which also includes information reflecting the as-built conditions of the landfill. Contours should be shown at no greater than 5 foot intervals. The landfill owner or operator shall submit this report to the Department in accordance with the closing schedule.

(4) Declaration to the public. After closing operations are inspected and approved by the Department, the landfill owner or operator shall file a declaration to the public in the deed records in the office of the county clerk of the county in which the landfill is located. The declaration shall include a legal description of the property on which the landfill is located and a site plan specifying the area actually filled with solid waste. The declaration shall also include a notice that any future owner or user of the site should consult with the Department prior to planning or initiating any activity involving the disturbance of the landfill cover, monitoring system or other control structures. A certified copy of the declaration shall be filed with the Department.

(5) Official date of closing. Upon receipt of the documents required in paragraphs (3) and (4) of this section, the Department shall, within 30 days, acknowledge by letter to the facility operator, that notice of termination of operations and closing of the facility has been received. The date of this letter shall be the official date of landfill closing for purposes of determining the long term care period.

(6) Use of closed landfill areas. Closed landfill areas, if disturbed, are a potential hazard to public health, groundwater and the environment. The Department retains regulatory control over any activities which may affect the integrity of the environmental protection measures such as the landfill cover, drainage, liners, monitoring system or leachate and stormwater controls. Consultation with the Department is required prior to conducting activities at the closed landfill.

(7) Construction on closed landfill. Pursuant to s. 403.705(1), Florida Statutes, the following guidance is provided for use of a closed landfill.

(a) Enclosed ground level and underground structures should be avoided due to the potential for explosive concentrations of methane gas. Special construction and ventilation techniques must be employed if such structures are contemplated.

17-701.074(2) -- 17-701.074(7)(a)

(b) Ponding of water, excessive irrigation, or plowing to a depth below the topsoil should not be done unless there is assurance that percolation of moisture into the buried waste will not occur.

(c) Concentrated weight loadings should be avoided to prevent uneven settlement.

(d) The effectiveness of landfill cover and any liners or barriers must not be disturbed when structures are built, particularly when pilings are used.

(e) Underground utilities and similar installations that are placed within 200 feet of, or cross any side of any filled areas should be avoided. If they cannot, a properly located gas barrier or ventilation system should be placed at each property boundary crossed to prevent methane gas migration along the utility line to off-site structures.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Formerly 17-7.074.

17-701.075 Long Term Care. The following long term care provisions shall apply to landfills after closing operations have been completed.

(1) Long term care period. The owner or operator of any landfill in operation after the effective date of this rule shall be responsible for monitoring and maintenance of the facility in accordance with an approved closure plan for 20 years from the date of closing. Prior to the expiration of the post closing monitoring and maintenance period the Department may extend the time period if it finds extension is necessary if the closure design or closure operation plan is found to be ineffective.

(2) Reduced long term care period. The owner or operator of a landfill may apply to the Department for a reduced long-term care schedule if reasonable assurance is provided to the Department that there is no significant threat to human health or the environment and if the landfill:

(a) Has been constructed and operated in accordance with approved standards, has a leachate control system, has a liner or

(b) Was closed with appropriate final cover, good vegetative cover established, and a good monitoring system installed and;

(c) Has a 10 year history of no leachate detected in the monitoring system, no leachate collected after closing, no detrimental erosion of cover, and subsidence of waste has ceased.

(3) Right of access. It is the responsibility of the owner or operator to possess or acquire a sufficient interest in, or a right to use the property for which a permit is issued, including the access route onto the property to carry out the requirements of this rule. The issuance of a permit by the Department does not convey any property rights or interest in real or personal property, invasion of personal rights, or impairment of previous contract rights; nor any infringement of federal, state, or local laws or regulations outside the authority under which a permit is issued. The permittee must retain the right of entry to the landfill property for the long term care period, after termination of solid waste operations, for inspection, monitoring and maintenance of the site.

17-701.074(7)(b) -- 17-701.075(3)

(4) Successors in interest. Any person acquiring rights or ownership, possession or operation of a permitted landfill through lease or transfer of property shall be subject to all requirements of the permit for the facility and shall provide any required proof of financial responsibility to the Department in accordance with this rule. Any lease or transfer of property shall include specific conditions to delineate:

(a) The previous owner or operator is responsible for closure and shall maintain any required proof of financial responsibility until the person acquiring ownership, possession or operation of the landfill establishes the required proof of financial responsibility with the Department;

(b) Responsibility for the continuance of monitoring, maintenance, and correction of deficiencies or problems;

(c) Mineral rights attached to the property and the rights to any recoverable materials that may be buried on the property or landfill gasses that may be produced. A Department permit shall be required if any on-site operations subsequent to closing of a landfill involve disturbing the landfill.

(5) Transfer of Permit. Transfer of landfill permit shall be in accordance with the provisions of Chapter 17-4.120 Fla. Admin. Code and this rule.

(6) Replacement of monitoring devices. If a monitoring well or other device required by the monitoring plan is destroyed or fails to operate for any reason, the landfill owner or operator shall, immediately upon discovery, notify the Department in writing. All inoperative monitoring devices shall be replaced with functioning devices within 60 days of the discovery of the malfunctioning unit unless the landfill owner or operator is notified otherwise in writing by the Department.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85, Formerly 17-7.075.

17-701.076 Financial Responsibility.

(1) As used in this section:

(a) "Landfill" means any solid waste land disposal area for which a permit, other than a general permit, is required by Section 403.707, F.S., that receives solid waste for disposal in or upon land other than a land-spreading site, injection well, or a surface impoundment. A landfill includes solid waste disposal areas operating under any Department permit or certification which are required to comply with the landfill closure standards of Rules 17-701.070 through 17-701.075, F.A.C.

(b) "Owner or operator" means, in addition to the usual meanings of the term, any owner of record of any interest in land whereon a landfill is or has been located and any person or corporation which owns a majority interest in any other corporation which is the owner or operator of a landfill.

17-701.075(4) -- 17-701.076(1)(b)

(c) "Securities" means any liquid assets including cash, stocks, bonds or other negotiable instruments.

(2) Rule applicability.

(a) As a condition for the issuance of a landfill construction permit, the owner or operator shall provide proof of financial responsibility to the Department. The effective date of the financial document shall be 60 days prior to the acceptance of any solid waste at the facility. Such proof shall be:

1. That there has been established a landfill management escrow account; or

2. Proof of the existence of an alternate financial mechanism pursuant to Rule 17-701.076(6), F.A.C.

(b) Owners or operators of existing landfills or landfills which have received a construction permit prior to the effective date of this rule shall submit proof of financial responsibility to the Department by October 1, 1990. Such proof shall be:

1. That a landfill management escrow account has been established and that such account and interest thereon is current as to the required level of funding pursuant to Rule 17-701.076(5), F.A.C.; or,

2. Proof of the existence and current value of an alternate financial mechanism pursuant to Rule 17-701.076(6), F.A.C.

(c) Other solid waste management facilities which are required to submit proof of financial responsibility under Rule 17-711, F.A.C. (Waste Tire Rule), for closure of the facility, but not for long-term care costs, shall comply with Rule 17-701.076(7), F.A.C.

(3) Cost estimates.

(a) For the purpose of determining the amount of proof of financial responsibility that is required in Rules 17-701.076(5) and (6), F.A.C., the owner or operator shall estimate the total cost of closure for the permitted portions of the landfill or for those portions of the landfill for which a construction permit sought, for the time period in the landfill operation when the extent and manner of its operation make closing most expensive. The annual cost of long-term care shall be estimated and listed separately. The owner or operator shall submit the estimates, together with all necessary justification, to the Department for approval along with the proof of financial responsibility. The costs shall be estimated by a Registered Professional Engineer registered in the State of Florida in accordance with provisions of Chapter 471, F.S., for a third party performing the work, on a per unit basis, with the source of estimates indicated.

(b) Closing costs shall be based on the nature and characteristics of the wastes disposed of at the site and shall include estimated costs of cover material, topsoil, seeding, fertilizing, mulching, labor, and any other costs of compliance with Rule 17-701.073 and 17-701.074, F.A.C.

(c) Long-term care costs shall include land surface care; gas monitoring; leachate pumping, transportation, monitoring and treatment; groundwater monitoring, collection and analysis; and any other costs of compliance with Rule 17-701.075, F.A.C.

17-701.076(1)(c) -- 17-701.076(3)(c)

(4) Annual cost adjustments.

(a) Every owner or operator of a landfill shall submit to the Department an annual cost adjustment statement, certified by a Professional Engineer registered in the State of Florida in accordance with the provisions of Chapter 476, F.S. Closure and long-term care costs shall be listed separately.

(b) During the life of those portions of the landfill which have not been finally closed, the owner or operator shall revise the closure cost estimate for inflation and changes in the closure and long-term care plan if such change increases or decreases the closure cost estimate. Such revisions shall be made annually and used as the basis for comparison against the balance in the landfill management escrow account or the value of an alternate funding mechanism.

(c) If the value of the landfill management escrow account or alternative funding mechanism is less than the total amount of the current closure cost estimate, the owner or operator shall comply with paragraph 1. or 2. below, as applicable.

1. For an escrow account, the owner or operator, within 180 days, shall deposit an amount into the landfill management escrow account which is equal to the difference between the current estimated closure cost and the new estimated closure cost divided by the number of remaining years in the permitted life of the landfill. The calculation of such adjustment shall be as follows:

$$\text{payment} = \frac{(NCE - OCE) - CY}{Y}$$

where NCE is the new estimate of closure cost, OCE is the old estimate of closure cost, CV is the current value of the landfill management escrow account and Y is the number of years remaining in the permitted life of landfill.

2. For an alternative funding mechanism, the owner or operator, within 180 days, shall revise the funding mechanisms to reflect the new estimate.

(d) If the value of the landfill management escrow account or alternative funding mechanism is greater than the total amount of the current closure cost estimate, the owner or operator may reduce the value of the account or funding mechanism to reflect the new estimate.

(5) Landfill management escrow account.

(a) The owner or operator of a landfill shall establish a fee, or a surcharge on existing fees, or other appropriate revenue-producing mechanism, to ensure the availability of financial resources for the proper closure and long-term care of the landfill.

(b) The revenue-producing mechanism shall produce revenue at a rate sufficient to generate funds to meet state landfill closure requirements.

17-701.076(4) -- 17-701.076(5)(b)

(c) The revenue shall be deposited in an interest-bearing escrow account, the landfill management escrow account, to be held and administered by the owner or operator. The owner or operator shall file with the Department an annual audit of the account. The audit shall be conducted by a Certified Public Accountant and shall be filed no later than December 31 of each year. Counties using a Single Audit accounting system are encouraged to file this audit by March 31 of that year. The audit shall consist of reporting the balance in the landfill management escrow account as of the end of each fiscal year and a list of all withdrawals made. The list shall include the date and the amount of each withdrawal.

(d) Payments into the landfill management escrow account shall be made by the owner or operator at least annually over the term of the active life of the landfill according to one of the following methods:

1. For a new landfill, the first payment must be made before the end of the first year after the initial receipt of solid waste into the landfill. A notice of such payment shall be submitted to the Department. The first payment shall be equal to the current closure cost estimate for the landfill divided by the number of years in the permitted life of the landfill as estimated in the closure plan. Subsequent payments must be accomplished at least annually on the anniversary date of the first payment. The calculations for such annual payment shall be as follows:

$$\text{payment} = \frac{\text{CE} - \text{CV}}{Y}$$

where CE is the current calculated closure cost estimate, CV is the current value of the escrow account, and Y is the number of remaining years in the permitted life of landfill.

2. The owner or operator may accelerate payments into the landfill management escrow account or may deposit the full amount of the current closure cost estimate at the time that the account is established.

(e) The owner or operator may make expenditures from the account and its accumulated interest only for the purpose of landfill closure and long-term care, according to Rule 17-701.076(4)(d), F.A.C., and, if such expenditures do not deplete the fund to the detriment of eventual closure and long-term care as described under the certification procedure in (4) above, for planning and construction of resource recovery or landfill facilities. If the owner or operator does not operate a landfill, any funds remaining in the account after paying for proper and complete closure and long-term care, as determined by the Department, shall be deposited by the owner or operator into the general fund of the local government of jurisdiction.

(f) The revenue generated under this subsection and any accumulated interest thereon may be applied to the payment of, or pledged as security for, the payment of revenue bonds issued in whole or in part for the purpose of complying with state landfill closure and long-term care requirements. Such application or pledge may be made directly in the proceedings authorizing such bonds or in an agreement with an insurer of bonds to assure such insurer of additional security therefore.

17-701.076(5)(c) -- 17-701.076(5)(f)

(6) Alternative proof of financial responsibility for landfills.

(a) An owner or operator may establish proof of financial responsibility with the Department in lieu of, or in combination with, the requirements of (5) above. Such proof may include surety bonds, certificates of deposit, securities, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees showing that the owner or operator has sufficient financial resources to cover, at a minimum, the costs of complying with all state landfill closure and long-term care requirements. If such proof of financial responsibility is surety bonds, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees, such proof shall be submitted on forms provided by the Department in accordance with the requirements of (b) and (c) below. If proof of financial responsibility is securities or certificates of deposit, such financial documents shall be submitted directly to the Department. The owner or operator shall estimate such costs pursuant to subsection (3) above.

(b) 40 CFR Part 264 Subpart H which contains EPA's rules on financial requirements for owners and operators of hazardous waste facilities are hereby adopted as financial requirements for purposes of this section and incorporated by reference as those rules appear in 40 CFR 264 revised as of July 1, 1988, except:

1. The following sections of 40 CFR Part 264 Subpart H are specifically not adopted as part of this rule:

a. 264.140; 264.141(a); 264.141(e); 264.147; 264.149; 264.150; and 264.151.

b. All references to 40 CFR Part 265.

c. All references to sections or subparts of 40 CFR 264 not contained in Subpart H.

d. All references to EPA Regions.

e. All references to RCRA, Section 3008 of RCRA, or RCRA permits.

2. References in 40 CFR 264 Subpart H to the United States Environmental Protection Agency or to EPA shall mean the State of Florida Department of Environmental Regulation; to Regional Administrator shall mean the Secretary of DER; to EPA identification number shall mean the DER Identification Number; to hazardous waste shall mean solid waste; and to hazardous waste treatment, storage or disposal facilities shall mean landfills.

(c) Form 17-701.130(11) shall be used when submitting proof of financial responsibility under this section.

(7) Proof of financial responsibility for other solid waste management facilities.

17-701.076(6) -- 17-701.076(7)

(a) An owner or operator of a solid waste management facility which is required to submit proof of financial responsibility for closure of the facility, but not for long-term care costs, may establish such proof through the use of escrow accounts, surety bonds, certificates of deposit, securities, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees showing that the owner or operator has sufficient financial resources to cover, at a minimum, the costs of complying with all state landfill closure requirements. If such proof of financial responsibility is surety bonds, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees, such proof shall be submitted on forms provided by the Department in accordance with the requirements of (b) and (c) below. If proof of financial responsibility is an escrow account, securities or certificates of deposit, such financial documents shall be submitted directly to the Department. The owner or operator shall estimate such costs pursuant to Rule 17-711.510, F.A.C.

(b) 40 CFR Part 264 Subpart H which contains EPA's rules on financial requirements for owners and operators of hazardous waste facilities are hereby adopted as financial requirements for purposes of this section incorporated by reference as those rules appear in 40 CFR 264, revised as of July 1, 1988, except:

1. The following sections of 40 CFR Part 264 Subpart H are specifically not adopted as part of this rule:

a. 264.140; 264.141(a); 264.141(c); 264.141(e); 264.145; 264.146; 264.147; 264.149; 264.150; and 265.151.

b. All references to 40 CFR Part 265.

c. All references to sections or subparts of 40 CFR 264 not contained in Subpart H.

d. All references to EPA Regions.

e. All references to RCRA, Section 3008 of RCRA, or RCRA permits.

f. All references to post-closure care.

2. References in 40 CFR 264 Subpart H to the United States Environmental Protection Agency (EPA) shall mean the State of Florida Department of Environmental Regulation; to Regional Administrator shall mean the Secretary of DER; to EPA identification number shall mean the DER identification number; to hazardous waste shall mean solid waste; and to hazardous waste treatment, storage or disposal facilities shall mean solid waste management facilities.

(c) Form 17-701.130(12) shall be used when submitting proof of financial responsibility under this section.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Formerly 17-7.076, Amended 11-28-89.

17-701.077 Permit Application Requirements.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Transferred to 17-701.030(3), 12-10-85.

17-701.076(7)(a) -- 17-701.077(History)

17-701.078 Approval of Alternative Procedures and Requirements.

(1) The owner or operator of a landfill subject to the provisions of Sections 17-701.030 and 17-701.050 through 17-701.030(3) may request in writing a determination by the Secretary that a requirement shall not apply to such landfill, and shall request approval of alternate procedures or requirements.

(2) The request shall set forth at a minimum the following information:

(a) Specific landfill for which an exception is sought;

(b) The specific provisions of Sections 17-701.030 through 17-701.030(3) from which an exception is sought;

(c) The basis for the exception, including but not limited to the hardship which would result from compliance with the established provision;

(d) The alternate procedure or requirement for which approval is sought and a demonstration that the alternate procedure or requirement provides an equal degree of protection for the public and the environment;

(e) A demonstration of the effectiveness of the proposed alternate procedure.

(3) The Secretary shall specify by order each alternate procedure or requirement approved for an individual landfill in accordance with this section or shall issue an order denying the request for such approval. The Department's order shall be final agency action, reviewable in accordance with section 120.57, Florida Statutes.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Amended 12-10-85; Formerly 17-7.078.

17-701.080 Supervision and Inspection.

(1) Supervision of the operation shall be the responsibility of a qualified person experienced in the operation of a resource recovery and management facility.

(2) Routine inspections and evaluations of facility operations shall be made by the Department. A notice of deficiencies, with recommendations for their correction, shall be provided to the person responsible for the operation.

(3) Inspection of a completed sanitary landfill shall be made by the Department before the earthmoving equipment is removed from the site. Any corrective work shall be performed before the landfill project is accepted by the Department as completed. Arrangements shall be made for the repair or restoration of the final cover as required for at least two years following completion.

Specific Authority: 403.061, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713, F.S., Chapter 74-342.

History: Transferred from 10D-12.07, 10-1-74; Previously Numbered as 17-7.08; Formerly 17-7.080.

17-701.090 Volume Reduction Plants.

(1) Permits shall be required for all volume reduction plants as defined in Section 17-701.020(59).

17-701.078 -- 17-701.090(1)

(2) Volume reduction plants shall be designed and operated to meet all applicable rules of the Department including Chapters 17-2 and 17-3, F.A.C., and shall be reviewed for permitting based on the receipt of comprehensive data on the process and its relative potential as a pollution source.

(3) All volume reduction plants shall provide a suitable system for the collection and treatment necessary to meet water quality standards of all leachate and other liquid wastes such as wash-down water produced as a result of the operation of such a facility.

(4) Volume reduction plants shall be designed so as to divert surface water away from all open storage areas.

(5) Alternate or sufficient overcapacity waste handling capability for proper disposal of solid waste shall be provided in the event of diminished operational quality or overloads due to breakdowns or natural disasters.

(6) Volume reduction plants shall be operated so as to handle solid wastes on a first-in, first-out basis. At no time shall any stored solid waste be allowed to remain unprocessed for more than forty-eight (48) hours unless adequate provisions are made to control flies, rodents and odors.

(7) Adequate fire control facilities shall be provided at all volume reduction plants.

(8) All solid waste storage areas in the volume reduction plant shall be maintained and cleaned at the end of each day's operations or during continuous operation, as necessary, to prevent fly, rodent and other vector problems. All milling equipment must be designed and maintained to control spillage and to achieve the required milled product quality.

(9) All solid waste, recovered materials or residues handled at a volume reduction plant, shall be stored in a manner so as not to constitute a fire or safety hazard or a sanitary nuisance, and shall comply with all applicable local and state regulations.

(10) Recovered resources resulting from such facilities and which may be offered for sale shall comply with applicable regulations of all appropriate State agencies.

(11) Experimental methods and operations will be reviewed by the Department for a permit based on purpose and design effectiveness.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 10-1-74; Amended 5-24-79; Previously Numbered as 17-7.09; Formerly 17-7.090.

17-701.091-Transfer Stations.

(1) Transfer stations shall not be constructed or operated without a permit.

(2) The transfer station shall be provided with operational appurtenances necessary to maintain a clean and orderly operation. These minimum features are:

17-701.090(2) -- 17-701.091(2)

- (a) An effective barrier designed to prevent unauthorized entry and dumping into the transfer station.
- (b) Fire protection and fire fighting equipment to insure the safety of employees, and provisions to deal with accidental burning of solid waste within the transfer station.
- (c) Communication facilities for use in emergencies.
- (d) The transfer station operator shall keep accurate records of materials handled at the station. Such records shall include weights or volumes of waste handled in a manner and form approved by the department. Accurate records shall be kept for operational control and resource recovery planning. The records shall be open for inspection by department representatives, health inspectors and other authorized regulatory and enforcement agencies during normal business hours.
- (e) The transfer station shall be properly staffed to deal with all aspects of the station operation and to insure that health, fire or safety problems are not inflicted upon or caused by the public.
- (f) Transfer stations shall be operated and maintained to comply with all applicable regulations. Proper operation shall include unloading of wastes to prevent them from becoming a hazard or nuisance; cleaning of all loose materials or litter daily or on a cleaning schedule approved by the department; removal of all solid wastes every 48 hours or in accordance with an approved schedule.
- (g) Salvaging in a controlled manner is allowed provided it does not interfere with other aspects of the transfer station operation. Uncontrolled scavenging is prohibited.
- (h) Equipment sufficient for operational needs.
- (i) The department recommends but does not require:
 - 1. a potable water supply
 - 2. a suitable employee shelter
 - 3. hand washing and toilet facilities
 - 4. equipment washout facilities
 - 5. electric service for operations and repairs
 - 6. equipment shelter for maintenance and storage of parts, equipment and tools.
 - 7. emergency first aid equipment to provide adequate treatment of an injured person in case of an accident.
 - 8. that employees be trained in the proper and safe operation of all equipment and first aid procedures.

(3) Subsection 17-701.091(1) and (2) shall not apply to commercially available standard roll-off containers or similar wheeled containers which are provided to serve as a community or multi-residence receptacles for residential refuse, nor do they apply to storage receptables for commercial solid wastes or containers used to store salvage materials.

Specific Authority: 403.061, 403.7044, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 5-24-79; Formerly 17-7.091.

17-701.091(2)(a) -- 17-701.091 (History)

17-701.120 Notification of Disposal Activity.**(1) Applicability.**

This section shall apply to persons disposing of solid waste resulting from their own activities on their own property. All such persons shall file written notification of their disposal activities to the department on forms prescribed by the department.

(2) Exemptions.

(a) The following persons shall be exempt from the notification requirements of this section:

1. Persons who dispose of only residential solid waste.
2. Persons who dispose of solid wastes resulting solely from normal farming operations.
3. Persons who dispose of solid waste limited solely to construction and demolition debris.
4. Persons whose activities are sources exempt from permit requirements pursuant to Florida Administrative Code Rule 17-4.040 and 17-28.700(4)(c).

5. Persons whose activities are exempt from the groundwater monitoring requirements of Florida Administrative Code Rule 17-28.700(6)(j).

(b) The following persons may submit a certification of their status, as prescribed in the notification form, in lieu of completion of the notification form:

1. Persons who have submitted complete groundwater monitoring plans for solid waste disposal sites prepared pursuant to Florida Administrative Code Rule 17-28.700(6)(c). Upon review of the monitoring plan, the department may require the submittal of any additional information necessary to meet the requirements of Florida Administrative Code Rule 17-701.120(4).

2. Persons whose solid waste disposal activities are currently performed subject to valid department permits or certifications.

(3) Notification Submission.

(a) Persons subject to the requirements of this section shall notify the department of their solid waste disposal activity according to the following schedule:

1. For persons located within the geographic areas of the Tampa Bay Regional Planning Council, the South Florida Regional Planning Council, the Northeast Florida Regional Planning Council and the East Central Florida Regional Planning Council and Volusia County by July 1, 1985.

2. For persons located within the geographic areas of the Treasure Coast Regional Planning Council, the Southwest Florida Regional Council, and the Central Florida Regional Planning Council by December 31, 1985.

3. For persons located within the geographic area of the Apalachee Regional Planning Council, the North Central Florida Regional Planning Council, and the Withlacoochee Regional Planning Council, and Jefferson County by December 31, 1986.

(b) Persons initiating new disposal activity shall notify the department within 10 days after beginning disposal.

17-701.120 -- 17-701.120(3)(b)

(c) Any person who, subsequent to notification, modifies the type of waste disposed, the location of disposal or the management practice used to control disposal shall notify the department of the modification within 10 days after beginning the modified disposal activity.

(4) Notification Information Requirements.

Persons required to notify the department of solid waste disposal activity shall provide the following information on forms prescribed by the department:

- (a) A description of the location of the property used for solid waste disposal.
- (b) A list of the types of solid waste that are being disposed of.
- (c) An estimate of the annual quantity of each type of solid waste disposed of.
- (d) A description of the size and location of each disposal area on the property.
- (e) A description of the disposal processes and operating procedures used to manage the disposal of solid waste.
- (f) A description of the status of groundwater monitoring at the site.

(5) Evaluation of Notification Information.

(a) The department will evaluate the information provided on the notification forms. The department may perform inspections at a disposal facility to determine whether the solid wastes disposed are managed consistent with the notification information provided to the department.

(b) If the department determines that the solid waste disposal activity at a disposal facility:

- 1. creates a public nuisance or any condition adversely affecting the environment or public health; or
 - 2. violates other state or local laws, ordinances, rules, regulations or orders;
- then the department shall require the owner or operator of the disposal facility to obtain a solid waste permit or to otherwise correct these conditions or violations.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.707, F.S.

History: New 6-13-84; Amended 4-25-85; Previously Numbered as 17-7.12; Formerly 17-7.120.

17-701.130 Forms. The forms and instructions used by the Department in the Solid Waste Management Program are adopted and incorporated by reference in this section. The forms are listed by rule number, which is also the form number, and with the subject title and effective date. Copies of forms may be obtained by writing to Administrator, Solid Waste Section, Bureau of Waste Planning and Regulation, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32301.

(1) Application for Permit to Construct/Operate a Solid Waste Resource Recovery and Management Facility, December 10, 1985.

(2) Application to Operate Only Resource Recovery and Management Facility - Certification of Construction Completion, November 30, 1982.

17-701.120(3)(c) -- 17-701.130(2)

- (3) Application for: Preliminary Examination/Final Examination and Certification of Resource Recovery Equipment, November 30, 1982.
 - (4) Land Application Field Package for Grade I Sludges, June 16, 1984.
 - (5) General Permit Application for Grade II Sludges, June 16, 1984.
 - (6) Solid Waste Disposal Notification Form, October 1, 1984.
 - (7) Application for Registration Used Oil Collection and Recycling Facilities and Transporters, February 25, 1985.
 - (8) Annual Report by Used Oil Facilities and Transporters, February 25, 1985.
 - (9) Used Oil Recordkeeping Form, February 25, 1985.
 - (10) Application for Permit to Close a Solid Waste Resource Recovery and Management Facility, July 1, 1985.
 - (11) Financial mechanisms for facilities requiring long-term care: Solid Waste Facility Trust Fund Agreement to Demonstrate Closure and/or Post-Closure Financial Assurance, Solid Waste Facility Standby Trust Fund Agreement, Solid Waste Facility Irrevocable Letter of Credit, Solid Waste Facility Closure/Post-Closure Insurance Certificate, Solid Waste Facility Financial Guarantee Bond, Solid Waste Facility Performance Bond, October 1, 1989.
 - (12) Financial mechanisms for facilities not requiring long-term care: Solid Waste Management Trust Fund Agreement, Solid Waste Facility Performance Bond, Solid Waste Facility Closure Insurance Certificate, Solid Waste Facility Standby Trust Fund Agreement, Solid Waste Facility Irrevocable Letter of Credit, Solid Waste Facility Financial Guarantee Bond.
- Specific Authority: 120.53(1), 403.061, F.S.
Law Implemented: 120.53(1), 120.55, 403.0875, 403.7125, F.S.
History: New 11-30-82; Amended 6-16-84, 9-12-84, 2-25-85, 7-1-85; Formerly 17-1.206 and Amended 12-10-85; Formerly 17-7.130, Amended 11-28-89.

17-701.801 General Permit for Solid Waste Transfer Station.

(1) A general permit is hereby granted to any person for the construction and operation of a solid waste transfer station that has been designed or will be operated in accordance with the standards and criteria set forth in Fla. Admin. Code Rule 17-701.091.

(2) This general permit is subject to the general conditions of Rule 17-4.540 and the following specific conditions:

(a) Within thirty (30) days of completion of construction, the engineer of record shall certify to the Department that the permitted construction is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.

17-701.130(3) -- 17-701.801(2)(a)

(b) Monthly operating reports shall be filed with the Department and the local pollution control office, where applicable, which contain information on the volume, type and frequencies of waste being received. Reports shall be submitted no later than the fifteenth day of the succeeding month.

(c) No hazardous or infectious waste shall be accepted at the transfer station.

(d) This general permit does not relieve the permittee of the responsibility for obtaining a dredge and fill permit where it is required.

Specific Authority: 403.814(1), F.S.

Law Implemented: 403.061, 403.087, 403.088, 403.702-403.73, 403.814, F.S.

History: New 7-8-82. Previously numbered as 17-4.61. Formerly 17-4.610. Formerly 17-7.801.

17-701.802 General Permit for Land Application of Grade II Domestic Wastewater Treatment Sludge.

(1) As a result of the potential harm to human health or the environment resulting from sludge disposal activities, it is important that public notice be given before a general permit for such activities is utilized. Therefore, a general permit is hereby granted to any person for land application of Grade II domestic wastewater treatment sludge; provided:

(a) The person intending to apply the sludge to the land submits a completed General Permit Application for Grade II Sludges, as specified in Fla. Admin. Code Rule 17-701.060.

(b) The permit applicant, within 14 days of notice to the department, has published in a newspaper of general circulation in the area affected, a notice of the intended land application of Grade II sludge. The notice shall include the name of the applicant and a brief description of the proposed activity and location.

(c) The sludge is land applied pursuant to the requirements of Fla. Admin. Code Rule 17-701.540(5).

(2) The general permit shall be subject to the general conditions of Fla. Admin. Code Rule 17-4.540.

Specific Authority: 403.814, F.S.

Law Implemented: 403.061, 403.087, 403.702, through 403.715, 403.814, F.S.

History: New 6-16-84. Previously numbered as 17-4.64. Formerly 17-4.640, Formerly 17-7.802.

17-701.801(2)(b) -- 17-701.802(History)

07-19-90

17-701.803 General Permit for Off-site Disposal of Construction and Demolition Debris.

(1) The owner or operator of the construction and demolition debris disposal facility shall notify the Department in writing on form 17-701.900(1) of the facility location, size in acres, general description of the facility operations, planned active life of the facility and the mailing address and phone number of the owner and operator. Owners and operators of Solid Waste Facilities which have a permit under Rule 17-701, F.A.C. to receive construction and demolition debris are exempt from this requirements.

(2) The owner or operator of the disposal facility shall certify in writing to the Department that the owner or operator will operate the disposal facility in accordance with the requirements of this section and that they either own the land or have legal authorization from the land owner to use the land for a disposal facility.

(3) The disposal facility is exempt from the requirements of Rule 17-701.050 and 17-701.070 through 17-701.076, F.A.C., provided that none of the Prohibitions contained in Rule 17-701.040, F.A.C., or the water quality standards contained in Chapters 17-3 and 17-28, F.A.C., shall be violated.

(4) Stormwater shall be controlled in accordance with Chapter 17-25, F.A.C., and any water management district rules.

(5) The disposal facility shall have equipment for temporary storage and transport for solid waste, other than construction and demolition debris, to an authorized disposal facility. Such solid waste which is accepted by the facility shall be segregated and disposed of in accordance with Department rules.

(6) Construction and demolition debris shall be compacted as necessary to assure that the requirements of section (9) below can be met.

(7) Access to the disposal facility shall be controlled during the active life of the facility by fencing or other effective barriers to prevent disposal of solid waste other than construction and demolition debris.

(8) Operation of a facility under a general permit constitutes consent for Department personnel to inspect the site during normal business hours for compliance with Department rules.

(9) Final cover and seeding or planting of vegetative cover shall be placed on each disposal unit within 180 days after final receipt of wastes. Final cover shall consist of a 24-inch-thick soil layer, the upper six inches of which shall be capable of supporting vegetation and shall be graded to eliminate ponding, promote drainage, and minimize erosion.

(10) The owner or operator shall notify the Department within 30 days after closing, covering, and seeding the facility as required in (9) above.

Specific Authority: 403.061, 403.704, 403.707, 403.814, F.S.

Law Implemented: 403.707, 403.814, F.S.

History: New 8-2-89.

17-701.803 -- 17-701.803(History)

17-701.900 Forms

The forms used by the Department in the Solid Waste Management Program are adopted and incorporated by reference in this section. The form is listed by rule number, which is also the form number, and with the subject, title and effective date. Copies of forms may be obtained by writing to the:

Department of Environmental Regulation
Solid Waste Section

Tallahassee, Florida 32399-2400

(1) DER form 17-701.900(1), Notification of a General Construction and Demolition Debris Solid Waste Management Facility, August 1, 1989.
Specific Authority: 120.53(1), 403.061, 403.704, F.S.
Law Implemented: 120.53(1), 403.707, F.S.
History: New 8-2-89.

17-701.900 -- 17-701.900 (History)

Solid Waste Management Facilities
Chapter 17-701, F.A.C.
Department of Environmental Regulation
Effective 01/06/1993

Effective 1-6-1993

DER 1993 SOLID WASTE MANAGEMENT FACILITIES 17-701

CHAPTER 17-701
SOLID WASTE MANAGEMENT FACILITIES

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17-701.030	Solid Waste Resource Recovery and Management Permit Requirements. (Repealed 1-6-93)
17-701.040	Prohibitions. (Transferred to 17-701.300)
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17-701.060	Special Waste Handling. (Transferred to 17-701.520)
17-701.061	Construction and Demolition Debris Disposal. (Transferred to 17-701.730)
17-701.070	Closure of Landfills. (Repealed 1-6-93)
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17-701.510 Water Quality and Leachate Monitoring
 Requirements.
17-701.520 Special Waste Handling. (Formerly 17-701.060)
17-701.600 Landfill Final Closure.
17-701.610 Closure Procedures. (Formerly 17-701.074)
17-701.620 Long-Term Care. (Formerly 17-701.075)
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 17-701.076)
17-701.700 Materials Recovery Facilities.
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17-701.801 General Permit for Solid Waste Transfer
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17-701.001 Declaration and Intent.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.701 through 403.8055, F.S.

History: New 10-1-74; Amended 5-24-79; Previously Numbered as 17-7.01; Formerly 17-7.001, Amended 6-25-90, Repealed 1-6-93

17-701.020 Definitions.

History: Transferred from 10D-12.02, 10-1-74; Revised

7-20-76; Amended 5-24-79, 6-13-84, 4-25-85, 7-1-85;

Previously Numbered as 17-7.02; Amended 12-10-85; Formerly 17-7.020; Amended 8-2-89, 6-25-90. Transferred to

17-701.200.

17-701.030 Solid Waste Management Permit Requirements.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10-D12.03, 10D-12.04, 10D-12.07, 10-1-74; Amended 5-24-79, 6-13-84, 7-1-85; Previously Numbered as 17-7.03; Amended 12-10-85; Formerly 17-7.030, Amended 6-25-90, Repealed 1-6-93.

17-701.040 Prohibitions.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.06, 10D-12.07, 10-1-74; Amended 5-24-79, 5-27-82; Previously Numbered as 17-7.04; Amended 12-10-85; Formerly 17-7.040; Amended 6-25-90, Transferred to 17-701.300.

17-701.050 Sanitary Landfill Criteria.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.07, 10-1-74; Revised 5-11-75, 7-20-76; Amended 5-24-79; Previously Numbered as 17-7.05; Amended 12-10-85; Formerly 17-7.050; Amended: 7-19-90, Repealed 1-6-93.

17-701.060 Special Waste Handling.

Specific Authority: 403.061, 403.704, 403.705, 403.8055, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

17-701.001 - 17-701.060

History: Transferred from 10D-12.07, 10-1-74; Amended 5-24-79, 11-25-82, 7-10-84; Previously Numbered as 17-7.06; Amended 12-10-85; Formerly 17-7.060, Transferred to 17-701.520.

17-701.061 Construction and Demolition Debris Disposal
Specific Authority: 403.061, 403.704, 403.707, F.S.
Law Implemented: 403.706, 403.707, F.S.
History: New 8-2-89, Transferred to 17-701.730.

17-701.070 Closure of Landfills.
Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.
History: New 10-1-74; Amended 5-24-79, 7-1-85; Previously Numbered as 17-7.07; Amended 12-10-85; Formerly 17-7.070, Repealed 1-6-93.

17-701.071 Closure Schedule.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.071, Repealed 1-6-93.

17-701.072 Closure Permit Application Submittal.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.072, Repealed 1-6-93.

17-701.073 Closure Plan Requirements.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.073, Repealed 1-6-93.

17-701.074 Closure Procedures.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.074, Transferred to 17-701.610.

17-701.075 Long Term Care.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85, Formerly 17-7.075, Transferred to 17-701.630.

17-701.076 Financial Responsibility.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.076, Amended 11-28-89, Transferred to 17-701.630.

17-701.060(Cont'd.) - 17-701.076(History)

17-701.077 Permit Application Requirements.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Transferred to 17-701.030(3), 12-10-85.

17-701.078 Approval of Alternative Procedures and Requirements.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Amended 12-10-85; Formerly 17-7.078, Transferred to 17-701.310.

17-701.080 Supervision and Inspection.

Specific Authority: 403.061, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713, F.S., Chapter 74-342.

History: Transferred from 10D-12.07, 10-1-74; Previously Numbered as 17-7.08; Formerly 17-7.080, Repealed 1-6-93.

17-701.090 Volume Reduction Plants.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 10-1-74; Amended 5-24-79; Previously Numbered as 17-7.09; Formerly 17-7.090, Repealed 1-6-93.

17-701.091 Transfer Stations.

Specific Authority: 403.061, 403.7044, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 5-24-79; Formerly 17-7.091, Repealed 1-6-93.

17-701.100 Intent.

The intent of this rule is to establish standards for the construction, operation, and closure of solid waste management facilities to minimize their threat to public health and the environment, and to implement the provisions of the Florida Solid Waste Management Act, Sections 403.701-403.715, Florida Statutes.

Specific Authority: 403.061, 403.704, F.S.

Laws Implemented: 403.021, 403.061, 403.087, 403.701 through 403.717, F.S.

History: New 1-6-93.

17-701.120 Notification of Disposal Activity.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.707, F.S.

History: New 6-13-84; Amended 4-25-85; Previously Numbered as 17-7.12; Formerly 17-7.120, Repealed 1-6-93.

17-701.077 - 17-701.120

17-701.130 Forms.

Specific Authority: 120.53(1), 403.061, F.S.

Law Implemented: 120.53(1), 120.55, 403.0875, 403.7125, F.S.

History: New 11-30-82; Amended 6-16-84, 9-12-84, 2-25-85, 7-1-85; Formerly 17-1.206 and Amended 12-10-85; Formerly 17-7.130, Amended 11-28-89, Repealed 1-6-93.

17-701.200 Definitions. The following words, phrases or terms as used in this chapter, unless the context indicates otherwise, shall have the following meaning:

(1) "Agricultural wastes" means the solid wastes resulting from normal farming operations, the raising and slaughtering of animals, and the processing of animal products, orchard, and field crops, which are stored, transported, or disposed of as an unwanted waste material.

(2) "Air quality standards" means, unless otherwise specified, those standards set forth in Chapter 17-272, F.A.C.

(3) "ASTM" means the American Society for Testing and Materials.

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

(5) "Biohazardous waste" has the meaning given it in Rule 17-712.200, F.A.C.

(6) "Biological waste" has the meaning given it in Rule 17-712.200, F.A.C.

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

(8) "Bulky wastes" means items whose large size or weight precludes or complicates their handling by normal collection, processing, or disposal methods.

(9) "Cell" means a volume of solid waste received since the last previous application of initial cover. The compacted waste and subsequent initial cover constitute a cell which usually contains wastes deposited in one day.

(10) "Clean debris" means any solid waste which is virtually inert, which is not a pollution threat to ground water or surface waters, is not a fire hazard, and is likely to retain its physical and chemical structure under expected conditions of disposal or use. The term includes brick, glass, ceramics, and uncontaminated concrete including embedded pipe or steel.

(11) "Closing" means the time at which a solid waste management facility ceases to accept wastes, and includes those actions taken by the owner or operator of the facility to prepare the facility for any necessary monitoring and maintenance after closing.

17-701.130 - 17-701.200(11)

(12) "Closure" means the cessation of operation of a solid waste management facility and the act of securing such a facility so that it will pose no significant threat to human health or the environment. This includes closing, long term monitoring, maintenance, and financial responsibility.

(13) "Cm/sec" means centimeters per second.

(14) "Compost" has the meaning given it in Rule 17-709.200, F.A.C.

(15) "Composting" has the meaning given it in Rule 17-709.200, F.A.C.

(16) "Composite liner" means a liner comprised of a geomembrane, which is underlain and in direct contact with a soil component.

(17) "Construction and demolition debris" means materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt roofing material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure. The term includes rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project. Mixing of construction and demolition debris with other types of solid waste, including material which is not from the actual construction or destruction of a structure, will cause it to be classified as other than construction and demolition debris.

(18) "Department" means the State of Florida Department of Environmental Regulation.

(19) "Design period" means the operating life of the solid waste management facility plus any long-term care period after closing.

(20) "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or upon any land or water so that such solid waste or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including ground waters, or otherwise enter the environment.

(21) "Engineer of record" means a professional engineer registered in the State of Florida in accordance with provisions of Chapter 471, F.S., who is appointed by the owner or operator of the solid waste management facility.

(22) "Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for solid waste management.

17-701.200(12) - 17-701.200(22)

(23) "Fill" means man-made deposits of earth or waste materials used to fill excavations, to increase the vertical or horizontal extent of land or solid waste disposal units, or to build embankments.

(24) "Final cover" means the materials used to cover the top and sides of a landfill when fill operations cease.

(25) "Garbage" means all kitchen and table food waste, and animal or vegetative waste that is attendant with or results from the storage, preparation, cooking, or handling of food materials.

(26) "Gas condensate" means the liquid generated as a result of gas recovery processes at a landfill.

(27) "Gas control system" means a system of wells, trenches, pipes, and other related structures that vents the gas produced in a solid waste disposal unit to the atmosphere.

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

(29) "Generation" means the act or process of producing solid waste.

(30) "Geomembrane" means a low-permeability synthetic membrane used as an integral part of a system designed to limit the movement of liquid or gas in the system.

(31) "Geonet" means a type of a geogrid that allows planar flow of liquids and serves as a drainage system.

(32) "Geotextile" means a permeable textile used as a part of a system designed to act as a filter to prevent the flow of fine particles into drainage systems, to provide planar flow for drainage, to serve as a cushion to protect geomembranes, or to provide structural support.

(33) "Ground water" means water beneath the surface of the ground within a zone of saturation, whether or not it is flowing through known and definite channels.

(34) "Hazardous waste" means a solid waste regulated by the Department as a hazardous waste pursuant to Chapter 17-730, F.A.C.

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

17-701.200(23) - 17-701.200(35)

(36) "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products or byproducts; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing or foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

(37) "Initial cover" means a 6-inch layer of compacted earth, used to cover an area of solid waste before placement of additional waste, intermediate cover, or final cover. The term also includes other material or thickness, approved by the Department, that minimizes vector breeding, animal attraction, and moisture infiltration, minimizes fire potential, prevents blowing litter, controls odors, and improves landfill appearance.

(38) "Intermediate cover" means a layer of compacted earth at least one foot in depth applied to a solid waste disposal unit. The term also includes other material or thickness, approved by the Department, that minimizes vectors, odors, and fire, and is consistent with the leachate control design of the landfill.

(39) "Landfill" means a solid waste disposal facility, which is an area of land or an excavation where wastes are or have been placed for disposal, for which a permit, other than a general permit, is required by Section 403.707, F.S. This term shall not include:

- (a) A land spreading site; or
- (b) A surface impoundment; or
- (c) An injection well defined under and subject to the provisions of Chapter 17-28, F.A.C.

(40) "Lateral expansion" means any horizontal increase in the dimensions of the waste boundary of an existing solid waste disposal unit.

(41) "Leachate" means liquid that has passed through or emerged from solid waste and may contain soluble, suspended or miscible materials.

(42) "Lift" means a completed horizontal series of cells.

(43) "Lined landfill" means a landfill constructed with a liner made of synthetic materials, low-permeability soils, or a combination of these materials, which has been approved by the Department, and which has met the Department's landfill design criteria at the time of permitting.

17-701.200(36) - 17-701.200(43)

(44) "Liner" means a continuous layer of low-permeability natural or synthetic materials, under the bottom and sides of a landfill, solid waste disposal unit, or leachate surface impoundment, which controls the downward or lateral escape of waste constituents, or leachate.

(45) "Liner system" means a system of leachate collection and liner layers comprised of natural or synthetic materials installed between the subgrade and the waste for the purpose of containing the waste and collecting and removing leachate.

(46) "Liquid waste" means any waste material that is determined to contain free liquids as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).

(47) "Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at a temperature of 25 degrees Celsius and atmospheric pressure.

(48) "Materials recovery" means any process by which one or more of the various components in solid waste is separated and concentrated for reuse.

(49) "Materials recovery facility" means a solid waste management facility that provides for the extraction from solid waste of recyclable materials, materials suitable for use as a fuel or soil amendment, or any combination of such materials.

(50) "Method detection limit" means the smallest concentration of an analyte of interest that can be measured and reported with 99 percent confidence that the concentration is greater than zero. The method detection limit shall be determined pursuant to procedures outlined in Appendix B of 40 CFR Part 136, which is hereby incorporated by reference.

(51) "Monitoring wells" means strategically located wells from which water samples are drawn for water quality analysis.

(52) "Normal farming operations" means the customary and generally accepted activities, practices, and procedures that farmers adopt, use, or engage in during the production and preparation for market of poultry, livestock, and associated farm products; and in the production, harvesting, or packaging of agricultural crops which include agronomic, horticultural, and silvicultural crops. Included is the management, collection, storage, composting, transportation, and utilization of organic agricultural waste, manure, and materials solely derived from agricultural crops.

17-701.200(44) - 17-701.200(52)

(53) "100-year floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

(54) "On-site" means on the same or geographically contiguous property, which may be divided by public or private right-of-way.

(55) "Open burning" means the burning of any material under such conditions that the products of combustion are emitted directly into the atmosphere.

(56) "Operator" means any person, including the owner, who is principally engaged in, and is in charge of, the actual operation, supervision, and maintenance of a solid waste management facility.

(57) "Person" means any and all persons, natural or artificial, including any individual, firm, or association; any municipal or private corporation organized or existing under the laws of Florida or any other state; any county of this state; and any governmental agency of this state or the Federal Government.

(58) "Processing" means any technique designed to change the physical, chemical, or biological character or composition of any solid waste so as to render it safe for transport, amenable to recovery, storage or recycling; safe for disposal; or reduced in volume or concentration.

(59) "Professional engineer" means an engineer registered in the State of Florida in accordance with Chapter 471, F.S.

(60) "Professional geologist" means a geologist registered in the State of Florida in accordance with Chapter 492, F.S.

(61) "Recovered materials" means those materials which have known recycling potential, can be feasibly recycled, and have been diverted or removed from the solid waste stream for sale, use, or reuse, by separation, collection, or processing.

(62) "Recyclable material" means those materials which are capable of being recycled and which would otherwise be processed or disposed of as solid waste.

(63) "Recycling" means any process by which solid waste, or materials which would otherwise become solid waste, are collected, separated, or processed and reused or returned to use in the form of raw materials or products.

(64) "Resource recovery" means the process of recovering materials or energy from solid waste, excluding those materials or solid waste under control of the Nuclear Regulatory Commission.

17-701.200(53) - 17-701.200(64)

(65) "Sanitary nuisance" means a condition created by any person, or the keeping, maintaining, propagation, existence, or permitting of anything by a person by which the health or lives of individuals may be threatened or impaired, or by which disease may be caused or transmitted.

(66) "Shallow water supply well" means any potable water well which pumps water from an unconfined water table aquifer.

(67) "Shredding" means a process of reducing the particle size of solid waste through the use of grinding, shredding, milling, or rasping machines.

(68) "Site" means the area of land or water within the property boundaries of a solid waste management facility where one or more solid waste processing, resource recovery, recycling, storage, or disposal areas are located.

(69) "Solid waste" means garbage, refuse, yard trash, construction and demolition debris, white goods, special waste, ashes, sludge, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations. Materials not regulated as solid waste pursuant to this Chapter are: nuclear source or byproduct materials regulated under Chapter 404, F.S., or under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.

(70) "Solid waste disposal facility" means any solid waste management facility which is the final resting place for solid waste, including landfills and incineration facilities that produce ash from the process of incinerating municipal solid waste.

(71) "Solid waste disposal unit" means a discrete area of land used for the disposal of solid waste.

(72) "Solid waste management" means the process by which solid waste is collected, transported, stored, separated, processed, or disposed of in any other way, according to an orderly, purposeful, and planned program.

(73) "Solid waste management facility" means any solid waste disposal area, volume reduction plant, transfer station, or other facility, the purpose of which is resource recovery or the disposal, recycling, processing, or storage of solid waste. The term does not include facilities which use or ship recovered materials unless such facilities are managing solid waste.

17-701.200(65) 17-701.200(73)

(74) "Special wastes" means solid wastes that can require special handling and management, including but not limited to, white goods, waste tires, used oil, mattresses, furniture, lead-acid batteries, asbestos, and biological wastes.

(75) "Stabilized" means that biological and chemical decomposition of the wastes has ceased or diminished to a level so that such decomposition no longer poses a pollution, health, or safety hazard.

(76) "Ton" means a short ton, 2,000 pounds (.9078 metric tons).

(77) "Transfer station" means a site the primary purpose of which is to store or hold solid waste for transport to a processing or disposal facility. It does not include green boxes, compactor units, permanent dumpsters, and other containers from which such wastes are transported to a landfill or other solid waste management facility.

(78) "Unlined landfill" means a landfill which does not have a bottom liner system approved by the Department, or which has a bottom liner system which does not or did not meet the Department's landfill design criteria at the time of permitting. This term includes landfills underlain by only in-situ soils unless these soils have been tested and approved by the Department as part of a construction permit.

(79) "Used oil" has the meaning given it in Rule 17-710.200, F.A.C.

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

(81) "Vector" means a carrier organism that is capable of transmitting a pathogen from one organism to another.

(82) "Volume reduction plant" means an incinerator, pulverizer, compactor, shredding and baling plant, composting plant, or other plant which accepts and processes solid waste for recycling or disposal.

(83) "Waste tire" has the meaning given it in Rule 17-711.200, F.A.C.

(84) "Water quality standards and criteria" means, unless otherwise specified, those standards and criteria set forth in Chapters 17-3 and 17-302, F.A.C.

(85) "White goods" means inoperative and discarded refrigerators, ranges, washers, water heaters, freezers, and other similar domestic and commercial large appliances.

(86) "Working face" means that portion of a landfill where waste is deposited, spread, and compacted before placement of initial cover.

17-701.200(74) - 17-701.200(86)

(87) "Yard trash" means vegetative matter resulting from landscaping maintenance or land clearing operations and includes materials such as tree and shrub trimmings, grass clippings, palm fronds, trees and tree stumps.

(88) "Zone of discharge" has the meaning given it in Rule 17-3.021, F.A.C.

All other definitions found in Chapter 403, F.S., and Chapters 17-702 through 17-720, F.A.C., to the extent that they are consistent with the definitions of this chapter, are applicable to the terms used in this chapter.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.717, F.S.

History: Transferred from 10D-12.02, 10-1-74; Revised

7-20-76; Amended 5-24-79, 6-13-84, 4-25-85, 7-1-85;

Previously numbered as 17-7.02; Amended 12-10-85; Formerly

17-7.020; Amended 8-2-89, 6-25-90; Formerly 17-701.020;

Amended 1-6-93.

17-701.210 Documents Incorporated by Reference.
Specific references to the documents listed below are made throughout this chapter. These documents are adopted as standards and are incorporated into this chapter by reference. The reference documents are available for inspection at the Department's district offices.

(1) EPA document EPA/530-SW-86-031, Construction Quality Assurance for Hazardous Waste Land Disposal Facilities; October, 1986.

(2) 40 CFR Part 61.154, Standard for Active Waste Disposal Sites; November 20, 1990.

(3) ASTM Method E96-80, Procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09; February, 1981, editorial changes made standard in May, 1987.

(4) 40 CFR Part 136, Appendix B, Definition and Procedure for the Determination of the Method Detection Limit, revision 1.1; October 26, 1984.

(5) Method 9095, Paint Filter Test, found in EPA document EPA SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods; Third Edition, September, 1986, as revised, December, 1987.

(6) 40 CFR Part 258, Appendix II; October, 1991.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.061, 403.701 through 403.717, F.S.

History: New 1-6-93.

17-701.200(87) - 17-701.210(History)

17-701.220 General Applicability. This chapter applies to all solid waste and each solid waste management facility in this state, with the following exceptions:

(1) This chapter was substantially amended on January 6, 1993, and a number of provisions were deleted or modified at that time. Except as otherwise specifically provided herein, facilities which were permitted or received a site certification prior to January 6, 1993, or for which a complete application was submitted and deemed complete by the Department prior to January 6, 1993, remain subject to the provisions which were in effect prior to January 6, 1993, and which were applicable to them.

(2) This chapter applies to all solid waste and each solid waste management facility in this state, with the following exceptions.

(a) Surface impoundments not addressed in Rule 17-701.400(6), F.A.C.;

(b) Injection wells defined under and subject to the provisions of Chapter 17-28, F.A.C.; and

(c) Recovered materials, if:

1. A majority of the recovered materials at a facility are demonstrated to be sold, used, or reused within one year;

2. The recovered materials or the products or byproducts of operations that process recovered materials are not discharged, deposited, injected, dumped, spilled, leaked, or placed into or upon any land or water so that such products or byproducts or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including ground water, or otherwise enter the environment or pose a threat to public health and safety; and

3. The recovered materials are not hazardous wastes and have not been recovered from hazardous wastes.

(3) Phosphogypsum is considered solid waste. However, phosphogypsum stack systems are not considered landfills, and are not subject to the specific landfill construction, operation, or closure requirements of this chapter.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.061, 403.701 through 403.717, F.S.

History: New 1-6-93.

17-701.300 Prohibitions.

(1) General prohibition.

(a) No person shall store, process, or dispose of solid waste except at a permitted solid waste management facility or a facility exempt from permitting under this chapter.

17-701.220 - 17-701.300(1)(a)

(b) No person shall store or dispose of solid waste in a manner or location that causes air quality standards to be violated or water quality standards or criteria of receiving waters to be violated.

(2) Disposal. Unless authorized by a Department permit or site certification in effect on January 6, 1993, no solid waste shall be stored or disposed of by being placed:

(a) In an area where geological formations or other subsurface features will not provide support for the solid waste;

(b) In any area where the absence of geological formations or subsurface features would allow for the unimpeded discharge of waste or leachate to ground or surface water. A person may dispose of solid waste in such an area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards under Chapters 17-302 and 17-520, F.A.C.;

(c) Within 500 feet of an existing or approved shallow water supply well unless disposal takes place at a facility for which a complete permit application was filed or which was originally permitted before the shallow water supply well was in existence;

(d) In a dewatered pit unless the pit is lined and permanent leachate containment and special design techniques are used to ensure the integrity of the liner;

(e) In an area subject to frequent and periodic flooding unless flood protection measures are in place;

(f) In any natural or artificial body of water including ground water;

(g) Within 200 feet of any natural or artificial body of water, including wetlands within the jurisdiction of the Department, except bodies of water contained completely within the property boundaries of the disposal site, which do not discharge from the site to surface waters. A person may dispose of solid waste within the 200 foot setback area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards under Chapters 17-302 and 17-520, F.A.C.

Stormwater control methods shall meet stormwater requirements of Chapter 17-25, F.A.C. However, nothing contained herein shall prohibit the Department from imposing conditions necessary to assure that solid waste disposed of within the 200 foot setback area will not cause pollution from the site in contravention of Department rules.

(h) On the right of way of any public highway, road, or alley;

17-701.300(1)(b) - 17-701.300(2)(h)

(3) Burning. Open burning of solid waste is prohibited except in accordance with Rule 17-701.520(2), F.A.C. Controlled burning of solid waste is prohibited except in a permitted incinerator, or in a facility in which the burning of solid waste is authorized by a site certification order issued under Chapter 403, Part II, F.S.; clean vegetative and wood wastes may be burned in an air curtain incinerator in accordance with Rule 17-2.500(1)(e), F.A.C. - See also p. 91

(4) Hazardous waste. No hazardous waste shall be disposed of in a solid waste management facility unless such facility is permitted pursuant to Chapter 17-730, F.A.C.

(5) Biohazardous waste. Biohazardous waste shall be properly incinerated so that little or no organic material remains in the ash residue, or shall be processed by a method approved by the Department pursuant to Chapter 17-712, F.A.C. No untreated biohazardous waste shall be knowingly deposited in any landfill.

(6) Class I surface waters. The Department shall not issue a construction permit for a landfill within 3,000 feet of Class I surface waters.

(7) Special wastes for landfills. No person who knows or who should know of the nature of such solid waste shall dispose of the following wastes in any landfill:

- (a) Lead-acid batteries;
- (b) Used oil, except as provided in Chapter 17-710, F.A.C.;
- (c) Yard trash, except in unlined landfills classified by Department rule;
- (d) White goods; and
- (e) Whole waste tires, except as provided in Chapter 17-711, F.A.C.

(8) Special wastes for waste-to-energy facilities. No person who knows or who should know of the nature of such solid waste shall dispose of lead-acid batteries in any waste-to-energy facility

(9) Liquids restrictions.

(a) Noncontainerized liquid waste shall not be placed in solid waste disposal units unless:

- 1. The waste is household waste other than septic waste;
- 2. The waste is leachate or gas condensate derived from the solid waste disposal unit and the solid waste disposal unit is designed in accordance with Rule 17-701.400, F.A.C.; or

3. Such disposal is authorized by the Department on a case-by-case basis, based upon the nature and quantity of the liquid waste, the landfill design, the landfill operational practices, and the potential for creating leachate in excess of the landfill's capacity to handle.

17-701.300(3) - 17-701.300(9)(a)3.

(b) Containers holding liquid waste shall not be placed in a solid waste disposal unit unless:

1. The container is a small container similar in size to that normally found in household waste;

2. The container is designed to hold liquids for use other than storage; or

3. The waste is household waste.

(c) Containers or tanks twenty gallons or larger in capacity shall either have one end removed or cut open, or have a series of punctures around the bottom to ensure the container is empty and free of residue. The empty container or tank shall be compacted to its smallest practical volume for disposal.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.06, 10D-12.07, 10-1-74; Amended 5-24-79, 5-27-82; Previously Numbered as 17-7.04; Amended 12-10-85; Formerly 17-7.040; Amended 6-25-90; Formerly 17-701.040; Amended 1-6-93.

17-701.310 Approval of Alternate Procedures and Requirements.

[1] Applicability. Any person subject to the provisions of this chapter or Chapters 17-702 through 17-720, F.A.C., may request in writing a determination by the Secretary that a requirement shall not apply, and shall request approval of alternate procedures or requirements.

[2] Criteria. The request shall set forth at a minimum the following information:

(a) The specific facility for which an exception is sought;

(b) The specific provisions from which an exception is sought;

(c) The basis for the exception;

(d) The alternate procedure or requirement for which approval is sought and a demonstration that the alternate procedure or requirement provides an equal degree of protection for the public and the environment; and

(e) A demonstration of the effectiveness of the proposed alternate procedure.

[3] Department order. The Secretary shall specify by order each alternate procedure or requirement approved in accordance with this section or shall issue an order denying the request for such approval. The Department's order shall be agency action, reviewable in accordance with Section 120.57, F.S.

17-701.300(9)(b) - 17-701.310(3)

(4) Alternate sampling procedures. Approval of alternative or new field and laboratory sampling and analysis procedures shall be requested in accordance with Rules 17-160.430, 17-160.520 and 17-160.530, F.A.C.

(5) Variances. Requests for variances from specific statutory requirements shall be made pursuant to Section 403.201, F.S., and Rule 17-103.100, F.A.C.

(6) Requests for alternate procedures shall be accompanied by a fee of \$2000 in accordance with Rule 17-4.050(4)(m)4., F.A.C. Requests must be submitted to the Director of the Division of Waste Management, 2600 Blair Stone Road, Twin Tower Office Building, Tallahassee, Florida 32399-2400.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Amended 12-10-85; Formerly 17-7.078; Formerly 17-701.078; Amended 1-6-93.

17-701.320 Solid Waste Management Facility Permit Requirements, General.

(1) Permit requirements. No solid waste management facility shall be constructed, operated, maintained, modified, or closed without a permit issued by the Department. See also 17-4.030, 403.101(1)

(2) Exemptions. No permit under this chapter shall be required for the following activities or facilities provided that no sanitary nuisance or any condition adversely affecting the environment or public health is created, and provided that the activity does not violate other state or local laws, ordinances, rules, regulations, or orders. For purposes of this subsection, disposal shall be deemed to include storage prior to disposal or processing.

(a) Disposal by persons of solid waste resulting from their own activities on their own property, provided such waste is either from their residential property or is rocks, soils, trees, tree remains, and other vegetative matter which normally results from land development operations.

(b) Disposal by persons of solid waste resulting from their own activities on their property, provided that the environmental effects of such disposal on ground water and surface waters are:

1. Addressed or authorized by a site certification issued under Chapter 403, Part II, F.S., Electrical Power Plant Siting;

2. Addressed or authorized by a permit issued by the Department, including solid waste management permits or other environmental permits modified to include conditions for proper disposal; or

17-701.310(4) - 17-701.320(2)(b)2.

3. Addressed or authorized by, or specifically exempted from the requirement to obtain, a ground water monitoring plan approved by the Department.

(c) On-site disposal of construction and demolition debris, provided that disposal conforms to Rule 17-701.730(3), F.A.C.

(d) Clean debris which is used as fill material.

(e) Disposal of solid waste resulting from normal farming operations.

(f) Storage of solid waste in containers on property which is owned, rented, or leased by the persons who generated the waste from their own activities which occurred on their property, if the solid waste in such containers is collected at least once a week.

(g) Disposal by persons of solid waste resulting from their own activities on their own property, if that waste disposal occurred before October 1, 1988.

(3) Responsible applicant.

In addition to the provisions of Rule 17-4.070(5), F.A.C., When determining whether the applicant has provided reasonable assurances that Department standards will be met, the Department shall consider repeated violations of applicable statutes, rules, orders, or permit conditions caused by a permit applicant after October, 1988, relating to the operation of any solid waste management facility in this state for which the applicant is deemed to be responsible. For purposes of this subsection, the following words have the following meanings:

(a) "Applicant" means the owner or operator of the solid waste management facility in this state, and includes a business entity, a parent of a subsidiary corporation, a partner, a corporate officer or director, or a stockholder holding more than 50 percent of the corporate stock.

(b) "Responsible" means that an applicant owned or operated a solid waste management facility in this state, including transportation equipment or mobile processing equipment used by or on behalf of the applicant, which was subject to a state or federal notice of violation, judicial action, or criminal prosecution for activities that constitute violations of Chapter 403, F.S., or the rules promulgated thereunder, and could have prevented the violation through reasonable compliance with Department rules.

(4) Modification of an approved permit. Nothing in this rule shall be construed to limit or prohibit modifications of a permit under the provisions of Rule 17-4.080, F.A.C.

(5) Permit application.

17-701.320(2)(b)3. - 17-701.320(5)

(a) Applications for a solid waste management facility shall be submitted on appropriate Department forms listed in Rule 17-701.900, F.A.C., to the Department district office with jurisdiction where the facility is located. A minimum of six copies each of the application, engineering plans and reports, and all supporting information for the proposed construction, substantial modification, operation or closure of a facility shall be provided to the Department.

(b) Information in every application shall be of sufficient detail to show how the facility will be constructed, operated, and closed, and how it will be monitored and maintained after closure, in order to comply with the requirements of this chapter.

multiple fees
(c) Combination facilities. An application for a permit to construct or operate a solid waste management facility having multiple solid waste management components which, if standing alone, would require solid waste management facility permits, shall include all information required to be submitted had each component been proposed as a separate facility, independent of the other components. Such information may be combined or otherwise presented so as to avoid duplicative or repetitive submittals. Additionally, such applications shall be accompanied by such fees as would be required for each facility component; however, the total permit fees for a facility shall not exceed \$25,000, exclusive of modifications and renewals.

E certification
(6) Engineer of record and professional certification. All engineering plans, reports, and information supporting the application shall be compiled by the engineer of record who shall be responsible for assurance that all technical components have been prepared under the direction and supervision and signed and sealed by the professional registered in Florida in each contributing technical discipline. The engineer of record's signature and seal of the application shall assure that all appropriate technical professional disciplines have been employed in development of the application. The application shall provide that the engineer of record or another qualified professional shall make periodic inspections during construction of the facility to ensure that design integrity is maintained.

(7) Application content and format. Applications for permits to construct, operate, modify, or close a solid waste management facility shall include in the following sequence:

- (a) A letter of application transmittal;
- (b) A completed application form dated and signed by the applicant;

17-701.320(5)(a) - 17-701.320(7)(b)

(c) The permit fee specified in Rule 17-4.050, F.A.C., in check or money order, payable to the Department.

(d) An engineering report addressing the requirements of this rule which shall:

1. Contain a cover sheet stating the project title, location, applicant's name, and the engineer's name, address, signature, date of signature and seal;
2. Have the text printed on 8 1/2 inch by 11 inch consecutively numbered pages;
3. Contain a table of contents or index describing the body of the report and the appendices; and
4. Include the body of the report and all appendices.

(e) Appendices submitted as part of an engineering report to support a permit application shall contain, where required under applicable sections of this rule:

1. An operation plan appropriate for the type of facility;
2. A contingency plan appropriate for the type of facility to cover operations interruptions and emergencies such as fires, explosions, or natural disasters;
3. Illustrative charts and graphs;
4. Records or logs of tests, soil borings, hydrogeological information, geochemical surveys, and water quality analyses; and
5. Engineering calculations, including literature citations.

(f) Plans or drawings for all solid waste management facilities shall:

1. Use sheets 22 inches by 34 inches or 24 inches by 36 inches, and include title blocks;
2. Have a cover sheet that includes the project title, applicant's name, sheet index, legend of symbols, and the engineer's name, address, signature, date of signature and seal;
3. Include a regional map or plan showing the project location;
4. Include a current vicinity map, or aerial photograph taken within one year preceding the application;
5. Have a site plan containing the location of all property boundaries certified by a registered Florida land surveyor; and
6. Clearly show all necessary details and be numbered, titled, and referenced to the narrative report. Drawings shall contain a north arrow and horizontal and vertical scales, and shall specify drafting or origination dates. All elevations shall be referenced to National Geodetic Vertical Datum.

17-701.320(7)(c) - 17-701.320(7)(f) 6.

(g) Proof of property ownership, or a copy of any lease agreement, transfer of property agreement with right of entry for long-term care, interlocal government agreement, or any other agreement between the facility operator and property owner which may affect the facility; and

(h) For facilities owned or operated by a county, a description of the existing or proposed recycling facilities or activities, if any, at the site and a description of whether, and the extent to which, these recycling facilities or activities will contribute to the county's achievement of the recycling goals contained in Section 403.706, F.S.

(i) For purposes of the evaluation required in subsection (3) of this section, a history and description of any enforcement actions described in subsection (3) of this section relating to solid waste management facilities in this state.

(8) Notice of application.

(a) An applicant for a permit to construct or substantially modify a solid waste management facility shall publish and provide proof of publication to the Department of a Notice of Application in a newspaper of general circulation in the area where the facility will be located, in accordance with Rule 17-103.150, F.A.C.

(b) For all landfills, the Department shall mail a notice of receipt of permit application to the Chair of the Board of County Commissioners, the highest ranking elected official of the municipality, and each State Senator and Representative serving the jurisdiction in which the project is located. After the Department completes the permit review, a copy of the notice of intent to issue or deny the permit will also be sent to these same officials.

(9) Permits for construction, modification, operation, and closure. Complete permit applications for construction or operation of a solid waste management facility, renewal of an operation permit for an existing facility, modification of an existing facility, or closure of a facility shall be evaluated by the respective Department district office in accordance with Chapters 17-4 and 17-701, F.A.C. The Department shall:

(a) Issue a construction permit, or a construction/operation permit for a solid waste management facility, or for a substantial modification of an existing solid waste management facility. After all specified construction has been completed and before acceptance of any solid waste, the owner or operator shall submit to the Department a certification of construction completion, Form 17-701.900(2), signed and sealed by a professional engineer,

17-701.320(7)(g) - 17-701.320(9)(a)

and any modifications of the record drawings, and shall arrange for Department representatives to inspect the facility in the company of the permittee, the engineer, and the proposed facility operator. The facility shall not be operated until the certification has been submitted and approved, all documentation required as a condition of the permit has been submitted, and a facility inspection by Department personnel has been conducted; or

(b) Issue an operation permit for a new facility that has been satisfactorily constructed, or to an existing facility which is being operated in accordance with this chapter at the time for permit renewal; or

(c) Issue a closure permit for closing and long-term care of a landfill which complies with the requirements of Rules 17-701.600 - .620, F.A.C.; or

(d) Deny the issuance of a permit if reasonable assurances are not provided that the requirements of Chapters 17-4 and 17-701, F.A.C., will be satisfied.

(10) Identification number. The Department shall assign an identification number to each solid waste management facility that receives a permit. The number shall be unique to that facility, and shall remain assigned to that facility at all times. The identification number shall be used on all correspondence and records related to that facility.

(11) Local zoning. The Department does not evaluate compliance with local zoning or land use ordinances when determining whether to issue or deny any permit under this chapter. Issuance of a permit does not relieve an applicant from compliance with local zoning or land use ordinances, or with any other laws, rules, or ordinances.

(12) Airport safety.

(a) Applicability. This subsection applies to those facilities constructed after January 6, 1993, as well as lateral expansions of facilities which were constructed prior to January 6, 1993. *See also 17-701.320(9)(a)*

(b) Solid waste management facilities where waste is stored, disposed, or processed outdoors, shall not be located within 10,000 feet of any licensed and operating airport runway used by turbine powered aircraft, or within 5,000 feet of any licensed and operating airport runway used only by piston engine aircraft, unless the applicant demonstrates that the facility is designed and will be operated so that it does not pose a bird hazard to aircraft.

(c) Applicants proposing to site new landfills and lateral expansions of existing landfills within a five-mile radius of any licensed and operating airport runway used by turbine powered or piston engine aircraft shall notify the affected airport, the Federal Aviation Administration, and *See also 17-701.320(9)(b)*

17-701.320(9)(a)(cont'd.) - 17-701.320(12)(c)

the Florida Department of Transportation when the application is filed with the Department, and shall provide evidence of such notification to the Department.

(13) Other facility permits. In addition to the exemptions in subsection (2) of this section, the following solid waste management facilities which are constructed and operated under an appropriate and currently valid permit are not required to obtain a separate solid waste permit pursuant to this chapter:

(a) Incinerators which are constructed and operated under a permit issued pursuant to Chapters 17-296 or 17-256, F.A.C.; however, if the facility is also storing or disposing of solid waste on the site, and such storage or disposal is not addressed in the permit, a separate solid waste permit is required;

(b) Incinerators which are constructed and operated under a site certification pursuant to Chapter 403, Part II, F.S.;

(c) Solid waste management facilities, such as composting facilities, waste tire processing facilities, used oil recycling facilities, and biohazardous waste treatment or storage facilities, which are required to obtain permits under Rules 17-702 through 17-729, F.A.C. Specific Authority: 403.061, 403.704, F.S. Law Implemented: 403.702, 403.704, 403.707, F.S. History: New 1-6-93.

17-701.330 Landfill Permit Requirements.

(1) Applicability.

(a) Except as otherwise specifically provided herein, this chapter shall apply to all solid waste disposal units constructed or operated under a landfill permit issued after January 6, 1993, including renewals of existing permits.

(b) All holders of landfill construction or operation permits issued prior to January 6, 1993, which contain conditions not in conformance with this chapter shall apply for modification of the permit to conform to this chapter to the District Office of the Department which issued the permit. The submission shall occur at the time of application for renewal of an existing permit, or before July 6, 1993, whichever is later. For purposes of this paragraph, a permit issued prior to January 6, 1993, is deemed to include a completed permit application received by the Department prior to January 6, 1993.

(c) Rules 17-701.400 - .420, F.A.C., shall not apply to any solid waste disposal unit for which construction is completed prior to the later of the dates specified in

17-701.320(12)(c)(cont'd.) - 17-701.330(1)(c)

paragraph (b) of this subsection. Such solid waste disposal unit may be operated until filled to its permitted or modified design dimensions which, if such unit is lined, may include any future vertical expansion over the liner in accordance with Rule 17-701.430, F.A.C.

(d) Facilities operating pursuant to a Consent Order with the Department in effect on January 6, 1993, shall continue to operate in accordance with the order until the order expires by its own terms, provided the landfill is in compliance with the terms and conditions of the order. If the facility owner or operator fails to comply with any substantive term or condition of the order, the facility covered by the order must comply with the operational, closure and long-term care requirements of this chapter.

Consent Orders

[2] Term of permit. The time period for permits shall be no longer than five years from the date of issuance by the Department. Permits may be issued for a shorter period for specific circumstances.

[3] Permit renewals.

(a) Construction/operation permits shall be renewed at least every five years. Applicants for permit renewal shall demonstrate how they will comply with any applicable new or revised laws or rules relating to construction, operation, or closure of landfills. Closure plans shall be updated at the time of permit renewal to reflect changes in closure design, long-term care requirements, and financial responsibility documentation.

(b) Facility information that was submitted to the Department to support the expiring permit, and which is still valid, does not need to be re-submitted for permit renewal. The permit renewal application shall list and reaffirm that the information is still valid.

[4] Permit applications. Permit applications for landfills shall meet the requirements of Rule 17-701.320, F.A.C., and shall also include the following specific requirements:

(a) A vicinity map or aerial photograph not more than one year old which shows land use and local zoning within one mile of the landfill and is of sufficient scale to show all homes or other structures, water bodies, roads, and other significant features of the vicinity. All significant features shall be labeled.

(b) A vicinity map or aerial photograph not more than one year old which shows all airports that are located within five miles of the proposed landfill.

(c) A plot plan of the site showing dimensions, locations of proposed and existing water quality monitoring wells or points, locations of soil borings, proposed plan of trenching or disposal areas, original elevations, proposed

17-701.330(1)(c)(cont'd.) - 17-701.330(4)(c)

final contours, any previously filled waste disposal areas, and fencing. Cross sections shall be included on the plot plan or on separate sheets showing both the original and proposed fill elevations. The scale of the plot plan shall not be greater than 200 feet to the inch.

(d) Topographic maps at a scale of not greater than 200 feet to the inch with 5-foot contour intervals. These maps shall show the proposed fill area, any borrow area, access roads, grades required for proper drainage and cross sections of lifts, special drainage devices if necessary, fencing, and equipment facilities.

(e) A report on the:

1. Current and projected population and area to be served by the proposed site;
2. Anticipated type, annual quantity, and source of solid waste, expressed in tons;
3. Anticipated life of the facility; and
4. Source and type of cover material.

(f) The Hydrogeological investigation and ground water monitoring plan required by Rule 17-701.410 and .510, F.A.C.

(g) The Geotechnical investigation required by Rule 17-701.420, F.A.C.

(h) Evidence of an approved laboratory to do water quality monitoring in accordance with Rule 17-160, F.A.C.

(i) A statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill.

(5) Modification of landfill permit. Permits shall be modified in accordance with the requirements of Rule 17-4.080, F.A.C. A modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review by the Department is considered a substantial modification.

(6) On-site records. A copy of the Department approved permit, engineering drawings, operational plan, and supporting information shall be kept at the facility at all times for reference and inspections.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93.

17-701.340 General Criteria For Landfills.

(1) Performance standards. A landfill shall be designed, constructed, operated, maintained, closed, and monitored throughout its design period to control the movement of waste and waste constituents into the environment so that ground water and surface water quality standards and criteria of Chapters 17-3 and 17-302, F.A.C., will not be violated beyond the zone of discharge specified for the landfill.

17-701.330(4)(c)(cont'd.) - 17-701.340(1)

(2) Minimum ground water criteria. For those landfills or solid waste disposal units which are constructed after January 6, 1993, and which are constructed with at least a double or composite liner, the minimum ground water criteria specified in Rule 17-3.402, F.A.C., shall apply only outside of the footprint of the solid waste disposal unit, or if the unit is surrounded by a perimeter road, outside the perimeter road, notwithstanding the provisions of Rule 17-3.404, F.A.C.

(3) Classification of landfills. Landfills or solid waste disposal units are classified according to the amount or types of waste received.

(a) Class I landfills are those which receive an average of 20 tons or more of solid waste per day.

(b) Class II landfills are those which receive an average of less than 20 tons of solid waste per day.

(c) Class I and Class II landfills receive general, non-hazardous household, commercial, industrial, and agricultural wastes, subject to the restrictions of Rules 17-701.300 and 17-701.520, F.A.C.

(d) Class III landfills are those which receive only yard trash, construction and demolition debris, shredded waste tires, asbestos, carpet, cardboard, paper, glass, plastic, furniture other than appliances, or other materials approved by the Department which are not expected to produce leachate which poses a threat to public health or the environment. The Department may exempt Class III landfills from some or all of the requirements for liners, leachate controls, and water quality monitoring in Rules 17-701.400(3) and (4), and 17-701.510, F.A.C., if it determines based upon the types of waste received, methods for controlling types of waste disposed of, and the results of the hydrogeological and geotechnical investigations required in Rules 17-701.410 and 17-701.420, F.A.C., that no significant threat to the environment will result from such exemption. Yard trash composting facilities shall be operated in accordance with Chapter 17-709, F.A.C. Owners or operators of Class III landfills which are operating on January 6, 1993, shall apply for modification of their permits to comply with this paragraph no later than January 6, 1994.

(4) Location requirements.

(a) The site shall provide structural support for the facility including total wastes to be disposed of and structures to be built on the site.

(b) A landfill or solid waste disposal unit shall not be located in the 100-year floodplain where it will restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste.

17-701.340(2) - 17-701.340(4)(b)

(c) The minimum horizontal separation between waste deposits in a landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope.

(d) Landfills shall be screened from public view where such screening can practically be provided.

(5) Zone of discharge. A landfill's zone of discharge shall be determined pursuant to Chapter 17-522, F.A.C. For all solid waste disposal units constructed after January 6, 1993, the zone of discharge shall not exceed 100 feet from the edge of those solid waste disposal units permitted to be constructed.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93.

17-701.400 Landfill Construction Requirements.

(1) Minimum design standards. The requirements of this rule are the minimum standards for constructing a landfill. Nothing in this rule shall be construed to prevent the Department from imposing more stringent standards as necessary to protect the environment and the public health and safety due to site specific conditions and types of wastes to be disposed of in the landfill or solid waste disposal unit. An applicant whose landfill design meets the design standards of this rule will be presumed to provide reasonable assurance that the performance standards of Rule 17-701.340(1), F.A.C., will be met.

(2) Planned construction and closure. All landfills shall be designed so that solid waste disposal units will be constructed and subsequently closed at planned intervals throughout the design period of the landfill.

(3) Landfill liner requirements. Landfills shall be constructed with composite or double liners, and a leachate collection and removal system.

(a) Liners shall be:

1. Constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure due to physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and other applied stresses and hydraulic pressures which are anticipated during the operational and closure period of the solid waste disposal unit. The supplier of materials for the liner components shall provide test information accepted by the engineer of record, that supports the capabilities of the materials to meet these needs;

17-701.340(4)(c) - 17-701.400(3)(a)1.

2. Installed upon a base and in a geologic setting capable of providing structural support to prevent overstressing of the liner due to settlements and applied stresses;

3. Constructed so that the bottom of the liner system is not subject to fluctuations of the ground water so as to adversely impact the integrity of the liner system.

4. Designed to resist hydrostatic uplift if the liner is located below the seasonal high ground water table; and

5. Installed to cover all surrounding earth which could come into contact with the waste or leachate.

(b) Composite liners.

1. The upper component of the composite liner shall be a 60-mil or thicker geomembrane liner with a maximum water vapor transmission rate of 0.24 grams per square meter per day ($\text{g}/(\text{m}^2 \times \text{day})$) as determined by ASTM Method E96-80, procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09. A primary leachate collection and removal system and a drainage layer shall be installed above the geomembrane liner. Except in sumps and leachate collection trenches, the system shall be designed to limit leachate head above the liner during routine landfill operation after placement of initial cover, as specified in Table A below, depending upon the thickness and hydraulic conductivity of the lower component of the composite liner. Leachate head calculations shall consider leachate recirculation if the leachate is recirculated.

2. The lower component of the composite liner shall be constructed in six-inch lifts. The thickness of the lower component may be varied in relation to the hydraulic conductivity of the lower component and the design leachate head above the liner, in accordance with Table A.

TABLE A:
Minimum Thickness of Lower Component of
Composite Liner (in feet)

Maximum Design Hydraulic Head (in inches)	Maximum Hydraulic Conductivity (cm/sec)		
	1×10^{-7}	5×10^{-8}	1×10^{-8}
1	2	1	1
6	2.5	1.5	1
12	3	2	1

17-701.400(3)(a)2. 17-701.400(3)(b)2.

(c) Double liners.

1. Double liner systems shall consist of upper and lower 60-mil minimum thickness geomembranes with a maximum water vapor transmission rate of $0.24 \text{ g}/(\text{m}^2 \times \text{day})$; a primary leachate collection and removal system lying above the upper geomembrane designed to limit the leachate head to one foot above the liner during routine landfill operations after placement of initial cover, except in sumps and leachate collection trenches; and a leak detection and secondary leachate collection system between the upper and lower liners. The lower geomembrane shall be placed directly on a sub-base which is a minimum six inches thick and has a saturated hydraulic conductivity of less than or equal to $1 \times 10^{-5} \text{ cm/sec}$.

2. The leak detection and secondary leachate collection system shall have a minimum hydraulic conductivity of one cm/sec, shall be designed to limit the maximum hydraulic head on the lower liner to one inch, and shall not allow leachate head to exceed the thickness of the drainage layer. The hydraulic conductivity of the leak detection and secondary collection system material shall be derived from transmissivity and thickness measurements.

(d) Standards for geomembranes.

1. Geomembranes shall have factory and field seams whose shear strengths during testing are at least 90 percent of the specified minimum yield strength for that lining material, and the failure shall occur in the lining material outside the seam area. All field seams must also be visually inspected and pressure or vacuum tested for seam continuity using suitable non-destructive techniques.

2. Geomembranes shall be protected from physical damage by placing a minimum 24-inch-thick protective layer above the upper liner. All materials in direct contact with the liner shall be free of sharp materials or any materials larger than one-half inch. The upper 12 inches of the protective layer shall be composed of soil, tire chips four square inches or smaller with no protruding wires, or other materials approved by the Department which are permeable, non-reactive, stable, and which offer protection for the liner from punctures.

3. The first layer of waste placed on the protective layer above the liner and leachate collection system shall be a minimum of four feet in compacted thickness, and consist of selected wastes containing no large, rigid objects that may damage the liner or leachate collection system. Materials that could damage the liner shall be removed from this layer.

17-701.400(3)(c) - 17-701.400(3)(d)3.

(e) The following specifications shall be provided for geosynthetic components:

1. Definition and qualifications of the designer, manufacturer, installer, geosynthetic quality assurance consultant, geosynthetic quality assurance laboratory, and quality assurance program;

2. Material specifications for geomembranes, geotextiles, geogrids, and geonets, including general requirements, specified geomembrane properties, and labelling;

3. Manufacturing and fabrication specifications including:

a. Geomembrane manufacturing, including raw material and roll quality control;

b. Geomembrane fabrication, including requirements of personnel, seaming equipment and products, seam preparation, weather conditions for factory seaming, overlapping and temporary bonding, trial seams, and nondestructive seam continuity testing;

c. Destructive seam strength testing including location and frequency, sampling procedure, size of samples, testing at the fabrication factory, laboratory testing, fabricator's laboratory testing, and procedures for destructive test failure; and

d. Repairs.

4. Geomembrane installation specifications including

a. Earthwork;

b. Conformance testing;

c. Geomembrane placement, which shall address layout drawings, panel identification, and field panel placement;

d. Field seaming, which shall address seam layout, requirements of personnel, overlapping and temporary bonding, seam preparation, seaming equipment and products, weather conditions for seaming, trial seams, general seaming procedures, nondestructive seam continuity testing, destructive testing, and defects and repairs including identification, evaluation, and repair procedures;

e. Materials in contact with the geomembrane, including granular materials, concrete, and sumps and appurtenances; and

f. Lining system acceptance.

5. Geotextile and geogrid specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials.

6. Geonet specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials.

(f) Standards for soil components.

17-701.400(3)(e) - 17-701.400(3)(f)

1. Soil components of liner systems shall be constructed to preclude, to the greatest extent practicable, lenses, cracks, channels, root holes, pipes, or other structural inconsistencies that can increase the saturated hydraulic conductivity of the soil component. The design shall illustrate and describe those instances in which overexcavation of permeable areas and backfilling may be necessary to seal the permeable area. The soil component shall be placed and compacted in layers to achieve the design performance.

2. The permeability of soil liner components shall not be increased above the values specified for the component, as a result of contact with leachate from the solid waste disposal unit. Compatibility of the soil component and leachate shall be demonstrated by testing the soil component with actual or simulated leachate in accordance with EPA Test Method 9100 or an equivalent test method.

3. The soil component of the liner system may consist of in-situ soils, provided they meet the specifications for soil liners. Testing of in-situ soil shall be performed in accordance with the site specific Construction Quality Assurance Plan in accordance with Rule 17-701.400(7), F.A.C.

4. Specifications for the soil component of the liner system shall be provided to and approved by the Department, and shall contain at a minimum:

- a. Allowable range of particle size distribution and Atterberg limits, to include shrinkage limit;
- b. Placement moisture criteria and dry density criteria;
- c. Maximum laboratory-determined saturated hydraulic conductivity, using simulated leachate as the saturating and testing liquid;
- d. Minimum thickness of the soil liner;
- e. Lift thickness;
- f. Surface preparation (scarification) for tying lifts together; and
- g. Type and percentage of clay mineral within the soil component.

5. The soil liner shall be placed using construction equipment and procedures that achieve the required saturated hydraulic conductivity and thickness. A field test section shall be constructed using the proposed construction equipment and tested to document that the desired saturated hydraulic conductivity and thickness is achieved in the field. Test results shall be submitted to and approved by the Department along with the completion of construction documents.

(4) Leachate collection and removal system. Landfills shall have a leachate collection and removal system that is designed, constructed, maintained, and operated to collect leachate and convey it to collection points for removal.

17-701.400(3)(f)1. - 17-701.400(4)

(a) The primary and secondary leachate collection and removal systems shall:

1. Be constructed of materials that are chemically resistant to the waste disposed of in the landfill and the leachate expected to be generated;
2. Have sufficient mechanical properties to prevent collapse under pressures exerted by overlying wastes, cover materials, and by any equipment used at the landfill;
3. Have granular material or synthetic geotextile filter overlying or surrounding the leachate collection and removal system to prevent clogging of the collection system by infiltration of fine particles from the waste; and
4. Have a method to test that the pipes in the system are not clogged, and a method for cleaning the pipes in the system if they become clogged. If any part of the system cannot be tested for clogging, the design shall assure that leachate can be rerouted from that part to a leachate sump in the event of collapse.

(b) The primary leachate collection and removal system shall have a granular drainage layer above the top geomembrane liner, at least 12 inches thick, with a hydraulic conductivity of not less than 1×10^{-3} cm/sec, overlain with an additional 12 inches of soil or other material approved by the Department to provide a total protective layer 24 inches thick, that is chemically resistant to the waste and leachate. It shall be designed with a bottom slope to achieve the required leachate head after the predicted settlement determined by the foundation analysis. Leachate collection systems incorporating synthetic drainage materials may be used if it can be demonstrated that they are equivalent to or more effective than the granular design, including chemical compatibility, flow under load, and protection of the geomembrane liner.

(5) Leachate recirculation. Leachate recirculation systems shall only be used at solid waste disposal units that have been designed for leachate recirculation and meet the following requirements:

- (a) The landfill shall be lined and have a leachate collection and removal system.
- (b) Ditches, berms, or other devices shall be installed to control any leachate runoff. Initial and intermediate cover receiving recirculated leachate shall be graded to shed runoff into the leachate collection system and to minimize mixing of leachate runoff and storm water.
- (c) Initial and intermediate cover shall be permeable to the extent necessary to prevent perched water conditions and gas buildup.

17-701.400(4)(a) - 17-701.400(5)(c)

(d) Leachate shall not be recirculated during weather conditions or in quantities that may cause runoff outside the solid waste disposal unit, surface seeps, wind-blown spray, or exceedance of the limits of the leachate head on the liner. Ponding is prohibited unless it is an integral part of the design plan.

(e) A gas management system shall be implemented to control odors and migration of methane.

(f) Recirculation of leachate is prohibited on top of areas where final cover has been applied. Irrigation of the final vegetative cover may be done with treated leachate which meets the water quality standards of the receiving water body, if such irrigation does not contribute significantly to leachate generation.

(6) Leachate storage tanks and leachate surface impoundments.

(a) The requirements of this subsection apply to all leachate storage tanks and leachate surface impoundments constructed after January 6, 1993. Leachate storage tanks in use on January 6, 1993 are not required to retrofit to comply with this subsection unless leakage, corrosion or other defects are found. Leachate storage impoundments in use on January 6, 1993 shall be replaced or modified to conform to this subsection by January 6, 1995.

(b) Surface impoundments for leachate treatment or storage that are located at landfills are subject to the following requirements:

1. Surface impoundments shall be constructed so that the bottom of the liner system is not subject to fluctuations of the ground water so as to adversely impact the integrity of the liner system. The applicant shall demonstrate that the surface impoundment design will minimize infiltration of leachate into the environment so that ground water and surface water quality standards and criteria are not violated.

2. The surface impoundment shall be designed in segments such that any one segment may be taken out of service for inspection and repair with no interruption of service.

3. The impoundment shall have a double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane, and a leak detection and collection system between the geomembranes with a minimum hydraulic conductivity of one cm/sec. The lower geomembrane shall be placed directly on a subbase which is at least six inches thick and has a saturated hydraulic conductivity of less than or equal to 1×10^{-5} cm/sec. The leak detection and collection system shall be checked daily. The design of the upper liner shall include calculations to predict the potential leakage through the upper liner. If the daily

17-701.400(5)(d) - 17-701.400(6)(b)3.

checks indicate the upper liner is leaking at a rate greater than predicted by the design calculations, the Department shall be notified. If the leakage rate will result in the flooding of the leak detection and collection system, the impoundment shall be emptied and the liner repaired.

4. To preserve the liner integrity and prevent uplift, ballast material such as rounded gravel or sand, that will not cause damage to the geomembrane liner, shall be placed on top of any liner which is located below the water table.

5. A minimum of two feet of freeboard above the depth which would occur in the event of a 25-year, 24-hour storm shall be maintained in leachate surface impoundments.

6. Vectors and off-site odors shall be controlled.

(c) Above ground leachate storage tanks that are located at solid waste management facilities are subject to the following requirements:

1. Tanks shall be constructed of concrete, steel or other material approved by the Department. Tanks shall be supported on a well drained, stable foundation.

2. Bottoms of steel tanks that rest on earthen material shall be cathodically protected with either sacrificial anodes or an impressed current system which is designed, fabricated, and installed in accordance with an engineering plan approved by the Department.

3. The exterior surfaces of all steel storage tanks shall be protected by a primer coat, a bond coat, and two or more final coats of paint or other surface coating system designed to prevent corrosion and deterioration.

4. The interior of all tanks shall consist of a material or must be lined with a material, resistant to the liquid being stored.

5. All aboveground tanks shall have a secondary containment system which may consist of dikes, liners, pads, ponds, impoundments, curbs, ditches, sumps, or other systems capable of containing the stored leachate. The design volume for the secondary containment system shall be 110 percent of the volume of either the largest tank within the containment system or the total volume of all interconnected tanks, whichever is greater.

6. The secondary containment system shall be constructed of materials compatible with the liquid stored. The containment system shall be constructed of either:

a. A minimum three-foot layer of compacted soil with a maximum saturated hydraulic conductivity of 1×10^{-7} cm/sec or one foot of compacted soil with a maximum saturated hydraulic conductivity of 1×10^{-8} cm/sec with two feet of protective cover; or

b. A concrete pad that will maintain its integrity for the lifetime of the tank with a corrosion resistant coating; or

17-701.400(6)(b)3.(cont'd.) - 17-701.400(6)(c)6.b.

c. A geomembrane of a minimum thickness of 60 mils, with a maximum water vapor transmission rate of $0.24 \text{ g}/(\text{m}^2 \times \text{day})$.

7. A system shall be designed to contain and remove storm water from the secondary containment area. Provisions shall be included for the removal of any accumulated precipitation and be initiated within 24 hours or when 10 percent of the storage capacity is reached; whichever occurs first. Disposal of this stormwater shall be in accordance with the requirements of Rule 17-701.400(9), F.A.C.

8. All aboveground tanks shall be equipped with an overfill prevention system which includes level sensors and gauges, high level alarms, or automatic shutoff controls. The overfill control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.

9. The exposed exterior of all aboveground tanks shall be inspected weekly by the facility operator for adequacy of the cathodic protection system, leaks, corrosion, and maintenance deficiencies. Interior inspection of tanks shall be performed whenever the tank is drained or at a minimum of every three years. If the inspection reveals a tank or equipment deficiency, leak, or any other deficiency which could result in failure of the tank to contain the leachate, remedial measures shall be taken immediately to eliminate the leak or correct the deficiency. Inspection reports shall be maintained and made available to the Department upon request for the lifetime of the liquid storage system.

(d) Underground leachate storage tanks that are located at solid waste management facilities are subject to the following requirements:

1. Tanks shall be constructed of concrete, fiberglass, reinforced plastic, steel that is cathodically protected, or steel that is clad with fiberglass.

2. A secondary containment and a continuous leak detection system shall be installed in the form of a double-walled tank, designed as an integral structure so that any release from the inner tank is completely contained by the outer shell.

a. The interstitial space shall be monitored at least once per week by the facility operator for tightness using pressure monitoring, vacuum monitoring, electronic monitoring or an approved equivalent method.

b. The tank system shall be protected from both corrosion of the primary tank interior and the external surface of the outer shell.

c. All resistant coatings applied to the primary tank interior shall be compatible with the stored leachate.

17-701.400(6)(c)6.c. - 17-701.400(6)(d)2.c.

d. Cathodic protection systems, where installed, shall be inspected at least weekly by the facility operator. Any deficiency in the cathodic protection system shall be corrected when discovered.

3. All underground tanks shall be equipped with an overfill prevention system which includes level sensors and gauges, high level alarms, or automatic shutoff controls. The overfill control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.

4. Inspection and leak detection monitoring reports shall be maintained at the facility and made available to the Department upon request for the lifetime of the liquid storage system.

(e) A schedule for routine maintenance of the leachate collection and removal system shall be established to ensure operation of the system. The maintenance schedule shall be a part of the facility operation plan.

(7) Liner systems construction quality assurance.

(a) Liner systems shall have a construction quality assurance plan to provide personnel with adequate information to achieve continuous compliance with the liner construction requirements. The plan shall include or refer to specifications and construction methods which use established engineering practices to construct a liner system and provide for quality control testing procedures and sampling frequencies. Sampling and testing shall be conducted in the field by trained personnel during construction and after construction completion. Such personnel will be under the direction of the construction quality assurance professional engineer, to assure the liner system will comply with the standards. The engineer or his designee shall be on-site at all times during construction to monitor construction activities.

(b) Liner systems shall be installed in accordance with a Department-approved construction quality assurance plan. Plans that comply with EPA Document 530-SW-86-031 shall be presumed to be in compliance with this section. The following minimum specific elements shall be included in the plan:

1. Responsibility and authority of all organizations and key personnel involved in permitting, designing, constructing, and providing construction quality assurance of the waste disposal facility shall be described fully;

2. Minimum qualifications of the construction assurance quality professional engineer and supporting personnel shall be in the plan to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities;

17-701.400(6)(d)2.d. - 17-701.400(7)(b)2.

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3. Procedures and tests that will be used to monitor the installation of the liner system components shall be described in detail;

4. The sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for implementing corrective measures that may be necessary shall be described; and

5. Reporting requirements for construction quality assurance activities shall be described, including daily summary reports, observation data sheets, problem identification and corrective measures, and final documentation. All such documents shall be included in the final report which shall be forwarded to the Department.

(c) A laboratory experienced in the testing of geosynthetics, independent of the liner manufacturer and installer, shall perform the required testing which must include, at a minimum, conformance testing for all geosynthetics and geocomposites, and testing of seam shear and peel strength for geomembranes.

(d) The professional engineer in charge of construction quality assurance shall provide a signed, sealed final report and record drawings to the Department stating that the liner system has been installed in substantial conformance with the plans and specifications for the liner system.

(8) Soil liner construction quality assurance. In addition to the requirements of subsection (7) above, the following requirements apply to construction of the soil component of liner systems. All required testing and analysis shall be performed in accordance with generally accepted engineering procedures, such as those promulgated by the American Society for Testing and Materials (ASTM). Parenthetical references to ASTM methods are intended as guidance only.

(a) A construction quality assurance/quality control plan shall be prepared for each soil liner project to outline project specifications and construction requirements. The plan shall specify performance criteria for the soil liner, and provide quality control testing procedures and minimum sampling frequencies. In addition, the plan shall define the responsibilities of the parties that will be involved in soil liner construction, and shall present minimum qualifications of each party to fulfill their identified responsibilities.

(b) Field and laboratory testing during liner construction shall be conducted by a qualified soil testing laboratory representing the owner. A qualified field technician representing the owner shall provide full time, on-site inspection during liner construction. The field

17-701.400(7)(b)3. - 17-701.400(8)(b)

technician shall work under the supervision of a professional engineer with experience in soil liner construction.

(c) Prior to soil liner installation, an appropriate borrow source shall be located. Suitability of the liner construction materials from that source shall be determined in accordance with the following:

1. If demonstrated field experience is available from at least three prior successful projects of five or more acres each to document that a given borrow source can meet the requirements of the project specifications, then extensive laboratory testing of the borrow source will not be required. However, the source of material shall be geologically similar to and the methods of excavating and stockpiling the material shall be consistent with those used on the prior projects. Furthermore, a minimum of three representative samples from the appropriate thickness of the in-situ stratum or from stockpiles of the borrow material proposed for liner construction shall be submitted to an independent soil testing laboratory to document through index testing that the proposed material is consistent with the material used on prior successful projects. At a minimum, index testing shall consist of percent fines, Atterberg limits and moisture content determinations.

2. If demonstrated field experience as defined above is not available or cannot be documented, then the following requirements shall be met.

a. A field exploration and laboratory testing program shall be conducted by an independent soil testing laboratory to document the horizontal and vertical extent and the homogeneity of the soil strata proposed for use as liner material. A sufficient number of index tests from each potential borrow stratum shall be performed to quantify the variability of the borrow materials and to document that the proposed borrow material complies with specifications. At a minimum, the index tests shall consist of percent fines, Atterberg limits and moisture content determinations.

b. Sufficient laboratory hydraulic conductivity tests shall be conducted on samples representative of the range invariability of the proposed borrow source (ASTM D-5084). For each such sample, test specimens shall be prepared and tested to cover the range of molding conditions (moisture content and dry density) required by project specifications. The hydraulic conductivity tests shall be conducted in triaxial type permeameters. The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation

17-701.400(8)(b)(cont'd.) - 17-701.400(8)(c)2.b.

of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D-5084). The borrow source will only be considered suitable if the hydraulic conductivity of the material, as documented on laboratory test specimens, can be shown to meet the requirements of the project specifications at the 98 percent confidence level.

(d) Prior to full-scale liner installation, a field test section or test strip shall be constructed at the site above a prepared subbase. The test strip shall be considered acceptable if the measured hydraulic conductivities of undisturbed samples from the test strip meet the requirements of the project specifications at the 98 percent confidence level. If the test section fails to achieve the desired results, additional test sections shall be constructed in accordance with the following requirements:

1. The test section shall be of sufficient size such that full-scale liner installation procedures can be duplicated within the test section;

2. The test section shall be constructed using the same equipment for spreading, kneading and compaction and the same construction procedures (e.g., number of passes, moisture addition and homogenization, if needed) that are anticipated for use during full-scale liner installation;

3. At a minimum, the liner test section shall be subject to the following field and laboratory testing requirements:

a. A minimum of five random samples of the liner construction material delivered to the site during test section installation shall be tested for moisture content (ASTM D-2216), percent fines (ASTM D-1140) and Atterberg limits (ASTM D-4318);

b. At least five field density and moisture determinations shall be performed on each lift of the compacted liner test section;

c. Upon completion of the test section lift, the thickness of the lift shall be measured at a minimum of five random locations to check for thickness adequacy; and

d. A minimum of five Shelby tube or drive cylinder (ASTM D-2937) samples shall be obtained from each lift of the test section for laboratory hydraulic conductivity testing. Laboratory hydraulic conductivity testing shall be conducted in triaxial type permeameters (ASTM D-5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure

17-701.400(8)(c)2.b.(cont'd.) - 17-701.400(8)(d)3.d.

to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D-5084).

(e) Full scale liner installation may begin only after completion of a successful liner test section. During liner construction, quality control testing shall be provided to document that the installed liner conforms to project specifications. The testing frequencies for quality control testing are specified below; however, during construction of the first five acres of the liner, these frequencies shall be doubled. Samples shall be obtained from random locations selected by an independent soil testing laboratory. If there are indications of a change in product quality or construction procedures during liner construction, additional tests shall be performed to determine compliance.

1. Field testing during liner installation. The following field tests shall be performed:

a. Prior to the laying of the liner materials, the liner subbase shall be compacted to the specified density. Density tests shall be conducted at a minimum rate of two tests per acre;

b. A minimum of two moisture content and field density determinations shall be conducted per acre per lift of the compacted liner. The degree of compaction shall be checked using the one-point field Proctor test or other appropriate test procedures; and

c. A minimum of four thickness measurements shall be conducted per acre per lift of the compacted liner.

2. Laboratory testing during liner installation. The following laboratory tests shall be performed:

a. Percent fines (ASTM D-1140) of the liner construction material shall be determined at a minimum frequency of two tests per acre per lift of installed liner;

b. Atterberg Limits determinations shall be performed on one sample per acre per lift of installed liner; and

c. Hydraulic conductivity testing of Shelby tube or drive cylinder (ASTM D-2937) samples of the compacted liner shall be performed at a minimum frequency of one test per acre per lift. Laboratory hydraulic conductivity tests shall be conducted in triaxial type permeameters (ASTM D-5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity

17-701.400(8)(d)3.d.(cont'd.) - 17-701.400(8)(e)2.c.

calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured.

(f) If the test data from a liner section does not meet the requirements of the project specifications, additional random samples may be tested from that liner section. If such additional testing demonstrates that the thickness and hydraulic conductivity meet the requirements of the project specifications at the 95 percent confidence level, that liner section will be considered acceptable. If not, that liner section shall be reworked or reconstructed so that it does meet these requirements.

(9) Surface water management systems.

(a) Landfills shall have surface water management systems designed, constructed, operated, and maintained to prevent surface water from running on to waste filled areas, and a stormwater runoff control system designed, constructed, operated, and maintained to collect and control stormwater to meet the requirements of Chapter 17-25, F.A.C., and the requirements for management and storage of surface water in accordance with Chapter 373, F.S.

(b) Stormwater controls shall include retention or detention ponds, and drainage ways specifically designed and sized according to local drainage patterns, soil permeability, annual precipitation, area land use, and other characteristics of the contributing watershed.

(c) Stormwater management systems shall be designed to avoid mixing of stormwater with leachate. Stormwater or other surface water which comes into contact with the landfilled solid waste or mixes with leachate shall be considered leachate and is subject to the requirements of Rules 17-701.500(8) and 17-701.510(5), F.A.C.

(10) Gas control systems.

(a) Landfills that receive biodegradable wastes shall have a gas monitoring and control system designed to prevent explosions and fires, and to minimize off-site odors and damage to vegetation. Landfill gas control systems shall:

1. Be designed to prevent the concentration of methane and other gasses generated by the landfill from:
 - a. Exceeding twenty-five percent of the lower explosive limit for gasses in structures on- or off-site, excluding gas control or recovery components;
 - b. Exceeding the lower explosive limit for gasses at or beyond the landfill property boundary; and
 - c. Causing objectionable odors at or beyond the landfill property boundary;
2. Be designed for site-specific conditions and be installed in each section of the landfill that has been filled to design dimensions;

17-701.400(8)(e)2.c.(cont'd.) - 17-701.400(10)(a)2.

3. Be designed to reduce gas pressure in the interior of the landfill by collecting the gasses to prevent them from moving laterally. Collection pipes, pathways, or vents shall collect gas from at least the uppermost two-thirds of the filled waste or where the more anaerobic conditions exist. Air shall not be forced into the collection system. Passive venting or suction shall be used to extract gas; and

4. Not interfere with or cause failure of the liner or leachate control systems.

(b) Flaring of landfill gasses may be used as a method of gas control, particularly control of objectionable odors, in accordance with the permitting requirements of Chapter 17-296, F.A.C.

(c) Owners or operators of solid waste disposal units that have received biodegradable waste shall implement a routine gas monitoring program to ensure that the standards of paragraph (10)(a) of this section are met.

1. The location of monitoring points and frequency of monitoring shall be determined by the following factors:

- a. Soil conditions;
- b. The hydrogeologic conditions surrounding the facility;
- c. The hydraulic conditions surrounding the facility; and
- d. The location of facility structures and property boundaries.

2. All monitoring points shall be sampled quarterly, and the results reported to the Department.

3. If methane gas levels exceed the lower explosive limits specified in paragraph (10)(a) of this section, the owner or operator shall:

- a. Immediately take all necessary steps to ensure protection of human health and notify the Department;
- b. Within 7 days of detection, submit to the Department for approval a remediation plan for the methane gas releases. The plan shall describe the nature and extent of the problem and the proposed remedy. The remedy shall be completed within 60 days of detection unless otherwise approved by the Department.

(d) Landfills using piping or a similar conduit to convey gas shall be furnished with a positive means of gas condensate collection and disposal at each low point in the conveyance system.

(11) Landfill gas recovery facilities.

(a) Landfill gas recovery facilities are considered solid waste management facilities, and shall be constructed and operated only in accordance with a Department permit. Landfill gas recovery facilities that are operating without

17-701.400(10)(a)3. - 17-701.400(11)(a)

*Quarterly
monitoring*

a permit shall submit a complete application to the Department on or before July 6, 1993. If a gas recovery facility is included in the approved closure plan or closure permit of the landfill, no separate permit for the facility is required, provided that the facility must meet all the requirements of this subsection.

(b) The application be on Form 17-701.900(1), and shall contain at least the following:

1. The information contained in Rules 17-701.320(7) and 17-701.330(4), F.A.C.;

2. Where relevant and practical, the information required in Rule 17-701.600(4), F.A.C.;

3. An estimate of the quantities of gas condensate currently collected or expected to be collected, and a description of how the condensate is or will be disposed of;

4. A description of the procedures for sampling, analyzing, and reporting data from the condensate sampling;

5. A closure plan that shall include methods to control landfill gasses after operation of the recovery facility ceases and any other requirements contained in Rule 17-701.400(10), F.A.C.

(c) The owner or operator of a gas recovery facility shall post a performance bond to cover the estimated costs of closing the facility. If the gas recovery facility is included in the approved closure plan or closure permit of the landfill, and if the closure costs are included in the landfill closure cost estimates for which financial responsibility is required by Rule 17-701.630, F.A.C., then no separate proof of financial responsibility is required.

(12) Landfills in ground water. A landfill constructed so that the bottom liner is constantly in contact with ground water is not prohibited by this rule. However, an applicant proposing such a design shall include special design features which demonstrate that the landfill will provide an equivalent degree of protection for the environment as would a similar landfill whose bottom liner is not in contact with ground water. Such a design is not entitled to the presumption of compliance with performance standards which is set forth in subsection (1) of this section. In addition to any other assurances of financial responsibility for closure, an applicant shall provide a performance bond sufficient to ensure long-term maintenance and operation of the leachate collection system.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93.

17-701.400(11)(a) (cont'd.) - 17-701.400(History)

17-701.410 Hydrogeological Investigation Requirements.

(1) Hydrogeological investigation and site report. The hydrogeological investigation and site report required by Rule 17-701.330(4), F.A.C., shall be conducted by or under the supervision of a professional geologist or professional engineer with experience in hydrogeologic investigations, and shall:

(a) Define the landfill site geology and hydrology and its relationship to the local and regional hydrogeologic patterns including:

1. Direction and rate of ground water and surface water flow, including seasonal variations;
2. Background quality of ground water and surface water;
3. Any on site hydraulic connections between aquifers;
4. For all confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill, the porosity or effective porosity, horizontal and vertical permeabilities, and the depth to and lithology of the layers and aquifers; and
5. Topography, soil types and characteristics, and surface water drainage systems of the site and surrounding the site.

(b) Include an inventory of all the public and private water wells within a one-mile radius of the proposed landfill site. The inventory shall include, where available:

1. The approximate elevation of the top of the well casing and the depth of each well;
2. The name of the owner, the age and usage of each well, and the estimated daily pumpage; and
3. The stratigraphic unit screened, well construction technique, and static water levels of each well.

(c) Identify and locate any existing contaminated areas on the landfill site.

(2) Report verification. The site report and supporting information, including detailed description of the methods, calculations, and interpretations used, shall be signed and sealed by the professional engineer or geologist.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93.

17-701.420 Geotechnical Investigation Requirements.

(1) Geotechnical site investigation. The geotechnical site investigation required by Rule 17-701.330(4), F.A.C., shall be conducted by or under the supervision of a professional engineer with experience in geotechnical engineering. Prior to any construction on the landfill

17-701.410(1) - 17-701.420(1)

site, the engineer shall define the engineering properties of the site that are necessary for the design, construction, and support of the landfill and all installations of the facility and shall:

(a) Explore and describe subsurface conditions including soil stratigraphy and ground water table conditions;

(b) Explore and address the presence of muck, previously filled areas, soft ground, lineaments, and sinkholes;

(c) Include estimates of the average and maximum high ground water table across the site; and

(d) Include a foundation analysis to determine the ability of the foundation to support the loads and stresses imposed by the landfill. It may include geotechnical measures necessary to modify the foundation to accommodate the imposed loads and stresses. The foundation shall be analyzed for short-term, end of construction, and long-term stability and settlement conditions. Considering the existing or proposed subgrade conditions and the landfill geometry, analysis shall include:

1. Foundation bearing capacity;

2. Subgrade settlements, both total and differential;

and

3. Subgrade slope stability.

(2) Report. The geotechnical site investigation report shall describe the site subsurface conditions and shall include, at a minimum, the methods used in the investigation, all soil boring logs and laboratory results, analytical calculations, cross sections, interpretations and conclusions.

(3) Report verification. The report and supporting documentation shall be signed and sealed by the professional engineer.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93.

17-701.430 Vertical Expansion of Landfills.

(1) Applicability. Construction of a solid waste disposal unit on top of or against the side slopes of a previously filled landfill, whether active, closed, or inactive is considered vertical expansion of that landfill. Vertical expansion shall require either a modification of the landfill permit, or a new permit if the landfill has been closed. The following requirements shall apply:

(a) The vertical expansion shall not cause or contribute to any leachate leakage from the existing landfill, and shall not adversely affect the closure design of the existing landfill.

17-701.420(1)(con't.) - 17-701.430(1)(a)

(b) For vertical expansion over lined landfills, no interface liner is required between the old and new landfill slopes.

(c) For vertical expansion over unlined landfills or landfills that were not constructed in accordance with permit requirements, the vertical expansion shall comply with all the requirements of Rule 17-701.400, F.A.C., with the following exceptions:

1. Side slopes of six feet horizontal to one foot vertical rise or steeper require the installation of a single geomembrane slope liner overlain by a leachate collection and removal system;

2. The slope liner shall consist of a 60-mil or thicker geomembrane with a maximum water vapor transmission rate of 0.24 g/(m² x day) as determined by ASTM Method E96-80, procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09.

3. The liner shall be protected from physical damage by a 24-inch thick protective layer above the liner and a bedding layer below the liner at least 24 inches thick to protect against the calculated differential settlement.

4. In all vertical expansion construction, grades shall slope toward the new expansion area.

5. If the vertical expansion consists exclusively of construction and demolition debris, the expansion must comply with the requirements of Rules 17-701.730 and 17-701.803, F.A.C., as well as paragraph (a) of this subsection.

6. If the vertical expansion consists of a composting operation, it must meet the requirements of Chapter 17-709, F.A.C., as well as paragraph (a) of this subsection.

7. If the vertical expansion consists of a Class III landfill, the provisions of Rule 17-701.340(3)(d), F.A.C., apply.

(d) The provisions of Rule 17-701.610(7), F.A.C., are applicable to all operations, including recycling operations, conducted on top of closed landfills.

(2) Construction requirements. The design for the vertical expansion shall also provide calculations and supporting information on the following factors:

(a) Construction on the slopes of a filled landfill requires a determination of foundation stability in accordance with Rule 17-701.420, F.A.C., and calculations for the total settlement of the waste in the existing landfill and the waste that will be disposed of in the new disposal area to be constructed. Total settlement calculations shall address both compression and differential settlement, and shall be based on worst case predictions.

17-701.430(1)(b) - 17-701.430(2)(a)

Total settlement calculations shall show the final elevations of the liner systems, that gravity drainage will be maintained, and that no other component of the design will be adversely affected.

(b) The vertical expansion design shall achieve a minimum safety factor of 1.5 for:

1. The liner system stability for liner systems installed over existing landfill slopes to prevent sliding along the interface between liner system components; and
2. Deep stability, to prevent sliding along all potential failure surfaces through the waste mass, along the liner systems, and through the foundation soils.

(c) Surface water management during construction of the vertical expansion over the slopes of an existing landfill shall be consistent with Rule 17-701.400(9), F.A.C., and shall require proper design of the drainageway at the interface between the existing slopes and vertical expansion area. The design shall:

1. Prevent infiltration into the existing and new landfills;
2. Minimize erosion of cover materials;
3. Carry the calculated flow; and
4. Comply with the cover requirements.

(d) A gas control system shall be installed to vent gas from the interface between the existing landfill slopes and the vertical expansion slopes to prevent accumulation of gas under the new liner system. Gas venting is achieved by installing a gas venting layer under the entire slope that will be covered by the new liner system. The gas venting layer shall convey gas to vertical vents at the crest of the interface slopes.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93.

17-701.500 Landfill Operation Requirements.

(1) Operating personnel. All landfills shall have at least one trained operator at the landfill during all times when the landfill receives waste. Trained operators are those who have satisfied the requirements of Chapter 17-703, F.A.C. All landfills shall have at least one spotter at each working face at all times when the landfill receives waste to detect unauthorized wastes.

(2) Operation plan. Each landfill owner or operator shall have an operational plan that provides written, detailed instructions for the daily operation of the landfill. The operation plan shall be kept at or near the landfill facility and shall be accessible to landfill operators. The operation plan shall be revised if

17-701.430(2)(a)(cont'd.) - 17-701.500(2)

operational procedures change. The plan shall include procedures for:

- (a) Designation of persons responsible for operation and maintenance of the facility;
- (b) Contingency operations, alternate waste handling and disposal methods in case of emergency such as a fire, natural disaster or equipment failure;
- (c) Controlling the type of waste received at the site. The plan shall specify inspection procedures, number and location of spotters for each working face, and procedures to be followed if prohibited wastes are discovered;
- (d) ~~Weighing~~ incoming waste; — ~~As per 17-701.60~~
- (e) Vehicle traffic control and unloading;
- (f) Method and sequence of filling waste;
- (g) Waste compaction and application of cover;
- (h) Operations of gas, leachate, and stormwater controls; and
- (i) Water quality monitoring.

(3) Operating record. The operating record shall consist of all records, reports, analytical results, and notifications required by this chapter, as well as the training verifications required by Chapter 17-703, F.A.C. The record is considered part of the operation plan, and shall be kept with the plan at or near the landfill facility. The operating record shall be available for inspection at reasonable times by Department personnel.

(4) Waste records.

(a) The owner or operator of a landfill shall weigh all solid waste as it is received. Landfill operators shall record, in tons per day, the amount of solid waste received and shall estimate the amount of wastes listed in paragraph (b) of this subsection. Waste reports shall be compiled monthly, and copies shall be provided to the Department quarterly.

*Quarterly
waste reports*

(b) Types of waste received:

- | | |
|---------------------------------------|---------------------------------|
| 1. Household waste | 7. Agricultural waste |
| 2. Commercial waste | 8. Industrial waste |
| 3. Ash residue | 9. Yard trash |
| 4. Incinerator by-pass waste | 10. Sewage sludge |
| 5. Construction and demolition debris | 11. Industrial sludge |
| 6. Treated biohazardous waste | 12. Water/air treatment sludges |

(5) Control of access. To prevent unauthorized waste disposal, access to and use of the facility shall be controlled by fencing, gates, or other barriers, as well as signs and facility personnel. Public access and receipt of wastes shall occur only when an attendant is on duty.

17-701.500(2) (cont'd.) - 17-701.500(5)

(6) Monitoring of waste.

(a) The owner or operator shall implement a load checking program to detect and discourage attempts to dispose of unauthorized wastes at the landfill. The load checking program shall consist of the following minimum requirements:

1. The landfill operator shall examine at least three random loads of solid waste delivered to the landfill each week. The waste collection vehicle drivers selected by the inspector shall be directed to discharge their loads at a designated location within the landfill. A detailed inspection of the discharged material shall be made for any unauthorized wastes. If the landfill owner or operator also owns or operates a transfer station, this inspection may be carried out at that transfer station before delivery of the waste to the landfill.

2. If unauthorized wastes are found, the facility shall contact the generator, hauler, or other party responsible for shipping the waste to the landfill to determine the identity of the waste sources.

(b) Handling hazardous wastes.

1. If any regulated hazardous wastes are identified by random load checking, or are otherwise discovered to be improperly deposited at the landfill, the landfill operator shall promptly notify the Department, the person responsible for shipping the wastes to the landfill, and the generator of the wastes, if known. The area where the wastes are deposited shall immediately be cordoned off from public access. If the generator or hauler cannot be identified, the landfill operator shall assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility.

2. Subsequent shipments from sources found or suspected to be previously responsible for shipping regulated hazardous waste shall be subject to precautionary measures prior to the solid waste management facility accepting wastes.

(c) Recording inspection results. Information and observations resulting from each random inspection shall be recorded in writing and retained at the landfill for at least three years. The recorded information shall include, at a minimum: the date and time of the inspection; the names of the hauling firm and the driver of the vehicle; the vehicle license plate number; the source of the waste, as stated by the driver; and observations made by the inspector during the detailed inspection. The written record shall be signed by the inspector.

17-701.500(6) - 17-701.500(6)(c)

(d) Training. Inspectors, equipment operators, weigh station attendants, and spotters shall be trained to identify unauthorized wastes or potential sources of regulated hazardous wastes. The training program shall emphasize familiarity with containers and labels typically used for hazardous wastes and hazardous materials.

(7) Waste handling requirements.

(a) All solid waste at Class I and Class II landfills shall be spread in layers of approximately two feet in thickness and compacted to approximately one foot in thickness or as thin a layer as practical before the next layer is applied. Solid waste at all Class III sites shall be spread in layers and compacted once every week using suitable heavy equipment. Bulky materials which are not easily compacted should be worked into other materials as much as practical.

(b) The first layer of waste placed above the liner and leachate collection system shall be a minimum of four feet in compacted thickness and consist of selected wastes containing no large rigid objects that may damage the liner or leachate collection system.

(c) Solid waste shall be formed into cells to construct horizontal lifts. The working face of the cell, and side grades above land surface, shall be at a slope no greater than three feet horizontal to one foot vertical rise. Lift depth should normally not exceed 10 feet but may be deeper, depending on specific operations, daily volume of waste, width of working face, and good safety practices.

(d) The working face shall be only wide enough to accommodate vehicles discharging waste, and to minimize the exposed area and unnecessary use of cover material.

(e) Initial cover shall be applied and maintained at landfills in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, unauthorized wastes, blowing litter, odors, vectors, or fires. The minimum frequency for applying cover is:

1. For Class I landfills, at the end of each working day, except for those areas where solid waste will be deposited on the working face within 18 hours;
2. Class II, every four days and at the end of each work week;
3. Class III, at the end of each work week.

(f) An intermediate cover in addition to the six-inch initial cover shall be applied and maintained within seven days of cell completion if additional solid waste will not be deposited within 180 days of cell completion. The landfill operator may remove all or part of the intermediate cover before placing additional waste or installing final cover.

17-701.500(6)(d) - 17-701.500(7)(f)

90 days
final
(g) Solid waste disposal units which have been filled to design dimensions shall receive final cover within 180 days after attaining final elevation or in accordance with the closure plan for the landfill.

(h) Uncontrolled and unauthorized scavenging shall not be permitted at any landfill site. Controlled salvaging for recycling may be permitted by the landfill operator.

(i) A litter policing operation shall be employed to keep litter from leaving the working area of the landfill. Litter outside the working area shall be picked up within 24 hours. Some litter may be exposed through the initial cover if it is in traffic areas and away from public view.

(j) Erosion control measures shall be employed to correct any erosion which exposes waste or causes malfunction of the storm water management system.

(8) Leachate management.

(a) The landfill operator is responsible for leachate level monitoring, sampling, analysis of the landfill leachate, and for providing copies of the leachate analysis to the Department.

(b) The landfill operator is responsible for the operation of the leachate collection and removal system and for maintaining the system as designed for the design period. Leachate shall be collected and treated as necessary to meet surface and ground water quality standards of Chapter 17-3 and 17-302, F.A.C. If the leachate is classified as a hazardous waste, it shall be managed in accordance with Rule 17-730, F.A.C.

(c) Leachate may be discharged to an off-site treatment plant. The landfill operator is responsible for having a written contract or agreement with the off-site treatment plant to discharge leachate to the plant.

(d) On-site leachate treatment or pretreatment systems are part of the leachate collection and removal system and shall be designed according to the expected characteristics of the leachate. The design may include adjustments to the system as necessary to accommodate changing leachate characteristics.

(e) The landfill operator shall have a prepared contingency plan to handle leachate collection, removal, and treatment problems such as interruptions of discharges to a treatment plant.

(f) Quantities of leachate collected by the leachate collection and removal system shall be recorded in gallons per day before on-site treatment or transport off-site.

(g) A recording rain gauge shall be installed, operated, and maintained to record precipitation at the landfill. Precipitation records shall be maintained and used by the permittee to compare with leachate generation rates.

17-701.500(7)(g) - 17-701.500(8)(g)

(9) Gas monitoring. All landfills that have received organic wastes shall implement a routine gas monitoring program to meet the requirements of Rule 17-701.400(10), F.A.C.

(10) Stormwater system management. Stormwater management systems shall be operated and maintained as necessary to meet applicable standards of Chapters 17-3, 17-302, and 17-25, F.A.C.

(11) Equipment and operation features. The landfill shall have:

(a) Sufficient equipment to ensure proper operation of the landfill and for excavating, spreading, compacting, and covering waste. All equipment shall have all personnel safety devices required by law;

(b) Sufficient reserve equipment or arrangement to obtain additional equipment within 24 hours of equipment breakdown;

(c) Communications equipment for emergency and routine communications;

(d) Personnel shelter and sanitary facilities and first aid equipment;

(e) Dust control methods;

(f) Fire protection and fire-fighting capabilities adequate to ensure safety of employees and to control accidental burning of solid waste in the landfill. Fire protection includes procedures for notification of local fire protection agencies for assistance in emergencies;

(g) Litter control devices, portable fences, or other suitable devices; and

(h) Signs indicating the name of the operating authority, traffic flow, hours of operations and restrictions or conditions of disposal.

(12) Roads. The landfill shall have:

(a) An all-weather access road that is passable and safe under normal operating conditions; and

(b) An inside perimeter road and other on-site roads, maintained to allow access to monitoring devices and stormwater controls, for landfill inspections and fire fighting.

(13) Recordkeeping. In addition to records and reporting required by other sections of this chapter, the landfill owner or operator shall:

(a) Keep records of all information used to develop or support the permit applications and any supplemental information submitted to comply with this chapter pertaining to construction of the landfill throughout the design period. Records pertaining to the operation of the landfill shall be kept for the design period of the landfill.

17-701.500(9) - 17-701.500(13)(a)

(b) Retain records of all monitoring information, including calibration and maintenance records, all original chart recordings for continuous monitoring instrumentation, and copies of all reports required by permit, for at least ten years. Background water quality records shall be kept for the design period of the landfill.

(c) Maintain an annual estimate of the remaining life and capacity in cubic yards of the existing, constructed landfill and remaining capacity and site life of other permitted areas not yet constructed. The annual estimate shall be based on a summary of the heights, lengths, and widths of the solid waste disposal units. The estimate shall be made and reported annually to the Department. Specific Authority: 403.061, 403.704, F.S. Law Implemented: 403.702, 403.704, 403.707, F.S. History: New 1-6-93.

17-701.510 Water Quality and Leachate Monitoring Requirements.

(1) Applicability.

(a) This section shall apply only to applications for construction or lateral expansion of a solid waste disposal unit received after January 6, 1993. However, at the time of permit renewal or, if the permit is not renewed, at the time of closing, owners or operators of all landfills receiving waste after January 6, 1993 shall sample and analyze their leachate in accordance with subsection (5) and paragraph (6)(b) of this section, and shall sample and analyze quarterly all monitoring wells specified in the permit for the water indicator parameters listed in paragraph (8)(a) of this section. This provision does not relieve a person from compliance with any permit condition or Department order, nor does it limit the Department's authority to modify a permit or ground water monitoring plan in accordance with Chapter 17-522, F.A.C.

(b) This rule is intended to supplement the ground water monitoring requirements of Chapter 17-522, F.A.C. Any provisions of Chapter 17-522, F.A.C., which are not in direct conflict with the provisions of this rule remain applicable.

(2) Water quality monitoring plan and system.

(a) The permit applicant shall provide to the Department a water quality monitoring plan for the landfill that describes the proposed ground water, surface water, and leachate monitoring systems. The plan shall be based on the hydrogeological investigation required in Rule 17-701.410, F.A.C., and be prepared by, or under the supervision of, a

17-701.500(13)(b) - 17-701.510(2)(a)

professional geologist or professional engineer with experience in hydrogeologic investigations. The plan shall be signed and sealed by the professional geologist or professional engineer.

(b) The water quality monitoring system shall be installed and consist of: a sufficient number of ground water wells installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer, as well as other aquifers reasonably expected to be affected by the landfill; surface water monitoring points installed at locations to yield samples of surface water that may be affected by the landfill; and leachate monitoring points to yield representative leachate samples. All sampling and analysis activities shall be performed by organizations that have Comprehensive Quality Assurance Plans approved in accordance with Rule 17-160.300(8), F.A.C.

(3) Ground water monitoring.

(a) Two or more detection wells shall be located, and within zone of discharge hydraulically downgradient from the solid waste disposal unit, to detect leachate releases. These wells shall be located no more than 50 feet from the edge of the solid waste disposal unit, unless site specific conditions make such placement impractical. These wells shall be capable of monitoring each solid waste disposal unit as it is operated.

(b) Multiple downgradient compliance wells shall be located at or immediately adjacent to the compliance line of the zone of discharge, if required in subsection (7) of ~~the~~ *the* subsection. If site-specific conditions require installation of compliance wells within the zone of discharge, then a confirmed exceedance of a ground water standard at such wells will be considered a violation of that standard.

(c) A sufficient number of background wells installed as part of the site hydrogeological investigation required in Rule 17-701.410, F.A.C., shall be maintained throughout the design life of the landfill to provide information on background water quality.

(d) Monitoring wells.

1. The location of each well, in degrees, minutes and seconds of latitude and longitude, the Universal Transverse Mercator coordinates, and the elevation of the top of the well casing to the nearest .01 foot, National Geodetic Vertical Datum, shall be determined by a registered Florida land surveyor. NGVD

2. An identification number shall be assigned by the Department to each monitoring well in accordance with the Department's Ground Water Monitoring System computer file.

17-701.510(2)(a)(cont'd.) - 17-701.510(3)(d)2.

The identification number shall be used on all water quality monitoring reports.

3. Well spacing shall be spaced no greater than 500 feet apart across the downgradient direction of ground water flow, and no greater than 1500 feet apart across the upgradient direction of ground water flow, in the uppermost aquifer within the zone of discharge, unless site specific conditions support the use of alternate well spacing. Conditions to be considered include, but are not limited to, ground water flow directions and rates, estimated longitudinal and transverse dispersivity rates, proximity to or presence of sensitive environments and ground water users, nature of the wastes, method of disposal, and the proposed design and size of the facility.

4. Well screens shall be located to readily detect representative ground water conditions within the saturated thickness of the uppermost aquifer within the zone of discharge. Well screens shall not act as conduits through confining layers between water bearing strata. Wells monitoring the unconfined water table shall be screened so that the water table can be sampled at all times. The applicant shall provide technical justification for the actual screen length chosen.

5. Any monitoring wells which are abandoned or which will be covered due to lateral expansions of a landfill or the construction of new solid waste disposal units shall be plugged as necessary so that they do not act as a conduit for any leachate release to the ground water.

6. Detection sensors capable of detecting changes in ground water that may indicate leachate releases, linked to a data recorder, may be used to augment detection wells or may be used as an alternative to detection wells, upon demonstration of their effectiveness to the Department.

(4) Surface water monitoring.

(a) All surface water bodies that may be affected by a contaminant release from the facility shall be monitored, except bodies of water contained completely within the property boundaries of the disposal site which do not discharge from the site to surface waters. In bodies of standing water, one or more representative monitoring points shall be located as close as practical to the facility. For flowing water bodies, a sufficient number of upgradient and downgradient locations shall be used to allow the effect of the landfill to be measured.

(b) Discharges from detention ponds for storm water shall be sampled at the point of discharge to waters of the state or from the property, whichever is closer to the detention pond.

17-701.510(3)(d)2.(cont'd.) - 17-701.510(4)(b)

(c) The details concerning the sampling locations and the analysis requirements shall be specified in the water quality monitoring plan. Each monitoring location shall be marked and its position shall be determined by a registered Florida land surveyor in degrees, minutes and seconds of latitude and longitude and Universal Transverse Mercator coordinates.

(5) Leachate sampling. The water quality monitoring plan shall specify the location of, and proposed protocol for, landfill leachate sampling to obtain a representative characterization of the leachate composition in the leachate collection and removal system as the leachate comes from the wastes and before it is subjected to conditions that may change the characteristics of the leachate. All sampling points shall be located to minimize pumping of leachate before sampling.

(6) Routine sampling frequency and requirements. Except as otherwise specified in a Department permit or order or in subsection (7) of this section, frequency of sampling and analysis shall be as follows:

(a) Background water quality.

1. Background water quality for a proposed landfill shall be determined by analysis of at least one water sample taken from each well that was installed, and each surface water monitoring location that was established, during the site hydrogeological investigation. The water quality information shall be submitted to the Department as part of the supporting information for the permit application.

2. Sampling and analysis for background ground water quality shall be for the parameters listed in paragraphs (8)(a) and (8)(d) of this section.

3. Sampling and analysis for background surface water quality shall be for the parameters listed in paragraph (8)(b) of this section.

(b) Leachate samplings.

1. Leachate shall be sampled and analyzed quarterly for the indicator parameters listed in paragraph (8)(c) of this section. In addition, leachate shall be sampled and analyzed annually for the parameters listed in paragraph (8)(d) of this section.

2. For landfills which are receiving waste, if this annual analysis indicates that a contaminant listed in 40 CFR 261.24 exceeds the regulatory level listed therein, the permittee shall initiate a monthly sampling and analysis program. If in any three consecutive months the same listed contaminant exceeds the regulatory level, the permittee shall, within 90 days, initiate a program designed to

17-701.510(4)(c) - 17-701.510(4)(b)2.

identify the source and reduce the presence of the contaminant in the leachate so that it no longer exceeds the regulatory level. This program may include additional monitoring of waste received and additional up-front separation of waste materials. Any leachate which is not recirculated or taken to a permitted domestic wastewater treatment facility shall be treated or managed so that no contaminant exceeds the regulatory level. If in any three consecutive months no listed contaminant is found to exceed the regulatory level, the permittee may discontinue the monthly sampling and analysis and return to a routine sampling schedule.

(c) All detection wells, and a representative sample of background wells, shall be sampled and analyzed quarterly for the ground water indicator parameters listed in paragraph (8)(a) of this section.

(d) Compliance monitoring wells shall be sampled and analyzed no less than quarterly, as required in subsection (7) of this section.

(e) Surface waters shall be sampled and analyzed quarterly for the parameters listed in paragraph (8)(b) of this section.

(7) Assessment monitoring and corrective action.

(a) Assessment monitoring. If indicator parameters are detected in detection wells in concentrations which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 17-520, F.A.C., the permittee shall resample the wells within 15 days after the sampling data is received, to confirm the data. If the data is confirmed, the permittee shall notify the Department in writing within 14 days of this finding. Upon notification by the Department, the permittee shall initiate assessment monitoring as follows:

1. Routine monitoring of all monitoring wells, surface water monitoring locations and leachate sampling locations shall continue according to the requirements of subsection (6) of this section.

2. Within 90 days of initiating assessment monitoring and annually thereafter, the permittee shall sample and analyze a representative sample of the background wells and all affected detection wells for the parameters listed in paragraph (8)(d) of this section. Any new parameters detected and confirmed in the affected downgradient wells shall be added to the routine ground water monitoring parameter lists required in subsection (6) of this section.

3. Within 90 days of initiating assessment monitoring, the permittee shall install and sample compliance monitoring

17-701.510(4)(b)2.(cont'd.) - 17-701.510(7)(a)3.

wells at the compliance line of the zone of discharge and downgradient from the affected detection monitoring wells. These wells shall be installed according to the requirements of paragraph (3)(d) of this section, and samples shall be analyzed for the parameters listed in paragraphs (8)(a) and (d) of this section.

4. Within 180 days of initiating assessment monitoring, the permittee shall submit a contamination assessment plan to the Department. This plan shall be designed to delineate the extent and cause of the contamination, to predict the likelihood that Department water quality standards will be violated outside the zone of discharge, and to evaluate methods to prevent any such violations. Upon approval by the Department, the permittee shall implement this plan and submit a contamination assessment report in accordance with the plan. All reasonable efforts shall be made by the permittee to prevent further degradation of water quality from the landfill activities.

5. If for two consecutive sampling events the concentrations of all indicator parameters and the parameters listed in paragraph (8)(d) of this section are at or below background values, the permittee, upon approval by the Department, may discontinue assessment monitoring and return to the routine monitoring requirements in subsection (6) of this section.

(b) Corrective actions.

1. If the contamination assessment report indicates that water quality standards are likely to be violated outside the zone of discharge, the permittee shall, within 90 days, submit a remedial action plan to the Department. Upon approval, the permittee shall initiate corrective actions to prevent such violations.

2. If any contaminants are detected and confirmed in compliance wells in concentrations which exceed both background levels and Department water quality standards or criteria, or are detected and confirmed in detection wells in concentrations which are above Department water quality minimum criteria, the permittee shall notify the Department within 14 days of this finding and shall initiate corrective actions. Assessment monitoring shall continue according to the requirements of paragraph (7)(a) of this section.

(8) Water quality parameters. The following list of water quality monitoring parameters shall be used for each type of sampling to be done.

(a) Ground water indicator parameters:

Field parameters

Static water level in wells
before purging

Laboratory parameters

Ammonium (NH₄)

17-701.510(7)(a)3.(cont'd.) - 17-701.510(8)(a)

Field parameters

Specific conductivity
pH
Dissolved oxygen
Turbidity
Temperature
Colors and sheens

Laboratory parameters

Arsenic
Bicarbonate
Cadmium
Chlorides
Chromium
Iron
Lead
Mercury
Nitrate
Sodium
Total dissolved solids
(TDS)
Total organic carbon
(TOC)
EPA 601/602 Analytes

(b) Surface water indicator parameters;

Field parameters

Specific conductivity
pH
Dissolved oxygen
Turbidity

Temperature
Colors, sheens

Laboratory parameters

Unionized ammonia
Arsenic
Bicarbonate
Biochemical oxygen
demand (BOD₅)
Cadmium
Chromium
Copper
Iron
Lead
Mercury
Nitrate
Sodium
Zinc
Total dissolved solids
(TDS)
Total organic carbon
(TOC)
EPA 601/602 Analytes

(c) Leachate indicator parameters;

Field parameters

Specific conductivity
pH
Dissolved oxygen
Colors, sheens

Laboratory parameters

Ammonium (NH₄)
Arsenic
Bicarbonate
Cadmium
Chlorides
Chromium

17-701.510(8)(a)(cont'd.) - 17-701.510(8)(c)

Iron
Lead
Mercury
Nitrate
Sodium
Total dissolved solids
(TDS)
Total organic carbon
(TOC)
EPA 601/602 Analytes

(d) Those parameters listed in 40 CFR Part 258, Appendix II.

Quarterly Report
(9) Water quality monitoring reporting. The landfill owner or operator shall report all water quality monitoring results to the Department on a quarterly basis. The operator of the landfill shall notify the Department at least 14 days before the sampling is scheduled to occur so that the Department may collect split samples.

(a) Quarterly reporting periods shall be established in the facility permit. The report shall include at least the following:

1. The facility name and identification number, sample collection dates, and analysis dates;
2. All analytical results, including all peaks even if below maximum contamination levels;
3. Identification number and designation of all surface water and ground water monitoring points;
4. Applicable water quality standards;
5. Quality assurance, quality control notations;
6. Method detection limits;
7. STORET code numbers for all parameters;
8. Water levels recorded prior to evaluating wells or sample collection. Elevation reference shall include the top of the well casing and land surface at each well site at a precision of plus or minus 0.1 foot (NGVD); and
9. An updated ground water table contour map, with contours at no greater than one-foot intervals, which indicates ground water elevations and flow direction; and
10. A summary or trend analysis of any water quality standards or criteria that are exceeded, including elevations of parameters above background levels;

Annual Report
(b) At the end of each year of data collection, with the year beginning with the date the landfill permit was issued, a technical report, prepared, signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations, shall be submitted to the Department. The report shall summarize and

17-701.510(8)(c)(cont'd.) - 17-701.510(9)(b)

interpret the water quality data and water level measurements collected during the past two years. The report shall contain, at a minimum, the following:

1. Tabular and graphical displays of the data, including hydrographies for all monitor wells;
2. Trend analyses;
3. Comparisons among shallow, middle, and deep zone wells;
4. Comparisons between upgradient and downgradient wells;
5. Correlations between related parameters such as total dissolved solids and specific conductance;
6. Discussion of erratic and/or poorly correlated data; and
7. A summary ground water table contour ^{data} map and an interpretation of the quarterly ground water contour maps.

(c) All field and laboratory records specified in Rules 17-160.600 - .630, F.A.C., shall be made available to the Department and be retained for the design period of the landfill.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93.

17-701.520 Special Waste Handling.

(1) Motor vehicles. Motor vehicles that are brought to a landfill may be stored temporarily in a separate area until they are removed for recycling. If vehicles cannot be recycled, all fluids and batteries shall be removed from the vehicles and they shall be compacted to minimize voids before being placed in the Class I area.

(2) Disaster debris. In the event of a natural disaster, during which large volumes of debris are accumulated (such as trees and buildings that have been destroyed) the debris may be transported to an area remote from habitation and burned in accordance with Rule 17-256, F.A.C.

(3) Landfilling shredded waste. Landfilling shredded solid waste without daily soil cover may be an environmentally acceptable method of final disposal at a landfill that meets the requirements of Rule 17-701.340, F.A.C. A properly designed and operated shredding facility shall be approved by the Department contingent upon the following conditions:

(a) Particle size. Seventy percent of all shredded waste, dry weight, shall be capable of passing through a three-inch screen.

(b) Waste shall be spread to a smooth contour and compacted promptly after placement and left undisturbed to prevent odors. Blowing of shredded waste by the wind shall be controlled.

17-701.510(9)(b)(cont'd.) - 17-701.520(3)(b)

(c) All solid waste storage areas in the shredding facility shall be maintained and cleaned at the end of each day's operations or during continuous operation, as necessary, to prevent vector problems. All equipment shall be designed and maintained to control spillage and to achieve the required product quality.

(d) An operational plan shall include provisions for removal and proper disposal of wastes within 24 hours should the shredding facility breakdown or operational quality be diminished. The operational plan shall include provision for a stock pile of emergency soil cover material and a plan to convert the operation to a conventional landfill operation.

(e) Shredded waste disposal units that fill design dimensions shall be closed in accordance with Rule 17-701.600, F.A.C.

(4) Asbestos waste disposal.

(a) Asbestos-containing waste materials may be accepted for disposal at a permitted Class I, II, or III landfill. Each active waste disposal site that receives asbestos-containing waste material from a source covered under the National Emission Standards for Asbestos, 40 CFR Part 61, Subpart M, shall meet the requirements of 40 CFR Part 61.154, which are incorporated by reference herein. For purposes of this rule, the term "Administrator," when used in 40 CFR Part 61.154, shall mean Secretary of the Department of Environmental Regulation.

(b) The waste generator shall make arrangements with the landfill operator before disposal of such regulated asbestos-containing waste materials, and inform the operator of the quantity of the waste and the scheduled date the shipment will arrive at the landfill.

(c) The landfill operator shall direct the waste transporter to the designated disposal location. The disposal location shall be recorded in accordance with 40 CFR Part 61.154, and a record of the asbestos location shall be maintained.

(5) Contaminated soil. Soil which has been contaminated with petroleum products or any other products which are not hazardous wastes may be disposed of in permitted, lined landfills. Petroleum contaminated soil which has been treated pursuant to Chapter 17-775, F.A.C., may be disposed of at permitted disposal facilities and may, if it meets the criteria of Rules 17-701.200(24), (37), and (38), F.A.C., be used as cover material at permitted landfills.

(6) Ash residue. Ash residue from the burning of solid waste shall be managed in accordance with Chapter 17-702, F.A.C. Ash residue which meets the criteria of Rules

17-701.520(3)(c) - 17-701.520(6)

17-702.570(6) and 17-701.200(37), F.A.C., may be used as initial cover at permitted, lined landfills.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.07, 10-1-74, Amended 5-24-79, 11-25-82, 7-10-84, 12-10-85, Formerly 17-7.06, 17-7.060, 17-701.060, Amended 1-6-93.

17-701.600 Landfill Final Closure.

(1) Applicability.

(a) Inactive landfills.

1. Landfills or solid waste disposal units which were closed in a manner approved by the Department prior to January 6, 1993, or which have received final cover before July 1, 1985, are exempt from the requirements of this section.

2. Owners or operators of landfills or solid waste disposal units which were no longer receiving wastes on January 6, 1993, which have not been closed in a manner approved by the Department, and which do not have an approved closure plan or closure permit shall comply with this section by January 6, 1994.

3. Owners or operators of landfills or solid waste disposal units which were no longer receiving wastes on January 6, 1993, which have not been closed in a manner approved by the Department, and which do have an approved closure plan or closure permit are exempt from the requirements of this section as long as the closure plan or closure permit is complied with.

(b) Active landfills. Landfills or solid waste disposal units which receive wastes after January 6, 1993, shall comply with the requirements of this section. Owners or operators of active landfills or solid waste disposal units which have an approved closure plan or closure permit on January 6, 1993 shall apply for modification of their plan or permit to comply with this section by January 6, 1994, or, if the landfill or solid waste disposal unit is not scheduled to close before the existing operation permit expires, at the time of permit renewal. Landfills or solid waste disposal units which are operating under a Department consent agreement, which have a closure permit, and which cease accepting wastes on or before December 1, 1992, are exempt from the requirements of this section except for Rule 17-701.600(5)(g), F.A.C.

(2) Closure schedule.

(a) At least one year prior to the projected date when wastes will no longer be accepted or when all solid waste disposal units are expected to reach design dimensions, the owner or operator shall provide a written notice to the

17-701.520(6)(cont'd.) - 17-701.600(2)(a)

Department with a schedule for cessation of waste acceptance and closure of the landfill. The closure schedule shall become an addendum to the landfill permit. If unforeseen circumstances do not allow the one-year notification, notice shall be provided as soon as the need to close the facility becomes apparent.

(b) Notice and advice to users. At least 120 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall advise users of the intent to close the landfill by posting signs at the entrance of the landfill giving the date of closing, the location of alternative disposal facilities, and the name of the person responsible for closing the landfill. These signs shall be maintained throughout the closing period. If unforeseen circumstances do not allow the 120 day notice to users, notice shall be provided as soon as the need to close the facility becomes apparent.

(c) Notice to the public. Within 10 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall publish a notice of the landfill closing in the legal advertising section of a newspaper of general circulation in the county where the activity is proposed, and shall provide proof of publication to the Department within seven days of publication.

(3) Closure permit requirements. The owner or operator shall submit an application to the Department for final closure of the landfill at least 90 days before the date when wastes will no longer be accepted. The application shall be on Form 17-701.900(1). If the landfill is operating under a Department permit, the owner or operator shall request a modification of the permit in lieu of submitting a closure permit application. The application or request for modification shall include a closure plan which is made up of the following:

- (a) A closure report;
- (b) A closure design plan;
- (c) A closure operation plan;
- (d) Closure procedures;
- (e) A plan for long-term care; and
- (f) A demonstration that proof of financial responsibility for long-term care will be provided.

(4) Closure report. A report on the final closure of the landfill shall address the following requirements, or shall contain an explanation of why the requirement is not applicable:

- (a) General landfill information which shall contain:
 - 1. Identification of the landfill;
 - 2. Location, description and vicinity map;

17-701.600(2)(a)(cont'd.) - 17-701.600(4)(a)2.

3. Total acreage of waste disposal areas and total acreage of landfill property;

4. Legal description of property on which the landfill is located;

5. History of the landfill including dates of construction and a description of the location and sequence of fill operations; and

6. Identification of types of waste disposed of in the completed landfill based on records, composition studies, operator memory, major waste depositors, or other information sources.

(b) The geotechnical investigation report and water quality monitoring plan required in Rule 17-701.330(4), F.A.C.

(c) Land use information which shall contain a discussion and maps indicating:

1. Identification of adjacent landowners;

2. Zoning;

3. Present land uses; and

4. Roads, highways, rights-of-way, or easements.

(d) A report on actual or potential gas migration in landfills that contain biodegradable wastes disposed of in porous soils which would allow migration of gas off the landfill property. Gas migration test points shall be located along property boundaries, particularly those adjacent to off-site occupied structures within 100 feet of the property boundary or where distressed vegetation is present. Test points are required along each boundary segment spaced as needed to detect gas migration. Test points shall extend at least three feet below ground surface. Where sand, gravel, or more gas permeable soil strata may interconnect the waste deposit and the property boundary, multiple depth sampling points are necessary to draw gas samples from the permeable layers. Methane concentrations shall be determined as a percent of the lower explosive limit. Methane concentrations shall not exceed the lower explosive limit at the property boundary or 25 percent of the limit within structures on the property.

(e) An assessment of the effectiveness of the landfill design and operation, which shall provide information about the effects of the landfill on adjacent ground and surface waters, and the landfill area. Specific concerns to be discussed are:

1. Results of the geotechnical investigation;

2. Effects of surface water runoff, drainage patterns, and storm water controls;

3. Extent and effects of methane gas migration, lower explosive limit percentage readings in migration paths, and description of the gas venting system;

17-701.600(4)(a)3. - 17-701.600(4)(e)3.

4. Condition of existing cover, thicknesses and types of soils or materials used for cover, and effectiveness of cover material as a leachate control mechanism; and

5. The nature and characteristics of the waste disposed of at the landfill.

(5) Closure design. The closure design plan shall consist of engineering plans and a report on closing procedures that apply to the final closing of solid waste disposal units during the operation of the landfill, the final closing of the landfill, and the monitoring and maintenance during the long-term care period. The closure design plan shall include the following information:

(a) A plan sheet showing phases of site closing.

(b) Drawings showing existing topography and proposed final grades.

(c) Provisions to close solid waste disposal units within the landfill as soon as they reach approved design dimensions and elevations and to finally close the landfill in accordance with the requirements of this rule. Landfills that are designed to be constructed in phases or sections shall include provisions for temporary closure of solid waste disposal units if subsequent, planned filling on top of them will not occur for six months or longer.

(d) Final elevations before settlement, based upon the capability of the foundation to support the total weight of the landfills, including water loading.

(e) Final side slope design. Side slopes of above-ground disposal units shall not be steeper than three feet horizontal to one foot vertical rise to control erosion of the final cover material. Such units shall incorporate reverse sloping benches or terraces into the side slopes of the landfill and shall contain down slope drainage ways with water flow energy dissipaters. Access for maintenance equipment shall be provided. Such designs shall address the susceptibility for erosion of the earthen material that is proposed for final cover relative to historical rainfall patterns for the area, the period between the patterns for the area, the period between the application of the final cover and establishment of vegetation, and maintenance procedures.

(f) Final cover installation plans showing the sequence of applying final cover. All areas filled with waste shall have a final cover designed to minimize infiltration of rainfall and subsequent generation of leachate, based on water balance calculations and leachate controls used.

1. The final cover shall be installed and tested in accordance with a construction quality assurance plan which meets the requirements of Rule 17-701.400(8), F.A.C.

17-701.600(4)(e)4. - 17-701.600(5)(f)1.

2. Final cover shall be placed over the entire surface of each completed solid waste disposal unit or units within 180 days after the final waste deposit, or within the time frame set forth in the approved closure plan. The final cover shall be vegetated with drought-resistant species to control erosion. The final cover is intended to be a moisture infiltration seal, therefore vegetational species planted shall be drought resistant and such that the roots will not penetrate the seal and thus provide a channel for moisture infiltration.

3. Top gradients of final cover on landfill areas shall be graded to maximize runoff and minimize erosion, considering total fill height and expected subsidence caused by decomposing waste, and shall be designed to prevent ponding or low spots.

4. The closure design plan shall describe provisions for cover material for the long-term care erosion control, filling areas of subsidence or other depressions, maintaining berms, and general maintenance of the facility, and specify the anticipated source and amount of material necessary for proper closure of the landfill.

(g) Final cover design.

1. Lined landfills and Class III landfills shall have a barrier soil layer 18 inches thick, with a maximum permeability of 1×10^{-5} cm/sec, emplaced in 6-inch thick lifts. A final, 18-inch thick layer of soil that will sustain vegetation to control erosion shall be placed on top of the barrier layer. Unlined Class I and Class II landfills shall have a final cover consisting of a final, 18-inch thick layer of soil that will sustain vegetation to control erosion, placed on top of the barrier layer, and a barrier soil layer 18 inches thick, emplaced in 6-inch thick lifts, with a permeability of 1×10^{-7} cm/sec or less.

2. Differing soil layer hydraulic properties may be used for the barrier soil layer which minimize infiltration to an equivalent degree as subparagraph 1. of this paragraph, provided that the thickness is at least 12 inches.

3. A geomembrane may be used as an alternative to the low-permeability soil barrier for a final cover, constructed to preclude rainfall infiltration into the landfill. A geomembrane used in final cover shall be a semi-crystalline thermoplastic at least 40 mils thick or a non-crystalline thermoplastic at least 30 mils thick with a maximum water vapor transmission rate of $2.4 \text{ g}/(\text{m}^2 \times \text{day})$, have chemical and physical resistance to materials it may come in contact with, and withstand exposure to the natural environmental stresses and forces throughout the installation, seaming process, and settlement of the waste during the closure and

17-701.600(5)(f)2. - 17-701.600(5)(g)3.

long-term care period. A protective soil layer at least 24 inches thick shall be put on top of the geomembrane. Material specifications, installation methods, and compaction specifications shall be adequate to protect the barrier layer from root penetration, resist erosion, and remain stable on the final design slopes of the landfill. This layer shall include top soil or soils that will sustain vegetative growth. In some cases, a drainage layer may be required between the cap (soil and geomembrane layer) and the top soil layer.

4. Nothing herein shall preclude the Department from requiring more stringent final or temporary cover designs in a permit or consent order if necessary to protect the public health or the environment because of the nature of wastes received or site specific geological or hydrogeological conditions, or if the landfill has not been adequately constructed, operated, maintained, or closed.

(h) Proposed method of stormwater control. Stormwater occurring on the landfill property and from areas adjacent to the landfill property shall be prevented from coming onto or into waste filled areas. The closure design plan shall demonstrate compliance with Chapter 17-25, F.A.C.

*Stormwater
control*

(i) Proposed method of access control. The closure design plan shall show how access to the closed landfill shall be restricted to prevent any future waste dumping or use of the facility by unauthorized persons. Restricted access shall remain in force until the landfill is stabilized and there is no evidence that facility property is being used as an unauthorized disposal site. If use of the property during the long-term care period is planned, access shall be restricted until landfill closing is completed and approved by the Department.

(j) A description of any proposed final use of the landfill property.

(6) Closure operation plan. The closure operation plan shall:

(a) Describe the actions which will be taken to close the landfill, such as placement of cover, grading, construction of berms, ditches, roads, retention-detention ponds, installation or closure of wells and boreholes, installation of fencing, seeding of vegetation, and protection of on-site utilities and easements;

(b) Provide a time schedule for completion of the closing and long-term care;

*time schedule
for closing and
long-term care.*

(c) Contain appropriate references to the closure design and other supporting documents;

(d) Describe the proposed method of demonstrating financial responsibility for the long term monitoring and maintenance; and

*financial
responsibility*

17-701.600(5)(g)3.(cont'd.) - 17-701.600(6)(d)

(e) Indicate any additional equipment and personnel needed to complete closure of the landfill.

(7) Temporary closure.

(a) Placement of final cover over a solid waste disposal unit may be delayed for a period of time specified in an approved closure plan for the following reasons:

1. For the purpose of promoting biological degradation of waste;

2. If additional solid waste will be deposited on the solid waste disposal unit within five years; or

3. If excavation of the waste is planned.

(b) Placement of final cover may be delayed only if the solid waste disposal unit is temporarily closed in accordance with an approved closure plan. Conditions of temporary closure shall include:

1. The solid waste disposal unit was constructed in compliance with its permit conditions, and has a liner and leachate control system;

2. A schedule for closure is shown in the closure plan application;

3. Final cover is installed on side slopes of each completed disposal unit which will not receive additional waste or which will not be mined, and all areas visible to the public are closed and landscaped;

4. Odors and vectors are controlled;

5. An intermediate cover is installed on the solid waste disposal unit;

6. The financial responsibility requirements of Rule 17-701.630, F.A.C., are met, and the closure cost estimate takes into account the costs of temporary closure as well as the costs of the final closure; and

7. The landfill owner or operator demonstrates that delaying placement of final cover will not cause or contribute to any significant increase in leachate escaping from the solid waste disposal unit into the environment.

(c) In addition, a solid waste disposal unit which will be mined in the future shall have a temporary final cover installed.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93.

17-701.610 Closure Procedures.

(1) Closing inspections. The Department shall specify in the closure permit which particular closing steps or operations must be inspected and approved by the Department before proceeding with subsequent closure actions.

(2) Survey monuments. For landfills with a final elevation of less than 20 feet above the natural land surface, concrete monuments shall be installed to mark the

17-701.600(6)(e) - 17-701.610(2)

boundaries of the landfill property and other permanent markers shall be installed to outline the general waste filled areas. These markers shall be tied to one or more of the boundary markers by a survey performed by an engineer or a registered land surveyor. The location and elevation of all markers shall be shown on a site plan filed with the "Declaration to the Public" described in subsection (5) of this section.

(3) Final survey report. When landfill operations have been conducted which have raised the final elevations higher than 20 feet above the natural land surface, a final survey shall be performed after closure is complete by an engineer or a registered land surveyor to verify that final contours and elevations of the facility are in accordance with the plans as approved in the permit. Aerial mapping techniques which provide equivalent survey accuracy may be substituted for the survey. The survey or aerial mapping information shall be included in the report along with information reflecting the conditions of the landfill as constructed. Contours shall be shown at no greater than five-foot intervals. The landfill owner or operator shall submit this report to the Department in accordance with the closing schedule.

(4) Certification of closure construction completion. A certification of closure construction completion, signed, dated and sealed by the engineer of record, shall be provided to the Department upon completion of closure.

(5) Declaration to the public. After closing operations are inspected and approved by the Department, the landfill owner or operator shall file a declaration to the public in the deed records in the office of the county clerk of the county in which the landfill is located. The declaration shall include a legal description of the property on which the landfill is located and a site plan specifying the area actually filled with solid waste. The declaration shall also include a notice that any future owner or user of the site should consult with the Department prior to planning or initiating any activity involving the disturbance of the landfill cover, monitoring system or other control structures. A certified copy of the declaration shall be filed with the Department.

(6) Official date of closing. Upon receipt of the documents required in subsections (3), (4), and (5) of this section, the Department shall, within 30 days, acknowledge by letter to the facility operator that notice of termination of operations and closing of the facility has been received. If the entire landfill has been closed, the date of this letter shall be the official date of landfill

17-701.610(2)(cont'd.) - 17-701.610(6)

closing for the purpose of determining the long-term care period. If only a portion of the landfill has been closed, the long-term care period will begin upon the closing of the entire landfill, unless the portion which has been closed can be monitored and maintained separately from the rest of the landfill. The date of this letter shall be the official date of landfill closing for the purpose of determining the long-term care period.

(7) Use of closed landfill areas. Closed landfill areas, if disturbed, are a potential hazard to public health, ground water and the environment. The Department retains regulatory control over any activities which may affect the integrity of the environmental protection measures such as the landfill cover, drainage, liners, monitoring system, or leachate and stormwater controls. Consultation with the Department is required prior to conducting activities at the closed landfills.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85, Formerly 17-7.074, Formerly 17-701.074, Amended 1-6-93.

17-701.620 Long-Term Care.

(1) Long-term care period. The owner or operator of any landfill which receives wastes after January 6, 1993, shall continue to monitor and maintain the facility in accordance with an approved closure plan for 30 years from the date of closing. Before the expiration of the long-term care monitoring and maintenance period, the Department may extend the time period if the closure design or closure operation plan is found to be ineffective.

(2) Reduced long-term care period. The owner or operator of a landfill may apply to the Department for a reduced long-term care schedule if reasonable assurance is provided to the Department that there is no threat to human health or the environment and if the landfill:

(a) Has been constructed and operated in accordance with approved standards, and has a leachate control system and a liner;

(b) Was closed with appropriate final cover, vegetative cover has been established, and a monitoring system has been installed;

(c) Has a 10-year history after closure of no violations of water quality standards or criteria detected in the monitoring system, and no increases over background water for any monitoring parameters which may be expected to result in violations of water quality standards or criteria; and

(d) Has had no detrimental erosion of cover, and subsidence of waste has ceased.

17-701.610(6)(cont'd.) - 17-701.620(2)(d)

modifying GWRP
deleting parameters

[3] Modified ground water monitoring plan. The owner or operator of a landfill may apply to the Department for a modification to their ground water monitoring plan to remove a parameter from the list specified in Rule 17-701.510(8), F.A.C., if the parameter has never been detected in the leachate or in any ground water well or surface water point during the active life of the landfill.

[4] Right of access. The landfill owner or operator shall possess or acquire a sufficient interest in, or a right to use, the property for which a permit is issued, including the access route onto the property to carry out the requirements of this rule. The permittee shall retain the right of entry to the landfill property for the long-term care period, after termination of solid waste operations, for inspection, monitoring and maintenance of the site.

[5] Successors in interest. Any person acquiring rights or ownership, possession or operation of a permitted landfill through lease or transfer of property shall be subject to all requirements of the permit for the facility and shall provide any required proof of financial responsibility to the Department in accordance with this rule. Any lease or transfer of property shall include specific conditions to delineate:

(a) The previous owner or operator is responsible for closure and shall maintain any required proof of financial responsibility until the person acquiring ownership, possession or operation of the landfill establishes the required proof of financial responsibility with the Department;

(b) Responsibility for the continuance of monitoring, maintenance, and correction of deficiencies or problems; and

(c) Mineral rights attached to the property and the rights to any recoverable materials that may be buried on the property or landfill gasses that may be produced. A Department permit shall be required if any on-site operations subsequent to closing of a landfill involve disturbing the landfill.

See District
Regulations

[6] Transfer of permit. Transfer of a landfill permit shall be in accordance with the provisions of Rule 17-4.120, F.A.C., and this rule.

[7] Replacement of monitoring devices. If a monitoring well or other device required by the monitoring plan is destroyed or fails to operate for any reason, the landfill owner or operator shall, immediately upon discovery, notify the Department in writing. All inoperative monitoring devices shall be replaced with functioning devices within 60

17-701.620(3) - 17-701.620(7)

days of the discovery of the malfunctioning unit unless the landfill owner or operator is notified otherwise in writing by the Department.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85, Formerly 17-7.075, Formerly 17-701.075, Amended 1-6-93.

17-701.630 Financial Responsibility.

(1) Definitions. As used in this section:

(a) "Owner or operator" means, in addition to the usual meanings of the term, any owner of record of any interest in land whereon a landfill is or has been located and any person or corporation which owns a majority interest in any other corporation which is the owner or operator of a landfill.

(b) "Active life" means the operating life of the landfill as estimated in the construction permit or closure plan, but does not include the long-term care period.

(2) Applicability.

(a) A government-owned landfill closed on or before October 1, 1988, shall not be required to comply with this rule.

(b) As a condition for the issuance of a landfill construction permit, the owner or operator shall describe the financial mechanism to be used to demonstrate proof of financial responsibility to the Department. The financial mechanism shall be created, and alternate financial mechanisms shall be fully funded, at least 60 days prior to the acceptance of any solid waste at the facility. The financial mechanism shall either be:

1. A landfill management escrow account; or
2. An alternate financial mechanism pursuant to subsection (6) of this section.

(c) Owners or operators of existing landfills or landfills which have received a construction permit prior to November 28, 1989, shall submit proof of financial responsibility to the Department by October 1, 1990. Such proof shall be:

1. That a landfill management escrow account has been established and that such account and interest thereon is current as to the required level of funding pursuant to subsection (5) of this section; or,
2. Proof of the existence and current value of an alternate financial mechanism pursuant to subsection (6) of this section.

17-701.620(7)(cont'd.) - 17-701.630(2)(c)2.

(3) Cost estimates.

(a) For the purposes of determining the amount of proof of financial responsibility that is required in subsections (5) and (6) of this section, the owner or operator shall estimate the total cost of closure for the permitted portions of the landfill or for those portions of the landfill for which a construction permit is sought, for the time period in the landfill operation when the extent and manner of its operation make closing most expensive. The annual cost of long-term care shall be estimated and listed separately, and multiplied by 30 years. The owner or operator shall submit the estimates, together with all necessary justification, to the Department for approval along with the proof of financial responsibility. The costs shall be estimated by a professional engineer for a third party performing the work, on a per unit basis, with the source of estimates indicated.

(b) Closing costs shall be based on the nature and characteristics of the wastes disposed of at the site and shall include estimated costs of cover material, topsoil, seeding, fertilizing, mulching, labor, and any other costs of compliance with Rules 17-701.600 - .610, F.A.C.

(c) Long-term care costs shall include land surface care; gas monitoring; leachate pumping, transportation, monitoring and treatment; groundwater monitoring, collection and analysis; and any other costs of compliance with Rule 17-701.620, F.A.C.

(4) Annual cost adjustments.

(a) Every owner or operator of a landfill shall submit to the Department an annual cost adjustment statement, certified by a professional engineer. Closure and long-term care costs shall be listed separately.

(b) During the life of those portions of the landfill which have not been finally closed, the owner or operator shall revise the closure cost estimate for inflation and changes in the closure and long-term care plan. Such revisions shall be made annually in accordance with 40 CFR Part 264.142(a)(4)(b) or 40 CFR Part 264.144(a)(2)(b) and used as the basis for comparison against the balance in the landfill management escrow account or the value of an alternate funding mechanism.

(c) If the value of the alternate funding mechanism is less than the total amount of the current closure cost estimate, the owner or operator shall revise the funding mechanisms to reflect the new estimate within the time frames outlined in 40 CFR Part 264, Subpart H.

17-701.630(3) - 17-701.630(4)(c)

(d) If the value of the landfill management escrow account or alternate funding mechanism is greater than the total amount of the current closure cost estimate, the owner or operator may reduce the value of the account or funding mechanism to reflect the new estimate.

(5) Landfill management escrow account.

(a) The owner or operator of a landfill shall establish a fee, or a surcharge on existing fees, or other appropriate revenue-producing mechanism, to ensure the availability of financial resources for the proper closure and long-term care of the landfill.

(b) The revenue-producing mechanism shall produce revenue at a rate sufficient to generate funds to meet state landfill closure requirements.

(c) The revenue shall be deposited in an interest-bearing escrow account, the landfill management escrow account, to be held and administered by the owner or operator. The owner or operator shall file with the Department a signed duplicate original of the escrow account agreement and an annual audit of the account. The audit shall be conducted by an independent Certified Public Accountant and shall be filed no later than December 31 of each year. Counties using a Single Audit accounting system shall file this audit by March 31 of the following year. The audit shall consist of reporting the balance in the landfill management escrow account as of the end of each fiscal year and a list of all deposits and withdrawals made. The list shall include the date and the amount of each deposit and withdrawal.

(d) Payments into the landfill management escrow account shall be made by the owner or operator at least annually according to one of the following methods:

1. For a new landfill, the first payment must be made before the end of the first year after the initial receipt of solid waste into the landfill. A notice of such payment shall be submitted to the Department. The first payment shall be equal to the current closing cost estimate for the landfill divided by the number of years in the active life of the landfill. Subsequent payments must be made at least annually, over the term of the active life of the landfill, on the anniversary date of the first payment. The calculations for such annual payment shall be as follows: $\text{payment} = (\text{CE} - \text{CV}) / Y$, where CE is the current calculated closure cost estimate, CV is the current value of the escrow account, and Y is the number of remaining years in the active life of the landfill.

17-701.630(4)(d) - 17-701.630(5)(d)1.

2. For government-owned landfills, the owner or operator shall deposit into the escrow account, at the time of closing and each year thereafter, sufficient funds to cover the following year's long-term care costs. In addition, the owner or operator must document specifically how it intends to finance the long-term care of the landfill as part of its closure plan.

3. For landfills not owned by a governmental agency, the long-term care costs shall be included in the closing cost estimates as specified in subparagraph 1. above; long-term care costs must be fully funded when the landfill closes.

4. For an existing government-owned landfill scheduled to close on or before October 1, 1995, no escrow account funding is required for costs associated with the closing of the landfill. Proof of financial responsibility for closing costs shall consist of specific documentation of how the owner or operator intends to finance the closing of the landfill. Escrow funding for long-term care shall be provided.

5. The owner or operator may accelerate payments into the landfill management escrow account or may deposit the full amount of the current closure cost estimate at the time that the account is established.

(e) The owner or operator may make expenditures from the account and its accumulated interest only for the purpose of landfill closure and long-term care and, if such expenditures do not deplete the fund to the detriment of eventual closure and long-term care as described under the certification procedure in subsection (4) of this section, for planning and construction of resource recovery or landfill facilities. If the owner or operator does not operate a landfill, any funds remaining in the account after paying for proper and complete closure and long-term care, as determined by the Department, shall be deposited by the owner or operator into the general fund of the local government of jurisdiction.

(f) The revenue generated under this subsection and any accumulated interest thereon may be applied to the payment of, or pledged as security for, the payment of revenue bonds issued in whole or in part for the purpose of complying with state landfill closure and long-term care requirements. Such application or pledge may be made directly in the proceedings authorizing such bonds or in an agreement with an insurer of bonds to assure such insurer of additional security therefore.

~~(6)~~ Alternate proof of financial responsibility.

(a) An owner or operator may establish proof of financial responsibility with the Department in lieu of, or in combination with, the requirements of subsection (5) of

17-701.630(5)(d)2. - 17-701.630(6)(a)

this section. Such proof may include surety bonds, certificates of deposit, securities, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees showing that the owner or operator has sufficient financial resources to cover, at a minimum, the costs of complying with all state landfill closure and long-term care requirements. If such proof of financial responsibility is surety bonds, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees, such proof shall be submitted on forms provided by the Department in accordance with the requirements of paragraphs (b) and (c) of this subsection. If proof of financial responsibility is securities or certificates of deposit, such financial documents shall be submitted directly to the Department. The owner or operator shall estimate such costs pursuant to subsection (3) of this section.

(b) 40 CFR Part 264 Subpart H which contains EPA's rules on financial requirements for owners and operators of hazardous waste facilities are hereby adopted as financial requirements for purposes of this section incorporated by reference as those rules appear in 40 CFR 264, revised as of July 1, 1988, except:

1. The following sections of 40 CFR Part 264 Subpart H are specifically not adopted as part of this rule:

a. 264.140(a); 264.140(b); 264.141(a); 264.141(e); 264.147; 264.149; 264.150; and 264.151.

b. All references to 40 CFR Part 265.

c. All references to sections or subparts of 40 CFR 264 not contained in Subpart H.

d. All references to EPA Regions.

e. All references to RCRA, or Section 3008 of RCRA.

2. References in 40 CFR 264 Subpart H to the United States Environmental Protection Agency (EPA) shall mean the State of Florida Department of Environmental Regulation; to Regional Administrator shall mean the Secretary of the Department; to permits shall mean solid waste management permits; to Post-Closure Care/Post-Closure Cost Estimate shall mean Long-Term Care/Long-Term Care Cost Estimate; to EPA identification number shall mean the Department identification number; to hazardous waste shall mean solid waste; and to hazardous waste treatment, storage or disposal facilities shall mean landfills.

(c) Government-owned facilities using a Single Audit accounting system and providing proof of financial responsibility using a financial test, must send updated information outlined in 40 CFR 264.143(f)(5) and 264.145(f)(5) to the Department within 180 days after the close of each succeeding fiscal year.

17-701.630(6)(a)(cont'd.) - 17-701.630(6)(c)

(d) Form 17-701.900(5) shall be used when submitting proof of financial responsibility under this section.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1/85; Formerly 17-7.076; Amended 11-28-89; Formerly 17-701.076; Amended 1-6-93.

17-701.700 Materials Recovery Facilities.

(1) Applicability. No person shall construct or operate a materials recovery facility without a permit issued by the Department.

(2) Engineering report. A permit application for a materials recovery facility shall include the information required in Rule 17-701.320, F.A.C., and an engineering report that includes:

(a) A description of the solid waste that is proposed to be collected, stored, processed or disposed of by the facility, a projection of those waste types and quantities expected in future years, and the assumptions used to make the projections;

(b) A description of the operation and functions of all processing equipment that will be used, with design criteria and expected performance. The description shall show the flow of solid waste and associated operations in detail, and shall include:

1. Regular facility operations as they are expected to occur;

2. Procedures for start up operations, and scheduled and unscheduled shut down operations; and

3. Potential safety hazards and control methods, including fire detection and control;

(c) A description of loading, unloading, and processing areas. If wastes which are reasonably expected to produce leachate are being processed, the facility shall be designed with a leachate control system to prevent discharge of leachate and mixing of leachate with stormwater;

(d) Identification and capacity of temporary on-site storage areas for recyclable materials, non-processable wastes, unauthorized wastes, and residues;

(e) Provisions for solid waste and leachate containment;

(f) Identification of potential ground water and surface water contamination; and

(g) A plan for disposal of unmarketable recyclable materials and residue, and for waste handling capability in the event of breakdowns in the operations or equipment. Wastes shall be handled on a first-in, first-out basis. Stored putrescible wastes shall not be allowed to remain unprocessed for more than 48 hours unless provisions are made to control vectors and odors.

17-701.630(6)(d) - 17-701.700(2)(g)

(3) Operational requirements. A permit application for a materials recovery facility shall include the following operational requirements:

(a) An operation and maintenance manual describing the facility operations, the persons responsible for the operations, and types of equipment that will be used. All activities at the facility shall be performed in accordance with the manual and plans for the facility. Manuals and plans shall be updated as operations change but no less frequently than upon renewal of the operation permit;

(b) A plan to screen the wastes received by the facility, that specifies inspection procedures and procedures to handle unauthorized wastes;

(c) A contingency plan to cover operations interruptions and emergencies such as fires, explosions, or natural disasters; and

(d) A closure plan that identifies the steps needed to close the facility. The closure plan shall provide for the following:

1. Owner or operator notification to the Department in writing 180 days before the date the facility is expected to close. No waste shall be received by the facility after the expected closing date;

2. Within 30 days after receiving the final solid waste shipment, the owner or operator shall remove or otherwise dispose of all solid waste or residue in accordance with the approved closure plan; and

3. Closure must be completed within 180 days after receiving the final waste quantity. Closure will include removal of all recovered materials from the site. When closure is completed, the owner or operator shall certify in writing to the Department that closure is complete. The Department will make an inspection within 30 days to verify the closure and advise the owner or operator of the closure status.

(4) Financial responsibility. The owner or operator of a materials recovery facility shall post a performance bond payable to the Department to cover the cost of properly closing the facility, if one or more of the following conditions exist:

(a) Where the owner of the land or materials recovery facility and the operator of the facility are not the same person; or

(b) If the operator of the facility could stockpile waste that may create an environmental threat if the facility closes without properly disposing of the waste.

17-701.700(3) - 17-701.700(4)(b)

(5) Stormwater, Stormwater shall be controlled in accordance with Chapter 17-25, F.A.C., and any water management district rules. A copy of any permit for stormwater control, or documentation that no permit is required, shall be submitted to the Department before the facility receives waste (for disposal).
Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.702, 403.704, 403.707, F.S.
History: New 1-6-93.

17-701.720 Industrial Solid Waste Disposal

(1) Applicability. After January 6, 1993 except as provided below, and subject to the provisions of Rule 17-701.220, F.A.C., solid waste disposal units which accept primarily industrial wastes other than construction and demolition debris, clean debris, or those materials specified as acceptable in Class III landfills in Rule 17-701.340(3)(d), F.A.C., shall meet the following requirements:

(a) Solid waste disposal units constructed after January 6, 1995 or for which an application for a permit or site certification was not received and deemed complete by the Department before January 6, 1995 shall meet the same requirements of this chapter as apply to Class I landfills. This requirement also applies to lateral expansions of solid waste disposal units.

(b) All other solid waste disposal units which receive waste after January 6, 1995 shall comply with the same operational and closure requirements of Rules 17-701.500, 17-701.510, 17-701.600, 17-701.610, 17-701.620, and 17-701.630, F.A.C., as apply to Class I landfills.

(2) Alternate requirements for specific facilities. The owner or operator of an industrial waste disposal facility may request approval of alternate procedures and requirements in accordance with Rule 17-701.310, F.A.C.

(3) Alternate requirements for types of industrial operations. A person or organization representing a specific type of industrial operation may request general approval for all such industrial operations. Such request for a specific type of industrial operation shall be submitted by July 6, 1994 and shall be accompanied by an analysis of the waste stream and operational procedures intended to demonstrate that the standards for Class I landfills are inappropriate for that waste stream. This deadline shall be tolled during the time that any required, complete Quality Assurance Plan is being reviewed and acted on by the Department. The Department shall offer assistance to the waste generators in determining what types of information may be submitted. If the Department determines

17-701.700(5) - 17-701.720(3)

that such submittal, along with any additional information supplied, includes the information specified in subsection (4) of this section, then the provisions of subsection (1) of this section shall not apply to that type of industrial operation. Instead, the Department shall, after an evaluation of the submittals and any additional information submitted, initiate rulemaking to set standards for the construction, operation and closure of disposal facilities at that type of industrial operation, including lateral expansions of existing facilities.

(4) Guidelines. The following guidelines are offered for those persons or organizations requesting such alternate requirements for industrial waste disposal facilities or types of industrial operations.

(a) The request should include a detailed description of those wastes which are typically disposed of. This description should include:

1. An analysis of the chemical, biological and physical properties of the waste;
2. An analysis of any predicted movements of such waste in ground water;
3. An analysis of the likelihood of such wastes causing violations of ground water quality standards or criteria if released into the environment, taking into account any applicable zones of discharge; and
4. An analysis of the likelihood of such wastes releasing methane or other gases into the atmosphere.

(b) The request should include a detailed description of the operational and management practices at the facility. The description should include:

1. A demonstration that the facility operator follows appropriate procedures to assure that only the described industrial wastes are disposed of in the industrial waste disposal unit; and
2. A demonstration that the facility will have equipment and features necessary to comply with Rule 17-701.500(11), F.A.C.

(c) If the person or organization is requesting that less stringent liner requirements apply, the request should include one or more of the following:

1. A demonstration that leachate from the waste, if released into the environment, will pose little or no threat to the public or the environment, and will not violate ground water quality standards and criteria, taking into account any applicable zones of discharge;
2. An analysis of the likelihood and extent that such leachate will be released into the environment; and
3. A demonstration that leachate from the waste will not have an adverse effect on the proposed liner system, if any.

17-701.720(3) (cont'd.) - 17-701.720(4) (c)3.

(d) If a person or organization is requesting that less stringent gas control systems apply, the request should include a demonstration that either:

1. The waste is not expected to produce any significant amounts of gases; or
2. The less stringent gas control system requested shall meet the requirements of Rule 17-701.400(10)(a)1., F.A.C.

(e) If a person or organization is requesting that less stringent ground water monitoring requirements apply, the request should include an analysis of the leachate produced by the waste indicating those constituents which may enter the ground water in the case of leakage.

(f) If a person or organization is requesting that less stringent initial or intermediate cover requirements apply, the request should include a demonstration that the less stringent requirements will provide an equal degree of protection from odors, fires, vectors, and blowing dust.

(g) If a person or organization is requesting that less stringent closure requirements apply, the request should include a demonstration that:

1. Infiltration of rainfall after closure will be minimized; or
2. Leachate generated after closure will not cause a violation of water quality standards during the long-term care period.

(5) This section is not intended to limit the Department's authority to require permits and permit conditions necessary to protect the public health and the environment. Between January 6, 1993 and January 6, 1995 and during any rulemaking procedures that the Department may undertake pursuant to subsection (3) of this section, the Department will continue to evaluate any applications for industrial waste disposal units on a case by case basis. Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.702, 403.704, 403.707, F.S.
History: New 1-6-93.

17-701.730 Construction and Demolition Debris Disposal.

(1) Clean debris. Clean debris may be used as fill material in any area, including waters of the State, subject to receipt of a dredge and fill permit from the Department where applicable. Clean debris used as fill material is not solid waste, and such use does not require a solid waste permit under this rule. Clean debris that is not used as fill material shall be disposed of as construction and demolition debris.

17-701.720(4)(d) - 17-701.730(1)

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(2) Landfill disposal. Construction and demolition debris may be disposed of in a permitted landfill. However, pursuant to Section 403.706(2), F.S., each county must initiate by July 1, 1989, a program to develop segregated disposal areas for construction and demolition debris. This program shall be designed to assure that all construction and demolition debris is disposed of in segregated areas after August 1, 1990. The cover requirements for a segregated construction and demolition debris disposal area within a permitted landfill shall be those in Rule 17-701.803(9), F.A.C.

(3) On-site disposal. Construction and demolition debris which is disposed of on the property where it is generated, or on property which is adjacent or contiguous to and under common ownership and control as that property where the waste is generated, is exempt from the landfill permitting requirements of Rule 17-701.330, F.A.C. However, such disposal is subject to the prohibitions of Rule 17-701.300, F.A.C. Such disposal areas must also be closed, graded and vegetated as specified in Rule 17-701.803(9), F.A.C.

(4) Off-site disposal. Construction and demolition debris may be disposed of off-site at a facility operating under a general permit pursuant to Rules 17-4, Part III and 17-701.803, F.A.C., or at a solid waste facility permitted under Rule 17-701.330, F.A.C. Such a facility operating under a general permit shall accept only construction and demolition debris for disposal.

(5) Recycling and burning. Nothing in this rule shall prevent the burning or recycling of construction and demolition debris in accordance with Department rules.

(6) Disposal restrictions. Construction and demolition debris may be disposed of only in accordance with one of the methods authorized above. In addition, disposal areas shall be operated so that adverse environmental and public health impacts, such as blowing litter, odors, and vectors, are minimized.

(7) Asbestos waste disposal. Asbestos-containing waste materials regulated pursuant to 40 CFR Part 61, Subpart M, shall not be disposed of in a construction and demolition debris disposal area.

Specific Authority: 403.061, 403.704, 403.707, F.S.

Law Implemented: 403.706, 403.707, F.S.

History: New 8-2-89; Formerly 17-701.061; Amended 1-6-93.

17-701.730(2) - 17-701.730(History)

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17-701.801 General Permit for Solid Waste Transfer Station.

(1) General permit. A general permit is hereby granted to any person for the construction and operation of a solid waste transfer station that has been designed or will be operated in accordance with the standards and criteria set forth in Rules 17-4.540 and 17-701.300, F.A.C., and this section.

(2) Notification. Any person wishing to operate a transfer station pursuant to this section shall notify the Department on Form 17-701.900(4) and provide the following:

(a) Regional map. The regional map shall delineate the service area of the proposed transfer station.

(b) Site plan. The site plan shall include:

1. Site conditions and projected use including all site structures, buildings, fences, gates, entrances and exits, parking areas, on-site roadways, and signs;
2. Property boundaries, access roads, surface water bodies, and the location of 100-year flood plain boundaries;
3. Proposed structures and areas designated for unloading, sorting, storage, and loading, including dimensions, elevations, and floor plans of these structures and areas, and the general process flow; and
4. Adjacent properties including the location of public and private water supplies on these properties.

(c) Engineering report. The engineering report shall include:

1. A description of the general operating plan for the proposed facility including the origin, composition, and expected weight or volume of all solid waste to be accepted at the facility, the maximum time waste will be stored, where all wastes will be disposed, the capacity of the facility, the operating hours of the facility, and the expected life of the facility;
2. A description of all machinery and equipment to be used, including the design capacity;
3. A transfer plan specifying the transfer route, the number and type of transfer vehicles to be used, and how often solid waste will be transferred to the disposal site;
4. A description of the facility's drainage system and water supply system;
5. A plan for hiring and training equipment operators and other personnel concerning the operation of the facility; and
6. A contingency plan describing alternate solid waste handling procedures for periods of inoperation or delays in transporting solid waste.

(3) Design requirements. Minimum design requirements for transfer stations are as follows:

17-701.801(1) - 17-701.801(3)

(a) On-site roads and unloading areas shall be designed for efficient movement and unloading of vehicles.

(b) Tipping, processing, sorting, storage and compaction areas that are in an enclosed building or covered area shall have ventilation systems. The areas that are not enclosed shall be equipped with litter control devices and visual screening.

(c) The facility shall be designed with a leachate control system to prevent discharge of leachate and mixing of leachate with stormwater.

(d) Provisions shall be made for weighing or measuring all incoming solid waste and recovered materials. Storage areas shall be designed to hold the expected volume of materials until they are transferred for disposal or recycling.

(e) Where the general public may use the transfer facility, safety procedures shall be established for private vehicles.

(4) Operational requirements.

(a) Prohibited wastes shall not be accepted at a transfer station. Handling of unauthorized wastes shall be addressed in the contingency plan.

(b) An attendant shall be on duty whenever the facility is operating. Operating hours shall be posted, and fencing, gates, or other means shall be used to prevent unauthorized access when the station is closed.

(c) Litter, insects, odors and vectors shall be controlled to prevent sanitary nuisance and unsightly appearance.

(d) Wastes shall be handled on a first-in, first-out basis to the extent practicable. All waste storage areas shall be cleaned at the end of each day's operations or during continuous operation, as necessary, to prevent odor or vector problems. All floors shall be free of standing liquids. Drainage from cleaning areas shall be discharged to sanitary sewers or the equivalent.

(e) Adequate fire protection must be available at all times.

(f) Recovered materials shall be clearly identified and stored in a safe, sanitary manner. A record of the type and quantity of recovered materials shall be maintained and reported as part of the county's recycling program.

(g) Operational records shall be maintained to include a daily log of the quantity of solid waste received and transported and the origin of the waste. Such records shall be compiled on a monthly basis and shall be available for inspection by the Department. Reports shall be retained at the station for three years.

17-701.801(3)1. - 17-701.801(4)7.

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(5) Certification of construction completion. Within 30 days of completion of construction, the engineer of record shall certify to the Department that the permitted construction is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.

(6) Stormwater. Stormwater shall be controlled in accordance with Chapter 17-25, F.A.C., and any water management district rules. A copy of any permit for stormwater control, or documentation that no permit is required, shall be submitted to the Department before the facility receives waste for disposal.

(7) Any person wishing to construct or operate a transfer station pursuant to this section shall publish, in a newspaper of general circulation in the area affected, notice of application for a general permit. Such public notice of application shall be published within 14 days after the applicant notifies the Department. Within 21 days after publication of notice, any person whose substantial interests are affected may request a hearing in accordance with Section 120.57, F.S. No person shall begin work pursuant to a general permit until after the time for requesting a hearing has passed or, if a hearing is requested, until final agency action is taken authorizing construction.

Specific Authority: 403.814(1), F.S.

Law Implemented: 403.061, 403.087, 403.088, 403.702-403.73, 403.814, F.S.

History: New 7-8-82; Previously numbered as 17-4.61;

Formerly 17-4.610; Formerly 17-7.801; Amended 1-6-93.

17-701.802 General Permit for Land Application of Grade II Domestic Wastewater Treatment Sludge.

(1) As a result of the potential harm to human health or the environment resulting from sludge disposal activities, it is important that public notice be given before a general permit for such activities is utilized. Therefore, a general permit is hereby granted to any person for land application of Grade II domestic wastewater treatment sludge; provided:

(a) The person intending to apply the sludge to the land submits a completed General Permit Application for Grade II Sludges, as specified in Fla. Admin. Code Rule 17-701.060. - *transferred to*

(b) The permit applicant, within 14 days of notice to the department, has published in a newspaper of general circulation in the area affected, a notice of the intended land application of Grade II sludge. The notice shall include the name of the applicant and a brief description of the proposed activity and location.

17-701.801(5) - 17-701.802(1)(b)

(c) The sludge is land applied pursuant to the requirements of Fla. Admin. Code Rule 17-701.540(5).

(2) The general permit shall be subject to the general conditions of Fla. Admin. Code Rule 17-4.540.

Specific Authority: 403.814, F.S.

Law Implemented: 403.061, 403.087, 403.702, through 403.715, 403.814, F.S.

History: New 6-16-84. Previously numbered as 17-4.64.

Formerly 17-4.640, Formerly 17-7.802.

17-701.803 General Permit for Off-site Disposal of Construction and Demolition Debris.

(1) Notification. The owner or operator of the construction and demolition debris disposal facility shall notify the Department in writing on Form 17-701.900(3) of the intent to use this general permit. Owners or operators of solid waste management facilities which have a permit under Chapter 17-701, F.A.C., to receive construction and demolition debris are exempt from this requirement. The notification shall be signed and sealed by a professional engineer and shall include:

(a) A site plan, of a scale not greater than 200 feet to the inch, which shows the project location and identifies the proposed disposal areas, total acreage of the site and of the proposed disposal area, and any other relevant features such as water bodies, wetlands, or potable water wells on or within 500 feet of the site;

(b) A geotechnical investigation which meets the criteria of Rule 17-701.420, F.A.C.

(c) A general description of the facility operations, including equipment and personnel planned for the operation and closure of the facility;

(d) A boundary survey and legal description of the property from the county tax assessor's office;

(e) The planned active life of the facility, and the design height of the facility;

(f) Closure plans and cross section details of the final cover;

(g) The mailing address and phone number of the owner and operator; and

(h) Documentation that the applicant either owns the land or has legal authorization from the land owner to use the land for a disposal facility.

(2) Certification. Within 30 days of completion of construction, the engineer of record shall certify to the Department that the permitted construction is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.

17-701.802(1)(c) - 17-701.803(2)

(3) Other requirements. The requirements of Rules 17-701.330 through 17-701.630, F.A.C., do not apply to construction and demolition debris disposal facilities, provided that none of the prohibitions contained in Rule 17-701.300, F.A.C., or the water quality standards contained in Chapters 17-3 and 17-302, F.A.C., shall be violated.

(4) Stormwater. Stormwater shall be controlled in accordance with Chapter 17-25, F.A.C., and any water management district rules. A copy of any permit for stormwater control, or documentation that no permit is required, shall be submitted to the Department before the facility receives waste for disposal.

(5) Temporary storage. The disposal facility shall have equipment for temporary storage and transport for solid waste, other than construction and demolition debris, to an authorized disposal facility. Such solid waste which is accepted by the facility shall be segregated and disposed of in accordance with Department rules.

(6) Compaction. Construction and demolition debris shall be compacted and sloped as necessary to assure that the requirements of subsection (9) of this section can be met.

(7) Access. Access to the disposal facility shall be controlled during the active life of the facility by fencing or other effective barriers to prevent disposal of solid waste other than construction and demolition debris.

(8) Inspections. Operation of a facility under a general permit constitutes consent for Department personnel to inspect the site during normal business hours for compliance with Department rules.

(9) Closure. Final cover and seeding or planting of vegetative cover shall be placed on each disposal unit within 180 days after final receipt of wastes. Final cover shall consist of a 24-inch-thick soil layer, the upper six inches of which shall be capable of supporting vegetation and shall be graded to eliminate ponding, promote drainage, and minimize erosion. The side slopes of all above-grade disposal areas shall be no greater than three feet horizontal to one foot vertical rise.

(10) Notification of closure. The owner or operator shall notify the Department within 30 days after closing, covering, and seeding the facility as required in subsection (9) of this section.

(11) Recycling. The owner or operator of the facility may recover materials from the construction and demolition debris waste stream for purposes of recycling, provided that such recovery does not result in a violation of this section. In such a case, a separate solid waste permit is not required.

17-701.803(3) - 17-701.803(11)

(12) Incineration. A facility which employs an air curtain incinerator and which also stores or disposes of construction and demolition debris at the site shall meet the permitting requirements of Rule 17-256.500, F.A.C., as well as this section. Specific Authority: 403.061, 403.704, 403.707, 403.814, F.S.
Law Implemented: 403.707, 403.814, F.S.
History: New 8-2-89; Amended 1-6-93.

17-701.900 Forms.

The forms used by the Department in the solid waste management program are adopted and incorporated by reference in this section. The form is listed by rule number, which is also the form number, and with the subject, title and effective date. Copies of forms may be obtained from a local District Office or by writing to the Florida Department of Environmental Regulation, DER Library, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

(1) Application to Construct, Operate, Modify, or Close a Solid Waste Management Facility, effective January 6, 1993.

(2) Certification of Construction Completion of a Solid Waste Management Facility, effective January 6, 1993.

(3) Notification of Intent to Use a General Permit for a Construction and Demolition Debris Disposal Facility, effective January 6, 1993.

(4) Notification of Intent to Use a General Permit to Construct and Operate a Transfer Station, effective January 6, 1993.

(5) Financial mechanisms for solid waste management facilities requiring closure and/or long-term care, effective October 1, 1989:

(a) Solid Waste Facility Irrevocable Letter of Credit.

(b) Solid Waste Facility Financial Guarantee Bond.

(c) Solid Waste Facility Performance Bond.

(d) Solid Waste Facility Closure/Long-Term Care Insurance Certificate.

(e) Solid Waste Facility Financial Test.

(f) Solid Waste Facility Corporate Guarantee.

(g) Solid Waste Facility Trust Fund Agreement to Demonstrate Closure and/or Long-Term Care Financial Assurance.

(h) Solid Waste Facility Standby Trust Fund Agreement.

Specific Authority: 120.53(1), 403.061, 403.704, F.S.

Law Implemented: 120.53(1), 403.707, F.S.

History: New 8-2-89; Amended 1-6-93.

17-701.803(12) - 17-701.900(History)

Solid Waste Management Facilities
Chapter 17-701, F.A.C.
Department of Environmental Regulation
Effective 01/02/1994

DER 1994 SOLID WASTE MANAGEMENT FACILITIES 17-701

CHAPTER 17-701
SOLID WASTE MANAGEMENT FACILITIES

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17-701.001 Declaration and Intent.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.701 through 403.8055, F.S.
History: New 10-1-74; Amended 5-24-79; Previously Numbered as 17-7.01; Formerly 17-7.001, Amended 6-25-90, Repealed 1-6-93

17-701.020 Definitions.

History: Transferred from 10D-12.02, 10-1-74; Revised 7-20-76; Amended 5-24-79, 6-13-84, 4-25-85, 7-1-85; Previously Numbered as 17-7.02; Amended 12-10-85; Formerly 17-7.02; Amended 8-2-89, 6-25-90. Transferred to 17-701.200.

17-701.030 Solid Waste Management Permit Requirements.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.
History: Transferred from 10D-12.03, 10D-12.04, 10D-12.07, 10-1-74; Amended 5-24-79, 6-13-84, 7-1-85; Previously Numbered as 17-7.03; Amended 12-10-85; Formerly 17-7.03, Amended 6-25-90, Repealed 1-6-93.

17-701.040 Prohibitions.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.
History: Transferred from 10D-12.06, 10D-12.07, 10-1-74; Amended 5-24-79, 5-27-82; Previously Numbered as 17-7.04; Amended 12-10-85; Formerly 17-7.040; Amended 6-25-90, Transferred to 17-701.300.

17-701.050 Sanitary Landfill Criteria.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.702, 403.704, 403.705, 403.707, 403.708, F.S.
History: Transferred from 10D-12.07, 10-1-74; Revised 5-11-75, 7-20-76; Amended 5-24-79; Previously Numbered as 17-7.05; Amended 12-10-85; Formerly 17-7.050; Amended: 7-19-90, Repealed 1-6-93.

17-701.060 Special Waste Handling.

Specific Authority: 403.061, 403.704, 403.705, 403.8055, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

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History: Transferred from 10D-12.07, 10-1-74; Amended 5-24-79, 11-25-82, 7-10-84; Previously Numbered as 17-7.06; Amended 12-10-85; Formerly 17-7.060, Transferred to 17-701.520.

17-701.061 Construction and Demolition Debris Disposal
Specific Authority: 403.061, 403.704, 403.707, F.S.
Law Implemented: 403.706, 403.707, F.S.
History: New 8-2-89, Transferred to 17-701.730.

17-701.070 Closure of Landfills.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.
History: New 10-1-74; Amended 5-24-79, 7-1-85; Previously Numbered as 17-7.07; Amended 12-10-85; Formerly 17-7.070, Repealed 1-6-93.

17-701.071 Closure Schedule.

Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.071, Repealed 1-6-93.

17-701.072 Closure Permit Application Submittal.

Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.072, Repealed 1-6-93.

17-701.073 Closure Plan Requirements.

Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.073, Repealed 1-6-93.

17-701.074 Closure Procedures.

Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.074, Transferred to 17-701.610.

17-701.075 Long Term Care.

Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85, Formerly 17-7.075, Transferred to 17-701.620.

17-701.076 Financial Responsibility.

Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.076, Amended 11-28-89, Transferred to 17-701.630.

17-701.060(Cont'd.) - 17-701.076(History)

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17-701.077 Permit Application Requirements.

Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Transferred to 17-701.030(3), 12-10-85.

17-701.078 Approval of Alternative Procedures and Requirements.

Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Amended 12-10-85; Formerly 17-7.078, Transferred to 17-701.110.

17-701.080 Supervision and Inspection.

Specific Authority: 403.061, F.S.
Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713, F.S.; Chapter 74-142.
History: Transferred from 100-12.07, 10-1-74; Previously Numbered as 17-7.08; Formerly 17-7.080, Repealed 1-6-93.

17-701.090 Volume Reduction Plants.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.
History: New 10-1-74; Amended 5-24-79; Previously Numbered as 17-7.09; Formerly 17-7.090, Repealed 1-6-93.

17-701.091 Transfer Stations.

Specific Authority: 403.061, 403.7044, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.
History: New 5-24-79; Formerly 17-7.091, Repealed 1-6-93.

17-701.100 Intent.

The intent of this rule is to establish standards for the construction, operation, and closure of solid waste management facilities to minimize their threat to public health and the environment, and to implement the provisions of the Florida Solid Waste Management Act, Sections 403.701-403.715, Florida Statutes.
Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.701 through 403.717, F.S.
History: New 1-6-93.

17-701.120 Notification of Disposal Activity.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.707, F.S.
History: New 6-13-84; Amended 4-25-85; Previously Numbered as 17-7.12; Formerly 17-7.120, Repealed 1-6-93.

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17-701.130 Forms.

Specific Authority: 120.53(1), 403.061, F.S.
Law Implemented: 120.53(1), 120.55, 403.0875, 403.7125, F.S.
History: New 11-30-82; Amended 6-16-84, 9-12-84, 2-25-85, 7-1-85; Formerly 17-1.206 and Amended 12-10-85; Formerly 17-7.130, Amended 11-28-89, Repealed 1-6-93.

17-701.200 Definitions. The following words, phrases or terms as used in this chapter, unless the context indicates otherwise, shall have the following meaning:

(1) "Agricultural wastes" means the solid wastes resulting from normal farming operations, the raising and slaughtering of animals, and the processing of animal products, orchard, and field crops, which are stored, transported, or disposed of as an unwanted waste material.

(2) "Airport" means any area of land or water, or any manmade object or facility located thereon, which is used, or intended for use, for the landing and takeoff of aircraft, and any appurtenant areas which are used, or intended for use, for airport buildings or other airport facilities or rights-of-way, together with all airport buildings and facilities located thereon

(3) "Air quality standards" means, unless otherwise specified, those standards set forth in Chapter 17-272, F.A.C.

(4) "ASTM" means the American Society for Testing and Materials.

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

(6) "Biohazardous waste" has the meaning given it in Rule 17-712.200, F.A.C.

(7) "Biological waste" has the meaning given it in Rule 17-712.200, F.A.C.

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

(9) "Bulky wastes" means items whose large size or weight precludes or complicates their handling by normal collection, processing, or disposal methods.

(10) "Cell" means a volume of solid waste received since the last previous application of initial cover. The compacted waste and subsequent initial cover constitute a cell which usually contains wastes deposited in one day.

(11) "Clean debris" means any solid waste which is virtually inert, which is not a pollution threat to ground water or surface waters, is not a fire hazard, and is likely

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to retain its physical and chemical structure under expected conditions of disposal or use. The term includes brick, glass, ceramics, and uncontaminated concrete including embedded pipe or steel.

(12) "Closing" means the time at which a solid waste management facility ceases to accept wastes, and includes those actions taken by the owner or operator of the facility to prepare the facility for any necessary monitoring and maintenance after closing.

(13) "Closure" means the cessation of operation of a solid waste management facility and the act of securing such a facility so that it will pose no significant threat to human health or the environment. This includes closing, long term monitoring, maintenance, and financial responsibility.

(14) "Cm/sec" means centimeters per second.

(15) "Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

(16) "Compost" has the meaning given it in Rule

17-709.200, F.A.C.

(17) "Composting" has the meaning given it in Rule

17-709.200, F.A.C.

(18) "Composite liner" means a liner comprised of a geomembrane, which is underlain and in direct contact with a soil component.

(19) "Construction and demolition debris" means materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure. The term includes rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project including such debris from construction of structures at a site remote from the construction or demolition project site. Mixing of construction and demolition debris with other types of solid waste, including material which is not from the actual construction or destruction of a structure, will cause it to be classified as other than construction and demolition debris.

(20) "Department" means the State of Florida Department of Environmental Regulation.

(21) "Design period" means the operating life of the solid waste management facility plus any long-term care period after closing.

17-701.200(11)(cont'd.) - 17-701.200(21)

(22) "Disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

(23) "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or into or upon any land or water so that such solid waste or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including ground waters, or otherwise enter the environment.

(24) "Engineer of record" means a professional engineer registered in the State of Florida in accordance with provisions of Chapter 471, F.S., who is appointed by the owner or operator of the solid waste management facility.

(25) "Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for solid waste management.

(26) "Fill" means man-made deposits of earth or waste materials used to fill excavations, to increase the vertical or horizontal extent of land or solid waste disposal units, or to build embankments.

(27) "Final cover" means the materials used to cover the top and sides of a landfill when fill operations cease.

(28) "Garbage" means all kitchen and table food waste, and animal or vegetative waste that is attendant with or results from the storage, preparation, cooking, or handling of food materials.

(29) "Gas condensate" means the liquid generated as a result of gas recovery processes at a landfill.

(30) "Gas control system" means a system of wells, trenches, pipes, and other related structures that vents the gas produced in a solid waste disposal unit to the atmosphere.

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

(32) "Generation" means the act or process of producing solid waste.

(33) "Geomembrane" means a low-permeability synthetic membrane used as an integral part of a system designed to limit the movement of liquid or gas in the system.

(34) "Geonet" means a type of a geogrid that allows planar flow of liquids and serves as a drainage system.

17-701.200(22) - 17-701.200(34)

- (35) "Geotextile" means a permeable textile used as a part of a system designed to act as a filter to prevent the flow of fine particles into drainage systems, to provide planar flow for drainage, to serve as a cushion to protect geomembranes, or to provide structural support.
- (36) "Ground water" means water beneath the surface of the ground within a zone of saturation, whether or not it is flowing through known and definite channels.
- (37) "Hazardous waste" means a solid waste regulated by the Department as a hazardous waste pursuant to Chapter 17-730, F.A.C.
- (38) "Household waste" means any solid waste, including garbage, trash, and sanitary waste in septic tanks, derived from households, including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas.
- (39) "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products or byproducts; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing or foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.
- (40) "Initial cover" means a 6-inch layer of compacted earth, used to cover an area of solid waste before placement of additional waste, intermediate cover, or final cover. The term also includes other material or thickness, approved by the Department, that minimizes disease vector breeding, animal attraction, and moisture infiltration, minimizes fire potential, prevents blowing litter, controls odors, and improves landfill appearance.
- (41) "Intermediate cover" means a layer of compacted earth at least one foot in depth applied to a solid waste disposal unit. The term also includes other material or thickness, approved by the Department, that minimizes disease vectors, odors, and fire, and is consistent with the leachate control design of the landfill.
- (42) "Landfill" means a solid waste disposal facility, which is an area of land or an excavation where wastes are

17-701.200(35) - 17-701.200(42)

- or have been placed for disposal, for which a permit, other than a general permit, is required by Section 403.707, F.S. This term shall not include:
- (a) A land spreading site; or
- (b) A surface impoundment; or
- (c) An injection well defined under and subject to the provisions of Chapter 17-28, F.A.C.
- (43) "Lateral expansion" means any horizontal increase in the dimensions of the waste boundary of an existing solid waste disposal unit.
- (44) "Leachate" means liquid that has passed through or emerged from solid waste and may contain soluble, suspended or miscible materials.
- (45) "Lift" means a completed horizontal series of cells.
- (46) "Lined landfill" means a landfill constructed with a liner made of synthetic materials, low-permeability soils, or a combination of these materials, which has been approved by the Department, and which has met the Department's landfill design criteria at the time of permitting.
- (47) "Liner" means a continuous layer of low-permeability natural or synthetic materials, under the bottom and sides of a landfill, solid waste disposal unit, or leachate surface impoundment, which controls the downward or lateral escape of waste constituents, or leachate.
- (48) "Liner system" means a system of leachate collection and liner layers comprised of natural or synthetic materials installed between the subgrade and the waste for the purpose of containing the waste and collecting and removing leachate.
- (49) "Liquid waste" means any waste material that is determined to contain free liquids as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).
- (50) "Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at a temperature of 25 degrees Celsius and atmospheric pressure.
- (51) "Materials recovery" means any process by which one or more of the various components in solid waste is separated and concentrated for reuse.
- (52) "Materials recovery facility" means a solid waste management facility that provides for the extraction from solid waste of recyclable materials, materials suitable for use as a fuel or soil amendment, or any combination of such materials.

17-701.200(42)(cont'd.) - 17-701.200(52)

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- (53) "Method detection limit" means the smallest concentration of an analyte of interest that can be measured and reported with 99 percent confidence that the concentration is greater than zero. The method detection limit shall be determined pursuant to procedures outlined in Appendix B of 40 CFR Part 136, which is hereby incorporated by reference.
- (54) "Monitoring wells" means strategically located wells from which water samples are drawn for water quality analysis.
- (55) "Normal farming operations" means the customary and generally accepted activities, practices, and procedures that farmers adopt, use, or engage in during the production and preparation for market of poultry, livestock, and associated farm products; and in the production, harvesting, or packaging of agricultural crops which include agronomic, horticultural, and silvicultural crops. Included is the management, collection, storage, composting, transportation, and utilization of organic agricultural waste, manure, and materials solely derived from agricultural crops.
- (56) "100-year floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.
- (57) "On-site" means on the same or geographically contiguous property, which may be divided by public or private right-of-way.
- (58) "Open burning" means the burning of any material under such conditions that the products of combustion are emitted directly into the atmosphere.
- (59) "Operator" means any person, including the owner, who is principally engaged in, and is in charge of, the actual operation, supervision, and maintenance of a solid waste management facility.
- (60) "Person" means any and all persons, natural or artificial, including any individual, firm, or association; any municipal or private corporation organized or existing under the laws of Florida or any other state; any county of this state; and any governmental agency of this state or the Federal Government.
- (61) "Processing" means any technique designed to change the physical, chemical, or biological character or composition of any solid waste so as to render it safe for transport, amenable to recovery, storage or recycling; safe for disposal; or reduced in volume or concentration.
- (62) "Professional engineer" means an engineer registered in the State of Florida in accordance with Chapter 471, F.S.

17-701.200(53) - 17-701.200(62)

- (63) "Professional geologist" means a geologist registered in the State of Florida in accordance with Chapter 492, F.S.
- (64) "Recovered materials" means metal, paper, glass, plastic, textile, or rubber materials that have known recycling potential, can be feasibly recycled, and have been diverted and source separated or have been removed from the solid waste stream for sale, use, or reuse as raw materials, whether or not the materials require subsequent processing or separation from each other, but does not include materials destined for any use that constitutes disposal.
- (65) "Recyclable material" means those materials which are capable of being recycled and which would otherwise be processed or disposed of as solid waste.
- (66) "Recycling" means any process by which solid waste, or materials which would otherwise become solid waste, are collected, separated, or processed and reused or returned to use in the form of raw materials or products.
- (67) "Resource recovery" means the process of recovering materials or energy from solid waste, excluding those materials or solid waste under control of the Nuclear Regulatory Commission.
- (68) "Sanitary nuisance" means a condition created by any person, or the keeping, maintaining, propagation, existence, or permitting of anything by a person by which the health or lives of individuals may be threatened or impaired, or by which disease may be caused or transmitted.
- (69) "Shallow water supply well" means any potable water well which pumps water from an unconfined water table aquifer.
- (70) "Shredding" means a process of reducing the particle size of solid waste through the use of grinding, shredding, milling, or rasping machines.
- (71) "Site" means the area of land or water within the property boundaries of a solid waste management facility where one or more solid waste processing, resource recovery, recycling, storage, or disposal areas are located.
- (72) "Sludge" means a solid waste pollution control residual which is generated by any industrial or domestic wastewater treatment plant, water supply treatment plant, air pollution control facility, septic tank, grease trap, portable toilet or related operation, or any other such waste having similar characteristics. Sludge may be a solid, liquid, or semisolid waste but does not include the treated effluent from a wastewater treatment plant.

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- (73) "Solid waste" means sludge unregulated under the federal Clean Water Act or Clean Air Act, sludge from a waste treatment works, water supply treatment plant, or air pollution control facility, or garbage, rubbish, refuse, special waste, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations. Materials not regulated as solid waste pursuant to this Chapter are: recovered materials; nuclear source or byproduct materials regulated under Chapter 404, F.S., or under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.
- (74) "Solid waste disposal facility" means any solid waste management facility which is the final resting place for solid waste, including landfills and incineration facilities that produce ash from the process of incinerating municipal solid waste.
- (75) "Solid waste disposal unit" means a discrete area of land used for the disposal of solid waste.
- (76) "Solid waste management" means the process by which solid waste is collected, transported, stored, separated, processed, or disposed of in any other way, according to an orderly, purposeful, and planned program which includes closure and long-term maintenance.
- (77) "Solid waste management facility" means any solid waste disposal area, volume reduction plant, transfer station, materials recovery facility, or other facility, the purpose of which is resource recovery or the disposal, recycling, processing, or storage of solid waste. The term does not include recovered materials processing facilities which meet the requirements of Rule 17-701.220(2)(C), F.A.C., except the portion of such facilities, if any, that is used for the management of solid waste.
- (78) "Special wastes" means solid wastes that can require special handling and management, including but not limited to, white goods, waste tires, used oil, lead-acid batteries, construction and demolition debris, ash residue, yard trash, and biological wastes.
- (79) "Stabilized" means that biological and chemical decomposition of the wastes has ceased or diminished to a level so that such decomposition no longer poses a pollution, health, or safety hazard.
- (80) "Ton" means a short ton, 2,000 pounds (.9078 metric tons).

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- (81) "Transfer station" means a site the primary purpose of which is to store or hold solid waste for transport to a processing or disposal facility. It does not include green boxes, compactor units, permanent dumpsters, and other containers from which such wastes are transported to a landfill or other solid waste management facility.
- (82) "Unlined landfill" means a landfill which does not have a bottom liner system approved by the Department, or which has a bottom liner system which does not or did not meet the Department's landfill design criteria at the time of permitting. This term includes landfills underlain by only in-situ soils unless these soils have been tested and approved by the Department as part of a construction permit.
- (83) "Used oil" has the meaning given it in Rule 17-710.200, F.A.C.
- (84) "Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within a facility's property boundary.
- (85) "Volume reduction plant" means an incinerator, pulverizer, compactor, shredding and baling plant, composting plant, or other plant which accepts and processes solid waste for recycling or disposal.
- (86) "Waste tire" has the meaning given it in Rule 17-711.200, F.A.C.
- (87) "Water quality standards and criteria" means, unless otherwise specified, those standards and criteria set forth in Chapters 17-3 and 17-302, F.A.C.
- (88) "White goods" means inoperative and discarded refrigerators, ranges, washers, water heaters, freezers, and other similar domestic and commercial large appliances.
- (89) "Working face" means that portion of a landfill where waste is deposited, spread, and compacted before placement of initial cover.
- (90) "Yard trash" means vegetative matter resulting from landscaping maintenance or land clearing operations and includes materials such as tree and shrub trimmings, grass clippings, palm fronds, trees and tree stumps.
- (91) "Zone of discharge" has the meaning given it in Rule 17-3.021, F.A.C.
- All other definitions found in Chapter 403, F.S., and Chapters 17-702 through 17-720, F.A.C., to the extent that they are consistent with the definitions of this chapter, are applicable to the terms used in this chapter.
- Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.717, F.S.

17-701.200(81) - 17-701.200(History)

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History: Transferred from 100-12.02, 10-1-74; Revised 7-20-76; Amended 5-24-79, 6-13-84, 4-25-85, 7-1-85; Previously numbered as 17-7.02; Amended 12-10-85; Formerly 17-7.020; Amended 8-2-89, 6-25-90; Formerly 17-701.020; Amended 1-6-93, 1-2-94

17-701.210 Documents Incorporated by Reference.
Specific references to the documents listed below are made throughout this chapter. These documents are adopted as standards and are incorporated into this chapter by reference. The reference documents are available for inspection at the Department's district offices.
(1) EPA document EPA/530-SW-86-031, Construction Quality Assurance for Hazardous Waste Land Disposal Facilities; October, 1986.
(2) 40 CFR Parts 61.149, 61.150, 61.151, 61.154, Subpart M-National Emission Standard for Asbestos, July 1, 1992.
(3) ASTM Method E96-80, Procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 28.03, and 15.09; February, 1981, editorial changes made standard in May, 1987.
(4) 40 CFR Part 136, Appendix B, Definition and Procedure for the Determination of the Method Detection Limit, revision 1.1; October 26, 1984.
(5) Method 9095, Paint Filter Test, found in EPA document EPA 846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods; Third Edition, September, 1986, as revised, December, 1987.
(6) 40 CFR Part 258, Appendix II; October, 1991.
(7) 40 CFR 258.13, Fault Areas; October, 1991.
(8) 40 CFR 258.14, Seismic Impact Zones; October, 1991.
(9) 40 CFR 258.15 Unstable Areas; October, 1991.
(10) 40 CFR 258, Appendices I and II; October, 1991.
(11) 40 CFR 264 subpart H, except for those sections specified in Rule 17-701.630(6)(b)1., F.A.C.; July 1, 1988.
(12) 40 CFR 261.24 Table 1-Maximum Concentration of Contaminants for the Toxicity Characteristic; July, 1992.
Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.061, 403.701 through 403.717, F.S.
History: New 1-6-93; Amended 1-2-94.

17-701.200(History) (cont'd.) - 17-701.210(History)

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17-701.220 General Applicability. This chapter applies to all solid waste and each solid waste management facility in this state, with the following exceptions:

(1) This chapter was substantially amended on January 6, 1993, and a number of provisions were deleted or modified at that time. Except as otherwise specifically provided herein, facilities which were permitted or received a site certification prior to January 6, 1993, or for which a complete application was submitted and deemed complete by the Department prior to January 6, 1993, remain subject to the provisions which were in effect prior to January 6, 1993, and which were applicable to them.

(2) This chapter applies to all solid waste and each solid waste management facility in this state, with the following exceptions.

(a) Surface impoundments not addressed in Rule 17-701.400(6), F.A.C.;

(b) Injection wells defined under and subject to the provisions of Chapter 17-28, F.A.C.; and

(c) Recovered materials, if:

1. A majority of the recovered materials at a facility are demonstrated to be sold, used, or reused within one year;

2. The recovered materials or the products or byproducts of operations that process recovered materials are not discharged, deposited, injected, dumped, spilled, leaked, or placed into or upon any land or water so that such products or byproducts or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including ground water, or otherwise enter the environment or pose a threat to public health and safety; and

3. The recovered materials are not hazardous wastes and have not been recovered from hazardous wastes.

(d) Phosphogypsum stack systems.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.061, 403.701 through 403.717, F.S.

History: New 1-6-93, Amended 1-2-94.

17-701.300 Prohibitions.

(1) General prohibition.

(a) No person shall store, process, or dispose of solid waste except at a permitted solid waste management facility or a facility exempt from permitting under this chapter.

(b) No person shall store or dispose of solid waste in a manner or location that causes air quality standards to be violated or water quality standards or criteria of receiving waters to be violated.

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(2) Disposal. Unless authorized by a Department permit or site certification in effect on January 6, 1993, no solid waste shall be stored or disposed of by being placed:

(a) In an area where geological formations or other subsurface features will not provide support for the solid waste;

(b) In any area where the absence of geological formations or subsurface features would allow for the unimpeded discharge of waste or leachate to ground or surface water. A person may dispose of solid waste in such an area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards under Chapters 17-302 and 17-520, F.A.C.;

(c) Within 500 feet of an existing or approved shallow water supply well unless disposal takes place at a facility for which a complete permit application was filed or which was originally permitted before the shallow water supply well was in existence;

(d) In a dewatered pit unless the pit is lined and permanent leachate containment and special design techniques are used to ensure the integrity of the liner;

(e) In an area subject to frequent and periodic flooding unless flood protection measures are in place;

(f) In any natural or artificial body of water including ground water;

(g) Within 200 feet of any natural or artificial body of water, including wetlands within the jurisdiction of the Department, except bodies of water contained completely within the property boundaries of the disposal site, which do not discharge from the site to surface waters. A person may dispose of solid waste within the 200 foot setback area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards under Chapters 17-302 and 17-520, F.A.C.

Stormwater control methods shall meet stormwater requirements of Chapter 17-25, F.A.C. However, nothing contained herein shall prohibit the Department from imposing conditions necessary to assure that solid waste disposed of within the 200 foot setback area will not cause pollution from the site in contravention of Department rules.

(h) On the right of way of any public highway, road, or alley;

(3) Burning. Open burning of solid waste is prohibited except in accordance with Rule 17-701.520(2), F.A.C.

Controlled burning of solid waste is prohibited except in a permitted incinerator, or in a facility in which the burning

17-701.300(2) - 17-701.300(3)

of solid waste is authorized by a site certification order issued under Chapter 403, Part II, F.S.; clean vegetative and wood wastes may be burned in an air curtain incinerator in accordance with Rule 17-2.500(1)(e), F.A.C.

(4) Hazardous waste. No hazardous waste shall be disposed of in a solid waste management facility unless such facility is permitted pursuant to Chapter 17-730, F.A.C.

(5) PCBs. No person may dispose of liquids containing a polychlorinated biphenyl (PCB) concentration of 50 parts per million or greater, or non-liquid PCBs at concentrations of 50 parts per million or greater in the form of contaminated soil, rags, or other debris, in any solid waste disposal unit in this state.

(6) Biohazardous waste. Biohazardous waste shall be properly incinerated so that little or no organic material remains in the ash residue, or shall be processed by a method approved by the Department pursuant to Chapter 17-712, F.A.C. No untreated biohazardous waste shall be knowingly deposited in any landfill.

(7) Class I surface waters. The Department shall not issue a construction permit for a landfill within 3,000 feet of Class I surface waters.

(8) Special wastes for landfills. No person who knows or who should know of the nature of such solid waste shall dispose of the following wastes in any landfill:

(a) Lead-acid batteries;

(b) Used oil, except as provided in Chapter 17-710, F.A.C.;

(c) Yard trash, except in unlined landfills classified by Department rule;

(d) White goods; and

(e) Whole waste tires, except as provided in Chapter 17-711, F.A.C.

(9) Special wastes for waste-to-energy facilities. No person who knows or who should know of the nature of such solid waste shall dispose of lead-acid batteries in any waste-to-energy facility.

(10) Liquids restrictions.

(a) Noncontainerized liquid waste shall not be placed in solid waste disposal units unless:

1. The waste is household waste other than septic waste;

or 2. The waste is leachate or gas condensate derived from the solid waste disposal unit, or byproducts of the treatment of such leachate or gas condensate, and the solid waste disposal unit is lined and has a leachate collection system.

17-701.300(3) (cont'd.) - 17-701.300(10) (a) 2.

(b) Containers holding liquid waste shall not be placed in a solid waste disposal unit unless:

1. The container is a small container similar in size to that normally found in household waste;
2. The container is designed to hold liquids for use other than storage; or
3. The waste is household waste.

(c) Containers or tanks twenty gallons or larger in capacity shall either have one end removed or cut open, or have a series of punctures around the bottom to ensure the container is empty and free of residue. The empty container or tank shall be compacted to its smallest practical volume for disposal.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.
History: Transferred from 100-12.06, 100-12.07, 10-1-74; Amended 5-24-79, 5-27-82; Previously Numbered as 17-7.04; Amended 12-10-85; Formerly 17-7.040; Amended 6-25-90; Formerly 17-701.040; Amended 1-6-93, 1-2-94.

17-701.310 Approval of Alternate Procedures and Requirements

(1) Applicability. Any person subject to the provisions of this chapter or Chapters 17-702 through 17-720, F.A.C., may request in writing a determination by the Secretary that a requirement shall not apply, and shall request approval of alternate procedures or requirements.

(2) Criteria. The request shall set forth at a minimum the following information:

- (a) The specific facility for which an exception is sought;
 - (b) The specific provisions from which an exception is sought;
 - (c) The basis for the exception;
 - (d) The alternate procedure or requirement for which approval is sought and a demonstration that the alternate procedure or requirement provides an equal degree of protection for the public and the environment; and
 - (e) A demonstration of the effectiveness of the proposed alternate procedure.
- (3) Department order. The Secretary shall specify by order each alternate procedure or requirement approved in accordance with this section or shall issue an order denying the request for such approval. The Department's order shall be agency action, reviewable in accordance with Section 120.57, F.S.

17-701.300(10)(b) - 17-701.310(3)

(4) Alternate sampling procedures. Approval of alternative or new field and laboratory sampling and analysis procedures shall be requested in accordance with Rules 17-160.430, 17-160.520 and 17-160.530, F.A.C.

(5) Variances. Requests for variances from specific statutory requirements shall be made pursuant to Section 403.201, F.S., and Rule 17-103.100, F.A.C.

(6) Requests for alternate procedures shall be accompanied by a fee of \$2000 in accordance with Rule 17-4.050(4)(m)4., F.A.C. Requests must be submitted to the Director of the Division of Waste Management, 2600 Blair Stone Road, Twin Tower Office Building, Tallahassee, Florida 32395-2400.

Specific Authority: 403.704, 403.707, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Amended 12-10-85; Formerly 17-7.078; Formerly 17-701.078; Amended 1-6-93.

17-701.320 Solid Waste Management Facility Permit Requirements, General.

(1) Permit requirements. No solid waste management facility shall be constructed, operated, maintained, modified, or closed without a permit issued by the Department.

(2) Exemptions. No permit under this chapter shall be required for the following activities or facilities provided that no sanitary nuisance or any condition adversely affecting the environment or public health is created, and provided that the activity does not violate other state or local laws, ordinances, rules, regulations, or orders. For purposes of this subsection, disposal shall be deemed to include storage prior to disposal or processing.

(a) Disposal by persons of solid waste resulting from their own activities on their own property, provided such waste is either from their residential property or is rocks, soils, trees, tree remains, and other vegetative matter which normally results from land development operations.

(b) Disposal by persons of solid waste resulting from their own activities on their property, provided that the environmental effects of such disposal on ground water and surface waters are:

1. Addressed or authorized by a site certification issued under Chapter 403, Part II, F.S., Electrical Power Plant Siting;
2. Addressed or authorized by a permit issued by the Department, including solid waste management permits or other environmental permits modified to include conditions for proper disposal; or

17-701.310(4) - 17-701.320(2)(b)2.

3. Addressed or authorized by, or specifically exempted from the requirement to obtain, a ground water monitoring plan approved by the Department.

(c) On-site disposal of construction and demolition debris, provided that disposal conforms to Rule 17-701.730(3), F.A.C.

(d) Clean debris which is used as fill material.

(e) Disposal of solid waste resulting from normal farming operations.

(f) Storage of solid waste in containers on property which is owned, rented, or leased by the persons who generated the waste from their own activities which occurred on their property, if the solid waste in such containers is collected at least once a week.

(g) Disposal by persons of solid waste resulting from their own activities on their own property, if that waste disposal occurred before October 1, 1998.

(3) Irresponsible applicant.

In addition to the provisions of Rule 17-4.070(5), F.A.C., when determining whether the applicant has provided reasonable assurances that Department standards will be met, the Department shall consider repeated violations of applicable statutes, rules, orders, or permit conditions caused by a permit applicant after October 1988, relating to the operation of any solid waste management facility in this state if the applicant is deemed to be irresponsible. For purposes of this subsection, the following words have the following meanings:

(a) "Applicant" means the owner or operator of the solid waste management facility in this state, and includes a business entity, a parent of a subsidiary corporation, a partner, a corporate officer or director, or a stockholder holding more than 50 percent of the corporate stock.

(b) "Irresponsible" means that an applicant owned or operated a solid waste management facility in this state, including transportation equipment or mobile processing equipment used by or on behalf of the applicant, which was subject to a state or federal notice of violation, judicial action, or criminal prosecution for activities that constitute violations of Chapter 403, F.S., or the rules promulgated thereunder, and could have prevented the violation through reasonable compliance with Department rules.

(4) Modification of an approved permit. Nothing in this rule shall be construed to limit or prohibit modifications of a permit under the provisions of Rule 17-4.080, F.A.C.

(5) Permit application.

17-701.320(2)(b)3. - 17-701.320(5)

(a) Applications for a solid waste management facility shall be submitted on appropriate Department forms listed in Rule 17-701.900, F.A.C., to the Department district office with jurisdiction where the facility is located. A minimum of six copies each of the application, engineering plans and reports, and all supporting information for the proposed construction, substantial modification, operation or closure of a facility shall be provided to the Department.

(b) Information in every application shall be of sufficient detail to show how the facility will be constructed, operated, and closed, and how it will be monitored and maintained after closure, in order to comply with the requirements of this chapter.

(c) Combination facilities. An application for a permit to construct or operate a solid waste management facility having multiple solid waste management components which, if standing alone, would require solid waste management facility permits, shall include all information required to be submitted had each component been proposed as a separate facility, independent of the other components. Such information may be combined or otherwise presented so as to avoid duplicative or repetitive submittals. Additionally, such applications shall be accompanied by such fees as would be required for each facility component; however, the total permit fees for a facility shall not exceed \$25,000, exclusive of modifications and renewals.

(6) Engineer of record and professional certification. All engineering plans, reports, and information supporting the application shall be compiled by the engineer of record who shall be responsible for assurance that all technical components have been prepared under the direction and supervision and signed and sealed by the professional registered in Florida in each contributing technical discipline. The engineer of record's signature and seal of the application shall assure that all appropriate technical professional disciplines have been employed in development of the application. The application shall provide that the engineer of record or another qualified professional shall make periodic inspections during construction of the facility to ensure that design integrity is maintained.

(7) Application content and format. Applications for permits to construct, operate, modify, or close a solid waste management facility shall include in the following sequence:

- (a) A letter of application transmittal;
- (b) A completed application form dated and signed by the applicant;

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(c) The permit fee specified in Rule 17-4.050, F.A.C., in check or money order, payable to the Department.

(d) An engineering report addressing the requirements of this rule which shall:

1. Contain a cover sheet stating the project title, location, applicant's name, and the engineer's name, address, signature, date of signature and seal;
2. Have the text printed on 8 1/2 inch by 11 inch consecutively numbered pages;
3. Contain a table of contents or index describing the body of the report and the appendices; and
4. Include the body of the report and all appendices.

(e) Appendices submitted as part of an engineering report to support a permit application shall contain, where required under applicable sections of this rule:

1. An operation plan appropriate for the type of facility;
2. A contingency plan appropriate for the type of facility to cover operations interruptions and emergencies such as fires, explosions, or natural disasters;
3. Illustrative charts and graphs;
4. Records or logs of tests, soil borings, hydrogeological information, geochemical surveys, and water quality analyses; and
5. Engineering calculations, including literature citations.

(f) Plans or drawings for all solid waste management facilities shall:

1. Use sheets 22 inches by 34 inches or 24 inches by 36 inches, and include title blocks;
2. Have a cover sheet that includes the project title, applicant's name, sheet index, legend of symbols, and the engineer's name, address, signature, date of signature and seal;
3. Include a regional map or plan showing the project location;
4. Include a current vicinity map, or aerial photograph taken within one year preceding the application;
5. Have a site plan containing the location of all property boundaries certified by a registered Florida land surveyor; and
6. Clearly show all necessary details and be numbered, titled, and referenced to the narrative report. Drawings shall contain a north arrow and horizontal and vertical scales, and shall specify drafting or origination dates. All elevations shall be referenced to National Geodetic Vertical Datum.

17-701.320(7)(c) - 17-701.320(7)(f)6.

(g) Proof of property ownership, or a copy of any lease agreement, transfer of property agreement with right of entry for long-term care, interlocal government agreement, or any other agreement between the facility operator and property owner which may affect the facility; and

(h) For facilities owned or operated by a county, a description of the existing or proposed recycling facilities or activities, if any, at the site and a description of whether, and the extent to which, these recycling facilities or activities will contribute to the county's achievement of the recycling goals contained in Section 403.706, F.S.

(i) For purposes of the evaluation required in subsection (3) of this section, a history and description of any enforcement actions described in subsection (3) of this section relating to solid waste management facilities in this state.

(8) Notice of application.

(a) An applicant for a permit to construct or substantially modify a solid waste management facility shall publish and provide proof of publication to the Department of a Notice of Application in a newspaper of general circulation in the area where the facility will be located, in accordance with Rule 17-103.150, F.A.C.

(b) For all landfills, the Department shall mail a notice of receipt of permit application to the Chair of the Board of County Commissioners, the highest ranking elected official of the municipality, and each State Senator and Representative serving the jurisdiction in which the project is located. After the Department completes the permit review, a copy of the notice of intent to issue or deny the permit will also be sent to these same officials.

(9) Permits for construction, modification, operation, and closure. Complete permit applications for construction or operation of a solid waste management facility, renewal of an operation permit for an existing facility, or closure of a facility shall be evaluated by the respective Department district office in accordance with Chapters 17-4 and 17-701, F.A.C. The Department shall:

(a) Issue a construction permit, or a construction/operation permit for a solid waste management facility, or for a substantial modification of an existing solid waste management facility. After all specified of any construction has been completed and before acceptance of any solid waste, the owner or operator shall submit to the Department a certification of construction completion, Form 17-701.900(2), signed and sealed by a professional engineer,

17-701.320(7)(g) - 17-701.320(9)(a)

and any modifications of the record drawings, and shall arrange for Department representatives to inspect the facility in the company of the permittee, the engineer, and the proposed facility operator. The facility shall not be operated until the certification has been submitted and approved, all documentation required as a condition of the permit has been submitted, and a facility inspection by Department personnel has been conducted; or

(b) Issue an operation permit for a new facility that has been satisfactorily constructed, or to an existing facility which is being operated in accordance with this chapter at the time for permit renewal; or

(c) Issue a closure permit for closing and long-term care of a landfill which complies with the requirements of Rules 17-701.600 - .620, F.A.C.; or

(d) Deny the issuance of a permit if reasonable

assurances are not provided that the requirements of Chapters 17-4 and 17-701, F.A.C., will be satisfied.

(10) Identification number. The Department shall assign an identification number to each solid waste management facility that receives a permit. The number shall be unique to that facility, and shall remain assigned to that facility at all times. The identification number shall be used on all correspondence and records related to that facility.

(11) Local zoning. The Department does not evaluate compliance with local zoning or land use ordinances when determining whether to issue or deny a permit under this chapter. Issuance of a permit does not relieve an applicant from compliance with local zoning or land use ordinances, or with any other laws, rules, or ordinances.

(12) Airport safety.

(a) Applicability. This subsection applies to those facilities constructed after January 6, 1993, as well as lateral expansions of facilities which were constructed prior to January 6, 1993. For purposes of this subsection, an "airport runway" does not include facilities used solely for helicopters or other aircraft which take off and land vertically.

(b) Solid waste management facilities where waste is stored, disposed, or processed outdoors, shall not be located within 10,000 feet of any licensed and operating airport runway used by turbine powered aircraft, or within 5,000 feet of any licensed and operating airport runway used only by piston engine aircraft, unless the applicant demonstrates that the facility is designed and will be operated so that it does not pose a bird hazard to aircraft.

(c) Applicants proposing to site new landfills and lateral expansions of existing landfills within a five-mile radius of any licensed and operating airport runway used by turbine powered or piston engine aircraft shall notify the

17-701.320(9)(a)(cont'd.) - 17-701.320(12)(c)

affected airport, the Federal Aviation Administration, and the Florida Department of Transportation when the application is filed with the Department, and shall provide evidence of such notification to the Department.

(13) Other facility permits. In addition to the exemptions in subsection (2) of this section, the following solid waste management facilities which are constructed and operated under an appropriate and currently valid permit are not required to obtain a separate solid waste permit pursuant to this chapter:

(a) Incinerators which are constructed and operated under a permit issued pursuant to Chapters 17-296 or 17-256, F.A.C.; however, if the facility is also storing or disposing of solid waste on the site, and such storage or disposal is not addressed in the permit, a separate solid waste permit is required;

(b) Incinerators which are constructed and operated under a site certification pursuant to Chapter 403, Part II, F.S.;

(c) Solid waste management facilities, such as composting facilities, waste tire processing facilities, used oil recycling facilities, and biohazardous waste treatment or storage facilities, which are required to obtain permits under Rules 17-702 through 17-729, F.A.C.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93; Amended 1-2-94.

17-701.330 Landfill Permit Requirements.

(1) Applicability.

(a) Except as otherwise specifically provided herein, this chapter shall apply to all solid waste disposal units constructed or operated under a landfill permit issued after January 6, 1993, including renewals of existing permits.

(b) All holders of landfill construction or operation permits issued prior to January 6, 1993, which contain conditions not in conformance with this chapter shall apply for modification of the permit to conform to this chapter to the District Office of the Department which issued the permit. The submission shall occur at the time of application for renewal of an existing permit, or before July 6, 1993, whichever is later. For purposes of this paragraph, a permit issued prior to January 6, 1993, is deemed to include a completed permit application received by the Department prior to January 6, 1993.

(c) Rules 17-701.400 - .420, F.A.C., shall not apply to any solid waste disposal unit for which construction is completed prior to the later of the dates specified in

17-701.320(12)(c)(cont'd.) - 17-701.330(1)(c)

paragraph (b) of this subsection. Such solid waste disposal unit may be operated until filled to its permitted or modified design dimensions which, if such unit is lined, may include any future vertical expansion over the liner in accordance with Rule 17-701.430, F.A.C.

(d) Facilities operating pursuant to a Consent Order with the Department in effect on January 6, 1993, shall continue to operate in accordance with the order until the order expires by its own terms, provided the landfill is in compliance with the terms and conditions of the order. If the facility owner or operator fails to comply with any substantive term or condition of the order, the facility covered by the order must comply with the operational, closure and long-term care requirements of this chapter.

(2) Term of permit. The time period for permits shall be no longer than five years from the date of issuance by the Department. Permits may be issued for a shorter period for specific circumstances.

(3) Permit renewals.

(a) Construction/operation permits shall be renewed at least every five years. Applicants for permit renewal shall demonstrate how they will comply with any applicable new or revised laws or rules relating to construction, operation, or closure of landfills. Closure plans shall be updated at the time of permit renewal to reflect changes in closure design, long-term care requirements, and financial responsibility documentation.

(b) Facility information that was submitted to the Department to support the expiring permit, and which is still valid, does not need to be re-submitted for permit renewal. The permit renewal application shall list and reaffirm that the information is still valid.

(4) Permit applications. Permit applications for landfills shall meet the requirements of Rule 17-701.320, F.A.C., and shall also include the following specific requirements:

(a) A vicinity map or aerial photograph not more than one year old which shows land use and local zoning within one mile of the landfill and is of sufficient scale to show all homes or other structures, water bodies, roads, and other significant features of the vicinity. All significant features shall be labeled.

(b) A vicinity map or aerial photograph not more than one year old which shows all airports that are located within five miles of the proposed landfill.

(c) A plot plan of the site showing dimensions, locations of proposed and existing water quality monitoring wells or points, locations of soil borings, proposed plan of trenching or disposal areas, original elevations, proposed

17-701.330(1)(c) (cont'd.) - 17-701.330(4)(c)

final contours, any previously filled waste disposal areas, and fencing. Cross sections shall be included on the plot plan or on separate sheets showing both the original and proposed fill elevations. The scale of the plot plan shall not be greater than 200 feet to the inch.

(d) Topographic maps at a scale of not greater than 200 feet to the inch with 5-foot contour intervals. These maps shall show the proposed fill area, any borrow area, access roads, grades required for proper drainage and cross sections of lifts, special drainage devices if necessary, fencing, and equipment facilities.

(e) A report on the:

1. Current and projected population and area to be served by the proposed site;
2. Anticipated type, annual quantity, and source of solid waste, expressed in tons;
3. Anticipated life of the facility; and
4. Source and type of cover material.

(f) The Hydrogeological investigation and ground water monitoring plan required by Rule 17-701.410 and 17-701.410, F.A.C.

(g) The Geotechnical investigation required by Rule 17-701.420, F.A.C.

(h) Evidence of an approved laboratory to do water quality monitoring in accordance with Rule 17-160, F.A.C.

(i) A statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill.

(j) Operational plans and drawings as required in Rules 17-701.500(2), (6), (7), (8), (9), (10), and (11), F.A.C.

(5) Modification of landfill permit. Permits shall be modified in accordance with the requirements of Rule 17-4.080, F.A.C. A modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review by the Department is considered a substantial modification.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.702, 403.704, 403.707, F.S.
History: New 1-6-93; Amended 1-2-94.

17-701.340 General Criteria For Landfills.

(1) Performance standards. A landfill shall be designed, constructed, operated, maintained, closed, and monitored throughout its design period to control the movement of waste and waste constituents into the environment so that ground water and surface water quality standards and criteria of Chapters 17-3 and 17-302, F.A.C., will not be violated beyond the zone of discharge specified for the landfill.

17-701.330(4)(c) (cont'd.) - 17-701.340(1)

(2) Minimum ground water criteria. For those landfills or solid waste disposal units which are constructed after January 6, 1993, and which are constructed with at least a double or composite liner, the minimum ground water criteria specified in Rule 17-3.402, F.A.C., shall apply only outside of the footprint of the solid waste disposal unit, or if the unit is surrounded by a perimeter road, outside the perimeter road, notwithstanding the provisions of Rule 17-3.404, F.A.C.

(3) Classification of landfills. Landfills or solid waste disposal units are classified according to the amount or types of waste received.

(a) Class I landfills are those which receive an average of 20 tons or more of solid waste per day.

(b) Class II landfills are those which receive an average of less than 20 tons of solid waste per day.

(c) Class I and Class II landfills receive general, non-hazardous household, commercial, industrial, and agricultural wastes, subject to the restrictions of Rules 17-701.300 and 17-701.520, F.A.C.

(d) Class III landfills are those which receive only yard trash, construction and demolition debris, waste tires, asbestos, carpet, cardboard, paper, glass, plastic, furniture other than appliances, or other materials approved by the Department which are not expected to produce leachate which poses a threat to public health or the environment.

Class III landfills shall not accept putrescible household waste. The Department may exempt Class III landfills from some or all of the requirements for liners, leachate controls, and water quality monitoring in Rules

17-701.400(3) and (4), and 17-701.510, F.A.C., if it determines based upon the types of waste received, methods for controlling types of waste disposed of, and the results of the hydrogeological and geotechnical investigations required in Rules 17-701.410 and 17-701.420, F.A.C., that no significant threat to the environment will result from such exemption. Yard trash composting facilities shall be operated in accordance with Chapter 17-709, F.A.C. Owners or operators of Class III landfills which are operating on January 6, 1993, shall apply for modification of their permits to comply with this paragraph no later than January 6, 1994.

(4) Location requirements.

(a) The site shall provide structural support for the facility including total wastes to be disposed of and structures to be built on the site.

(b) A landfill or solid waste disposal unit shall not be located in the 100-year floodplain where it will restrict

17-701.340(2) - 17-701.340(4)(b)

the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste.

(c) The minimum horizontal separation between waste deposits in a landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope.

(d) Landfills shall be screened from public view where such screening can practically be provided.

(5) Zone of discharge. A landfill's zone of discharge shall be determined pursuant to Chapter 17-522, F.A.C. For all solid waste disposal units constructed after January 6, 1993, the zone of discharge shall not exceed 100 feet from the edge of those solid waste disposal units permitted to be constructed.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.702, 403.704, 403.707, F.S.
History: New 1-6-93; Amended 1-2-94.

17-701.400 Landfill Construction Requirements.

(1) Minimum design standards. The requirements of this rule are the minimum standards for constructing a landfill. Nothing in this rule shall be construed to prevent the Department from imposing more stringent standards as necessary to protect the environment and the public health and safety due to site specific conditions and types of wastes to be disposed of in the landfill or solid waste disposal unit. An applicant whose landfill design meets the design standards of this rule will be presumed to provide reasonable assurance that the performance standards of Rule 17-701.340(1), F.A.C., will be met.

(2) Planned construction and closure. All landfills shall be designed so that solid waste disposal units will be constructed and subsequently closed at planned intervals throughout the design period of the landfill.

(3) Landfill liner requirements. Landfills shall be constructed with composite or double liners, and a leachate collection and removal system.

(a) Liners shall be:

1. Constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure due to physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and other applied stresses and hydraulic pressures which are anticipated during the operational and closure period of the solid waste disposal unit. The supplier of materials for the liner components shall provide test information accepted by the engineer of record, that supports the capabilities of the materials to meet these needs;

17-701.340(4) (b) (cont'd.) - 17-701.400(3) (a) 1.

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(c) Double liners.
1. Double liner systems shall consist of upper and lower 60-mil minimum thickness geomembranes with a maximum water vapor transmission rate of 0.24 g/(m² x day); a primary leachate collection and removal system lying above the upper geomembrane designed to limit the leachate head to one foot above the liner during routine landfill operations after placement of initial cover, except in sumps and leachate collection trenches; and a leak detection and secondary leachate collection system between the upper and lower liners. The lower geomembrane shall be placed directly on a sub-base which is a minimum six inches thick and has a saturated hydraulic conductivity of less than or equal to 1 x 10⁻⁵ cm/sec.

2. The leak detection and secondary leachate collection system shall have a minimum hydraulic conductivity of one cm/sec, shall be designed to limit the maximum hydraulic head on the lower liner to one inch, and shall not allow leachate head to exceed the thickness of the drainage layer. The hydraulic conductivity of the leak detection and secondary collection system material shall be derived from transmissivity and thickness measurements.

(d) Standards for geomembranes.
1. Geomembranes shall have factory and field seams whose shear strengths during testing are at least 90 percent of the specified minimum yield strength for that lining material, and the failure shall occur in the lining material outside the seam area. All field seams must also be visually inspected and pressure or vacuum tested for seam continuity using suitable non-destructive techniques.

2. Geomembranes shall be protected from physical damage by placing a minimum 24-inch-thick protective layer above the upper liner. All materials in direct contact with the liner shall be free of sharp materials or any materials larger than one-half inch. The upper 12 inches of the protective layer shall be composed of soil, tire chips four square inches or smaller with no protruding wires, or other materials approved by the Department which are permeable, non-reactive, stable, and which offer protection for the liner from punctures.

3. The first layer of waste placed on the protective layer above the liner and leachate collection system shall be a minimum of four feet in compacted thickness, and consist of selected wastes containing no large, rigid objects that may damage the liner or leachate collection system. Materials that could damage the liner shall be removed from this layer.

17-701.400(3)(c) - 17-701.400(3)(d)3.

2. Installed upon a base and in a geologic setting capable of providing structural support to prevent overstressing of the liner due to settlements and applied stresses;
3. Constructed so that the bottom of the liner system is not subject to fluctuations of the ground water so as to adversely impact the integrity of the liner system.
4. Designed to resist hydrostatic uplift if the liner is located below the seasonal high ground water table; and
5. Installed to cover all surrounding earth which could come into contact with the waste or leachate.

(b) Composite liners.

1. The upper component of the composite liner shall be a 60-mil or thicker geomembrane liner with a maximum water vapor transmission rate of 0.24 grams per square meter per day (g/(m² x day)) as determined by ASTM Method E96-80, procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09. A primary leachate collection and removal system and a drainage layer shall be installed above the geomembrane liner. Except in sumps and leachate collection trenches, the system shall be designed to limit leachate head above the liner during routine landfill operation after placement of initial cover, as specified in Table A below, depending upon the thickness and hydraulic conductivity of the lower component of the composite liner. Leachate head calculations shall consider leachate recirculation if the leachate is recirculated.

2. The lower component of the composite liner shall be constructed in six-inch lifts. The thickness of the lower component may be varied in relation to the hydraulic conductivity of the lower component and the design leachate head above the liner, in accordance with Table A.

TABLE A:
Minimum Thickness of Lower Component of Composite Liner (in feet)

Maximum Design Hydraulic Head (in inches)	1 x 10 ⁻⁷	5 x 10 ⁻⁸	1 x 10 ⁻⁸
1	2	1	1
6	2.5	1.5	1
12	3	2	1

17-701.400(3)(a)2. 17-701.400(3)(b)2.

(e) The following specifications shall be provided for geosynthetic components:

1. Definition and qualifications of the designer, manufacturer, installer, geosynthetic quality assurance consultant, geosynthetic quality assurance laboratory, and quality assurance program;

2. Material specifications for geomembranes, geotextiles, geogrids, and geonets, including general requirements, specified geomembrane properties, and labelling;

3. Manufacturing and fabrication specifications including:

- a. Geomembrane manufacturing, including raw material and roll quality control;

- b. Geomembrane fabrication, including requirements of personnel, seaming equipment and products, seam preparation, weather conditions for factory seaming, overlapping and temporary bonding, trial seams, and nondestructive seam continuity testing;

- c. Destructive seam strength testing including location and frequency, sampling procedure, size of samples, testing at the fabrication factory, laboratory testing, fabricator's laboratory testing, and procedures for destructive test failure; and

- d. Repairs.

4. Geomembrane installation specifications including

- a. Earthwork;

- b. Conformance testing;

- c. Geomembrane placement, which shall address layout drawings, panel identification, and field panel placement;

- d. Field seaming, which shall address seam layout, requirements of personnel, overlapping and temporary

- bonding, seam preparation, seaming equipment and products, weather conditions for seaming, trial seams, general seaming procedures, nondestructive seam continuity testing,

- destructive testing, and defects and repairs including identification, evaluation, and repair procedures;

- e. Materials in contact with the geomembrane, including granular materials, concrete, and sumps and appurtenances; and

- f. Lining system acceptance.

5. Geotextile and geogrid specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials.

6. Geonet specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials.

(f) Standards for soil components.

17-701.400(3)(e) - 17-701.400(3)(f)

1. Soil components of liner systems shall be constructed to preclude, to the greatest extent practicable, lenses, cracks, channels, root holes, pipes, or other structural inconsistencies that can increase the saturated hydraulic conductivity of the soil component. The design shall illustrate and describe those instances in which overexcavation of permeable areas and backfilling may be necessary to seal the permeable area. The soil component shall be placed and compacted in layers to achieve the design performance.

2. The permeability of soil liner components shall not be increased above the values specified for the component, as a result of contact with leachate from the solid waste disposal unit. Compatibility of the soil component and leachate shall be demonstrated by testing the soil component with actual or simulated leachate in accordance with EPA Test Method 9100 or an equivalent test method.

3. The soil component of the liner system may consist of in-situ soils, provided they meet the specifications for soil liners. Testing of in-situ soil shall be performed in accordance with the site specific Construction Quality Assurance Plan in accordance with Rule 17-701.400(7), F.A.C.

4. Specifications for the soil component of the liner system shall be provided to and approved by the Department, and shall contain at a minimum:

- a. Allowable range of particle size distribution and Atterberg limits, to include shrinkage limit;

- b. Placement moisture criteria and dry density criteria;

- c. Maximum laboratory-determined saturated hydraulic conductivity, using simulated leachate as the saturating and testing liquid;

- d. Minimum thickness of the soil liner;

- e. Lift thickness;

- f. Surface preparation (scarification) for tying lifts together; and

- g. Type and percentage of clay mineral within the soil component.

5. The soil liner shall be placed using construction equipment and procedures that achieve the required saturated hydraulic conductivity and thickness. A field test section shall be constructed using the proposed construction equipment and tested to document that the desired saturated hydraulic conductivity and thickness is achieved in the field. Test results shall be submitted to and approved by the Department along with the completion of construction documents.

- (4) Leachate collection and removal system. Landfills shall have a leachate collection and removal system that is designed, constructed, maintained, and operated to collect leachate and convey it to collection points for removal.

17-701.400(3)(f)1. - 17-701.400(4)

- (a) The primary and secondary leachate collection and removal systems shall:
1. Be constructed of materials that are chemically resistant to the waste disposed of in the landfill and the leachate expected to be generated;
 2. Have sufficient mechanical properties to prevent collapse under pressures exerted by overlying wastes, cover materials, and by any equipment used at the landfill;
 3. Have granular material or synthetic geotextile filter overlying or surrounding the leachate collection and removal system to prevent clogging of the collection system by infiltration of fine particles from the waste; and
 4. Have a method to test that the pipes in the system are not clogged, and a method for cleaning the pipes in the system if they become clogged. If any part of the system cannot be tested for clogging, the design shall assure that leachate can be rerouted from that part to a leachate sump in the event of collapse.
- (b) The primary leachate collection and removal system shall have a granular drainage layer above the top geomembrane liner, at least 12 inches thick, with a hydraulic conductivity of not less than 1×10^{-3} cm/sec, overlain with an additional 12 inches of soil or other material approved by the Department to provide a total protective layer 24 inches thick, that is chemically resistant to the waste and leachate. It shall be designed with a bottom slope to achieve the required leachate head after the predicted settlement determined by the foundation analysis. Leachate collection systems incorporating synthetic drainage materials may be used if it can be demonstrated that they are equivalent to or more effective than the granular design, including chemical compatibility, flow under load, and protection of the geomembrane liner.
- (5) Leachate recirculation. Leachate recirculation systems shall only be used at solid waste disposal units that have been designed for leachate recirculation and meet the following requirements:
- (a) The landfill shall be lined and have a leachate collection and removal system.
 - (b) Ditches, berms, or other devices shall be installed to control any leachate runoff. Initial and intermediate cover receiving recirculated leachate shall be graded to shed runoff into the leachate collection system and to minimize mixing of leachate runoff and storm water.
 - (c) Initial and intermediate cover shall be permeable to the extent necessary to prevent perched water conditions and gas buildup.

17-701.400(4) (a) - 17-701.400(5) (c)

- (d) Leachate shall not be recirculated during weather conditions or in quantities that may cause runoff outside the solid waste disposal unit, surface seeps, wind-blown spray, or exceedance of the limits of the leachate head on the liner. Ponding is prohibited unless it is an integral part of the design plan.
- (e) A gas management system shall be implemented to control odors and migration of methane.
 - (f) Recirculation of leachate is prohibited on top of areas where final cover has been applied. Irrigation of the final vegetative cover may be done with treated leachate which meets the water quality standards of the receiving water body, if such irrigation does not contribute significantly to leachate generation.
 - (6) Leachate storage tanks and leachate surface impoundments.
- (a) The requirements of this subsection apply to all leachate storage tanks and leachate surface impoundments constructed after January 6, 1993. Leachate storage tanks in use on January 6, 1993 are not required to retrofit to comply with this subsection unless leakage, corrosion or other defects are found. Leachate surface impoundments in use on January 6, 1993 shall be replaced or modified to conform to this subsection by January 6, 1995.
- (b) Surface impoundments for leachate treatment or storage that are located at landfills are subject to the following requirements:
1. Surface impoundments shall be constructed so that the bottom of the liner system is not subject to fluctuations of the ground water so as to adversely impact the integrity of the liner system. The applicant shall demonstrate that the surface impoundment design will minimize infiltration of leachate into the environment so that ground water and surface water quality standards and criteria are not violated.
 2. The surface impoundment shall be designed in segments such that any one segment may be taken out of service for inspection and repair with no interruption of service.
 3. The impoundment shall have a double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane, and a leak detection and collection system between the geomembranes with a minimum hydraulic conductivity of one cm/sec. The lower geomembrane shall be placed directly on a subbase which is at least six inches thick and has a saturated hydraulic conductivity of less than or equal to 1×10^{-5} cm/sec. The leak detection and collection system shall be checked daily. The design of the upper liner shall include calculations to predict the potential leakage through the upper liner. If the daily

17-701.400(5) (d) - 17-701.400(6) (b) 3.

checks indicate the upper liner is leaking at a rate greater than predicted by the design calculations, the Department shall be notified. If the leakage rate will result in the flooding of the leak detection and collection system, the impoundment shall be emptied and the liner repaired.

4. To preserve the liner integrity and prevent uplift, ballast material such as rounded gravel or sand, that will not cause damage to the geomembrane liner, shall be placed on top of any liner which is located below the water table.

5. A minimum of two feet of freeboard above the depth which would occur in the event of a 25-year, 24-hour storm shall be maintained in leachate surface impoundments.

6. Disease vectors and off-site odors shall be controlled.

(c) Above ground leachate storage tanks that are located at solid waste management facilities are subject to the following requirements:

1. Tanks shall be constructed of concrete, steel or other material approved by the Department. Tanks shall be supported on a well drained, stable foundation.

2. Bottoms of steel tanks that rest on earthen material shall be cathodically protected with either sacrificial anodes or an impressed current system which is designed, fabricated, and installed in accordance with an engineering plan approved by the Department.

3. The exterior surfaces of all steel storage tanks shall be protected by a primer coat, a bond coat, and two or more final coats of paint or other surface coating system designed to prevent corrosion and deterioration.

4. The interior of all tanks shall consist of a material or must be lined with a material, resistant to the liquid being stored.

5. All aboveground tanks shall have a secondary containment system which may consist of dikes, liners, pads, ponds, impoundments, curbs, ditches, sumps, or other systems capable of containing the stored leachate. The design volume for the secondary containment system shall be 110 percent of the volume of either the largest tank within the containment system or the total volume of all interconnected tanks, whichever is greater.

6. The secondary containment system shall be constructed of materials compatible with the liquid stored. The containment system shall be constructed of either:

a. A minimum three-foot layer of compacted soil with a maximum saturated hydraulic conductivity of 1×10^{-7} cm/sec or one foot of compacted soil with a maximum saturated hydraulic conductivity of 1×10^{-8} cm/sec with two feet of protective cover; or

b. A concrete pad that will maintain its integrity for the lifetime of the tank with a corrosion resistant coating; or

17-701.400(6)(b)3.(cont'd.) - 17-701.400(6)(c)6.b.

c. A geomembrane of a minimum thickness of 60 mils, with a maximum water vapor transmission rate of $0.24 \text{ g/(m}^2 \times \text{day)}$.

7. A system shall be designed to contain and remove storm water from the secondary containment area. Provisions shall be included for the removal of any accumulated precipitation and be initiated within 24 hours or when 10 percent of the storage capacity is reached; whichever occurs first. Disposal of this stormwater shall be in accordance with the requirements of Rule 17-701.400(9), F.A.C.

8. All aboveground tanks shall be equipped with an overflow prevention system which includes level sensors and gauges, high level alarms, or automatic shutoff controls. The overflow control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.

9. The exposed exterior of all aboveground tanks shall be inspected weekly by the facility operator for adequacy of the cathodic protection system, leaks, corrosion, and maintenance deficiencies. Interior inspection of tanks shall be performed whenever the tank is drained or at a minimum of every three years. If the inspection reveals a tank or equipment deficiency, leak, or any other deficiency which could result in failure of the tank to contain the leachate, remedial measures shall be taken immediately to eliminate the leak or correct the deficiency. Inspection reports shall be maintained and made available to the Department upon request for the lifetime of the liquid storage system.

(d) Underground leachate storage tanks that are located at solid waste management facilities are subject to the following requirements:

1. Tanks shall be constructed of concrete, fiberglass, reinforced plastic, steel that is cathodically protected, or steel that is clad with fiberglass.

2. A secondary containment and a continuous leak detection system shall be installed in the form of a double-walled tank, designed as an integral structure so that any release from the inner tank is completely contained by the outer shell.

a. The interstitial space shall be monitored at least once per week by the facility operator for tightness using pressure monitoring, vacuum monitoring, electronic monitoring or an approved equivalent method.

b. The tank system shall be protected from both corrosion of the primary tank interior and the external surface of the outer shell.

c. All resistant coatings applied to the primary tank interior shall be compatible with the stored leachate.

17-701.400(6)(c)6.c. - 17-701.400(6)(d)2.c.

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d. Cathodic protection systems, where installed, shall be inspected at least weekly by the facility operator. Any deficiency in the cathodic protection system shall be corrected when discovered.

3. All underground tanks shall be equipped with an overfill prevention system which includes level sensors and gauges, high level alarms, or automatic shutoff controls. The overfill control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.

i. Inspection and leak detection monitoring reports shall be maintained at the facility and made available to the Department upon request for the lifetime of the liquid storage system.

(e) A schedule for routine maintenance of the leachate collection and removal system shall be established to ensure operation of the system. The maintenance schedule shall be a part of the facility operation plan.

(7) Liner systems construction quality assurance.

(a) Liner systems shall have a construction quality assurance plan to provide personnel with adequate information to achieve continuous compliance with the liner construction requirements. The plan shall include or refer to specifications and construction methods which use established engineering practices to construct a liner system and provide for quality control testing procedures and sampling frequencies. Sampling and testing shall be conducted in the field by trained personnel during construction and after construction completion. Such personnel will be under the direction of the construction quality assurance professional engineer, to assure the liner system will comply with the standards. The engineer or his designee shall be on-site at all times during construction to monitor construction activities.

(b) Liner systems shall be installed in accordance with a Department-approved construction quality assurance plan. Plans that comply with EPA Document 530-SW-86-031 shall be presumed to be in compliance with this section. The following minimum specific elements shall be included in the plan:

1. Responsibility and authority of all organizations and key personnel involved in permitting, designing, constructing, and providing construction quality assurance of the waste disposal facility shall be described fully;
2. Minimum qualifications of the construction assurance quality professional engineer and supporting personnel shall be in the plan to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities;

17-701.400(6)(d)2.d. - 17-701.400(7)(b)2.

3. Procedures and tests that will be used to monitor the installation of the liner system components shall be described in detail;

4. The sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for implementing corrective measures that may be necessary shall be described; and

5. Reporting requirements for construction quality assurance activities shall be described, including daily summary reports, observation data sheets, problem identification and corrective measures, and final documentation. All such documents shall be included in the final report which shall be forwarded to the Department.

(c) A laboratory experienced in the testing of geosynthetics, independent of the liner manufacturer and installer, shall perform the required testing which must include, at a minimum, conformance testing for all geosynthetics and geomembranes, and testing of seam shear and peel strength for geomembranes.

(d) The professional engineer in charge of construction quality assurance shall provide a signed, sealed final report and record drawings to the Department stating that the liner system has been installed in substantial conformance with the plans and specifications for the liner system.

(8) Soil liner construction quality assurance. In addition to the requirements of subsection (7) above, the following requirements apply to construction of the soil component of liner systems. All required testing and analysis shall be performed in accordance with generally accepted engineering procedures, such as those promulgated by the American Society for Testing and Materials (ASTM). Parenthetical references to ASTM methods are intended as guidance only.

(a) A construction quality assurance/quality control plan shall be prepared for each soil liner project to outline project specifications and construction requirements. The plan shall specify performance criteria for the soil liner, and provide quality control testing procedures and minimum sampling frequencies. In addition, the plan shall define the responsibilities of the parties that will be involved in soil liner construction, and shall present minimum qualifications of each party to fulfill their identified responsibilities.

(b) Field and laboratory testing during liner construction shall be conducted by a qualified soil testing laboratory representing the owner. A qualified field technician representing the owner shall provide full time, on-site inspection during liner construction. The field

17-701.400(7)(b)3. - 17-701.400(8)(b)

technician shall work under the supervision of a professional engineer with experience in soil liner construction.

(c) Prior to soil liner installation, an appropriate borrow source shall be located. Suitability of the liner construction materials from that source shall be determined in accordance with the following:

1. If demonstrated field experience is available from at least three prior successful projects of five or more acres each to document that a given borrow source can meet the requirements of the project specifications, then extensive laboratory testing of the borrow source will not be required. However, the source of material shall be geologically similar to and the methods of excavating and stockpiling the material shall be consistent with those used on the prior projects. Furthermore, a minimum of three representative samples from the appropriate thickness of the in-situ stratum or from stockpiles of the borrow material proposed for liner construction shall be submitted to an independent soil testing laboratory to document through index testing that the proposed material is consistent with the material used on prior successful projects. At a minimum, index testing shall consist of percent fines, Atterberg limits and moisture content determinations.

2. If demonstrated field experience as defined above is not available or cannot be documented, then the following requirements shall be met.

a. A field exploration and laboratory testing program shall be conducted by an independent soil testing laboratory to document the horizontal and vertical extent and the homogeneity of the soil strata proposed for use as liner material. A sufficient number of index tests from each potential borrow stratum shall be performed to quantify the variability of the borrow materials and to document that the proposed borrow material complies with specifications. At a minimum, the index tests shall consist of percent fines, Atterberg limits and moisture content determinations.

b. Sufficient laboratory hydraulic conductivity tests shall be conducted on samples representative of the range in variability of the proposed borrow source (ASTM D-5084). For each such sample, test specimens shall be prepared and tested to cover the range of molding conditions (moisture content and dry density) required by project specifications. The hydraulic conductivity tests shall be conducted in triaxial type permeameters. The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation

17-701.400(8)(b) (cont'd.) - 17-701.400(8)(c) 2.b.

of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D-5084). The borrow source will only be considered suitable if the hydraulic conductivity of the material, as documented on laboratory test specimens, can be shown to meet the requirements of the project specifications at the 98 percent confidence level.

(d) Prior to full-scale liner installation, a field test section or test strip shall be constructed at the site above a prepared subbase. The test strip shall be considered acceptable if the measured hydraulic conductivities of undisturbed samples from the test strip meet the requirements of the project specifications at the 98 percent confidence level. If the test section fails to achieve the desired results, additional test sections shall be constructed in accordance with the following requirements:

1. The test section shall be of sufficient size such that full-scale liner installation procedures can be duplicated within the test section;

2. The test section shall be constructed using the same equipment for spreading, kneading and compaction and the same construction procedures (e.g., number of passes, moisture addition and homogenization, if needed) that are anticipated for use during full-scale liner installation;

3. At a minimum, the liner test section shall be subject to the following field and laboratory testing requirements:

a. A minimum of five random samples of the liner construction material delivered to the site during test section installation shall be tested for moisture content (ASTM D-2216), percent fines (ASTM D-1140) and Atterberg limits (ASTM D-4318);

b. At least five field density and moisture determinations shall be performed on each lift of the compacted liner test section;

c. Upon completion of the test section lift, the thickness of the lift shall be measured at a minimum of five random locations to check for thickness adequacy; and

d. A minimum of five Shelby tube or drive cylinder (ASTM D-2937) samples shall be obtained from each lift of the test section for laboratory hydraulic conductivity testing. Laboratory hydraulic conductivity testing shall be conducted in triaxial type permeameters (ASTM D-5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure

17-701.400(8)(c) 2.b. (cont'd.) - 17-701.400(8)(d) 3.d.

to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D-5084).

(e) Full scale liner installation may begin only after completion of a successful liner test section. During liner construction, quality control testing shall be provided to document that the installed liner conforms to project specifications. The testing frequencies for quality control testing are specified below; however, during construction of the first five acres of the liner, these frequencies shall be doubled. Samples shall be obtained from random locations selected by an independent soil testing laboratory. If there are indications of a change in product quality, construction procedures during liner construction, additional tests shall be performed to determine compliance.

1. Field testing during liner installation. The following field tests shall be performed:

a. Prior to the laying of the liner materials, the liner subbase shall be compacted to the specified density.

Density tests shall be conducted at a minimum rate of two tests per acre;

b. A minimum of two moisture content and field density determinations shall be conducted per acre per lift of the compacted liner. The degree of compaction shall be checked using the one-point field Proctor test or other appropriate test procedures; and

c. A minimum of four thickness measurements shall be conducted per acre per lift of the compacted liner.

2. Laboratory testing during liner installation. The following laboratory tests shall be performed:

a. Percent fines (ASTM D-1140) of the liner construction material shall be determined at a minimum frequency of two tests per acre per lift of installed liner;

b. Atterberg Limits determinations shall be performed on one sample per acre per lift of installed liner; and

c. Hydraulic conductivity testing of Shelby tube or drive cylinder (ASTM D-2937) samples of the compacted liner shall be performed at a minimum frequency of one test per acre per lift. Laboratory hydraulic conductivity tests shall be conducted in triaxial type permeameters (ASTM D-5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity

17-701.400(8)(d)3.d.(cont'd.) - 17-701.400(8)(e)2.c.

calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured.

(f) If the test data from a liner section does not meet the requirements of the project specifications, additional random samples may be tested from that liner section. If such additional testing demonstrates that the thickness and hydraulic conductivity meet the requirements of the project specifications at the 95 percent confidence level, that liner section will be considered acceptable. If not, that liner section shall be reworked or reconstructed so that it does meet these requirements.

(g) Surface water management systems.

(a) A stormwater management system shall be designed, constructed and maintained which, at a minimum, prevents stormwater from the peak discharge of the 25 year storm event from running onto those portions of the landfill which have not been closed.

(b) A stormwater management system shall be designed, constructed and maintained which collects and controls, at a minimum, the volume of runoff from a 25 year, 24 hour storm event.

(c) Stormwater controls shall include retention or detention ponds, and drainage ways specifically designed and sized according to local drainage patterns, soil permeability, annual precipitation, area land use, and other characteristics of the contributing watershed.

(d) Stormwater management systems shall be designed to avoid mixing of stormwater with leachate. Stormwater or other surface water which comes into contact with the landfilled solid waste and is subject to the requirements of Rules 17-701.500(8) and 17-701.510(5), F.A.C.

(e) Nothing herein shall be construed to supercede the applicable standards and requirements of Chapters 17-25, 17-302, and 17-330, F.A.C., or the rules and requirements of any other state or local agencies.

(10) Gas control systems.

(a) Landfills that receive biodegradable wastes shall have a gas monitoring and control system designed to prevent explosions and fires, and to minimize off-site odors and damage to vegetation. Landfill gas control systems shall:

1. Be designed to prevent the concentration of methane and other gases generated by the landfill from:

a. Exceeding twenty-five percent of the lower explosive limit for gases in structures on- or off-site, excluding gas control or recovery components;

17-701.400(8)(e)2.c.(cont'd.) - 17-701.400(10)(a)1.a.

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- b. Exceeding the lower explosive limit for gases at or beyond the landfill property boundary; and
- c. Causing objectionable odors at or beyond the landfill property boundary;
2. Be designed for site-specific conditions and be installed in each section of the landfill that has been filled to design dimensions;
3. Be designed to reduce gas pressure in the interior of the landfill by collecting the gases to prevent them from moving laterally. Collection pipes, pathways, or vents shall collect gas from at least the uppermost two-thirds of the filled waste or where the more anaerobic conditions exist. Air shall not be forced into the collection system. Passive venting or suction shall be used to extract gas; and
4. Not interfere with or cause failure of the liner or leachate control systems.
- (b) Flaring of landfill gases may be used as a method of gas control, particularly control of objectionable odors, in accordance with the permitting requirements of Chapter 17-296, F.A.C.
- (c) Owners or operators of solid waste disposal units that have received biodegradable waste shall implement a routine gas monitoring program to ensure that the standards of paragraph (10)(a) of this section are met.
1. The location of monitoring points and frequency of monitoring shall be determined by the following factors:
 - a. Soil conditions;
 - b. The hydrogeologic conditions surrounding the facility;
 - c. The hydraulic conditions surrounding the facility; and
 - d. The location of facility structures and property boundaries.
2. All monitoring points shall be sampled quarterly, and the results reported to the Department.
3. If methane gas levels exceed the lower explosive limits specified in paragraph (10)(a) of this section, the owner or operator shall:
 - a. Immediately take all necessary steps to ensure protection of human health and notify the Department;
 - b. Within 7 days of detection, submit to the Department for approval a remediation plan for the methane gas releases. The plan shall describe the nature and extent of the problem and the proposed remedy. The remedy shall be completed within 60 days of detection unless otherwise approved by the Department.

17-701.400(10)(a)1.b. - 17-701.400(10)(c)3.b.

- (d) Landfills using piping or a similar conduit to convey gas shall be furnished with a positive means of gas condensate collection and disposal at each low point in the conveyance system.
- (11) Landfill gas recovery facilities.
 - (a) Landfill gas recovery facilities are considered solid waste management facilities, and shall be constructed and operated only in accordance with a Department permit. Landfill gas recovery facilities that are operating without a permit shall submit a complete application to the Department on or before July 6, 1993. If a gas recovery facility is included in the approved closure plan or closure permit of the landfill, no separate permit for the facility is required, provided that the facility must meet all the requirements of this subsection.
 - (b) The application be on Form 17-701.900(1), and shall contain at least the following:
 1. The information contained in Rules 17-701.320(7) and 17-701.330(4), F.A.C.;
 2. Where relevant and practical, the information required in Rule 17-701.600(4), F.A.C.;
 3. An estimate of the quantities of gas condensate currently collected or expected to be collected, and a description of how the condensate is or will be disposed of;
 4. A description of the procedures for sampling, analyzing, and reporting data from the condensate sampling;
 5. A closure plan that shall include methods to control landfill gases after operation of the recovery facility ceases and any other requirements contained in Rule 17-701.400(10), F.A.C.
 - (c) The owner or operator of a gas recovery facility shall post a performance bond to cover the estimated costs of closing the facility. If the gas recovery facility is included in the approved closure plan or closure permit of the landfill, and if the closure costs are included in the landfill closure cost estimates for which financial responsibility is required by Rule 17-701.630, F.A.C., then no separate proof of financial responsibility is required.
 - (12) Landfills in ground water. A landfill constructed so that the bottom liner is constantly in contact with ground water is not prohibited by this rule. However, an applicant proposing such a design shall include special design features which demonstrate that the landfill will provide an equivalent degree of protection for the environment as would a similar landfill whose bottom liner is not in contact with ground water. Such a design is not entitled to the presumption of compliance with performance standards which is set forth in subsection (1) of this

17-701.400(10)(d) - 17-701.400(12)

section. In addition to any other assurances of financial responsibility for closure, an applicant shall provide a performance bond sufficient to ensure long-term maintenance and operation of the leachate collection system. Specific Authority: 403.061, 403.704, F.S. Law Implemented: 403.702, 403.704, 403.707, F.S. History: New 1-6-93; Amended 1-2-94.

17-701.410 Hydrogeological Investigation Requirements.

(1) Hydrogeological investigation and site report required by Rule 17-701.330(4), F.A.C., shall be conducted by or under the supervision of a professional geologist or professional engineer with experience in hydrogeologic investigations, and shall:

- (a) Define the landfill site geology and hydrology and its relationship to the local and regional hydrogeologic patterns including:
 1. Direction and rate of ground water and surface water flow, including seasonal variations;
 2. Background quality of ground water and surface water;
 3. Any on site hydraulic connections between aquifers; and
 4. For all confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill, the porosity or effective porosity, horizontal and vertical permeabilities, and the depth to and lithology of the layers and aquifers; and
5. Topography, soil types and characteristics, and surface water drainage systems of the site and surrounding the site.
- (b) Include an inventory of all the public and private water wells within a one-mile radius of the proposed landfill site. The inventory shall include, where available:
 1. The approximate elevation of the top of the well casing and the depth of each well;
 2. The name of the owner, the age and usage of each well, and the estimated daily pumpage; and
 3. The stratigraphic unit screened, well construction technique, and static water levels of each well.
- (c) Identify and locate any existing contaminated areas on the landfill site.
- (2) Report verification. The site report and supporting information, including detailed description of the methods, calculations, and interpretations used, shall be signed and sealed by the professional engineer or geologist. Specific Authority: 403.061, 403.704, F.S. Law Implemented: 403.702, 403.704, 403.707, F.S. History: New 1-6-93.

17-701.400(12) (cont'd.) - 17-701.410(History)

17-701.420 Geotechnical Investigation Requirements.
(1) Geotechnical site investigation. The geotechnical site investigation required by Rule 17-701.330(4), F.A.C., shall be conducted by or under the supervision of a professional engineer with experience in geotechnical engineering. Prior to any construction on the landfill site, the engineer shall define the engineering properties of the site that are necessary for the design, construction, and support of the landfill and all installations of the facility and shall:

- (a) Explore and describe subsurface conditions including soil stratigraphy and ground water table conditions;
- (b) Explore and address the presence of muck, previously filled areas, soft ground, lineaments, and sinkholes;
- (c) Evaluate and address fault areas, seismic impact zones, and unstable areas as described in 40 CFR 258.13, 258.14 and 258.15.
- (d) Include estimates of the average and maximum high ground water table across the site; and
- (e) Include a foundation analysis to determine the ability of the foundation to support the loads and stresses imposed by the landfill. It may include geotechnical measures necessary to modify the foundation to accommodate the imposed loads and stresses. The foundation shall be analyzed for short-term, end of construction, and long-term stability and settlement conditions. Considering the existing or proposed subgrade conditions and the landfill geometry, analysis shall include:

1. Foundation bearing capacity;
 2. Subgrade settlements, both total and differential; and
 3. Subgrade slope stability.
- (2) Report. The geotechnical site investigation report shall describe the site subsurface conditions and shall include, at a minimum, the methods used in the investigation, all soil boring logs and laboratory results, analytical calculations, cross sections, interpretations and conclusions.
- (3) Report verification. The report and supporting documentation shall be signed and sealed by the professional engineer. Specific Authority: 403.061, 403.704, F.S. Law Implemented: 403.702, 403.704, 403.707, F.S. History: New 1-6-93; Amended 1-2-94.

17-701.420(1) - 17-701.420(History)

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17-701.430 Vertical Expansion of Landfills.
(1) Applicability. Construction of a solid waste disposal unit on top of or against the side slopes of a previously filled landfill, whether active, closed, or inactive is considered vertical expansion of that landfill. Vertical expansion shall require either a modification of the landfill permit, or a new permit if the landfill has been closed. The following requirements shall apply:

(a) The vertical expansion shall not cause or contribute to any leachate leakage from the existing landfill, and shall not adversely affect the closure design of the existing landfill.

(b) For vertical expansion over lined landfills, no interface liner is required between the old and new landfill slopes.

(c) For vertical expansion over unlined landfills or landfills that were not constructed in accordance with permit requirements, the vertical expansion shall comply with all the requirements of Rule 17-701.400, F.A.C., with the following exceptions:

1. Side slopes of six feet horizontal to one foot vertical rise or steeper require the installation of a single geomembrane slope liner overlain by a leachate collection and removal system;

2. The slope liner shall consist of a 60-mil or thicker geomembrane with a maximum water vapor transmission rate of 0.24 g/(m² x day) as determined by ASTM Method E96-80, procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09.

3. The liner shall be protected from physical damage by a 24-inch thick protective layer above the liner and a bedding layer below the liner at least 24 inches thick to protect against the calculated differential settlement.

4. In all vertical expansion construction, grades shall slope toward the new expansion area.

5. If the vertical expansion consists exclusively of construction and demolition debris, the expansion must comply with the requirements of Rules 17-701.730 and 17-701.803, F.A.C., as well as paragraph (a) of this subsection.

6. If the vertical expansion consists of a composting operation, it must meet the requirements of Chapter 17-709, F.A.C., as well as paragraph (a) of this subsection.
7. If the vertical expansion consists of a Class III landfill, the provisions of Rule 17-701.340(3)(d), F.A.C., apply.

(d) The provisions of Rule 17-701.610(7), F.A.C., are applicable to all operations, including recycling operations, conducted on top of closed landfills.

17-701.430(1) - 17-701.430(1)(d)

(2) Construction requirements. The design for the vertical expansion shall also provide calculations and supporting information on the following factors:

(a) Construction on the slopes of a filled landfill requires a determination of foundation stability in accordance with Rule 17-701.420, F.A.C., and calculations for the total settlement of the waste in the existing landfill and the waste that will be disposed of in the new disposal area to be constructed. Total settlement calculations shall address both compression and differential settlement, and shall be based on worst case predictions. Total settlement calculations shall show the final elevations of the liner systems, that gravity drainage will be maintained, and that no other component of the design will be adversely affected.

(b) The vertical expansion design shall achieve a minimum safety factor of 1.5 for:

1. The liner system stability for liner systems installed over existing landfill slopes to prevent sliding along the interface between liner system components; and
2. Deep stability, to prevent sliding along all potential failure surfaces through the waste mass, along the liner systems, and through the foundation soils.

(c) Surface water management during construction of the vertical expansion over the slopes of an existing landfill shall be consistent with Rule 17-701.400(9), F.A.C., and shall require proper design of the drainage way at the interface between the existing slopes and vertical expansion area. The design shall:

1. Prevent infiltration into the existing and new landfills;

2. Minimize erosion of cover materials;

3. Carry the calculated flow; and

4. Comply with the cover requirements.

(d) A gas control system shall be installed to vent gas from the interface between the existing landfill slopes and the vertical expansion slopes to prevent accumulation of gas under the new liner system. Gas venting is achieved by installing a gas venting layer under the entire slope that will be covered by the new liner system. The gas venting layer shall convey gas to vertical vents at the crest of the interface slopes.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.702, 403.704, 403.707, F.S.
History: New 1-6-93.

17-701.430(2) - 17-701.430(History)

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- 17-701.500 Landfill Operation Requirements.
- (1) Operating personnel. All landfills shall have at least one trained operator at the landfill during all times when the landfill receives waste. Trained operators are those who have satisfied the requirements of Chapter 17-703, F.A.C. All landfills shall have at least one spotter at each working face at all times when the landfill receives waste to detect unauthorized wastes.
 - (2) Operation plan. Each landfill owner or operator shall have an operational plan that provides written, detailed instructions for the daily operation of the landfill. The operation plan shall be kept at or near the landfill facility and shall be accessible to landfill operators. The operation plan shall be revised if operational procedures change. The plan shall include procedures for:
 - (a) Designation of persons responsible for operation and maintenance of the facility;
 - (b) Contingency operations, alternate waste handling and disposal methods in case of emergency such as a fire, natural disaster or equipment failure;
 - (c) Controlling the type of waste received at the site. The plan shall specify inspection procedures, number and location of spotters for each working face, and procedures to be followed if prohibited wastes are discovered;
 - (d) Weighing incoming waste;
 - (e) Vehicle traffic control and unloading;
 - (f) Method and sequence of filling waste;
 - (g) Waste compaction and application of cover;
 - (h) Operations of gas, leachate, and stormwater controls; and
 - (i) Water quality monitoring.
 - (3) Operating record. The operating record shall consist of all records, reports, analytical results, demonstrations, and notifications required by this chapter, the Department approved permit, engineering drawings, and supporting information, and the training verifications required by Chapter 17-703, F.A.C. The record is considered part of the operation plan, and shall be kept with the plan at or near the landfill facility, or in an alternate location approved by the Department. The operating record shall be available for inspection at reasonable times by Department personnel.
 - (4) Waste records.
 - (a) The owner or operator of a landfill shall weigh all solid waste as it is received. Landfill operators shall record, in tons per day, the amount of solid waste received

17-701.500(1) - 17-701.500(4)(a)

- and shall estimate the amount of wastes listed in paragraph (b) of this subsection. Waste reports shall be compiled monthly, and copies shall be provided to the Department quarterly.
- (b) Types of waste received:
 1. Household waste
 2. Commercial waste
 3. Ash residue
 4. Incinerator by-pass waste
 5. Construction and demolition debris
 6. Treated biohazardous waste
 7. Agricultural waste
 8. Industrial waste
 9. Yard trash
 10. Sewage sludge
 11. Industrial sludge
 12. Water/air treatment sludges
 - (5) Control of access. To prevent unauthorized waste disposal, access to and use of the facility shall be controlled by fencing, gates, or other barriers, as well as signs and facility personnel. Public access and receipt of wastes shall occur only when an attendant is on duty.
 - (6) Monitoring of waste.
 - (a) The owner or operator shall implement a load checking program to detect and discourage attempts to dispose of unauthorized wastes at the landfill. The load checking program shall consist of the following minimum requirements:
 1. The landfill operator shall examine at least three random loads of solid waste delivered to the landfill each week. The waste collection vehicle drivers selected by the inspector shall be directed to discharge their loads at a designated location within the landfill. A detailed inspection of the discharged material shall be made for any unauthorized wastes. If the landfill owner or operator also owns or operates a transfer station, this inspection may be carried out at that transfer station before delivery of the waste to the landfill.
 2. If unauthorized wastes are found, the facility shall contact the generator, hauler, or other party responsible for shipping the waste to the landfill to determine the identity of the waste sources.
 - (b) Handling hazardous wastes.
 1. If any regulated hazardous wastes are identified by random load checking, or are otherwise discovered to be improperly deposited at the landfill, the landfill operator shall promptly notify the Department, the person responsible for shipping the wastes to the landfill, and the generator of the wastes, if known. The area where the wastes are deposited shall immediately be cordoned off from public access. If the generator or hauler cannot be identified, the landfill operator shall assure the cleanup,

17-701.500(4)(a)(cont'd.) - 17-701.500(6)(b)1.

transportation, and disposal of the waste at a permitted hazardous waste management facility.

2. Subsequent shipments from sources found or suspected to be previously responsible for shipping regulated hazardous waste shall be subject to precautionary measures prior to the solid waste management facility accepting wastes.

(c) Recording inspection results. Information and observations resulting from each random inspection shall be recorded in writing and retained at the landfill for at least three years. The recorded information shall include, at a minimum: the date and time of the inspection; the names of the hauling firm and the driver of the vehicle; the vehicle license plate number; the source of the waste, as stated by the driver; and observations made by the inspector during the detailed inspection. The written record shall be signed by the inspector.

(d) Training. Inspectors, equipment operators, weigh station attendants, and spotters shall be trained to identify unauthorized wastes or potential sources of regulated hazardous wastes. The training program shall emphasize familiarity with containers and labels typically used for hazardous wastes and hazardous materials.

(7) Waste handling requirements.

(a) All solid waste at Class I and Class II landfills shall be spread in layers of approximately two feet in thickness and compacted to approximately one foot in thickness or as thin a layer as practical before the next layer is applied. Solid waste at all Class III sites shall be spread in layers and compacted once every week using suitable heavy equipment. Bulky materials which are not easily compacted should be worked into other materials as much as practical.

(b) The first layer of waste placed above the liner and leachate collection system shall be a minimum of four feet in compacted thickness and consist of selected wastes containing no large rigid objects that may damage the liner or leachate collection system.

(c) Solid waste shall be formed into cells to construct horizontal lifts. The working face of the cell, and side grades above land surface, shall be at a slope no greater than three feet horizontal to one foot vertical rise. Lift depth should normally not exceed 10 feet but may be deeper, depending on specific operations, daily volume of waste, width of working face, and good safety practices.

(d) The working face shall be only wide enough to accommodate vehicles discharging waste, and to minimize the exposed area and unnecessary use of cover material.

17-701.500(6)(b)1.(cont'd.) - 17-701.500(7)(d)

(e) Initial cover shall be applied and maintained at landfills in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, unauthorized wastes, blowing litter, odors, disease vectors, or fires. The minimum frequency for applying cover is:

1. For Class I and II landfills, at the end of each working day. However, for those areas where solid waste will be deposited on the working face within 18 hours, a initial cover may consist of a temporary cover, such as a tarpaulin, which may be removed prior to deposition of additional waste; and
2. For Class III landfills, at the end of each work week.

(f) An intermediate cover in addition to the six-inch initial cover shall be applied and maintained within seven days of cell completion if additional solid waste will not be deposited within 180 days of cell completion. The landfill operator may remove all or part of the intermediate cover before placing additional waste or installing final cover.

(g) Solid waste disposal units which have been filled to design dimensions shall receive final cover within 180 days after attaining final elevation or in accordance with the closure plan for the landfill.

(h) Uncontrolled and unauthorized scavenging shall not be permitted at any landfill site. Controlled salvaging for recycling may be permitted by the landfill operator.

(i) A litter policing operation shall be employed to keep litter from leaving the working area of the landfill. Litter outside the working area shall be picked up within 24 hours. Some litter may be exposed through the initial cover if it is in traffic areas and away from public view.

(j) Erosion control measures shall be employed to correct any erosion which exposes waste or causes malfunction of the storm water management system.

(8) Leachate management.

(a) The landfill operator is responsible for leachate level monitoring, sampling, analysis of the landfill leachate, and for providing copies of the leachate analysis to the Department.

(b) The landfill operator is responsible for the operation of the leachate collection and removal system and for maintaining the system as designed for the design period. Leachate shall be collected and treated as necessary to meet surface and ground water quality standards of Chapter 17-3 and 17-302, F.A.C. If the leachate is classified as a hazardous waste, it shall be managed in accordance with Rule 17-730, F.A.C.

17-701.500(7)(e) - 17-701.500(8)(b)

(c) Leachate may be discharged to an off-site treatment plant. The landfill operator is responsible for having a written contract or agreement with the off-site treatment plant to discharge leachate to the plant.

(d) On-site leachate treatment or pretreatment systems are part of the leachate collection and removal system and shall be designed according to the expected characteristics of the leachate. The design may include adjustments to the system as necessary to accommodate changing leachate characteristics.

(e) The landfill operator shall have a prepared contingency plan to handle leachate collection, removal, and treatment problems such as interruptions of discharges to a treatment plant.

(f) Quantities of leachate collected by the leachate collection and removal system shall be recorded in gallons per day before on-site treatment or transport off-site.

(g) A recording rain gauge shall be installed, operated, and maintained to record precipitation at the landfill. Precipitation records shall be maintained and used by the permittee to compare with leachate generation rates.

(9) Gas monitoring. All landfills that have received organic wastes shall implement a routine gas monitoring program to meet the requirements of Rule 17-701.400(10), F.A.C.

(10) Stormwater system management. Stormwater management systems shall be operated and maintained as necessary to meet applicable standards of Chapters 17-3, 17-302, and 17-25, F.A.C.

(11) Equipment and operation features. The landfill shall have:

(a) Sufficient equipment to ensure proper operation of the landfill and for excavating, spreading, compacting, and covering waste. All equipment shall have all personnel safety devices required by law;

(b) Sufficient reserve equipment or arrangement to obtain additional equipment within 24 hours of equipment breakdown;

(c) Communications equipment for emergency and routine communications;

(d) Personnel shelter and sanitary facilities and first aid equipment;

(e) Dust control methods;

(f) Fire protection and fire-fighting capabilities adequate to ensure safety of employees and to control accidental burning of solid waste in the landfill. Fire protection includes procedures for notification of local fire protection agencies for assistance in emergencies;

17-701.500(8)(c) - 17-701.500(11)(f)

(g) Litter control devices, portable fences, or other suitable devices; and

(h) Signs indicating the name of the operating authority, traffic flow, hours of operations and restrictions or conditions of disposal.

(12) Roads. The landfill shall have:

(a) An all-weather access road that is passable and safe under normal operating conditions; and

(b) An inside perimeter road and other on-site roads, maintained to allow access to monitoring devices and stormwater controls, for landfill inspections and fire fighting.

(13) Recordkeeping. In addition to records and reporting required by other sections of this chapter, the landfill owner or operator shall:

(a) Keep records of all information used to develop or support the permit applications and any supplemental information submitted to comply with this chapter pertaining to construction of the landfill throughout the design period. Records pertaining to the operation of the landfill shall be kept for the design period of the landfill.

(b) Retain records of all monitoring information, including calibrations and maintenance records, all original chart recordings for continuous monitoring instrumentation, and copies of all reports required by permit, for at least ten years. Background water quality records shall be kept for the design period of the landfill.

(c) Maintain an annual estimate of the remaining life and capacity in cubic yards of the existing, constructed landfill and remaining capacity and site life of other permitted areas not yet constructed. The annual estimate shall be based on a summary of the heights, lengths, and widths of the solid waste disposal units. The estimate shall be made and reported annually to the Department. Specific Authority: 403.061, 403.704, F.S. Law Implemented: 403.702, 403.704, 403.707, F.S. History: New 1-6-93; Amended 1-2-94.

17-701.510 Water Quality and Leachate Monitoring Requirements.

(1) Applicability.

(a) This section shall apply only to applications for construction or lateral expansion of a solid waste disposal unit received after January 6, 1993. However, no later than October 9, 1994, owners or operators of all solid waste disposal units receiving waste after January 6, 1993 shall submit their permit for modification to comply with the following:

17-701.500(11)(g) - 17-701.510(1)(a)

1. Leachate shall be sampled and analyzed in accordance with subsection (5) and paragraph (6)(b) of this section (if the unit is lined);

2. All monitoring wells specified in the permit shall be sampled and analyzed semi-annually for the parameters listed in paragraph (8)(a) of this section; and

3. The water quality monitoring results shall be reported as required in subsection (9) of this section.

(b) This rule is intended to supplement the ground water monitoring requirements of Chapter 17-522, F.A.C. Any provisions of Chapter 17-522, F.A.C., which are not in direct conflict with the provisions of this rule remain applicable. This rule does not relieve a person from compliance with any permit condition or Department order, nor does it limit the Department's authority to modify a permit or ground water monitoring plan in accordance with Chapter 17-522, F.A.C.

(c) The requirements of this rule are the minimum standards for monitoring water quality and leachate. Nothing in this rule shall be construed to prevent the Department from imposing more stringent standards as necessary to protect the environment and the public health and safety due to site specific conditions and types of wastes to be disposed of in landfills or solid waste disposal units.

(2) Water quality monitoring plan and system.

(a) The permit applicant shall provide to the Department a water quality monitoring plan for the landfill that describes the proposed ground water, surface water, and leachate monitoring systems. The plan shall be based on the hydrogeological investigation required in Rule 17-701.410, F.A.C., and be prepared by, or under the supervision of, a professional geologist or professional engineer with experience in hydrogeologic investigations. The plan shall be signed and sealed by the professional geologist or professional engineer.

(b) The water quality monitoring system shall be installed and consist of: a sufficient number of ground water wells installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer as well as other aquifers reasonably expected to be affected by the landfill; surface water monitoring points installed at locations to yield samples of surface water that may be affected by the landfill; and leachate monitoring points to yield representative leachate samples. All sampling and analysis activities shall be performed by organizations that have Comprehensive Quality Assurance Plans approved in accordance with Rule 17-160.300(8), F.A.C.

17-701.510(1)(a)1. - 17-701.510(2)(b)

(c) The water quality monitoring plan shall comply with the provisions of Rule 17-522.600(3), F.A.C. The applicant shall specify sampling locations and frequency in the water quality monitoring plan, and shall provide justification for these locations and frequencies based upon site conditions.

(3) Ground water monitoring.

(a) Two or more detection wells shall be located, and within zone of discharge hydraulically downgradient from the solid waste disposal unit, to detect leachate releases.

These wells shall be located no more than 50 feet from the edge of the solid waste disposal unit, unless site specific conditions make such placement impractical. These wells shall be capable of monitoring each solid waste disposal unit as it is operated.

(b) Multiple downgradient compliance wells shall be located at or immediately adjacent to the compliance line of the zone of discharge, if required in subsection (7) of the subsection. If site-specific conditions require installation of compliance wells within the zone of discharge, then a confirmed exceedance of a ground water standard at such wells will be considered a violation of that standard.

(c) A sufficient number of background wells installed as part of the site hydrogeological investigation required in Rule 17-701.410, F.A.C., shall be maintained throughout the design life of the landfill to provide information on background water quality.

(d) Monitoring wells.

1. The location of each well, in degrees, minutes and seconds of latitude and longitude, the Universal Transverse Mercator coordinates, and the elevation of the top of the well casing to the nearest .01 foot, National Geodetic Vertical Datum, shall be determined by a registered Florida land surveyor.

2. An identification number shall be assigned by the Department to each monitoring well in accordance with the Department's Ground Water Monitoring System computer file. The identification number shall be used on all water quality monitoring reports.

3. Well spacing shall be spaced no greater than 500 feet apart across the downgradient direction of ground water flow, and no greater than 1500 feet apart across the upgradient direction of ground water flow, in the uppermost aquifer within the zone of discharge, unless site specific conditions support the use of alternate well spacing. Conditions to be considered include, but are not limited to, ground water flow directions and rates, estimated longitudinal and transverse dispersivity rates, proximity to

17-701.510(2)(c) - 17-701.510(3)(d)3.

or presence of sensitive environments and ground water users, nature of the wastes, method of disposal, and the proposed design and size of the facility.

4. Well screens shall be located to readily detect representative ground water conditions within the zone of thickness of the uppermost aquifer within the zone of discharge. Well screens shall not act as conduits through confining layers between water bearing strata. The annular space (the space between the borehole and well casing) above the sampling depth shall be sealed to prevent contamination of samples and ground water. Wells monitoring the unconfined water table shall be screened so that the water table can be sampled at all times. The applicant shall provide technical justification for the actual screen length chosen.

5. Any monitoring wells which are abandoned or which will be covered due to lateral expansions of a landfill or the construction of new solid waste disposal units shall be plugged as necessary so that they do not act as a conduit for any leachate release to the ground water. The Department shall be notified in writing before any monitoring wells are abandoned or plugged.

6. Detection sensors capable of detecting changes in ground water that may indicate leachate releases, linked to a data recorder, may be used to augment detection wells or may be used as an alternative to detection wells, upon demonstration of their effectiveness to the Department.

(1) Surface water monitoring.

(a) All surface water bodies that may be affected by a contaminant release from the facility shall be monitored, except bodies of water contained completely within the property boundaries of the disposal site which do not discharge from the site to surface waters. In bodies of standing water, one or more representative monitoring points shall be located as close as practical to the facility. For flowing water bodies, a sufficient number of upgradient and downgradient locations shall be used to allow the effect of the landfill to be measured.

(b) Discharges from detention ponds for storm water shall be sampled at the point of discharge to waters of the state or from the property, whichever is closer to the detention pond.

(c) The details concerning the sampling locations and the analysis requirements shall be specified in the water quality monitoring plan. Each monitoring location shall be marked and its position shall be determined by a registered Florida land surveyor in degrees, minutes and seconds of

17-701.510(3)(d)3.(cont'd.) - 17-701.510(4)(c)

latitude and longitude and Universal Transverse Mercator coordinates.

(5) Leachate sampling. The water quality monitoring plan shall specify the location of, and proposed protocol for, landfill leachate sampling to obtain a representative characterization of the leachate composition in the leachate collection and removal system as the leachate comes from the wastes and before it is subjected to conditions that may change the characteristics of the leachate. All sampling points shall be located to minimize pumping of leachate before sampling.

(6) Routine sampling frequency and requirements. Except as otherwise specified in a Department permit or order or in subsection (7) of this section, frequency of sampling and analysis shall comply with the following. However, the owner or operator of a solid waste disposal unit may request approval from the Department to delete specific monitoring parameters or field parameters from routine analyses of detection wells and surface water if these parameters are not reasonably expected to be in or derived from the waste contained in the unit.

(a) Background water quality.

1. Background water quality for a proposed landfill shall be determined by analysis of at least one water sample taken from each well that was installed, and each surface water monitoring location that was established, during the site hydrogeological investigation. The water quality information shall be submitted to the Department as part of the supporting information for the permit application.

2. Sampling and analysis for background ground water quality shall be for the parameters listed in paragraphs (8)(a) and (8)(d) of this section.

3. Sampling and analysis for background surface water quality shall be for the parameters listed in paragraph (8)(b) of this section.

(b) Leachate sampling.

1. Leachate shall be sampled and analyzed semi-annually for the parameters listed in paragraph (8)(c) of this section. In addition, leachate shall be sampled and analyzed annually for the parameters listed in paragraph (8)(d) of this section.

2. For landfills which are receiving waste, if this annual analysis indicates that a contaminant listed in 40 CFR 261.24 exceeds the regulatory level listed therein, the permittee shall initiate monthly sampling and analysis and shall notify the Department in writing. If in any three consecutive months the same listed contaminant exceeds the regulatory level, the permittee shall notify the Department and shall, within 90 days, initiate a program designed to

17-701.510(4)(c)(cont'd.) - 17-701.510(4)(b)2.

identify the source and reduce the presence of the contaminant in the leachate so that it no longer exceeds the regulatory level. This program may include additional monitoring of waste received and additional up-front separation of waste materials. The permittee shall coordinate with the Department regarding implementation of the program. Any leachate which is not recirculated or taken to a permitted domestic wastewater treatment facility shall be treated or managed so that no contaminant exceeds the regulatory level. If in any three consecutive months no listed contaminant is found to exceed the regulatory level, the permittee may discontinue the monthly sampling and analysis and return to a routine sampling schedule.

(c) All detection wells, and a representative sample of background wells, shall be sampled and analyzed for the ground water parameters listed in paragraph (8)(a) of this section, in accordance with the water quality monitoring plan. For lined landfills, this shall be done at least semi-annually.

(d) Surface waters shall be sampled and analyzed semi-annually for the parameters listed in paragraph (8)(b) of this section, in accordance with the water quality monitoring plan.

(7) Assessment monitoring and corrective action.

(a) Assessment monitoring. If monitoring parameters are detected in detection wells in concentrations which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 17-520, F.A.C., the permittee may resample the wells within 15 days after the sampling data is received, to confirm the data. Should the permittee choose not to resample, the Department will consider the water quality analysis as representative of current ground water conditions at the facility. If the data is confirmed, or if the permittee chooses not to resample, the permittee shall notify the Department in writing within 14 days of this finding. Upon notification by the Department, the permittee shall initiate assessment monitoring as follows:

1. Routine monitoring of all monitoring wells, surface water monitoring locations and leachate sampling locations shall continue according to the requirements of subsection (6) of this section.

2. Within 90 days of initiating assessment monitoring and annually thereafter, the permittee shall sample and analyze a representative sample of the background wells and all affected detection wells for the parameters listed in paragraph (8)(d) of this section. Any new parameters detected and confirmed in the affected downgradient wells

shall be added to the routine ground water monitoring parameter lists required in subsection (6) of this section.

3. Within 90 days of initiating assessment monitoring, the permittee shall install and sample compliance monitoring wells at the compliance line of the zone of discharge and downgradient from the affected detection monitoring wells. These wells shall be installed according to the requirements of paragraph (3)(d) of this section, and samples shall be analyzed quarterly for the parameters listed in paragraphs (8)(a) and (d) of this section.

4. Within 180 days of initiating assessment monitoring, the permittee shall submit a contamination assessment plan to the Department. This plan shall be designed to delineate to the extent and cause of the contamination, in order to predict the likelihood that Department water quality standards will be violated outside the zone of discharge, and to evaluate methods to prevent any such violations.

Upon approval by the Department, the permittee shall implement this plan and submit a contamination assessment report in accordance with the plan. All reasonable efforts shall be made by the permittee to prevent further degradation of water quality from the landfill activities.

5. If for two consecutive sampling events the concentrations of all parameters listed in paragraphs (8)(a) and (d) of this section are at or below background values, the permittee, upon approval by the Department, may discontinue assessment monitoring and return to the routine monitoring requirements in subsection (6) of this section.

(b) Corrective actions.

1. If the contamination assessment report indicates that water quality standards are likely to be violated outside the zone of discharge, the permittee shall, within 90 days, submit a remedial action plan to the Department. Upon approval, the permittee shall initiate corrective actions to prevent such violations.

2. If any contaminants are detected and confirmed in compliance wells in concentrations which exceed both background levels and Department water quality standards or criteria, or are detected and confirmed in detection wells in concentrations which are above Department water quality minimum criteria, the permittee shall notify the Department within 14 days of this finding and shall initiate corrective actions. Assessment monitoring shall continue according to the requirements of paragraph (7)(a) of this section.

(8) Water quality parameters. The following list of water quality monitoring parameters shall be used for each type of sampling to be done.

17-701.510(7)(a)2.(cont'd.) - 17-701.510(8)

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(a) Ground water monitoring parameters:

Field parameters
 Static water level in wells
 before purging
 Specific conductivity
 pH
 Dissolved oxygen
 Turbidity
 Temperature
 Colors and sheens
 (by observation)

Those parameters listed
 in 40 CFR Part 258 Appendix I

(b) Surface water monitoring parameters:

Field parameters
 Specific conductivity
 pH
 Dissolved oxygen
 Turbidity
 Temperature
 Colors, sheens
 (by observation)

Laboratory parameters
 Unionized ammonia
 Total hardness
 Biochemical oxygen
 demand (BOD₅)
 Copper
 Iron
 Mercury
 Nitrate
 Zinc
 Total dissolved solids
 (TDS)
 Total organic carbon
 (TOC)
 Fecal coliform
 Total phosphates
 Chlorophyll A
 Total nitrogen
 Chemical oxygen demand
 (COD)
 Ultimate BOD
 Total suspended solids
 (TSS)

Those parameters listed in 40
 CFR Part 258 Appendix I

(c) Leachate monitoring parameters:

Field parameters
 Specific conductivity
 pH
 Dissolved oxygen
 Colors, sheens

Those parameters listed in 40
 CFR Part 258 Appendix I

(d) Those parameters listed in 40 CFR Part 258, Appendix

II. (9) Water quality monitoring reporting.
 (a) The landfill owner or operator shall report all water quality and leachate monitoring results to the Department semi-annually, unless a different monitoring frequency is specified in the permit. The operator of the landfill shall notify the Department at least 14 days before the sampling is scheduled to occur so that the Department may collect split samples. The report shall include at least the following:
 1. The facility name and identification number, sample collection dates, and analysis dates;
 2. All analytical results, including all peaks even if below maximum contaminant levels;
 3. Identification number and designation of all surface water and ground water monitoring points;
 4. Applicable water quality standards;
 5. Quality assurance, quality control notations;
 6. Method detection limits;
 7. STORET code numbers for all parameters;
 8. Water levels recorded prior to evaluating wells or sample collection. Elevation reference shall include the top of the well casing and land surface at each well site at a precision of plus or minus 0.01 foot (NGVD); and
 9. An updated ground water table contour map, with contours at no greater than one-foot intervals, which indicates ground water elevations and flow direction; and
 10. A summary of any water quality standards or criteria that are exceeded;

17-701.510(8)(c) - 17-701.510(9)(a)10.

(b) A technical report, prepared, signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations, shall be submitted to the Department every two years, and shall be updated at the time of permit renewal. The report shall summarize and interpret the water quality data and water level measurements collected during the past two years. The report shall contain, at a minimum, the following:

1. Tabular and graphical displays of any data which shows that a monitoring parameter has been detected, including hydrographs for all monitor wells;
2. Trend analyses of any monitoring parameters detected;
3. Comparisons among shallow, middle, and deep zone wells;
4. Comparisons between upgradient and downgradient wells;
5. Correlations between related parameters such as total dissolved solids and specific conductance;
6. Discussion of erratic and/or poorly correlated data;
7. An interpretation of the ground water contour maps, including an evaluation of ground water flow rates; and
8. An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.

(c) All field and laboratory records specified in Rules 17-160.600 - .630, F.A.C., shall be made available to the Department and be retained for the design period of the landfill.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.702, 403.704, 403.707, F.S.
History: New 1-6-93; Amended 1-2-94.

17-701.520 Special Waste Handling.

(1) Motor vehicles. Motor vehicles that are brought to a landfill may be stored temporarily in a separate area until they are removed for recycling. If vehicles cannot be recycled, all fluids and batteries shall be removed from the vehicles and they shall be compacted to minimize voids before being placed in the Class I area.

(2) Disaster debris. In the event of a natural disaster, during which large volumes of debris are accumulated (such as trees and buildings that have been destroyed) the debris may be transported to an area remote from habitation and burned in accordance with Rule 17-256, F.A.C.

(3) Landfilling shredded waste. Landfilling shredded solid waste without daily soil cover may be an environmentally acceptable method of final disposal at a landfill that meets the requirements of Rule 17-701.340,

17-701.510(9)(b) - 17-701.520(3)

F.A.C. A properly designed and operated shredding facility shall be approved by the Department contingent upon the following conditions:

(a) Particle size. Seventy percent of all shredded waste, dry weight, shall be capable of passing through a three-inch screen.

(b) Waste shall be spread to a smooth contour and compacted promptly after placement and left undisturbed to prevent odors. Blowing of shredded waste by the wind shall be controlled.

(c) All solid waste storage areas in the shredding facility shall be maintained and cleaned at the end of each day's operations or during continuous operations. As necessary, to prevent disease vector problems, all equipment shall be designed and maintained to control spillage and to achieve the required product quality.

(d) An operational plan shall include provisions for removal and proper disposal of wastes within 24 hours should the shredding facility breakdown or operational quality be diminished. The operational plan shall include provision for a stock pile of emergency soil cover material and a plan to convert the operation to a conventional landfill operation.

(e) Shredded waste disposal units that fill design dimensions shall be closed in accordance with Rule 17-701.600, F.A.C.

(4) Asbestos waste disposal.

(a) Asbestos-containing waste materials may be accepted for disposal at a permitted Class I, II, or III landfill. Each active waste disposal site that receives

asbestos-containing waste material from a source covered under the National Emission Standards for Asbestos, 40 CFR Part 61, Subpart M, shall meet the requirements of 40 CFR Part 61.154, which are incorporated by reference herein. For purposes of this rule, the term "Administrator," when used in 40 CFR Part 61.154, shall mean Secretary of the Department of Environmental Regulation.

(b) The waste generator shall make arrangements with the landfill operator before disposal of such regulated asbestos-containing waste materials, and inform the operator of the quantity of the waste and the scheduled date the shipment will arrive at the landfill.

(c) The landfill operator shall direct the waste transporter to the designated disposal location. The disposal location shall be recorded in accordance with 40 CFR Part 61.154, and a record of the asbestos location shall be maintained.

17-701.520(3) (cont'd.) - 17-701.520(4)(c)

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(5) Contaminated soil. Soil which has been contaminated with petroleum products or any other products which are not hazardous wastes may be disposed of in permitted, lined landfills. Petroleum contaminated soil which has been treated pursuant to Chapter 17-775, F.A.C., may be disposed of at permitted disposal facilities and may, if it meets the criteria of Rules 17-701.200(24), (37), and (38), F.A.C., be used as cover material at permitted landfills.

(6) Ash residue. Ash residue from the burning of solid waste shall be managed in accordance with Chapter 17-702, F.A.C. Ash residue which meets the criteria of Rules 17-702.570(6) and 17-701.200(37), F.A.C., may be used as initial cover at permitted, lined landfills.

Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.07, 10-1-74, Amended 5-24-79, 11-25-82, 7-10-84, 12-10-85, Formerly 17-7.06, 17-7.060, 17-701.060, Amended 1-6-93, 1-2-94.

17-701.600 Landfill Final Closure.

(1) Applicability.

(a) Inactive landfills.

1. Landfills or solid waste disposal units which were closed in a manner approved by the Department prior to January 6, 1993, or which have received final cover before July 1, 1985, are exempt from the requirements of this section.

2. Owners or operators of landfills or solid waste disposal units which were no longer receiving wastes on January 6, 1993, which have not been closed in a manner approved by the Department, and which do not have an approved closure plan or closure permit shall comply with this section by January 6, 1994.

3. Owners or operators of landfills or solid waste disposal units which were no longer receiving wastes on January 6, 1993, which have not been closed in a manner approved by the Department, and which do have an approved closure plan or closure permit are exempt from the requirements of this section as long as the closure plan or closure permit is complied with.

(b) Active landfills. Landfills or solid waste disposal units which receive wastes after January 6, 1993, shall comply with the requirements of this section. Owners or operators of active landfills or solid waste disposal units which have an approved closure plan or closure permit on January 6, 1993 shall apply for modification of their plan

17-701.520(5) - 17-701.600(1)(b)

or permit to comply with this section by January 6, 1994, or, if the landfill or solid waste disposal unit is not scheduled to close before the existing operation permit expires, at the time of permit renewal. Landfills or solid waste disposal units which are operating under a Department consent agreement, which have a closure permit, and which cease accepting wastes on or before December 1, 1992, are exempt from the requirements of this section except for Rule 17-701.600(5)(g), F.A.C.

(2) Closure schedule.

(a) At least one year prior to the projected date when wastes will no longer be accepted or when all solid waste disposal units are expected to reach design dimensions, the owner or operator shall provide a written notice to the Department with a schedule for cessation of waste acceptance and closure of the landfill. The closure schedule shall become an addendum to the landfill permit. If unforeseen circumstances do not allow the one-year notification, notice shall be provided as soon as the need to close the facility becomes apparent.

(b) Notice and advice to users. At least 120 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall advise users of the intent to close the landfill by posting signs at the entrance of the landfill giving the date of closing, the location of alternative disposal facilities, and the name of the person responsible for closing the landfill. These signs shall be maintained throughout the closing period. If unforeseen circumstances do not allow the 120 day notice to users, notice shall be provided as soon as the need to close the facility becomes apparent.

(c) Notice to the public. Within 10 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall publish a notice of the landfill closing in the legal advertising section of a newspaper of general circulation in the county where the activity is proposed, and shall provide proof of publication to the Department within seven days of publication.

(3) Closure permit requirements. The owner or operator shall submit an application to the Department for final closure of the landfill at least 90 days before the date when wastes will no longer be accepted. The application shall be on Form 17-701.900(1). If the landfill is operating under a Department permit, the owner or operator shall request a modification of the permit in lieu of submitting a closure permit application. The application or request for modification shall include a closure plan which is made up of the following:

17-701.600(1)(b) (cont'd.) - 17-701.600(3)

- (a) A closure report;
- (b) A closure design plan;
- (c) A closure operation plan;
- (d) Closure procedures;
- (e) A plan for long-term care; and
- (f) A demonstration that proof of financial responsibility for long-term care will be provided.
- (4) Closure report. A report on the final closure of the landfill shall address the following requirements, or shall contain an explanation of why the requirement is not applicable:
- (a) General landfill information which shall contain:
1. Identification of the landfill;
 2. Location, description and vicinity map;
 3. Total acreage of waste disposal areas and total acreage of landfill property;
 4. Legal description of property on which the landfill is located;
 5. History of the landfill including dates of construction and a description of the location and sequence of fill operations; and
 6. Identification of types of waste disposed of in the completed landfill based on records, composition studies, operator memory, major waste depositors, or other information sources.
- (b) The geotechnical investigation report and water quality monitoring plan required in Rule 17-701.330(a), F.A.C.
- (c) Land use information which shall contain a discussion and maps indicating:
1. Identification of adjacent landowners;
 2. Zoning;
 3. Present land uses; and
 4. Roads, highways, rights-of-way, or easements.
- (d) A report on actual or potential gas migration in landfills that contain biodegradable wastes disposed of in porous soils which would allow migration of gas off the landfill property. Gas migration test points shall be located along property boundaries, particularly those adjacent to off-site occupied structures within 100 feet of the property boundary or where distressed vegetation is present. Test points are required along each boundary segment spaced as needed to detect gas migration. Test points shall extend at least three feet below ground surface. Where sand, gravel, or more gas permeable soil strata may interconnect the waste deposit and the property boundary, multiple depth sampling points are necessary to

17-701.600(3)(a) - 17-701.600(4)(d)

draw gas samples from the permeable layers. Methane concentrations shall be determined as a percent of the lower explosive limit. Methane concentrations shall not exceed the lower explosive limit at the property boundary or 25 percent of the limit within structures on the property.

(e) An assessment of the effectiveness of the landfill design and operation, which shall provide information about the effects of the landfill on adjacent ground and surface waters, and the landfill area. Specific concerns to be discussed are:

1. Results of the geotechnical investigation;
 2. Effects of surface water runoff, drainage patterns, and storm water controls;
 3. Extent and effects of methane gas migration, lower explosive limit percentage readings in migration paths, and description of the gas venting system;
 4. Condition of existing cover, thicknesses and types of soils or materials used for cover, and effectiveness of cover material as a leachate control mechanism; and
 5. The nature and characteristics of the waste disposed of at the landfill.
- (5) Closure design. The closure design plan shall consist of engineering plans and a report on closing procedures that apply to the final closing of solid waste disposal units during the operation of the landfill, the final closing of the landfill, and the monitoring and maintenance during the long-term care period. The closure design plan shall include the following information:
- (a) A plan sheet showing phases of site closing.
 - (b) Drawings showing existing topography and proposed final grades.
 - (c) Provisions to close solid waste disposal units within the landfill as soon as they reach approved design dimensions and elevations and to finally close the landfill in accordance with the requirements of this rule. Landfills that are designed to be constructed in phases or sections shall include provisions for temporary closure of solid waste disposal units if subsequent, planned filling on top of them will not occur for six months or longer.
 - (d) Final elevations before settlement, based upon the capability of the foundation to support the total weight of the landfills, including water loading.
 - (e) Final side slope design. Side slopes of above-ground disposal units shall not be steeper than three feet horizontal to one foot vertical rise to control erosion of the final cover material. Such units shall incorporate reverse sloping benches or terraces into the side slopes of

17-701.600(4)(d) (cont'd.) - 17-701.600(5)(e)

the landfill and shall contain down slope drainage ways with water flow energy dissipaters. Access for maintenance equipment shall be provided. Such designs shall address the susceptibility for erosion of the earthen material that is proposed for final cover relative to historical rainfall patterns for the area, the period between the patterns for the area, the period between the application of the final cover and establishment of vegetation, and maintenance procedures.

(f) Final cover installation plans showing the sequence of applying final cover. All areas filled with waste shall have a final cover designed to minimize infiltration of rainfall and subsequent generation of leachate, based on water balance calculations and leachate controls used.

1. The final cover shall be installed and tested in accordance with a construction quality assurance plan which meets the requirements of Rules 17-701.400(7) and (8), F.A.C.

2. Final cover shall be placed over the entire surface of each completed solid waste disposal unit or units within 180 days after the final waste deposit, or within the time frame set forth in the approved closure plan. The final cover shall be vegetated with drought-resistant species to control erosion. The final cover is intended to be a moisture infiltration seal, therefore vegetational species planted shall be drought resistant and such that the roots will not penetrate the seal and thus provide a channel for moisture infiltration.

3. Top gradients of final cover on landfill areas shall be graded to maximize runoff and minimize erosion, considering total fill height and expected subsidence caused by decomposing waste, and shall be designed to prevent ponding or low spots.

4. The closure design plan shall describe provisions for cover material for the long-term care erosion control, filling areas of subsidence or other depressions, maintaining berms, and general maintenance of the facility, and specify the anticipated source and amount of material necessary for proper closure of the landfill.

(g) Final cover design.

1. Landfills shall have a final cover designed to minimize infiltration and erosion, which shall include a barrier layer consisting of a soil layer, a geomembrane, or a combination of a geomembrane with a low permeability material. For lined Class I and Class II landfills, the barrier layer shall have a permeability which is substantially equivalent to, or less than, the permeability of the bottom liner system. If the landfill uses a

17-701.600(5)(e) (cont'd.) - 17-701.600(5)(g)1.

geomembrane in the bottom liner system, the barrier layer shall also incorporate a geomembrane. For unlined Class I and Class II landfills, the barrier layer shall have a permeability of 1×10^{-7} cm/sec or less. For Class III landfills, the barrier layer shall have a permeability of 1×10^{-5} cm/sec or less.

2. If the the barrier layer consists only of soil, it shall be at least 18 inches thick, emplaced in 6-inch thick lifts, and shall have a final, 18-inch thick layer of soil that will sustain vegetation to control erosion placed on top of the barrier layer.

3. If a geomembrane is used in the barrier layer, it shall be a semi-crystalline thermoplastic at least 40 mils thick or a non-crystalline thermoplastic at least 30 mils thick with a maximum water vapor transmission rate of 2.4 g/(m² x day), have chemical and physical resistance to materials it may come in contact with, and withstand exposure to the natural environmental stresses and forces throughout the installation, seaming process, and settlement of the waste during the closure and long-term care period. A protective soil layer at least 24 inches thick shall be put on top of the geomembrane. Material specifications, installation methods, and compaction specifications shall be adequate to protect the barrier layer from root penetration, resist erosion, and remain stable on the final design slopes of the landfill. This layer shall include top soil or soils that will sustain vegetative growth. In some cases, a drainage layer may be required between the cap (soil and geomembrane layer) and the top soil layer.

4. An applicant may use an alternate design for the barrier layer, or parts of the barrier layer, upon a demonstration that the alternate design will result in a substantially equivalent rate of storm water infiltration through the final cover. Any alternate design shall be reviewed by the Department as part of its review of the closure design plan.

5. Nothing herein shall preclude the Department from requiring more stringent final or temporary cover designs in a permit or consent order if necessary to protect the public health or the environment because of the nature of wastes received or site specific geological or hydrogeological conditions, or if the landfill has not been adequately constructed, operated, maintained, or closed.

(h) Proposed method of stormwater control. Stormwater occurring on the landfill property and from areas adjacent to the landfill property shall be prevented from coming onto or into waste filled areas. The closure design plan shall demonstrate compliance with Chapter 17-25, F.A.C.

17-701.600(5)(g)1.(cont'd.) - 17-701.600(5)(h)

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(i) Proposed method of access control. The closure design plan shall show how access to the closed landfill shall be restricted to prevent any future waste dumping or use of the facility by unauthorized persons. Restricted access shall remain in force until the landfill is stabilized and there is no evidence that facility property is being used as an unauthorized disposal site. If use of the property during the long-term care period is planned, access shall be restricted until landfill closing is completed and approved by the Department.

(j) A description of any proposed final use of the landfill property.

(k) Closure operation plan. The closure operation plan shall:

(a) Describe the actions which will be taken to close the landfill, such as placement of cover, grading, construction of berms, ditches, roads, retention-detention ponds, installation or closure of wells and boreholes, installation of fencing, seeding of vegetation, and protection of on-site utilities and easements;

(b) Provide a time schedule for completion of the closing and long-term care;

(c) Contain appropriate references to the closure design and other supporting documents;

(d) Describe the proposed method of demonstrating financial responsibility for the long term monitoring and maintenance; and

(e) Provide for the development and implementation of the water quality monitoring plan required in Rule

17-701.510, F.A.C.;

(f) Provide for the development and implementation of the routine gas monitoring program required in Rule

17-701.400(10)(c), F.A.C.;

(g) Indicate any additional equipment and personnel needed to complete closure of the landfill.

(7) Temporary closure.

(a) Placement of final cover over a solid waste disposal unit may be delayed for a period of time specified in an approved closure plan for the following reasons:

1. For the purpose of promoting biological degradation of waste;

2. If additional solid waste will be deposited on the solid waste disposal unit within five years; or

3. If excavation of the waste is planned.

(b) Placement of final cover may be delayed only if the solid waste disposal unit is temporarily closed in accordance with an approved closure plan. Conditions of temporary closure shall include:

17-701.600(5)(i) - 17-701.600(7)(b)

1. The solid waste disposal unit was constructed in compliance with its permit conditions, and has a liner and leachate control system;

2. A schedule for closure is shown in the closure plan application;

3. Final cover is installed on side slopes of each completed disposal unit which will not receive additional waste or which will not be mined, and all areas visible to the public are closed and landscaped;

4. Odors and disease vectors are controlled;

5. An intermediate cover is installed on the solid waste disposal unit;

6. The financial responsibility requirements of Rule 17-701.630, F.A.C., are met, and the closure cost estimate takes into account the costs of temporary closure as well as the costs of the final closure; and

7. The landfill owner or operator demonstrates that delaying placement of final cover will not cause or contribute to any significant increase in leachate escaping from the solid waste disposal unit into the environment.

(c) In addition, a solid waste disposal unit which will be mined in the future shall have a temporary final cover installed.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93; Amended 1-2-94.

17-701.610 Closure Procedures.

(1) Closing inspections. The Department shall specify in the closure permit which particular closing steps or operations must be inspected and approved by the Department before proceeding with subsequent closure actions.

(2) Survey monuments. For landfills with a final elevation of less than 20 feet above the natural land surface, concrete monuments shall be installed to mark the boundaries of the landfill property and other permanent markers shall be installed to outline the general waste filled areas. These markers shall be tied to one or more of the boundary markers by a survey performed by an engineer or a registered land surveyor. The location and elevation of all markers shall be shown on a site plan filed with the "Declaration to the Public" described in subsection (5) of this section.

(3) Final survey report. When landfill operations have been conducted which have raised the final elevations higher than 20 feet above the natural land surface, a final survey shall be performed after closure is complete by an engineer or a registered land surveyor to verify that final contours

17-701.600(7)(b)1. - 17-701.610(3)

retains regulatory control over any activities which may affect the integrity of the environmental protection measures such as the landfill cover, drainage, liners, monitoring system, or leachate and stormwater controls. Consultation with the Department is required prior to conducting activities at the closed landfills.

Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85, Formerly 17-7.074, Formerly 17-701.074, Amended 1-6-93, 1-2-94.

17-701.620 Long-Term Care. The owner or operator of any landfill which receives wastes after January 6, 1993, shall continue to monitor and maintain the integrity and effectiveness of the final cover as well as other appurtenances of the facility in accordance with an approved closure plan for 30 years from the date of closing. Before the expiration of the long-term care monitoring and maintenance period, the Department may extend the time period if the closure design or closure operation plan is found to be ineffective.

(2) Reduced long-term care period. The owner or operator of a landfill may apply to the Department for a reduced long-term care schedule if reasonable assurance is provided to the Department that there is no threat to human health or the environment and if the landfill:

(a) Has been constructed and operated in accordance with approved standards, and has a leachate control system and a liner;
(b) Was closed with appropriate final cover, vegetative cover has been established, and a monitoring system has been installed;

(c) Has a 10-year history after closure of no violations of water quality standards or criteria detected in the monitoring system, and no increases over background water for any monitoring parameters which may be expected to result in violations of water quality standards or criteria; and

(d) Has had no detrimental erosion of cover, and subsidence of waste has ceased.

(3) Modified ground water monitoring plan. The owner or operator of a landfill may apply to the Department for a modification to their ground water monitoring plan to remove a parameter from the list specified in Rule 17-701.510(8), F.A.C., if the parameter has never been detected in the leachate or in any ground water well or surface water point during the active life of the landfill.

17-701.610(7)(cont'd.) - 17-701.620(3)

and elevations of the facility are in accordance with the plans as approved in the permit. Aerial mapping techniques which provide equivalent survey accuracy may be substituted for the survey. The survey or aerial mapping information shall be included in the report along with information reflecting the conditions of the landfill as constructed. Contours shall be shown at no greater than five-foot intervals. The landfill owner or operator shall submit this report to the Department in accordance with the closing schedule.

(4) Certification of closure construction completion. A certification of closure construction completion, signed, dated and sealed by a professional engineer independent of the contractor, shall be provided to the Department upon completion of closure. All substantial deviations from the permitted closure plans shall be noted.

(5) Declaration to the public. After closing operations are inspected and approved by the Department, the landfill owner or operator shall file a declaration to the public in the deed records in the office of the county clerk of the county in which the landfill is located. The declaration shall include a legal description of the property on which the landfill is located and a site plan specifying the area actually filled with solid waste. The declaration shall also include a notice that any future owner or user of the site should consult with the Department prior to planning or initiating any activity involving the disturbance of the landfill cover, monitoring system or other control structures. A certified copy of the declaration shall be filed with the Department.

(6) Official date of closing. Upon receipt of the documents required in subsections (3), (4), and (5) of this section, the Department shall, within 30 days, acknowledge by letter to the facility operator that notice of termination of operations and closing of the facility has been received. If the entire landfill has been closed, the date of this letter shall be the official date of landfill closing for the purpose of determining the long-term care period. If only a portion of the landfill has been closed, the long-term care period will begin upon the closing of the entire landfill, unless the portion which has been closed can be monitored and maintained separately from the rest of the landfill. The date of this letter shall be the official date of landfill closing for the purpose of determining the long-term care period.

(7) Use of closed landfill areas. Closed landfill areas, if disturbed, are a potential hazard to public health, ground water and the environment. The Department

17-701.610(3)(cont'd.) - 17-701.610(7)

(4) Right of access. The landfill owner or operator shall possess or acquire a sufficient interest in, or a right to use, the property for which a permit is issued, including the access route onto the property to carry out the requirements of this rule. The permittee shall retain the right of entry to the landfill property for the long-term care period, after termination of solid waste operations, for inspection, monitoring and maintenance of the site.

(5) Successors in interest. Any person acquiring rights or ownership, possession or operation of a permitted landfill through lease or transfer of property shall be subject to all requirements of the permit for the facility and shall provide any required proof of financial responsibility to the Department in accordance with this rule. Any lease or transfer of property shall include specific conditions to delineate:

(a) The previous owner or operator is responsible for closure and shall maintain any required proof of financial responsibility until the person acquiring ownership, possession or operation of the landfill establishes the required proof of financial responsibility with the Department;

(b) Responsibility for the continuance of monitoring, maintenance, and correction of deficiencies or problems; and

(c) Mineral rights attached to the property and the rights to any recoverable materials that may be buried on the property or landfill gases that may be produced. A Department permit shall be required if any on-site operations subsequent to closing of a landfill involve disturbing the landfill.

(6) Transfer of permit. Transfer of a landfill permit shall be in accordance with the provisions of Rule 17-4.120, F.A.C., and this rule.

(7) Replacement of monitoring devices. If a monitoring well or other device required by the monitoring plan is destroyed or fails to operate for any reason, the landfill owner or operator shall, immediately upon discovery, notify the Department in writing. All inoperative monitoring devices shall be replaced with functioning devices within 60 days of the discovery of the malfunctioning unit unless the landfill owner or operator is notified otherwise in writing by the Department.

(8) Following completion of the long-term care period for each solid waste management unit, the owner or operator shall notify the Department that a certification, signed and sealed by a professional engineer, verifying that long-term

17-701.620(4) - 17-701.620(8)

care has been completed in accordance with the closure plan has been placed in the operating record.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85, Formerly 17-7.075, Formerly 17-701.075, Amended 1-6-93, 1-2-94.

17-701.630 Financial Assurance.

(1) Definitions. As used in this section:

(a) "Owner or operator" means, in addition to the usual meanings of the term, any owner of record of any interest in land whereon a landfill is or has been located and any person or corporation which owns a majority interest in any other corporation which is the owner or operator of a landfill.

(b) "Active life" means the operating life of the landfill as estimated in the construction permit or closure plan, but does not include the long-term care period.

(2) Applicability.

(a) A government-owned landfill closed on or before October 1, 1988, shall not be required to comply with this rule.

(b) As a condition for the issuance of a landfill construction permit, the owner or operator shall describe the financial mechanism to be used to demonstrate proof of the financial assurance to the Department. The financial mechanisms shall be created, and alternate financial mechanisms shall be fully funded, at least 60 days prior to the acceptance of any solid waste at the facility. The financial mechanism shall either be:

1. A landfill management escrow account; or

2. An alternate financial mechanism pursuant to subsection (6) of this section.

(c) Owners or operators of existing landfills or landfills which have received a construction permit prior to November 28, 1989, shall submit proof of financial assurance to the Department by October 1, 1990. Such proof shall be:

1. That a landfill management escrow account has been established and that such account and interest thereon is current as to the required level of funding pursuant to subsection (5) of this section; or,

2. Proof of the existence and current value of an alternate financial mechanism pursuant to subsection (6) of this section.

(d) Owners or operators of existing Class I or II landfills receiving waste after October 9, 1993, which are required to undertake a corrective action program in

17-701.620(8) (cont'd.) - 17-701.630(2)(d)

accordance with Rule 17-701.510(7), F.A.C., shall submit proof of financial assurance to the Department by April 4, 1994, or no later than 120 days after the corrective action remedy has been selected, whichever is later.

(3) Cost estimates for closure.

(a) For the purposes of determining the amount of proof of financial assurance that is required in subsections (5) and (6) of this section, the owner or operator shall estimate the total cost of closure for the permitted portions of the landfill or for those portions of the landfill for which a construction permit is sought, for the time period in which the landfill operation when the extent and manner of its operation make closing most expensive. The annual cost of long-term care shall be estimated and listed separately, and multiplied by 30 years. The owner or operator shall submit the estimates, together with all necessary justification, to the Department for approval along with the proof of financial assurance. The costs shall be estimated by a professional engineer for a third party performing the work, on a per unit basis, with the source of estimates indicated.

(b) Closing costs shall be based on the nature and characteristics of the wastes disposed of at the site and shall include estimated costs of cover material, topsoil, seeding, fertilizing, mulching, labor, and any other costs of compliance with Rules 17-701.600 - .610, F.A.C.

(c) Long-term care costs shall include land surface care; gas monitoring; leachate pumping, transportation, monitoring and treatment; groundwater monitoring, collection and analysis; and any other costs of compliance with Rule 17-701.620, F.A.C.

(4) Annual cost adjustments for closure.

(a) Every owner or operator of a landfill shall submit to the Department an annual cost adjustment statement, certified by a professional engineer. Closing and long-term care costs shall be listed separately. For owners or operators using an escrow account, this statement shall be submitted between July 1 and September 1 of each year.

(b) During the life of those portions of the landfill which have not been finally closed, as well as during the long-term care period, the owner or operator shall revise the closure cost estimate for inflation and changes in the closing and long-term care plan. Such revisions shall be made annually in accordance with the provisions of 40 CFR Part 264.142(b) or 40 CFR Part 264.144(b) and used as the basis for comparison against the balance in the landfill management escrow account or the value of an alternate funding mechanism.

17-701.630(2)(d)(cont'd.) - 17-701.630(4)(b)

(c) If the value of the alternate funding mechanism is less than the total amount of the current closure cost estimate, the owner or operator shall revise the funding mechanisms to reflect the new estimate within the time frames outlined in 40 CFR Part 264, Subpart H.

(d) If the value of the landfill management escrow account or alternate funding mechanism is greater than the total amount of the current closure cost estimate, the owner or operator may reduce the value of the account or funding mechanism to reflect the new estimate.

(e) If the closure cost estimate must be increased as a direct result of amendments to this chapter after January 2, 1994, the owner or operator, upon notification to and approval of the Department, may delay updating the annual cost adjustment statement to reflect this increase for up to two years.

(5) Landfill management escrow account.

(a) The owner or operator of a landfill shall establish a fee, or a surcharge on existing fees, or other appropriate revenue-producing mechanism, to ensure the availability of financial resources for the proper closing and long-term care of the landfill.

(b) The revenue-producing mechanism shall produce revenue at a rate sufficient to generate funds to meet state landfill closure requirements.

(c) The revenue shall be deposited in an interest-bearing escrow account, the landfill management escrow account, to be held and administered by the owner or operator. The owner or operator shall file with the Department a signed duplicate original of the escrow account agreement and an annual audit of the account. The audit shall be conducted by an independent Certified Public Accountant and shall be filed no later than December 31 of each year. Counties using a Single Audit accounting system shall file this audit by March 31 of the following year.

The audit shall consist of reporting the balance in the landfill management escrow account as of the end of each fiscal year and a list of all deposits and withdrawals made. The list shall include the date and the amount of each deposit and withdrawal.

(d) Payments into the landfill management escrow account shall be made by the owner or operator at least annually according to one of the following methods:

1. For a new landfill, the first payment must be made before the end of the first year after the initial receipt of solid waste into the landfill. A notice of such payment shall be submitted to the Department. The first payment shall be equal to the current closing cost estimate for the

17-701.630(4)(c) - 17-701.630(5)(d)1.

landfill divided by the number of years in the active life of the landfill. Subsequent payments must be made at least annually, over the term of the active life of the landfill, on the anniversary date of the first payment. The calculations for such annual payment shall be as follows:

payment = $(CE - CV) / Y$, where CE is the current calculated closure cost estimate, CV is the current value of the escrow account, and Y is the number of remaining years in the active life of the landfill.

2. For government-owned landfills, the owner or operator shall deposit into the escrow account, at the time of closing and each year thereafter, sufficient funds to cover the following year's long-term care costs. In addition, the owner or operator must document specifically how it intends to finance the long-term care of the landfill as part of its closure plan.

3. For landfills not owned by a governmental agency, the long-term care costs shall be included in the closing cost estimates as specified in subparagraph 1. above: long-term care costs must be fully funded when the landfill closes.

4. For an existing government-owned landfill scheduled to close on or before October 1, 1995, no escrow account funding is required for costs associated with the closing of the landfill. Proof of financial assurance for closing costs shall consist of specific documentation of how the owner or operator intends to finance the closing of the landfill. Escrow funding for long-term care shall be provided.

5. The owner or operator may accelerate payments into the landfill management escrow account or may deposit the full amount of the current closure cost estimate at the time that the account is established.

(e) The owner or operator may make expenditures from the account and its accumulated interest only for the purpose of landfill closing and long-term care and, if such expenditures do not deplete the fund to the detriment of eventual closing and long-term care as described under the certification procedure in subsection (4) of this section, for planning and construction of resource recovery or landfill facilities. If the owner or operator does not operate a landfill, any funds remaining in the account after paying for proper and complete closing and long-term care, as determined by the Department, shall be deposited by the owner or operator into the general fund of the local government of jurisdiction.

(f) The revenue generated under this subsection and any accumulated interest thereon may be applied to the payment of, or pledged as security for, the payment of revenue bonds

17-701.630(5)(d)1.(cont'd.) - 17-701.630(5)(f)

issued in whole or in part for the purpose of complying with state landfill closing and long-term care requirements. Such application or pledge may be made directly in the proceedings authorizing such bonds or in an agreement with an insurer of bonds to assure such insurer of additional security therefore.

(6) Alternate proof of financial assurance.

(a) An owner or operator may establish proof of financial assurance with the Department in lieu of, or in combination with, the requirements of subsection (5) of this section. Such proof may include surety bonds, certificates of deposit, securities, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees showing that the owner or operator has sufficient financial resources to cover, at a minimum, the costs of complying with all state landfill closing and long-term care requirements. If such proof of financial assurance is surety bonds, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees, such proof shall be submitted on forms provided by the Department in accordance with the requirements of paragraphs (b) and (c) of this subsection.

If proof of financial assurance is securities or certificates of deposit, these instruments must be used in conjunction with a trust fund and shall be submitted directly to the trustee. The owner or operator shall estimate such costs pursuant to subsection (3) of this section.

(b) 40 CFR Part 264 Subpart H which contains EPA's rules on financial requirements for owners and operators of hazardous waste facilities are hereby adopted as financial requirements for purposes of this section incorporated by reference as those rules appear in 40 CFR 264, revised as of July 1, 1988, except:

1. The following sections of 40 CFR Part 264 Subpart H are specifically not adopted as part of this rule:

a. 264.140(a); 264.140(b); 264.141(a); 264.141(e); 264.147; 264.149; 264.150; and 264.151.

b. All references to 40 CFR Part 265.

c. All references to sections or subparts of 40 CFR 264 not contained in Subpart H.

d. All references to EPA Regions.

e. All references to RCRA, or Section 3008 of RCRA.

2. References in 40 CFR 264 Subpart H to the United States Environmental Protection Agency (EPA) shall mean the State of Florida Department of Environmental Regulation; to the Regional Administrator shall mean the Secretary of the Department; to RCRA permits shall mean solid waste

17-701.630(5)(f)(cont'd.) - 17-701.630(6)(b)2.

2. Subsequent adjustments are made by multiplying the latest adjusted corrective action cost estimate by the latest inflation factor.

(b) During the corrective action period, the owner or operator shall revise the corrective action cost estimate no later than 30 days after the Department has approved the request to modify the corrective action plan. Annual adjustments shall be made and submitted as specified in paragraph (8)(a) of this section.

(c) The owner or operator shall keep the latest corrective action cost estimate and, when this estimate has been adjusted in accordance with paragraph (8)(a) of this section, the latest Department approved adjusted corrective action cost estimate at the facility until the corrective action is complete.

(9) Financial assurance for corrective action.

(a) For government owned landfills, the owner or operator shall demonstrate proof of financial assurance for corrective action with the Department by establishing an escrow account or by using one of the approved alternate mechanisms specified in subsection (6) of this section.

i. Payments into the landfill management escrow account shall be made by the owner or operator according to one of the following methods:

a. The owner or operator shall deposit into the landfill management escrow the full cost associated with the corrective action remedy by April 9, 1994, or within 120 days after the corrective action remedy has been selected, whichever is later; or

b. If the local government can document with specificity a non-general revenue source adequate to cover the total corrective action cost, then only that portion of the corrective action to be undertaken the following year need be funded.

(b) For privately owned landfills, the owner or operator shall demonstrate proof of financial assurance for corrective action with the Department by establishing an escrow account or by using one of the approved alternate mechanisms specified in subsection (6) of this section. The escrow account shall be funded for the full cost associated with the corrective action remedy by April 9, 1994, or within 120 days after the corrective action remedy has been selected, whichever is later. If a trust fund is used, funding shall be in accordance with 40 CFR Part 258.74(a). Specific Authority: 401.704, F.S.

Law Implemented: 401.704, 401.707, F.S.
History: New 7-1/85; Formerly 17-7.076; Amended 11-28-89; Formerly 17-701.076; Amended 1-6-93, 1-2-94.

17-701.630(8)(a)2. - 17-701.630(History)

1-2-94

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management permits; to Post-Closure Care/Post-Closure Cost Estimate shall mean Long-Term Care/Long-Term Care Cost Estimate; to EPA identification number shall mean the Department identification number; to hazardous waste shall mean solid waste; and to hazardous waste treatment, storage or disposal facilities shall mean landfills.

(c) Government-owned facilities using a Single Audit accounting system and providing proof of financial assurance using a financial test, must send updated information outlined in 40 CFR 264.143(f)(5) and 264.145(f)(5) to the Department within 180 days after the close of each succeeding fiscal year.

(d) Form 17-701.900(5) shall be used when submitting proof of financial assurance under this section.

(7) Cost estimates for corrective action. An owner or operator of a landfill required to establish financial assurance for a corrective action program pursuant to paragraph (2)(d) of this section shall have a detailed written estimate in current dollars, estimated by a professional engineer, of the cost of hiring a third party to perform the corrective action in accordance with Rule 17-701.510(7), F.A.C. The corrective action cost estimate must account for the total cost of corrective action activities as described in the corrective action plan for the entire corrective action period. The owner or operator shall submit the estimate, together with all necessary justification, to the Department for approval along with proof of financial assurance.

(8) Annual cost adjustments for corrective action.

(a) The owner or operator shall annually adjust the estimate for inflation and changes in the corrective action plan until the corrective action program is completed in accordance with Rule 17-701.510(7), F.A.C. The adjustment shall be made either by recalculating the maximum cost of corrective action, in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business as specified in subparagraphs (8)(a)1. and 2. of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

1. The first adjustment is made by multiplying the corrective action cost estimate by the inflation factor. The result is the adjusted corrective action cost estimate. Inflation adjusted estimates shall be submitted along with annual closing and/or long-term care cost estimates.

17-701.630(6)(b)2.(cont'd.) - 17-701.630(9)(a)1.

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17-701.640 Closure of Existing Landfills.
 (1) Any Class I or Class II landfill receiving waste on January 2, 1994 shall close by October 9, 1996, in accordance with Rules 17-701.600 - .630, F.A.C., if:
 (a) It is within the airport setbacks specified in Rule 17-701.320(12)(b), F.A.C.; and the owner or operator cannot demonstrate that the facility is designed and will be operated so that it does not pose a bird hazard to aircraft;
 (b) It is located within the 100-year floodplain as specified in Rule 17-701.340(4)(b), F.A.C., unless the owner or operator can demonstrate that it will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; or
 (c) It is located in a fault area, seismic zone, or unstable area as specified in Rule 17-701.420(1)(c), F.A.C., unless the owner or operator can demonstrate that the facility was adequately designed to tolerate the anticipated stresses associated with these areas.
 (2) The Department shall extend the deadline for closure specified in subsection (1) of this section for up to two years if the owner or operator of the landfill demonstrates to the Department that:
 (a) There is no available and practicable alternative disposal capacity; and
 (b) Such extension would result in no immediate threat to human health or the environment.
 (3) Any such demonstrations shall be submitted to the Department for approval no later than July 9, 1996.
 Specific Authority: 403.704, F.S.
 Law Implemented: 403.704, 403.707, F.S.
 History: New 1-2-94.

17-701.700 Materials Recovery Facilities.
 (1) Applicability. No person shall construct or operate a materials recovery facility without a permit issued by the Department.
 (2) Engineering report. A permit application for a materials recovery facility shall include the information required in Rule 17-701.320, F.A.C., and an engineering report that includes:
 (a) A description of the solid waste that is proposed to be collected, stored, processed or disposed of by the facility, a projection of those waste types and quantities expected in future years, and the assumptions used to make the projections;

17-701.640(1) - 17-701.700(2)(a)

(b) A description of the operation and functions of all processing equipment that will be used, with design criteria and expected performance. The description shall show the flow of solid waste and associated operations in detail, and shall include:
 1. Regular facility operations as they are expected to occur;
 2. Procedures for start up operations, and scheduled and unscheduled shut down operations; and
 3. Potential safety hazards and control methods, including fire detection and control.
 (c) A description of loading, unloading, and processing areas. If wastes which are reasonably expected to produce leachate are being processed, the facility shall be designed with a leachate control system to prevent discharge of leachate and mixing of leachate with stormwater;
 (d) Identification and capacity of temporary on-site storage areas for recyclable materials, non-processable wastes, unauthorized wastes, and residues;
 (e) Provisions for solid waste and leachate containment; and
 (f) Identification of potential ground water and surface water contamination; and
 (g) A plan for disposal of unmarketable recyclable materials and residue, and for waste handling capability in the event of breakdowns in the operations or equipment. Wastes shall be handled on a first-in, first-out basis. Stored putrescible wastes shall not be allowed to remain unprocessed for more than 48 hours unless provisions are made to control vectors and odors.
 (3) Operational requirements. A permit application for a materials recovery facility shall include the following operational requirements:
 (a) An operation and maintenance manual describing the facility operations, the persons responsible for the operations, and types of equipment that will be used. All activities at the facility shall be performed in accordance with the manual and plans for the facility. Manuals and plans shall be updated as operations change but no less frequently than upon renewal of the operation permit;
 (b) A plan to screen the wastes received by the facility, that specifies inspection procedures and procedures to handle unauthorized wastes;
 (c) A contingency plan to cover operations interruptions and emergencies such as fires, explosions, or natural disasters; and
 (d) A closure plan that identifies the steps needed to close the facility. The closure plan shall provide for the following:

17-701.700(2)(b) - 17-701.700(3)(d)

1. Owner or operator notification to the Department in writing 180 days before the date the facility is expected to close. No waste shall be received by the facility after the expected closing date;

2. Within 30 days after receiving the final solid waste shipment, the owner or operator shall remove or otherwise dispose of all solid waste or residue in accordance with the approved closure plan; and

3. Closure must be completed within 180 days after receiving the final waste quantity. Closure will include removal of all recovered materials from the site. When closure is completed, the owner or operator shall certify in writing to the Department that closure is complete. The Department will make an inspection within 30 days to verify the closure and advise the owner or operator of the closure status.

(4) Financial responsibility. The owner or operator of a materials recovery facility shall post a performance bond payable to the Department to cover the cost of properly closing the facility, if one or more of the following conditions exist:

(a) Where the owner of the land or materials recovery facility and the operator of the facility are not the same person; or

(b) If the operator of the facility could stockpile waste that may create an environmental threat if the facility closes without properly disposing of the waste.

(5) Stormwater. Stormwater shall be controlled in accordance with Chapter 17-25, F.A.C., and any water management district rules. A copy of any permit for stormwater control, or documentation that no permit is required, shall be submitted to the Department before the facility receives waste for disposal.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93.

17-701.720 Industrial Solid Waste Disposal

(1) Applicability. After January 6, 1995 except as provided below, and subject to the provisions of Rule 17-701.220, F.A.C., solid waste disposal units which accept primarily industrial wastes other than construction and demolition debris, clean debris, or those materials specified as acceptable in Class III landfills in Rule 17-701.340(3)(d), F.A.C., shall meet the following requirements:

(a) Solid waste disposal units constructed after January 6, 1995 or for which an application for a permit or site

17-701.700(3)(d)1. - 17-701.720(1)(a)

certification was not received and deemed complete by the Department before January 6, 1995 shall meet the same requirements of this chapter as apply to Class I landfills. This requirement also applies to lateral expansions of solid waste disposal units.

(b) All other solid waste disposal units which receive waste after January 6, 1995 shall comply with the same operational and closure requirements of Rules 17-701.500, 17-701.510, 17-701.600, 17-701.610, 17-701.620, and 17-701.630, F.A.C., as apply to Class I landfills.

(2) Alternate requirements for specific facilities. The owner or operator of an industrial waste disposal facility may request approval of alternate procedures and requirements in accordance with Rule 17-701.110, F.A.C.

(3) Alternate requirements for types of industrial operations. A person or organization representing a specific type of industrial operation may request general approval for all such industrial operations. Such request for a specific type of industrial operation shall be submitted by July 6, 1994 and shall be accompanied by an analysis of the waste stream and operational procedures intended to demonstrate that the standards for Class I landfills are inappropriate for that waste stream. This deadline shall be tolled during the time that any required, complete Quality Assurance Plan is being reviewed and acted on by the Department. The Department shall offer assistance to the waste generators in determining what types of information may be submitted. If the Department determines that such submittal, along with any additional information supplied, includes the information specified in subsection (4) of this section, then the provisions of subsection (1) of this section shall not apply to that type of industrial operation. Instead, the Department shall, after an evaluation of the submittals and any additional information submitted, initiate rulemaking to set standards for the construction, operation and closure of disposal facilities at that type of industrial operation, including lateral expansions of existing facilities.

(4) Guidelines. The following guidelines are offered for those persons or organizations requesting such alternate requirements for industrial waste disposal facilities or types of industrial operations:

(a) The request should include a detailed description of those wastes which are typically disposed of. This description should include:

1. An analysis of the chemical, biological and physical properties of the waste;

17-701.720(1)(a)(cont'd.) - 17-701.720(4)(a)1.

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2. An analysis of any predicted movements of such waste in ground water;
 3. An analysis of the likelihood of such wastes causing violations of ground water quality standards or criteria if released into the environment, taking into account any applicable zones of discharge; and
 4. An analysis of the likelihood of such wastes releasing methane or other gases into the atmosphere.
- (b) The request should include a detailed description of the operational and management practices at the facility. The description should include:
1. A demonstration that the facility operator follows appropriate procedures to assure that only the described industrial wastes are disposed of in the industrial waste disposal unit; and
 2. A demonstration that the facility will have equipment and features necessary to comply with Rule 17-701.500(11), F.A.C.
- (c) If the person or organization is requesting that less stringent liner requirements apply, the request should include one or more of the following:
1. A demonstration that leachate from the waste, if released into the environment, will pose little or no threat to the public or the environment, and will not violate ground water quality standards and criteria, taking into account any applicable zones of discharge;
 2. An analysis of the likelihood and extent that such leachate will be released into the environment; and
 3. A demonstration that leachate from the waste will not have an adverse effect on the proposed liner system, if any.
- (d) If a person or organization is requesting that less stringent gas control systems apply, the request should include a demonstration that either:
1. The waste is not expected to produce any significant amounts of gases; or
 2. The less stringent gas control system requested shall meet the requirements of Rule 17-701.400(10)(a)1., F.A.C.
- (e) If a person or organization is requesting that less stringent ground water monitoring requirements apply, the request should include an analysis of the leachate produced by the waste indicating those constituents which may enter the ground water in the case of leakage.
- (f) If a person or organization is requesting that less stringent initial or intermediate cover requirements apply, the request should include a demonstration that the less stringent requirements will provide an equal degree of protection from odors, fires, vectors, and blowing dust.

(g) If a person or organization is requesting that less stringent closure requirements apply, the request should include a demonstration that:

1. Infiltration of rainfall after closure will be minimized; or
2. Leachate generated after closure will not cause a violation of water quality standards during the long-term care period.

(5) This section is not intended to limit the Department's authority to require permits and permit conditions necessary to protect the public health and the environment. Between January 6, 1991 and January 6, 1995 and during any rulemaking procedures that the Department may undertake pursuant to subsection (3) of this section, the Department will continue to evaluate any applications for industrial waste disposal units on a case by case basis. Specific Authority: 403.061, 403.704, F.S. Law Implemented: 403.702, 403.704, 403.707, F.S. History: New 1-6-93.

17-701.730 Construction and Demolition Debris Disposal.

(1) Clean debris. Clean debris may be used as fill material in any area, including waters of the State, subject to receipt of a dredge and fill permit from the Department where applicable. Clean debris used as fill material is not solid waste, and such use does not require a solid waste permit under this rule. Clean debris that is not used as fill material shall be disposed of as construction and demolition debris.

(2) Landfill disposal. Construction and demolition debris may be disposed of in a permitted landfill. However, pursuant to Section 403.706(2), F.S., each county must initiate by July 1, 1989, a program to develop segregated disposal areas for construction and demolition debris. This program shall be designed to assure that all construction and demolition debris is disposed of in segregated areas after August 1, 1990. The cover requirements for a segregated construction and demolition debris disposal area within a permitted landfill shall be those in Rule 17-701.803(9), F.A.C.

(3) On-site disposal. Construction and demolition debris which is disposed of on the property where it is generated, or on property which is adjacent or contiguous to and under common ownership and control as that property where the waste is generated, is exempt from the landfill permitting requirements of Rule 17-701.330, F.A.C. However, such disposal is subject to the prohibitions of Rule 17-701.300, F.A.C. Such disposal areas must also be closed,

4. Adjacent properties including the location of public and private water supplies on these properties.

(c) Engineering report. The engineering report shall include:

1. A description of the general operating plan for the proposed facility including the origin, composition, and expected weight or volume of all solid waste to be accepted at the facility, the maximum time waste will be stored, where all wastes will be disposed, the capacity of the facility, the operating hours of the facility, and the expected life of the facility;

2. A description of all machinery and equipment to be used, including the design capacity; the transfer route, the number and type of transfer vehicles to be used, and how often solid waste will be transferred to the disposal site;

4. A description of the facility's drainage system and water supply system;

5. A plan for hiring and training equipment operators and other personnel concerning the operation of the facility; and

6. A contingency plan describing alternate solid waste handling procedures for periods of inoperation or delays in transporting solid waste.

(3) Design requirements. Minimum design requirements for transfer stations are as follows:

(a) On-site roads and unloading areas shall be designed for efficient movement and unloading of vehicles.

(b) Tipping, processing, sorting, storage and compaction areas that are in an enclosed building or covered area shall have ventilation systems. The areas that are not enclosed shall be equipped with litter control devices and visual screening.

(c) The facility shall be designed with a leachate control system to prevent discharge of leachate and mixing of leachate with stormwater.

(d) Provisions shall be made for weighing or measuring all incoming solid waste and recovered materials. Storage areas shall be designed to hold the expected volume of materials until they are transferred for disposal or recycling.

(e) Where the general public may use the transfer facility, safety procedures shall be established for private vehicles.

(4) Operational requirements.

(a) Prohibited wastes shall not be accepted at a transfer station. Handling of unauthorized wastes shall be addressed in the contingency plan.

17-701.801(2)(b)4. - 17-701.801(4)(a)

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graded and vegetated as specified in Rule 17-701.801(9), F.A.C.

(4) Off-site disposal. Construction and demolition debris may be disposed of off-site at a facility operating under a general permit pursuant to Rules 17-4, Part III and 17-701.803, F.A.C., or at a solid waste facility permitted under Rule 17-701.330, F.A.C. Such a facility operating under a general permit shall accept only construction and demolition debris for disposal.

(5) Recycling and burning. Nothing in this rule shall prevent the burning or recycling of construction and demolition debris in accordance with Department rules.

(6) Disposal restrictions. Construction and demolition debris may be disposed of only in accordance with one of the methods authorized above. In addition, disposal areas shall be operated so that adverse environmental and public health impacts, such as blowing litter, odors, and vectors, are minimized.

(7) Asbestos waste disposal. Asbestos-containing waste materials regulated pursuant to 40 CFR Part 61, Subpart M, shall not be disposed of in a construction and demolition debris disposal area.

Specific Authority: 403.061, 403.704, 403.707, F.S.

Law Implemented: 403.706, 403.707, F.S.

History: New 8-2-89; Formerly 17-701.061; Amended 1-6-93.

17-701.801 General Permit for Solid Waste Transfer

Station.

(1) General permit. A general permit is hereby granted to any person for the construction and operation of a solid waste transfer station that has been designed or will be operated in accordance with the standards and criteria set forth in Rules 17-4.540 and 17-701.300, F.A.C., and this section.

(2) Notification. Any person wishing to operate a transfer station pursuant to this section shall notify the Department on Form 17-701.900(4) and provide the following:

(a) Regional map. The regional map shall delineate the service area of the proposed transfer station.

(b) Site plan. The site plan shall include:

1. Site conditions and projected use including all site structures, buildings, fences, gates, entrances and exits, parking areas, on-site roadways, and signs;

2. Property boundaries, access roads, surface water bodies, and the location of 100-year flood plain boundaries;

3. Proposed structures and areas designated for unloading, sorting, storage, and loading, including dimensions, elevations, and floor plans of these structures and areas, and the general process flow; and

17-701.730(3)(cont'd.) - 17-701.801(2)(b)3.

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(b) An attendant shall be on duty whenever the facility is operating. Operating hours shall be posted, and fencing, gates, or other means shall be used to prevent unauthorized access when the station is closed.

(c) Litter, insects, odors and vectors shall be controlled to prevent sanitary nuisance and unsightly appearance.

(d) Wastes shall be handled on a first-in, first-out basis to the extent practicable. All waste storage areas shall be cleaned at the end of each day's operations or during continuous operation, as necessary, to prevent odor or vector problems. All floors shall be free of standing liquids. Drainage from cleaning areas shall be discharged to sanitary sewers or the equivalent.

(e) Adequate fire protection must be available at all times.

(f) Recovered materials shall be clearly identified and stored in a safe, sanitary manner. A record of the type and quantity of recovered materials shall be maintained and reported as part of the county's recycling program.

(g) Operational records shall be maintained to include a daily log of the quantity of solid waste received and transported and the origin of the waste. Such records shall be compiled on a monthly basis and shall be available for inspection by the Department. Reports shall be retained at the station for three years.

(5) Certification of construction completion. Within 30 days of completion of construction, the engineer of record shall certify to the Department that the permitted construction is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.

(6) Stormwater. Stormwater shall be controlled in accordance with Chapter 17-25, F.A.C., and any water management district rules. A copy of any permit for stormwater control, or documentation that no permit is required, shall be submitted to the Department before the facility receives waste for disposal.

(7) Any person wishing to construct or operate a transfer station pursuant to this section shall publish, in a newspaper of general circulation in the area affected, notice of application for a general permit. Such public notice of application shall be published within 14 days after the application notifies the Department. Within 21 days after publication of notice, any person whose substantial interests are affected may request a hearing in accordance with Section 120.57, F.S. No person shall begin work

17-701.801(4)(b) - 17-701.801(7)

pursuant to a general permit until after the time for requesting a hearing has passed or, if a hearing is requested, until final agency action is taken authorizing construction.

Specific Authority: 403.814(1), F.S.
Law Implemented: 403.061, 403.087, 403.088, 403.702-403.73, 403.814, F.S.
History: New 7-8-82; Previously numbered as 17-4.61; Formerly 17-4.610; Formerly 17-7.801; Amended 1-6-93.

17-701.802 General Permit for Land Application of Grade II Domestic Wastewater Treatment Sludge.

(1) As a result of the potential harm to human health or the environment resulting from sludge disposal activities, it is important that public notice be given before a general permit for such activities is utilized. Therefore, a general permit is hereby granted to any person for land application of Grade II domestic wastewater treatment sludge; provided:

(a) The person intending to apply the sludge to the land submits a completed General Permit Application for Grade II Sludges, as specified in Fla. Admin. Code Rule 17-701.060.

(b) The permit applicant, within 14 days of notice to the department, has published in a newspaper of general circulation in the area affected, a notice of the intended land application of Grade II sludge. The notice shall include the name of the applicant and a brief description of the proposed activity and location.

(c) The sludge is land applied pursuant to the requirements of Fla. Admin. Code Rule 17-701.540(5).

(2) The general permit shall be subject to the general conditions of Fla. Admin. Code Rule 17-4.540.

Specific Authority: 403.814, F.S.
Law Implemented: 403.061, 403.087, 403.702, through 403.715, 403.814, F.S.
History: New 6-16-84. Previously numbered as 17-4.64. Formerly 17-4.640, formerly 17-7.802.

17-701.803 General Permit for Off-site Disposal of Construction and Demolition Debris.

(1) Notification. The owner or operator of the construction and demolition debris disposal facility shall notify the Department in writing on Form 17-701.900(3) of the intent to use this general permit. Owners or operators of solid waste management facilities which have a permit under Chapter 17-701, F.A.C., to receive construction and demolition debris are exempt from this requirement. The notification shall be signed and sealed by a professional engineer and shall include:

17-701.801(7)(cont'd.) - 17-701.801(1)

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(a) A site plan, of a scale not greater than 200 feet to the inch, which shows the project location and identifies the proposed disposal areas, total acreage of the site and of the proposed disposal area, and any other relevant features such as water bodies, wetlands, or potable water wells on or within 500 feet of the site;

(b) A geotechnical investigation which meets the criteria of Rule 17-701.420, F.A.C.

(c) A general description of the facility operations, including equipment and personnel planned for the operation and closure of the facility;

(d) A boundary survey and legal description of the property from the county tax assessor's office;

(e) The planned active life of the facility, and the design height of the facility;

(f) Closure plans and cross section details of the final cover;

(g) The mailing address and phone number of the owner and operator; and

(h) Documentation that the applicant either owns the land or has legal authorization from the land owner to use the land for a disposal facility.

(2) Certification. Within 30 days of completion of construction, the engineer of record shall certify to the Department that the permitted construction is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.

(3) Other requirements. The requirements of Rules 17-701.330 through 17-701.630, F.A.C., do not apply to construction and demolition debris disposal facilities, provided that none of the prohibitions contained in Rule 17-701.300, F.A.C., or the water quality standards contained in Chapters 17-3 and 17-302, F.A.C., shall be violated.

(4) Stormwater. Stormwater shall be controlled in accordance with Chapter 17-25, F.A.C., and any water management district rules. A copy of any permit for facility receives waste for disposal. A copy of any permit for stormwater control, or documentation that no permit is required, shall be submitted to the Department before the facility receives waste for disposal.

(5) Temporary storage. The disposal facility shall have equipment for temporary storage and transport for solid waste, other than construction and demolition debris, to an authorized disposal facility. Such solid waste which is accepted by the facility shall be segregated and disposed of in accordance with Department rules.

17-701.803(1)(a) - 17-701.803(5)

(6) Compaction. Construction and demolition debris shall be compacted and sloped as necessary to assure that the requirements of subsection (9) of this section can be met.

(7) Access. Access to the disposal facility shall be controlled during the active life of the facility by fencing or other effective barriers to prevent disposal of solid waste other than construction and demolition debris.

(8) Inspection of waste. At least one spotter shall be on duty at all times when the site is operating to inspect the incoming waste. Any prohibited material, including buckets or cans containing tar, paint, glue, or other liquids, shall be removed from the waste stream and placed into appropriate containers for disposal at a permitted facility. This provision is applicable to all construction and demolition debris disposal sites after July 2, 1994.

(9) Inspections. Operation of a facility under a general permit constitutes consent for Department personnel to inspect the site during normal business hours for compliance with Department rules.

(10) Closure. Final cover and seeding or planting of vegetative cover shall be placed on each disposal unit within 180 days after final receipt of wastes. Final cover shall consist of a 24-inch-thick soil layer, the upper six inches of which shall be capable of supporting vegetation and shall be graded to eliminate ponding, promote drainage, and minimize erosion. The side slopes of all above-grade disposal areas shall be no greater than three feet horizontal to one foot vertical rise.

(11) Notification of closure. The owner or operator shall notify the Department within 30 days after closing, covering, and seeding the facility as required in subsection (9) of this section.

(12) Recycling. The owner or operator of the facility may recover materials from the construction and demolition debris waste stream for purposes of recycling, provided that such recovery does not result in a violation of this section. In such a case, a separate solid waste permit is not required.

(13) Incineration. A facility which employs an air curtain incinerator and which also stores or disposes of construction and demolition debris at the site shall meet the permitting requirements of Rule 17-256.500, F.A.C., as well as this section. Specific Authority: 403.061, 403.704, 403.707, 403.814, F.S.

Law Implemented: 403.707, 403.814, F.S.
History: New 8-2-89; Amended 1-6-93, 1-2-94.

17-701.803(6) - 17-701.803(History)

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17-701.900 Forms.

The forms used by the Department in the solid waste management program are adopted and incorporated by reference in this section. The form is listed by rule number, which is also the form number, and with the subject, title and effective date. Copies of forms may be obtained from a local District Office or by writing to the Florida Department of Environmental Regulation, DER Library, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

- (1) Application to Construct, Operate, Modify, or Close a Solid Waste Management Facility, effective January 6, 1993.
 - (2) Certification of Construction Completion of a Solid Waste Management Facility, effective January 6, 1993.
 - (3) Notification of Intent to Use a General Permit for a Construction and Demolition Debris Disposal Facility, effective January 6, 1993.
 - (4) Notification of Intent to Use a General Permit to Construct and Operate a Transfer Station, effective January 6, 1993.
 - (5) Financial mechanisms for solid waste management facilities requiring closure and/or long-term care, effective October 1, 1989:
 - (a) Solid Waste Facility Irrevocable Letter of Credit.
 - (b) Solid Waste Facility Financial Guarantee Bond.
 - (c) Solid Waste Facility Performance Bond.
 - (d) Solid Waste Facility Closure/Long-Term Care Insurance Certificate.
 - (e) Solid Waste Facility Financial Test.
 - (f) Solid Waste Facility Corporate Guarantee.
 - (g) Solid Waste Facility Trust Fund Agreement to Demonstrate Closure and/or Long-Term Care Financial Assurance.
 - (h) Solid Waste Facility Standby Trust Fund Agreement.
- Specific Authority: 120.53(1), 403.061, 403.704, F.S.
Law Implemented: 120.53(1), 403.707, F.S.
History: New 8-2-89; Amended 1-6-93.

17-701.900 - 17-701.900(History)

Solid Waste Management Facilities
Chapter 17-701, F.A.C.
Department of Environmental Regulation
Effective 05/19/1994

CHAPTER 17-701
SOLID WASTE MANAGEMENT FACILITIES

17-701.001	Declaration and Intent. (Repealed 1-6-93)
17-701.020	Definitions. (Transferred to 17-701.200)
17-701.030	Solid Waste Resource Recovery and Management Permit Requirements. (Repealed 1-6-93)
17-701.040	Prohibitions. (Transferred to 17-701.300)
17-701.050	Sanitary Landfill Criteria. (Repealed 1-6-93)
17-701.060	Special Waste Handling. (Transferred to 17-701.520)
17-701.061	Construction and Demolition Debris Disposal. (Transferred to 17-701.730)
17-701.070	Closure of Landfills. (Repealed 1-6-93)
17-701.071	Closure Schedule. (Repealed 1-6-93)
17-701.072	Closure Permit Application Submittal. (Repealed 1-6-93)
17-701.073	Closure Plan Requirements. (Repealed 1-6-93)
17-701.074	Closure Procedures. (Transferred to 17-701.610)
17-701.075	Long Term Care. (Transferred to 17-701.620)
17-701.076	Financial Responsibility. (Transferred to 17-701.630)
17-701.078	Approval of Alternative Procedures and Requirements. (Transferred to 17-701.310)
17-701.080	Supervision and Inspection. (Repealed 1-6-93)
17-701.090	Volume Reduction Plants. (Repealed 1-6-93)
17-701.091	Transfer Stations. (Repealed 1-6-93)
17-701.100	Intent.
17-701.120	Notification of Disposal Activity. (Repealed 1-6-93)
17-701.130	Forms. (Repealed 1-6-93)
17-701.200	Definitions. (Formerly 17-701.020)
17-701.210	Documents Incorporated by Reference.
17-701.220	General Applicability.
17-701.300	Prohibitions. (Formerly 17-701.040)
17-701.310	Approval of Alternate Procedures and Requirements. (Formerly 17-701.078)
17-701.320	Solid Waste Management Facility Permit Requirements, General.
17-701.330	Landfill Permit Requirements.
17-701.340	General Criteria for Landfills.
17-701.400	Landfill Construction Requirements.
17-701.410	Hydrogeological Investigation Requirements.
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DER 1994 SOLID WASTE MANAGEMENT FACILITIES 17-701

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Requirements.
17-701.520 Special Waste Handling. (Formerly 17-701.060)
17-701.600 Landfill Final Closure.
17-701.610 Closure Procedures. (Formerly 17-701.074)
17-701.620 Long-Term Care. (Formerly 17-701.075)
17-701.630 Financial Assurance. (Formerly
17-701.076)
17-701.640 Closure of Existing Landfills.
17-701.700 Materials Recovery Facilities.
17-701.720 Industrial Solid Waste Disposal.
17-701.730 Construction and Demolition Debris Disposal.
(Formerly 17-701.061)
17-701.801 General Permit for Solid Waste Transfer
Station.
17-701.802 General Permit for Land Application of Grade
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17-701.001 Declaration and Intent.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.701 through 403.8055, F.S.

History: New 10-1-74; Amended 5-24-79; Previously Numbered as 17-7.01; Formerly 17-7.001, Amended 6-25-90, Repealed 1-6-93

17-701.020 Definitions.

History: Transferred from 10D-12.02, 10-1-74; Revised 7-20-76; Amended 5-24-79, 6-13-84, 4-25-85, 7-1-85; Previously Numbered as 17-7.02; Amended 12-10-85; Formerly 17-7.02; Amended 8-2-89, 6-25-90. Transferred to 17-701.200.

17-701.030 Solid Waste Management Permit Requirements.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.03, 10D-12.04, 10D-12.07, 10-1-74; Amended 5-24-79, 6-13-84, 7-1-85; Previously Numbered as 17-7.03; Amended 12-10-85; Formerly 17-7.03, Amended 6-25-90, Repealed 1-6-93.

17-701.040 Prohibitions.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.06, 10D-12.07, 10-1-74; Amended 5-24-79, 5-27-82; Previously Numbered as 17-7.04; Amended 12-10-85; Formerly 17-7.040; Amended 6-25-90, Transferred to 17-701.300.

17-701.050 Sanitary Landfill Criteria.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.07, 10-1-74; Revised 5-11-75, 7-20-76; Amended 5-24-79; Previously Numbered as 17-7.05; Amended 12-10-85; Formerly 17-7.050; Amended: 7-19-90, Repealed 1-6-93.

17-701.060 Special Waste Handling.

Specific Authority: 403.061, 403.704, 403.705, 403.8055, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

17-701.001 - 17-701.060

History: Transferred from 10D-12.07, 10-1-74; Amended 5-24-79, 11-25-82, 7-10-84; Previously Numbered as 17-7.06; Amended 12-10-85; Formerly 17-7.060, Transferred to 17-701.520.

17-701.061 Construction and Demolition Debris Disposal
Specific Authority: 403.061, 403.704, 403.707, F.S.
Law Implemented: 403.706, 403.707, F.S.
History: New 8-2-89, Transferred to 17-701.730.

17-701.070 Closure of Landfills.
Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.
History: New 10-1-74; Amended 5-24-79, 7-1-85; Previously Numbered as 17-7.07; Amended 12-10-85; Formerly 17-7.070, Repealed 1-6-93.

17-701.071 Closure Schedule.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.071, Repealed 1-6-93.

17-701.072 Closure Permit Application Submittal.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.072, Repealed 1-6-93.

17-701.073 Closure Plan Requirements.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.073, Repealed 1-6-93.

17-701.074 Closure Procedures.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.074, Transferred to 17-701.610.

17-701.075 Long Term Care.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85, Formerly 17-7.075, Transferred to 17-701.620.

17-701.076 Financial Responsibility.
Specific Authority: 403.704, F.S.
Law Implemented: 403.704, 403.707, F.S.
History: New 7-1-85; Formerly 17-7.076, Amended 11-28-89, Transferred to 17-701.630.

17-701.060(Cont'd.) - 17-701.076

17-701.077 Permit Application Requirements.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Transferred to 17-701.030(3), 12-10-85.

17-701.078 Approval of Alternative Procedures and Requirements.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Amended 12-10-85; Formerly 17-7.078, Transferred to 17-701.310.

17-701.080 Supervision and Inspection.

Specific Authority: 403.061, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.713, F.S., Chapter 74-342.

History: Transferred from 10D-12.07, 10-1-74; Previously Numbered as 17-7.08; Formerly 17-7.080, Repealed 1-6-93.

17-701.090 Volume Reduction Plants.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 10-1-74; Amended 5-24-79; Previously Numbered as 17-7.09; Formerly 17-7.090, Repealed 1-6-93.

17-701.091 Transfer Stations.

Specific Authority: 403.061, 403.7044, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: New 5-24-79; Formerly 17-7.091, Repealed 1-6-93.

17-701.100 Intent.

The intent of this rule is to establish standards for the construction, operation, and closure of solid waste management facilities to minimize their threat to public health and the environment, and to implement the provisions of the Florida Solid Waste Management Act, Sections 403.701-403.715, Florida Statutes.

Specific Authority: 403.061, 403.704, F.S.

Laws Implemented: 403.021, 403.061, 403.087, 403.701 through 403.717, F.S.

History: New 1-6-93.

17-701.120 Notification of Disposal Activity.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.707, F.S.

History: New 6-13-84; Amended 4-25-85; Previously Numbered as 17-7.12; Formerly 17-7.120, Repealed 1-6-93.

17-701.077 - 17-701.120

17-701.130 Forms.

Specific Authority: 120.53(1), 403.061, F.S.

Law Implemented: 120.53(1), 120.55, 403.0875, 403.7125, F.S.

History: New 11-30-82; Amended 6-16-84, 9-12-84, 2-25-85, 7-1-85; Formerly 17-1.206 and Amended 12-10-85; Formerly 17-7.130, Amended 11-28-89, Repealed 1-6-93.

17-701.200 Definitions. The following words, phrases or terms as used in this chapter, unless the context indicates otherwise, shall have the following meaning:

(1) "Agricultural wastes" means the solid wastes resulting from normal farming operations, the raising and slaughtering of animals, and the processing of animal products, orchard, and field crops, which are stored, transported, or disposed of as an unwanted waste material.

(2) "Airport" means any area of land or water, or any manmade object or facility located thereon, which is used, or intended for use, for the landing and takeoff of aircraft, and any appurtenant areas which are used, or intended for use, for airport buildings or other airport facilities or rights-of-way, together with all airport buildings and facilities located thereon

(3) "Air quality standards" means, unless otherwise specified, those standards set forth in Chapter 17-272, F.A.C.

(4) "ASTM" means the American Society for Testing and Materials.

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

(6) "Biomedical waste" has the meaning given it in Rule 17-712.200, F.A.C.

(7) "Biological waste" has the meaning given it in Rule 17-712.200, F.A.C.

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

(9) "Bulky wastes" means items whose large size or weight precludes or complicates their handling by normal collection, processing, or disposal methods.

(10) "Cell" means a volume of solid waste received since the last previous application of initial cover. The compacted waste and subsequent initial cover constitute a cell which usually contains wastes deposited in one day.

(11) "Clean debris" means any solid waste which is virtually inert, which is not a pollution threat to ground water or surface waters, is not a fire hazard, and is likely

17-701.130 - 17-701.200(11)

to retain its physical and chemical structure under expected conditions of disposal or use. The term includes brick, glass, ceramics, and uncontaminated concrete including embedded pipe or steel.

(12) "Closing" means the time at which a solid waste management facility ceases to accept wastes, and includes those actions taken by the owner or operator of the facility to prepare the facility for any necessary monitoring and maintenance after closing.

(13) "Closure" means the cessation of operation of a solid waste management facility and the act of securing such a facility so that it will pose no significant threat to human health or the environment. This includes closing, long term monitoring, maintenance, and financial responsibility. *language from 402.703(16)*

(14) "Cm/sec" means centimeters per second.

(15) "Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

(16) "Compost" has the meaning given it in Rule 17-709.200, F.A.C.

(17) "Composting" has the meaning given it in Rule 17-709.200, F.A.C.

(18) "Composite liner" means a liner comprised of a geomembrane, which is underlain and in direct contact with a soil component.

(19) "Construction and demolition debris" means materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure. The term includes rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project including such debris from construction of structures at a site remote from the construction or demolition project site. Mixing of construction and demolition debris with other types of solid waste, including material which is not from the actual construction or destruction of a structure, will cause it to be classified as other than construction and demolition debris.

(20) "Department" means the State of Florida Department of Environmental Regulation.

(21) "Design period" means the operating life of the solid waste management facility plus any long-term care period after closing.

17-701.200(11) (cont'd.) - 17-701.200(21)

(22) "Disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

(23) "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or upon any land or water so that such solid waste or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including ground waters, or otherwise enter the environment.

(24) "Engineer of record" means a professional engineer registered in the State of Florida in accordance with provisions of Chapter 471, F.S., who is appointed by the owner or operator of the solid waste management facility.

(25) "Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for solid waste management.

(26) "Fill" means man-made deposits of earth or waste materials used to fill excavations, to increase the vertical or horizontal extent of land or solid waste disposal units, or to build embankments.

(27) "Final cover" means the materials used to cover the top and sides of a landfill when fill operations cease.

(28) "Garbage" means all kitchen and table food waste, and animal or vegetative waste that is attendant with or results from the storage, preparation, cooking, or handling of food materials.

(29) "Gas condensate" means the liquid generated as a result of gas recovery processes at a landfill.

(30) "Gas control system" means a system of wells, trenches, pipes, and other related structures that vents the gas produced in a solid waste disposal unit to the atmosphere.

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

(32) "Generation" means the act or process of producing solid waste.

(33) "Geomembrane" means a low-permeability synthetic membrane used as an integral part of a system designed to limit the movement of liquid or gas in the system.

(34) "Geonet" means a type of a geogrid that allows planar flow of liquids and serves as a drainage system.

17-701.200(22) - 17-701.200(34)

(35) "Geotextile" means a permeable textile used as a part of a system designed to act as a filter to prevent the flow of fine particles into drainage systems, to provide planar flow for drainage, to serve as a cushion to protect geomembranes, or to provide structural support.

(36) "Ground water" means water beneath the surface of the ground within a zone of saturation, whether or not it is flowing through known and definite channels.

(37) "Hazardous waste" means a solid waste regulated by the Department as a hazardous waste pursuant to Chapter 17-730, F.A.C.

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

(39) "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products or byproducts; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing or foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

(40) "Initial cover" means a 6-inch layer of compacted earth, used to cover an area of solid waste before placement of additional waste, intermediate cover, or final cover. The term also includes other material or thickness, approved by the Department, that minimizes disease vector breeding, animal attraction, and moisture infiltration, minimizes fire potential, prevents blowing litter, controls odors, and improves landfill appearance.

(41) "Intermediate cover" means a layer of compacted earth at least one foot in depth applied to a solid waste disposal unit. The term also includes other material or thickness, approved by the Department, that minimizes disease vectors, odors, and fire, and is consistent with the leachate control design of the landfill.

(42) "Landfill" means a solid waste disposal facility, which is an area of land or an excavation where wastes are

*Note: This has not
been included in the
definition of "Hazardous
waste" in 17-730.01(1)*

17-701.200(35) - 17-701.200(42)

or have been placed for disposal, for which a permit, other than a general permit, is required by Section 403.707, F.S. This term shall not include:

- (a) A land spreading site; or
- (b) A surface impoundment; or
- (c) An injection well defined under and subject to the provisions of Chapter 17-28, F.A.C.

(43) "Lateral expansion" means any horizontal increase in the dimensions of the waste boundary of an existing solid waste disposal unit.

(44) "Leachate" means liquid that has passed through or emerged from solid waste and may contain soluble, suspended or miscible materials.

(45) "Lift" means a completed horizontal series of cells.

(46) "Lined landfill" means a landfill constructed with a liner made of synthetic materials, low-permeability soils, or a combination of these materials, which has been permitted by the Department, and which met the Department's landfill design criteria specified in this chapter or previous versions of this chapter at the time of permitting.

(47) "Liner" means a continuous layer of low-permeability natural or synthetic materials, under the bottom and sides of a landfill, solid waste disposal unit, or leachate surface impoundment, which controls the downward or lateral escape of waste constituents, or leachate.

(48) "Liner system" means a system of leachate collection and liner layers comprised of natural or synthetic materials installed between the subgrade and the waste for the purpose of containing the waste and collecting and removing leachate.

(49) "Liquid waste" means any waste material that is determined to contain free liquids as defined by Method 9095 (Paint Filter Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).

(50) "Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at a temperature of 25 degrees Celsius and atmospheric pressure.

(51) "Materials recovery" means any process by which one or more of the various components in solid waste is separated and concentrated for reuse.

(52) "Materials recovery facility" means a solid waste management facility that provides for the extraction from solid waste of recyclable materials, materials suitable for use as a fuel or soil amendment, or any combination of such materials.

17-701.200(42) (cont'd.) - 17-701.200(52)

(53) "Method detection limit" means the smallest concentration of an analyte of interest that can be measured and reported with 99 percent confidence that the concentration is greater than zero. The method detection limit shall be determined pursuant to procedures outlined in Appendix B of 40 CFR Part 136, which is hereby incorporated by reference.

(54) "Monitoring wells" means strategically located wells from which water samples are drawn for water quality analysis.

(55) "Normal farming operations" means the customary and generally accepted activities, practices, and procedures that farmers adopt, use, or engage in during the production and preparation for market of poultry, livestock, and associated farm products; and in the production, harvesting, or packaging of agricultural crops which include agronomic, horticultural, and silvicultural crops. Included is the management, collection, storage, composting, transportation, and utilization of organic agricultural waste, manure, and materials solely derived from agricultural crops.

(56) "100-year floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

(57) "On-site" means on the same or geographically contiguous property, which may be divided by public or private right-of-way.

(58) "Open burning" means the burning of any material under such conditions that the products of combustion are emitted directly into the atmosphere.

(59) "Operator" means any person, including the owner, who is principally engaged in, and is in charge of, the actual operation, supervision, and maintenance of a solid waste management facility.

(60) "Person" means any and all persons, natural or artificial, including any individual, firm, or association; any municipal or private corporation organized or existing under the laws of Florida or any other state; any county of this state; and any governmental agency of this state or the Federal Government.

(61) "Potable water well" means any excavation that is drilled or bored, or converted from non-potable water use, when the intended use of such excavation is for the location and acquisition of ground water which supplies water for human consumption.

(62) "Processing" means any technique designed to change the physical, chemical, or biological character or composition of any solid waste so as to render it safe for transport, amenable to recovery, storage or recycling; safe for disposal; or reduced in volume or concentration.

17-701.200(53) - 17-701.200(62)

(63) "Professional engineer" means an engineer registered in the State of Florida in accordance with Chapter 471, F.S.

(64) "Professional geologist" means a geologist registered in the State of Florida in accordance with Chapter 492, F.S.

(65) "Recovered materials" means metal, paper, glass, plastic, textile, or rubber materials that have known recycling potential, can be feasibly recycled, and have been diverted and source separated or have been removed from the solid waste stream for sale, use, or reuse as raw materials, whether or not the materials require subsequent processing or separation from each other, but does not include materials destined for any use that constitutes disposal. Recovered materials as described above are not solid waste.

(66) "Recyclable material" means those materials which are capable of being recycled and which would otherwise be processed or disposed of as solid waste.

(67) "Recycling" means any process by which solid waste, or materials which would otherwise become solid waste, are collected, separated, or processed and reused or returned to use in the form of raw materials or products.

(68) "Resource recovery" means the process of recovering materials or energy from solid waste, excluding those materials or solid waste under control of the Nuclear Regulatory Commission.

(69) "Sanitary nuisance" means a condition created by any person, or the keeping, maintaining, propagation, existence, or permitting of anything by a person by which the health or lives of individuals may be threatened or impaired, or by which disease may be caused or transmitted.

(70) "Shredding" means a process of reducing the particle size of solid waste through the use of grinding, shredding, milling, or rasping machines.

(71) "Site" means the area of land or water within the property boundaries of a solid waste management facility where one or more solid waste processing, resource recovery, recycling, storage, or disposal areas are located.

(72) "Sludge" means a solid waste pollution control residual which is generated by any industrial or domestic wastewater treatment plant, water supply treatment plant, air pollution control facility, septic tank, grease trap, portable toilet or related operation, or any other such waste having similar characteristics. Sludge may be a solid, liquid, or semisolid waste but does not include the treated effluent from a wastewater treatment plant.

17-701.200(63) - 17-701.200(72)

(73) "Solid waste" means: sludge unregulated under the federal Clean Water Act or Clean Air Act; sludge from a waste treatment works, water supply treatment plant, or air pollution control facility; or garbage, rubbish, refuse, special waste, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations. Materials not regulated as solid waste pursuant to this Chapter are: recovered materials; nuclear source or byproduct materials regulated under Chapter 404, F.S., or under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.

(74) "Solid waste disposal facility" means any solid waste management facility which is the final resting place for solid waste, including landfills and incineration facilities that produce ash from the process of incinerating municipal solid waste.

(75) "Solid waste disposal unit" means a discrete area of land used for the disposal of solid waste.

(76) "Solid waste management" means the process by which solid waste is collected, transported, stored, separated, processed, or disposed of in any other way, according to an orderly, purposeful, and planned program which includes closure and long-term maintenance.

(77) "Solid waste management facility" means any solid waste disposal area, volume reduction plant, transfer station, materials recovery facility, or other facility, the purpose of which is resource recovery or the disposal, recycling, processing, or storage of solid waste. The term does not include recovered materials processing facilities which meet the requirements of Rule 17-701.220(2)(c), F.A.C., except the portion of such facilities, if any, that is used for the management of solid waste.

(78) "Special wastes" means solid wastes that can require special handling and management, including but not limited to, white goods, waste tires, used oil, lead-acid batteries, construction and demolition debris, ash residue, yard trash, and biological wastes. See also 402.702(32), F.S.

(79) "Stabilized" means that biological and chemical decomposition of the wastes has ceased or diminished to a level so that such decomposition no longer poses a pollution, health, or safety hazard.

(80) "Ton" means a short ton, 2,000 pounds (.9078 metric tons).

17-701.200(73) - 17-701.200(80)

(81) "Transfer station" means a site the primary purpose of which is to store or hold solid waste for transport to a processing or disposal facility. It does not include green boxes, compactor units, permanent dumpsters, and other containers from which such wastes are transported to a landfill or other solid waste management facility.

(82) "Unlined landfill" means a landfill which does not have a bottom liner system which was approved by the Department as part of a construction permit, or which has a bottom liner system which does not or did not meet the Department's landfill design criteria specified in this chapter or in previous versions of this chapter at the time of construction. This term includes landfills underlain by only in-situ soils unless these soils have been tested and approved by the Department as part of a construction permit.

(83) "Used oil" has the meaning given it in Rule 17-710.200, F.A.C.

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

(85) "Volume reduction plant" means an incinerator, pulverizer, compactor, shredding and baling plant, composting plant, or other plant which accepts and processes solid waste for recycling or disposal.

(86) "Waste tire" has the meaning given it in Rule 17-711.200, F.A.C.

(87) "Water quality standards and criteria" means, unless otherwise specified, those standards and criteria set forth in Chapters 17-3 and 17-302, F.A.C.

(88) "White goods" means inoperative and discarded refrigerators, ranges, washers, water heaters, freezers, and other similar domestic and commercial large appliances.

(89) "Working face" means that portion of a landfill where waste is deposited, spread, and compacted before placement of initial cover.

(90) "Yard trash" means vegetative matter resulting from landscaping maintenance or land clearing operations and includes materials such as tree and shrub trimmings, grass clippings, palm fronds, trees and tree stumps.

(91) "Zone of discharge" has the meaning given it in Rule 17-3.021, F.A.C.

17-701.200(81) - 17-701.200(91)

All other definitions found in Chapter 403, F.S., and Chapters 17-702 through 17-720, F.A.C., to the extent that they are consistent with the definitions of this chapter, are applicable to the terms used in this chapter.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.031, 403.061, 403.087, 403.701 through 403.717, F.S.

History: Transferred from 10D-12.02, 10-1-74; Revised 7-20-76; Amended 5-24-79, 6-13-84, 4-25-85, 7-1-85; Previously numbered as 17-7.02; Amended 12-10-85; Formerly 17-7.020; Amended 8-2-89, 6-25-90; Formerly 17-701.020; Amended 1-6-93, 1-2-94, 5-19-94.

17-701.210 Documents Incorporated by Reference.

Specific references to the documents listed below are made throughout this chapter. These documents are adopted as standards and are incorporated into this chapter by reference. The reference documents are available for inspection at the Department's district offices.

(1) EPA document EPA/530-SW-86-031, Construction Quality Assurance for Hazardous Waste Land Disposal Facilities; October, 1986.

(2) 40 CFR Parts 61.149, 61.150, 61.151, 61.154, Subpart M-National Emission Standard for Asbestos, July 1, 1992.

(3) ASTM Method E96-80, Procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09; February, 1981, editorial changes made standard in May, 1987.

(4) 40 CFR Part 136, Appendix B, Definition and Procedure for the Determination of the Method Detection Limit, revision 1.1; October 26, 1984.

(5) Method 9095, Paint Filter Test, found in EPA document EPA SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods; Third Edition, September, 1986, as revised, December, 1987.

(6) 40 CFR Part 258, Appendix II; October, 1991.

(7) 40 CFR 258.13, Fault Areas; October, 1991.

(8) 40 CFR 258.14, Seismic Impact Zones; October, 1991.

(9) 40 CFR 258.15 Unstable Areas; October, 1991.

(10) 40 CFR 258, Appendices I and II; October, 1991.

(11) 40 CFR 264 subpart H, except for those sections specified in Rule 17-701.630(6)(b)1., F.A.C.; July 1, 1988.

(12) 40 CFR 261.24 Table 1-Maximum Concentration of Contaminants for the Toxicity Characteristic; July, 1992.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.061, 403.701 through 403.717, F.S.

History: New 1-6-93; Amended 1-2-94.

17-701.200(History) - 17-701.210(History)

17-701.220 General Applicability. This chapter applies to all solid waste and each solid waste management facility in this state, with the following exceptions:

[1] This chapter was substantially amended on January 6, 1993, and a number of provisions were deleted or modified at that time. Except as otherwise specifically provided herein, facilities which were permitted or received a site certification prior to January 6, 1993, or for which a complete application was submitted and deemed complete by the Department prior to January 6, 1993, remain subject to the provisions which were in effect prior to January 6, 1993, and which were applicable to them.

[2] This chapter applies to all solid waste and each solid waste management facility in this state, with the following exceptions:

(a) Surface impoundments not addressed in Rule 17-701.400(6), F.A.C.;

(b) Injection wells defined under and subject to the provisions of Chapter 17-28, F.A.C.; and

(c) Recovered materials, if:

1. A majority of the recovered materials at a facility are demonstrated to be sold, used, or reused within one year;

2. The recovered materials or the products or byproducts of operations that process recovered materials are not discharged, deposited, injected, dumped, spilled, leaked, or placed into or upon any land or water so that such products or byproducts or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including ground water, or otherwise enter the environment or pose a threat to public health and safety; and

3. The recovered materials are not hazardous wastes and have not been recovered from hazardous wastes; and

(d) Phosphogypsum stack systems.

[3] There are several requirements throughout this chapter that requests or demonstrations must be approved by the Department. Unless otherwise specifically stated, this means that the requests or demonstrations must be submitted to the appropriate Department District Office as part of a permit application or request for permit modification. The Department will evaluate such requests or demonstrations in accordance with the applicable criteria set forth in this chapter, and will approve or modify permit conditions if those criteria are met.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.061, 403.701 through 403.717, F.S.

History: New 1-6-93, Amended 1-2-94, 5-19-94.

17-701.220(1) - 17-701.220(History)

17-701.300 Prohibitions.

(1) General prohibition.

(a) No person shall store, process, or dispose of solid waste except at a permitted solid waste management facility or a facility exempt from permitting under this chapter.

(b) No person shall store or dispose of solid waste in a manner or location that causes air quality standards to be violated or water quality standards or criteria of receiving waters to be violated.

(2) Disposal. Unless authorized by a Department permit or site certification in effect on January 6, 1993, no solid waste shall be stored or disposed of by being placed:

(a) In an area where geological formations or other subsurface features will not provide support for the solid waste;

(b) In any area where the absence of geological formations or subsurface features would allow for the unimpeded discharge of waste or leachate to ground or surface water. A person may dispose of solid waste in such an area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards under Chapters 17-302 and 17-520, F.A.C.;

(c) Within 500 feet of an existing or approved potable water well unless disposal takes place at a facility for which a complete permit application was filed or which was originally permitted before the potable water well was in existence. This prohibition shall not apply to any renewal of an existing permit that does not involve lateral expansion, nor to any vertical expansion at a permitted facility;

(d) In a dewatered pit unless the pit is lined and permanent leachate containment and special design techniques are used to ensure the integrity of the liner;

(e) In an area subject to frequent and periodic flooding unless flood protection measures are in place;

(f) In any natural or artificial body of water including ground water;

C&D Segregation - see 17-701.730(2) p.91

OKS Ec 403.706(2) P5

17-701.300(1) - 17-701.300(2) (f)

(g) Within 200 feet of any natural or artificial body of water, including wetlands within the jurisdiction of the Department, except bodies of water contained completely within the property boundaries of the disposal site, which do not discharge from the site to surface waters. A person may dispose of solid waste within the 200 foot setback area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards under Chapters 17-302 and 17-520, F.A.C. Stormwater control methods shall meet stormwater requirements of Chapter 17-25, F.A.C. However, nothing contained herein shall prohibit the Department from imposing conditions necessary to assure that solid waste disposed of within the 200 foot setback area will not cause pollution from the site in contravention of Department rules.

(h) On the right of way of any public highway, road, or alley; and

(i) Within 1000 feet of an existing or approved potable water well serving a community water system as defined in Rule 17-550.200(9), F.A.C., unless disposal takes place at a facility for which a complete permit application was filed or which was originally permitted before the water well was in existence. It is the intent of the Department that this provision shall be repealed on the effective date of any rule promulgated by the Department which regulates wellhead protection areas generally. This prohibition shall not apply to any renewal of an existing permit that does not involve lateral expansion, nor to any vertical expansion at a permitted facility.

(3) Burning. Open burning of solid waste is prohibited except in accordance with Rule 17-701.520(2), F.A.C. Controlled burning of solid waste is prohibited except in a permitted incinerator, or in a facility in which the burning of solid waste is authorized by a site certification order issued under Chapter 403, Part II, F.S.; clean vegetative and wood wastes may be burned in an air curtain incinerator in accordance with Rule 17-2.500(1)(e), F.A.C.

(4) Hazardous waste. No hazardous waste shall be disposed of in a solid waste management facility unless such facility is permitted pursuant to Chapter 17-730, F.A.C.

(5) PCBs. No person may dispose of liquids containing a polychlorinated biphenyl (PCB) concentration of 50 parts per million or greater, or non-liquid PCBs at concentrations of 50 parts per million or greater in the form of contaminated soil, rags, or other debris, in any solid waste disposal unit in this state.

17-701.300(2)(g) - 17-701.300(5)

(6) Biohazardous waste. Biohazardous waste shall be properly incinerated so that little or no organic material remains in the ash residue, or shall be processed by a method approved by the Department pursuant to Chapter 17-712, F.A.C. No untreated biohazardous waste shall be knowingly deposited in any landfill.

(7) Class I surface waters. The Department shall not issue a construction permit for a landfill within 3,000 feet of Class I surface waters.

(8) Special wastes for landfills. No person who knows or who should know of the nature of such solid waste shall dispose of the following wastes in any landfill:

- (a) Lead-acid batteries;
- (b) Used oil, except as provided in Chapter 17-710, F.A.C.;
- (c) Yard trash, except in unlined landfills classified by Department rule;
- (d) White goods; and
- (e) Whole waste tires, except as provided in Chapter 17-711, F.A.C.

(9) Special wastes for waste-to-energy facilities. No person who knows or who should know of the nature of such solid waste shall dispose of lead-acid batteries in any waste-to-energy facility.

(10) Liquids restrictions.

(a) Noncontainerized liquid waste shall not be placed in solid waste disposal units unless:

1. The waste is household waste other than septic waste; or

2. The waste is leachate or gas condensate derived from the solid waste disposal unit, or byproducts of the treatment of such leachate or gas condensate, and the solid waste disposal unit is lined and has a leachate collection system.

(b) Containers holding liquid waste shall not be placed in a solid waste disposal unit unless:

1. The container is a small container similar in size to that normally found in household waste;

2. The container is designed to hold liquids for use other than storage; or

3. The waste is household waste.

17-701.300(6) - 17-701.300(10)(b)3.

(c) Containers or tanks twenty gallons or larger in capacity shall either have one end removed or cut open, or have a series of punctures around the bottom to ensure the container is empty and free of residue. The empty container or tank shall be compacted to its smallest practical volume for disposal.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.021, 403.061, 403.087, 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.06, 10D-12.07, 10-1-74;

Amended 5-24-79, 5-27-82; Previously Numbered as 17-7.04;

Amended 12-10-85; Formerly 17-7.040; Amended 6-25-90;

Formerly 17-701.040; Amended 1-6-93, 1-2-94, 5-19-94.

17-701.310 Approval of Alternate Procedures and Requirements.

(1) Applicability. Any person subject to the provisions of this chapter or Chapters 17-702 through 17-720, F.A.C., may request in writing a determination by the Secretary that a requirement shall not apply, and shall request approval of alternate procedures or requirements.

(2) Criteria. The request shall set forth at a minimum the following information:

(a) The specific facility for which an exception is sought;

(b) The specific provisions from which an exception is sought;

(c) The basis for the exception;

(d) The alternate procedure or requirement for which approval is sought and a demonstration that the alternate procedure or requirement provides an equal degree of protection for the public and the environment; and

(e) A demonstration of the effectiveness of the proposed alternate procedure.

(3) Department order. The Secretary shall specify by order each alternate procedure or requirement approved in accordance with this section or shall issue an order denying the request for such approval. The Department's order shall be agency action, reviewable in accordance with Section 120.57, F.S.

17-701.300(10)(c) - 17-701.310(3)

(4) Alternate sampling procedures. Approval of alternative or new field and laboratory sampling and analysis procedures shall be requested in accordance with Rules 17-160.430, 17-160.520 and 17-160.530, F.A.C.

(5) Variances. Requests for variances from specific statutory requirements shall be made pursuant to Section 403.201, F.S., and Rule 17-103.100, F.A.C.

(6) Requests for alternate procedures shall be accompanied by a fee of \$2000 in accordance with Rule 17-4.050(4)(n)4., F.A.C. Requests must be submitted to the Director of the Division of Waste Management, 2600 Blair Stone Road, Twin Tower Office Building, Tallahassee, Florida 32399-2400.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85; Amended 12-10-85; Formerly 17-7.078; Formerly 17-701.078; Amended 1-6-93, 5-19-94.

17-701.320 Solid Waste Management Facility Permit Requirements, General.

(1) Permit requirements. No solid waste management facility shall be constructed, operated, maintained, modified, or closed without a permit issued by the Department.

(2) Exemptions. Except as provided in Section 403.707(2), F.S., no permit under this chapter shall be required for the following activities or facilities. For purposes of this subsection, disposal shall be deemed to include storage prior to disposal or processing.

(a) Disposal by persons of solid waste resulting from their own activities on their own property, provided such waste is either from their residential property or is rocks, soils, trees, tree remains, and other vegetative matter which normally results from land development operations.

(b) Disposal by persons of solid waste resulting from their own activities on their property, provided that the environmental effects of such disposal on ground water and surface waters are:

1. Addressed or authorized by a site certification issued under Chapter 403, Part II, F.S., Electrical Power Plant Siting;

2. Addressed or authorized by a permit issued by the Department, including solid waste management permits or other environmental permits modified to include conditions for proper disposal; or

17-701.310(4) - 17-701.320(2)(b)2.

3. Addressed or authorized by, or specifically exempted from the requirement to obtain, a ground water monitoring plan approved by the Department.

(c) On-site disposal of construction and demolition debris, provided that disposal conforms to Rule 17-701.730(3), F.A.C.

(d) Clean debris which is used as fill material.

(e) Disposal of solid waste resulting from normal farming operations.

(f) Storage of solid waste in containers on property which is owned, rented, or leased by the persons who generated the waste from their own activities which occurred on their property, if the solid waste in such containers is collected at least once a week.

(g) Disposal by persons of solid waste resulting from their own activities on their own property, if that waste disposal occurred before October 1, 1988.

(3) Irresponsible applicant.

In addition to the provisions of Rule 17-4.070(5), F.A.C., When determining whether the applicant has provided reasonable assurances that Department standards will be met, the Department shall consider repeated violations of applicable statutes, rules, orders, or permit conditions caused by a permit applicant after October, 1988, relating to the operation of any solid waste management facility in this state if the applicant is deemed to be irresponsible. For purposes of this subsection, the following words have the following meanings:

(a) "Applicant" means the owner or operator of the solid waste management facility in this state, and includes a business entity, a parent of a subsidiary corporation, a partner, a corporate officer or director, or a stockholder holding more than 50 percent of the corporate stock.

(b) "Irresponsible" means that an applicant owned or operated a solid waste management facility in this state, including transportation equipment or mobile processing equipment used by or on behalf of the applicant, which was subject to a state or federal notice of violation, judicial action, or criminal prosecution for activities that constitute violations of Chapter 403, F.S., or the rules promulgated thereunder, and could have prevented the violation through reasonable compliance with Department rules.

(4) Modification of an approved permit. Nothing in this rule shall be construed to limit or prohibit modifications of a permit under the provisions of Rule 17-4.080, F.A.C.

(5) Permit application.

17-701.320(2)(b)3. - 17-701.320(5)

(a) Applications for a solid waste management facility shall be submitted on appropriate Department forms listed in Rule 17-701.900, F.A.C., to the Department district office with jurisdiction where the facility is located. A minimum of six copies each of the application, engineering plans and reports, and all supporting information for the proposed construction, substantial modification, operation or closure of a facility shall be provided to the Department.

(b) Information in every application shall be of sufficient detail to show how the facility will be constructed, operated, and closed, and how it will be monitored and maintained after closure, in order to comply with the requirements of this chapter.

(c) Combination facilities. An application for a permit to construct or operate a solid waste management facility having multiple solid waste management components which, if standing alone, would require solid waste management facility permits, shall include all information required to be submitted had each component been proposed as a separate facility, independent of the other components. Such information may be combined or otherwise presented so as to avoid duplicative or repetitive submittals. Additionally, such applications shall be accompanied by such fees as would be required for each facility component; however, the total permit fees for a facility shall not exceed \$25,000, exclusive of modifications and renewals.

(6) Engineer of record and professional certification. All engineering plans, reports, and information supporting the application shall be compiled by the engineer of record who shall be responsible for assurance that all technical components have been prepared under the direction and supervision and signed and sealed by the professional registered in Florida in each contributing technical discipline. The engineer of record's signature and seal on the application shall assure that all appropriate technical professional disciplines have been employed in development of the application. The application shall provide that the engineer of record or another qualified professional shall make periodic inspections during construction of the facility to ensure that design integrity is maintained.

PE Seal

(7) Application content and format. Applications for permits to construct, operate, modify, or close a solid waste management facility shall include in the following sequence:

- (a) A letter of application transmittal;
- (b) A completed application form dated and signed by the applicant;

17-701.320(5)(a) - 17-701.320(7)(b)

(c) The permit fee specified in Rule 17-4.050, F.A.C., in check or money order, payable to the Department.

(d) An engineering report addressing the requirements of this rule which shall:

1. Contain a cover sheet stating the project title, location, applicant's name, and the engineer's name, address, signature, date of signature and seal;
2. Have the text printed on 8 1/2 inch by 11 inch consecutively numbered pages;
3. Contain a table of contents or index describing the body of the report and the appendices; and
4. Include the body of the report and all appendices.

(e) Appendices submitted as part of an engineering report to support a permit application shall contain, where required under applicable sections of this rule:

1. An operation plan appropriate for the type of facility;
2. A contingency plan appropriate for the type of facility to cover operations interruptions and emergencies such as fires, explosions, or natural disasters;
3. Illustrative charts and graphs;
4. Records or logs of tests, soil borings, hydrogeological information, geochemical surveys, and water quality analyses; and
5. Engineering calculations, including literature citations.

(f) Plans or drawings for all solid waste management facilities shall:

1. Use sheets 22 inches by 34 inches or 24 inches by 36 inches, and include title blocks;
2. Have a cover sheet that includes the project title, applicant's name, sheet index, legend of symbols, and the engineer's name, address, signature, date of signature and seal;
3. Include a regional map or plan showing the project location;
4. Include a current vicinity map, or aerial photograph taken within one year preceding the application;
5. Have a site plan containing the location of all property boundaries certified by a registered Florida land surveyor; and
6. Clearly show all necessary details and be numbered, titled, and referenced to the narrative report. Drawings shall contain a north arrow and horizontal and vertical scales, and shall specify drafting or origination dates. All elevations shall be referenced to National Geodetic Vertical Datum.

17-701.320(7)(c) - 17-701.320(7)(f)6.

(g) Proof of property ownership, or a copy of any lease agreement, transfer of property agreement with right of entry for long-term care, interlocal government agreement, or any other agreement between the facility operator and property owner which may affect the facility; and

(h) For facilities owned or operated by a county, a description of the existing or proposed recycling facilities or activities, if any, at the site and a description of whether, and the extent to which, these recycling facilities or activities will contribute to the county's achievement of the recycling goals contained in Section 403.706, F.S.

(i) For purposes of the evaluation required in subsection (3) of this section, a history and description of any enforcement actions described in subsection (3) of this section relating to solid waste management facilities in this state.

(8) Notice of application.

(a) An applicant for a permit to construct or substantially modify a solid waste management facility shall publish and provide proof of publication to the Department of a Notice of Application in a newspaper of general circulation in the area where the facility will be located, in accordance with Rule 17-103.150, F.A.C.

(b) For all landfills, the Department shall mail a notice of receipt of permit application to the Chair of the Board of County Commissioners, the highest ranking elected official of the municipality, and each State Senator and Representative serving the jurisdiction in which the project is located. After the Department completes the permit review, a copy of the notice of intent to issue or deny the permit will also be sent to these same officials.

(9) Permits for construction, modification, operation, and closure. Complete permit applications for construction or operation of a solid waste management facility, renewal of an operation permit for an existing facility, modification of an existing facility, or closure of a facility shall be evaluated by the respective Department district office in accordance with Chapters 17-4 and 17-701, F.A.C. The Department shall:

(a) Issue a construction permit, or a construction/operation permit for a solid waste management facility, or for a substantial modification of an existing solid waste management facility. After all specified construction has been completed and before acceptance of any solid waste, the owner or operator shall submit to the Department a certification of construction completion, Form 17-701.900(2), signed and sealed by a professional engineer,

17-701.320(7)(g) - 17-701.320(9)(a)

and any modifications of the record drawings, and shall arrange for Department representatives to inspect the facility in the company of the permittee, the engineer, and the proposed facility operator. The facility shall not be operated until the certification has been submitted and approved, all documentation required as a condition of the permit has been submitted, and a facility inspection by Department personnel has been conducted; or

(b) Issue an operation permit for a new facility that has been satisfactorily constructed, or to an existing facility which is being operated in accordance with this chapter at the time for permit renewal; or

(c) Issue a closure permit for closing and long-term care of a landfill which complies with the requirements of Rules 17-701.600 - .620, F.A.C.; or

(d) Deny the issuance of a permit if reasonable assurances are not provided that the requirements of Chapters 17-4 and 17-701, F.A.C., will be satisfied.

(10) Identification number. The Department shall assign an identification number to each solid waste management facility that receives a permit. The number shall be unique to that facility, and shall remain assigned to that facility at all times. The identification number shall be used on all correspondence and records related to that facility.

(11) Local zoning. The Department does not evaluate compliance with local zoning or land use ordinances when determining whether to issue or deny any permit under this chapter. Issuance of a permit does not relieve an applicant from compliance with local zoning or land use ordinances, or with any other laws, rules, or ordinances.

(12) Airport safety.

(a) Applicability. This subsection applies to those facilities constructed after January 6, 1993, as well as lateral expansions of facilities which were constructed prior to January 6, 1993. For purposes of this subsection, an "airport runway" does not include facilities used solely for helicopters or other aircraft which take off and land vertically.

(b) Solid waste management facilities where waste is stored, disposed, or processed outdoors, shall not be located within 10,000 feet of any licensed and operating airport runway used by turbine powered aircraft, or within 5,000 feet of any licensed and operating airport runway used only by piston engine aircraft, unless the applicant demonstrates that the facility is designed and will be operated so that it does not pose a bird hazard to aircraft.

(c) Applicants proposing to site new landfills and lateral expansions of existing landfills within a five-mile radius of any licensed and operating airport runway used by turbine powered or piston engine aircraft shall notify the

17-701.320(9)(a)(cont'd.) - 17-701.320(12)(c)

affected airport, the Federal Aviation Administration, and the Florida Department of Transportation when the application is filed with the Department, and shall provide evidence of such notification to the Department.

(13) Other facility permits. In addition to the exemptions in subsection (2) of this section, the following solid waste management facilities which are constructed and operated under an appropriate and currently valid permit are not required to obtain a separate solid waste permit pursuant to this chapter:

(a) Incinerators which are constructed and operated under a permit issued pursuant to Chapters 17-296 or 17-256, F.A.C.; however, if the facility is also storing or disposing of solid waste on the site, and such storage or disposal is not addressed in the permit, a separate solid waste permit is required;

(b) Incinerators which are constructed and operated under a site certification pursuant to Chapter 403, Part II, F.S.;

(c) Solid waste management facilities, such as composting facilities, waste tire processing facilities, used oil recycling facilities, and biohazardous waste treatment or storage facilities, which are required to obtain permits under Rules 17-702 through 17-729, F.A.C. Specific Authority: 403.061, 403.704, F.S. Law Implemented: 403.0877, 403.702, 403.704, 403.707, F.S. History: New 1-6-93; Amended 1-2-94, 5-19-94.

17-701.330 Landfill Permit Requirements.

(1) Applicability.

(a) Except as otherwise specifically provided herein, this chapter shall apply to all solid waste disposal units constructed or operated under a landfill permit issued after January 6, 1993, including renewals of existing permits.

(b) All holders of landfill construction or operation permits issued prior to January 6, 1993, which contain conditions not in conformance with this chapter shall apply for modification of the permit to conform to this chapter to the District Office of the Department which issued the permit. The submission shall occur at the time of application for renewal of an existing permit, or before July 6, 1993, whichever is later. [For purposes of this paragraph, a permit issued prior to January 6, 1993, is deemed to include a completed permit application received by the Department prior to January 6, 1993.]

(c) Rules 17-701.400 - .420, F.A.C., shall not apply to any solid waste disposal unit for which construction is completed prior to the later of the dates specified in

17-701.320(12)(c)(cont'd.) - 17-701.330(1)(c)

paragraph (b) of this subsection. Such solid waste disposal unit may be operated until filled to its permitted or modified design dimensions which, if such unit is lined, may include any future vertical expansion over the liner in accordance with Rule 17-701.430, F.A.C.

(d) Facilities operating pursuant to a Consent Order with the Department in effect on January 6, 1993, shall continue to operate in accordance with the order until the order expires by its own terms, provided the landfill is in compliance with the terms and conditions of the order. If the facility owner or operator fails to comply with any substantive term or condition of the order, the facility covered by the order must comply with the operational, closure and long-term care requirements of this chapter.

(2) Term of permit. The time period for permits shall be no longer than five years from the date of issuance by the Department. Permits may be issued for a shorter period for specific circumstances.

(3) Permit renewals.

(a) Construction/operation permits shall be renewed at least every five years. Applicants for permit renewal shall demonstrate how they will comply with any applicable new or revised laws or rules relating to construction, operation, or closure of landfills. Closure plans shall be updated at the time of permit renewal to reflect changes in closure design, long-term care requirements, and financial responsibility documentation.

(b) Facility information that was submitted to the Department to support the expiring permit, and which is still valid, does not need to be re-submitted for permit renewal. The permit renewal application shall list and reaffirm that the information is still valid.

(4) Permit applications. Permit applications for landfills shall meet the requirements of Rule 17-701.320, F.A.C., and shall also include the following specific requirements:

(a) A vicinity map or aerial photograph not more than one year old which shows land use and local zoning within one mile of the landfill and is of sufficient scale to show all homes or other structures, water bodies, roads, and other significant features of the vicinity. All significant features shall be labeled.

(b) A vicinity map or aerial photograph not more than one year old which shows all airports that are located within five miles of the proposed landfill.

(c) A plot plan of the site showing dimensions, locations of proposed and existing water quality monitoring wells or points, locations of soil borings, proposed plan of trenching or disposal areas, original elevations, proposed

17-701.330(1)(c)(cont'd.) - 17-701.330(4)(c)

final contours, any previously filled waste disposal areas, and fencing. Cross sections shall be included on the plot plan or on separate sheets showing both the original and proposed fill elevations. The scale of the plot plan shall not be greater than 200 feet to the inch.

(d) Topographic maps at a scale of not greater than 200 feet to the inch with 5-foot contour intervals. These maps shall show the proposed fill area, any borrow area, access roads, grades required for proper drainage and cross sections of lifts, special drainage devices if necessary, fencing, and equipment facilities.

(e) A report on the:

1. Current and projected population and area to be served by the proposed site;
2. Anticipated type, annual quantity, and source of solid waste, expressed in tons;
3. Anticipated life of the facility; and
4. Source and type of cover material.

(f) The Hydrogeological investigation and ground water monitoring plan required by Rule 17-701.410 and .510, F.A.C.

(g) The Geotechnical investigation required by Rule 17-701.420, F.A.C.

(h) Evidence of an approved laboratory to do water quality monitoring in accordance with Rule 17-160, F.A.C.

(i) A statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill.

(j) Operational plans and drawings as required in Rules 17-701.500(2), (6), (7), (8), (9), (10), and (11), F.A.C.

(5) Modification of landfill permit. Permits shall be modified in accordance with the requirements of Rule 17-4.080, F.A.C. A modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review by the Department is considered a substantial modification.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93; Amended 1-2-94.

17-701.340 General Criteria For Landfills.

(1) Performance standards. A landfill shall be designed, constructed, operated, maintained, closed, and monitored throughout its design period to control the movement of waste and waste constituents into the environment so that ground water and surface water quality standards and criteria of Chapters 17-3 and 17-302, F.A.C., will not be violated beyond the zone of discharge specified for the landfill.

17-701.330(4)(c)(cont'd.) - 17-701.340(1)

(2) Minimum ground water criteria. For those landfills or solid waste disposal units which are constructed after January 6, 1993, and which are constructed with at least a double or composite liner, the minimum ground water criteria specified in Rule 17-3.402, F.A.C., shall apply only outside of the footprint of the solid waste disposal unit, or if the unit is surrounded by a perimeter road, outside the perimeter road, notwithstanding the provisions of Rule 17-3.404, F.A.C. *outside footprint*

(3) Classification of landfills. Landfills or solid waste disposal units are classified according to the amount or types of waste received.

(a) Class I landfills are those which receive an average of 20 tons or more of solid waste per day. *Class I 20 tons or more*

(b) Class II landfills are those which receive an average of less than 20 tons of solid waste per day.

(c) Class I and Class II landfills receive general, non-hazardous household, commercial, industrial, and agricultural wastes, subject to the restrictions of Rules 17-701.300 and 17-701.520, F.A.C. *shall not be restricted*

(d) Class III landfills are those which receive only yard trash, construction and demolition debris, waste tires, asbestos, carpet, cardboard, paper, glass, plastic, furniture other than appliances, or other materials approved by the Department which are not expected to produce leachate which poses a threat to public health or the environment. Class III landfills shall not accept putrescible household waste. The Department shall exempt Class III landfills from some or all of the requirements for liners, leachate controls, and water quality monitoring in Rules 17-701.400(3) and (4), and 17-701.510, F.A.C., if it determines based upon the types of waste received, methods for controlling types of waste disposed of, and the results of the hydrogeological and geotechnical investigations required in Rules 17-701.410 and 17-701.420, F.A.C., that no significant threat to the environment will result from such exemption. Yard trash composting facilities shall be operated in accordance with Chapter 17-709, F.A.C. Owners or operators of Class III landfills which are operating on January 6, 1993, shall apply for modification of their permits to comply with this paragraph no later than January 6, 1994. *shall not be restricted*

(4) Location requirements.

(a) The site shall provide structural support for the facility including total wastes to be disposed of and structures to be built on the site.

(b) A landfill or solid waste disposal unit shall not be located in the 100-year floodplain where it will restrict

17-701.340(2) - 17-701.340(4) (b)

the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste.

(c) The minimum horizontal separation between waste deposits in a landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope.

(d) Landfills shall be screened from public view where such screening can practically be provided.

(5) Zone of discharge. A landfill's zone of discharge shall be determined pursuant to Chapter 17-522, F.A.C. For all solid waste disposal units constructed after January 6, 1993, the zone of discharge shall not exceed 100 feet from the edge of those solid waste disposal units permitted to be constructed.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93; Amended 1-2-94, 5-19-94.

17-701.400 Landfill Construction Requirements.

(1) Minimum design standards. The requirements of this rule are the minimum standards for constructing a landfill. Nothing in this rule shall be construed to prevent the Department from imposing more stringent standards as necessary to protect the environment and the public health and safety due to site specific conditions and types of wastes to be disposed of in the landfill or solid waste disposal unit. An applicant whose landfill design meets the design standards of this rule will be presumed to provide reasonable assurance that the performance standards of Rule 17-701.340(1), F.A.C., will be met.

(2) Planned construction and closure. All landfills shall be designed so that solid waste disposal units will be constructed and subsequently closed at planned intervals throughout the design period of the landfill.

(3) Landfill liner requirements. Landfills shall be constructed with composite or double liners, and a leachate collection and removal system.

(a) Liners shall be:

1. Constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure due to physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and other applied stresses and hydraulic pressures which are anticipated during the operational and closure period of the solid waste disposal unit. The supplier of materials for the liner components shall provide test information accepted by the engineer of record, that supports the capabilities of the materials to meet these needs;

17-701.340(4)(b)(cont'd.) - 17-701.400(3)(a)1.

2. Installed upon a base and in a geologic setting capable of providing structural support to prevent overstressing of the liner due to settlements and applied stresses;

3. Constructed so that the bottom of the liner system is not subject to fluctuations of the ground water so as to adversely impact the integrity of the liner system.

4. Designed to resist hydrostatic uplift if the liner is located below the seasonal high ground water table; and

5. Installed to cover all surrounding earth which could come into contact with the waste or leachate.

(b) Composite liners.

1. The upper component of the composite liner shall be a 60-mil or thicker geomembrane liner with a maximum water vapor transmission rate of 0.24 grams per square meter per day ($\text{g}/(\text{m}^2 \times \text{day})$) as determined by ASTM Method E96-80, procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09. A primary leachate collection and removal system and a drainage layer shall be installed above the geomembrane liner. Except in sumps and leachate collection trenches, the system shall be designed to limit leachate head above the liner during routine landfill operation after placement of initial cover, as specified in Table A below, depending upon the thickness and hydraulic conductivity of the lower component of the composite liner. Leachate head calculations shall consider leachate recirculation if the leachate is recirculated.

2. The lower component of the composite liner shall be constructed in six-inch lifts. The thickness of the lower component may be varied in relation to the hydraulic conductivity of the lower component and the design leachate head above the liner, in accordance with Table A.

TABLE A:
Minimum Thickness of Lower Component of
Composite Liner (in feet)

Maximum Design Hydraulic Head (in inches)	Maximum Hydraulic Conductivity (cm/sec)		
	<u>1×10^{-7}</u>	<u>5×10^{-8}</u>	<u>1×10^{-8}</u>
1	2	1	1
6	2.5	1.5	1
12	3	2	1

17-701.400(3)(a)2. 17-701.400(3)(b)2.

(c) Double liners.

1. Double liner systems shall consist of upper and lower 60-mil minimum thickness geomembranes with a maximum water vapor transmission rate of $0.24 \text{ g}/(\text{m}^2 \times \text{day})$; a primary leachate collection and removal system lying above the upper geomembrane designed to limit the leachate head to one foot above the liner during routine landfill operations after placement of initial cover, except in sumps and leachate collection trenches; and a leak detection and secondary leachate collection system between the upper and lower liners. The lower geomembrane shall be placed directly on a sub-base which is a minimum six inches thick and has a saturated hydraulic conductivity of less than or equal to $1 \times 10^{-5} \text{ cm/sec}$.

2. The leak detection and secondary leachate collection system shall have a minimum hydraulic conductivity of ten cm/sec, shall be designed to limit the maximum hydraulic head on the lower liner to one inch, and shall not allow leachate head to exceed the thickness of the drainage layer. The hydraulic conductivity of the leak detection and secondary collection system material shall be derived from transmissivity and thickness measurements.

(d) Standards for geomembranes.

1. Geomembranes shall have factory and field seams whose shear strengths during testing are at least 90 percent of the specified minimum yield strength for that lining material, and the failure shall occur in the lining material outside the seam area. All field seams must also be visually inspected and pressure or vacuum tested for seam continuity using suitable non-destructive techniques.

2. Geomembranes shall be protected from physical damage by placing a minimum 24-inch-thick protective layer above the upper liner. All materials in direct contact with the liner shall be free of sharp materials or any materials larger than one-half inch. The upper 12 inches of the protective layer shall be composed of soil, tire chips four square inches or smaller with no protruding wires, or other materials approved by the Department which are permeable, non-reactive, stable, and which offer protection for the liner from punctures.

3. The first layer of waste placed on the protective layer above the liner and leachate collection system shall be a minimum of four feet in compacted thickness, and consist of selected wastes containing no large, rigid objects that may damage the liner or leachate collection system. Materials that could damage the liner shall be removed from this layer.

17-701.400(3)(c) - 17-701.400(3)(d)3.

(e) The following specifications shall be provided for geosynthetic components:

1. Definition and qualifications of the designer, manufacturer, installer, geosynthetic quality assurance consultant, geosynthetic quality assurance laboratory, and quality assurance program;
2. Material specifications for geomembranes, geotextiles, geogrids, and geonets, including general requirements, specified geomembrane properties, and labelling;
3. Manufacturing and fabrication specifications including:
 - a. Geomembrane manufacturing, including raw material and roll quality control;
 - b. Geomembrane fabrication, including requirements of personnel, seaming equipment and products, seam preparation, weather conditions for factory seaming, overlapping and temporary bonding, trial seams, and nondestructive seam continuity testing;
 - c. Destructive seam strength testing including location and frequency, sampling procedure, size of samples, testing at the fabrication factory, laboratory testing, fabricator's laboratory testing, and procedures for destructive test failure; and
 - d. Repairs.
4. Geomembrane installation specifications including
 - a. Earthwork;
 - b. Conformance testing;
 - c. Geomembrane placement, which shall address layout drawings, panel identification, and field panel placement;
 - d. Field seaming, which shall address seam layout, requirements of personnel, overlapping and temporary bonding, seam preparation, seaming equipment and products, weather conditions for seaming, trial seams, general seaming procedures, nondestructive seam continuity testing, destructive testing, and defects and repairs including identification, evaluation, and repair procedures;
 - e. Materials in contact with the geomembrane, including granular materials, concrete, and sumps and appurtenances; and
 - f. Lining system acceptance.
5. Geotextile and geogrid specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials.
6. Geonet specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials.

(f) Standards for soil components.

17-701.400(3)(e) - 17-701.400(3)(f)

1. Soil components of liner systems shall be constructed to preclude, to the greatest extent practicable, lenses, cracks, channels, root holes, pipes, or other structural inconsistencies that can increase the saturated hydraulic conductivity of the soil component. The design shall illustrate and describe those instances in which overexcavation of permeable areas and backfilling may be necessary to seal the permeable area. The soil component shall be placed and compacted in layers to achieve the design performance.

2. The permeability of soil liner components shall not be increased above the values specified for the component, as a result of contact with leachate from the solid waste disposal unit. Compatibility of the soil component and leachate shall be demonstrated by testing the soil component with actual or simulated leachate in accordance with EPA Test Method 9100 or an equivalent test method.

*leachate
compatibility
with liner*

3. The soil component of the liner system may consist of in-situ soils, provided they meet the specifications for soil liners. Testing of in-situ soil shall be performed in accordance with the site specific Construction Quality Assurance Plan in accordance with Rule 17-701.400(7), F.A.C.

4. Specifications for the soil component of the liner system shall be provided to and approved by the Department, and shall contain at a minimum:

- a. Allowable range of particle size distribution and Atterberg limits, to include shrinkage limit;
- b. Placement moisture criteria and dry density criteria;
- c. Maximum laboratory-determined saturated hydraulic conductivity, using simulated leachate as the saturating and testing liquid;
- d. Minimum thickness of the soil liner;
- e. Lift thickness;
- f. Surface preparation (scarification) for tying lifts together; and
- g. Type and percentage of clay mineral within the soil component.

5. The soil liner shall be placed using construction equipment and procedures that achieve the required saturated hydraulic conductivity and thickness. A field test section shall be constructed using the proposed construction equipment and tested to document that the desired saturated hydraulic conductivity and thickness is achieved in the field. Test results shall be submitted to the Department along with the completion of construction documents.

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(4) Leachate collection and removal system. Landfills shall have a leachate collection and removal system that is designed, constructed, maintained, and operated to collect leachate and convey it to collection points for removal.

17-701.400(3)(f)1. - 17-701.400(4)

(a) The primary and secondary leachate collection and removal systems shall:

1. Be constructed of materials that are chemically resistant to the waste disposed of in the landfill and the leachate expected to be generated;
2. Have sufficient mechanical properties to prevent collapse under pressures exerted by overlying wastes, cover materials, and by any equipment used at the landfill;
3. Have granular material or synthetic geotextile filter overlying or surrounding the leachate collection and removal system to prevent clogging of the collection system by infiltration of fine particles from the waste; and
4. Have a method to test that the pipes in the system are not clogged, and a method for cleaning the pipes in the system if they become clogged. If any part of the system cannot be tested for clogging, the design shall assure that leachate can be rerouted from that part to a leachate sump in the event of collapse.

3
110 cm/sec
(b) The primary leachate collection and removal system shall have a granular drainage layer above the top geomembrane liner, at least 12 inches thick, with a hydraulic conductivity of not less than 1×10^{-3} cm/sec, overlain with an additional 12 inches of protective material as specified in rule 17-701.400(3) (d)2., F.A.C., that is chemically resistant to the waste and leachate. It shall be designed with a bottom slope to achieve the required leachate head after the predicted settlement determined by the foundation analysis. Leachate collection systems incorporating synthetic drainage materials may be used if it can be demonstrated that they are equivalent to or more effective than the granular design, including chemical compatibility, flow under load, and protection of the geomembrane liner.

(5) Leachate recirculation. Leachate recirculation systems shall only be used at solid waste disposal units that have been designed for leachate recirculation and meet the following requirements:

(a) The landfill shall be lined and have a leachate collection and removal system.

(b) Ditches, berms, or other devices shall be installed to control any leachate runoff. Initial and intermediate cover receiving recirculated leachate shall be graded to shed runoff into the leachate collection system and to minimize mixing of leachate runoff and storm water.

(c) Initial and intermediate cover shall be permeable to the extent necessary to prevent perched water conditions and gas buildup.

17-701.400(4)(a) - 17-701.400(5)(c)

(d) Leachate shall not be recirculated during weather conditions or in quantities that may cause runoff outside the solid waste disposal unit, surface seeps, wind-blown spray, or exceedance of the limits of the leachate head on the liner. Ponding is prohibited unless it is an integral part of the design plan.

(e) A gas management system shall be implemented to control odors and migration of methane.

(f) Recirculation of leachate is prohibited on top of areas where final cover has been applied. Irrigation of the final vegetative cover may be done with treated leachate which meets the water quality standards of the receiving water body, if such irrigation does not contribute significantly to leachate generation.

Leachate
recirculation on
closed LFs.

(6) Leachate storage tanks and leachate surface impoundments.

(a) The requirements of this subsection apply to all leachate storage tanks and leachate surface impoundments constructed after January 6, 1993. Leachate storage tanks in use on January 6, 1993 are not required to retrofit to comply with this subsection unless leakage, corrosion or other defects are found. Leachate surface impoundments in use on January 6, 1993 shall be replaced or modified to conform to this subsection by January 6, 1995.

(b) Surface impoundments for leachate treatment or storage that are located at landfills are subject to the following requirements:

1. Surface impoundments shall be constructed so that the bottom of the liner system is not subject to fluctuations of the ground water so as to adversely impact the integrity of the liner system. The applicant shall demonstrate that the surface impoundment design will minimize infiltration of leachate into the environment so that ground water and surface water quality standards and criteria are not violated.

2. The surface impoundment shall be designed in segments such that any one segment may be taken out of service for inspection and repair with no interruption of service.

3. The impoundment shall have a double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane, and a leak detection and collection system between the geomembranes with a minimum hydraulic conductivity of one cm/sec. The lower geomembrane shall be placed directly on a subbase which is at least six inches thick and has a saturated hydraulic conductivity of less than or equal to 1×10^{-5} cm/sec. The leak detection and collection system shall be checked daily. The design of the upper liner shall include calculations to predict the potential leakage through the upper liner. If the daily

17-701.400(5)(d) - 17-701.400(6)(b)3.

checks indicate the upper liner is leaking at a rate greater than predicted by the design calculations, the Department shall be notified. If the leakage rate will result in the flooding of the leak detection and collection system, the impoundment shall be emptied and the liner repaired.

4. To preserve the liner integrity and prevent uplift, ballast material such as rounded gravel or sand, that will not cause damage to the geomembrane liner, shall be placed on top of any liner which is located below the water table.

5. A minimum of two feet of freeboard above the depth which would occur in the event of a 25-year, 24-hour storm shall be maintained in leachate surface impoundments.

6. Disease vectors and off-site odors shall be controlled.

(c) Above ground leachate storage tanks that are located at solid waste management facilities are subject to the following requirements:

1. Tanks shall be constructed of concrete or steel. Tanks shall be supported on a well drained, stable foundation.

2. Bottoms of steel tanks that rest on earthen material shall be cathodically protected with either sacrificial anodes or an impressed current system which is designed, fabricated, and installed in accordance with the engineering plan submitted to the Department.

3. The exterior surfaces of all steel storage tanks shall be protected by a primer coat, a bond coat, and two or more final coats of paint or other surface coating system designed to prevent corrosion and deterioration.

4. The interior of all tanks shall consist of a material or must be lined with a material, resistant to the liquid being stored.

5. All aboveground tanks shall have a secondary containment system which may consist of dikes, liners, pads, ponds, impoundments, curbs, ditches, sumps, or other systems capable of containing the stored leachate. The design volume for the secondary containment system shall be 110 percent of the volume of either the largest tank within the containment system or the total volume of all interconnected tanks, whichever is greater.

6. The secondary containment system shall be constructed of materials compatible with the liquid stored. The containment system shall be constructed of either:

a. A minimum three-foot layer of compacted soil with a maximum saturated hydraulic conductivity of 1×10^{-7} cm/sec or one foot of compacted soil with a maximum saturated hydraulic conductivity of 1×10^{-8} cm/sec with two feet of protective cover; or

b. A concrete pad that will maintain its integrity for the lifetime of the tank with a corrosion resistant coating; or

17-701.400(6)(b)3.(cont'd.) - 17-701.400(6)(c)6.b.

c. A geomembrane of a minimum thickness of 60 mils, with a maximum water vapor transmission rate of $0.24 \text{ g}/(\text{m}^2 \times \text{day})$.

7. A system shall be designed to contain and remove storm water from the secondary containment area. Provisions shall be included for the removal of any accumulated precipitation and be initiated within 24 hours or when 10 percent of the storage capacity is reached; whichever occurs first. Disposal of this stormwater shall be in accordance with the requirements of Rule 17-701.400(9), F.A.C.

8. All aboveground tanks shall be equipped with an overfill prevention system which includes level sensors and gauges, high level alarms, or automatic shutoff controls. The overfill control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.

9. The exposed exterior of all aboveground tanks shall be inspected weekly by the facility operator for adequacy of the cathodic protection system, leaks, corrosion, and maintenance deficiencies. Interior inspection of tanks shall be performed whenever the tank is drained or at a minimum of every three years. If the inspection reveals a tank or equipment deficiency, leak, or any other deficiency which could result in failure of the tank to contain the leachate, remedial measures shall be taken immediately to eliminate the leak or correct the deficiency. Inspection reports shall be maintained and made available to the Department upon request for the lifetime of the liquid storage system.

(d) Underground leachate storage tanks that are located at solid waste management facilities are subject to the following requirements:

1. Tanks shall be constructed of concrete, fiberglass, reinforced plastic, steel that is cathodically protected, or steel that is clad with fiberglass.

2. A secondary containment and a continuous leak detection system shall be installed in the form of a double-walled tank, designed as an integral structure so that any release from the inner tank is completely contained by the outer shell.

a. The interstitial space shall be monitored at least once per week by the facility operator for tightness using pressure monitoring, vacuum monitoring, or electronic monitoring.

b. The tank system shall be protected from both corrosion of the primary tank interior and the external surface of the outer shell.

c. All resistant coatings applied to the primary tank interior shall be compatible with the stored leachate.

17-701.400(6)(c)6.c. - 17-701.400(6)(d)2.c.

d. Cathodic protection systems, where installed, shall be inspected at least weekly by the facility operator. Any deficiency in the cathodic protection system shall be corrected when discovered.

3. All underground tanks shall be equipped with an overfill prevention system which includes level sensors and gauges, high level alarms, or automatic shutoff controls. The overfill control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.

4. Inspection and leak detection monitoring reports shall be maintained at the facility and made available to the Department upon request for the lifetime of the liquid storage system.

(e) A schedule for routine maintenance of the leachate collection and removal system shall be established to ensure operation of the system. The maintenance schedule shall be a part of the facility operation plan.

3QA (7) Liner systems construction quality assurance.

(a) Liner systems shall have a construction quality assurance plan to provide personnel with adequate information to achieve continuous compliance with the liner construction requirements. The plan shall include or refer to specifications and construction methods which use established engineering practices to construct a liner system and provide for quality control testing procedures and sampling frequencies. Sampling and testing shall be conducted in the field by trained personnel during construction and after construction completion. Such personnel will be under the direction of the construction quality assurance professional engineer, to assure the liner system will comply with the standards. The engineer or his designee shall be on-site at all times during construction to monitor construction activities. Construction activities include the time during which the protective layer is installed over the geomembrane, to ensure that the placement techniques do not cause damage to the liner system materials.

(b) Liner systems shall be installed in accordance with a Department-approved construction quality assurance plan. Plans that comply with EPA Document 530-SW-86-031 shall be presumed to be in compliance with this section. The following minimum specific elements shall be included in the plan:

1. Responsibility and authority of all organizations and key personnel involved in permitting, designing, constructing, and providing construction quality assurance of the waste disposal facility shall be described fully;

2. Minimum qualifications of the construction assurance quality professional engineer and supporting personnel shall be in the plan to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities;

17-701.400(6)(d)2.d. - 17-701.400(7)(b)2.

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3. Procedures and tests that will be used to monitor the installation of the liner system components shall be described in detail;

4. The sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for implementing corrective measures that may be necessary shall be described; and

5. Reporting requirements for construction quality assurance activities shall be described, including daily summary reports, observation data sheets, problem identification and corrective measures, and final documentation. All such documents shall be included in the final report which shall be forwarded to the Department.

(c) A laboratory experienced in the testing of geosynthetics, independent of the liner manufacturer and installer, shall perform the required testing which must include, at a minimum, conformance testing for all geosynthetics and geocomposites, and testing of seam shear and peel strength for geomembranes.

(d) The professional engineer in charge of construction quality assurance shall provide a signed, sealed final report and record drawings to the Department stating that the liner system has been installed in substantial conformance with the plans and specifications for the liner system.

(8) Soil liner construction quality assurance. In addition to the requirements of subsection (7) above, the following requirements apply to construction of the soil component of liner systems. All required testing and analysis shall be performed in accordance with generally accepted engineering procedures, such as those promulgated by the American Society for Testing and Materials (ASTM). Parenthetical references to ASTM methods are intended as guidance only.

(a) A construction quality assurance/quality control plan shall be prepared for each soil liner project to outline project specifications and construction requirements. The plan shall specify performance criteria for the soil liner, and provide quality control testing procedures and minimum sampling frequencies. In addition, the plan shall define the responsibilities of the parties that will be involved in soil liner construction, and shall present minimum qualifications of each party to fulfill their identified responsibilities.

(b) Field and laboratory testing during liner construction shall be conducted by a qualified soil testing laboratory representing the owner. A qualified field technician representing the owner shall provide full time, on-site inspection during liner construction. The field

17-701.400(7)(b)3. - 17-701.400(8)(b)

technician shall work under the supervision of a professional engineer with experience in soil liner construction.

(c) Prior to soil liner installation, an appropriate borrow source shall be located. Suitability of the liner construction materials from that source shall be determined in accordance with the following:

1. If demonstrated field experience is available from at least three prior successful projects of five or more acres each to document that a given borrow source can meet the requirements of the project specifications, then extensive laboratory testing of the borrow source will not be required. However, the source of material shall be geologically similar to and the methods of excavating and stockpiling the material shall be consistent with those used on the prior projects. Furthermore, a minimum of three representative samples from the appropriate thickness of the in-situ stratum or from stockpiles of the borrow material proposed for liner construction shall be submitted to an independent soil testing laboratory to document through index testing that the proposed material is consistent with the material used on prior successful projects. At a minimum, index testing shall consist of percent fines, Atterberg limits and moisture content determinations.

2. If demonstrated field experience as defined above is not available or cannot be documented, then the following requirements shall be met.

a. A field exploration and laboratory testing program shall be conducted by an independent soil testing laboratory to document the horizontal and vertical extent and the homogeneity of the soil strata proposed for use as liner material. A sufficient number of index tests from each potential borrow stratum shall be performed to quantify the variability of the borrow materials and to document that the proposed borrow material complies with specifications. At a minimum, the index tests shall consist of percent fines, Atterberg limits and moisture content determinations.

b. Sufficient laboratory hydraulic conductivity tests shall be conducted on samples representative of the range invariability of the proposed borrow source (ASTM D-5084). For each such sample, test specimens shall be prepared and tested to cover the range of molding conditions (moisture content and dry density) required by project specifications. The hydraulic conductivity tests shall be conducted in triaxial type permeameters. The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation

17-701.400(8)(b)(cont'd.) - 17-701.400(8)(c)2.b.

of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D-5084). The borrow source will only be considered suitable if the hydraulic conductivity of the material, as documented on laboratory test specimens, can be shown to meet the requirements of the project specifications at the 98 percent confidence level.

(d) Prior to full-scale liner installation, a field test section or test strip shall be constructed at the site above a prepared subbase. The test strip shall be considered acceptable if the measured hydraulic conductivities of undisturbed samples from the test strip meet the requirements of the project specifications at the 98 percent confidence level. If the test section fails to achieve the desired results, additional test sections shall be constructed in accordance with the following requirements:

1. The test section shall be of sufficient size such that full-scale liner installation procedures can be duplicated within the test section;

2. The test section shall be constructed using the same equipment for spreading, kneading and compaction and the same construction procedures (e.g., number of passes, moisture addition and homogenization, if needed) that are anticipated for use during full-scale liner installation;

3. At a minimum, the liner test section shall be subject to the following field and laboratory testing requirements:

- a. A minimum of five random samples of the liner construction material delivered to the site during test section installation shall be tested for moisture content (ASTM D-2216), percent fines (ASTM D-1140) and Atterberg limits (ASTM D-4318);

- b. At least five field density and moisture determinations shall be performed on each lift of the compacted liner test section;

- c. Upon completion of the test section lift, the thickness of the lift shall be measured at a minimum of five random locations to check for thickness adequacy; and

- d. A minimum of five Shelby tube or drive cylinder (ASTM D-2937) samples shall be obtained from each lift of the test section for laboratory hydraulic conductivity testing.

Laboratory hydraulic conductivity testing shall be conducted in triaxial type permeameters (ASTM D-5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure

17-701.400(8)(c)2.b.(cont'd.) - 17-701.400(8)(d)3.d.

to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D-5084).

(e) Full scale liner installation may begin only after completion of a successful liner test section. During liner construction, quality control testing shall be provided to document that the installed liner conforms to project specifications. The testing frequencies for quality control testing are specified below; however, during construction of the first five acres of the liner, these frequencies shall be doubled. Samples shall be obtained from random locations selected by an independent soil testing laboratory. If there are indications of a change in product quality or construction procedures during liner construction, additional tests shall be performed to determine compliance.

1. Field testing during liner installation. The following field tests shall be performed:

a. Prior to the laying of the liner materials, the liner subbase shall be compacted to the specified density. Density tests shall be conducted at a minimum rate of two tests per acre;

b. A minimum of two moisture content and field density determinations shall be conducted per acre per lift of the compacted liner. The degree of compaction shall be checked using the one-point field Proctor test or other appropriate test procedures; and

c. A minimum of four thickness measurements shall be conducted per acre per lift of the compacted liner.

2. Laboratory testing during liner installation. The following laboratory tests shall be performed:

a. Percent fines (ASTM D-1140) of the liner construction material shall be determined at a minimum frequency of two tests per acre per lift of installed liner;

b. Atterberg Limits determinations shall be performed on one sample per acre per lift of installed liner; and

c. Hydraulic conductivity testing of Shelby tube or drive cylinder (ASTM D-2937) samples of the compacted liner shall be performed at a minimum frequency of one test per acre per lift. Laboratory hydraulic conductivity tests shall be conducted in triaxial type permeameters (ASTM D-5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity

17-701.400(8)(d)3.d.(cont'd.) - 17-701.400(8)(e)2.c.

calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured.

(f) If the test data from a liner section does not meet the requirements of the project specifications, additional random samples may be tested from that liner section. If such additional testing demonstrates that the thickness and hydraulic conductivity meet the requirements of the project specifications at the 95 percent confidence level, that liner section will be considered acceptable. If not, that liner section shall be reworked or reconstructed so that it does meet these requirements.

(9) Surface water management systems.

(a) A stormwater management system shall be designed, constructed and maintained which, at a minimum, prevents stormwater from the peak discharge of the 25 year storm event from running onto those portions of the landfill which have not been closed.

(b) A stormwater management system shall be designed, constructed and maintained which collects and controls, at a minimum, the volume of runoff from a 25 year, 24 hour storm event.

(c) Stormwater controls shall include retention or detention ponds, and drainage ways specifically designed and sized according to local drainage patterns, soil permeability, annual precipitation, area land use, and other characteristics of the contributing watershed.

(d) Stormwater management systems shall be designed to avoid mixing of stormwater with leachate. Stormwater or other surface water which comes into contact with the landfilled solid waste or mixes with leachate shall be considered leachate and is subject to the requirements of Rules 17-701.500(8) and 17-701.510(5), F.A.C.

(e) Nothing herein shall be construed to supercede the applicable standards and requirements of Chapters 17-25, 17-302, and 17-330, F.A.C., or the rules and requirements of any other state or local agencies.

(10) Gas control systems.

(a) Landfills that receive biodegradable wastes shall have a gas monitoring and control system designed to prevent explosions and fires, and to minimize off-site odors and damage to vegetation. Landfill gas control systems shall:

1. Be designed to prevent the concentration of methane and other gasses generated by the landfill from:

a. Exceeding twenty-five percent of the lower explosive limit for gasses in structures on- or off-site, excluding gas control or recovery components;

17-701.400(8)(e)2.c.(cont'd.) - 17-701.400(10)(a)1.a.

gas levels at the landfill boundary may be used to monitor landfill gas levels at the boundary via gas pressure and ambient air. Ambient air levels may explode unless contained as the landfill is well in the air as it is built.

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- b. Exceeding the lower explosive limit for gasses at or beyond the landfill property boundary; and
c. Causing objectionable odors at or beyond the landfill property boundary;

2. Be designed for site-specific conditions and be installed in each section of the landfill that has been filled to design dimensions;

3. Be designed to reduce gas pressure in the interior of the landfill by collecting the gasses to prevent them from moving laterally. Collection pipes, pathways, or vents shall collect gas from at least the uppermost two-thirds of the filled waste or where the more anaerobic conditions exist. Air shall not be forced into the collection system. Passive venting or suction shall be used to extract gas; and

4. Not interfere with or cause failure of the liner or leachate control systems.

(b) Flaring of landfill gasses may be used as a method of gas control, particularly control of objectionable odors, in accordance with the permitting requirements of Chapter 17-296, F.A.C.

(c) Owners or operators of solid waste disposal units that have received biodegradable waste shall implement a routine gas monitoring program to ensure that the standards of paragraph (10)(a) of this section are met.

1. The location of monitoring points and frequency of monitoring shall be determined by the following factors:

- a. Soil conditions;
b. The hydrogeologic conditions surrounding the facility;
c. The hydraulic conditions surrounding the facility; and
d. The location of facility structures and property boundaries.

2. All monitoring points shall be sampled quarterly, and the results reported to the Department.

3. If methane gas levels exceed the lower explosive limits specified in paragraph (10)(a) of this section, the owner or operator shall:

- a. Immediately take all necessary steps to ensure protection of human health and notify the Department;
b. Within 7 days of detection, submit to the Department for approval a remediation plan for the methane gas releases. The plan shall describe the nature and extent of the problem and the proposed remedy. The remedy shall be completed within 60 days of detection unless otherwise approved by the Department.

17-701.400(10)(a)1.b. - 17-701.400(10)(c)3.b.

(d) Landfills using piping or a similar conduit to convey gas shall be furnished with a positive means of gas condensate collection and disposal at each low point in the conveyance system.

(11) Landfill gas recovery facilities.

(a) Landfill gas recovery facilities are considered solid waste management facilities, and shall be constructed and operated only in accordance with a Department permit. Landfill gas recovery facilities that are operating without a permit shall submit a complete application to the Department on or before July 6, 1993. If a gas recovery facility is included in the approved closure plan or closure permit of the landfill, no separate permit for the facility is required, provided that the facility must meet all the requirements of this subsection.

(b) The application be on Form 17-701.900(1), and shall contain at least the following:

1. The information contained in Rules 17-701.320(7) and 17-701.330(4), F.A.C.;

2. Where relevant and practical, the information required in Rule 17-701.600(4), F.A.C.;

3. An estimate of the quantities of gas condensate currently collected or expected to be collected, and a description of how the condensate is or will be disposed of;

4. A description of the procedures for sampling, analyzing, and reporting data from the condensate sampling;

5. A closure plan that shall include methods to control landfill gasses after operation of the recovery facility ceases and any other requirements contained in Rule 17-701.400(10), F.A.C.

(c) The owner or operator of a gas recovery facility shall post a performance bond to cover the estimated costs of closing the facility. If the gas recovery facility is included in the approved closure plan or closure permit of the landfill, and if the closure costs are included in the landfill closure cost estimates for which financial responsibility is required by Rule 17-701.630, F.A.C., then no separate proof of financial responsibility is required.

(12) Landfills in ground water. A landfill constructed so that the bottom liner is constantly in contact with ground water is not prohibited by this rule. However, an applicant proposing such a design shall include special design features which demonstrate that the landfill will provide an equivalent degree of protection for the environment as would a similar landfill whose bottom liner is not in contact with ground water. Such a design is not entitled to the presumption of compliance with performance standards which is set forth in subsection (1) of this

17-701.400(10)(d) - 17-701.400(12)

section. In addition to any other assurances of financial responsibility for closure, an applicant shall provide a performance bond sufficient to ensure long-term maintenance and operation of the leachate collection system.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93; Amended 1-2-94, 5-19-94.

17-701.410 Hydrogeological Investigation Requirements.

(1) Hydrogeological investigation and site report. The hydrogeological investigation and site report required by Rule 17-701.330(4), F.A.C., shall be conducted by or under the supervision of a professional geologist or professional engineer with experience in hydrogeologic investigations, and shall:

(a) Define the landfill site geology and hydrology and its relationship to the local and regional hydrogeologic patterns including:

1. Direction and rate of ground water and surface water flow, including seasonal variations;
2. Background quality of ground water and surface water;
3. Any on site hydraulic connections between aquifers;
4. For all confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill, the porosity or effective porosity, horizontal and vertical permeabilities, and the depth to and lithology of the layers and aquifers; and

5. Topography, soil types and characteristics, and surface water drainage systems of the site and surrounding the site.

(b) Include an inventory of all the public and private water wells within a one-mile radius of the proposed landfill site. The inventory shall include, where available:

1. The approximate elevation of the top of the well casing and the depth of each well;
2. The name of the owner, the age and usage of each well, and the estimated daily pumpage; and
3. The stratigraphic unit screened, well construction technique, and static water levels of each well.

(c) Identify and locate any existing contaminated areas on the landfill site.

(2) Report verification. The site report and supporting information, including detailed description of the methods, calculations, and interpretations used, shall be signed and sealed by the professional engineer or geologist.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93.

17-701.400(12) (cont'd.) - 17-701.410 (History)

5-19-94

17-701.420 Geotechnical Investigation Requirements.

(1) Geotechnical site investigation. The geotechnical site investigation required by Rule 17-701.330(4), F.A.C., shall be conducted by or under the supervision of a professional engineer with experience in geotechnical engineering. Prior to any construction on the landfill site, the engineer shall define the engineering properties of the site that are necessary for the design, construction, and support of the landfill and all installations of the facility and shall:

(a) Explore and describe subsurface conditions including soil stratigraphy and ground water table conditions;

(b) Explore and address the presence of muck, previously filled areas, soft ground, lineaments, and sinkholes;

(c) Evaluate and address fault areas, seismic impact zones, and unstable areas as described in 40 CFR 258.13, 258.14 and 258.15.

(d) Include estimates of the average and maximum high ground water table across the site; and

(e) Include a foundation analysis to determine the ability of the foundation to support the loads and stresses imposed by the landfill. It may include geotechnical measures necessary to modify the foundation to accommodate the imposed loads and stresses. The foundation shall be analyzed for short-term, end of construction, and long-term stability and settlement conditions. Considering the existing or proposed subgrade conditions and the landfill geometry, analysis shall include:

1. Foundation bearing capacity;

2. Subgrade settlements, both total and differential; and

3. Subgrade slope stability.

(2) Report. The geotechnical site investigation report shall describe the site subsurface conditions and shall include, at a minimum, the methods used in the investigation, all soil boring logs and laboratory results, analytical calculations, cross sections, interpretations and conclusions.

(3) Report verification. The report and supporting documentation shall be signed and sealed by the professional engineer.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93; Amended 1-2-94.

17-701.420(1) - 17-701.420(History)

5-19-94

17-701.430 Vertical Expansion of Landfills.

(1) Applicability. Construction of a solid waste disposal unit on top of or against the side slopes of a previously filled landfill, whether active, closed, or inactive is considered vertical expansion of that landfill. Vertical expansion shall require either a modification of the landfill permit, or a new permit if the landfill has been closed. The following requirements shall apply:

(a) The vertical expansion shall not cause or contribute to any leachate leakage from the existing landfill, and shall not adversely affect the closure design of the existing landfill.

(b) For vertical expansion over lined landfills, no interface liner is required between the old and new landfill slopes.

(c) For vertical expansion over unlined landfills or landfills that were not constructed in accordance with permit requirements, the vertical expansion shall comply with all the requirements of Rule 17-701.400, F.A.C., with the following exceptions:

1. Side slopes of six feet horizontal to one foot vertical rise or steeper require the installation of a single geomembrane slope liner overlain by a leachate collection and removal system;

2. The slope liner shall consist of a 60-mil or thicker geomembrane with a maximum water vapor transmission rate of 0.24 g/(m² x day) as determined by ASTM Method E96-80, procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09.

3. The liner shall be protected from physical damage by a 24-inch thick protective layer above the liner and a bedding layer below the liner at least 24 inches thick to protect against the calculated differential settlement.

4. In all vertical expansion construction, grades shall slope toward the new expansion area.

5. If the vertical expansion consists exclusively of construction and demolition debris, the expansion must comply with the requirements of Rules 17-701.730 and 17-701.803, F.A.C., as well as paragraph (a) of this subsection.

6. If the vertical expansion consists of a composting operation, it must meet the requirements of Chapter 17-709, F.A.C., as well as paragraph (a) of this subsection.

7. If the vertical expansion consists of a Class III landfill, the provisions of Rule 17-701.340(3)(d), F.A.C., apply.

(d) The provisions of Rule 17-701.610(7), F.A.C., are applicable to all operations, including recycling operations, conducted on top of closed landfills.

17-701.430(1) - 17-701.430(1)(d)

(2) Construction requirements. The design for the vertical expansion shall also provide calculations and supporting information on the following factors:

(a) Construction on the slopes of a filled landfill requires a determination of foundation stability in accordance with Rule 17-701.420, F.A.C., and calculations for the total settlement of the waste in the existing landfill and the waste that will be disposed of in the new disposal area to be constructed. Total settlement calculations shall address both compression and differential settlement and shall be based on worst case predictions. Total settlement calculations shall show the final elevations of the liner systems, that gravity drainage will be maintained, and that no other component of the design will be adversely affected.

(b) The vertical expansion design shall achieve a minimum safety factor of 1.5 for:

1. The liner system stability for liner systems installed over existing landfill slopes to prevent sliding along the interface between liner system components; and

2. Deep stability, to prevent sliding along all potential failure surfaces through the waste mass, along the liner systems, and through the foundation soils.

(c) Surface water management during construction of the vertical expansion over the slopes of an existing landfill shall be consistent with Rule 17-701.400(9), F.A.C., and shall require proper design of the drainageway at the interface between the existing slopes and vertical expansion area. The design shall:

1. Prevent infiltration into the existing and new landfills;

2. Minimize erosion of cover materials;

3. Carry the calculated flow; and

4. Comply with the cover requirements.

(d) A gas control system shall be installed to vent gas from the interface between the existing landfill slopes and the vertical expansion slopes to prevent accumulation of gas under the new liner system. Gas venting is achieved by installing a gas venting layer under the entire slope that will be covered by the new liner system. The gas venting layer shall convey gas to vertical vents at the crest of the interface slopes.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93, Amended 5-19-94.

17-701.430(2) - 17-701.430(History)

17-701.500 Landfill Operation Requirements.

(1) Operating personnel. All Class I and Class III landfills shall have at least one trained operator at the landfill during all times when the landfill receives waste. Trained operators are those who have satisfied the requirements of Chapter 17-703, F.A.C. If an operator is employed at a Class II landfill, that person must be a trained operator. All Class I and Class III landfills shall have at least one spotter at each working face at all times when the landfill receives waste to detect unauthorized wastes.

(2) Operation plan. Each landfill owner or operator shall have an operational plan that provides written, detailed instructions for the daily operation of the landfill. The operation plan shall be kept at or near the landfill facility and shall be accessible to landfill operators. The operation plan shall be revised if operational procedures change. The plan shall include procedures for:

(a) Designation of persons responsible for operation and maintenance of the facility;

(b) Contingency operations, alternate waste handling and disposal methods in case of emergency such as a fire, natural disaster or equipment failure;

(c) Controlling the type of waste received at the site. The plan shall specify inspection procedures, number and location of spotters for each working face, and procedures to be followed if prohibited wastes are discovered;

(d) Weighing incoming waste, if required under rule 17-701.500(4)(a), F.A.C.;

(e) Vehicle traffic control and unloading;

(f) Method and sequence of filling waste;

(g) Waste compaction and application of cover;

(h) Operations of gas, leachate, and stormwater controls; and

(i) Water quality monitoring.

(3) Operating record. The operating record shall consist of: all records, reports, analytical results, demonstrations, and notifications required by this chapter; any construction, operation, and closure permits, including all modifications to those permits, issued by the Department, along with the engineering drawings and supporting information; and the training verifications required by Chapter 17-703, F.A.C. The record is considered part of the operation plan, and shall be kept with the plan at or near the landfill facility, or in an alternate location designated in the operating permit which is readily accessible to landfill operators. The operating record shall be available for inspection at reasonable times by Department personnel.

(4) Waste records.

17-701.500(1) - 17-701.500(4)

(a) The owner or operator of a Class I or Class III landfill, or of a Class II landfill owned or operated by county or municipality, shall weigh all solid waste as it is received. Landfill operators shall record, in tons per day, the amount of solid waste received and shall estimate the amount of wastes listed in paragraph (b) of this subsection. Waste reports shall be compiled monthly, and copies shall be provided to the Department quarterly.

402.706(18)

(b) Types of waste received:

- | | |
|---------------------------------------|---------------------------------|
| 1. Household waste | 7. Agricultural waste |
| 2. Commercial waste | 8. Industrial waste |
| 3. Ash residue | 9. Yard trash |
| 4. Incinerator by-pass waste | 10. Sewage sludge |
| 5. Construction and demolition debris | 11. Industrial sludge |
| 6. Treated biohazardous waste | 12. Water/air treatment sludges |

(5) Control of access. To prevent unauthorized waste disposal, access to and use of the facility shall be controlled by fencing, gates, or other barriers, as well as signs and facility personnel. Public access and receipt of wastes shall occur only when an attendant is on duty.

(6) Monitoring of waste.

(a) The owner or operator shall implement a load checking program to detect and discourage attempts to dispose of unauthorized wastes at the landfill. The load checking program shall consist of the following minimum requirements:

load
checking
program

1. The landfill operator shall examine at least three random loads of solid waste delivered to the landfill each week. The waste collection vehicle drivers selected by the inspector shall be directed to discharge their loads at a designated location within the landfill. A detailed inspection of the discharged material shall be made for any unauthorized wastes. If the landfill owner or operator also owns or operates a transfer station, this inspection may be carried out at that transfer station before delivery of the waste to the landfill.

2. If unauthorized wastes are found, the facility shall contact the generator, hauler, or other party responsible for shipping the waste to the landfill to determine the identity of the waste sources.

(b) Handling hazardous wastes.

17-701.500(4)(a) - 17-701.500(6)(b)

1. If any regulated hazardous wastes are identified by random load checking, or are otherwise discovered to be improperly deposited at the landfill, the landfill operator shall promptly notify the Department, the person responsible for shipping the wastes to the landfill, and the generator of the wastes, if known. The area where the wastes are deposited shall immediately be cordoned off from public access. If the generator or hauler cannot be identified, the landfill operator shall assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility.

2. Subsequent shipments from sources found or suspected to be previously responsible for shipping regulated hazardous waste shall be subject to precautionary measures prior to the solid waste management facility accepting wastes.

(c) Recording inspection results. Information and observations resulting from each random inspection shall be recorded in writing and retained at the landfill for at least three years. The recorded information shall include, at a minimum: the date and time of the inspection; the names of the hauling firm and the driver of the vehicle; the vehicle license plate number; the source of the waste, as stated by the driver; and observations made by the inspector during the detailed inspection. The written record shall be signed by the inspector.

(d) Training. Inspectors, equipment operators, weigh station attendants, and spotters shall be trained to identify unauthorized wastes or potential sources of regulated hazardous wastes. The training program shall emphasize familiarity with containers and labels typically used for hazardous wastes and hazardous materials.

(7) Waste handling requirements.

(a) All solid waste at Class I and Class II landfills shall be spread in layers of approximately two feet in thickness and compacted to approximately one foot in thickness or as thin a layer as practical before the next layer is applied. Solid waste at all Class III sites shall be spread in layers and compacted once every week using suitable heavy equipment. Bulky materials which are not easily compacted should be worked into other materials as much as practical.

(b) The first layer of waste placed above the liner and leachate collection system shall be a minimum of four feet in compacted thickness and consist of selected wastes containing no large rigid objects that may damage the liner or leachate collection system.

17-701.500(6)(b)1. - 17-701.500(7)(b)

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(c) Solid waste shall be formed into cells to construct horizontal lifts. The working face of the cell, and side grades above land surface, shall be at a slope no greater than three feet horizontal to one foot vertical rise. Lift depth should normally not exceed 10 feet but may be deeper, depending on specific operations, daily volume of waste, width of working face, and good safety practices.

(d) The working face shall be only wide enough to accommodate vehicles discharging waste, and to minimize the exposed area and unnecessary use of cover material.

(e) Initial cover shall be applied and maintained at landfills in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, unauthorized wastes, blowing litter, odors, disease vectors, or fires. The minimum frequency for applying cover is: *see p. 9*

1. For Class I and II landfills, at the end of each working day. However, for those areas where solid waste will be deposited on the working face within 18 hours, initial cover may consist of a temporary cover, such as a tarpaulin, which may be removed prior to deposition of additional waste; and

2. For Class III landfills, at the end of each work week.

(f) An intermediate cover in addition to the six-inch initial cover shall be applied and maintained within seven days of cell completion if additional solid waste will not be deposited within 180 days of cell completion. The landfill operator may remove all or part of the intermediate cover before placing additional waste or installing final cover.

(g) Solid waste disposal units which have been filled to design dimensions shall receive final cover within 180 days after attaining final elevation or in accordance with the closure plan for the landfill.

(h) Uncontrolled and unauthorized scavenging shall not be permitted at any landfill site. Controlled salvaging for recycling may be permitted by the landfill operator. *scavenging
recycling*

(i) A litter policing operation shall be employed to keep litter from leaving the working area of the landfill. Litter outside the working area shall be picked up within 24 hours. Some litter may be exposed through the initial cover if it is in traffic areas and away from public view. *litter*

(j) Erosion control measures shall be employed to correct any erosion which exposes waste or causes malfunction of the storm water management system. *erosion*

(8) Leachate management.

17-701.500(7)(c) - 17-701.500(8)

(a) The landfill operator is responsible for leachate level monitoring, sampling, analysis of the landfill leachate, and for providing copies of the leachate analysis to the Department.

(b) The landfill operator is responsible for the operation of the leachate collection and removal system and for maintaining the system as designed for the design period. Leachate shall be collected and treated as necessary to meet surface and ground water quality standards of Chapter 17-3 and 17-302, F.A.C. If the leachate is classified as a hazardous waste, it shall be managed in accordance with Rule 17-730, F.A.C.

(c) Leachate may be discharged to an off-site treatment plant. The landfill operator is responsible for having a written contract or agreement with the off-site treatment plant to discharge leachate to the plant.

(d) On-site leachate treatment or pretreatment systems are part of the leachate collection and removal system and shall be designed according to the expected characteristics of the leachate. The design may include adjustments to the system as necessary to accommodate changing leachate characteristics.

(e) The landfill operator shall have a prepared contingency plan to handle leachate collection, removal, and treatment problems such as interruptions of discharges to a treatment plant.

(f) Quantities of leachate collected by the leachate collection and removal system shall be recorded in gallons per day before on-site treatment or transport off-site.

(g) A recording rain gauge shall be installed, operated, and maintained to record precipitation at the landfill. Precipitation records shall be maintained and used by the permittee to compare with leachate generation rates.

(9) Gas monitoring. All landfills that have received organic wastes shall implement a routine gas monitoring program to meet the requirements of Rule 17-701.400(10), F.A.C.

(10) Stormwater system management. Stormwater management systems shall be operated and maintained as necessary to meet applicable standards of Chapters 17-3, 17-302, and 17-25, F.A.C.

(11) Equipment and operation features. The landfill shall have:

(a) Sufficient equipment to ensure proper operation of the landfill and for excavating, spreading, compacting, and covering waste.

(b) Sufficient reserve equipment or arrangement to obtain additional equipment within 24 hours of equipment breakdown;

17-701.500(8)(a) - 17-701.500(11)(b)

(c) Communications equipment for emergency and routine communications;

(d) At Class I and Class III landfills, personnel shelter and sanitary facilities and first aid equipment;

(e) Dust control methods;

(f) Fire protection and fire-fighting capabilities adequate to ensure safety of employees and to control accidental burning of solid waste in the landfill. Fire protection includes procedures for notification of local fire protection agencies for assistance in emergencies;

(g) Litter control devices, portable fences, or other suitable devices; and

(h) Signs indicating the name of the operating authority, traffic flow, hours of operations and restrictions or conditions of disposal.

(12) Roads. The landfill shall have:

(a) An all-weather access road that is passable and safe under normal operating conditions; and

(b) An inside perimeter road and other on-site roads, maintained to allow access to monitoring devices and stormwater controls, for landfill inspections and fire fighting.

(13) Recordkeeping. In addition to records and reporting required by other sections of this chapter, the landfill owner or operator shall:

(a) Keep records of all information used to develop or support the permit applications and any supplemental information submitted to comply with this chapter pertaining to construction of the landfill throughout the design period. Records pertaining to the operation of the landfill shall be kept for the design period of the landfill.

(b) Retain records of all monitoring information, including calibration and maintenance records, all original chart recordings for continuous monitoring instrumentation, and copies of all reports required by permit, for at least ten years. Background water quality records shall be kept for the design period of the landfill.

(c) Maintain an annual estimate of the remaining life and capacity in cubic yards of the existing, constructed landfill and remaining capacity and site life of other permitted areas not yet constructed. The annual estimate shall be based on a summary of the heights, lengths, and widths of the solid waste disposal units. The estimate shall be made and reported annually to the Department.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93; Amended 1-2-94, 5-15-94.

17-701.500(11)(c) - 17-701.500(History)

5-19-94

These regulations apply to any type of solid waste disposal unit, including but not limited to, landfills, incinerators, and other waste management facilities. The Department may, at its discretion, exempt certain facilities from these regulations. For more information, contact the Department at 602-254-3300.

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17-701.510 Water Quality and Leachate Monitoring Requirements.

(1) Applicability.

(a) This section shall apply only to applications for construction or lateral expansion of a solid waste disposal unit received after January 6, 1993. However, no later than October 9, 1994, owners or operators of all solid waste disposal units receiving waste after January 6, 1993 shall submit their permit for modification to comply with the following:

1. Leachate shall be sampled and analyzed in accordance with subsection (5) and paragraph (6)(b) of this section (if the unit is lined);

2. All monitoring wells specified in the permit shall be sampled and analyzed semi-annually for the parameters listed in paragraph (8)(a) of this section; and

3. The water quality monitoring results shall be reported as required in subsection (9) of this section.

(b) This rule is intended to supplement the ground water monitoring requirements of Chapter 17-522, F.A.C. Any provisions of Chapter 17-522, F.A.C., which are not in direct conflict with the provisions of this rule remain applicable. This rule does not relieve a person from compliance with any permit condition or Department order, nor does it limit the Department's authority to modify a permit or ground water monitoring plan in accordance with Chapter 17-522, F.A.C.

(c) The requirements of this rule are the minimum standards for monitoring water quality and leachate. Nothing in this rule shall be construed to prevent the Department from imposing more stringent standards as necessary to protect the environment and the public health and safety due to site specific conditions and types of wastes to be disposed of in landfills or solid waste disposal units.

(2) Water quality monitoring plan and system.

(a) The permit applicant shall provide to the Department a water quality monitoring plan for the landfill that describes the proposed ground water, surface water, and leachate monitoring systems. The plan shall be based on the hydrogeological investigation required in Rule 17-701.410, F.A.C., and be prepared by, or under the supervision of, a professional geologist or professional engineer with experience in hydrogeologic investigations. The plan shall be signed and sealed by the professional geologist or professional engineer.

17-701.510 - 17-701.510(2)(a)

(b) The water quality monitoring system shall be installed and consist of: a sufficient number of ground water wells installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer, as well as other aquifers reasonably expected to be affected by the landfill; surface water monitoring points installed at locations to yield samples of surface water that may be affected by the landfill; and leachate monitoring points to yield representative leachate samples. All sampling and analysis activities shall be performed by organizations that have Comprehensive Quality Assurance Plans approved in accordance with Rule 17-160.300(8), F.A.C.

(c) The water quality monitoring plan shall comply with the provisions of Rule 17-522.600(3), F.A.C. The applicant shall specify sampling locations and frequency in the water quality monitoring plan, and shall provide justification for these locations and frequencies based upon site conditions.

(3) Ground water monitoring.

(a) Two or more detection wells shall be located, and within the zone of discharge hydraulically downgradient from the solid waste disposal unit, to detect leachate releases. These wells shall be located no more than 50 feet from the edge of the solid waste disposal unit, unless site specific conditions make such placement impractical. These wells shall be capable of monitoring each solid waste disposal unit as it is operated. However, in accordance with Section 403.704(14), F.S., only one detection well is required at Class II landfills unless it is affirmatively demonstrated by the Department that a significant change in the initial quality of the water has occurred in the detection well which adversely affects the beneficial uses of the water.

(b) Multiple downgradient compliance wells shall be located at or immediately adjacent to the compliance line of the zone of discharge, if required in subsection (7) of this section. If site-specific conditions require installation of compliance wells within the zone of discharge, then a confirmed exceedance of a ground water standard at such wells will be considered a violation of that standard.

(c) A sufficient number of background wells installed as part of the site hydrogeological investigation required in Rule 17-701.410, F.A.C., shall be maintained throughout the design life of the landfill to provide information on background water quality.

(d) Monitoring wells.

1. The location of each well, in degrees, minutes and seconds of latitude and longitude, the Universal Transverse Mercator coordinates, and the elevation of the top of the well casing to the nearest .01 foot, National Geodetic Vertical Datum, shall be determined by a registered Florida land surveyor.

17-701.510(2)(b) - 17-701.510(3)(d)1.

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2. An identification number shall be assigned by the Department to each monitoring well in accordance with the Department's Ground Water Monitoring System computer file. The identification number shall be used on all water quality monitoring reports.

3. Well spacing shall be spaced no greater than 500 feet apart across the downgradient direction of ground water flow, and no greater than 1500 feet apart across the upgradient direction of ground water flow, in the uppermost aquifer within the zone of discharge, unless site specific conditions support the use of alternate well spacing. Conditions to be considered include, but are not limited to, ground water flow directions and rates, estimated longitudinal and transverse dispersivity rates, proximity to or presence of sensitive environments and ground water users, nature of the wastes, method of disposal, and the proposed design and size of the facility.

4. Well screens shall be located to readily detect representative ground water conditions within the saturated thickness of the uppermost aquifer within the zone of discharge. Well screens shall not act as conduits through confining layers between water bearing strata. The annular space (the space between the borehole and well casing) above the sampling depth shall be sealed to prevent contamination of samples and ground water. Wells monitoring the unconfined water table shall be screened so that the water table can be sampled at all times. The applicant shall provide technical justification for the actual screen length chosen.

5. Any monitoring wells which are abandoned or which will be covered due to lateral expansions of a landfill or the construction of new solid waste disposal units shall be plugged as necessary so that they do not act as a conduit for any leachate release to the ground water. The Department shall be notified in writing before any monitoring wells are abandoned or plugged.

6. Detection sensors capable of detecting changes in ground water that may indicate leachate releases, linked to a data recorder, may be used to augment detection wells or may be used as an alternative to detection wells, upon demonstration of their effectiveness to the Department.

(4) Surface water monitoring.

(a) All surface water bodies that may be affected by a contaminant release from the facility shall be monitored, except bodies of water contained completely within the property boundaries of the disposal site which do not discharge from the site to surface waters. In bodies of standing water, one or more representative monitoring points shall be located as close as practical to the facility. For flowing water bodies, a sufficient number of upgradient and downgradient locations shall be used to allow the effect of the landfill to be measured.

17-701.510(3)(d)2. - 17-701.510(4)(a)

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(b) Discharges from detention ponds for storm water shall be sampled at the point of discharge to waters of the state or from the property, whichever is closer to the detention pond.

(c) The details concerning the sampling locations and the analysis requirements shall be specified in the water quality monitoring plan. Each monitoring location shall be marked and its position shall be determined by a registered Florida land surveyor in degrees, minutes and seconds of latitude and longitude and Universal Transverse Mercator coordinates.

(5) Leachate sampling. The water quality monitoring plan shall specify the location of, and proposed protocol for, landfill leachate sampling to obtain a representative characterization of the leachate composition in the leachate collection and removal system as the leachate comes from the wastes and before it is subjected to conditions that may change the characteristics of the leachate. All sampling points shall be located to minimize pumping of leachate before sampling. *see also p. 56*

(6) Routine sampling frequency and requirements. Except as otherwise specified in a Department permit or order or in subsection (7) of this section, frequency of sampling and analysis shall comply with the following. However, the owner or operator of a solid waste disposal unit may request a permit modification from the appropriate District Office of the Department to delete specific monitoring parameters or field parameters from routine analyses of detection wells and surface water. The Department will grant such modification upon a demonstration that these parameters are not reasonably expected to be in or derived from the waste contained in the unit. *17-701.510(6)(b)*

(a) Background water quality.

1. Background water quality for a proposed landfill shall be determined by analysis of at least one water sample taken from each well that was installed, and each surface water monitoring location that was established, during the site hydrogeological investigation. The water quality information shall be submitted to the Department as part of the supporting information for the permit application.

2. Sampling and analysis for background ground water quality shall be for the parameters listed in paragraphs (8)(a) and (8)(d) of this section.

3. Sampling and analysis for background surface water quality shall be for the parameters listed in paragraph (8)(b) of this section.

(b) Leachate sampling.

17-701.510(4)(b) - 17-701.510(6)(b)

1. Leachate shall be sampled and analyzed semi-annually for the parameters listed in paragraph (8)(c) of this section. In addition, leachate shall be sampled and analyzed annually for the parameters listed in paragraph (8)(d) of this section.

2. For landfills which are receiving waste, if this annual analysis indicates that a contaminant listed in 40 CFR 261.24 exceeds the regulatory level listed therein, the permittee shall initiate monthly sampling and analysis and shall notify the Department in writing. If in any three consecutive months the same listed contaminant exceeds the regulatory level, the permittee shall notify the Department and shall, within 90 days, initiate a program designed to identify the source and reduce the presence of the contaminant in the leachate so that it no longer exceeds the regulatory level. This program may include additional monitoring of waste received and additional up-front separation of waste materials. The permittee shall coordinate with the Department regarding implementation of the program. Any leachate which is not recirculated or taken to a permitted domestic wastewater treatment facility shall be treated or managed so that no contaminant exceeds the regulatory level. If in any three consecutive months no listed contaminant is found to exceed the regulatory level, the permittee may discontinue the monthly sampling and analysis and return to a routine sampling schedule.

(c) All detection wells, and a representative sample of background wells, shall be sampled and analyzed for the ground water parameters listed in paragraph (8)(a) of this section, in accordance with the water quality monitoring plan. For lined landfills, this shall be done at least semi-annually.

(d) Surface waters shall be sampled and analyzed semi-annually for the parameters listed in paragraph (8)(b) of this section, in accordance with the water quality monitoring plan.

(7) Assessment monitoring and corrective action.

(a) Assessment monitoring. If monitoring parameters are detected in detection wells in concentrations which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 17-520, F.A.C., the permittee may resample the wells within 15 days after the sampling data is received, to confirm the data. Should the permittee choose not to resample, the Department will consider the water quality analysis as representative of current ground water conditions at the facility. If the data is confirmed, or if the permittee chooses not to resample, the permittee shall notify the Department in writing within 14 days of this finding. Upon notification by the Department, the permittee shall initiate assessment monitoring as follows:

17-701.510(6)(b)1. - 17-701.510(7)(a)

5-19-94

1. Routine monitoring of all monitoring wells, surface water monitoring locations and leachate sampling locations shall continue according to the requirements of subsection (6) of this section.

2. Within 90 days of initiating assessment monitoring and annually thereafter, the permittee shall sample and analyze a representative sample of the background wells and all affected detection wells for the parameters listed in paragraph (8)(d) of this section. Any new parameters detected and confirmed in the affected downgradient wells shall be added to the routine ground water monitoring parameter lists required in subsection (6) of this section.

3. Within 90 days of initiating assessment monitoring, the permittee shall install and sample compliance monitoring wells at the compliance line of the zone of discharge and downgradient from the affected detection monitoring wells. These wells shall be installed according to the requirements of paragraph (3)(d) of this section, and samples shall be analyzed quarterly for the parameters listed in paragraphs (8)(a) and (d) of this section.

4. Within 180 days of initiating assessment monitoring, the permittee shall submit a contamination assessment plan to the appropriate Department District Office. This plan shall be designed to delineate the extent and cause of the contamination, in order to predict the likelihood that Department water quality standards will be violated outside the zone of discharge, and to evaluate methods to prevent any such violations. After the Department and the permittee agree that the plan is so designed, the permittee shall implement this plan and submit a contamination assessment report in accordance with the plan. All reasonable efforts shall be made by the permittee to prevent further degradation of water quality from the landfill activities.

5. If for two consecutive sampling events the concentrations of all parameters listed in paragraphs (8)(a) and (d) of this section are at or below background values, the permittee, after notifying the Department, may discontinue assessment monitoring and return to the routine monitoring requirements in subsection (6) of this section.

(b) Corrective actions.

1. If the contamination assessment report indicates that water quality standards are likely to be violated outside the zone of discharge, the permittee shall, within 90 days, submit a remedial action plan to the Department. Upon approval, the permittee shall initiate corrective actions to prevent such violations.

17-701.510(7)(a)1. - 17-701.510(7)(b)1.

5-19-94

2. If any contaminants are detected and confirmed in compliance wells in concentrations which exceed both background levels and Department water quality standards or criteria, or are detected and confirmed in detection wells in concentrations which are above Department water quality minimum criteria, the permittee shall notify the Department within 14 days of this finding and shall initiate corrective actions. Assessment monitoring shall continue according to the requirements of paragraph (7)(a) of this section.

(8) Water quality parameters. The following list of water quality monitoring parameters shall be used for each type of sampling to be done.

(a) Ground water monitoring parameters:

<u>Field parameters</u>	<u>Laboratory parameters</u>
Static water level in wells before purging	Total ammonia - N
Specific conductivity	Chlorides
pH	Iron
Dissolved oxygen	Mercury
Turbidity	Nitrate
Temperature	Sodium
Colors and sheens (by observation)	Total dissolved solids (TDS)

Those parameters listed in 40 CFR Part 258 Appendix I

(b) Surface water monitoring parameters:

<u>Field parameters</u>	<u>Laboratory parameters</u>
Specific conductivity	Unionized ammonia
pH	Total hardness
Dissolved oxygen	Biochemical oxygen demand (BOD ₅)
Turbidity	Copper
Temperature	Iron
Colors, sheens (by observation)	Mercury
	Nitrate
	Zinc
	Total dissolved solids (TDS)
	Total organic carbon (TOC)
	Fecal coliform
	Total phosphates
	Chlorophyll A
	Total nitrogen
	Chemical oxygen demand (COD)
	Total suspended solids (TSS)

Those parameters listed in 40 CFR Part 258 Appendix I

17-701.510(8)(b)2. - 17-701.510(8)(b)

(c) Leachate monitoring parameters:

Field parameters

Specific conductivity
pH
Dissolved oxygen
Colors, sheens

Laboratory parameters

Total ammonia - N
Bicarbonate
Chlorides
Iron
Mercury
Nitrate
Sodium
Total dissolved solids
(TDS)
Those parameters listed in 40
CFR Part 258 Appendix I

(d) Those parameters listed in 40 CFR Part 258, Appendix II.

(9) Water quality monitoring reporting.

(a) The landfill owner or operator shall report all water quality and leachate monitoring results to the Department semi-annually, unless a different monitoring frequency is specified in the permit. The operator of the landfill shall notify the Department at least 14 days before the sampling is scheduled to occur so that the Department may collect split samples. The report shall include at least the following:

1. The facility name and identification number, sample collection dates, and analysis dates;
2. All analytical results, including all peaks even if below maximum contaminant levels;
3. Identification number and designation of all surface water and ground water monitoring points;
4. Applicable water quality standards;
5. Quality assurance, quality control notations;
6. Method detection limits;
7. STORET code numbers for all parameters;
8. Water levels recorded prior to evaluating wells or sample collection. Elevation reference shall include the top of the well casing and land surface at each well site at a precision of plus or minus 0.01 foot (NGVD); and
9. An updated ground water table contour map, with contours at no greater than one-foot intervals, which indicates ground water elevations and flow direction; and
10. A summary of any water quality standards or criteria that are exceeded;

17-701.510(8)(c) - 17-701.510(9)(a)10.

(b) A technical report, prepared, signed and sealed by a professional geologist or professional engineer with experience in hydrogeologic investigations, shall be submitted to the Department every two years, and shall be updated at the time of permit renewal. The report shall summarize and interpret the water quality data and water level measurements collected during the past two years. The report shall contain, at a minimum, the following:

1. Tabular and graphical displays of any data which shows that a monitoring parameter has been detected, including hydrographs for all monitor wells;
2. Trend analyses of any monitoring parameters detected;
3. Comparisons among shallow, middle, and deep zone wells;
4. Comparisons between upgradient and downgradient wells;
5. Correlations between related parameters such as total dissolved solids and specific conductance;
6. Discussion of erratic and/or poorly correlated data;
7. An interpretation of the ground water contour maps, including an evaluation of ground water flow rates; and
8. An evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.

(c) All field and laboratory records specified in Rules 17-160.600 - .630, F.A.C., shall be made available to the Department and be retained for the design period of the landfill.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93; Amended 1-2-94, 5-19-94.

17-701.520 Special Waste Handling.

(1) Motor vehicles. Motor vehicles that are brought to a landfill may be stored temporarily in a separate area until they are removed for recycling. If vehicles cannot be recycled, all fluids and batteries shall be removed from the vehicles and they shall be compacted to minimize voids before being placed in the Class I area.

(2) Disaster debris. In the event of a natural disaster, during which large volumes of debris are accumulated (such as trees and buildings that have been destroyed) the debris may be transported to an area remote from habitation and burned in accordance with Rule 17-256, F.A.C.

(3) Landfilling shredded waste. Landfilling shredded solid waste without daily soil cover may be an environmentally acceptable method of final disposal at a landfill that meets the requirements of Rule 17-701.340,

17-701.510(9)(b) - 17-701.520(3)

F.A.C. A properly designed and operated shredding facility shall be approved by the Department contingent upon the following conditions:

(a) Particle size. Seventy percent of all shredded waste, dry weight, shall be capable of passing through a three-inch screen.

(b) Waste shall be spread to a smooth contour and compacted promptly after placement and left undisturbed to prevent odors. Blowing of shredded waste by the wind shall be controlled.

(c) All solid waste storage areas in the shredding facility shall be maintained and cleaned at the end of each day's operations or during continuous operation, as necessary, to prevent disease vector problems. All equipment shall be designed and maintained to control spillage and to achieve the required product quality.

(d) An operational plan shall include provisions for removal and proper disposal of wastes within 24 hours should the shredding facility breakdown or operational quality be diminished. The operational plan shall include provision for a stock pile of emergency soil cover material and a plan to convert the operation to a conventional landfill operation.

(e) Shredded waste disposal units that fill design dimensions shall be closed in accordance with Rule 17-701.600, F.A.C.

(4) Asbestos waste disposal.

(a) Asbestos-containing waste materials may be accepted for disposal at a permitted Class I, II, or III landfill. Each active waste disposal site that receives asbestos-containing waste material from a source covered under the National Emission Standards for Asbestos, 40 CFR Part 61, Subpart M, shall meet the requirements of 40 CFR Part 61.154, which are incorporated by reference herein. For purposes of this rule, the term "Administrator," when used in 40 CFR Part 61.154, shall mean Secretary of the Department of Environmental Regulation.

(b) The waste generator shall make arrangements with the landfill operator before disposal of such regulated asbestos-containing waste materials, and inform the operator of the quantity of the waste and the scheduled date the shipment will arrive at the landfill.

(c) The landfill operator shall direct the waste transporter to the designated disposal location. The disposal location shall be recorded in accordance with 40 CFR Part 61.154, and a record of the asbestos location shall be maintained.

17-701.520(3)(cont'd.) - 17-701.520(4)(c)

(5) Contaminated soil. Soil which has been contaminated with petroleum products or any other products which are not hazardous wastes may be disposed of in permitted, lined landfills. Petroleum contaminated soil which has been treated pursuant to Chapter 17-775, F.A.C., may be disposed of at permitted disposal facilities and may, if it meets the criteria of Rules 17-701.200(24), (37), and (38), F.A.C., be used as cover material at permitted landfills.

(6) Ash residue. Ash residue from the burning of solid waste shall be managed in accordance with Chapter 17-702, F.A.C. Ash residue which meets the criteria of Rules 17-702.570(6) and 17-701.200(37), F.A.C., may be used as initial cover at permitted, lined landfills. (43)
Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.702, 403.704, 403.705, 403.707, 403.708, F.S.

History: Transferred from 10D-12.07, 10-1-74, Amended 5-24-79, 11-25-82, 7-10-84, 12-10-85, Formerly 17-7.06, 17-7.060, 17-701.060, Amended 1-6-93, 1-2-94.

17-701.600 Landfill Final Closure.

(1) Applicability.

(a) Inactive landfills.

1. Landfills or solid waste disposal units which were closed in a manner approved by the Department prior to January 6, 1993, or which have received final cover before July 1, 1985, are exempt from the requirements of this section.

2. Owners or operators of landfills or solid waste disposal units which were no longer receiving wastes on January 6, 1993, which have not been closed in accordance with an approved closure plan or closure permit, and which do not have an approved closure plan or closure permit shall comply with this section by 5-19-95.

3. Owners or operators of landfills or solid waste disposal units which were no longer receiving wastes on January 6, 1993, which have not been closed in accordance with an approved closure plan or closure permit and which do have an approved closure plan or closure permit are exempt from the requirements of this section as long as the closure plan or closure permit is complied with.

(b) Active landfills. Landfills or solid waste disposal units which receive wastes after January 6, 1993, shall comply with the requirements of this section. Owners or operators of active landfills or solid waste disposal units which have an approved closure plan or closure permit on January 6, 1993 shall apply for modification of their plan

17-701.520(5) - 17-701.600(1)(b)

or permit to comply with this section by 5-19-95, or, if the landfill or solid waste disposal unit is not scheduled to close before the existing operation permit expires, at the time of permit renewal. Landfills or solid waste disposal units which are operating under a Department consent agreement, which have a closure permit, and which cease accepting wastes on or before December 1, 1992, are exempt from the requirements of this section except for Rule 17-701.600(5)(g), F.A.C.

(2) Closure schedule.

(a) At least one year prior to the projected date when wastes will no longer be accepted or when all solid waste disposal units are expected to reach design dimensions, the owner or operator shall provide a written notice to the Department with a schedule for cessation of waste acceptance and closure of the landfill. The closure schedule shall become an addendum to the landfill permit. If unforeseen circumstances do not allow the one-year notification, notice shall be provided as soon as the need to close the facility becomes apparent.

(b) Notice and advice to users. At least 120 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall advise users of the intent to close the landfill by posting signs at the entrance of the landfill giving the date of closing, the location of alternative disposal facilities, and the name of the person responsible for closing the landfill. These signs shall be maintained throughout the closing period. If unforeseen circumstances do not allow the 120 day notice to users, notice shall be provided as soon as the need to close the facility becomes apparent.

(c) Notice to the public. Within 10 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall publish a notice of the landfill closing in the legal advertising section of a newspaper of general circulation in the county where the activity is proposed, and shall provide proof of publication to the Department within seven days of publication.

(3) Closure permit requirements. The owner or operator shall submit an application to the Department for final closure of the landfill at least 90 days before the date when wastes will no longer be accepted. The application shall be on Form 17-701.900(1). If the landfill is operating under a Department permit, the owner or operator shall request a modification of the permit in lieu of submitting a closure permit application. The application or request for modification shall include a closure plan which is made up of the following:

17-701.600(1)(b)(cont'd.) - 17-701.600(3)

- (a) A closure report;
- (b) A closure design plan;
- (c) A closure operation plan;
- (d) Closure procedures;
- (e) A plan for long-term care; and
- (f) A demonstration that proof of financial responsibility for long-term care will be provided.

(4) Closure report. A report on the final closure of the landfill shall address the following requirements, or shall contain an explanation of why the requirement is not applicable:

- (a) General landfill information which shall contain:
 - 1. Identification of the landfill;
 - 2. Location, description and vicinity map;
 - 3. Total acreage of waste disposal areas and total acreage of landfill property;
 - 4. Legal description of property on which the landfill is located;
 - 5. History of the landfill including dates of construction and a description of the location and sequence of fill operations; and
 - 6. Identification of types of waste disposed of in the completed landfill based on records, composition studies, operator memory, major waste depositors, or other information sources.

(b) The geotechnical investigation report and water quality monitoring plan required in Rule 17-701.330(4), F.A.C.

(c) Land use information which shall contain a discussion and maps indicating:

- 1. Identification of adjacent landowners;
- 2. Zoning;
- 3. Present land uses; and
- 4. Roads, highways, rights-of-way, or easements.

(d) A report on actual or potential gas migration in landfills that contain biodegradable wastes disposed of in porous soils which would allow migration of gas off the landfill property. Gas migration test points shall be located along property boundaries, particularly those adjacent to off-site occupied structures within 100 feet of the property boundary or where distressed vegetation is present. Test points are required along each boundary segment spaced as needed to detect gas migration. Test points shall extend at least three feet below ground surface. Where sand, gravel, or more gas permeable soil strata may interconnect the waste deposit and the property boundary, multiple depth sampling points are necessary to

17-701.600(3)(a) - 17-701.600(4)(d)

draw gas samples from the permeable layers. Methane concentrations shall be determined as a percent of the lower explosive limit. Methane concentrations shall not exceed the lower explosive limit at the property boundary or 25 percent of the limit within structures on the property.

(e) An assessment of the effectiveness of the landfill design and operation, which shall provide information about the effects of the landfill on adjacent ground and surface waters, and the landfill area. Specific concerns to be discussed are:

1. Results of the geotechnical investigation;
2. Effects of surface water runoff, drainage patterns, and storm water controls;
3. Extent and effects of methane gas migration, lower explosive limit percentage readings in migration paths, and description of the gas venting system;
4. Condition of existing cover, thicknesses and types of soils or materials used for cover, and effectiveness of cover material as a leachate control mechanism; and
5. The nature and characteristics of the waste disposed of at the landfill.

(5) Closure design. The closure design plan shall consist of engineering plans and a report on closing procedures that apply to the final closing of solid waste disposal units during the operation of the landfill, the final closing of the landfill, and the monitoring and maintenance during the long-term care period. The closure design plan shall include the following information:

- (a) A plan sheet showing phases of site closing.
- (b) Drawings showing existing topography and proposed final grades.

(c) Provisions to close solid waste disposal units within the landfill as soon as they reach approved design dimensions and elevations and to finally close the landfill in accordance with the requirements of this rule. Landfills that are designed to be constructed in phases or sections shall include provisions for temporary closure of solid waste disposal units if subsequent, planned filling on top of them will not occur for six months or longer.

(d) Final elevations before settlement, based upon the capability of the foundation to support the total weight of the landfills, including water loading.

(e) Final side slope design. Side slopes of above-ground disposal units shall not be steeper than three feet horizontal to one foot vertical rise to control erosion of the final cover material. Such units shall incorporate reverse sloping benches or terraces into the side slopes of

17-701.600(4)(d)(cont'd.) - 17-701.600(5)(e)

the landfill and shall contain down slope drainage ways with water flow energy dissipaters. Access for maintenance equipment shall be provided. Such designs shall address the susceptibility for erosion of the earthen material that is proposed for final cover relative to historical rainfall patterns for the area, the period between the patterns for the area, the period between the application of the final cover and establishment of vegetation, and maintenance procedures.

(f) Final cover installation plans showing the sequence of applying final cover. All areas filled with waste shall have a final cover designed to minimize infiltration of rainfall and subsequent generation of leachate, based on water balance calculations and leachate controls used.

1. The final cover shall be installed and tested in accordance with a construction quality assurance plan which meets the requirements of Rules 17-701.400(7) and (8), F.A.C.

2. Final cover shall be placed over the entire surface of each completed solid waste disposal unit or units within 180 days after the final waste deposit, or within the time frame set forth in the approved closure plan. The final cover shall be vegetated with drought-resistant species to control erosion. The final cover is intended to be a moisture infiltration seal, therefore vegetational species planted shall be drought resistant and such that the roots will not penetrate the seal and thus provide a channel for moisture infiltration.

3. Top gradients of final cover on landfill areas shall be graded to maximize runoff and minimize erosion, considering total fill height and expected subsidence caused by decomposing waste, and shall be designed to prevent ponding or low spots.

4. The closure design plan shall describe provisions for cover material for the long-term care erosion control, filling areas of subsidence or other depressions, maintaining berms, and general maintenance of the facility, and specify the anticipated source and amount of material necessary for proper closure of the landfill.

(g) Final cover design.

1. Landfills shall have a final cover designed to minimize infiltration and erosion, which shall include a barrier layer consisting of a soil layer, a geomembrane, or a combination of a geomembrane with a low permeability material. For lined Class I and Class II landfills, the barrier layer shall have a permeability which is substantially equivalent to, or less than, the permeability of the bottom liner system. If the landfill uses a

17-701.600(5)(e)(cont'd.) - 17-701.600(5)(g)1.

geomembrane in the bottom liner system, the barrier layer shall also incorporate a geomembrane. For unlined Class I and Class II landfills, the barrier layer shall have a permeability of 1×10^{-7} cm/sec or less. For Class III landfills, the barrier layer shall have a permeability of 1×10^{-5} cm/sec or less.

2. If the barrier layer consists only of soil, it shall be at least 18 inches thick, emplaced in 6-inch thick lifts, and shall have a final, 18-inch thick layer of soil that will sustain vegetation to control erosion placed on top of the barrier layer.

3. If a geomembrane is used in the barrier layer, it shall be a semi-crystalline thermoplastic at least 40 mils thick or a non-crystalline thermoplastic at least 30 mils thick with a maximum water vapor transmission rate of 2.4 g/(m² x day), have chemical and physical resistance to materials it may come in contact with, and withstand exposure to the natural environmental stresses and forces throughout the installation, seaming process, and settlement of the waste during the closure and long-term care period. A protective soil layer at least 24 inches thick shall be put on top of the geomembrane. Material specifications, installation methods, and compaction specifications shall be adequate to protect the barrier layer from root penetration, resist erosion, and remain stable on the final design slopes of the landfill. This layer shall include top soil or soils that will sustain vegetative growth. In some cases, a drainage layer may be required between the cap (soil and geomembrane layer) and the top soil layer.

4. An applicant may use an alternate design for the barrier layer, or parts of the barrier layer, upon a demonstration that the alternate design will result in a substantially equivalent rate of storm water infiltration through the final cover. Any alternate design shall be reviewed by the Department as part of its review of the closure design plan.

5. Nothing herein shall preclude the Department from requiring more stringent final or temporary cover designs in a permit or consent order if necessary to protect the public health or the environment because of the nature of wastes received or site specific geological or hydrogeological conditions, or if the landfill has not been adequately constructed, operated, maintained, or closed.

(h) Proposed method of stormwater control. Stormwater occurring on the landfill property and from areas adjacent to the landfill property shall be prevented from coming onto or into waste filled areas. The closure design plan shall demonstrate compliance with Chapter 17-25, F.A.C.

17-701.600(5)(g)1.(cont'd.) - 17-701.600(5)(h)

(i) Proposed method of access control. The closure design plan shall show how access to the closed landfill shall be restricted to prevent any future waste dumping or use of the facility by unauthorized persons. Restricted access shall remain in force until the landfill is stabilized and there is no evidence that facility property is being used as an unauthorized disposal site. If use of the property during the long-term care period is planned, access shall be restricted until landfill closing is completed and acknowledged by the Department in accordance with Rule 17-701.610(6), F.A.C.

(j) A description of any proposed final use of the landfill property.

(6) Closure operation plan. The closure operation plan shall:

(a) Describe the actions which will be taken to close the landfill, such as placement of cover, grading, construction of berms, ditches, roads, retention-detention ponds, installation or closure of wells and boreholes, installation of fencing, seeding of vegetation, and protection of on-site utilities and easements;

(b) Provide a time schedule for completion of the closing and long-term care;

(c) Contain appropriate references to the closure design and other supporting documents;

(d) Describe the proposed method of demonstrating financial responsibility for the long term monitoring and maintenance; and

(e) Provide for the development and implementation of the water quality monitoring plan required in Rule 17-701.510, F.A.C.;

(f) Provide for the development and implementation of the routine gas monitoring program required in Rule 17-701.400(10)(c), F.A.C.;

(g) Indicate any additional equipment and personnel needed to complete closure of the landfill.

(7) Temporary closure.

(a) Placement of final cover over a solid waste disposal unit may be delayed for a period of time specified in an approved closure plan for the following reasons:

1. For the purpose of promoting biological degradation of waste;

2. If additional solid waste will be deposited on the solid waste disposal unit within five years; or

3. If excavation of the waste is planned.

(b) Placement of final cover may be delayed only if the solid waste disposal unit is temporarily closed in accordance with an approved closure plan. Conditions of temporary closure shall include:

17-701.600(5)(i) - 17-701.600(7)(b)

1. The solid waste disposal unit was constructed in compliance with its permit conditions, and has a liner and leachate control system;
 2. A schedule for closure is shown in the closure plan application;
 3. Final cover is installed on side slopes of each completed disposal unit which will not receive additional waste or which will not be mined, and all areas visible to the public are closed and landscaped;
 4. Odors and disease vectors are controlled;
 5. An intermediate cover is installed on the solid waste disposal unit; *the costs of the temporary cover*
 6. The financial responsibility requirements of Rule 17-701.630, F.A.C., are met, and the closure cost estimate takes into account the costs of temporary closure as well as the costs of the final closure; and
 7. The landfill owner or operator demonstrates that delaying placement of final cover will not cause or contribute to any significant increase in leachate escaping from the solid waste disposal unit into the environment.
- (c) In addition, a solid waste disposal unit which will be mined in the future shall have a temporary final cover installed. *LF 01.02.94*
- Specific Authority: 403.061, 403.704, F.S.
Law Implemented: 403.702, 403.704, 403.707, F.S.
History: New 1-6-93; Amended 1-2-94, 5-19-94.

17-701.610 Closure Procedures.

- (1) Closing inspections. The Department shall specify in the closure permit which particular closing steps or operations must be inspected and approved by the Department before proceeding with subsequent closure actions.
- (2) Survey monuments. For landfills with a final elevation of less than 20 feet above the natural land surface, concrete monuments shall be installed to mark the boundaries of the landfill property and other permanent markers shall be installed to outline the general waste filled areas. These markers shall be tied to one or more of the boundary markers by a survey performed by an engineer or a registered land surveyor. The location and elevation of all markers shall be shown on a site plan filed with the "Declaration to the Public" described in subsection (5) of this section.
- (3) Final survey report. When landfill operations have been conducted which have raised the final elevations higher than 20 feet above the natural land surface, a final survey shall be performed after closure is complete by an engineer or a registered land surveyor to verify that final contours

17-701.600(7)(b)1. - 17-701.610(3)

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and elevations of the facility are in accordance with the plans as approved in the permit. Aerial mapping techniques which provide equivalent survey accuracy may be substituted for the survey. The survey or aerial mapping information shall be included in the report along with information reflecting the conditions of the landfill as constructed. Contours shall be shown at no greater than five-foot intervals. The landfill owner or operator shall submit this report to the Department in accordance with the closing schedule.

(4) Certification of closure construction completion. A certification of closure construction completion, signed, dated and sealed by a professional engineer independent of the contractor, shall be provided to the Department upon completion of closure. All substantial deviations from the permitted closure plans shall be noted.

(5) Declaration to the public. After closing operations are inspected and approved by the Department, the landfill owner or operator shall file a declaration to the public in the deed records in the office of the county clerk of the county in which the landfill is located. The declaration shall include a legal description of the property on which the landfill is located and a site plan specifying the area actually filled with solid waste. The declaration shall also include a notice that any future owner or user of the site should consult with the Department prior to planning or initiating any activity involving the disturbance of the landfill cover, monitoring system or other control structures. A certified copy of the declaration shall be filed with the Department.

(6) Official date of closing. Upon receipt of the documents required in subsections (3), (4), and (5) of this section, the Department shall, within 30 days, acknowledge by letter to the facility operator that notice of termination of operations and closing of the facility has been received. If the entire landfill has been closed, the date of this letter shall be the official date of landfill closing for the purpose of determining the long-term care period. If only a portion of the landfill has been closed, the long-term care period will begin upon the closing of the entire landfill, unless the portion which has been closed can be monitored and maintained separately from the rest of the landfill. The date of this letter shall be the official date of landfill closing for the purpose of determining the long-term care period.

(7) Use of closed landfill areas. Closed landfill areas, if disturbed, are a potential hazard to public health, ground water and the environment. The Department

17-701.610(3) (cont'd.) - 17-701.610(7)

retains regulatory control over any activities which may affect the integrity of the environmental protection measures such as the landfill cover, drainage, liners, monitoring system, or leachate and stormwater controls. Consultation with the Department is required prior to conducting activities at the closed landfills.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85, Formerly 17-7.074, Formerly 17-701.074, Amended 1-6-93, 1-2-94.

17-701.620 Long-Term Care.

(1) Long-term care period. The owner or operator of any landfill which receives wastes after January 6, 1993, shall continue to monitor and maintain the integrity and effectiveness of the final cover as well as other appurtenances of the facility in accordance with an approved closure plan for 30 years from the date of closing. Before the expiration of the long-term care monitoring and maintenance period, the Department may extend the time period if the closure design or closure operation plan is found to be ineffective.

(2) Reduced long-term care period. The owner or operator of a landfill may apply to the appropriate District Office of the Department for a permit modification to reduce the long-term care schedule. The Department will grant such modification if reasonable assurance is provided to the Department that there is no threat to human health or the environment and if the landfill:

(a) Has been constructed and operated in accordance with approved standards, and has a leachate control system and a liner;

(b) Was closed with appropriate final cover, vegetative cover has been established, and a monitoring system has been installed;

(c) Has a 10-year history after closure of no violations of water quality standards or criteria detected in the monitoring system, and no increases over background water for any monitoring parameters which may be expected to result in violations of water quality standards or criteria; and

(d) Has had no detrimental erosion of cover, and subsidence of waste has ceased.

(3) Modified ground water monitoring plan. The owner or operator of a landfill may apply to the appropriate District Office of the Department for a modification to their ground water monitoring plan to remove a parameter from the list

17-701.610(7)(cont'd.) - 17-701.620(3)

specified in Rule 17-701.510(8), F.A.C. The Department will grant such modification upon a demonstration that leachate and ground water have consistently been sampled and analyzed for the parameter, and that the parameter has never been detected in the leachate or in any ground water well or surface water point during the active life of the landfill.

(4) Right of access. The landfill owner or operator shall possess or acquire a sufficient interest in, or a right to use, the property for which a permit is issued, including the access route onto the property to carry out the requirements of this rule. The permittee shall retain the right of entry to the landfill property for the long-term care period, after termination of solid waste operations, for inspection, monitoring and maintenance of the site.

(5) Successors in interest. Any person acquiring rights or ownership, possession or operation of a permitted landfill through lease or transfer of property shall be subject to all requirements of the permit for the facility and shall provide any required proof of financial responsibility to the Department in accordance with this rule. Any lease or transfer of property shall include specific conditions to delineate:

(a) The previous owner or operator is responsible for closure and shall maintain any required proof of financial responsibility until the person acquiring ownership, possession or operation of the landfill establishes the required proof of financial responsibility with the Department;

(b) Responsibility for the continuance of monitoring, maintenance, and correction of deficiencies or problems; and

(c) Mineral rights attached to the property and the rights to any recoverable materials that may be buried on the property or landfill gasses that may be produced. A Department permit shall be required if any on-site operations subsequent to closing of a landfill involve disturbing the landfill.

(6) Transfer of permit. Transfer of a landfill permit shall be in accordance with the provisions of Rule 17-4.120, F.A.C. and this rule.

[7] Replacement of monitoring devices. If a monitoring well or other device required by the monitoring plan is destroyed or fails to operate for any reason, the landfill owner or operator shall, immediately upon discovery, notify the Department in writing. All inoperative monitoring devices shall be replaced with functioning devices within 60 days of the discovery of the malfunctioning unit unless the landfill owner or operator is notified otherwise in writing by the Department.

(8) Following completion of the long-term care period

17-701.620(4) - 17-701.620(8)

for each solid waste management unit, the owner or operator shall notify the Department that a certification, signed and sealed by a professional engineer, verifying that long-term care has been completed in accordance with the closure plan has been placed in the operating record.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1-85, Formerly 17-7.075, Formerly 17-701.075, Amended 1-6-93, 1-2-94, 5-19-94.

17-701.630 Financial Assurance.

(1) Definitions. As used in this section:

(a) "Owner or operator" means, in addition to the usual meanings of the term, any owner of record of any interest in land whereon a landfill is or has been located and any person or corporation which owns a majority interest in any other corporation which is the owner or operator of a landfill.

(b) "Active life" means the operating life of the landfill as estimated in the construction permit or closure plan, but does not include the long-term care period.

(2) Applicability.

(a) A government-owned landfill closed on or before October 1, 1988, shall not be required to comply with this rule.

(b) As a condition for the issuance of a landfill construction permit, the owner or operator shall describe the financial mechanism to be used to demonstrate proof of financial assurance to the Department. The financial mechanism shall be created, and alternate financial mechanisms shall be fully funded, at least 60 days prior to the acceptance of any solid waste at the facility. The financial mechanism shall either be:

1. A landfill management escrow account; or
2. An alternate financial mechanism pursuant to subsection (6) of this section.

(c) Owners or operators of existing landfills or landfills which have received a construction permit prior to November 28, 1989, shall submit proof of financial assurance to the Department by October 1, 1990. Such proof shall be:

1. That a landfill management escrow account has been established and that such account and interest thereon is current as to the required level of funding pursuant to subsection (5) of this section; or,
2. Proof of the existence and current value of an alternate financial mechanism pursuant to subsection (6) of this section.

(d) Owners or operators of existing Class I or II landfills receiving waste after October 9, 1993, which are required to undertake a corrective action program in

17-701.620(8) (cont'd.) - 17-701.630(2) (d)

accordance with Rule 17-701.510(7), F.A.C., shall submit proof of financial assurance to the Department by April 4, 1994, or no later than 120 days after the corrective action remedy has been selected, whichever is later.

(3) Cost estimates for closure.

(a) For the purposes of determining the amount of proof of financial assurance that is required in subsections (5) and (6) of this section, the owner or operator shall estimate the total cost of closure for the permitted portions of the landfill or for those portions of the landfill for which a construction permit is sought, for the time period in the landfill operation when the extent and manner of its operation make closing most expensive. The annual cost of long-term care shall be estimated and listed separately, and multiplied by 30 years. The owner or operator shall submit the estimates, together with all necessary justification, to the Department along with the proof of financial assurance. The costs shall be estimated by a professional engineer for a third party performing the work, on a per unit basis, with the source of estimates indicated.

(b) Closing costs shall be based on the nature and characteristics of the wastes disposed of at the site and shall include estimated costs of cover material, topsoil, seeding, fertilizing, mulching, labor, and any other costs of compliance with Rules 17-701.600 - .610, F.A.C.

(c) Long-term care costs shall include land surface care; gas monitoring; leachate pumping, transportation, monitoring and treatment; groundwater monitoring, collection and analysis; and any other costs of compliance with Rule 17-701.620, F.A.C.

(4) Annual cost adjustments for closure.

(a) Every owner or operator of a landfill shall submit to the Department an annual cost adjustment statement, certified by a professional engineer. Closing and long-term care costs shall be listed separately. For owners or operators using an escrow account, this statement shall be submitted between July 1 and September 1 of each year.

(b) During the life of those portions of the landfill which have not been finally closed, as well as during the long-term care period, the owner or operator shall revise the closure cost estimate for inflation and changes in the closing and long-term care plan. Such revisions shall be made annually in accordance with the provisions of 40 CFR Part 264.142(b) or 40 CFR Part 264.144(b) and used as the basis for comparison against the balance in the landfill management escrow account or the value of an alternate funding mechanism.

17-701.630(2)(d)(cont'd.) - 17-701.630(4)(b)

(c) If the value of the alternate funding mechanism is less than the total amount of the current closure cost estimate, the owner or operator shall revise the funding mechanisms to reflect the new estimate within the time frames outlined in 40 CFR Part 264, Subpart H.

(d) If the value of the landfill management escrow account or alternate funding mechanism is greater than the total amount of the current closure cost estimate, the owner or operator may reduce the value of the account or funding mechanism to reflect the new estimate.

(e) If the closure cost estimate must be increased as a direct result of amendments to this chapter after January 2, 1994, the owner or operator, upon notification to the Department, may delay updating the annual cost adjustment statement to reflect this increase for up to two years.

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(5) Landfill management escrow account.

(a) The owner or operator of a landfill shall establish a fee, or a surcharge on existing fees, or other appropriate revenue-producing mechanism, to ensure the availability of financial resources for the proper closing and long-term care of the landfill.

(b) The revenue-producing mechanism shall produce revenue at a rate sufficient to generate funds to meet state landfill closure requirements.

(c) The revenue shall be deposited in an interest-bearing escrow account, the landfill management escrow account, to be held and administered by the owner or operator. The owner or operator shall file with the Department a signed duplicate original of the escrow account agreement and an annual audit of the account. The audit shall be conducted by an independent Certified Public Accountant and shall be filed no later than December 31 of each year. Counties using a Single Audit accounting system shall file this audit by March 31 of the following year. The audit shall consist of reporting the balance in the landfill management escrow account as of the end of each fiscal year and a list of all deposits and withdrawals made. The list shall include the date and the amount of each deposit and withdrawal.

(d) Payments into the landfill management escrow account shall be made by the owner or operator at least annually according to one of the following methods:

1. For a new landfill, the first payment must be made before the end of the first year after the initial receipt of solid waste into the landfill. A notice of such payment shall be submitted to the Department. The first payment shall be equal to the current closing cost estimate for the

17-701.630(4)(c) - 17-701.630(5)(d)1.

landfill divided by the number of years in the active life of the landfill. Subsequent payments must be made at least annually, over the term of the active life of the landfill, on the anniversary date of the first payment. The calculations for such annual payment shall be as follows: $\text{payment} = (\text{CE} - \text{CV}) / Y$, where CE is the current calculated closure cost estimate, CV is the current value of the escrow account, and Y is the number of remaining years in the active life of the landfill.

2. For government-owned landfills, the owner or operator shall deposit into the escrow account, at the time of closing and each year thereafter, sufficient funds to cover the following year's long-term care costs. In addition, the owner or operator must document specifically how it intends to finance the long-term care of the landfill as part of its closure plan.

3. For landfills not owned by a governmental agency, the long-term care costs shall be included in the closing cost estimates as specified in subparagraph 1. above; long-term care costs must be fully funded when the landfill closes.

4. For an existing government-owned landfill scheduled to close on or before October 1, 1995, no escrow account funding is required for costs associated with the closing of the landfill. Proof of financial assurance for closing costs shall consist of specific documentation of how the owner or operator intends to finance the closing of the landfill. Escrow funding for long-term care shall be provided.

5. The owner or operator may accelerate payments into the landfill management escrow account or may deposit the full amount of the current closure cost estimate at the time that the account is established.

(e) The owner or operator may make expenditures from the account and its accumulated interest only for the purpose of landfill closing and long-term care and, if such expenditures do not deplete the fund to the detriment of eventual closing and long-term care as described under the certification procedure in subsection (4) of this section, for planning and construction of resource recovery or landfill facilities. If the owner or operator does not operate a landfill, any funds remaining in the account after paying for proper and complete closing and long-term care, as determined by the Department, shall be deposited by the owner or operator into the general fund of the local government of jurisdiction.

(f) The revenue generated under this subsection and any accumulated interest thereon may be applied to the payment of, or pledged as security for, the payment of revenue bonds

17-701.630(5)(d)1.(cont'd.) - 17-701.630(5)(f)

issued in whole or in part for the purpose of complying with state landfill closing and long-term care requirements. Such application or pledge may be made directly in the proceedings authorizing such bonds or in an agreement with an insurer of bonds to assure such insurer of additional security therefore.

(6) Alternate proof of financial assurance.

(a) An owner or operator may establish proof of financial assurance with the Department in lieu of, or in combination with, the requirements of subsection (5) of this section. Such proof may include surety bonds, certificates of deposit, securities, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees showing that the owner or operator has sufficient financial resources to cover, at a minimum, the costs of complying with all state landfill closing and long-term care requirements. If such proof of financial assurance is surety bonds, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees, such proof shall be submitted on forms provided by the Department in accordance with the requirements of paragraphs (b) and (c) of this subsection. If proof of financial assurance is securities or certificates of deposit, these instruments must be used in conjunction with a trust fund and shall be submitted directly to the trustee. The owner or operator shall estimate such costs pursuant to subsection (3) of this section.

(b) 40 CFR Part 264 Subpart H which contains EPA's rules on financial requirements for owners and operators of hazardous waste facilities are hereby adopted as financial requirements for purposes of this section incorporated by reference as those rules appear in 40 CFR 264, revised as of July 1, 1988, except:

1. The following sections of 40 CFR Part 264 Subpart H are specifically not adopted as part of this rule:
 - a. 264.140(a); 264.140(b); 264.141(a); 264.141(e); 264.147; 264.149; 264.150; and 264.151.
 - b. All references to 40 CFR Part 265.
 - c. All references to sections or subparts of 40 CFR 264 not contained in Subpart H.
 - d. All references to EPA Regions.
 - e. All references to RCRA, or Section 3008 of RCRA.
2. References in 40 CFR 264 Subpart H to the United States Environmental Protection Agency (EPA) shall mean the State of Florida Department of Environmental Regulation; to Regional Administrator shall mean the Secretary of the Department; to RCRA permits shall mean solid waste

17-701.630(5)(f)(cont'd.) - 17-701.630(6)(b)2.

management permits; to Post-Closure Care/Post-Closure Cost Estimate shall mean Long-Term Care/Long-Term Care Cost Estimate; to EPA identification number shall mean the Department identification number; to hazardous waste shall mean solid waste; and to hazardous waste treatment, storage or disposal facilities shall mean landfills.

(c) Government-owned facilities using a Single Audit accounting system and providing proof of financial assurance using a financial test, must send updated information outlined in 40 CFR 264.143(f)(5) and 264.145(f)(5) to the Department within 180 days after the close of each succeeding fiscal year.

(d) Form 17-701.900(5) shall be used when submitting proof of financial assurance under this section.

(7) Cost estimates for corrective action. An owner or operator of a landfill required to establish financial assurance for a corrective action program pursuant to paragraph (2)(d) of this section shall have a detailed written estimate in current dollars, estimated by a professional engineer, of the cost of hiring a third party to perform the corrective action in accordance with Rule 17-701.510(7), F.A.C. The corrective action cost estimate must account for the total cost of corrective action activities as described in the corrective action plan for the entire corrective action period. The owner or operator shall submit the estimate, together with all necessary justification, to the Department for approval along with proof of financial assurance.

(8) Annual cost adjustments for corrective action.

(a) The owner or operator shall annually adjust the estimate for inflation and changes in the corrective action plan until the corrective action program is completed in accordance with Rule 17-701.510(7), F.A.C. The adjustment shall be made either by recalculating the maximum cost of corrective action, in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business as specified in subparagraphs (8)(a)1. and 2. of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

1. The first adjustment is made by multiplying the corrective action cost estimate by the inflation factor. The result is the adjusted corrective action cost estimate. Inflation adjusted estimates shall be submitted along with annual closing and/or long-term care cost estimates.

17-701.630(6)(b)2.(cont'd.) - 17-701.630(8)(a)1.

2. Subsequent adjustments are made by multiplying the latest adjusted corrective action cost estimate by the latest inflation factor.

(b) If the corrective action plan is modified during the corrective action period, the owner or operator shall revise the corrective action cost estimate no later than 30 days after this modification is effective. Annual adjustments shall be made and submitted as specified in paragraph (8)(a) of this section.

(c) The owner or operator shall keep the latest corrective action cost estimate and, when this estimate has been adjusted in accordance with paragraph (8)(a) of this section, the latest adjusted corrective action cost estimate at the facility until the corrective action is complete.

(9) Financial assurance for corrective action.

(a) For government owned landfills, the owner or operator shall demonstrate proof of financial assurance for corrective action with the Department by establishing an escrow account or by using one of the approved alternate mechanisms specified in subsection (6) of this section.

1. Payments into the landfill management escrow account shall be made by the owner or operator according to one of the following methods:

a. The owner or operator shall deposit into the landfill management escrow the full cost associated with the corrective action remedy by April 9, 1994, or within 120 days after the corrective action remedy has been selected, whichever is later; or

b. If the local government can document with specificity a non-general revenue source adequate to cover the total corrective action cost, then only that portion of the corrective action to be undertaken the following year need be funded.

(b) For privately owned landfills, the owner or operator shall demonstrate proof of financial assurance for corrective action with the Department by establishing an escrow account or by using one of the approved alternate mechanisms specified in subsection (6) of this section. The escrow account shall be funded for the full cost associated with the corrective action remedy by April 9, 1994, or within 120 days after the corrective action remedy has been selected, whichever is later. If a trust fund is used, funding shall be in accordance with 40 CFR Part 258.74(a).

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 7-1/85; Formerly 17-7.076; Amended 11-28-89; Formerly 17-701.076; Amended 1-6-93, 1-2-94, 5-19-94.

17-701.630(8)(a)2. - 17-701.630(History)

5-19-94

17-701.640 Closure of Existing Landfills.

(1) Any Class I or Class II landfill receiving waste on January 2, 1994 shall close by October 9, 1996, in accordance with Rules 17-701.600 - .630, F.A.C., if:

(a) It is within the airport setbacks specified in Rule 17-701.320(12)(b), F.A.C., and the owner or operator cannot demonstrate that the facility is designed and will be operated so that it does not pose a bird hazard to aircraft;

(b) It is located within the 100-year floodplain as specified in Rule 17-701.340(4)(b), F.A.C., unless the owner or operator can demonstrate that it will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; or

(c) It is located in a fault area, seismic zone, or unstable area as specified in Rule 17-701.420(1)(c), F.A.C., unless the owner or operator can demonstrate that the facility was adequately designed to tolerate the anticipated stresses associated with these areas.

(2) The Department shall extend the deadline for closure specified in subsection (1) of this section for up to two years if the owner or operator of the landfill demonstrates to the Department that:

(a) There is no available and practicable alternative disposal capacity; and

(b) Such extension would result in no immediate threat to human health or the environment.

(3) Any such demonstrations shall be submitted to the Department no later than July 9, 1996.

Specific Authority: 403.704, F.S.

Law Implemented: 403.704, 403.707, F.S.

History: New 1-2-94, Amended 5-19-94.

17-701.700 Materials Recovery Facilities.

(1) Applicability. No person shall construct or operate a materials recovery facility without a permit issued by the Department.

(2) Engineering report. A permit application for a materials recovery facility shall include the information required in Rule 17-701.320, F.A.C., and an engineering report that includes:

(a) A description of the solid waste that is proposed to be collected, stored, processed or disposed of by the facility, a projection of those waste types and quantities expected in future years, and the assumptions used to make the projections;

17-701.640(1) - 17-701.700(2)(a)

(b) A description of the operation and functions of all processing equipment that will be used, with design criteria and expected performance. The description shall show the flow of solid waste and associated operations in detail, and shall include:

1. Regular facility operations as they are expected to occur;

2. Procedures for start up operations, and scheduled and unscheduled shut down operations; and

3. Potential safety hazards and control methods, including fire detection and control;

(c) A description of loading, unloading, and processing areas. If wastes which are reasonably expected to produce leachate are being processed, the facility shall be designed with a leachate control system to prevent discharge of leachate and mixing of leachate with stormwater;

(d) Identification and capacity of temporary on-site storage areas for recyclable materials, non-processable wastes, unauthorized wastes, and residues;

(e) Provisions for solid waste and leachate containment;

(f) Identification of potential ground water and surface water contamination; and

(g) A plan for disposal of unmarketable recyclable materials and residue, and for waste handling capability in the event of breakdowns in the operations or equipment. Wastes shall be handled on a first-in, first-out basis. Stored putrescible wastes shall not be allowed to remain unprocessed for more than 48 hours unless provisions are made to control vectors and odors.

(3) Operational requirements. A permit application for a materials recovery facility shall include the following operational requirements:

(a) An operation and maintenance manual describing the facility operations, the persons responsible for the operations, and types of equipment that will be used. All activities at the facility shall be performed in accordance with the manual and plans for the facility. Manuals and plans shall be updated as operations change but no less frequently than upon renewal of the operation permit;

(b) A plan to screen the wastes received by the facility, that specifies inspection procedures and procedures to handle unauthorized wastes;

(c) A contingency plan to cover operations interruptions and emergencies such as fires, explosions, or natural disasters; and

(d) A closure plan that identifies the steps needed to close the facility. The closure plan shall provide for the following:

17-701.700(2)(b) - 17-701.700(3)(d)

1. Owner or operator notification to the Department in writing 180 days before the date the facility is expected to close. No waste shall be received by the facility after the expected closing date;

2. Within 30 days after receiving the final solid waste shipment, the owner or operator shall remove or otherwise dispose of all solid waste or residue in accordance with the approved closure plan; and

3. Closure must be completed within 180 days after receiving the final waste quantity. Closure will include removal of all recovered materials from the site. When closure is completed, the owner or operator shall certify in writing to the Department that closure is complete. The Department will make an inspection within 30 days to verify the closure and advise the owner or operator of the closure status.

(4) Financial responsibility. The owner or operator of a materials recovery facility shall post a performance bond payable to the Department to cover the cost of properly closing the facility, if one or more of the following conditions exist:

(a) Where the owner of the land or materials recovery facility and the operator of the facility are not the same person; or

(b) If the operator of the facility could stockpile waste that may create an environmental threat if the facility closes without properly disposing of the waste.

(5) Stormwater. Stormwater shall be controlled in accordance with Chapters 17-25 and 17-330, F.A.C. A copy of any permit for stormwater control issued by the Department, or documentation that no such permit is required, shall be submitted to the Department before the facility receives waste. Applicants should be aware that other government agencies may also regulate stormwater management and may require separate permits.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93. Amended 5-19-94.

17-701.720 Industrial Solid Waste Disposal

(1) Applicability. After January 6, 1995 except as provided below, and subject to the provisions of Rule 17-701.220, F.A.C., solid waste disposal units which accept primarily industrial wastes other than construction and demolition debris, clean debris, or those materials specified as acceptable in Class III landfills in Rule 17-701.340(3)(d), F.A.C., shall meet the following requirements:

(a) Solid waste disposal units constructed after January 6, 1995 or for which an application for a permit or site

17-701.700(3)(d)1. - 17-701.720(1)(a)

5-19-94

certification was not received and deemed complete by the Department before January 6, 1995 shall meet the same requirements of this chapter as apply to Class I landfills. This requirement also applies to lateral expansions of solid waste disposal units.

(b) All other solid waste disposal units which receive waste after January 6, 1995 shall comply with the same operational and closure requirements of Rules 17-701.500, 17-701.510, 17-701.600, 17-701.610, 17-701.620, and 17-701.630, F.A.C., as apply to Class I landfills.

(2) Alternate requirements for specific facilities. The owner or operator of an industrial waste disposal facility may request approval of alternate procedures and requirements in accordance with Rule 17-701.310, F.A.C.

(3) Alternate requirements for types of industrial operations. A person or organization representing a specific type of industrial operation may request general approval for all such industrial operations. Such request for a specific type of industrial operation shall be submitted by July 6, 1994 and shall be accompanied by an analysis of the waste stream and operational procedures intended to demonstrate that the standards for Class I landfills are inappropriate for that waste stream. This deadline shall be tolled during the time that any required, complete Quality Assurance Plan is being reviewed and acted on by the Department. The Department shall offer assistance to the waste generators in determining what types of information may be submitted. If the Department determines that such submittal, along with any additional information supplied, includes the information specified in subsection (4) of this section, then the provisions of subsection (1) of this section shall not apply to that type of industrial operation. Instead, the Department shall, after an evaluation of the submittals and any additional information submitted, initiate rulemaking to set standards for the construction, operation and closure of disposal facilities at that type of industrial operation, including lateral expansions of existing facilities.

(4) Guidelines. The following guidelines are offered for those persons or organizations requesting such alternate requirements for industrial waste disposal facilities or types of industrial operations.

(a) The request should include a detailed description of those wastes which are typically disposed of. This description should include:

1. An analysis of the chemical, biological and physical properties of the waste;

17-701.720(1)(a)(cont'd.) - 17-701.720(4)(a)1.

2. An analysis of any predicted movements of such waste in ground water;

3. An analysis of the likelihood of such wastes causing violations of ground water quality standards or criteria if released into the environment, taking into account any applicable zones of discharge; and

4. An analysis of the likelihood of such wastes releasing methane or other gases into the atmosphere.

(b) The request should include a detailed description of the operational and management practices at the facility. The description should include:

1. A demonstration that the facility operator follows appropriate procedures to assure that only the described industrial wastes are disposed of in the industrial waste disposal unit; and

2. A demonstration that the facility will have equipment and features necessary to comply with Rule 17-701.500(11), F.A.C.

(c) If the person or organization is requesting that less stringent liner requirements apply, the request should include one or more of the following:

1. A demonstration that leachate from the waste, if released into the environment, will pose little or no threat to the public or the environment, and will not violate ground water quality standards and criteria, taking into account any applicable zones of discharge;

2. An analysis of the likelihood and extent that such leachate will be released into the environment; and

3. A demonstration that leachate from the waste will not have an adverse effect on the proposed liner system, if any.

(d) If a person or organization is requesting that less stringent gas control systems apply, the request should include a demonstration that either:

1. The waste is not expected to produce any significant amounts of gases; or

2. The less stringent gas control system requested shall meet the requirements of Rule 17-701.400(10)(a)1., F.A.C.

(e) If a person or organization is requesting that less stringent ground water monitoring requirements apply, the request should include an analysis of the leachate produced by the waste indicating those constituents which may enter the ground water in the case of leakage.

(f) If a person or organization is requesting that less stringent initial or intermediate cover requirements apply, the request should include a demonstration that the less stringent requirements will provide an equal degree of protection from odors, fires, vectors, and blowing dust.

17-701.720(4)(a)2. - 17-701.720(4)(f)

(g) If a person or organization is requesting that less stringent closure requirements apply, the request should include a demonstration that:

1. Infiltration of rainfall after closure will be minimized; or
2. Leachate generated after closure will not cause a violation of water quality standards during the long-term care period.

(5) This section is not intended to limit the Department's authority to require permits and permit conditions necessary to protect the public health and the environment. Permit applicants are advised that between January 6, 1993 and January 6, 1995 and during any rulemaking procedures that the Department may undertake pursuant to subsection (3) of this section, the Department will continue to evaluate any applications for industrial waste disposal units in accordance with other applicable Department rules, and will issue permits only when reasonable assurance is provided that the facility will not cause pollution in violation of Department water quality standards.

Specific Authority: 403.061, 403.704, F.S.

Law Implemented: 403.702, 403.704, 403.707, F.S.

History: New 1-6-93, Amended 5-19-94.

17-701.730 Construction and Demolition Debris Disposal.

(1) Clean debris. Clean debris may be used as fill material in any area, including waters of the State, subject to receipt of a dredge and fill permit from the Department where applicable. Clean debris used as fill material is not solid waste, and such use does not require a solid waste permit under this rule. Clean debris that is not used as fill material shall be disposed of as construction and demolition debris.

(2) Landfill disposal. Construction and demolition debris may be disposed of in a permitted landfill. However, pursuant to Section 403.706(2), F.S., each county must initiate by July 1, 1989, a program to develop segregated disposal areas for construction and demolition debris. This program shall be designed to assure that all construction and demolition debris is disposed of in segregated areas after August 1, 1990. The cover requirements for a segregated construction and demolition debris disposal area within a permitted landfill shall be those in Rule 17-701.803(9), F.A.C.

(3) On-site disposal. Construction and demolition debris which is disposed of on the property where it is generated, or on property which is adjacent or contiguous to and under common ownership and control as that property where the waste is generated, is exempt from the landfill permitting requirements of Rule 17-701.330, F.A.C.

17-701.720(4)(g) - 17-701.730(3)

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However, such disposal is subject to the prohibitions of Rule 17-701.300, F.A.C. Such disposal areas must also be closed, graded and vegetated as specified in Rule 17-701.803(9), 10 F.A.C.

(4) Off-site disposal. Construction and demolition debris may be disposed of off-site at a facility operating under a general permit pursuant to Rules 17-4, Part III and 17-701.803, F.A.C., or at a solid waste facility permitted under Rule 17-701.330, F.A.C. Such a facility operating under a general permit shall accept only construction and demolition debris for disposal.

(5) Recycling and burning. Nothing in this rule shall prevent the burning or recycling of construction and demolition debris in accordance with Department rules.

(6) Disposal restrictions. Construction and demolition debris may be disposed of only in accordance with one of the methods authorized above. In addition, disposal areas shall be operated so that adverse environmental and public health impacts, such as blowing litter, odors, and vectors, are minimized.

(7) Asbestos waste disposal. Asbestos-containing waste materials regulated pursuant to 40 CFR Part 61, Subpart M, shall not be disposed of in a construction and demolition debris disposal area.

Specific Authority: 403.061, 403.704, 403.707, F.S.

Law Implemented: 403.706, 403.707, F.S.

History: New 8-2-89; Formerly 17-701.061; Amended 1-6-93.

17-701.801 General Permit for Solid Waste Transfer Station.

(1) General permit. A general permit is hereby granted to any person for the construction and operation of a solid waste transfer station that has been designed or will be operated in accordance with the standards and criteria set forth in Rules 17-4.540 and 17-701.300, F.A.C., and this section.

(2) Notification. Any person wishing to operate a transfer station pursuant to this section shall notify the Department on Form 17-701.900(4) and provide the following:

(a) Regional map. The regional map shall delineate the service area of the proposed transfer station.

(b) Site plan. The site plan shall include:

1. Site conditions and projected use including all site structures, buildings, fences, gates, entrances and exits, parking areas, on-site roadways, and signs;
2. Property boundaries, access roads, surface water bodies, and the location of 100-year flood plain boundaries;
3. Proposed structures and areas designated for unloading, sorting, storage, and loading, including dimensions, elevations, and floor plans of these structures and areas, and the general process flow; and

17-701.730(3) (cont'd.) - 17-701.801(2) (b)3.

4. Adjacent properties including the location of public and private water supplies on these properties.

(c) Engineering report. The engineering report shall include:

1. A description of the general operating plan for the proposed facility including the origin, composition, and expected weight or volume of all solid waste to be accepted at the facility, the maximum time waste will be stored, where all wastes will be disposed, the capacity of the facility, the operating hours of the facility, and the expected life of the facility;

2. A description of all machinery and equipment to be used, including the design capacity;

3. A transfer plan specifying the transfer route, the number and type of transfer vehicles to be used, and how often solid waste will be transferred to the disposal site;

4. A description of the facility's drainage system and water supply system;

5. A plan for hiring and training equipment operators and other personnel concerning the operation of the facility; and

6. A contingency plan describing alternate solid waste handling procedures for periods of inoperation or delays in transporting solid waste.

(3) Design requirements. Minimum design requirements for transfer stations are as follows:

(a) On-site roads and unloading areas shall be designed for efficient movement and unloading of vehicles.

(b) Tipping, processing, sorting, storage and compaction areas that are in an enclosed building or covered area shall have ventilation systems. The areas that are not enclosed shall be equipped with litter control devices and visual screening.

(c) The facility shall be designed with a leachate control system to prevent discharge of leachate and mixing of leachate with stormwater.

(d) Provisions shall be made for weighing or measuring all incoming solid waste and recovered materials. Storage areas shall be designed to hold the expected volume of materials until they are transferred for disposal or recycling.

(e) Where the general public may use the transfer facility, safety procedures shall be established for private vehicles.

(4) Operational requirements.

(a) Prohibited wastes shall not be accepted at a transfer station. Handling of unauthorized wastes shall be addressed in the contingency plan.

17-701.801(2)(b)4. - 17-701.801(4)(a)

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(b) An attendant shall be on duty whenever the facility is operating. Operating hours shall be posted, and fencing, gates, or other means shall be used to prevent unauthorized access when the station is closed.

(c) Litter, insects, odors and vectors shall be controlled to prevent sanitary nuisance and unsightly appearance.

(d) Wastes shall be handled on a first-in, first-out basis to the extent practicable. All waste storage areas shall be cleaned at the end of each day's operations or during continuous operation, as necessary, to prevent odor or vector problems. All floors shall be free of standing liquids. Drainage from cleaning areas shall be discharged to sanitary sewers or the equivalent.

(e) Adequate fire protection must be available at all times.

(f) Recovered materials shall be clearly identified and stored in a safe, sanitary manner. A record of the type and quantity of recovered materials shall be maintained and reported as part of the county's recycling program.

(g) Operational records shall be maintained to include a daily log of the quantity of solid waste received and transported and the origin of the waste. Such records shall be compiled on a monthly basis and shall be available for inspection by the Department. Reports shall be retained at the station for three years.

(5) Certification of construction completion. Within 30 days of completion of construction, the engineer of record shall certify to the Department that the permitted construction is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.

(6) Stormwater. Stormwater shall be controlled in accordance with Chapter 17-25 and 17-330, F.A.C. A copy of any permit for stormwater control issued by the Department, or documentation that no such permit is required, shall be submitted to the Department before the facility receives waste. Applicants should be aware that other government agencies may also regulate stormwater management and may require separate permits.

(7) Any person wishing to construct or operate a transfer station pursuant to this section shall publish, in a newspaper of general circulation in the area affected, notice of application for a general permit. Such public notice of application shall be published within 14 days after the applicant notifies the Department. Within 21 days after publication of notice, any person whose substantial interests are affected may request a hearing in accordance with Section 120.57, F.S. No person shall begin work.

17-701.801(4)(b) - 17-701.801(7)

pursuant to a general permit until after the time for requesting a hearing has passed or, if a hearing is requested, until final agency action is taken authorizing construction.

Specific Authority: 403.814(1), F.S.

Law Implemented: 403.061, 403.087, 403.088, 403.702-403.73, 403.814, F.S.

History: New 7-8-82; Previously numbered as 17-4.61; Formerly 17-4.610; Formerly 17-7.801; Amended 1-6-93, 5-19-94.

17-701.802 General Permit for Land Application of Grade II Domestic Wastewater Treatment Sludge.

(1) As a result of the potential harm to human health or the environment resulting from sludge disposal activities, it is important that public notice be given before a general permit for such activities is utilized. Therefore, a general permit is hereby granted to any person for land application of Grade II domestic wastewater treatment sludge; provided:

(a) The person intending to apply the sludge to the land submits a completed General Permit Application for Grade II Sludges, as specified in Fla. Admin. Code Rule 17-701.060.

(b) The permit applicant, within 14 days of notice to the department, has published in a newspaper of general circulation in the area affected, a notice of the intended land application of Grade II sludge. The notice shall include the name of the applicant and a brief description of the proposed activity and location.

(c) The sludge is land applied pursuant to the requirements of Fla. Admin. Code Rule 17-701.540(5).

(2) The general permit shall be subject to the general conditions of Fla. Admin. Code Rule 17-4.540.

Specific Authority: 403.814, F.S.

Law Implemented: 403.061, 403.087, 403.702, through 403.715, 403.814, F.S.

History: New 6-16-84. Previously numbered as 17-4.64. Formerly 17-4.640, Formerly 17-7.802.

17-701.803 General Permit for Off-site Disposal of Construction and Demolition Debris.

(1) Notification. The owner or operator of the construction and demolition debris disposal facility shall notify the Department in writing on Form 17-701.900(3) of the intent to use this general permit. Owners or operators of solid waste management facilities which have a permit under Chapter 17-701, F.A.C., to receive construction and demolition debris are exempt from this requirement. The notification shall be signed and sealed by a professional engineer and shall include:

17-701.801(7)(cont'd.) - 17-701.803(1)

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(a) A site plan, of a scale not greater than 200 feet to the inch, which shows the project location and identifies the proposed disposal areas, total acreage of the site and of the proposed disposal area, and any other relevant features such as water bodies, wetlands, or potable water wells on or within 500 feet of the site;

(b) A geotechnical investigation which meets the criteria of Rule 17-701.420, F.A.C.

(c) A general description of the facility operations, including equipment and personnel planned for the operation and closure of the facility;

(d) A boundary survey and legal description of the property from the county tax assessor's office;

(e) The planned active life of the facility, and the design height of the facility;

(f) Closure plans and cross section details of the final cover;

(g) The mailing address and phone number of the owner and operator; and

(h) Documentation that the applicant either owns the land or has legal authorization from the land owner to use the land for a disposal facility.

(2) Certification. Within 30 days of completion of construction, the engineer of record shall certify to the Department that the permitted construction is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.

(3) Other requirements. The requirements of Rules 17-701.330 through 17-701.630, F.A.C., do not apply to construction and demolition debris disposal facilities, provided that none of the prohibitions contained in Rule 17-701.300, F.A.C., or the water quality standards contained in Chapters 17-3 and 17-302, F.A.C., shall be violated.

(4) Stormwater. Stormwater shall be controlled in accordance with Chapters 17-25 and 17-330, F.A.C. A copy of any permit for stormwater control issued by the Department, or documentation that no such permit is required, shall be submitted to the Department before the facility receives waste for disposal. Applicants should be aware that other government agencies may also regulate stormwater management and may require separate permits.

(5) Temporary storage. The disposal facility shall have equipment for temporary storage and transport for solid waste, other than construction and demolition debris, to an authorized disposal facility. Such solid waste which is accepted by the facility shall be segregated and disposed of in accordance with Department rules.

17-701.803(1)(a) - 17-701.803(5)

(6) Compaction. Construction and demolition debris shall be compacted and sloped as necessary to assure that the requirements of subsection (9) of this section can be met.

(7) Access. Access to the disposal facility shall be controlled during the active life of the facility by fencing or other effective barriers to prevent disposal of solid waste other than construction and demolition debris.

(8) Inspection of waste. At least one spotter shall be on duty at all times when the site is operating to inspect the incoming waste. Any prohibited material, including buckets or cans containing tar, paint, glue, or other liquids, shall be removed from the waste stream and placed into appropriate containers for disposal at a permitted facility. This provision is applicable to all construction and demolition debris disposal sites after July 2, 1994.

(9) Inspections. Operation of a facility under a general permit constitutes consent for Department personnel to inspect the site during normal business hours for compliance with Department rules.

(10) Closure. Final cover and seeding or planting of vegetative cover shall be placed on each disposal unit within 180 days after final receipt of wastes. Final cover shall consist of a 24-inch-thick soil layer, the upper six inches of which shall be capable of supporting vegetation and shall be graded to eliminate ponding, promote drainage, and minimize erosion. The side slopes of all above-grade disposal areas shall be no greater than three feet horizontal to one foot vertical rise.

(11) Notification of closure. The owner or operator shall notify the Department within 30 days after closing, covering, and seeding the facility as required in subsection (9) of this section.

(12) Recycling. The owner or operator of the facility may recover materials from the construction and demolition debris waste stream for purposes of recycling, provided that such recovery does not result in a violation of this section. In such a case, a separate solid waste permit is not required.

(13) Incineration. A facility which employs an air curtain incinerator and which also stores or disposes of construction and demolition debris at the site shall meet the permitting requirements of Rule 17-256.500, F.A.C., as well as this section. Specific Authority: 403.061, 403.704, 403.707, 403.814, F.S.

Law Implemented: 403.707, 403.814, F.S.

History: New 8-2-89; Amended 1-6-93, 1-2-94, 5-19-94.

17-701.803(6) - 17-701.803(History)

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17-701.900 Forms.

The forms used by the Department in the solid waste management program are adopted and incorporated by reference in this section. The form is listed by rule number, which is also the form number, and with the subject, title and effective date. Copies of forms may be obtained from a local District Office or by writing to the Florida Department of Environmental Regulation, DER Library, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

-(1) Application to Construct, Operate, Modify, or Close a Solid Waste Management Facility, effective 5-19-94.

-(2) Certification of Construction Completion of a Solid Waste Management Facility, effective 5-19-94.

-(3) Notification of Intent to Use a General Permit for a Construction and Demolition Debris Disposal Facility, effective 5-19-94.

-(4) Notification of Intent to Use a General Permit to Construct and Operate a Transfer Station, effective 5-19-94.

(5) Financial mechanisms for solid waste management facilities requiring closure and/or long-term care, effective 5-19-94.

(a) Solid Waste Facility Irrevocable Letter of Credit.

(b) Solid Waste Facility Financial Guarantee Bond.

(c) Solid Waste Facility Performance Bond.

(d) Solid Waste Facility Closure/Long-Term Care Insurance Certificate.

(e) Solid Waste Facility Financial Test.

(f) Solid Waste Facility Corporate Guarantee.

(g) Solid Waste Facility Trust Fund Agreement to Demonstrate Closure and/or Long-Term Care Financial Assurance.

(h) Solid Waste Facility Standby Trust Fund Agreement. Specific Authority: 120.53(1), 403.061, 403.704, F.S.

Law Implemented: 120.53(1), 403.707, F.S.

History: New 8-2-89; Amended 1-6-93, 5-19-94.

17-701.900 - 17-701.900(History)

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Solid Waste Management Facilities
Chapter 62-701, F.A.C.
Department of Environmental Protection
Effective 04/23/1997

CHAPTER 62-701 SOLID WASTE MANAGEMENT FACILITIES

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General Permit for Land Application of Grade II Domestic Wastewater Treatment Sludge. (Repealed)
General Permit for Off-Site Disposal of Land Clearing Debris.
Forms.

62-701.100 Intent. The intent of Chapters 62-701 through 62-722, F.A.C., is to establish standards for the construction, operation, and closure of solid waste management facilities to minimize their threat to public health and the environment; to provide for the safe handling, storage, transportation, disposal, or beneficial use of ash residue from the combustion of solid waste; to establish a procedure for the examination and certification of resource recovery equipment to implement the tax exemptions provided by Section 212.08(7)(p), F.S., and Rule 12A-1.001(23), F.A.C.; to regulate the production and use of compost made from solid waste; to establish a comprehensive program for the proper management and recycling of used oil; to

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regulate waste tire storage, collection, transport, processing, recycling, reuse, and disposal; to establish procedures for disbursement of recycling and education grants, small county grants, and waste tire grants, litter control and prevention grants, and small county landfill closure grants to local governments for recycling and solid waste education; to provide a uniform procedure by which certain persons in this state who handle, purchase, receive, recover, sell or are end users of recovered materials shall be certified by and report to the Department and register with and report to certain local governments; and to implement the provisions of the Florida Solid Waste Management Act, Sections 403.701-403.7199 and 403.75-403.769, Florida Statutes.

Specific Authority 403.061, 403.704 F.S.

Laws Implemented 403.021, 403.061, 403.087, 403.701 through 403.7199 and 403.75-403.769, F.S.

History -- New 1-6-93, Formerly 62-701.100, Amended 12-23-96.

62-701.200 Definitions. The following words, phrases or terms as used in Chapters 62-701 through 62-722, F.A.C., unless the context indicates otherwise, shall have the following meaning:

- (1) "Agricultural wastes" means the solid wastes resulting from normal farming operations, the raising and slaughtering of animals, and the processing of animal products, orchard, and field crops, which are stored, transported, or disposed of as an unwanted waste material.
- (2) "Airport" means any area of land or water, or any manmade object or facility located thereon, which is used, or intended for use, for the landing and takeoff of aircraft, and any appurtenant areas which are used, or intended for use, for airport buildings or other airport facilities or rights-of-way, together with all airport buildings and facilities located thereon
- (3) "Air quality standards" means, unless otherwise specified, those standards set forth in Chapter 62-272, F.A.C.
- (4) "ASTM" means the American Society for Testing and Materials.
- (5) "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells, springs, or surface water.
- (6) "Ash residue" means all the solid residue and any entrained liquids resulting from the combustion of solid waste in a solid waste combustor, including bottom ash, fly ash and combined bottom and fly ash, but excluding recovered metals glass, and other recovered materials separated from the ash residue.
 - (a) "Bottom ash" means the solid material remaining after combustion of solid waste, which is discharged from the grates or stoker of a solid waste combustor.
 - (b) "Fly ash" means the residue from the combustion of solid waste, which is entrained in the gas stream of a solid waste combustor. Fly ash includes particulates, cinders, soot, and solid waste from air pollution control equipment.
- (7) "Backyard composting" means the composting of organic solid waste, such as grass clippings, leaves or food waste, generated by a homeowner or tenant of

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a single or multi-family residential unit or an apartment complex unit, where composting occurs at that dwelling unit.

- (8) "Biomedical waste" has the meaning given it in Rule 62-712.200, F.A.C.
- (9) "Biological waste" has the meaning given it in Rule 62-712.200, F.A.C.
- (10) "Bird hazard" means an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.
- (11) "Brittle point" means the point at which the percent elongation at break for the specimen is at a value of five percent absolute or less.
- (12) "Bulky wastes" means items whose large size or weight precludes or complicates their handling by normal collection, processing, or disposal methods.
- (13) "Cell" means a volume of solid waste received since the last previous application of initial cover. The compacted waste and subsequent initial cover constitute a cell which usually contains wastes deposited in one day.
- (14) "Clean debris" means any solid waste which is virtually inert, which is not a pollution threat to ground water or surface waters, is not a fire hazard, and is likely to retain its physical and chemical structure under expected conditions of disposal or use. The term includes brick, glass, ceramics, and uncontaminated concrete including embedded pipe or steel.
- (15) "Closing" means the time at which a solid waste management facility ceases to accept wastes, and includes those actions taken by the owner or operator of the facility to prepare the facility for any necessary monitoring and maintenance after closing.
- (16) "Closure" means the cessation of operation of a solid waste management facility and the act of securing such a facility so that it will pose no significant threat to human health or the environment. This includes closing, long term monitoring, maintenance, and financial responsibility.
- (17) "Cm/sec" means centimeters per second.
- (18) "Co-disposal" means the disposal of two or more different types of waste in the same solid waste disposal unit.
- (19) "Combustion" means the treatment of solid waste in a device that uses heat as the primary means to change the chemical, physical, or biological character or composition of the waste. Combustion processes include incineration and pyrolysis.
- (20) "Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.
- (21) "Compost" means solid waste which has undergone biological decomposition of organic matter, and has been disinfected using composting or similar technologies, and has been stabilized to a degree which is potentially beneficial to plant growth and which is used or sold for use as a soil amendment, artificial top soil, growing medium amendment or other similar uses.
- (22) "Composting" means the process by which biological decomposition of organic solid waste is carried out under controlled aerobic conditions, and which stabilizes the organic fraction into a material which can easily and safely be stored, handled and used in an environmentally acceptable manner. The presence of

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anaerobic zones within the composting material will not cause the process to be classified as other than composting.

- (23) "Composting facility" means a solid waste management facility where solid waste is processed using composting technology. Processing may include physical turning, windrowing, aeration or other mechanical handling of organic matter.
- (24) "Composite liner" means a liner comprised of a geomembrane, which is underlain and in direct contact with a soil component.
- (25) "Construction and demolition debris" means discarded materials generally considered to be not water soluble and non-hazardous in nature, including but not limited to steel, glass, brick, concrete, asphalt material, pipe, gypsum wallboard, and lumber, from the construction or destruction of a structure as part of a construction or demolition project or from the renovation of a structure, including such debris from construction of structures at a site remote from the construction or demolition project site. The term includes rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project; clean cardboard, paper, plastic, wood, and metal scraps from a construction project; effective January 1, 1997, except as provided in Section 403.707(13)(j), F.S., unpainted, non-treated wood scraps from facilities manufacturing materials used for construction of structures or their components and unpainted, non-treated wood pallets provided the wood scraps and pallets are separated from other solid waste where generated and the generator of such wood scraps or pallets implements reasonable practices of the generating industry to minimize the commingling of wood scraps or pallets with other solid waste; and de minimis amounts of other nonhazardous wastes that are generated at construction or demolition projects provided such amounts are consistent with best management practices of the construction and demolition industries. Mixing of construction and demolition debris with other types of solid waste will cause it to be classified as other than construction and demolition debris.
- (26) "Curing area" means an area where organic material that has undergone the rapid initial stage of composting is further stabilized into a humus-like material.
- (27) "Degradable" with respect to any material, means that such material, after being discarded, is capable of decomposing to components other than heavy metals or other toxic substances, after exposure to bacteria, light, or outdoor elements.
- (28) "Department" means the State of Florida Department of Environmental Protection.
- (29) "Design period" means the operating life of the solid waste management facility plus any long-term care period after closing.
- (30) "Disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.
- (31) "Disinfection" means, as relates to composting, the selective destruction of pathogens indicated by a reduction in indicator organisms to less than or equal to 100 fecal coliform most probable number per gram of volatile suspended solids where the organic solid waste was maintained at or above 55°C for three consecutive days in a mechanical compostor or in an aerated, insulated static pile, or for 15 consecutive

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days in an aerated windrow with at least one turning or a nonaerated windrow with at least four turnings of the windrow.

(32) "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or upon any land or water so that such solid waste or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including ground waters, or otherwise enter the environment.

(33) "Engineer of record" means a professional engineer registered in the State of Florida in accordance with provisions of Chapter 471, F.S., who is appointed by the owner or operator of the solid waste management facility.

(34) "Facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for solid waste management.

(35) "Fill" means man-made deposits of earth or waste materials used to fill excavations, to increase the vertical or horizontal extent of land or solid waste disposal units, or to build embankments.

(36) "Final cover" means the materials used to cover the top and sides of a landfill when fill operations cease.

(37) "Foreign matter" means the inorganic and organic constituents in a solid waste stream that are not readily decomposed and that may be present in the compost. For purposes of this rule, foreign matter is metals, glass, plastics, rubber, bones, and leather, but does not include sand, grit, rocks or other similar materials.

(38) "Fugitive emissions" means those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening.

(39) "Garbage" means all kitchen and table food waste, and animal or vegetative waste that is attendant with or results from the storage, preparation, cooking, or handling of food materials.

(40) "Gas condensate" means the liquid generated as a result of gas recovery processes at a landfill.

(41) "Gas control system" means a system of wells, trenches, pipes, and other related structures that vents the gas produced in a solid waste disposal unit to the atmosphere.

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

(43) "Generation" means the act or process of producing solid waste.

(44) "Geomembrane" means a low-permeability synthetic membrane used as an integral part of a system designed to limit the movement of liquid or gas in the system.

(45) "Geonet" means a type of a geogrid that allows planar flow of liquids and serves as a drainage system.

(46) "Geotextile" means a permeable textile used as a part of a system designed to act as a filter to prevent the flow of fine particles into drainage systems, to

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provide planar flow for drainage, to serve as a cushion to protect geomembranes, or to provide structural support.

(47) "Ground water" means water beneath the surface of the ground within a zone of saturation, whether or not it is flowing through known and definite channels.

(48) "Hazardous waste" means a solid waste regulated by the Department as a hazardous waste pursuant to Chapter 62-730, F.A.C.

(49) "Heavy metals" means antimony, arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

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

(51) "Indoor" means within a structure which excludes rain and public access and would control air flows in the event of a fire.

(52) "Industrial solid waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products or byproducts; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing or foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

(53) "Initial cover" means a 6-inch layer of compacted earth, used to cover an area of solid waste before placement of additional waste, intermediate cover, or final cover. The term also includes other material or thickness, approved by the Department, that minimizes disease vector breeding, animal attraction, and moisture infiltration, minimizes fire potential, prevents blowing litter, controls odors, and improves landfill appearance.

(54) "Integral to" means, as regards the examination and certification of resource recovery equipment, that the machinery or equipment provides a significant function in the resource recovery or recycling process, such that the resource recovery or recycling process could not proceed without that piece of machinery or equipment.

(55) "Intermediate cover" means a layer of compacted earth at least one foot in depth applied to a solid waste disposal unit. The term also includes other material or thickness, approved by the Department, that minimizes disease vectors, odors, and fire, and is consistent with the leachate control design of the landfill.

(56) "Land reclamation" means the restoration of productivity to lands made barren through processes such as erosion, mining or land clearing.

(57) "Landfill" means a solid waste disposal facility, which is an area of land or an excavation where wastes are or have been placed for disposal, for which a permit, other than a general permit, is required by Section 403.707, F.S. This term shall not include:

(a) A land spreading site; or

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- (b) A surface impoundment; or
 (c) An injection well defined under and subject to the provisions of Chapter 62-28, F.A.C.
- (58) "Lateral expansion" means any horizontal increase in the dimensions of the waste boundary of an existing solid waste disposal unit.
- (59) "Leachate" means liquid that has passed through or emerged from solid waste and may contain soluble, suspended or miscible materials.
- (60) "Lift" means a completed horizontal series of cells.
- (61) "Lined landfill" means a landfill constructed with a liner made of synthetic materials, low-permeability soils, or a combination of these materials, which has been permitted by the Department, and which met the Department's landfill design criteria specified in this chapter or previous versions of this chapter at the time of permitting.
- (62) "Liner" means a continuous layer of low-permeability natural or synthetic materials, under the bottom and sides of a landfill, solid waste disposal unit, or leachate surface impoundment, which controls the downward or lateral escape of waste constituents, or leachate.
- (63) "Liner system" means a system of leachate collection and liner layers comprised of natural or synthetic materials installed between the subgrade and the waste for the purpose of containing the waste and collecting and removing leachate.
- (64) "Liquid waste" means any waste material that is determined to contain free liquids as defined by Method 9095 (Paint Filler Liquids Test), as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).
- (65) "Local government" means any municipality, county, district, or authority, or any agency thereof, or a combination of two or more of the foregoing when acting jointly in connection with a project, which has jurisdiction over the collection, recycling, disposal or treatment of solid waste.
- (66) "Lower explosive limit" means the lowest percent by volume of a mixture of explosive gases which will propagate a flame in air at a temperature of 25 degrees Celsius and atmospheric pressure.
- (67) "Manure" means a solid waste composed of excreta of animals, and residual materials that have been used for bedding, sanitary or feeding purposes for such animals. For purposes of this rule, manure does not mean such material generated and managed by normal farming operations.
- (68) "Materials recovery" means any process by which one or more of the various components in solid waste is separated and concentrated for reuse.
- (69) "Materials recovery facility" means a solid waste management facility that provides for the extraction from solid waste of recyclable materials, materials suitable for use as a fuel or soil amendment, or any combination of such materials.
- (70) "Mesophilic stage" means a biological stage in the composting process characterized by active bacteria which favor a moderate temperature range of 20° to 45°C. It occurs later in a composting process after the thermophilic stage and is associated with a moderate rate of decomposition.
- (71) "Method detection limit" means the smallest concentration of an analyte of interest that can be measured and reported with 99 percent confidence that the

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concentration is greater than zero. The method detection limit shall be determined pursuant to procedures outlined in Appendix B of 40 CFR Part 136, which is hereby incorporated by reference.

(72) "Monitoring wells" means strategically located wells from which water samples are drawn for water quality analysis.

(73) "Monofill" means a waste pile, landfill or solid waste disposal unit into which only one type of solid waste is placed.

(74) "Motor vehicle" means an automobile, motorcycle, truck, trailer, semitrailer, truck tractor and semitrailer combination, or any other vehicle operated on the roads of this state, used to transport persons or property, and propelled by power other than muscular power, but the term does not include traction engines, road rollers, such vehicles as run only upon a track, bicycles, moped, or farm tractors and trailers.

(75) "Normal farming operations" means the customary and generally accepted activities, practices, and procedures that farmers adopt, use, or engage in during the production and preparation for market of poultry, livestock, and associated farm products; and in the production, harvesting, or packaging of agricultural crops which include agronomic, horticultural, and silvicultural crops. Included is the management, collection, storage, composting, transportation, and utilization of organic agricultural waste, manure, and materials solely derived from agricultural crops.

(76) "Oily wastes" means those materials which are mixed with used oil and have become separated from that used oil. Oily wastes also means materials, including wastewaters, centrifuge solids, filter residues or sludges, bottom sediments, tank bottoms, and sorbents which have come into contact with, and have been contaminated by, used oil and may be appropriately tested and discarded in a manner which is in compliance with other state and local requirements.

(77) "100-year floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood.

(78) "On-site" means on the same or geographically contiguous property, which may be divided by public or private right-of-way.

(79) "Open burning" means the burning of any material under such conditions that the products of combustion are emitted directly into the atmosphere.

(80) "Operator" means any person, including the owner, who is principally engaged in, and is in charge of, the actual operation, supervision, and maintenance of a solid waste management facility.

(81) "Person" means any and all persons, natural or artificial, including any individual, firm, or association; any municipal or private corporation organized or existing under the laws of Florida or any other state; any county of this state; and any governmental agency of this state or the Federal Government.

(82) "Photodegradable plastic" means a polymeric material that disintegrates under environmental conditions in a reasonable and demonstrable period of time, where the primary mechanism is through the action of light.

(83) "Polyolefins" means polymers of relatively simple olefins such as ethylene, propylene, butenes, isoprenes and pentenes; and copolymers and modifications thereof.

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- (84) "Population" means the most recent population census determination under Section 186.901, F.S.
- (85) "Potable water well" means any excavation that is drilled or bored, or converted from non-potable water use, when the intended use of such excavation is for the location and acquisition of ground water which supplies water for human consumption.
- (86) "Processed tire" means a tire that has been treated mechanically, chemically, or thermally so that the resulting material is a marketable product or is suitable for proper disposal.
- (87) "Processing" means any technique designed to change the physical, chemical, or biological character or composition of any solid waste so as to render it safe for transport, amenable to recovery, storage or recycling; safe for disposal; or reduced in volume or concentration. As regards used oil, the term means chemical or physical operations designed to produce from used oil, or to make used oil more amenable for production of, fuel oils, lubricants, or other used oil-derived products. Processing includes blending used oil with virgin petroleum products, blending used oils to meet the fuel specifications, filtration, simple distillation, chemical or physical separation and refining.
- (88) "Professional engineer" means an engineer registered in the State of Florida in accordance with Chapter 471, F.S.
- (89) "Professional geologist" means a geologist registered in the State of Florida in accordance with Chapter 492, F.S.
- (90) "Public used oil collection center" means:
- (a) An automotive service facility or government-sponsored collection facility which accepts for disposal small quantities of used oil from households; or
 - (b) A facility which stores used oil in above-ground tanks which are approved by the Department, and which accepts small quantities of used oil from households.
- (91) "Quantity of tires" means either weight, volume, or actual number of tires. For purposes of Chapter 62-711, F.A.C., assume that, for passenger tires, there are 100 tires per ton and 10 tires per cubic yard and that, for truck tires, there are 20 tires per ton.
- (92) "Recovered materials" means metal, paper, glass, plastic, textile, or rubber materials that have known recycling potential, can be feasibly recycled, and have been diverted and source separated or have been removed from the solid waste stream for sale, use, or reuse as raw materials, whether or not the materials require subsequent processing or separation from each other, but does not include materials destined for any use that constitutes disposal. Recovered materials as described above are not solid waste.
- (93) "Recyclable material" means those materials which are capable of being recycled and which would otherwise be processed or disposed of as solid waste.
- (94) "Recycling" means any process by which solid waste, or materials which would otherwise become solid waste, are collected, separated, or processed and reused or returned to use in the form of raw materials or products.
- (95) "Recycling equipment" means machinery or equipment exclusively and integrally used in the actual process by which solid waste or materials which would

- otherwise become solid waste are separated or processed and reused or returned to use in the form of raw materials or products.
- (96) "Resource recovery" means the process of recovering materials or energy from solid waste, excluding those materials or solid waste under control of the Nuclear Regulatory Commission.
- (97) "Resource recovery equipment" means equipment or machinery exclusively and integrally used in the actual process of recovering material or energy resources from solid waste. This definition specifically includes recycling equipment.
- (98) "Sanitary nuisance" means a condition created by any person, or the keeping, maintaining, propagation, existence, or permitting of anything by a person by which the health or lives of individuals may be threatened or impaired, or by which disease may be caused or transmitted.
- (99) "Shredding" means a process of reducing the particle size of solid waste through the use of grinding, shredding, milling, or rasping machines.
- (100) "Site" means the area of land or water within the property boundaries of a solid waste management facility where one or more solid waste processing, resource recovery, recycling, storage, or disposal areas are located.
- (101) "Sludge" means a solid waste pollution control residual which is generated by any industrial or domestic wastewater treatment plant, water supply treatment plant, air pollution control facility, septic tank, grease trap, portable toilet or related operation, or any other such waste having similar characteristics. Sludge may be a solid, liquid, or semisolid waste but does not include the treated effluent from a wastewater treatment plant.
- (102) "Solid waste" means: sludge unregulated under the Federal Clean Water Act or Clean Air Act; sludge from a waste treatment works, water supply treatment plant, or air pollution control facility; or garbage, rubbish, refuse, special waste, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations. Materials not regulated as solid waste pursuant to this Chapter are: recovered materials; nuclear source or byproduct materials regulated under Chapter 404, F.S., or under the Federal Atomic Energy Act of 1954 as amended; suspended or dissolved materials in domestic sewage effluent or irrigation return flows, or other regulated point source discharges; regulated air emissions; and fluids or wastes associated with natural gas or crude oil exploration or production.
- (103) "Solid waste combustor" means an enclosed device that uses controlled combustion, the primary purpose of which is to thermally break down solid, liquid, or gaseous combustible solid wastes to an ash residue that contains little or no combustible material.
- (104) "Solid waste disposal facility" means any solid waste management facility which is the final resting place for solid waste, including landfills and incineration facilities that produce ash from the process of incinerating municipal solid waste.
- (105) "Solid waste disposal unit" means a discrete area of land used for the disposal of solid waste.
- (106) "Solid waste management" means the process by which solid waste is collected, transported, stored, separated, processed, or disposed of in any other way.

according to an orderly, purposeful, and planned program which includes closure and long-term maintenance.

(107) "Solid waste management facility" means any solid waste disposal area, volume reduction plant, transfer station, materials recovery facility, or other facility, the purpose of which is resource recovery or the disposal, recycling, processing, or storage of solid waste. The term does not include recovered materials processing facilities which meet the requirements of Rule 62-701.220(2)(c), F.A.C., except the portion of such facilities, if any, that is used for the management of solid waste.

(108) "Special wastes" means solid wastes that can require special handling and management, including but not limited to, white goods, waste tires, used oil, lead-acid batteries, construction and demolition debris, ash residue, yard trash, and biological wastes.

(109) "Stabilized" means that biological and chemical decomposition of the wastes has ceased or diminished to a level so that such decomposition no longer poses a pollution, health, or safety hazard. As regards composting, the term means that the compost has at least passed through the thermophilic stage, and that biological decomposition of the solid waste has occurred to a sufficient degree that will allow beneficial use.

(110) "Thermophilic stage" means a biological stage in the composting process characterized by active bacteria which favor a high temperature range of 45° to 75°C. It occurs early in a composting process before the mesophilic stage and is associated with a high rate of decomposition.

(111) "Tire" means a continuous solid or pneumatic rubber covering encircling the wheel of a motor vehicle.

(112) "Tire disposal" means to deposit, dump, spill or place any waste tire or residuals into or upon any structure, land or water. Tire disposal also includes the burning of any waste tire or residuals in a waste-to-energy facility, incinerator, or other facility used solely for the disposal of solid waste.

(113) "Tire recycling" means any process by which waste tires or residuals are reused or returned to use in the form of products or raw materials.

(114) "Ton" means a short ton, 2,000 pounds (907.8 metric tons).

(115) "Transfer station" means a site the primary purpose of which is to store or hold solid waste for transport to a processing or disposal facility. It does not include green boxes, compactor units, permanent dumpsters, and other containers from which such wastes are transported to a landfill or other solid waste management facility.

(116) "Unlined landfill" means a landfill which does not have a bottom liner system which was approved by the Department as part of a construction permit, or which has a bottom liner system which does not or did not meet the Department's landfill design criteria specified in this chapter or in previous versions of this chapter at the time of construction. This term includes landfills underlain by only in-situ soils unless these soils have been tested and approved by the Department as part of a construction permit.

(117) "Used oil" means any oil which has been refined from crude oil or synthetic oil and, as a result of use, storage, or handling, has become contaminated

and unsuitable for its original purpose due to the presence of physical or chemical impurities or loss of original properties.

(118) "Used tire" means a whole waste tire which has a minimum tread depth of 3/32 inch or greater and is suitable for use on a motor vehicle.

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

(120) "Vector" means, as regards compost, a carrier organism that is capable of transmitting a pathogen from one organism to another.

(121) "Volume reduction plant" means an incinerator, pulverizer, compactor, shredding and baling plant, composting plant, or other plant which accepts and processes solid waste for recycling or disposal.

(122) "Waste tire" means a tire that has been removed from a motor vehicle and has not been retreaded or regrooved. "Waste tire" includes used tires and processed tires.

(123) "Waste tire collection center" means a site where waste tires are collected from the public before being offered for recycling or disposal and where fewer than 1,000 tires are kept on site on any given day.

(124) "Waste tire collector" means a person who transports more than 25 waste tires over public highways at any one time.

(125) "Waste tire processing facility" means a site where equipment is used to recapture reusable by-products from waste tires or to cut, burn, or otherwise alter waste tires so that they are no longer whole. The term includes mobile waste tire processing equipment.

(126) "Waste tire residuals" means any liquids, sludges, metals, fabric or by-products resulting from the processing or storage of tires. Residuals do not include processed tires held for recycling or disposal, provided the conditions of Rule 62-711.530, F.A.C., are met.

(127) "Waste tire site" means a site at which 1,000 or more waste tires are accumulated. For purposes of this term a site means a piece of property owned, rented, or otherwise controlled by a person, including all contiguous or adjacent properties owned, rented, or otherwise controlled by that person.

(128) "Water quality standards and criteria" means, unless otherwise specified, those standards and criteria set forth in Chapters 62-3 and 62-302, F.A.C.

(129) "White goods" means inoperative and discarded refrigerators, ranges, washers, water heaters, freezers, and other similar domestic and commercial large appliances.

(130) "Working face" means that portion of a landfill where waste is deposited, spread, and compacted before placement of initial cover.

(131) "Yard trash" means vegetative matter resulting from landscaping maintenance or land clearing operations and includes materials such as tree and shrub trimmings, grass clippings, palm fronds, trees and tree stumps.

(132) "Zone of discharge" has the meaning given it in Rule 62-3.021, F.A.C.

All other definitions found in Chapter 403, F.S., and Chapters 62-702 through 62-722, F.A.C., to the extent that they are consistent with the definitions of this chapter, are applicable to the terms used in this chapter.

Specific Authority 403.704, F.S.

Law Implemented 403.701 through 403.719 and 403.75-403.769, F.S.

History -- Transferred from 10D-12.02, 10-1-74; Revised 7-20-76; Amended 5-24-79, 6-13-84, 4-25-85, 7-1-85; Previously numbered as 62-7.02; Amended 12-10-85; Formerly 62-7.020; Amended 8-2-89, 6-25-90; Formerly 62-701.020; Amended 1-6-93, 1-2-94, 5-19-94, Formerly 62-701.200, Amended 12-23-96, 4-23-97.

62-701.210. Documents Incorporated by Reference. Specific references to the documents listed below are made throughout this chapter. These documents are adopted as standards and are incorporated into this chapter by reference. The reference documents are available for inspection at the Department's district offices.

(1) EPA document EPA/530-SW-86-031, Construction Quality Assurance for Hazardous Waste Land Disposal Facilities; October, 1986.

(2) 40 CFR Parts 61.149, 61.150, 61.151, 61.154, Subpart M-National

Emission Standard for Asbestos, July 1, 1992.

(3) ASTM Method E96-80, Procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09; February, 1981, editorial changes made standard in May, 1987.

(4) 40 CFR Part 136, Appendix B, Definition and Procedure for the Determination of the Method Detection Limit, revision 1.1; October 26, 1984.

(5) Method 9095, Paint Filter Test, found in EPA document EPA SW-846,

Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods; Third Edition, September, 1986, as revised, December, 1987.

(6) 40 CFR Part 258, Appendix II; October, 1991.

(7) 40 CFR 258.13, Fault Areas; October, 1991.

(8) 40 CFR 258.14, Seismic Impact Zones; October, 1991.

(9) 40 CFR 258.15 Unstable Areas; October, 1991.

(10) 40 CFR 258, Appendices I and II; October, 1991.

(11) 40 CFR 264 subpart H, except for those sections specified in Rule 62-701.630(6)(b)1., F.A.C.; July 1, 1988.

(12) 40 CFR 261.24 Table 1-Maximum Concentration of Contaminants for the Toxicity Characteristic; July, 1992.

Specific Authority 403.061, 403.704, F.S.

Law Implemented 403.061, 403.701 through 403.717, F.S.

History -- New 1-6-93; Amended 1-2-94, Formerly 62-701.210.

62-701.220. General Applicability. This chapter applies to all solid waste and each solid waste management facility in this state, with the following exceptions:

(1) This chapter was substantially amended on January 6, 1993, and a number of provisions were deleted or modified at that time. Except as otherwise specifically provided herein, facilities which were permitted or received a site certification prior to January 6, 1993, or for which a complete application was submitted

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and deemed complete by the Department prior to January 6, 1993, remain subject to the provisions which were in effect prior to January 6, 1993, and which were applicable to them.

(2) This chapter applies to all solid waste and each solid waste management facility in this state, with the following exceptions:

(a) Surface impoundments not addressed in Rule 62-701.400(6), F.A.C.;

(b) Injection wells defined under and subject to the provisions of Chapter 62-28, F.A.C.; and

(c) Recovered materials, if:

1. A majority of the recovered materials at a facility are demonstrated to be sold, used, or reused within one year;

2. The recovered materials or the products or byproducts of operations that process recovered materials are not discharged, deposited, injected, dumped, spilled, leaked, or placed into or upon any land or water so that such products or byproducts or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including ground water, or otherwise enter the environment or pose a threat to public health and safety; and

3. The recovered materials are not hazardous wastes and have not been recovered from hazardous wastes; and

(d) Phosphogypsum stack systems.

(3) There are several requirements throughout this chapter that requests or demonstrations must be approved by the Department. Unless otherwise specifically stated, this means that the requests or demonstrations must be submitted to the appropriate Department District Office as part of a permit application or request for permit modification. The Department will evaluate such requests or demonstrations in accordance with the applicable criteria set forth in this chapter, and will approve or modify permit conditions if those criteria are met.

Specific Authority 403.061, 403.704, F.S.

Law Implemented 403.061, 403.701 through 403.717, F.S.

History -- New 1-6-93, Amended 1-2-94, 5-19-94, Formerly 62-701.220.

62-701.300 Prohibitions.

(1) General prohibition.

(a) No person shall store, process, or dispose of solid waste except at a permitted solid waste management facility or a facility exempt from permitting under this chapter.

(b) No person shall store or dispose of solid waste in a manner or location that causes air quality standards to be violated or water quality standards or criteria of receiving waters to be violated.

(2) Disposal. Unless authorized by a Department permit or site certification in effect on January 6, 1993, no solid waste shall be stored or disposed of by being placed:

(a) In an area where geological formations or other subsurface features will not provide support for the solid waste;

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- (b) In any area where the absence of geological formations or subsurface features would allow for the unimpeded discharge of waste or leachate to ground or surface water. A person may dispose of solid waste in such an area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards under Chapters 62-302 and 62-520, F.A.C.;
- (c) Within 500 feet of an existing or approved potable water well unless disposal takes place at a facility for which a complete permit application was filed or which was originally permitted before the potable water well was in existence. This prohibition shall not apply to any renewal of an existing permit that does not involve lateral expansion, nor to any vertical expansion at a permitted facility;
- (d) In a dewatered pit unless the pit is lined and permanent leachate containment and special design techniques are used to ensure the integrity of the liner;
- (e) In an area subject to frequent and periodic flooding unless flood protection measures are in place;
- (f) In any natural or artificial body of water including ground water;
- (g) Within 200 feet of any natural or artificial body of water, including wetlands within the jurisdiction of the Department, except bodies of water contained completely within the property boundaries of the disposal site, which do not discharge from the site to surface waters. A person may dispose of solid waste within the 200 foot setback area upon demonstration to the Department that permanent leachate control methods will result in compliance with water quality standards under Chapters 62-302 and 62-520, F.A.C. Stormwater control methods shall meet stormwater requirements of Chapter 62-25, F.A.C. However, nothing contained herein shall prohibit the Department from imposing conditions necessary to assure that solid waste disposed of within the 200 foot setback area will not cause pollution from the site in contravention of Department rules.
- (h) On the right of way of any public highway, road, or alley; and
- (i) Within 1000 feet of an existing or approved potable water well serving a community water system as defined in Rule 62-550.200(9), F.A.C., unless disposal takes place at a facility for which a complete permit application was filed or which was originally permitted before the water well was in existence. It is the intent of the Department that this provision shall be repealed on the effective date of any rule promulgated by the Department which regulates wellhead protection areas generally. This prohibition shall not apply to any renewal of an existing permit that does not involve lateral expansion, nor to any vertical expansion at a permitted facility.
- (3) Burning. Open burning of solid waste is prohibited except in accordance with Rule 62-701.520(2), F.A.C. Controlled burning of solid waste is prohibited except in a permitted incinerator, or in a facility in which the burning of solid waste is authorized by a site certification order issued under Chapter 403, Part II, F.S.; clean vegetative and wood wastes may be burned in an air curtain incinerator in accordance with Rule 62-2.500(1)(e), F.A.C.
- (4) Hazardous waste. No hazardous waste shall be disposed of in a solid waste management facility unless such facility is permitted pursuant to Chapter 62-730, F.A.C.

- (5) PCBs. No person may dispose of liquids containing a polychlorinated biphenyl (PCB) concentration of 50 parts per million or greater, or non-liquid PCBs at concentrations of 50 parts per million or greater in the form of contaminated soil, rags, or other debris, in any solid waste disposal unit in this state.
- (6) Biohazardous waste. Biohazardous waste shall be properly incinerated so that little or no organic material remains in the ash residue, or shall be processed by a method approved by the Department pursuant to Chapter 62-712, F.A.C. No untreated biohazardous waste shall be knowingly deposited in any landfill.
- (7) Class I surface waters. The Department shall not issue a construction permit for a landfill within 3,000 feet of Class I surface waters.
- (8) Special wastes for landfills. No person who knows or who should know of the nature of such solid waste shall dispose of the following wastes in any landfill:
- Lead-acid batteries;
 - Used oil, except as provided in Chapter 62-710, F.A.C.;
 - Yard trash, except in unlined landfills classified by Department rule;
 - White goods; and
 - Whole waste tires, except as provided in Chapter 62-711, F.A.C.
- (9) Special wastes for waste-to-energy facilities. No person who knows or who should know of the nature of such solid waste shall dispose of lead-acid batteries in any waste-to-energy facility.
- (10) Liquids restrictions.
- Noncontainerized liquid waste shall not be placed in solid waste disposal units unless:
 - The waste is household waste other than septic waste; or
 - The waste is leachate or gas condensate derived from the solid waste disposal unit, or byproducts of the treatment of such leachate or gas condensate, and the solid waste disposal unit is lined and has a leachate collection system.
 - Containers holding liquid waste shall not be placed in a solid waste disposal unit unless:
 - The container is a small container similar in size to that normally found in household waste;
 - The container is designed to hold liquids for use other than storage; or
 - The waste is household waste.
 - Containers or tanks twenty gallons or larger in capacity shall either have one end removed or cut open, or have a series of punctures around the bottom to ensure the container is empty and free of residue. The empty container or tank shall be compacted to its smallest practical volume for disposal.
- (11)(a) Except as provided in paragraph (b) of this subsection, no person may mix or commingle used oil with solid waste that is to be disposed of in landfills or directly dispose of used oil in landfills. Oily wastes may be disposed of in landfills unless prohibited in other department rules.
- (b) The Department shall allow disposal of used oil commingled with solid waste if it determines that it is not practicable to separate the used oil from the solid waste, and if such disposal will pose no significant threat to public health or the environment.

Specific Authority 403.704, F.S.

Law Implemented 403.704, 403.707, 403.708, F.S.

History -- Transferred from 10D-12.06, 10D-12.07, 10-1-74; Amended 5-24-79, 5-27-82; Previously Numbered as 17-7.04; Amended 12-10-85; Formerly 17-7.040; Amended 6-25-90; Formerly 17-701.040; Amended 1-6-93, 1-2-94, 5-19-94, Formerly 17-701.300, Amended 12-23-96, 4-23-97.

62-701.310 Approval of Alternate Procedures and Requirements.

(1) Applicability. Any person subject to the provisions of this chapter or Chapters 62-702 through 62-720, F.A.C., may request in writing a determination by the Secretary that a requirement shall not apply, and shall request approval of alternate procedures or requirements.

(2) Criteria. The request shall set forth at a minimum the following information:

- (a) The specific facility for which an exception is sought;
 - (b) The specific provisions from which an exception is sought;
 - (c) The basis for the exception;
 - (d) The alternate procedure or requirement for which approval is sought and a demonstration that the alternate procedure or requirement provides an equal degree of protection for the public and the environment; and
 - (e) A demonstration of the effectiveness of the proposed alternate procedure.
- (3) Department order. The Secretary shall specify by order each alternate procedure or requirement approved in accordance with this section or shall issue an order denying the request for such approval. The Department's order shall be agency action, reviewable in accordance with Section 120.57, F.S.
- (4) Alternate sampling procedures. Approval of alternative or new field and laboratory sampling and analysis procedures shall be requested in accordance with Rules 62-160.430, 62-160.520 and 62-160.530, F.A.C.
- (5) Variances. Requests for variances from specific statutory requirements shall be made pursuant to Section 403.201, F.S., and Rule 62-103.100, F.A.C.
- (6) Requests for alternate procedures shall be accompanied by a fee of \$2000 in accordance with Rule 62-4.050(4)(n)4., F.A.C. Requests must be submitted to the Director of the Division of Waste Management, 2600 Blair Stone Road, Twin Tower Office Building, Tallahassee, Florida 32399-2400.

Specific Authority 403.704, F.S.

Law Implemented 403.704, 403.707, F.S.
History -- New 7-1-85; Amended 12-10-85; Formerly 62-7.078; Formerly 62-701.078; Amended 1-6-93, 5-19-94, Formerly 62-701.310.

62-701.320 Solid Waste Management Facility Permit Requirements.

General.

(1) Permit requirements. No solid waste management facility shall be constructed, operated, maintained, modified, or closed without a permit issued by the Department.

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(2) Exemptions. Except as provided in Section 403.707(2), F.S., no permit under this chapter shall be required for the following activities or facilities. For purposes of this subsection, disposal shall be deemed to include storage prior to disposal or processing.

(a) Disposal by persons of solid waste resulting from their own activities on their own property, provided such waste is either from their residential property or is rocks, soils, trees, tree remains, and other vegetative matter which normally results from land development operations.

(b) Disposal by persons of solid waste resulting from their own activities on their property, provided that the environmental effects of such disposal on ground water and surface waters are:

1. Addressed or authorized by a site certification issued under Chapter 403, Part II, F.S., Electrical Power Plant Siting.
 2. Addressed or authorized by a permit issued by the Department, including solid waste management permits or other environmental permits modified to include conditions for proper disposal; or
 3. Addressed or authorized by, or specifically exempted from the requirement to obtain, a ground water monitoring plan approved by the Department.
- (c) On-site disposal of construction and demolition debris, provided that disposal conforms to Rule 62-701.730(3), F.A.C.
- (d) Clean debris which is used as fill material.
- (e) Disposal of solid waste resulting from normal farming operations.
- (f) Storage of solid waste in containers on property which is owned, rented, or leased by the persons who generated the waste from their own activities which occurred on their property, if the solid waste in such containers is collected at least once a week.

(g) Disposal by persons of solid waste resulting from their own activities on their own property, if that waste disposal occurred before October 1, 1988.

(3) Irresponsible applicant.

In addition to the provisions of Rule 62-4.070(5), F.A.C., when determining whether the applicant has provided reasonable assurances that Department standards will be met, the Department shall consider repeated violations of applicable statutes, rules, orders, or permit conditions caused by a permit applicant after October, 1988, relating to the operation of any solid waste management facility in this state if the applicant is deemed to be irresponsible. For purposes of this subsection, the following words have the following meanings:

(a) "Applicant" means the owner or operator of the solid waste management facility in this state, and includes a business entity, a parent of a subsidiary corporation, a partner, a corporate officer or director, or a stockholder holding more than 50 percent of the corporate stock.

(b) "Irresponsible" means that an applicant owned or operated a solid waste management facility in this state, including transportation equipment or mobile processing equipment used by or on behalf of the applicant, which was subject to a state or federal notice of violation, judicial action, or criminal prosecution for activities that constitute violations of Chapter 403, F.S., or the rules promulgated thereunder.

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and could have prevented the violation through reasonable compliance with Department rules.

(4) Modification of an approved permit. Nothing in this rule shall be construed to limit or prohibit modifications of a permit under the provisions of Rule 62-4.080, F.A.C.

(5) Permit application.

(a) Applications for a solid waste management facility shall be submitted on appropriate Department forms listed in Rule 62-701.900, F.A.C., to the Department district office with jurisdiction where the facility is located. A minimum of six copies each of the application, engineering plans and reports, and all supporting information for the proposed construction, substantial modification, operation or closure of a facility shall be provided to the Department.

(b) Information in every application shall be of sufficient detail to show how the facility will be constructed, operated, and closed, and how it will be monitored and maintained after closure, in order to comply with the requirements of this chapter.

(c) Combination facilities. An application for a permit to construct or operate a solid waste management facility having multiple solid waste management components which, if standing alone, would require solid waste management facility permits, shall include all information required to be submitted had each component been proposed as a separate facility, in dependent of the other components. Such information may be combined or otherwise presented so as to avoid duplicative or repetitive submittals. Additionally, such applications shall be accompanied by such fees as would be required for each facility component; however, the total permit fees for a facility shall not exceed \$25,000, exclusive of modifications and renewals.

(6) Engineer of record and professional certification. All engineering plans, reports, and information supporting the application shall be compiled by the engineer of record who shall be responsible for assurance that all technical components have been prepared under the direction and supervision and signed and sealed by the professional registered in Florida in each contributing technical discipline. The engineer of record's signature and seal on the application shall assure that all appropriate technical professional disciplines have been employed in development of the application. The application shall provide that the engineer of record or another qualified professional shall make periodic inspections during construction of the facility to ensure that design integrity is maintained.

(7) Application content and format. Applications for permits to construct, operate, modify, or close a solid waste management facility shall include in the following sequence:

- (a) A letter of application transmittal;
- (b) A completed application form dated and signed by the applicant;
- (c) The permit fee specified in Rule 62-4.050, F.A.C., in check or money order, payable to the Department;
- (d) An engineering report addressing the requirements of this rule which shall:

1. Contain a cover sheet stating the project title, location, applicant's name, and the engineer's name, address, signature, date of signature and seal;

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2. Have the text printed on 8 1/2 inch by 11 inch consecutively numbered pages;

3. Contain a table of contents or Index describing the body of the report and the appendices; and

4. Include the body of the report and all appendices.

(e) Appendices submitted as part of an engineering report to support a permit application shall contain, where required under applicable sections of this rule:

1. An operation plan appropriate for the type of facility;
2. A contingency plan appropriate for the type of facility to cover operations interruptions and emergencies such as fires, explosions, or natural disasters;
3. Illustrative charts and graphs;

4. Records or logs of tests, soil borings, hydrogeological information, geochemical surveys, and water quality analyses; and

5. Engineering calculations, including literature citations.

(f) Plans or drawings for all solid waste management facilities shall:

1. Use sheets 22 inches by 34 inches or 24 inches by 36 inches, and include title blocks;

2. Have a cover sheet that includes the project title, applicant's name, sheet Index, legend of symbols, and the engineer's name, address, signature, date of signature and seal;

3. Include a regional map or plan showing the project location;

4. Include a current vicinity map, or aerial photograph taken within one year preceding the application;

5. Have a site plan containing the location of all property boundaries certified by a registered Florida land surveyor; and

6. Clearly show all necessary details and be numbered, titled, and referenced to the narrative report. Drawings shall contain a north arrow and horizontal and vertical scales, and shall specify drafting or origination dates. All elevations shall be referenced to National Geodetic Vertical Datum.

(g) Proof of property ownership, or a copy of any lease agreement, transfer of property agreement with right of entry for long-term care, interlocal government agreement, or any other agreement between the facility operator and property owner which may affect the facility; and

(h) For facilities owned or operated by a county, a description of the existing or proposed recycling facilities or activities, if any, at the site and a description of whether, and the extent to which, these recycling facilities or activities will contribute to the county's achievement of the recycling goals contained in Section 403.706, F.S.

(i) For purposes of the evaluation required in subsection (3) of this section, a history and description of any enforcement actions described in subsection (3) of this section relating to solid waste management facilities in this state.

(8) Notice of application.

(a) An applicant for a permit to construct or substantially modify a solid waste management facility shall publish and provide proof of publication to the Department of a Notice of Application in a newspaper of general circulation in the area where the facility will be located, in accordance with Rule 62-103.150, F.A.C.

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(b) For all landfills, the Department shall mail a notice of receipt of permit application to the Chair of the Board of County Commissioners, the highest ranking elected official of the municipality, and each State Senator and Representative serving the jurisdiction in which the project is located. After the Department completes the permit review, a copy of the notice of intent to issue or deny the permit will also be sent to these same officials.

(g) Permits for construction, modification, operation, and closure. Complete permit applications for construction or operation of a solid waste management facility, renewal of an operation permit for an existing facility, modification of an existing facility, or closure of a facility shall be evaluated by the respective Department district office in accordance with Chapters 62-4 and 62-701, F.A.C. The Department shall:

(a) Issue a construction permit, or a construction/operation permit for a solid waste management facility, or for a substantial modification of an existing solid waste management facility. After all specified construction has been completed and before acceptance of any solid waste, the owner or operator shall submit to the Department a certification of construction completion, Form 62-701.900(2), signed and sealed by a professional engineer, and any modifications of the record drawings, and shall arrange for Department representatives to inspect the facility in the company of the permittee, the engineer, and the proposed facility operator. The facility shall not be operated until the certification has been submitted and approved, all documentation required as a condition of the permit has been submitted, and a facility inspection by Department personnel has been conducted; or

(b) Issue an operation permit for a new facility that has been satisfactorily constructed, or to an existing facility which is being operated in accordance with this chapter at the time for permit renewal; or

(c) Issue a closure permit for closing and long-term care of a landfill which, complies with the requirements of Rules 62-701.600 - 62-701.609, F.A.C.; or

(d) Deny the issuance of a permit if reasonable assurances are not provided that the requirements of Chapters 62-4 and 62-701, F.A.C., will be satisfied.

(10) Identification number. The Department shall assign an identification number to each solid waste management facility that receives a permit. The number shall be unique to that facility, and shall remain assigned to that facility at all times. The identification number shall be used on all correspondence and records related to that facility.

(11) Local zoning. The Department does not evaluate compliance with local zoning or land use ordinances when determining whether to issue or deny any permit under this chapter. Issuance of a permit does not relieve an applicant from compliance with local zoning or land use ordinances, or with any other laws, rules, or ordinances.

(12) Airport safety.

(a) Applicability. This subsection applies to those facilities constructed after January 6, 1993, as well as lateral expansions of facilities which were constructed prior to January 6, 1993. For purposes of this subsection, an "airport runway" does not include facilities used solely for helicopters or other aircraft which take off and land vertically.

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(b) Solid waste management facilities where waste is stored, disposed, or processed outdoors, shall not be located within 10,000 feet of any licensed and operating airport runway used by turbine powered aircraft, or within 1,000 feet of any licensed and operating airport runway used only by piston engine aircraft, unless the applicant demonstrates that the facility is designed and will be operated so that it does not pose a bird hazard to aircraft.

(c) Applicants proposing to site new landfills and lateral expansions of existing landfills within a five-mile radius of any licensed and operating airport runway used by turbine powered or piston engine aircraft shall notify the affected airport, the Federal Aviation Administration, and the Florida Department of Transportation when the application is filed with the Department, and shall provide evidence of such notification to the Department.

(13) Other facility permits. In addition to the exemptions in subsection (2) of this section, the following solid waste management facilities which are constructed and operated under an appropriate and currently valid permit are not required to obtain a separate solid waste permit pursuant to this chapter:

(a) Incinerators which are constructed and operated under a permit issued pursuant to Chapters 62-296 or 62-297, F.A.C.; however, if the facility is also storing or disposing of solid waste on the site, and such storage or disposal is not addressed in the permit, a separate solid waste permit is required;

(b) Incinerators which are constructed and operated under a site certification pursuant to Chapter 403, Part II, F.S.;

(c) Solid waste management facilities, such as composting facilities, waste tire processing facilities, used oil recycling facilities, and biohazardous waste treatment or storage facilities, which are required to obtain permits under Rules 62-702 through 62-729, F.A.C.

(14) Operator training. The owner or operator of a landfill, waste-to-energy facility, biological waste incineration facility, or mobile soil thermal treatment facility shall not employ a person to perform, nor may any person perform, the duties of an operator of such facility unless that person is a trained operator or an interim operator.

(a) For purposes of this subsection, "operator" means any person, including the owner, who is principally engaged in, and is in charge of, the actual operation, supervision, and maintenance of a solid waste management facility and includes the on-site person in charge of a shift or period of operation during any part of the day, such as facility managers, supervisors and equipment operators. It does not include office personnel, laborers, equipment operators not in a supervisory capacity, transporters, corporate directors, elected officials, or other persons in managerial roles unless such persons are directly involved in on-site supervision or operation of a solid waste management facility.

(b) For purposes of this subsection "interim operator" means a person who has, in the opinion of the facility manager, shown competency in his chosen occupation through a combination of work experience, education and training and who has at least one year of experience at that facility or a similar facility.

Specific Authority 403.061, 403.704, 403.716, F.S.

Law implemented 403.0877, 403.702, 403.704, 403.707, 403.716, F.S.

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History -- New 1-6-93; Amended 1-2-94, 5-19-94, Formerly 62-701.320, Amended 12-23-96.

62-701.330 Landfill Permit Requirements.

(1) Applicability.

(a) Except as otherwise specifically provided herein, this chapter shall apply to all solid waste disposal units constructed or operated under a landfill permit issued after January 6, 1993, including renewals of existing permits.

(b) All holders of landfill construction or operation permits issued prior to January 6, 1993, which contain conditions not in conformance with this chapter shall apply for modification of the permit to conform to this chapter to the District Office of the Department which issued the permit. The submission shall occur at the time of application for renewal of an existing permit, or before July 6, 1993, whichever is later. For purposes of this paragraph, a permit issued prior to January 6, 1993, is deemed to include a completed permit application received by the Department prior to January 6, 1993.

(c) Rules 62-701.400 - 420, F.A.C., shall not apply to any solid waste disposal unit for which construction is completed prior to the later of the dates specified in paragraph (b) of this subsection. Such solid waste disposal unit may be operated until filled to its permitted or modified design dimensions which, if such unit is lined, may include any future vertical expansion over the liner in accordance with Rule 62-701.430, F.A.C.

(d) Facilities operating pursuant to a Consent Order with the Department in effect on January 6, 1993, shall continue to operate in accordance with the order until the order expires by its own terms, provided the landfill is in compliance with the terms and conditions of the order. If the facility owner or operator fails to comply with any substantive term or condition of the order, the facility covered by the order must comply with the operational, closure and long-term care requirements of this chapter.

(2) Term of permit. The time period for permits shall be no longer than five years from the date of issuance by the Department. Permits may be issued for a shorter period for specific circumstances.

(3) Permit renewals.

(a) Construction/operation permits shall be renewed at least every five years. Applicants for permit renewal shall demonstrate how they will comply with any applicable new or revised laws or rules relating to construction, operation, or closure of landfills. Closure plans shall be updated at the time of permit renewal to reflect changes in closure design, long-term care requirements, and financial responsibility documentation.

(b) Facility information that was submitted to the Department to support the expiring permit, and which is still valid, does not need to be re-submitted for permit renewal. The permit renewal application shall list and reaffirm that the information is still valid.

(4) Permit applications. Permit applications for landfills shall meet the requirements of Rule 62-701.320, F.A.C., and shall also include the following specific requirements:

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(a) A vicinity map or aerial photograph not more than one year old which shows land use and local zoning within one mile of the landfill and is of sufficient scale to show all homes or other structures, water bodies, roads, and other significant features of the vicinity. All significant features shall be labeled.

(b) A vicinity map or aerial photograph not more than one year old which shows all airports that are located within five miles of the proposed landfill.

(c) A plot plan of the site showing dimensions, locations of proposed and existing water quality monitoring wells or points, locations of soil borings, proposed plan of trenching or disposal areas, original elevations, proposed

final contours, any previously filled waste disposal areas, and fencing. Cross sections shall be included on the plot plan or on separate sheets showing both the original and proposed fill elevations. The scale of the plot plan shall not be greater than 200 feet to the inch.

(d) Topographic maps at a scale of not greater than 200 feet to the inch with 5-foot contour intervals. These maps shall show the proposed fill area, any borrow area, access roads, grades required for proper drainage and cross sections of lifts, special drainage devices if necessary, fencing, and equipment facilities.

(e) A report on the:

1. Current and projected population and area to be served by the proposed site;

2. Anticipated type, annual quantity, and source of solid waste, expressed in tons;

3. Anticipated life of the facility; and

4. Source and type of cover material.

(f) The Hydrogeological investigation and ground water monitoring plan required by Rule 62-701.410 and .510, F.A.C.

(g) The Geotechnical investigation required by Rule 62-701.420, F.A.C.

(h) Evidence of an approved laboratory to do water quality monitoring in accordance with Rule 62-160, F.A.C.

(i) A statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill.

(j) Operational plans and drawings as required in Rules 62-701.500(2), (6), (7), (8), (9), (10), and (11), F.A.C.

(5) Modification of landfill permit. Permits shall be modified in accordance with the requirements of Rule 62-4.080, F.A.C. A modification which is reasonably expected to lead to substantially different environmental impacts which require a detailed review by the Department is considered a substantial modification.

Specific Authority 403.061, 403.704, FS.

Law Implemented 403.702, 403.704, 403.707, FS.

History -- New 1-6-93; Amended 1-2-94, Formerly 62-701.330.

62-701.340 General Criteria For Landfills.

(1) Performance standards. A landfill shall be designed, constructed, operated, maintained, closed, and monitored throughout its design period to control the

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movement of waste and waste constituents into the environment so that ground water and surface water quality standards and criteria of Chapters 62-3 and 62-302, F.A.C., will not be violated beyond the zone of discharge specified for the landfill.

(2) Minimum ground water criteria. For those landfills or solid waste disposal units which are constructed after January 6, 1993, and which are constructed with at least a double or composite liner, the minimum ground water criteria specified in Rule 62-3.402, F.A.C., shall apply only outside of the footprint of the solid waste disposal unit, or if the unit is surrounded by a perimeter road, outside the perimeter road, notwithstanding the provisions of Rule 62-3.404, F.A.C.

(3) Classification of landfills. Landfills or solid waste disposal units are

classified according to the amount or types of waste received.

(a) Class I landfills are those which receive an average of 20 tons or more of solid waste per day.

(b) Class II landfills are those which receive an average of less than 20 tons of solid waste per day.

(c) Class I and Class II landfills receive general, non-hazardous household, commercial, industrial, and agricultural wastes, subject to the restrictions of Rules 62-701.300 and 62-701.520, F.A.C.

(d) Class III landfills are those which receive only yard trash, construction and demolition debris, waste tires, asbestos, carpet, cardboard, paper, glass, plastic, furniture other than appliances, or other materials approved by the Department which are not expected to produce leachate which poses a threat to public health or the environment. Class III landfills shall not accept putrescible household waste. The Department shall exempt Class III landfills from some or all of the requirements for liners, leachate controls, and water quality monitoring in Rules 62-701.400(3) and (4), and 62-701.510, F.A.C., if it determines based upon the types of waste received, methods for controlling types of waste disposed of, and the results of the hydrogeological and geotechnical investigations required in Rules 62-701.410 and 62-701.420, F.A.C., that no significant threat to the environment will result from such exemption. Yard trash composting facilities shall be operated in accordance with Chapter 62-709, F.A.C. Owners or operators of Class III landfills which are operating on January 6, 1993, shall apply for modification of their permits to comply with this paragraph no later than January 6, 1994.

(4) Location requirements.

(a) The site shall provide structural support for the facility including total wastes to be disposed of and structures to be built on the site.

(b) A landfill or solid waste disposal unit shall not be located in the 100-year floodplain where it will restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste.

(c) The minimum horizontal separation between waste deposits in a landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope.

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(d) Landfills shall be screened from public view where such screening can practically be provided.

(5) Zone of discharge. A landfill's zone of discharge shall be determined pursuant to Chapter 62-522, F.A.C. For all solid waste disposal units constructed after January 6, 1993, the zone of discharge shall not exceed 100 feet from the edge of those solid waste disposal units permitted to be constructed.

Specific Authority 403.061, 403.704, F.S.

Law Implemented 403.702, 403.704, 403.707, F.S.

History -- New 1-6-93; Amended 1-2-94, 5-19-94, Formerly 62-701.340.

62-701.400 Landfill Construction Requirements.

(1) Minimum design standards. The requirements of this rule are the minimum standards for constructing a landfill. Nothing in this rule shall be construed to prevent the Department from imposing more stringent standards as necessary to protect the environment and the public health and safety due to site specific conditions and types of wastes to be disposed of in the landfill or solid waste disposal unit. An applicant whose landfill design meets the design standards of this rule will be presumed to provide reasonable assurance that the performance standards of Rule 62-701.340(1), F.A.C., will be met.

(2) Planned construction and closure. All landfills shall be designed so that solid waste disposal units will be constructed and subsequently closed at planned intervals throughout the design period of the landfill.

(3) Landfill liner requirements. Landfills shall be constructed with composite or double liners, and a leachate collection and removal system.

(a) Liners shall be:

1. Constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure due to physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and other applied stresses and hydraulic pressures which are anticipated during the operational and closure period of the solid waste disposal unit. The supplier of materials for the liner components shall provide test information accepted by the engineer of record, that supports the capabilities of the materials to meet these needs;

2. Installed upon a base and in a geologic setting capable of providing structural support to prevent overstressing of the liner due to settlements and applied stresses;

3. Constructed so that the bottom of the liner system is not subject to fluctuations of the ground water so as to adversely impact the integrity of the liner system.

4. Designed to resist hydrostatic uplift if the liner is located below the seasonal high ground water table; and

5. Installed to cover all surrounding earth which could come into contact with the waste or leachate.

(b) Composite liners.

1. The upper component of the composite liner shall be a 60-mil or thicker geomembrane liner with a maximum water vapor transmission rate of 0.24 grams per

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square meter per day ($\text{g}/(\text{m}^2 \times \text{day})$) as determined by ASTM Method E96-80, procedure BW, "Test Methods for Water Vapor Transmission of Materials." Sections 04.06, 08.03, and 15.09. A primary leachate collection and removal system and a drainage layer shall be installed above the geomembrane liner. Except in sumps and leachate collection trenches, the system shall be designed to limit leachate head above the liner during routine landfill operation after placement of initial cover, as specified in Table A below, depending upon the thickness and hydraulic conductivity of the lower component of the composite liner. Leachate head calculations shall consider leachate recirculation if the leachate is recirculated.

2. The lower component of the composite liner shall be constructed in six-inch lifts. The thickness of the lower component may be varied in relation to the hydraulic conductivity of the lower component and the design leachate head above the liner, in accordance with Table A.

TABLE A:
Minimum Thickness of Lower Component of
Composite Liner (in feet)

Maximum Design Hydraulic Head (in inches)	1 x 10 ⁻⁷	5 x 10 ⁻⁸	1 x 10 ⁻⁸
1	2	1	1
6	2.5	1.5	1
12	3	2	1

(c) Double liners.

1. Double liner systems shall consist of upper and lower 60-mil minimum thickness geomembranes with a maximum water vapor transmission rate of $0.24 \text{ g}/(\text{m}^2 \times \text{day})$; a primary leachate collection and removal system lying above the upper geomembrane designed to limit the leachate head to one foot above the liner during routine landfill operations after placement of initial cover, except in sumps and leachate collection trenches; and a leak detection and secondary leachate collection system between the upper and lower liners. The lower geomembrane shall be placed directly on a sub-base which is a minimum six inches thick and has a saturated hydraulic conductivity of less than or equal to $1 \times 10^{-5} \text{ cm}/\text{sec}$.

2. The leak detection and secondary leachate collection system shall have a minimum hydraulic conductivity of ten cm/sec , shall be designed to limit the maximum hydraulic head on the lower liner to one inch, and shall not allow leachate head to exceed the thickness of the drainage layer. The hydraulic conductivity of the leak detection and secondary collection system material shall be derived from transmissivity and thickness measurements.

(d) Standards for geomembranes.

1. Geomembranes shall have factory and field seams whose shear strength during testing are at least 90 percent of the specified minimum yield strength for that lining material, and the failure shall occur in the lining material outside the seam area. All field seams must also be visually inspected and pressure or vacuum tested for seam continuity using suitable non-destructive techniques.

2. Geomembranes shall be protected from physical damage by placing a minimum 24-inch-thick protective layer above the upper liner. All materials in direct contact with the liner shall be free of sharp materials or any materials larger than one-half inch. The upper 12 inches of the protective layer shall be composed of soil, lime chips four square inches or smaller with no protruding wires, or other materials approved by the Department which are permeable, non-reactive, stable, and which offer protection for the liner from punctures.

3. The first layer of waste placed on the protective above the liner and leachate collection system shall be a minimum of four feet in compacted thickness, and consist of selected wastes containing no large, rigid objects that may damage the liner or leachate collection system. Materials that could damage the liner shall be removed from this layer.

(e) The following specifications shall be provided for geosynthetic components:

1. Definition and qualifications of the designer, manufacturer, installer, geosynthetic quality assurance consultant, geosynthetic quality assurance laboratory, and quality assurance program.

2. Material specifications for geomembranes, geotextiles, geogrids, and geonets, including general requirements, specified geomembrane properties, and labelling.

3. Manufacturing and fabrication specifications including:

a. Geomembrane manufacturing, including raw material and roll quality control;

b. Geomembrane fabrication, including requirements of personnel, seaming equipment and products, seam preparation, weather conditions for factory seaming, overlapping and temporary bonding, trial seams, and nondestructive seam continuity testing;

c. Destructive seam strength testing including location and frequency, sampling procedure, size of samples, testing at the fabrication factory, laboratory testing, fabricator's laboratory testing, and procedures for destructive test failure; and repairs.

d. Geomembrane installation specifications including

a. Earthwork;

b. Conformance testing;

c. Geomembrane placement, which shall address layout drawings, panel identification, and field panel placement;

d. Field seaming, which shall address seam layout, requirements of personnel, overlapping and temporary bonding, seam preparation, seaming equipment and products, weather conditions for seaming, trial seams, general seaming

procedures, nondestructive seam continuity testing, destructive testing, and defects and repairs including identification, evaluation, and repair procedures;

- e. Materials in contact with the geomembrane, including granular materials, concrete, and sumps and appurtenances; and
- f. Lining system acceptance.
5. Geotextile and geogrid specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials.
6. Geonet specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials.
- (f) Standards for soil components.

1. Soil components of liner systems shall be constructed to preclude, to the greatest extent practicable, lenses, cracks, channels, root holes, pipes, or other structural inconsistencies that can increase the saturated hydraulic conductivity of the soil component. The design shall illustrate and describe those instances in which overexcavation of permeable areas and backfilling may be necessary to seal the permeable area. The soil component shall be placed and compacted in layers to achieve the design performance.

2. The permeability of soil liner components shall not be increased above the values specified for the component, as a result of contact with leachate from the solid waste disposal unit. Compatibility of the soil component and leachate shall be demonstrated by testing the soil component with actual or simulated leachate in accordance with EPA Test Method 9100 or an equivalent test method.

3. The soil component of the liner system may consist of in-situ soils, provided they meet the specifications for soil liners. Testing of in-situ soil shall be performed in accordance with the site specific Construction Quality Assurance Plan in accordance with Rule 62-701.400(7), F.A.C.

4. Specifications for the soil component of the liner system shall be provided to and approved by the Department, and shall contain at a minimum:

- a. Allowable range of particle size distribution and Atterberg limits, to include shrinkage limit;
- b. Placement moisture criteria and dry density criteria;
- c. Maximum laboratory-determined saturated hydraulic conductivity, using simulated leachate as the saturating and testing liquid;
- d. Minimum thickness of the soil liner;
- e. Lift thickness;
- f. Surface preparation (scarification) for lying lifts together; and
- g. Type and percentage of clay mineral within the soil component.

5. The soil liner shall be placed using construction equipment and procedures that achieve the required saturated hydraulic conductivity and thickness. A field test section shall be constructed using the proposed construction equipment and tested to document that the desired saturated hydraulic conductivity and thickness is achieved in the field. Test results shall be submitted to the Department along with the completion of construction documents.

- (4) Leachate collection and removal system. Landfills shall have a leachate collection and removal system that is designed, constructed, maintained, and operated to collect leachate and convey it to collection points for removal.

- (a) The primary and secondary leachate collection and removal systems shall:

1. Be constructed of materials that are chemically resistant to the waste disposed of in the landfill and the leachate expected to be generated;
2. Have sufficient mechanical properties to prevent collapse under pressures exerted by overlying wastes, cover materials, and by any equipment used at the landfill;
3. Have granular material or synthetic geotextile filter overlying or surrounding the leachate collection and removal system to prevent clogging of the collection system by infiltration of fine particles from the waste; and
4. Have a method to test that the pipes in the system are not clogged, and a method for cleaning the pipes in the system if they become clogged. If any part of the system cannot be tested for clogging, the design shall assure that leachate can be rerouted from that part to a leachate sump in the event of collapse.

- (b) The primary leachate collection and removal system shall have a granular drainage layer above the top geomembrane liner, at least 12 inches thick, with a hydraulic conductivity of not less than 1×10^{-3} cm/sec, overlain with an additional 12 inches of protective material as specified in rule 62-701.400(3) (d)(2), F.A.C., that is chemically resistant to the waste and leachate. It shall be designed with a bottom slope to achieve the required leachate head after the predicted settlement determined by the foundation analysis. Leachate collection systems incorporating synthetic drainage materials may be used if it can be demonstrated that they are equivalent to or more effective than the granular design, including chemical compatibility, flow under load, and protection of the geomembrane liner.

- (5) Leachate recirculation. Leachate recirculation systems shall only be used at solid waste disposal units that have been designed for leachate recirculation and meet the following requirements:

- (a) The landfill shall be lined and have a leachate collection and removal system.
- (b) Ditches, berms, or other devices shall be installed to control any leachate runoff. Initial and intermediate cover receiving recirculated leachate shall be graded to shed runoff into the leachate collection system and to minimize mixing of leachate runoff and storm water.
- (c) Initial and intermediate cover shall be permeable to the extent necessary to prevent perched water conditions and gas buildup.
- (d) Leachate shall not be recirculated during weather conditions or in quantities that may cause runoff outside the solid waste disposal unit, surface seeps, wind-blown spray, or exceedance of the limits of the leachate head on the liner. Ponding is prohibited unless it is an integral part of the design plan.
- (e) A gas management system shall be implemented to control odors and migration of methane.

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(f) Recirculation of leachate is prohibited on top of areas where final cover has been applied. Irrigation of the final vegetative cover may be done with treated leachate which meets the water quality standards of the receiving water body, if such irrigation does not contribute significantly to leachate generation.

(6) Leachate storage tanks and leachate surface impoundments.

(a) The requirements of this subsection apply to all leachate storage tanks and leachate surface impoundments constructed after January 6, 1993. Leachate storage tanks in use on January 6, 1993 are not required to retrofit to comply with this subsection unless leakage, corrosion or other defects are found. Leachate surface impoundments in use on January 6, 1993 shall be replaced or modified to conform to this subsection by January 6, 1995.

(b) Surface impoundments for leachate treatment or storage that are located at landfills are subject to the following requirements:

1. Surface impoundments shall be constructed so that the bottom of the liner system is not subject to fluctuations of the ground water so as to adversely impact the integrity of the liner system. The applicant shall demonstrate that the surface impoundment design will minimize infiltration of leachate into the environment so that ground water and surface water quality standards and criteria are not violated.
2. The surface impoundment shall be designed in segments such that any one segment may be taken out of service for inspection and repair with no interruption of service.

3. The impoundment shall have a double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane, and a leak detection and collection system between the geomembranes with a minimum hydraulic conductivity of one cm/sec. The lower geomembrane shall be placed directly on a subbase which is at least six inches thick and has a saturated hydraulic conductivity of less than or equal to 1×10^{-5} cm/sec. The leak detection and collection system shall be checked daily. The design of the upper liner shall include calculations to predict the potential leakage through the upper liner. If the daily checks indicate the upper liner is leaking at a rate greater than predicted by the design calculations, the Department shall be notified. If the leakage rate will result in the flooding of the leak detection and collection system, the impoundment shall be emptied and the liner repaired.

4. To preserve the liner integrity and prevent uplift, ballast material such as rounded gravel or sand, that will not cause damage to the geomembrane liner, shall be placed on top of any liner which is located below the water table.

5. A minimum of two feet of freeboard above the depth which would occur in the event of a 25-year, 24-hour storm shall be maintained in leachate surface impoundments.

6. Disease vectors and off-site odors shall be controlled.

(c) Above ground leachate storage tanks that are located at solid waste management facilities are subject to the following requirements:

1. Tanks shall be constructed of concrete or steel. Tanks shall be supported on a well drained, stable foundation.
2. Bottoms of steel tanks that rest on earthen material shall be cathodically protected with either sacrificial anodes or an impressed current system which is

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designed, fabricated, and installed in accordance with the engineering plan submitted to the Department.

3. The exterior surfaces of all steel storage tanks shall be protected by a primer coat, a bond coat, and two or more final coats of paint or other surface coating system designed to prevent corrosion and deterioration.

4. The interior of all tanks shall consist of a material or must be lined with a material, resistant to the liquid being stored.

5. All aboveground tanks shall have a secondary containment system which may consist of dikes, liners, pads, ponds, impoundments, curbs, ditches, sumps, or other systems capable of containing the stored leachate. The design volume for the secondary containment system shall be 110 percent of the volume of either the largest tank within the containment system or the total volume of all interconnected tanks, whichever is greater.

6. The secondary containment system shall be constructed of materials compatible with the liquid stored. The containment system shall be constructed of either:

- a. A minimum three-foot layer of compacted soil with a maximum saturated hydraulic conductivity of 1×10^{-7} cm/sec or one foot of compacted soil with a maximum saturated hydraulic conductivity of 1×10^{-8} cm/sec with two feet of protective cover; or
- b. A concrete pad that will maintain its integrity for the lifetime of the tank with a corrosion resistant coating; or
- c. A geomembrane of a minimum thickness of 60 mils, with a maximum water vapor transmission rate of $0.24 \text{ g/(m}^2 \times \text{day)}$.

7. A system shall be designed to contain and remove storm water from the secondary containment area. Provisions shall be included for the removal of any accumulated precipitation and be initiated within 24 hours or when 10 percent of the storage capacity is reached; whichever occurs first. Disposal of this stormwater shall be in accordance with the requirements of Rule 62-701.400(9), F.A.C.

8. All aboveground tanks shall be equipped with an overflow prevention system which includes level sensors and gauges, high level alarms, or automatic shutoff controls. The overflow control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.

9. The exposed exterior of all aboveground tanks shall be inspected weekly by the facility operator for adequacy of the cathodic protection system, leaks, corrosion, and maintenance deficiencies. Interior inspection of tanks shall be performed whenever the tank is drained or at a minimum of every three years. If the inspection reveals a tank or equipment deficiency, leak, or any other deficiency which could result in failure of the tank to contain the leachate, remedial measures shall be taken immediately to eliminate the leak or correct the deficiency. Inspection reports shall be maintained and made available to the Department upon request for the lifetime of the liquid storage system.

(d) Underground leachate storage tanks that are located at solid waste management facilities are subject to the following requirements:

1. Tanks shall be constructed of concrete, fiberglass, reinforced plastic, steel that is cathodically protected, or steel that is clad with fiberglass.

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2. A secondary containment and a continuous leak detection system shall be installed in the form of a double-walled tank, designed as an integral structure so that any release from the inner tank is completely contained by the outer shell.

a. The intersitial space shall be monitored at least once per week by the facility operator for tightness using pressure monitoring, vacuum monitoring, or electronic monitoring.

b. The tank system shall be protected from both corrosion of the primary tank interior and the external surface of the outer shell.

c. All resistant coatings applied to the primary tank interior shall be compatible with the stored leachate.

d. Cathodic protection systems, where installed, shall be inspected at least weekly by the facility operator. Any deficiency in the cathodic protection system shall be corrected when discovered.

3. All underground tanks shall be equipped with an overflow prevention system which includes level sensors and gauges, high level alarms, or automatic shutoff controls. The overflow control equipment shall be inspected weekly by the facility operator to ensure it is in good working order.

4. Inspection and leak detection monitoring reports shall be maintained at the facility and made available to the Department upon request for the lifetime of the liquid storage system.

(e) A schedule for routine maintenance of the leachate collection and removal system shall be established to ensure operation of the system. The maintenance schedule shall be a part of the facility operation plan.

(7) Liner systems construction quality assurance.

(a) Liner systems shall have a construction quality assurance plan to provide personnel with adequate information to achieve continuous compliance with the liner construction requirements. The plan shall include or refer to specifications and construction methods which use established engineering practices to construct a liner system and provide for quality control testing procedures and sampling frequencies. Sampling and testing shall be conducted in the field by trained personnel during construction and after construction completion. Such personnel will be under the direction of the construction quality assurance professional engineer, to assure the liner system will comply with the standards. The engineer or his designee shall be on-site at all times during construction to monitor construction activities. Construction activities include the time during which the protective layer is installed over the geomembrane, to ensure that the placement techniques do not cause damage to the liner system materials.

(b) Liner systems shall be installed in accordance with a Department-approved construction quality assurance plan. Plans that comply with EPA Document 530-SW-86-031 shall be presumed to be in compliance with this section. The following minimum specific elements shall be included in the plan:

1. Responsibility and authority of all organizations and key personnel involved in permitting, designing, constructing, and providing construction quality assurance of the waste disposal facility shall be described fully;

2. Minimum qualifications of the construction assurance quality professional engineer and supporting personnel shall be in the plan to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities;

3. Procedures and tests that will be used to monitor the installation of the liner system components shall be described in detail;

4. The sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for implementing corrective measures that may be necessary shall be described; and

5. Reporting requirements for construction quality assurance activities shall be described, including daily summary reports, observation data sheets, problem identification and corrective measures, and final documentation. All such documents shall be included in the final report which shall be forwarded to the Department.

(c) A laboratory experienced in the testing of geosynthetics, independent of the liner manufacturer and installer, shall perform the required testing which must include, at a minimum, conformance testing for all geosynthetics and geocomposites, and testing of seam shear and peel strength for geomembranes.

(d) The professional engineer in charge of construction quality assurance shall provide a signed, sealed final report and record drawings to the Department stating that the liner system has been installed in substantial conformance with the plans and specifications for the liner system.

(8) Soil liner construction quality assurance. In addition to the requirements of subsection (7) above, the following requirements apply to construction of the soil component of liner systems. All required testing and analysis shall be performed in accordance with generally accepted engineering procedures, such as those promulgated by the American Society for Testing and Materials (ASTM). Parenthetical references to ASTM methods are intended as guidance only.

(a) A construction quality assurance/quality control plan shall be prepared for each soil liner project to outline project specifications and construction requirements. The plan shall specify performance criteria for the soil liner, and provide quality control testing procedures and minimum sampling frequencies. In addition, the plan shall define the responsibilities of the parties that will be involved in soil liner construction, and shall present minimum qualifications of each party to fulfill their identified responsibilities.

(b) Field and laboratory testing during liner construction shall be conducted by a qualified soil testing laboratory representing the owner. A qualified field technician representing the owner shall provide full time, on-site inspection during liner construction. The field technician shall work under the supervision of a professional engineer with experience in soil liner construction.

(c) Prior to soil liner installation, an appropriate borrow source shall be located. Suitability of the liner construction materials from that source shall be determined in accordance with the following:

1. If demonstrated field experience is available from at least three prior successful projects of five or more acres each to document that a given borrow source can meet the requirements of the project specifications, then extensive laboratory testing of the borrow source will not be required. However, the source of material shall

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be geologically similar to and the methods of excavating and stockpiling the material shall be consistent with those used on the prior projects. Furthermore, a minimum of three representative samples from the appropriate thickness of the in-situ stratum or from stockpiles of the borrow material proposed for liner construction shall be submitted to an independent soil testing laboratory to document through index testing that the proposed material is consistent with the material used on prior successful projects. At a minimum, index testing shall consist of percent fines, Atterberg limits and moisture content determinations.

2. If demonstrated field experience as defined above is not available or cannot be documented, then the following requirements shall be met.

a. A field exploration and laboratory testing program shall be conducted by an independent soil testing laboratory to document the horizontal and vertical extent and the homogeneity of the soil strata proposed for use as liner material. A sufficient number of index tests from each potential borrow stratum shall be performed to quantify the variability of the borrow materials and to document that the proposed borrow material complies with specifications. At a minimum, the index tests shall consist of percent fines, Atterberg limits and moisture content determinations.

b. Sufficient laboratory hydraulic conductivity tests shall be conducted on samples representative of the range in variability of the proposed borrow source (ASTM D-5084). For each such sample, test specimens shall be prepared and tested to cover the range of molding conditions (moisture content and dry density) required by project specifications. The hydraulic conductivity tests shall be conducted in triaxial type permeameters. The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D-5084). The borrow source will only be considered suitable if the hydraulic conductivity of the material, as documented on laboratory test specimens, can be shown to meet the requirements of the project specifications at the 98 percent confidence level.

(d) Prior to full-scale liner installation, a field test section or test strip shall be constructed at the site above a prepared subbase. The test strip shall be considered acceptable if the measured hydraulic conductivities of undisturbed samples from the test strip meet the requirements of the project specifications at the 98 percent confidence level. If the test section fails to achieve the desired results, additional test sections shall be constructed in accordance with the following requirements:

1. The test section shall be of sufficient size such that full-scale liner installation procedures can be duplicated within the test section;
2. The test section shall be constructed using the same equipment for spreading, kneading and compaction and the same construction procedures (e.g., number of passes, moisture addition and homogenization, if needed) that are anticipated for use during full-scale liner installation;

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3. At a minimum, the liner test section shall be subject to the following field and laboratory testing requirements:

- a. A minimum of five random samples of the liner construction material delivered to the site during test section installation shall be tested for moisture content (ASTM D-2216), percent fines (ASTM D-1140) and Atterberg limits (ASTM D-4318);
- b. At least five field density and moisture determinations shall be performed on each lift of the compacted liner test section;

c. Upon completion of the test section lift, the thickness of the lift shall be measured at a minimum of five random locations to check for thickness adequacy; and

d. A minimum of five Shelby tube or drive cylinder (ASTM D-2937) samples shall be obtained from each lift of the test section for laboratory hydraulic conductivity testing. Laboratory hydraulic conductivity testing shall be conducted in triaxial type permeameters (ASTM D-5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D-5084).

(e) Full scale liner installation may begin only after completion of a successful liner test section. During liner construction, quality control testing shall be provided to document that the installed liner conforms to project specifications. The testing frequencies for quality control testing are specified below; however, during construction of the first five acres of the liner, these frequencies shall be doubled. Samples shall be obtained from random locations selected by an independent soil testing laboratory. If there are indications of a change in product quality or construction procedures during liner construction, additional tests shall be performed to determine compliance.

1. Field testing during liner installation. The following field tests shall be performed:

a. Prior to the laying of the liner materials, the liner subbase shall be compacted to the specified density. Density tests shall be conducted at a minimum rate of two tests per acre;

b. A minimum of two moisture content and field density determinations shall be conducted per acre per lift of the compacted liner. The degree of compaction shall be checked using the one-point field Proctor test or other appropriate test procedures; and

c. A minimum of four thickness measurements shall be conducted per acre per lift of the compacted liner.

2. Laboratory testing during liner installation. The following laboratory tests shall be performed:

- a. Percent fines (ASTM D-1140) of the liner construction material shall be determined at a minimum frequency of two tests per acre per lift of installed liner;
- b. Atterberg Limits determinations shall be performed on one sample per acre per lift of installed liner; and

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c. Hydraulic conductivity testing of Shelby tube or drive cylinder (ASTM D-2937) samples of the compacted liner shall be performed at a minimum frequency of one test per acre per lift. Laboratory hydraulic conductivity tests shall be conducted in triaxial type permeameters (ASTM D-5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than 10 pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured.

(f) If the test data from a liner section does not meet the requirements of the project specifications, additional random samples may be tested from that liner section. If such additional testing demonstrates that the thickness and hydraulic conductivity meet the requirements of the project specifications at the 95 percent confidence level, that liner section will be considered acceptable. If not, that liner section shall be reworked or reconstructed so that it does meet these requirements.

(g) Surface water management systems.

(a) A stormwater management system shall be designed, constructed and maintained which, at a minimum, prevents stormwater from the peak discharge of the 25 year storm event from running onto those portions of the landfill which have not been closed.

(b) A stormwater management system shall be designed, constructed and maintained which collects and controls, at a minimum, the volume of runoff from a 25 year, 24 hour storm event.

(c) Stormwater controls shall include retention or detention ponds, and drainage ways specifically designed and sized according to local drainage patterns, soil permeability, annual precipitation, area land use, and other characteristics of the contributing watershed.

(d) Stormwater management systems shall be designed to avoid mixing of stormwater with leachate. Stormwater or other surface water which comes into contact with the landfilled solid waste or mixes with leachate shall be considered leachate and is subject to the requirements of Rules 62-701.500(8) and 62-701.510(5), F.A.C.

(e) Nothing herein shall be construed to supercede the applicable standards and requirements of Chapters 62-25, 62-302, and 62-330, F.A.C., or the rules and requirements of any other state or local agencies.

(10) Gas control systems.

(a) Landfills that receive biodegradable wastes shall have a gas monitoring and control system designed to prevent explosions and fires, and to minimize off-site odors and damage to vegetation. Landfill gas control systems shall:

1. Be designed to prevent the concentration of methane and other gases generated by the landfill from:

- Exceeding twenty-five percent of the lower explosive limit for gases in structures on- or off-site, excluding gas control or recovery components;
- Exceeding the lower explosive limit for gases at or beyond the landfill property boundary; and

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c. Causing objectionable odors at or beyond the landfill property boundary.
2. Be designed for site-specific conditions and be installed in each section of the landfill that has been filled to design dimensions;

3. Be designed to reduce gas pressure in the interior of the landfill by collecting the gases to prevent them from moving laterally. Collection pipes, pathways, or vents shall collect gas from at least the uppermost two-thirds of the filled waste or where the more anaerobic conditions exist. Air shall not be forced into the collection system. Passive venting or suction shall be used to extract gas; and

4. Not interfere with or cause failure of the liner or leachate control systems.
(b) Flaring of landfill gases may be used as a method of gas control, particularly control of objectionable odors. In accordance with the permitting requirements of Chapter 62-296, F.A.C.

(c) Owners or operators of solid waste disposal units that have received biodegradable waste shall implement a routine gas monitoring program to ensure that the standards of paragraph (10)(a) of this section are met.

1. The location of monitoring points and frequency of monitoring shall be determined by the following factors:

- Soil conditions;
- The hydrogeologic conditions surrounding the facility;
- The hydraulic conditions surrounding the facility; and
- The location of facility structures and property boundaries.

2. All monitoring points shall be sampled quarterly, and the results reported to the Department.

3. If methane gas levels exceed the lower explosive limits specified in paragraph (10)(a) of this section, the owner or operator shall:

- Immediately take all necessary steps to ensure protection of human health and notify the Department;
- Within 7 days of detection, submit to the Department for approval a remediation plan for the methane gas releases. The plan shall describe the nature and extent of the problem and the proposed remedy. The remedy shall be completed within 60 days of detection unless otherwise approved by the Department.

(d) Landfills using piping or a similar conduit to convey gas shall be furnished with a positive means of gas condensate collection and disposal at each low point in the conveyance system.

(11) Landfill gas recovery facilities.

(a) Landfill gas recovery facilities are considered solid waste management facilities, and shall be constructed and operated only in accordance with a Department permit. Landfill gas recovery facilities that are operating without

a permit shall submit a complete application to the Department on or before July 6, 1993. If a gas recovery facility is included in the approved closure plan or closure permit of the landfill, no separate permit for the facility is required, provided that the facility must meet all the requirements of this subsection.

(b) The application be on Form 62-701.900(1), and shall contain at least the following:

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1. The information contained in Rules 62-701.320(7) and 62-701.330(4), F.A.C.;

2. Where relevant and practical, the information required in Rule 62-701.600(4), F.A.C.;

3. An estimate of the quantities of gas condensate currently collected or expected to be collected, and a description of how the condensate is or will be disposed of;

4. A description of the procedures for sampling, analyzing, and reporting data from the condensate sampling;

5. A closure plan that shall include methods to control landfill gases after operation of the recovery facility ceases and any other requirements contained in Rule 62-701.400(10), F.A.C.

(c) The owner or operator of a gas recovery facility shall post a performance bond to cover the estimated costs of closing the facility. If the gas recovery facility is included in the approved closure plan or closure permit of the landfill, and if the closure costs are included in the landfill closure cost estimates for which financial responsibility is required by Rule 62-701.630, F.A.C., then no separate proof of financial responsibility is required.

(12) Landfills in ground water. A landfill constructed so that the bottom liner is constantly in contact with ground water is not prohibited by this rule. However, an applicant proposing such a design shall include special design features which demonstrate that the landfill will provide an equivalent degree of protection for the environment as would a similar landfill whose bottom liner is not in contact with ground water. Such a design is not entitled to the presumption of compliance with performance standards which is set forth in subsection (1) of this section. In addition to any other assurances of financial responsibility for closure, an applicant shall provide a performance bond sufficient to ensure long-term maintenance and operation of the leachate collection system.

Specific Authority 403.061, 403.704, FS.

Law Implemented 403.702, 403.704, 403.707, FS.

History -- New 1-6-93; Amended 1-2-94, 5-19-94, Formerly 62-701.400.

62-701.410 Hydrogeological and Geotechnical Investigation Requirements.

(1) Hydrogeological investigation and site report. The hydrogeological investigation and site report required by Rule 62-701.330(4), F.A.C., shall be conducted by or under the supervision of a professional geologist or professional engineer with experience in hydrogeologic investigations, and shall:

- (a) Define the landfill site geology and hydrology and its relationship to the local and regional hydrogeologic patterns including:
 1. Direction and rate of ground water and surface water flow, including seasonal variations;
 2. Background quality of ground water and surface water;
 3. Any on site hydraulic connections between aquifers;

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4. For all confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill, the porosity or effective porosity, horizontal and vertical permeabilities, and the depth to and lithology of the layers and aquifers; and

5. Topography, soil types and characteristics, and surface water drainage systems of the site and surrounding the site.

(b) Include an inventory of all the public and private water wells within a one-mile radius of the proposed landfill site. The inventory shall include, where available:

1. The approximate elevation of the top of the well casing and the depth of each well;
2. The name of the owner, the age and usage of each well, and the estimated daily pumpage; and
3. The stratigraphic unit screened, well construction technique, and static water levels of each well.

(c) Identify and locate any existing contaminated areas on the landfill site.

(2) Geotechnical site investigation. The geotechnical site investigation required by Rule 62-701.330(4), F.A.C., shall be conducted by or under the supervision of a professional engineer with experience in geotechnical engineering. Prior to any construction on the landfill site, the engineer shall define the engineering properties of the site that are necessary for the design, construction, and support of the landfill and all installations of the facility and shall:

- (a) Explore and describe subsurface conditions including soil stratigraphy and ground water table conditions;
- (b) Explore and address the presence of muck, previously filled areas, soft ground, lineaments, and sinkholes;
- (c) Evaluate and address fault areas, seismic impact zones, and unstable areas as described in 40 CFR 258.13, 258.14 and 258.15.
- (d) Include estimates of the average and maximum high ground water table across the site; and
- (e) Include a foundation analysis to determine the ability of the foundation to support the loads and stresses imposed by the landfill. It may include geotechnical measures necessary to modify the foundation to accommodate the imposed loads and stresses. The foundation shall be analyzed for short-term, end of construction, and long-term stability and settlement conditions. Considering the existing or proposed subgrade conditions and the landfill geometry, analysis shall include:

1. Foundation bearing capacity;
2. Subgrade settlements, both total and differential; and
3. Subgrade slope stability.

(3) Report. The geotechnical site investigation report shall describe the site subsurface conditions and shall include, at a minimum, the methods used in the investigation, all soil boring logs and laboratory results, analytical calculations, cross sections, interpretations and conclusions.

(4) Report verification. The site reports and supporting information, including detailed description of the methods, calculations, and interpretations used, shall be signed and sealed by the professional engineer or geologist.

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Specific Authority 403.061, 403.704, F.S.
Law Implemented 403.702, 403.704, 403.707, F.S.
History -- New 1-6-93, Formerly 62-701.410, Amended 12-23-96.

62-701.420 Geotechnical Investigation Requirements.

Specific Authority 403.061, 403.704, F.S.
Law Implemented 403.702, 403.704, 403.707, F.S.
History -- New 1-6-93, Amended 1-2-94, Formerly 62-701.420, Repeated 12-23-96.

62-701.430 Vertical Expansion of Landfills.

(1) Applicability. Construction of a solid waste disposal unit on top of or against the side slopes of a previously filled landfill, whether active, closed, or inactive is considered vertical expansion of that landfill. Vertical expansion shall require either a modification of the landfill permit, or a new permit if the landfill has been closed. The following requirements shall apply:

(a) The vertical expansion shall not cause or contribute to any leachate leakage from the existing landfill, and shall not adversely affect the closure design of the existing landfill.

(b) For vertical expansion over lined landfills, no interface liner is required between the old and new landfill slopes.

(c) For vertical expansion over unlined landfills or landfills that were not constructed in accordance with permit requirements, the vertical expansion shall comply with all the requirements of Rule 62-701.400, F.A.C., with the following exceptions:

1. Side slopes of six feet horizontal to one foot vertical rise or steeper require the installation of a single geomembrane slope liner overlain by a leachate collection and removal system;

2. The slope liner shall consist of a 60-mil or thicker geomembrane with a maximum water vapor transmission rate of 0.24 g/(m² x day) as determined by ASTM Method E96-80, procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09.

3. The liner shall be protected from physical damage by a 24-inch thick protective layer above the liner and a bedding layer below the liner at least 24 inches thick to protect against the calculated differential settlement.

4. In all vertical expansion construction, grades shall slope toward the new expansion area.

5. If the vertical expansion consists exclusively of construction and demolition debris, the expansion must comply with the requirements of Rules 62-701.730 and 62-701.803, F.A.C., as well as paragraph (a) of this subsection.

6. If the vertical expansion consists of a composting operation, it must meet the requirements of Chapter 62-709, F.A.C., as well as paragraph (a) of this subsection.

7. If the vertical expansion consists of a Class III landfill, the provisions of Rule 62-701.340(3)(d), F.A.C., apply.

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(d) The provisions of Rule 62-701.610(7), F.A.C., are applicable to all operations, including recycling operations, conducted on top of closed landfills.

(2) Construction requirements. The design for the vertical expansion shall also provide calculations and supporting information on the following factors:

(a) Construction on the slopes of a filled landfill requires a determination of foundation stability in accordance with Rule 62-701.420, F.A.C., and calculations for the total settlement of the waste in the existing landfill and the waste that will be disposed of in the new disposal area to be constructed. Total settlement calculations shall address both compression and differential settlement and shall be based on worst case predictions. Total settlement calculations shall show the final elevations of the liner systems, that gravity drainage will be maintained, and that no other component of the design will be adversely affected.

(b) The vertical expansion design shall achieve a minimum safety factor of 1.5 for:

1. The liner system stability for liner systems installed over existing landfill slopes to prevent sliding along the interface between liner system components; and

2. Deep stability, to prevent sliding along all potential failure surfaces through the waste mass, along the liner systems, and through the foundation soils.

(c) Surface water management during construction of the vertical expansion over the slopes of an existing landfill shall be consistent with Rule 62-701.400(9), F.A.C., and shall require proper design of the drainageway at the interface between the existing slopes and vertical expansion area. The design shall:

1. Prevent infiltration into the existing and new landfills;

2. Minimize erosion of cover materials;

3. Carry the calculated flow; and

4. Comply with the cover requirements.

(d) A gas control system shall be installed to vent gas from the interface between the existing landfill slopes and the vertical expansion slopes to prevent accumulation of gas under the new liner system. Gas venting is achieved by installing a gas venting layer under the entire slope that will be covered by the new liner system. The gas venting layer shall convey gas to vertical vents at the crest of the interface slopes.

Specific Authority 403.061, 403.704, F.S.

Law Implemented 403.702, 403.704, 403.707, F.S.

History -- New 1-6-93, Amended 5-19-94, Formerly 62-701.430.

62-701.500 Landfill Operation Requirements.

(1) Operating personnel. All Class I and Class III landfills shall have at least one trained operator at the landfill during all times when the landfill receives waste.

Trained operators are those who have satisfied the requirements of Chapter 62-703, F.A.C. If an operator is employed at a Class II landfill, that person must be a trained operator. All Class I and Class III landfills shall have at least one spiller at each working face at all times when the landfill receives waste to detect unauthorized wastes.

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(2) Operation plan. Each landfill owner or operator shall have an operational plan that provides written, detailed instructions for the daily operation of the landfill.

The operation plan shall be kept at or near the landfill facility and shall be accessible to landfill operators. The operation plan shall be revised if operational procedures change. The plan shall include procedures for:

- (a) Designation of persons responsible for operation and maintenance of the facility;
- (b) Contingency operations, alternate waste handling and disposal methods in case of emergency such as a fire, natural disaster or equipment failure;
- (c) Controlling the type of waste received at the site. The plan shall specify inspection procedures, number and location of spotters for each working face, and procedures to be followed if prohibited wastes are discovered;
- (d) Weighing incoming waste, if required under rule 62-701.500(4)(a), F.A.C.;
- (e) Vehicle traffic control and unloading;
- (f) Method and sequence of filling waste;
- (g) Waste compaction and application of cover;
- (h) Operations of gas, leachate, and stormwater controls; and
- (i) Water quality monitoring.

(3) Operating record. The operating record shall consist of: all records, reports, analytical results, demonstrations, and notifications required by this chapter; any construction, operation, and closure permits, including all modifications to those permits, issued by the Department, along with the engineering drawings and supporting information; and the training verifications required by Chapter 62-703, F.A.C. The record is considered part of the operation plan, and shall be kept with the plan at or near the landfill facility, or in an alternate location designated in the operating permit which is readily accessible to landfill operators. The operating record shall be available for inspection at reasonable times by Department personnel.

(4) Waste records.

(a) The owner or operator of a Class I or Class III landfill, or of a Class II landfill owned or operated by county or municipality, shall weigh all solid waste as it is received. Landfill operators shall record, in tons per day, the amount of solid waste received and shall estimate the amount of wastes listed in paragraph (b) of this subsection. Waste reports shall be compiled monthly, and copies shall be provided to the Department quarterly.

(b) Types of waste received:

1. Household waste
2. Commercial waste
3. Ash residue
4. Incinerator by-pass waste
5. Construction and demolition debris
6. Treated biohazardous waste
7. Agricultural waste
8. Industrial waste
9. Yard trash
10. Sewage sludge
11. Industrial sludge
12. Water/air treatment sludges

(5) Control of access. To prevent unauthorized waste disposal, access to and use of the facility shall be controlled by fencing, gates, or other barriers, as well as

signs and facility personnel. Public access and receipt of wastes shall occur only when an attendant is on duty.

(6) Monitoring of waste.

(a) The owner or operator shall implement a load checking program to detect and discourage attempts to dispose of unauthorized wastes at the landfill. The load checking program shall consist of the following minimum requirements:

1. The landfill operator shall examine at least three random loads of solid waste delivered to the landfill each week. The waste collection vehicle drivers selected by the inspector shall be directed to discharge their loads at a designated location within the landfill. A detailed inspection of the discharged material shall be made for any unauthorized wastes. If the landfill owner or operator also owns or operates a transfer station, this inspection may be carried out at that transfer station before delivery of the waste to the landfill.

2. If unauthorized wastes are found, the facility shall contact the generator, hauler, or other party responsible for shipping the waste to the landfill to determine the identity of the waste sources.

(b) Handling hazardous wastes.

1. If any regulated hazardous wastes are identified by random load checking, or are otherwise discovered to be improperly deposited at the landfill, the landfill operator shall promptly notify the Department, the person responsible for shipping the wastes to the landfill, and the generator of the wastes, if known. The area where the wastes are deposited shall immediately be cordoned off from public access. If the generator or hauler cannot be identified, the landfill operator shall assure the cleanup, transportation, and disposal of the waste at a permitted hazardous waste management facility.

2. Subsequent shipments from sources found or suspected to be previously responsible for shipping regulated hazardous waste shall be subject to precautionary measures prior to the solid waste management facility accepting wastes.

(c) Recording inspection results. Information and observations resulting from each random inspection shall be recorded in writing and retained at the landfill for at least three years. The recorded information shall include, at a minimum: the date and time of the inspection; the names of the hauling firm and the driver of the vehicle; the vehicle license plate number; the source of the waste, as stated by the driver; and observations made by the inspector during the detailed inspection. The written record shall be signed by the inspector.

(d) Training. Inspectors, equipment operators, weigh station attendants, and spotters shall be trained to identify unauthorized wastes or potential sources of regulated hazardous wastes. The training program shall emphasize familiarity with containers and labels typically used for hazardous wastes and hazardous materials.

(7) Waste handling requirements.

(a) All solid waste at Class I and Class II landfills shall be spread in layers of approximately two feet in thickness and compacted to approximately one foot in thickness or as thin a layer as practical before the next layer is applied. Solid waste at all Class III sites shall be spread in layers and compacted once every week using

suitable heavy equipment. Bulky materials which are not easily compacted should be worked into other materials as much as practical.

(b) The first layer of waste placed above the liner and leachate collection system shall be a minimum of four feet in compacted thickness and consist of selected wastes containing no large rigid objects that may damage the liner or leachate collection system.

(c) Solid waste shall be formed into cells to construct horizontal lifts. The working face of the cell, and side grades above land surface, shall be at a slope no greater than three feet horizontal to one foot vertical rise. Lift depth should normally not exceed 10 feet but may be deeper, depending on specific operations, daily volume of waste, width of working face, and good safety practices.

(d) The working face shall be only wide enough to accommodate vehicles discharging waste, and to minimize the exposed area and unnecessary use of cover material.

(e) Initial cover shall be applied and maintained at landfills in order to minimize any adverse environmental, safety, or health effects such as those resulting from birds, unauthorized wastes, blowing litter, odors, disease vectors, or fires. The minimum frequency for applying cover is:

1. For Class I and II landfills, at the end of each working day. However, for those areas where solid waste will be deposited on the working face within 18 hours, initial cover may consist of a temporary cover, such as a tarpaulin, which may be removed prior to deposition of additional waste; and

2. For Class III landfills, at the end of each work week.

(f) An intermediate cover in addition to the six-inch initial cover shall be applied and maintained within seven days of cell completion if additional solid waste will not be deposited within 180 days of cell completion. The landfill operator may remove all or part of the intermediate cover before placing additional waste or installing final cover.

(g) Solid waste disposal units which have been filled to design dimensions shall receive final cover within 180 days after attaining final elevation or in accordance with the closure plan for the landfill.

(h) Uncontrolled and unauthorized scavenging shall not be permitted at any landfill site. Controlled salvaging for recycling may be permitted by the landfill operator.

(i) A litter policing operation shall be employed to keep litter from leaving the working area of the landfill. Litter outside the working area shall be picked up within 24 hours. Some litter may be exposed through the initial cover if it is in traffic areas and away from public view.

(j) Erosion control measures shall be employed to correct any erosion which exposes waste or causes malfunction of the storm water management system.

(8) Leachate management.

(a) The landfill operator is responsible for leachate level monitoring, sampling, analysis of the landfill leachate, and for providing copies of the leachate analysis to the Department.

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(b) The landfill operator is responsible for the operation of the leachate collection and removal system and for maintaining the system as designed for the design period. Leachate shall be collected and treated as necessary to meet surface and ground water quality standards of Chapter 62-3 and 62-302, F.A.C. If the leachate is classified as a hazardous waste, it shall be managed in accordance with Rule 62-730, F.A.C.

(c) Leachate may be discharged to an off-site treatment plant. The landfill operator is responsible for having a written contract or agreement with the off-site treatment plant to discharge leachate to the plant.

(d) On-site leachate treatment or pretreatment systems are part of the leachate collection and removal system and shall be designed according to the expected characteristics of the leachate. The design may include adjustments to the system as necessary to accommodate changing leachate characteristics.

(e) The landfill operator shall have a prepared contingency plan to handle leachate collection, removal, and treatment problems such as interruptions of discharges to a treatment plant.

(f) Quantities of leachate collected by the leachate collection and removal system shall be recorded in gallons per day before on-site treatment or transport off-site.

(g) A recording rain gauge shall be installed, operated, and maintained to record precipitation at the landfill. Precipitation records shall be maintained and used by the permittee to compare with leachate generation rates.

(9) Gas monitoring. All landfills that have received organic wastes shall implement a routine gas monitoring program to meet the requirements of Rule 62-701.400(10), F.A.C.

(10) Stormwater system management. Stormwater management systems shall be operated and maintained as necessary to meet applicable standards of Chapters 62-3, 62-302, and 62-2, F.A.C.

(11) Equipment and operation features. The landfill shall have:

(a) Sufficient equipment to ensure proper operation of the landfill and for excavating, spreading, compacting, and covering waste.

(b) Sufficient reserve equipment or arrangement to obtain additional equipment within 24 hours of equipment breakdown.

(c) Communications equipment for emergency and routine communications;

(d) At Class I and Class III landfills, personnel shelter and sanitary facilities and first aid equipment;

(e) Dust control methods;

(f) Fire protection and fire-fighting capabilities adequate to ensure safety of employees and to control accidental burning of solid waste in the landfill. Fire protection includes procedures for notification of local fire protection agencies for assistance in emergencies;

(g) Litter control devices, portable fences, or other suitable devices; and

(h) Signs indicating the name of the operating authority, traffic flow, hours of operations and restrictions or conditions of disposal.

(12) Roads. The landfill shall have:

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(a) An all-weather access road that is passable and safe under normal operating conditions; and

(b) An inside perimeter road and other on-site roads, maintained to allow access to monitoring devices and stormwater controls, for landfill inspections and fire fighting.

(13) Recordkeeping. In addition to records and reporting required by other sections of this chapter, the landfill owner or operator shall:

(a) Keep records of all information used to develop or support the permit applications and any supplemental information submitted to comply with this chapter pertaining to construction of the landfill throughout the design period. Records pertaining to the operation of the landfill shall be kept for the design period of the landfill.

(b) Retain records of all monitoring information, including calibration and maintenance records, all original chart recordings for continuous monitoring instrumentation, and copies of all reports required by permit, for at least ten years. Background water quality records shall be kept for the design period of the landfill.

(c) Maintain an annual estimate of the remaining life and capacity in cubic yards of the existing, constructed landfill and remaining capacity and site life of other permitted areas not yet constructed. The annual estimate shall be based on a summary of the heights, lengths, and widths of the solid waste disposal units. The estimate shall be made and reported annually to the Department.

Specific Authority 403.061, 403.704, F.S.

Law Implemented 403.702, 403.704, 403.707, F.S.

History -- New 1-6-93; Amended 1-2-94, 5-15-94, Formerly 62-701.500.

62-701.510 Water Quality and Leachate Monitoring Requirements.

(1) Applicability.

(a) This section shall apply only to applications for construction or lateral expansion of a solid waste disposal unit received after January 6, 1993. However, no later than October 9, 1994, owners or operators of all solid waste disposal units receiving waste after January 6, 1993 shall submit their permit for modification to comply with the following:

1. Leachate shall be sampled and analyzed in accordance with subsection (5) and paragraph (6)(b) of this section (if the unit is lined);

2. All monitoring wells specified in the permit shall be sampled and analyzed semi-annually for the parameters listed in paragraph (8)(a) of this section; and

3. The water quality monitoring results shall be reported as required in subsection (9) of this section.

(b) This rule is intended to supplement the ground water monitoring requirements of Chapter 62-522, F.A.C. Any provisions of Chapter 62-522, F.A.C., which are not in direct conflict with the provisions of this rule remain applicable. This rule does not relieve a person from compliance with any permit condition or Department order, nor does it limit the Department's authority to modify a permit or ground water monitoring plan in accordance with Chapter 62-522, F.A.C.

(c) The requirements of this rule are the minimum standards for monitoring water quality and leachate. Nothing in this rule shall be construed to prevent the Department from imposing more stringent standards as necessary to protect the environment and the public health and safety due to site specific conditions and types of wastes to be disposed of in landfills or solid waste disposal units.

(2) Water quality monitoring plan and system.

(a) The permit applicant shall provide to the Department a water quality monitoring plan for the landfill that describes the proposed ground water, surface water, and leachate monitoring systems. The plan shall be based on the hydrogeological investigation required in Rule 62-701.410, F.A.C., and be prepared by, or under the supervision of, a professional geologist or professional engineer with experience in hydrogeologic investigations. The plan shall be signed and sealed by the professional geologist or professional engineer.

(b) The water quality monitoring system shall be installed and consist of: a sufficient number of ground water wells installed at appropriate locations and depths to yield ground water samples from the uppermost aquifer, as well as other aquifers reasonably expected to be affected by the landfill; surface water monitoring points installed at locations to yield samples of surface water that may be affected by the landfill; and leachate monitoring points to yield representative leachate samples. All sampling and analysis activities shall be performed by organizations that have Comprehensive Quality Assurance Plans approved in accordance with Rule 62-160.300(8), F.A.C.

(c) The water quality monitoring plan shall comply with the provisions of Rule 62-522.600(3), F.A.C. The applicant shall specify sampling locations and frequency in the water quality monitoring plan, and shall provide justification for these locations and frequencies based upon site conditions.

(3) Ground water monitoring.

(a) Two or more detection wells shall be located, and within the zone of discharge hydraulically downgradient from the solid waste disposal unit, to detect leachate releases. These wells shall be located no more than 50 feet from the edge of the solid waste disposal unit, unless site specific conditions make such placement impractical. These wells shall be capable of monitoring each solid waste disposal unit as it is operated. However, in accordance with Section 403.704(14), F.S., only one detection well is required at Class II landfills unless it is affirmatively demonstrated by the Department that a significant change in the initial quality of the water has occurred in the detection well which adversely affects the beneficial uses of the water.

(b) Multiple downgradient compliance wells shall be located at or immediately adjacent to the compliance line of the zone of discharge, if required in subsection (7) of this section. If site-specific conditions require installation of compliance wells within the zone of discharge, then a confirmed exceedance of a ground water standard at such wells will be considered a violation of that standard.

(c) A sufficient number of background wells installed as part of the site hydrogeological investigation required in Rule 62-701.410, F.A.C., shall be maintained throughout the design life of the landfill to provide information on background water quality.

(d) Monitoring wells.

1. The location of each well, in degrees, minutes and seconds of latitude and longitude, the Universal Transverse Mercator coordinates, and the elevation of the top of the well casing to the nearest .01 foot, National Geodetic Vertical Datum, shall be determined by a registered Florida land surveyor.

2. An identification number shall be assigned by the Department to each monitoring well in accordance with the Department's Ground Water Monitoring System computer file. The identification number shall be used on all water quality monitoring reports.

3. Well spacing shall be spaced no greater than 500 feet apart across the downgradient direction of ground water flow, and no greater than 1500 feet apart across the upgradient direction of ground water flow, in the uppermost aquifer within the zone of discharge, unless site specific conditions support the use of alternate well spacing. Conditions to be considered include, but are not limited to, ground water flow directions and rates, estimated longitudinal and transverse dispersivity rates, proximity to or presence of sensitive environments and ground water users, nature of the wastes, method of disposal, and the proposed design and size of the facility.

4. Well screens shall be located to readily detect representative ground water conditions within the saturated thickness of the uppermost aquifer within the zone of discharge. Well screens shall not act as conduits through confining layers between water bearing strata. The annular space (the space between the borehole and well casing) above the sampling depth shall be sealed to prevent contamination of samples and ground water. Wells monitoring the unconfined water table shall be screened so that the water table can be sampled at all times. The applicant shall provide technical justification for the actual screen length chosen.

5. Any monitoring wells which are abandoned or which will be covered due to lateral expansions of a landfill or the construction of new solid waste disposal units shall be plugged as necessary so that they do not act as a conduit for any leachate release to the ground water. The Department shall be notified in writing before any monitoring wells are abandoned or plugged.

6. Detection sensors capable of detecting changes in ground water that may indicate leachate releases, linked to a data recorder, may be used to augment detection wells or may be used as an alternative to detection wells, upon demonstration of their effectiveness to the Department.

(4) Surface water monitoring.

(a) All surface water bodies that may be affected by a contaminant release from the facility shall be monitored, except bodies of water contained completely within the property boundaries of the disposal site which do not discharge from the site to surface waters. In bodies of standing water, one or more representative monitoring points shall be located as close as practical to the facility. For flowing water bodies, a sufficient number of upgradient and downgradient locations shall be used to allow the effect of the landfill to be measured.

(b) Discharges from detention ponds for storm water shall be sampled at the point of discharge to waters of the state or from the property, whichever is closer to the detention pond.

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(c) The details concerning the sampling locations and the analysis requirements shall be specified in the water quality monitoring plan. Each monitoring location shall be marked and its position shall be determined by a registered Florida land surveyor in degrees, minutes and seconds of latitude and longitude and Universal Transverse Mercator coordinates.

(5) Leachate sampling. The water quality monitoring plan shall specify the location of, and proposed protocol for, landfill leachate sampling to obtain a representative characterization of the leachate composition in the leachate collection and removal system as the leachate comes from the wastes and before it is subjected to conditions that may change the characteristics of the leachate. All sampling points shall be located to minimize pumping of leachate before sampling.

(6) Routine sampling frequency and requirements. Except as otherwise specified in a Department permit or order or in subsection (7) of this section, frequency of sampling and analysis shall comply with the following. However, the owner or operator of a solid waste disposal unit may request a permit modification from the appropriate District Office of the Department to delete specific monitoring parameters or field parameters from routine analyses of detection wells and surface water. The Department will grant such modification upon a demonstration that these parameters are not reasonably expected to be in or derived from the waste contained in the unit.

(a) Background water quality.

1. Background water quality for a proposed landfill shall be determined by analysis of at least one water sample taken from each well that was installed, and each surface water monitoring location that was established, during the site hydrogeological investigation. The water quality information shall be submitted to the Department as part of the supporting information for the permit application.

2. Sampling and analysis for background ground water quality shall be for the parameters listed in paragraphs (8)(a) and (8)(d) of this section.

3. Sampling and analysis for background surface water quality shall be for the parameters listed in paragraph (8)(b) of this section.

(b) Leachate sampling.

1. Leachate shall be sampled and analyzed semi-annually for the

parameters listed in paragraph (8)(c) of this section. In addition, leachate shall be sampled and analyzed annually for the parameters listed in paragraph (8)(d) of this section.

2. For landfills which are receiving waste, if this annual analysis indicates that a contaminant listed in 40 CFR 261.24 exceeds the regulatory level listed therein, the permittee shall initiate monthly sampling and analysis and shall notify the Department in writing. If in any three consecutive months the same listed contaminant exceeds the regulatory level, the permittee shall notify the Department and shall, within 90 days, initiate a program designed to identify the source and reduce the presence of the contaminant in the leachate so that it no longer exceeds the regulatory level. This program may include additional monitoring of waste received and additional up-front separation of waste materials. The permittee shall coordinate with the Department regarding implementation of the program. Any leachate which is not recirculated or taken to a permitted domestic wastewater treatment facility shall be treated or managed

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so that no contaminant exceeds the regulatory level. If in any three consecutive months no listed contaminant is found to exceed the regulatory level, the permittee may discontinue the monthly sampling and analysis and return to a routine sampling schedule.

(c) All detection wells, and a representative sample of background wells, shall be sampled and analyzed for the ground water parameters listed in paragraph (8)(a) of this section, in accordance with the water quality monitoring plan. For lined landfills, this shall be done at least semi-annually.

(d) Surface waters shall be sampled and analyzed semi-annually for the parameters listed in paragraph (8)(b) of this section, in accordance with the water quality monitoring plan.

(7) Assessment monitoring and corrective action.

(a) Assessment monitoring. If monitoring parameters are detected in detection wells in concentrations which are significantly above background water quality, or which are at levels above the Department's water quality standards or criteria specified in Chapter 62-520, F.A.C., the permittee may resample the wells within 15 days after the sampling data is received, to confirm the data. Should the permittee choose not to resample, the Department will consider the water quality analysis as representative of current ground water conditions at the facility. If the data is confirmed, or if the permittee chooses not to resample, the permittee shall notify the Department in writing within 14 days of this finding. Upon notification by the Department, the permittee shall initiate assessment monitoring as follows:

1. Routine monitoring of all monitoring wells, surface water monitoring locations and leachate sampling locations shall continue according to the requirements of subsection (6) of this section.

2. Within 90 days of initiating assessment monitoring and annually thereafter, the permittee shall sample and analyze a representative sample of the background wells and all affected detection wells for the parameters listed in paragraph (8)(d) of this section. Any new parameters detected and confirmed in the affected downgradient wells shall be added to the routine ground water monitoring parameter lists required in subsection (6) of this section.

3. Within 90 days of initiating assessment monitoring, the permittee shall install and sample compliance monitoring wells at the compliance line of the zone of discharge and downgradient from the affected detection monitoring wells. These wells shall be installed according to the requirements of paragraph (3)(d) of this section, and samples shall be analyzed quarterly for the parameters listed in paragraphs (8)(a) and (d) of this section.

4. Within 180 days of initiating assessment monitoring, the permittee shall submit a contamination assessment plan to the appropriate Department District Office. This plan shall be designed to delineate the extent and cause of the contamination, in order to predict the likelihood that Department water quality standards will be violated outside the zone of discharge, and to evaluate methods to prevent any such violations. After the Department and the permittee agree that the plan is so designed, the permittee shall implement this plan and submit a contamination assessment report in

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accordance with the plan. All reasonable efforts shall be made by the permittee to prevent further degradation of water quality from the landfill activities.

5. If for two consecutive sampling events the concentrations of all parameters listed in paragraphs (8)(a) and (d) of this section are at or below background values, the permittee, after notifying the Department, may discontinue assessment monitoring and return to the routine monitoring requirements in subsection (6) of this section.

(b) Corrective actions.

1. If the contamination assessment report indicates that water quality standards are likely to be violated outside the zone of discharge, the permittee shall, within 90 days, submit a remedial action plan to the Department. Upon approval, the permittee shall initiate corrective actions to prevent such violations.

2. If any contaminants are detected and confirmed in compliance wells in concentrations which exceed both background levels and Department water quality standards or criteria, or are detected and confirmed in detection wells in concentrations which are above Department water quality minimum criteria, the permittee shall notify the Department within 14 days of this finding and shall initiate corrective actions. Assessment monitoring shall continue according to the requirements of paragraph (7)(a) of this section.

(8) Water quality parameters. The following list of water quality monitoring parameters shall be used for each type of sampling to be done.

(a) Ground water monitoring parameters:

Field parameters
Static water level in wells
before purging
Specific conductivity
pH
Dissolved oxygen
Turbidity
Temperature
Colors and sheens
(by observation)

Laboratory parameters

Total ammonia - N

Chlorides

Iron

Mercury

Nitrate

Sodium

Total dissolved solids

(TDS)

Those parameters listed

in 40 CFR Part 258 Appendix I

(b) Surface water monitoring parameters:

Laboratory parameters

Unionized ammonia

Total hardness

Biochemical oxygen

demand (BOD₅) Temperature

Copper

Iron

Mercury

Nitrate

Zinc

Field parameters

Specific conductivity

pH

Dissolved oxygen

Turbidity

Colors, sheens

(by observation)

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Total dissolved solids

(TDS)

Total organic carbon

(TOC)

Fecal coliform

Total phosphates

Chlorophyll A

Total nitrogen

Chemical oxygen demand

(COD)

Total suspended solids

(TSS)

Those parameters listed in 40

CFR Part 258 Appendix I

(c) Leachate monitoring parameters:

Field parameters

Specific conductivity

pH

Dissolved oxygen

Colors, sheens

Laboratory parameters

Total ammonia - N

Bicarbonate

Chlorides

Iron

Mercury

Nitrate

Sodium

Total dissolved solids

(TDS)

Those parameters listed in 40

CFR Part 258 Appendix I

(d) Those parameters listed in 40 CFR Part 258, Appendix II.

(9) Water quality monitoring reporting.

(a) The landfill owner or operator shall report all water quality and leachate

monitoring results to the Department semi-annually, unless a different monitoring

frequency is specified in the permit. The operator of the landfill shall notify the

Department at least 14 days before the sampling is scheduled to occur so that the

Department may collect split samples. The report shall include at least the following:

1. The facility name and identification number, sample collection dates, and

analysis dates;

2. All analytical results, including all peaks even if below maximum

contaminant levels;

3. Identification number and designation of all surface water and ground

water monitoring points;

4. Applicable water quality standards;

5. Quality assurance, quality control notations;

6. Method detection limits;

7. STORET code numbers for all parameters;

8. Water levels recorded prior to evaluating wells or sample collection.

Elevation reference shall include the top of the well casing and land surface at each

well site at a precision of plus or minus 0.01 foot (NGVD); and

9. An updated ground water table contour map, with contours at no greater

than one-foot intervals, which indicates ground water elevations and flow direction; and

10. A summary of any water quality standards or criteria that are exceeded;

(b) A technical report, prepared, signed and sealed by a professional

geologist or professional engineer with experience in hydrogeologic investigations,

shall be submitted to the Department every two years, and shall be updated at the time

of permit renewal. The report shall summarize and interpret the water quality data and

water level measurements collected during the past two years. The report shall

contain, at a minimum, the following:

1. Tabular and graphical displays of any data which shows that a monitoring

parameter has been detected, including hydrographs for all monitor wells;

2. Trend analyses of any monitoring parameters detected;

3. Comparisons among shallow, middle, and deep zone wells;

4. Comparisons between upgradient and downgradient wells;

5. Correlations between related parameters such as total dissolved solids

and specific conductance;

6. Discussion of erratic and/or poorly correlated data;

7. An interpretation of the ground water contour maps, including an

evaluation of ground water flow rates; and

8. An evaluation of the adequacy of the water quality monitoring frequency

and sampling locations based upon site conditions.

(c) All field and laboratory records specified in Rules 62-160.600 - 630,

F.A.C., shall be made available to the Department and be retained for the design

period of the landfill.

Specific Authority 403.061, 403.704, F.S.

Law Implemented 403.702, 403.704, 403.707, F.S.

History -- New 1-6-93; Amended 1-2-94, 5-19-94, Formerly 62-701.510.

62-701.520 Special Waste Handling.

(1) Motor vehicles. Motor vehicles that are brought to a landfill may be

stored temporarily in a separate area until they are removed for recycling. If vehicles

cannot be recycled, all fluids and batteries shall be removed from the vehicles and they

shall be compacted to minimize voids before being placed in the Class I area.

(2) Disaster debris. In the event of a natural disaster, during which large

volumes of debris are accumulated (such as trees and buildings that have been

destroyed) the debris may be transported to an area remote from habitation and burned

in accordance with Rule 62-256, F.A.C.

(3) Landfilling shredded waste. Landfilling shredded solid waste without

daily soil cover may be an environmentally acceptable method of final disposal at a

landfill that meets the requirements of Rule 62-701.340.

F.A.C. A properly designed and operated shredding facility shall be approved by the Department contingent upon the following conditions:

- (a) Particle size. Seventy percent of all shredded waste, dry weight, shall be capable of passing through a three-inch screen.
- (b) Waste shall be spread to a smooth contour and compacted promptly after placement and left undisturbed to prevent odors. Blowing of shredded waste by the wind shall be controlled.
- (c) All solid waste storage areas in the shredding facility shall be maintained and cleaned at the end of each day's operations or during continuous operation, as necessary, to prevent disease vector problems. All equipment shall be designed and maintained to control spillage and to achieve the required product quality.
- (d) An operational plan shall include provisions for removal and proper disposal of wastes within 24 hours should the shredding facility breakdown or operational quality be diminished. The operational plan shall include provision for a stock pile of emergency soil cover material and a plan to convert the operation to a conventional landfill operation.
- (e) Shredded waste disposal units that fill design dimensions shall be closed in accordance with Rule 62-701.600, F.A.C.

(4) Asbestos waste disposal.

(a) Asbestos-containing waste materials may be accepted for disposal at a permitted Class I, II, or III landfill. Each active waste disposal site that receives asbestos-containing waste material from a source covered under the National Emission Standards for Asbestos, 40 CFR Part 61, Subpart M, shall meet the requirements of 40 CFR Part 61.154, which are incorporated by reference herein. For purposes of this rule, the term "Administrator," when used in 40 CFR Part 61.154, shall mean Secretary of the Department of Environmental Protection.

(b) The waste generator shall make arrangements with the landfill operator before disposal of such regulated asbestos-containing waste materials, and inform the operator of the quantity of the waste and the scheduled date the shipment will arrive at the landfill.

(c) The landfill operator shall direct the waste transporter to the designated disposal location. The disposal location shall be recorded in accordance with 40 CFR Part 61.154, and a record of the asbestos location shall be maintained.

(5) Contaminated soil. Soil which has been contaminated with petroleum products or any other products which are not hazardous wastes may be disposed of in permitted, lined landfills. Petroleum contaminated soil which has been treated pursuant to Chapter 62-775, F.A.C., may be disposed of at permitted disposal facilities and may, if it meets the criteria of Rules 62-701.200(24), (37), and (38), F.A.C., be used as cover material at permitted landfills.

(6) Ash residue. Ash residue from the burning of solid waste shall be managed in accordance with Chapter 62-702, F.A.C. Ash residue which meets the criteria of Rules 62-702.570(6) and 62-701.200(37), F.A.C., may be used as initial cover at permitted, lined landfills.

Specific Authority 403.061, 403.704, FS.

Law Implemented 403.702, 403.704, 403.705, 403.707, 403.708, FS.

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History -- Transferred from 10D-12.07, 10-1-74, Amended 5-24-79, 11-25-82, 7-10-84 12-10-85, Formerly 62-7.06, 62-7.060, 62-701.060, Amended 1-6-93, 1-2-94, Former 62-701.520.

62-701.600 Landfill Final Closure.

(1) Applicability.

(a) Inactive landfills.

1. Landfills or solid waste disposal units which were closed in a manner approved by the Department prior to January 6, 1993, or which have received final cover before July 1, 1985, are exempt from the requirements of this section.

2. Owners or operators of landfills or solid waste disposal units which were no longer receiving wastes on January 6, 1993, which have not been closed in accordance with an approved closure plan or closure permit, and which do not have a approved closure plan or closure permit shall comply with this section by 5-19-95.

3. Owners or operators of landfills or solid waste disposal units which were no longer receiving wastes on January 6, 1993, which have not been closed in accordance with an approved closure plan or closure permit and which do have an approved closure plan or closure permit are exempt from the requirements of this section as long as the closure plan or closure permit is complied with.

(b) Active landfills. Landfills or solid waste disposal units which receive wastes after January 6, 1993, shall comply with the requirements of this section. Owners or operators of active landfills or solid waste disposal units which have an approved closure plan or closure permit on January 6, 1993 shall apply for modification of their plan or permit to comply with this section by 5-19-95, or, if the landfill or solid waste disposal unit is not scheduled to close before the existing operation permit expires, at the time of permit renewal. Landfills or solid waste disposal units which are operating under a Department consent agreement, which have a closure permit, and which cease accepting wastes on or before December 1, 1992, are exempt from the requirements of this section except for Rule 62-701.600(5)(g), F.A.C.

(2) Closure schedule.

(a) At least one year prior to the projected date when wastes will no longer be accepted or when all solid waste disposal units are expected to reach design dimensions, the owner or operator shall provide a written notice to the Department will a schedule for cessation of waste acceptance and closure of the landfill. The closure schedule shall become an addendum to the landfill permit. If unforeseen circumstances do not allow the one-year notification, notice shall be provided as soon as the need to close the facility becomes apparent.

(b) Notice and advice to users. At least 120 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall advise users of the intent to close the landfill by posting signs at the entrance of the landfill giving the date of closing, the location of alternative disposal facilities, and the name of the person responsible for closing the landfill. These signs shall be maintained throughout the closing period. If unforeseen circumstances do not allow the 120 day notice to users, notice shall be provided as soon as the need to close the facility becomes apparent.

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(c) Notice to the public. Within 10 days prior to the date when wastes will no longer be accepted at the landfill, the owner or operator shall publish a notice of the landfill closing in the legal advertising section of a newspaper of general circulation in the county where the activity is proposed, and shall provide proof of publication to the Department within seven days of publication.

(3) Closure permit requirements. The owner or operator shall submit an application to the Department for final closure of the landfill at least 90 days before the date when wastes will no longer be accepted. The application shall be on Form 62-701.900(1). If the landfill is operating under a Department permit, the owner or operator shall request a modification of the permit in lieu of submitting a closure permit application. The application or request for modification shall include a closure plan which is made up of the following:

- (a) A closure report;
- (b) A closure design plan;
- (c) A closure operation plan;
- (d) Closure procedures;
- (e) A plan for long-term care; and
- (f) A demonstration that proof of financial responsibility for long-term care will be provided.

(4) Closure report. A report on the final closure of the landfill shall address the following requirements, or shall contain an explanation of why the requirement is not applicable:

- (a) General landfill information which shall contain:
 1. Identification of the landfill;
 2. Location, description and vicinity map;
 3. Total acreage of waste disposal areas and total acreage of landfill property;
 4. Legal description of property on which the landfill is located;
 5. History of the landfill including dates of construction and a description of the location and sequence of fill operations; and
 6. Identification of types of waste disposed of in the completed landfill based on records, composition studies, operator memory, major waste depositors, or other information sources.

(b) The geotechnical investigation report and water quality monitoring plan required in Rule 62-701.330(4), F.A.C.

(c) Land use information which shall contain a discussion and maps indicating:

1. Identification of adjacent landowners;
 2. Zoning;
 3. Present land uses; and
 4. Roads, highways, rights-of-way, or easements.
- (d) A report on actual or potential gas migration in landfills that contain biodegradable wastes disposed of in porous soils which would allow migration of gas off the landfill property. Gas migration test points shall be located along property boundaries, particularly those adjacent to off-site occupied structures within 100 feet of

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the property boundary or where distressed vegetation is present. Test points are required along each boundary segment spaced as needed to detect gas migration. Test points shall extend at least three feet below ground surface. Where sand, gravel, or more gas permeable soil strata may interconnect the waste deposit and the property boundary, multiple depth sampling points are necessary to draw gas samples from the permeable layers. Methane concentrations shall be determined as a percent of the lower explosive limit. Methane concentrations shall not exceed the lower explosive limit at the property boundary or 25 percent of the limit within structures on the property.

(e) An assessment of the effectiveness of the landfill design and operation, which shall provide information about the effects of the landfill on adjacent ground and surface waters, and the landfill area. Specific concerns to be discussed are:

1. Results of the geotechnical investigation;
 2. Effects of surface water runoff, drainage patterns, and storm water controls;
 3. Extent and effects of methane gas migration, lower explosive limit percentage readings in migration paths, and description of the gas venting system;
 4. Condition of existing cover, thicknesses and types of soils or materials used for cover, and effectiveness of cover material as a leachate control mechanism; and
 5. The nature and characteristics of the waste disposed of at the landfill.
- (5) Closure design. The closure design plan shall consist of engineering plans and a report on closing procedures that apply to the final closing of solid waste disposal units during the operation of the landfill, the final closing of the landfill, and the monitoring and maintenance during the long-term care period. The closure design plan shall include the following information:

- (a) A plan sheet showing phases of site closing.
- (b) Drawings showing existing topography and proposed final grades.
- (c) Provisions to close solid waste disposal units within the landfill as soon as they reach approved design dimensions and elevations and to finally close the landfill in accordance with the requirements of this rule. Landfills that are designed to be constructed in phases or sections shall include provisions for temporary closure of solid waste disposal units if subsequent, planned filling on top of them will not occur for six months or longer.

(d) Final elevations before settlement, based upon the capability of the foundation to support the total weight of the landfills, including water loading.

(e) Final side slope design. Side slopes of above-ground disposal units shall not be steeper than three feet horizontal to one foot vertical rise to control erosion of the final cover material. Such units shall incorporate reverse sloping benches or terraces into the side slopes of the landfill and shall contain down slope drainage ways with water flow energy dissipaters. Access for maintenance equipment shall be provided. Such designs shall address the susceptibility for erosion of the earthen material that is proposed for final cover relative to historical rainfall patterns for the area, the period between the patterns for the area, the period between the application of the final cover and establishment of vegetation, and maintenance procedures.

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(f) Final cover installation plans showing the sequence of applying final cover. All areas filled with waste shall have a final cover designed to minimize infiltration of rainfall and subsequent generation of leachate, based on water balance calculations and leachate controls used.

1. The final cover shall be installed and tested in accordance with a construction quality assurance plan which meets the requirements of Rules 62-701.400(7) and (8), F.A.C.

2. Final cover shall be placed over the entire surface of each completed solid waste disposal unit or units within 180 days after the final waste deposit, or within the time frame set forth in the approved closure plan. The final cover shall be vegetated with drought-resistant species to control erosion. The final cover is intended to be a moisture infiltration seal, therefore vegetational species planted shall be drought resistant and such that the roots will not penetrate the seal and thus provide a channel for moisture infiltration.

3. Top gradients of final cover on landfill areas shall be graded to maximize runoff and minimize erosion, considering total fill height and expected subsidence caused by decomposing waste, and shall be designed to prevent ponding or low spots.

4. The closure design plan shall describe provisions for cover material for the long-term care erosion control, filling areas of subsidence or other depressions, maintaining berms, and general maintenance of the facility, and specify the anticipated source and amount of material necessary for proper closure of the landfill.

(g) Final cover design.

1. Landfills shall have a final cover designed to minimize infiltration and erosion, which shall include a barrier layer consisting of a soil layer, a geomembrane, or a combination of a geomembrane with a low permeability material. For lined Class I and Class II landfills, the barrier layer shall have a permeability which is substantially equivalent to, or less than, the permeability of the bottom liner system. If the landfill uses a geomembrane in the bottom liner system, the barrier layer shall also incorporate a geomembrane. For unlined Class I and Class II landfills, the barrier layer shall have a permeability of 1×10^{-7} cm/sec or less. For Class III landfills, the barrier layer shall have a permeability of 1×10^{-5} cm/sec or less.

2. If the barrier layer consists only of soil, it shall be at least 18 inches thick, emplaced in 6-inch thick lifts, and shall have a final, 18-inch thick layer of soil that will sustain vegetation to control erosion placed on top of the barrier layer.

3. If a geomembrane is used in the barrier layer, it shall be a semi-crystalline thermoplastic at least 40 mils thick or a non-crystalline thermoplastic at least 30 mils thick with a maximum water vapor transmission rate of $2.4 \text{ g/(m}^2 \times \text{day)}$, have chemical and physical resistance to materials it may come in contact with, and withstand exposure to the natural environmental stresses and forces throughout the installation, seaming process, and settlement of the waste during the closure and long-term care period. A protective soil layer at least 24 inches thick shall be put on top of the geomembrane. Material specifications, installation methods, and compaction specifications shall be adequate to protect the barrier layer from root penetration, resist erosion, and remain stable on the final design slopes of the landfill. This layer shall include top soil or soils that will sustain vegetative growth. In some cases, a drainage

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layer may be required between the cap (soil and geomembrane layer) and the top soil layer.

4. An applicant may use an alternate design for the barrier layer, or parts of the barrier layer, upon a demonstration that the alternate design will result in a substantially equivalent rate of storm water infiltration through the final cover. Any alternate design shall be reviewed by the Department as part of its review of the closure design plan.

5. Nothing herein shall preclude the Department from requiring more stringent final or temporary cover designs in a permit or consent order if necessary to protect the public health or the environment because of the nature of wastes received or site specific geological or hydrogeological conditions, or if the landfill has not been adequately constructed, operated, maintained, or closed.

(i) Proposed method of stormwater control. Stormwater occurring on the landfill properly and from areas adjacent to the landfill properly shall be prevented from coming onto or into waste filled areas. The closure design plan shall demonstrate compliance with Chapter 62-25, F.A.C.

(j) Proposed method of access control. The closure design plan shall show how access to the closed landfill shall be restricted to prevent any future waste dumping or use of the facility by unauthorized persons. Restricted access shall remain in force until the landfill is stabilized and there is no evidence that facility property is being used as an unauthorized disposal site. If use of the property during the long-term care period is planned, access shall be restricted until landfill closing is completed and acknowledged by the Department in accordance with Rule 62-701.610(6), F.A.C.

(k) A description of any proposed final use of the landfill property.

(l) Closure operation plan. The closure operation plan shall:

(a) Describe the actions which will be taken to close the landfill, such as placement of cover, grading, construction of berms, ditches, roads, retention-detention ponds, installation or closure of wells and boreholes, installation of fencing, seeding of vegetation, and protection of on-site utilities and easements;

(b) Provide a time schedule for completion of the closing and long-term care; supporting documents;

(c) Contain appropriate references to the closure design and other for the long term monitoring and maintenance; and

(d) Describe the proposed method of demonstrating financial responsibility monitoring plan required in Rule 62-701.510, F.A.C.;

(e) Provide for the development and implementation of the water quality monitoring program required in Rule 62-701.400(10)(c), F.A.C.;

(f) Provide for the development and implementation of the routine gas closure of the landfill.

(g) Indicate any additional equipment and personnel needed to complete

(h) Temporary closure.

(i) Placement of final cover over a solid waste disposal unit may be delayed for a period of time specified in an approved closure plan for the following reasons:

1. For the purpose of promoting biological degradation of waste;

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2. If additional solid waste will be deposited on the solid waste disposal unit within five years; or

3. If excavation of the waste is planned.

(b) Placement of final cover may be delayed only if the solid waste disposal unit is temporarily closed in accordance with an approved closure plan. Conditions of temporary closure shall include:

1. The solid waste disposal unit was constructed in compliance with its permit conditions, and has a liner and leachate control system;
 2. A schedule for closure is shown in the closure plan application;
 3. Final cover is installed on side slopes of each completed disposal unit which will not receive additional waste or which will not be mined, and all areas visible to the public are closed and landscaped;
 4. Odors and disease vectors are controlled;
 5. An intermediate cover is installed on the solid waste disposal unit;
 6. The financial responsibility requirements of Rule 62-701.630, F.A.C., are met, and the closure cost estimate takes into account the costs of temporary closure as well as the costs of the final closure; and
 7. The landfill owner or operator demonstrates that delaying placement of final cover will not cause or contribute to any significant increase in leachate escaping from the solid waste disposal unit into the environment.
- (c) In addition, a solid waste disposal unit which will be mined in the future shall have a temporary final cover installed.
- Specific Authority 403.061, 403.704, FS.
Law Implemented 403.702, 403.704, 403.707, FS.
History -- New 1-6-93; Amended 1-2-94, 5-19-94, Formerly 62-701.600.

62-701.610 Closure Procedures.

(1) Closing inspections. The Department shall specify in the closure permit which particular closing steps or operations must be inspected and approved by the Department before proceeding with subsequent closure actions.

(2) Survey monuments. For landfills with a final elevation of less than 20 feet above the natural land surface, concrete monuments shall be installed to mark the boundaries of the landfill property and other permanent markers shall be installed to outline the general waste filled areas. These markers shall be tied to one or more of the boundary markers by a survey performed by an engineer or a registered land surveyor. The location and elevation of all markers shall be shown on a site plan filed with the "Declaration to the Public" described in subsection (5) of this section.

(3) Final survey report. When landfill operations have been conducted which have raised the final elevations higher than 20 feet above the natural land surface, a final survey shall be performed after closure is complete by an engineer or a registered land surveyor to verify that final contours and elevations of the facility are in accordance with the plans as approved in the permit. Aerial mapping techniques which provide equivalent survey accuracy may be substituted for the survey. The survey or aerial mapping information shall be included in the report along with information reflecting the conditions of the landfill as constructed. Contours shall be shown at no

greater than five-foot intervals. The landfill owner or operator shall submit this report to the Department in accordance with the closing schedule.

(4) Certification of closure construction completion. A certification of closure construction completion, signed, dated and sealed by a professional engineer independent of the contractor, shall be provided to the Department upon completion of closure. All substantial deviations from the permitted closure plans shall be noted.

(5) Declaration to the public. After closing operations are inspected and approved by the Department, the landfill owner or operator shall file a declaration to the public in the deed records in the office of the county clerk of the county in which the landfill is located. The declaration shall include a legal description of the property on which the landfill is located and a site plan specifying the area actually filled with solid waste. The declaration shall also include a notice that any future owner or user of the site should consult with the Department prior to planning or initiating any activity involving the disturbance of the landfill cover, monitoring system or other control structures. A certified copy of the declaration shall be filed with the Department.

(6) Official date of closing. Upon receipt of the documents required in subsections (3), (4), and (5) of this section, the Department shall, within 30 days, acknowledge by letter to the facility operator that notice of termination of operations and closing of the facility has been received. If the entire landfill has been closed, the date of this letter shall be the official date of landfill closing for the purpose of determining the long-term care period. If only a portion of the landfill has been closed, the long-term care period will begin upon the closing of the entire landfill, unless the portion which has been closed can be monitored and maintained separately from the rest of the landfill. The date of this letter shall be the official date of landfill closing for the purpose of determining the long-term care period.

(7) Use of closed landfill areas. Closed landfill areas, if disturbed, are a potential hazard to public health, ground water and the environment. The Department retains regulatory control over any activities which may affect the integrity of the environmental protection measures such as the landfill cover, drainage, liners, monitoring system, or leachate and stormwater controls. Consultation with the Department is required prior to conducting activities at the closed landfills.

Specific Authority 403.704, FS.

Law Implemented 403.704, 403.707, FS.

History -- New 7-1-85, Formerly 62-7.074, Formerly 62-701.074, Amended 1-6-93, 1-2-94, Formerly 62-701.610

62-701.620 Long-Term Care.

(1) Long-term care period. The owner or operator of any landfill which receives wastes after January 6, 1993, shall continue to monitor and maintain the integrity and effectiveness of the final cover as well as other appurtenances of the facility in accordance with an approved closure plan for 30 years from the date of closing. Before the expiration of the long-term care monitoring and maintenance period, the Department may extend the time period if the closure design or closure operation plan is found to be ineffective.

(2) Reduced long-term care period. The owner or operator of a landfill may apply to the appropriate District Office of the Department for a permit modification to reduce the long-term care schedule. The Department will grant such modification if reasonable assurance is provided to the Department that there is no threat to human health or the environment and if the landfill:

- (a) Has been constructed and operated in accordance with approved standards, and has a leachate control system and a liner;
- (b) Was closed with appropriate final cover, vegetative cover has been established, and a monitoring system has been installed;
- (c) Has a 10-year history after closure of no violations of water quality standards or criteria detected in the monitoring system, and no increases over background water for any monitoring parameters which may be expected to result in violations of water quality standards or criteria; and
- (d) Has had no detrimental erosion of cover, and subsidence of waste has ceased.

(3) Modified ground water monitoring plan. The owner or operator of a landfill may apply to the appropriate District Office of the Department for a modification to their ground water monitoring plan to remove a parameter from the list specified in Rule 62-701.510(8), F.A.C. The Department will grant such modification upon a demonstration that leachate and ground water have consistently been sampled and analyzed for the parameter, and that the parameter has never been detected in the leachate or in any ground water well or surface water point during the active life of the landfill.

(4) Right of access. The landfill owner or operator shall possess or acquire a sufficient interest in, or a right to use, the property for which a permit is issued, including the access route onto the property to carry out the requirements of this rule. The permittee shall retain the right of entry to the landfill property for the long-term care period, after termination of solid waste operations, for inspection, monitoring and maintenance of the site.

(5) Successors in interest. Any person acquiring rights or ownership, possession or operation of a permitted landfill through lease or transfer of property shall be subject to all requirements of the permit for the facility and shall provide any required proof of financial responsibility to the Department in accordance with this rule. Any lease or transfer of property shall include specific conditions to guarantee:

- (a) The previous owner or operator is responsible for closure and shall maintain any required proof of financial responsibility until the person acquiring ownership, possession or operation of the landfill establishes the required proof of financial responsibility with the Department;
- (b) Responsibility for the continuance of monitoring, maintenance, and correction of deficiencies or problems; and
- (c) Mineral rights attached to the property and the rights to any recoverable materials that may be buried on the property or landfill gasses that may be produced. A Department permit shall be required if any on-site operations subsequent to closing of a landfill involve disturbing the landfill.

(6) Transfer of permit. Transfer of a landfill permit shall be in accordance with the provisions of Rule 62-4.120, F.A.C., and this rule.

(7) Replacement of monitoring devices. If a monitoring well or other device required by the monitoring plan is destroyed or fails to operate for any reason, the landfill owner or operator shall, immediately upon discovery, notify the Department in writing. All inoperative monitoring devices shall be replaced with functioning devices within 60 days of the discovery of the malfunctioning unit unless the landfill owner or operator is notified otherwise in writing by the Department.

(8) Following completion of the long-term care period for each solid waste management unit, the owner or operator shall notify the Department that a certification, signed and sealed by a professional engineer, verifying that long-term care has been completed in accordance with the closure plan has been placed in the operating record. Specific Authority 403.704, F.S.

Law Implemented 403.704, 403.707, F.S.

History -- New 7-1-85, Formerly 62-7.075, Formerly 62-701.075, Amended 1-6-93, 1-2-94, 5-19-94, Formerly 62-701.620.

62-701.530 Financial Assurance.

(1) Definitions. As used in this section:

(a) "Owner or operator" means, in addition to the usual meanings of the term, any owner of record of any interest in land whereon a landfill is or has been located and any person or corporation which owns a majority interest in any other corporation which is the owner or operator of a landfill.

(b) "Active life" means the operating life of the landfill as estimated in the construction permit or closure plan, but does not include the long-term care period.

(2) Applicability.

(a) A government-owned landfill closed on or before October 1, 1988, shall not be required to comply with this rule.

(b) As a condition for the issuance of a landfill construction permit, the owner or operator shall describe the financial mechanism to be used to demonstrate proof of financial assurance to the Department. The financial mechanism shall be created, and alternate financial mechanisms shall be fully funded, at least 60 days prior to the acceptance of any solid waste at the facility. The financial mechanism shall either be:

- 1. A landfill management escrow account; or
- 2. An alternate financial mechanism pursuant to subsection (6) of this section.

(c) Owners or operators of existing landfills or landfills which have received a construction permit prior to November 28, 1989, shall submit proof of financial assurance to the Department by October 1, 1990. Such proof shall be:

- 1. That a landfill management escrow account has been established and that such account and interest thereon is current as to the required level of funding pursuant to subsection (5) of this section; or
- 2. Proof of the existence and current value of an alternate financial mechanism pursuant to subsection (6) of this section.

(d) Owners or operators of existing Class I or II landfills receiving waste after October 9, 1993, which are required to undertake a corrective action program in accordance with Rule 62-701.510(7), F.A.C., shall submit proof of financial assurance to the Department by April 4, 1994, or no later than 120 days after the corrective action remedy has been selected, whichever is later.

(3) Cost estimates for closure.

(a) For the purposes of determining the amount of proof of financial assurance that is required in subsections (5) and (6) of this section, the owner or operator shall estimate the total cost of closure for the permitted portions of the landfill or for those portions of the landfill for which a construction permit is sought, for the time period in the landfill operation when the extent and manner of its operation make closing most expensive. The annual cost of long-term care shall be estimated and listed separately, and multiplied by 30 years. The owner or operator shall submit the estimates, together with all necessary justification, to the Department along with the proof of financial assurance. The costs shall be estimated by a professional engineer for a third party performing the work, on a per unit basis, with the source of estimates indicated.

(b) Closing costs shall be based on the nature and characteristics of the wastes disposed of at the site and shall include estimated costs of cover material, topsoil, seeding, fertilizing, mulching, labor, and any other costs of compliance with Rules 62-701.600 - .610, F.A.C.

(c) Long-term care costs shall include land surface care; gas monitoring; leachate pumping, transportation, monitoring and treatment; groundwater monitoring, collection and analysis; and any other costs of compliance with Rule 62-701.620, F.A.C.

(4) Annual cost adjustments for closure.

(a) Every owner or operator of a landfill shall submit to the Department an annual cost adjustment statement, certified by a professional engineer. Closing and long-term care costs shall be listed separately. For owners or operators using an escrow account, this statement shall be submitted between July 1 and September 1 of each year.

(b) During the life of those portions of the landfill which have not been finally closed, as well as during the long-term care period, the owner or operator shall revise the closure cost estimate for inflation and changes in the closing and long-term care plan. Such revisions shall be made annually in accordance with the provisions of 40 CFR Part 264.142(b) or 40 CFR Part 264.144(b) and used as the basis for comparison against the balance in the landfill management escrow account or the value of an alternate funding mechanism.

(c) If the value of the alternate funding mechanism is less than the total amount of the current closure cost estimate, the owner or operator shall revise the funding mechanisms to reflect the new estimate within the time frames outlined in 40 CFR Part 264, Subpart H.

(d) If the value of the landfill management escrow account or alternate funding mechanism is greater than the total amount of the current closure cost

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estimate, the owner or operator may reduce the value of the account or funding mechanism to reflect the new estimate.

(e) If the closure cost estimate must be increased as a direct result of amendments to this chapter after January 2, 1994, the owner or operator, upon notification to the Department, may delay updating the annual cost adjustment statement to reflect this increase for up to two years.

(5) Landfill management escrow account.

(a) The owner or operator of a landfill shall establish a fee, or a surcharge on existing fees, or other appropriate revenue-producing mechanism, to ensure the availability of financial resources for the proper closing and long-term care of the landfill.

(b) The revenue-producing mechanism shall produce revenue at a rate sufficient to generate funds to meet state landfill closure requirements.

(c) The revenue shall be deposited in an interest-bearing escrow account, the landfill management escrow account, to be held and administered by the owner or operator. The owner or operator shall file with the Department a signed duplicate original of the escrow account agreement and an annual audit of the account. The audit shall be conducted by an independent Certified Public Accountant and shall be filed no later than December 31 of each year. Counties using a Single Audit accounting system shall file this audit by March 31 of the following year. The audit shall consist of reporting the balance in the landfill management escrow account as of the end of each fiscal year and a list of all deposits and withdrawals made. The list shall include the date and the amount of each deposit and withdrawal.

(d) Payments into the landfill management escrow account shall be made by the owner or operator at least annually according to one of the following methods:

1. For a new landfill, the first payment must be made before the end of the first year after the initial receipt of solid waste into the landfill. A notice of such payment shall be submitted to the Department. The first payment shall be equal to the current closing cost estimate for the landfill divided by the number of years in the active life of the landfill. Subsequent payments must be made at least annually, over the term of the active life of the landfill, on the anniversary date of the first payment. The calculations for such annual payment shall be as follows: $\text{payment} = (\text{CE} - \text{CV}) / \text{Y}$, where CE is the current calculated closure cost estimate, CV is the current value of the escrow account, and Y is the number of remaining years in the active life of the landfill.

2. For government-owned landfills, the owner or operator shall deposit into the escrow account, at the time of closing and each year thereafter, sufficient funds to cover the following year's long-term care costs. In addition, the owner or operator must document specifically how it intends to finance the long-term care of the landfill as part of its closure plan.

3. For landfills not owned by a governmental agency, the long-term care costs shall be included in the closing cost estimates as specified in subparagraph 1. above; long-term care costs must be fully funded when the landfill closes.

4. For an existing government-owned landfill scheduled to close on or before October 1, 1995, no escrow account funding is required for costs associated with the closing of the landfill. Proof of financial assurance for closing costs shall

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consist of specific documentation of how the owner or operator intends to finance the closing of the landfill. Escrow funding for long-term care shall be provided.

5. The owner or operator may accelerate payments into the landfill management escrow account or may deposit the full amount of the current closure cost estimate at the time that the account is established.

(a) The owner or operator may make expenditures from the account and its accumulated interest only for the purpose of landfill closing and long-term care and, if such expenditures do not deplete the fund to the detriment of eventual closing and long-term care as described under the certification procedure in subsection (4) of this section, for planning and construction of resource recovery or landfill facilities. If the owner or operator does not operate a landfill, any funds remaining in the account after paying for proper and complete closing and long-term care, as determined by the Department, shall be deposited by the owner or operator into the general fund of the local government of jurisdiction.

(f) The revenue generated under this subsection and any accumulated interest thereon may be applied to the payment of, or pledged as security for, the payment of revenue bonds issued in whole or in part for the purpose of complying with state landfill closing and long-term care requirements. Such application or pledge may be made directly in the proceedings authorizing such bonds or in an agreement with an insurer of bonds to assure such insurer of additional security therefore.

(5) Alternate proof of financial assurance.

(a) An owner or operator may establish proof of financial assurance with the Department in lieu of, or in combination with, the requirements of subsection (5) of this section. Such proof may include surety bonds, certificates of deposit, securities, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees showing that the owner or operator has sufficient financial resources to cover, at a minimum, the costs of complying with all state landfill closing and long-term care requirements. If such proof of financial assurance is surety bonds, letters of credit, trust fund agreements, closure insurance or financial tests and corporate guarantees, such proof shall be submitted on forms provided by the Department in accordance with the requirements of paragraphs (b) and (c) of this subsection. If proof of financial assurance is securities or certificates of deposit, these instruments must be used in conjunction with a trust fund and shall be submitted directly to the trustee. The owner or operator shall estimate such costs pursuant to subsection (3) of this section.

(b) 40 CFR Part 264 Subpart H which contains EPA's rules on financial requirements for owners and operators of hazardous waste facilities are hereby adopted as financial requirements for purposes of this section incorporated by reference as those rules appear in 40 CFR 264, revised as of July 1, 1988, except:

1. The following sections of 40 CFR Part 264 Subpart H are specifically not adopted as part of this rule:
 - a. 264.140(a); 264.140(b); 264.141(a); 264.141(e); 264.147; 264.149; 264.150; and 264.151.
 - b. All references to 40 CFR Part 265.
 - c. All references to sections or subparts of 40 CFR 264 not contained in Subpart H.

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d. All references to EPA Regions.

e. All references to RCRA, or Section 3008 of RCRA.

2. References in 40 CFR 264 Subpart H to the United States Environmental Protection Agency (EPA) shall mean the State of Florida Department of Environmental Protection; to Regional Administrator shall mean the Secretary of the Department; to RCRA permits shall mean solid waste management permits; to Post-Closure Care/Pos Closure Cost Estimate shall mean Long-Term Care/Long-Term Care Cost Estimate; to EPA identification number shall mean the Department Identification number; to hazardous waste shall mean solid waste; and to hazardous waste treatment, storage or disposal facilities shall mean landfills.

(c) Government-owned facilities using a Single Audit accounting system and providing proof of financial assurance using a financial test, must send updated information outlined in 40 CFR 264.143(f)(5) and 264.145(f)(5) to the Department within 180 days after the close of each succeeding fiscal year.

(d) Form 62-701.900(5) shall be used when submitting proof of financial assurance under this section.

(7) Cost estimates for corrective action. An owner or operator of a landfill required to establish financial assurance for a corrective action program pursuant to paragraph (2)(d) of this section shall have a detailed written estimate in current dollars estimated by a professional engineer, of the cost of hiring a third party to perform the corrective action in accordance with Rule 62-701.510(7), F.A.C. The corrective action cost estimate must account for the total cost of corrective action activities as described in the corrective action plan for the entire corrective action period. The owner or operator shall submit the estimate, together with all necessary justification, to the Department for approval along with proof of financial assurance.

(8) Annual cost adjustments for corrective action.

(a) The owner or operator shall annually adjust the estimate for inflation and changes in the corrective action plan until the corrective action program is completed in accordance with Rule 62-701.510(7), F.A.C. The adjustment shall be made either by recalculating the maximum cost of corrective action, in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business as specified in subparagraphs (8)(a)1. and 2. of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

1. The first adjustment is made by multiplying the corrective action cost estimate by the inflation factor. The result is the adjusted corrective action cost estimate. Inflation adjusted estimates shall be submitted along with annual closing and/or long-term care cost estimates.

2. Subsequent adjustments are made by multiplying the latest adjusted corrective action cost estimate by the latest inflation factor.

(b) If the corrective action plan is modified during the corrective action period the owner or operator shall revise the corrective action cost estimate no later than 90 days after this modification is effective. Annual adjustments shall be made and submitted as specified in paragraph (8)(a) of this section.

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(c) The owner or operator shall keep the latest corrective action cost estimate and, when this estimate has been adjusted in accordance with paragraph (8)(a) of this section, the latest adjusted corrective action cost estimate at the facility until the corrective action is complete.

(9) Financial assurance for corrective action.

(a) For government owned landfills, the owner or operator shall demonstrate proof of financial assurance for corrective action with the Department by establishing an escrow account or by using one of the approved alternate mechanisms specified in subsection (6) of this section.

1. Payments into the landfill management escrow account shall be made by the owner or operator according to one of the following methods:

a. The owner or operator shall deposit into the landfill management escrow the full cost associated with the corrective action remedy by April 9, 1994, or within 120 days after the corrective action remedy has been selected, whichever is later; or

b. If the local government can document with specificity a non-general revenue source adequate to cover the total corrective action cost, then only that portion of the corrective action to be undertaken the following year need be funded.

(b) For privately owned landfills, the owner or operator shall demonstrate proof of financial assurance for corrective action with the Department by establishing an escrow account or by using one of the approved alternate mechanisms specified in subsection (6) of this section. The escrow account shall be funded for the full cost associated with the corrective action remedy by April 9, 1994, or within 120 days after the corrective action remedy has been selected, whichever is later. If a trust fund is used, funding shall be in accordance with 40 CFR Part 258.74(a).

Specific Authority 403.704, F.S.

Law Implemented 403.704, 403.707, F.S.

History -- New 7-1/85; Formerly 62-7.076; Amended 11-28-89; Formerly 62-701.076; Amended 1-6-93, 1-2-94, 5-19-94, Formerly 62-701.630.

62-701.640 Closure of Existing Landfills.

(1) Any Class I or Class II landfill receiving waste on January 2, 1994 shall close by October 9, 1996, in accordance with Rules 62-701.600 - .630, F.A.C., if:

(a) It is within the airport setbacks specified in Rule 62-701.320(12)(b), F.A.C., and the owner or operator cannot demonstrate that the facility is designed and will be operated so that it does not pose a bird hazard to aircraft;

(b) It is located within the 100-year floodplain as specified in Rule 62-701.340(4)(b), F.A.C., unless the owner or operator can demonstrate that it will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; or

(c) It is located in a fault area, seismic zone, or unstable area as specified in Rule 62-701.420(1)(c), F.A.C., unless the owner or operator can demonstrate that the facility was adequately designed to tolerate the anticipated stresses associated with these areas.

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(2) The Department shall extend the deadline for closure specified in subsection (1) of this section for up to two years if the owner or operator of the landfill demonstrates to the Department that:

(a) There is no available and practicable alternative disposal capacity; and

(b) Such extension would result in no immediate threat to human health or the environment.

(3) Any such demonstrations shall be submitted to the Department no later than July 9, 1996.

Specific Authority 403.704, F.S.

Law Implemented 403.704, 403.707, F.S.

History -- New 1-2-94, Amended 5-19-94, Formerly 62-701.640.

62-701.700 Materials Recovery Facilities.

(1) Applicability. No person shall construct or operate a materials recovery facility without a permit issued by the Department.

(2) Engineering report. A permit application for a materials recovery facility shall include the information required in Rule 62-701.320, F.A.C., and an engineering report that includes:

(a) A description of the solid waste that is proposed to be collected, stored, processed or disposed of by the facility, a projection of those waste types and quantities expected in future years, and the assumptions used to make the projections;

(b) A description of the operation and functions of all processing equipment that will be used, with design criteria and expected performance. The description shall show the flow of solid waste and associated operations in detail, and shall include:

1. Regular facility operations as they are expected to occur;
2. Procedures for start up operations, and scheduled and unscheduled shut down operations; and
3. Potential safety hazards and control methods, including fire detection and control;

(c) A description of loading, unloading, and processing areas. If wastes which are reasonably expected to produce leachate are being processed, the facility shall be designed with a leachate control system to prevent discharge of leachate and mixing of leachate with stormwater;

(d) Identification and capacity of temporary on-site storage areas for recyclable materials, non-processable wastes, unauthorised wastes, and residues;

(e) Provisions for solid waste and leachate containment;

(f) Identification of potential ground water and surface water contamination; and

(g) A plan for disposal of unmarketable recyclable materials and residue, and for waste handling capability in the event of breakdowns in the operations or equipment. Wastes shall be handled on a first-in, first-out basis. Stored putrescible wastes shall not be allowed to remain unprocessed for more than 48 hours unless provisions are made to control vectors and odors.

(3) Operational requirements. A permit application for a materials recovery facility shall include the following operational requirements:

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(a) An operation and maintenance manual describing the facility operations, the persons responsible for the operations, and types of equipment that will be used. All activities at the facility shall be performed in accordance with the manual and plans for the facility. Manuals and plans shall be updated as operations change but no less frequently than upon renewal of the operation permit;

(b) A plan to screen the wastes received by the facility, that specifies

inspection procedures and procedures to handle unauthorized wastes;

(c) A contingency plan to cover operations interruptions and emergencies such as fires, explosions, or natural disasters; and

(d) A closure plan that identifies the steps needed to close the facility. The closure plan shall provide for the following:

1. Owner or operator notification to the Department in writing 180 days

before the date the facility is expected to close. No waste shall be received by the facility after the expected closing date;

2. Within 30 days after receiving the final solid waste shipment, the owner or operator shall remove or otherwise dispose of all solid waste or residue in accordance with the approved closure plan; and

3. Closure must be completed within 180 days after receiving the final waste quantity. Closure will include removal of all recovered materials from the site. When closure is completed, the owner or operator shall certify in writing to the Department that closure is complete. The Department will make an inspection within 30 days to verify the closure and advise the owner or operator of the closure status.

(4) Financial responsibility. The owner or operator of a materials recovery facility shall post a performance bond payable to the Department to cover the cost of properly closing the facility, if one or more of the following conditions exist:

(a) Where the owner of the land or materials recovery facility and the operator of the facility are not the same person; or

(b) If the operator of the facility could stockpile waste that may create an environmental threat if the facility closes without properly disposing of the waste.

(5) Stormwater. Stormwater shall be controlled in accordance with Chapters 62-25 and 62-330, F.A.C. A copy of any permit for stormwater control issued by the Department, or documentation that no such permit is required, shall be submitted to the Department before the facility receives waste. Applicants should be aware that other government agencies may also regulate stormwater management and may require separate permits.

Specific Authority 403.061, 403.704, FS.

Law Implemented 403.702, 403.704, 403.707, FS.

History -- New 1-6-93. Amended 5-19-94, Formerly 62-701.700.

62-701.720 Industrial Solid Waste Disposal.

Specific Authority 403.061, 403.704, FS.

Law Implemented 403.702, 403.704, 403.707, FS.

History -- New 1-6-93, Amended 5-19-94, Formerly 62-701.720, Repealed 12-23-96.

62-701.730 Construction and Demolition Debris Disposal and Recycling.

(1) Applicability.

(a) No person shall construct or operate an off-site construction and demolition debris disposal facility without a permit issued by the Department. Except as otherwise specifically provided in this rule, such facilities which were constructed or operated in accordance with a general permit issued by the Department on or before June 1, 1996, may continue to operate in accordance with that general permit in accordance with the following schedule:

1. Owners or operators of facilities operating under a general permit issued prior to May 1, 1992, shall submit a timely and sufficient permit application that complies with this section by March 1, 1997.

2. Owners or operators of facilities operating under a general permit issued between May 1, 1992 and April 1, 1993, shall submit a timely and sufficient permit application that complies with this section at least 60 days prior to the expiration date of that general permit. A complete permit application shall be submitted no later than April 1, 1998.

3. Owners or operators of facilities operating under a general permit issued after April 1, 1993, shall, by April 1, 1998, either submit a complete permit application that complies with this section, or shall:

a. Submit a ground water monitoring plan that complies with the requirements of Paragraph (4)(b) of this section, and a hydrogeological investigation which complies with the requirements of Subparagraph (2)(a)3 of this section, along with a \$500 processing fee as required by Rule 62-4.050(4)(h)33. The plan shall be implemented within 90 days of submittal;

b. Submit a notification of intent to modify a general permit as provided in Sub-paragraph (1)(a)4 of this section; and

c. Submit financial assurance documentation that complies with the requirements of Subsection (11) of this section.

4. For owners or operators of facilities operating under a general permit issued after April 1, 1993, a modification to that general permit is hereby granted under the following conditions:

a. A person wishing to continue to operate the facility in accordance with a modified general permit shall notify the Department on Form 62-701.900(8).

b. The notification shall include documentation which demonstrates how the applicant is complying or will comply with the requirements of Subsections (6) through (10) of this section. Information which was submitted to the Department to support the existing general permit and which is still valid does not need to be re-submitted. Instead, the notification shall list the information and reaffirm that it is still valid.

c. The notification shall include a \$250 processing fee.

d. The modification to the general permit shall have the effect of allowing the applicant to continue to operate under that general permit, but shall not have the effect of changing the expiration date of that general permit. At least 60 days prior to the expiration date, the applicant shall submit a timely and sufficient permit application that complies with the requirements of this section.

5. Notwithstanding the compliance deadlines specified above, the operation requirements in subsection (7) of this section and the training requirements in subsection (8) of this section shall be complied with no later than May 1, 1997.

6. Notwithstanding the compliance deadlines specified above, the annual report required in subsection (12) of this section shall be submitted no later than April 1, 1998.

(b) After the applicable compliance deadline specified above, facilities shall operate only in accordance with the provisions of this section. However, disposal units which were constructed and operated under a general permit, and which received a significant amount of waste in accordance with that general permit prior to the applicable compliance deadline, are not required to comply with any siting or construction design requirements of this chapter which were not in effect prior to the applicable compliance deadline. For purposes of this subsection:

1. A "significant amount of waste" means that the disposal area has received sufficient waste for disposal, in accordance with its normal operational plan, so that it is impractical to remove that waste or to relocate or reconstruct the disposal area.

2. "Siting or construction design requirements" do not include the hydrogeological investigation required by Rule 62-701.730(2)(a)3., F.A.C., or the ground water monitoring plan required by Rule 62-701.730(4)(b), F.A.C.

(c) A disposal facility which ceases accepting waste prior to the compliance deadline specified above shall close in accordance with the provisions of its general permit.

(d) A permit application which complies with the provisions of this section is required for any lateral expansion of a construction and demolition debris disposal unit after June 1, 1996, notwithstanding the compliance schedule above.

(e) No person shall construct or operate a facility which accepts construction and demolition debris for recycling without a permit issued by the Department. Persons operating materials recovery facilities which accept construction and demolition debris may continue to operate under their existing permits. At the time of renewal of that permit, the requirements of this section shall be complied with.

(f) The provisions of Rule 62-701.320(8)(b), F.A.C., do not apply to construction and demolition debris disposal facility applications. Instead, the Department will provide notice to local governments in accordance with Section 403.707(12)(i), F.S.

(2) Application. A permit application for an off-site construction and demolition debris disposal facility, disposal unit, or lateral expansion shall be submitted on Form 62-701.900(6) and shall include the information required in Rules 62-701.320(5), (6), (7), and (8)(a), F.A.C., specifically including:

(a) An engineering report, signed and sealed by a professional engineer, that includes:

1. A site plan, of a scale not greater than 200 feet to the inch, which shows the project location and identifies the proposed disposal units, total acreage of the site and of the proposed disposal units, and any other relevant features such as water bodies or wetlands on or within 200 feet of the site, potable water wells on or within 500 feet of the site, and community water systems on or within 1000 feet of the site;

2. A geotechnical investigation which meets the criteria of Rule 62-701.420, F.A.C.

3. A hydrogeological investigation which meets the criteria of Rules 62-701.410(1)(a) and (c), F.A.C.; and

4. An estimate of the planned active life of the facility, the design of the disposal areas, and the design height of the facility;

(b) A boundary survey, legal description, and topographic survey of the property;

(c) An operation plan which describes how the applicant will comply with Rule 62-701.730(7), F.A.C.;

(d) A closure plan which describes generally how the applicant will comply with Rules 62-701.730(9) and (10), F.A.C.;

(e) The financial assurance documentation required by Rule 62-701.730(11), F.A.C.; and

(f) Documentation that the applicant either owns the land or has legal authorization from the land owner to use the land for a disposal facility and to conduct long-term care.

(3) Certification. After completion of construction of a construction and demolition debris disposal facility, and before acceptance of any construction and demolition debris, the engineer of record shall certify to the Department on Form 62-701.900(2) that the permitted construction is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefor enumerated. The applicant shall provide at least 7 days advance notice to the Department prior to accepting construction and demolition debris so that the Department has the opportunity to inspect the site.

(4) Other requirements. Except as specified in this section, the requirements of Rules 62-701.330 through 62-701.630, F.A.C., do not apply to construction and demolition debris disposal facilities.

(a) The Department shall not require liners and leachate collection systems at individual facilities unless it demonstrates based upon the types of waste received, methods for controlling the types of waste disposed of, the proximity of ground water and surface water, and the results of the hydrogeological and geotechnical investigations that operation of the facility is reasonably expected to result in violations of ground water standards and criteria otherwise. If the Department determines that a liner and leachate control system may be required, it shall notify the applicant within 30 days of receipt of the information which forms the basis for such a determination. The applicant may either submit additional information, redesign the facility to include a liner and leachate collection system, or demand that the Department process the application without such additional information or redesign.

(b) A ground water monitoring plan which meets the criteria set forth in Rule 62-701.510 and Chapter 62-522, F.A.C., shall be included with the permit application, and shall be implemented and maintained by the owner or operator, with the following exceptions:

Department before the facility receives waste for disposal or recycling. Applicants should be aware that other government agencies may also regulate stormwater management and may require separate permits.

(6) Temporary storage. The owner or operator shall make arrangements or shall have equipment for temporary storage, handling and transport to an authorized disposal or recycling facility for solid waste, other than construction and demolition debris, which is inadvertently accepted by the facility. Such solid waste which is accepted by the facility shall be segregated and disposed of in accordance with Department rules. Unless an alternate schedule is included in an operation plan submitted with the permit application, which provides for the control of odors and vectors, putrescible waste shall not be stored for longer than 48 hours and non-putrescible waste shall not be stored for longer than 30 days. Any hazardous waste which is received by the facility shall be managed in accordance with the provisions of Chapter 62-730, F.A.C.

(7) Operation requirements. Owners and operators of construction and demolition debris disposal facilities shall comply with the following requirements by May 1, 1997, or at the time of permit issuance, whichever is sooner:

(a) An operation plan describing the facility operations and maintenance, emergency and contingency plans, and types of equipment that will be used shall be kept at the facility at all times and made available for inspection. All activities at the facility shall be performed in accordance with this plan and the permit conditions. The plan shall be updated as operations change but no less frequently than upon renewal of the permit. The Department shall be notified of changes to the plan other than those required for routine maintenance.

(b) Construction and demolition debris shall be compacted and sloped as necessary to assure that the requirements of subsection (9) of this section can be met. A schedule for compaction and grading shall be included in the operation plan.

(c) Access to the disposal facility shall be controlled during the active life of the facility by fencing or other effective barriers to prevent disposal of solid waste other than construction and demolition debris.

(d) At least one spotter shall be on duty at the working face to inspect the incoming waste at all times waste is being accepted at the site. Waste must be inspected after it is removed from the transport vehicle and prior to placement for final disposal. Any prohibited material shall be removed from the waste stream and placed into appropriate containers or secure storage areas for disposal or recycling at a facility authorized by the Department to receive such waste.

(e) The facility shall be operated to control objectionable odors in accordance with Rule 62-296.320(2), F.A.C.

(f) Fuels, solvents, lubricants, and other maintenance materials shall be stored in secure areas separate from the disposal or sorting areas.

(g) Training. Owners and operators of facilities shall ensure that operators and spotters employed at the facility are properly trained to operate the facility, and to identify and properly manage any hazardous or prohibited materials which are received at the facility. A training plan shall be included as part of the permit application. The training plan shall either include a list and schedule of those classes offered to the

1. If no disposal unit is constructed with a liner and leachate collection system, then leachate sampling is not required.

2. Unless a disposal unit is constructed or operated within 200 feet of a surface water body, or unless site-specific conditions could reasonably be expected to result in contaminants entering a surface water body, surface water sampling is not required. For purposes of this subparagraph, a surface water body does not include a body of water contained completely within the property boundaries of the disposal site that does not discharge from the site to surface waters.

3. The well spacing requirements of Rule 62-701.510(3)(d)3, F.A.C., do not apply. A minimum of one upgradient and two downgradient wells is required, as specified in Chapter 62-522, F.A.C.

4. Detection wells shall be sampled and analyzed at least semi-annually for the following parameters:

Laboratory Parameters

- Aluminum
- Chlorides
- Nitrate
- Sulfate
- Total dissolved solids
- Iron
- Sodium
- Arsenic
- Cadmium
- Chromium
- Lead
- Mercury
- Ammonia
- Phenols

Those parameters listed in

EPA Methods 601 and 602

5. Background water quality shall be sampled and analyzed in accordance with the provisions of Rule 62-701.510(6)(a), F.A.C. In addition, all background and detection wells shall be sampled and analyzed at least once prior to permit renewal for those parameters listed in Rule 62-701.510(8)(a), F.A.C.

6. The owner or operator of the facility may request a permit modification from the appropriate District Office of the Department to delete specific laboratory parameters or field parameters from routine analyses of detection wells and surface water. The Department will grant a request for a permit modification upon a demonstration that these parameters are not reasonably expected to be in or derived from the waste which was received or disposed of at the facility.

(c) Putrescible household waste shall not be disposed of at a construction and demolition debris disposal facility.

(5) Stormwater. Stormwater shall be controlled in accordance with Chapters 62-25 and 62-330, F.A.C. A copy of any permit for stormwater control issued by the Department, or documentation that no such permit is required, shall be submitted to the

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public which will be attended by the facility's operators and spotters, or shall include a description of the facility's in-house training program and a demonstration that this program can be expected to adequately train operators and spotters to operate the facility and to identify and properly manage any hazardous or prohibited materials which are received at the facility. The training plan, along with records documenting how the training plan is being implemented, shall be kept at the facility at all times and be made available for inspection by Department staff. Owners and operators of facilities in operation prior to December 23, 1996, shall comply with this subsection by May 1, 1997, or at the time of permit issuance, whichever is sooner. Within one year of the date that the training plan is submitted to the Department, or within one year of the hiring of any particular operator, each operator shall complete at least 20 hours of training in a course described in the training plan. Within each three-year period after successfully completing the initial training course, each operator shall complete at least 15 hours of continuing training in a course described in the training plan. Spotters must meet the same training requirements as operators except that only 8 hours of initial training and 8 hours of continuing training are required. The Department will maintain a list of relevant training courses which are available in this State.

(9) Closure.

(a) At least 90 days prior to the date when wastes will no longer be accepted, the owner or operator of the construction and demolition debris disposal facility shall submit an updated closure plan to the Department to reflect any changes in the closure plan due to actual operational conditions at the facility.

(b) Final cover and seeding or planting of vegetative cover shall be placed on each disposal unit within 180 days after it has reached its final grade. Final cover shall consist of a 24-inch-thick soil layer, the upper six inches of which shall be capable of supporting vegetation, and shall be graded and compacted as necessary to eliminate ponding, promote drainage, and minimize erosion. The side slopes of all above-grade disposal units shall be no greater than three feet horizontal to one foot vertical rise. If the disposal unit is lined, the closure design shall include a barrier layer or other measures to ensure that the design leachate head over the liner is not exceeded after closure.

(c) The owner or operator shall provide a certification of closure construction completion to the Department within 30 days after closing, covering, and seeding the disposal unit. The owner or operator shall also provide a final survey report done by a professional surveyor, in accordance with Rule 62-701.610(3), F.A.C., if disposal operations have raised the final elevations higher than 20 feet above the natural land surface.

(d) Upon receipt of the documents required in paragraph (c) of this subsection, the Department shall, within 30 days, acknowledge by letter that notice of termination of operations and closing of the facility has been received. The date of this letter shall be the official date of landfill closing for the purpose of determining the long-term care period, in accordance with Rule 62-701.610(6), F.A.C.

(10) Long-term care. The owner or operator of the construction and demolition debris disposal facility shall continue to monitor and maintain the facility for five years from the date of closing. This time period shall be extended if assessment monitoring

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or corrective action has been initiated in accordance with Rule 62-701.510(7), F.A.C., or if site-specific conditions make it likely that any contamination which may emanate from the disposal area would not be detected within five years.

(11) Financial assurance.

(a) The owner or operator of an off-site construction and demolition debris disposal facility shall provide the Department with proof of financial assurance issued in favor of the State of Florida in the amount of the closing and long-term care cost estimates for the facility. This proof, along with the closing and long-term care cost estimates, shall be submitted to the Department as part of the permit application for the facility. Proof of financial assurance shall consist of one or more of the following financial instruments which comply with the requirements of Rule 62-701.630(6), F.A.C.: trust fund; surety bond guaranteeing payment; surety bond guaranteeing performance; irrevocable letter of credit; insurance; and financial test and corporate guarantee. If the owner or operator of the facility is a local government, an escrow account which complies with the requirements of Rule 62-701.630(5), F.A.C., may be used to provide proof of financial assurance. Financial documents shall be submitted on Form 62-701.900(5)(a), (b), (c), (d), (e), (f), (g), or (h), as appropriate.

(b) Closure cost estimates and annual updates thereof shall comply with the provisions of Rules 62-701.630(3) and (4)(a) through (d), F.A.C., except that the cost of long-term care shall be based upon a five-year period, and the costs shall be based upon compliance with this section.

(c) If a local government requires financial assurance for closure, which is at least as stringent as that required by this rule, the Department will attempt to establish a cooperative mechanism with the local government and thereby avoid duplicative financial requirements.

(12) Annual Reports. The owner or operator of the facility shall submit an annual report to the Department on Form 62-701.900(7). This report shall include a summary of the amounts and types of wastes received and the amounts and types of wastes disposed of or recycled. The county of origin of materials which are recycled, or a statement that the county of origin is unknown, shall be included in the report. The report shall be submitted no later than April 1 of each year beginning in 1998, and shall cover the preceding calendar year. This provision applies to all facilities regardless of the compliance schedules in Rule 62-701.730(1), F.A.C.

(13) Recycling.

(a) The owner or operator of a facility which accepts construction and demolition debris for disposal and which also recovers materials from the construction and demolition debris waste stream for purposes of recycling shall meet the requirements of this section as well as the requirements of Rule 62-701.700, F.A.C. If there is a conflict between this section and Rule 62-701.700, F.A.C., this section shall govern. It is not necessary for the owner or operator to apply for a separate permit as materials recovery facility or to pay an additional fee.

(b) The owner or operator of a facility which recovers materials from the construction and demolition debris waste stream for purposes of recycling but which does not dispose of any wastes on-site shall apply for a permit on Form 62-701.900(6).

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and shall comply with the provisions of Rule 62-701.700, F.A.C., with the following exceptions and additions:

1. At least one spotter shall be on duty at all times that waste is received at the site to inspect the incoming waste. Any prohibited material shall be removed from the waste stream and placed into appropriate containers for disposal at a permitted facility in accordance with a schedule submitted as part of the operation plan.
2. The training requirements of subsection (8) of this section apply.
3. The financial assurance requirements of subsection (11) of this section apply, except for those provisions relating to long-term care.
4. The reporting requirements of subsection (12) of this section apply.
5. The requirements of paragraphs (7)(c) and (e) of this section apply.

Access to the facility shall be controlled during the active life of the facility, and the facility shall be operated to control objectionable odors in accordance with Rule 62-296.320(2), F.A.C.

6. The requirements of Rules 62-701.700(2)(c) and (e), F.A.C., regarding a leachate control system and leachate containment do not apply if all areas which waste is stored and processed are covered by a ground water monitoring system which meets the requirements of paragraph (4)(b) of this section. Owners and operators of facilities which were permitted prior to January 6, 1993, shall meet the requirements of Rules 62-701.700(2)(c) and (e), F.A.C., or shall meet the requirements of paragraph (4)(b) of this section, at the time of permit renewal.

(c) In order to reuse recovered fines or screened materials other than clean debris from the construction and demolition debris waste stream, an owner or operator shall demonstrate that this material will be managed and reused in a manner that will pose no significant threat to public health or the environment. In making this demonstration, the owner or operator may consider background levels of receiving soils, whether the material will be blended with other materials, and the likelihood that the material may have unlimited distribution or come into direct contact with the public. Examples of management practices which would not require analysis for health-based criteria include permanent encapsulation, use as initial or intermediate cover or subsurface construction at a permitted landfill, or use under at least two feet of clean cover material.

(14) Incineration. A facility which employs an air curtain incinerator and which also stores or disposes of construction and demolition debris at the site shall meet the permitting requirements of Rule 62-256.500, F.A.C., as well as this section.

(15) Clean debris. Clean debris may be used as fill material in any area, including waters of the State, subject to receipt of an environmental resource permit from the Department where applicable. Clean debris used as fill material is not solid waste, and such use does not require a solid waste permit under this rule.

(16) Landfill disposal. Construction and demolition debris may be disposed of in a permitted landfill. However, each county must maintain segregated disposal areas for construction and demolition debris. The cover requirements for a segregated construction and demolition debris disposal area within a permitted landfill shall be those in subsection (9) of this section. Landfills permitted in accordance with Rule 62-701.330, F.A.C., which have construction and demolition debris disposal units or

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recycling facilities included as part of their permit conditions, are not required to submit separate permit applications or financial assurance documents under this section.

(17) On-site disposal. Construction and demolition debris which is disposed of on the property where it is generated, or on property which is adjacent or contiguous to and under common ownership and control as that property, where the waste is generated, is exempt from the permitting requirements of this section and Rule 62-701.330, F.A.C. However, such disposal is subject to the prohibitions of Rule 62-701.300, F.A.C. All waste shall be inspected by the generator or a spotter prior to disposal, either at the point of generation or at the disposal site, to ensure that any prohibited material is removed from the waste stream prior to disposal and managed in accordance with Department rules. Final cover and seeding or planting of vegetative cover shall be placed on each disposal unit within 180 days after final receipt of waste. Final cover shall consist of a 24-inch-thick soil layer, the upper six inches of which shall be capable of supporting vegetation, and shall be graded and compacted as necessary to eliminate ponding, promote drainage, and minimize erosion. The side slopes of all above-grade disposal areas shall be no greater than three feet horizontal to one foot vertical rise.

(18) Disposal restrictions. Construction and demolition debris may be disposed of only in accordance with one of the methods authorized above. In addition, disposal areas shall be operated so that adverse environmental and public health impacts, such as blowing litter and vectors, are minimized.

(19) Asbestos waste disposal. Asbestos-containing waste materials regulated pursuant to 40 CFR Part 61, Subpart M, shall not be disposed of in a construction and demolition debris disposal unit.

(20) Fees. The fee for a permit to construct, operate, and close a construction and demolition debris disposal facility, including facilities that also recycle, is \$2500. The fee for a permit to construct, operate, and close a construction and demolition debris recycling facility is \$2000. The fee for renewing a disposal or recycling facility permit which does not involve additional construction is \$1000. The fee for renewing a disposal or recycling facility permit involving only long-term care is \$250.

(21) Alternate procedures. The owner or operator of a facility may request alternate procedures and requirements in accordance with Rule 62-701.310, F.A.C. However, if such request is based upon the nature of the construction and demolition debris accepted at the facility (for example, if a facility accepts only segregated wastes which are expected to have a minimal environmental impact), the request will be submitted to and acted on by the appropriate District office of the Department, and need not be accompanied by any additional fee.

Specific Authority 403.0877, 403.704, 403.707, FS.

Law Implemented 403.0877, 403.706, 403.707, FS.

History New 8-2-89; Formerly 62-701.061; Amended 1-6-93, Formerly 62-701.730, amended 12-23-96, 4-23-97.

62-701.801 General Permit for Solid Waste Transfer Station.

(1) General permit. A general permit is hereby granted to any person for the construction and operation of a solid waste transfer station that has been designed or

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will be operated in accordance with the standards and criteria set forth in Rules 62-4.540 and 62-701.300, F.A.C., and this section.

(2) Notification. Any person wishing to operate a transfer station pursuant to this section shall notify the Department on Form 62-701.900(4) and provide the following:

- (a) Regional map. The regional map shall delineate the service area of the proposed transfer station.
- (b) Site plan. The site plan shall include:
 1. Site conditions and projected use including all site structures, buildings, fences, gates, entrances and exits, parking areas, on-site roadways, and signs;
 2. Property boundaries, access roads, surface water bodies, and the location of 100-year flood plain boundaries;
 3. Proposed structures and areas designated for unloading, sorting, storage, and loading, including dimensions, elevations, and floor plans of these structures and areas, and the general process flow; and
 4. Adjacent properties including the location of public and private water supplies on these properties.
- (c) Engineering report. The engineering report shall include:
 1. A description of the general operating plan for the proposed facility including the origin, composition, and expected weight or volume of all solid waste to be accepted at the facility, the maximum time waste will be stored, where all wastes will be disposed, the capacity of the facility, the operating hours of the facility, and the expected life of the facility;
 2. A description of all machinery and equipment to be used, including the design capacity;
 3. A transfer plan specifying the transfer route, the number and type of transfer vehicles to be used, and how often solid waste will be transferred to the disposal site;
 4. A description of the facility's drainage system and water supply system;
 5. A plan for hiring and training equipment operators and other personnel concerning the operation of the facility; and
 6. A contingency plan describing alternate solid waste handling procedures for periods of inoperation or delays in transporting solid waste.
- (3) Design requirements. Minimum design requirements for transfer stations are as follows:

- (a) On-site roads and unloading areas shall be designed for efficient movement and unloading of vehicles.
- (b) Tipping, processing, sorting, storage and compaction areas that are in an enclosed building or covered area shall have ventilation systems. The areas that are not enclosed shall be equipped with litter control devices and visual screening.
- (c) The facility shall be designed with a leachate control system to prevent discharge of leachate and mixing of leachate with stormwater.
- (d) Provisions shall be made for weighing or measuring all incoming solid waste and recovered materials. Storage areas shall be designed to hold the expected volume of materials until they are transferred for disposal or recycling.

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(e) Where the general public may use the transfer facility, safety procedures shall be established for private vehicles.

(4) Operational requirements.

(a) Prohibited wastes shall not be accepted at a transfer station. Handling of unauthorized wastes shall be addressed in the contingency plan.

(b) An attendant shall be on duty whenever the facility is operating. Operating hours shall be posted, and fencing, gates, or other means shall be used to prevent unauthorized access when the station is closed.

(c) Litter, insects, odors and vectors shall be controlled to prevent sanitary nuisance and unsightly appearance.

(d) Wastes shall be handled on a first-in, first-out basis to the extent practicable. All waste storage areas shall be cleaned at the end of each day's operations or during continuous operation, as necessary, to prevent odor or vector problems. All floors shall be free of standing liquids. Drainage from cleaning areas shall be discharged to sanitary sewers or the equivalent.

(e) Adequate fire protection must be available at all times.

(f) Recovered materials shall be clearly identified and stored in a safe, sanitary manner. A record of the type and quantity of recovered materials shall be maintained and reported as part of the county's recycling program.

(g) Operational records shall be maintained to include a daily log of the quantity of solid waste received and transported and the origin of the waste. Such records shall be compiled on a monthly basis and shall be available for inspection by the Department. Reports shall be retained at the station for three years.

(5) Certification of construction completion. Within 30 days of completion of construction, the engineer of record shall certify to the Department that the permitted construction is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.

(6) Stormwater. Stormwater shall be controlled in accordance with Chapter 62-25 and 62-330, F.A.C. A copy of any permit for stormwater control issued by the Department, or documentation that no such permit is required, shall be submitted to the Department before the facility receives waste. Applicants should be aware that other government agencies may also regulate stormwater management and may require separate permits.

(7) Any person wishing to construct or operate a transfer station pursuant to this section shall publish, in a newspaper of general circulation in the area affected, notice of application for a general permit. Such public notice of application shall be published within 14 days after the applicant notifies the Department. Within 21 days after publication of notice, any person whose substantial interests are affected may request a hearing in accordance with Section 120.57, F.S. No person shall begin work pursuant to a general permit until after the time for requesting a hearing has passed or, if a hearing is requested, until final agency action is taken authorizing construction.

Specific Authority 403.814(1), F.S.
Law Implemented 403.061, 403.087, 403.088, 403.702-403.73, 403.814, F.S.

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History - New 7-8-82; Previously numbered as 62-4-61; Formerly 62-4-610; Formerly 62-7-801; Amended 1-6-93, 5-19-94, Formerly 62-701.801.

62-701.802 General Permit for Land Application of Grade II Domestic Wastewater Treatment Sludge.

Specific Authority 403.814, FS.

Law Implemented 403.061, 403.087, 403.702, through 403.715, 403.814, FS.

History - New 6-16-84. Previously numbered as 62-4-64. Formerly 62-4-640. Formerly 62-7-802. Formerly 62-701.802, Repealed 12-23-96.

62-701.803 General Permit for Off-site Disposal of Land Clearing Debris.

(1) Notification. Notwithstanding the provisions of Rule 62-701.730, F.A.C., facilities which accept for disposal only land clearing debris may operate under a general permit pursuant to Part III of Rule 62-4, F.A.C., and this section. For purposes of this rule, the term "land clearing debris" means rocks, soils, tree remains, trees, and other vegetative matter which normally results from land clearing or land development operations for a construction project. Land clearing debris does not include vegetative matter from lawn maintenance, commercial or residential landscape maintenance, right-of-way or easement maintenance, farming operations, nursery operations, or any other sources not related directly to a construction project. The owner or operator of the land clearing debris disposal facility shall notify the Department in writing on Form 62-701.900(3) of the intent to use this general permit. Owners or operators of solid waste management facilities which have a permit under Chapter 62-701, F.A.C., to receive land clearing debris are exempt from this requirement. The notification shall include:

- (a) A site plan, of a scale not greater than 200 feet to the inch, which shows the project location and identifies the proposed disposal areas, total acreage of the site and of the proposed disposal area, and any other relevant features such as water bodies, wetlands, or potable water wells on or within 500 feet of the site;
- (b) Identification of ground water levels at the site, including the seasonal high ground water level if known.

(c) A general description of the facility operations, including equipment and personnel planned for the operation and closure of the facility;

(d) A boundary survey, legal description, and topographic survey of the property;

(e) The planned active life of the facility, and the design height of the facility;

(f) Closure plans and cross section details of the final cover;

(g) The mailing address and phone number of the owner and operator; and

(h) Documentation that the applicant either owns the land or has legal

authorization from the land owner to use the land for a disposal facility.

(2) Certification. Within 30 days of completion of construction, the applicant or the engineer of record shall certify to the Department that the permitted construction is complete and that it was done in accordance with the plans submitted to the Department except where minor deviation was necessary. All deviations shall be described in detail and the reasons therefore enumerated.

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(3) Other requirements. The requirements of Rules 62-701.330 through 62-701.630, F.A.C., do not apply to land clearing debris disposal facilities, provided that none of the prohibitions contained in Rule 62-701.300, F.A.C., or the water quality standards contained in Chapters 62-3 and 62-302, F.A.C., shall be violated.

(4) Stormwater. Stormwater shall be controlled in accordance with Chapters 62-25 and 62-330, F.A.C. A copy of any permit for stormwater control issued by the Department, or documentation that no such permit is required, shall be submitted to the Department before the facility receives waste for disposal. Applicants should be aware that other government agencies may also regulate stormwater management and may require separate permits.

(5) Temporary storage. The owner or operator shall make arrangements or shall have equipment for temporary storage, handling and transport to an authorized disposal or recycling facility for solid waste, other than land clearing debris, which is inadvertently accepted by the facility. Such solid waste which is accepted by the facility shall be segregated and disposed of in accordance with Department rules. Unless an alternate schedule is included in an operation plan submitted with the permit application, which provides for the control of odors and vectors, putrescible waste shall not be stored for longer than 48 hours and non-putrescible waste shall not be stored for longer than 30 days. Any hazardous waste which is received by the facility shall be managed in accordance with the provision of Chapter 62-730, F.A.C.

(6) Compaction. Land clearing debris shall be compacted and sloped as necessary to assure that the requirements of subsection (10) of this section can be met.

(7) Access. Access to the disposal facility shall be controlled during the active life of the facility by fencing or other effective barriers to prevent disposal of solid waste other than land clearing debris.

(8) Inspection of waste. At least one spotter shall be on duty at the working face at all times when the site is operating to inspect the incoming waste. Any material other than land clearing debris shall be removed from the waste stream and placed into appropriate containers for disposal at a permitted facility.

(9) Inspections. Operation of a facility under a general permit constitutes consent for Department personnel to inspect the site and such records as are required by this section during normal business hours for compliance with Department rules.

(10) Closure. Final cover and seeding or planting of vegetative cover shall be placed on each disposal unit within 180 days after final receipt of wastes. Final cover shall consist of a 24-inch-thick soil layer, the upper six inches of which shall be capable of supporting vegetation and shall be graded to eliminate ponding, promote drainage, and minimize erosion. The side slopes of all above-grade disposal areas shall be no greater than three feet horizontal to one foot vertical rise.

(11) Notification of closure. The owner or operator shall notify the Department within 30 days after closing, covering, and seeding the facility as required in subsection (10) of this section.

(12) Incineration. A facility which employs an air curtain incinerator and which also stores or disposes of land clearing debris at the site shall meet the permitting requirements of Rule 62-256.500, F.A.C., as well as this section.

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- (13) A general permit issued under this section shall be valid for five years. The permit fee shall be \$100, as required under Rule 62-4.040, F.A.C. Specific Authority 403.704, 403.707, 403.814, FS. Law Implemented 403.707, 403.814, FS. History New 8-2-89; Amended 1-6-93, 1-2-94, 5-19-94, Formerly 62-701.803, Amended 12-23-96, 4-23-97.

62-701.900 Forms. The forms used by the Department in the solid waste management program are adopted and incorporated by reference in this section. The form is listed by rule number, which is also the form number, and with the subject, title and effective date. Copies of forms may be obtained from a local District Office or by writing to the Florida Department of Environmental Protection, DEP Library, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400.

- (1) Application to Construct, Operate, Modify, or Close a Solid Waste Management Facility, effective 5-19-94.
- (2) Certification of Construction Completion of a Solid Waste Management Facility, effective 5-19-94.
- (3) Notification of Intent to Use a General Permit for a Land Clearing Debris Disposal Facility, effective 12-23-96.
- (4) Notification of Intent to Use a General Permit to Construct and Operate a Transfer Station, effective 5-19-94.
- (5) Financial mechanisms for solid waste management facilities requiring closure and/or long-term care, effective 5-19-94.
 - (a) Solid Waste Facility Irrevocable Letter of Credit.
 - (b) Solid Waste Facility Financial Guarantee Bond.
 - (c) Solid Waste Facility Performance Bond.
 - (d) Solid Waste Facility Closure/Long-Term Care Insurance Certificate.
 - (e) Solid Waste Facility Financial Test.
 - (f) Solid Waste Facility Corporate Guarantee.
 - (g) Solid Waste Facility Trust Fund Agreement to Demonstrate Closure and/or Long-Term Care Financial Assurance.
 - (h) Solid Waste Facility Standby Trust Fund Agreement.
- (6) Application to Construct, Operate, or Modify a Construction and Demolition Debris Disposal or Recycling Facility, effective 4-23-97.
- (7) Annual Report for a Construction and Demolition Debris Disposal Facility, effective 12-23-96.
- (8) Notification of Intent to Modify a General Permit for a Construction and Demolition Debris Disposal Facility, effective 4-23-97.
- (9) Application for Preliminary Examination and Final Examination and Certification of Resource Recovery Equipment, effective 12-23-96.
- (10) Application for a Permit to Construct/Operate a Solid Waste Management Facility for the Production of Compost, effective 12-23-96.
- (11) Annual Report for a Solid Waste Management Facility Producing Compost Made from Solid Waste, effective 12-23-96.

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- (12) Application for Registration Used Oil and Used Oil Filter Handlers, effective 12-23-96.
- (13) Used Oil and Used Oil Filter Record Keeping Form, effective 12-23-96.
- (14) Annual Report by Used Oil and Used Oil Filter Handlers effective 12-23-96.
- (15) Certificate of Liability Insurance Used Oil Handlers, effective 12-23-96.
- (16) Used Oil Processing Facility General Permit Notification, effective 12-23-96.
- (17) Public Used Oil Collection Center Notification and Annual Report, effective 12-23-96.
- (18) Waste Tire Collector Registration Application, effective 12-23-96.
- (19) Waste Tire General Permit Application, effective 12-23-96.
- (20) Waste Tire Site Notification, effective 12-23-96.
- (21) Waste Tire Processing Facility Quarterly Report, effective 12-23-96.
- (22) Waste Tire Collector Annual Report, effective 12-23-96.
- (23) Waste Tire Processing Facility Permit Application, effective 12-23-96.
- (24) Waste Tire Small Processing Facility Permit Application, effective 12-23-96.
- (25) Waste Tire Collection Center Permit Application, effective 12-23-96.
- (26) Application and Reporting Form for Recovered Materials Certification, effective 1-1-95.

Specific Authority 403.704, FS.

Law Implemented 403.707, FS.

History -- New 8-2-89; Amended 1-6-93, 5-19-94, Formerly 62-701.900, Amended 12-23-96, 4-23-97.

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