

**RULES  
OF  
GEORGIA DEPARTMENT OF NATURAL RESOURCES  
ENVIRONMENTAL PROTECTION DIVISION  
CHAPTER 391-3-4  
SOLID WASTE MANAGEMENT**

**PROPOSED AMENDMENTS TO THE RULES  
OF THE DEPARTMENT OF NATURAL RESOURCES  
ENVIRONMENTAL PROTECTION DIVISION  
RELATING TO SOLID WASTE MANAGEMENT, CHAPTER 391-3-4**

The Rules of the Department of the Natural Resources, Chapter 391-3-4, Solid Waste Management, are hereby amended and revised for specific Rules, or such subdivisions thereof as may be indicated.

**[Note: Underlined text is proposed to be added. ~~Lined through~~ text is proposed to be deleted.]**

**391-3-4-.01 Definitions. Amended**

- (1) "Active Life" means the period of operation beginning with the initial receipt of solid waste and ending at completion of closure activities.
- (2) "Active Portion" means that part of a solid waste handling facility or landfill unit that has received or is receiving wastes and that has not been closed.
- (3) "Aquifer" means a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of ground water to wells or springs.
- (4) "Affected County" means, in addition to the county in which a facility is or is proposed to be located, each county contiguous to the host county and each county and municipality within a county that has a written agreement with the facility to dispose of solid waste.
- (5) "Asbestos-Containing Waste" means any solid waste containing more than 1 percent, by weight, of naturally occurring hydrated mineral silicates separable into commercially used fibers, specifically the asbestiform varieties of serpentine, chrysotile, cummingtonite-grunerite, amosite, riebeckite, crocidolite, anthophyllite, tremolite, and actinolite, using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1.
- (6) "Baling" means a volume reduction technique whereby solid waste is compressed into bales.
- (7) "Biomedical Waste" means any solid waste which contains pathological waste, biological waste, cultures, and stocks of infectious agents and associated biologicals, contaminated animal carcasses (body parts, their bedding, and other waste from such animals), chemotherapy waste, discarded medical equipment and parts, not including expendable supplies and materials, which have not been decontaminated, as further

defined in Rule 391-3-4-.15.

(8) "Boiler" means a device as defined in Chapter 391-3-11, the Rules for Hazardous Waste Management.

(9) "CCR Landfill" means an area of land or an excavation owned or operated by an electric utility or independent power producer that receives CCR and which is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. For purposes of this Chapter, a CCR landfill also includes sand and gravel pits and quarries that receive CCR, CCR piles, and any practice that does not meet the definition of a beneficial use of CCR. This definition includes both active and inactive landfills.

(10) CCR Surface Impoundment means a natural topographic depression, man-made excavation, or diked area owned or operated by an electric utility or independent power producer, which is designed to hold an accumulation of CCR and liquids, and the unit treats, stores, or disposes of CCR. This definition includes both active and inactive surface impoundments, new and lateral expansions of surface impoundments, dewatered surface impoundments, and NPDES-CCR surface impoundments.

(11) CCR Unit means any CCR landfill, CCR surface impoundment, or the lateral expansion of such landfill or impoundment, or a combination of more than one of these units, based on the context of the paragraph(s) in which it is used. This term includes both new and existing units, unless otherwise specified.

~~(9)~~(12) "Certificate" means a document issued by a college or university of the University System of Georgia or other organization approved by the Director, stating that the operator has met the requirements of the Board for the specified operator classification of the certification program.

~~(40)~~ (13) "Closure" means a procedure approved by the Division which provides for the cessation of waste receipt at a solid waste disposal site and for the securing of the site in preparation for post-closure.

(14) "Coal Combustion Residuals (CCR)" means fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity by electric utilities and independent power producers.

~~(11)~~ (15) "Collector" means the person or persons as defined herein who, under agreements, verbal or written, with or without compensation does the work of collecting and/or transporting solid wastes, from industries, offices, retail outlets, businesses, institutions, and/or similar locations, or from residential dwellings, provided however, that this definition shall not include an individual collecting and/or transporting waste from his own single family dwelling unit.

~~(12)~~ (16) "Commercial solid waste" means all types of solid waste generated by stores, offices, restaurants, warehouses, and other nonmanufacturing activities, excluding residential and industrial wastes.

~~(13)~~ (17) "Composting" means the controlled biological decomposition of organic matter into a stable, odor free humus.

~~(14)~~ (18) "Construction/Demolition Waste" means waste building materials and rubble resulting from construction, remodeling, repair, and demolition operations on pavements, houses, commercial buildings and other structures. Such waste include, but are not limited to asbestos containing waste, wood, bricks, metal, concrete, wall board, paper, cardboard, inert waste landfill material, and other nonputrescible wastes which

have a low potential for groundwater contamination.

(19) "Contaminant which is likely to pose a danger to human health" means any constituent in Appendix I, II, III, or IV found at levels confirmed above a groundwater protection standard.

~~(15)~~ (20) "Detected" means statistically significant evidence of contamination has been determined to exist by using methods specified in Rule 391-3-4-.14.

~~(16)~~ (21) "Director" means the Director of Environmental Protection Division of the Department of Natural Resources.

~~(17)~~ (22) "Disposal Facility" means any facility or location where the final disposition of solid waste occurs and includes, but is not limited to, landfilling and solid waste thermal treatment technology facilities.

~~(18)~~ (23) "Division" means the Environmental Protection Division of the Department of Natural Resources.

~~(19)~~ (24) "Existing MSWLF or landfill unit" means:

(a) any municipal solid waste landfill or landfill unit that is receiving solid waste as of October 9, 1993, and meets either of the following two conditions:

1. disposed of over 100 tons per day (TPD) of solid waste between October 9, 1991, and October 9, 1992, (or other dates consistent with Federal standards and as may be approved by the Director), or;

2. is on the National Priorities List (NPL), as found in appendix B to 40 CFR, Part 300.

(b) any municipal solid waste landfill or landfill unit that is receiving solid waste as of April 9, 1994, and meets the following two conditions:

1. disposed of 100 tons or less per day of solid waste between October 9, 1991, and October 9, 1992, and disposes of no more than an average of 100 TPD of solid waste each month between October 9, 1993, and April 9, 1994, (or other dates consistent with Federal standards and as may be approved by the Director), and;

2. is not on the National Priorities List (NPL), as found in appendix B to 40 CFR, part 300.

(c) Waste placement in existing units must be consistent with past operating practices or modified practices to ensure good management.

~~(20)~~ (25) "Generator" means any person in Georgia or in any other state who creates solid waste.

~~(21)~~ (26) "Garbage" means food waste including waste accumulations of animal or vegetable matter used or intended for use as food, or that attends the preparation, use, cooking, dealing in or storing of meat, fish, fowl, fruit or vegetables.

~~(22)~~ (27) "Groundwater" means water below the land surface in a zone of saturation.

~~(23)~~ (28) "Hazardous Waste" means any solid waste which has been defined as hazardous waste in regulations promulgated by the Board of Natural Resources, Chapter 391-3-11.

~~(24)~~ (29) "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).

~~(25)~~ (30) "Host Local Government" means the host county or other local governmental jurisdiction within whose boundaries a municipal solid waste disposal facility is located.

~~(26)~~ (31) "Industrial Furnace" means a device as defined in Chapter 391-3-11, the Rules for Hazardous Waste Management.

~~(27)~~ (32) "Industrial Waste" means solid waste generated by manufacturing or industrial processes that is not a hazardous waste regulated under the Hazardous Waste Management Act and regulations promulgated by the Board of Natural Resources, Chapter 391-3-11. Such waste includes, but is not limited to, wastes resulting from the following manufacturing processes: Electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals manufacturing/foundries; inorganic 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 or gas waste.

~~(28)~~ (33) "Inert Waste Landfill" means a disposal facility accepting only wastes that will not or are not likely to cause production of leachate of environmental concern. Such wastes are limited to earth and earth-like products, concrete, cured asphalt, rock, bricks, yard trimmings, stumps, limbs, and leaves. This definition excludes industrial and demolition waste not specifically listed above.

~~(29)~~ (34) "Lateral expansion" means a horizontal expansion of the waste boundaries of an existing MSWLF unit or landfill unit.

~~(30)~~ (35) "Leachate" means a liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such wastes.

~~(31)~~ (36) "Landfill Unit" means an area of land of which or an excavation in which solid waste is placed for permanent disposal and which is not a land application unit, surface impoundment, injection well, or compost pile. Permanent disposal requires the placement of daily, intermediate, and/or final earth, synthetic, or a combination of earth and synthetic cover over the solid waste.

~~(32)~~ (37) "Leachate Collection System" means a system at a landfill for collection of the leachate which may percolate through the waste and into the soils surrounding the landfill.

~~(33)~~ (38) "Liner" means a continuous layer of natural or man-made materials beneath or on the sides of a disposal site or disposal site cell which restricts the downward or lateral escape of solid waste constituents, or leachate.

~~(34)~~ (39) "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 the Evaluation of Solid Wastes, Physical/Chemical Methods" (EPA Pub. No. SW-846).

~~(35)~~ (40) "Materials Recovery Facility" means a solid waste handling facility that provides for the extraction from solid waste of recoverable materials, materials suitable for use as a fuel or soil amendment, or any combination of such materials.

~~(36)~~ (41) "Monofill" means a method of solid waste disposal that involves the landfilling of one waste type or wastes having very similar characteristics in a segregated trench or area which is physically separated from dissimilar or incompatible waste.

~~(37)~~ (42) "Municipal Solid Waste" means any solid waste derived from households, including garbage, trash, and sanitary waste in septic tanks and means solid waste from single-family and multifamily residences, hotels and motels, bunkhouses, campgrounds, picnic grounds, and day use recreation areas. The term includes yard trimmings and

commercial solid waste, but does not include solid waste from mining, agricultural, or silvicultural operations or industrial processes or operations.

~~(38)~~ (43) "Municipal Solid Waste Landfill (MSWLF) Unit" means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 CFR Part 257.2. A MSWLF unit also may receive other types of solid waste, such as commercial solid waste, nonhazardous sludge, small quantity generator waste and industrial solid waste. Such a landfill may be publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion.

~~(39)~~ (44) "Municipal Solid Waste Disposal Facility" means any facility or location where the final deposition of any amount of municipal solid waste occurs, whether or not mixed with or including commercial or industrial solid waste, and includes, but is not limited to, municipal solid waste landfills and solid waste thermal treatment technology facilities.

~~(40)~~ (45) "Municipal Solid Waste Disposal Facility Operator" means the operator certified in accordance with Rule 391-3-4-.18 and stationed on the site who is in responsible charge of and has direct supervision of the daily field operations of a municipal solid waste disposal facility to ensure that the facility operates in compliance with the permit.

~~(41)~~ (46) "Municipal Solid Waste Landfill" means a disposal facility where any amount of municipal solid waste, whether or not mixed with or including commercial waste, industrial waste, nonhazardous sludges, or small quantity generator hazardous wastes, is disposed of by means of placing an approved cover thereon.

~~(42)~~ (47) "New MSWLF Unit" means any municipal solid waste landfill unit that has not received waste prior to October 9, 1993.

~~(43)~~ (48) "Open Burning" means the combustion of solid waste without:

- (a) Control of combustion air to maintain adequate temperature for efficient combustion;
- (b) Containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion; and
- (c) Control of the emission of the combustion products.

~~(44)~~ (49) "Open Dump" means a disposal facility at which solid waste from one or more sources is left to decompose, burn or to otherwise create a threat to human health or the environment.

~~(45)~~ (50) "Operating Records" means written records including, but not limited to, permit applications, monitoring reports, inspection reports, and other demonstrations of compliance with this Chapter, which records are kept on file at the facility or at an alternative location as approved by the Division.

~~(46)~~ (51) "Operator" means the person(s) responsible for the overall operation of a facility or part of a facility.

~~(47)~~ (52) "Owner" means the person(s) who owns a facility or part of a facility.

~~(48)~~ (53) "Person" means the State of Georgia or any other state or any agency or institution thereof, and any municipality, county, political subdivision, public or private corporation, solid waste authority, special district empowered to engage in solid waste management activities, individual, partnership, association or other entity in Georgia or any other state. This term also includes any officer or governing or managing body of any municipality, political subdivision, solid waste authority, special district empowered to engage in solid waste activities, or public or private corporation in Georgia or any

other state. This term also includes employees, departments, and agencies of the federal government.

~~(49)~~ (54) "Post-closure" means a procedure approved by the Division to provide for long-term financial assurance, monitoring and maintenance of a solid waste disposal facility to protect human health and the environment.

~~(50)~~ (55) "Private Industry Solid Waste Disposal Facility" means a disposal facility which is operated exclusively by and for a private solid waste generator for the purpose of accepting solid waste generated exclusively by said private solid waste generator.

~~(51)~~ (56) "Processing Operation" means any method, system or other treatment designed to change the physical form or chemical content of solid waste and includes all aspects of its management (administration, personnel, land, equipment, buildings and other elements).

~~(52)~~ (57) "Putrescible Wastes" means wastes that are capable of being quickly decomposed by microorganisms. Examples of putrescible wastes include but are not necessarily limited to kitchen wastes, animal manure, offal, hatchery and poultry processing plant wastes, dead animals, garbage and wastes which are contaminated by such wastes.

(58) "Qualified Groundwater Scientist" means a professional engineer or geologist registered to practice in Georgia who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields that enable that individual to make sound professional judgements regarding groundwater monitoring, contaminant fate and transport, and corrective action.

~~(53)~~ (59) "Run-off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

~~(54)~~ (60) "Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

~~(55)~~ (61) "Recovered Materials" means those materials which have known use, reuse, or recycling potential; can be feasibly used, reused or recycled; and have been diverted or removed from the solid waste stream for sale, use, reuse, or recycling, whether or not requiring subsequent separation and processing.

~~(56)~~ (62) "Recovered Materials Processing Facility" means a facility engaged solely in the storage, processing, and resale or reuse of recovered materials. Such term shall not include a solid waste handling facility; provided, however, any solid waste generated by such facility shall be subject to all applicable laws and regulations relating to such solid waste.

~~(57)~~ (63) "Recycling" means any process by which 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.

~~(58)~~ (64) "Regional Landfill or Regional Solid Waste Disposal Facility" means a facility owned by a county, municipality, or special district empowered to engage in solid waste management activities, or any combination thereof, which serves two or more any combination of counties, municipalities, or special solid waste districts.

(65) "Release" means the discharge, deposit, injection, dumping, spilling, emitting, releasing, leaking, or placing of any substance into or on any land or water of the state.

~~(59)~~ (66) "Relevant Point of Compliance" is a vertical surface located at the

hydraulically downgradient limit of the waste management unit boundary that extends down into the uppermost aquifer underlying the facility. This point will be specified by the Director and shall be no more than 150 meters from the waste management unit boundary and shall be located on land owned by the owner of the landfill unit. The downgradient monitoring system must be installed at this point, and monitoring conducted to ensure that the concentration values listed in Table 1 of Rule 391-3-4-.07 will not be exceeded in the uppermost aquifer.

~~(60)~~ (67) "Saturated Zone" means that part of the earth's ~~crust~~ crust in which all voids are filled with water.

~~(64)~~ (68) "Scavenge" means the unpermitted removal of solids waste from a solid waste handling facility.

~~(62)~~ (69) "Shredding" means the process by which solid waste is cut or torn into small pieces for final disposal or further processing.

~~(63)~~ (70) "Significant Groundwater Recharge Areas" means any area as designated on Hydrologic Atlas 18 Most Significant Ground-Water Recharge Areas of Georgia, 1989, as published by the Georgia Geologic Survey, Environmental Protection Division, Georgia Department of Natural Resources, unless an applicant for a solid waste handling permit or other interested party can demonstrate to the satisfaction of the Director that an area designated on Hydrologic Atlas 18 is or is not, in fact, a significant groundwater recharge area.

(71) "Site" means the entire property a permitted solid waste handling facility is located within and includes all activities within that property.

~~(64)~~ (72) "Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

~~(65)~~ (73) "Solid Waste" means any garbage or refuse; sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility; and other discarded material including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations and from community activities, but does not include recovered materials; solid or dissolved materials in domestic sewage; solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit under 33 U.S.C. Section 1342; or source, special nuclear, or by-product material as defined by the federal Atomic Energy Act of 1954, as amended (68 Stat. 923).

~~(66)~~ (74) "Solid Waste Handling" means the storage, collection, transportation, treatment, utilization, processing, or disposal of solid waste, or any combination of such activities.

~~(67)~~ (75) "Solid Waste Handling Facility" means any facility, the primary purpose of which is the storage, collection, transportation, treatment, utilization, processing, or disposal, or any combination thereof, of solid waste.

~~(68)~~ (76) "Solid Waste Handling Permit" means written authorization granted to a person by the Director to engage in solid waste handling.

~~(69)~~ (77) "Solid Waste Management Act" or the "Act", wherever referred to in these Rules, means the Georgia Comprehensive Solid Waste Management Act, O.C.G.A. 12-8-20, *et seq.*

~~(70)~~ (78) "Solid Waste Thermal Treatment Technology" means any solid waste handling facility, the purpose of which is to reduce the amount of solid waste to be disposed of through a process of combustion, with or without the process of waste to energy.

~~(71)~~ (79) "Tire" means a continuous solid or pneumatic rubber covering designed for encircling the wheel of a motor vehicle and which is neither attached to the motor vehicle nor a part of the motor vehicle as original equipment.

~~(72)~~ (80) "Transfer Station" means a facility used to transfer solid waste from one transportation vehicle to another for transportation to a disposal facility or processing operation.

~~(73)~~ (81) "Uppermost Aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the solid waste handling facility's property boundary.

~~(74)~~ (82) "Vertical Expansion" means the expansion of landfill beyond the approved maximum final elevations and within the approved waste management boundaries of the existing permit.

~~(75)~~ (83) "Waste Management Unit Boundary" means a vertical surface located at the hydraulically downgradient limit of the unit. This vertical surface extends down into the uppermost aquifer.

~~(76)~~ (84) "Waste-to Energy Facility" means a solid waste handling facility that provides for the extraction and utilization of energy from municipal solid waste through a process of combustion.

~~(77)~~ (85) "Yard Trimmings" means leaves, brush, grass, clippings, shrub and tree prunings, discarded Christmas trees, nursery and greenhouse vegetative residuals, and vegetative matter resulting from landscaping development and maintenance other than mining, agricultural, and silvacultural operations.

Authority: O.C.G.A. §. 12-8-20 et seq., as amended.

### **391-3-4-.02 Solid Waste Handling Permits. Amended.**

(1) Permits Required: no person shall engage in solid waste handling or construct or operate a solid waste handling facility, except those individuals exempted from the provisions of the Georgia Comprehensive Solid Waste Management Act, under the provisions of O.C.G.A. 12-8-30.10 or O.C.G.A. 12-8-40 or those individuals who have a permit-by-Rule under Rule 391-3- 4-.06, without first obtaining a permit from the Director authorizing such activity.

(2) Solid Waste Handling Permit: the Director may issue permits for solid waste handling provided the application is judged complete and meets the requirements of the Georgia Comprehensive Solid Waste Management Act and these Rules. Solid Waste Handling Permits shall be required for, but are not limited to, persons engaged in the collection, transportation, treatment, utilization, storage, processing, or disposal of solid wastes, or any combination thereof, except as exempted by O.C.G.A. 12-8-30.10 or O.C.G.A. 12-8-40 and these Rules and shall be required for the construction or operation of all solid waste handling facilities, except as exempted by O.C.G.A. 12- 8-30.10 or O.C.G.A. 12-8-40 and these Rules.

(3) Modification or Revocation of Permits for Cause: the Director may modify or revoke

any permit issued pursuant to O.C.G.A. 12-8-24 if the holder of the permit found to be in violation of any of the permit conditions; or if the holder of the permit fails to perform such activity in accordance with the approved plan; or if such activity creates a threat to human health or the environment. In the event of modification or revocation of a permit, the Director shall serve written notice of such action on the permit holder and shall set forth in such notice the reason for such action.

(4) Permit Modifications at the Request of the Permittee: all modifications of existing solid waste handling permits shall be classified as follows:

(a) Major Modifications include those changes which substantially alter the design of the facility, management practices, the types of wastes being handled, or the method of waste handling, and due to the nature of the changes, would likely have an impact on the ability of the facility to adequately protect human health and the environment. Major modifications therefore require closer review and public input than minor modifications. Major modifications shall include, but are not limited to, the following:

1. A modification which involves a vertical expansion of an existing landfill.
2. A modification which involves a lateral expansion of an existing landfill which is allowed by the most current, unexpired letter of site suitability.
3. A modification which involves a lateral expansion of a CCR surface impoundment.
- ~~3.~~ 4. A modification which adds a new solid waste handling process. This shall include but not be limited to the addition of an air curtain destructor, a materials recovery facility, a baling operation, a shredding operation, a municipal solid waste or sewage sludge composting operation, or a liquid solidification operation.
- ~~4.~~ 5. A modification which involves the change of a site suitability requirement which could have impacted the original siting of the facility.
- ~~5.~~ 6. Any other modification which the Director, in the exercise of his discretion, determines to meet the criteria set forth in Section (4) (a) of this Rule.

(b) Minor modifications include changes that do not substantially alter the permit conditions, that do not reduce the capacity of the facility to protect human health or the environment, or that enable a permittee to respond in a timely manner to common variations in the type and quantities of wastes managed, technological advancements, or changes necessary to comply with new Rules where these changes can be implemented without substantially changing design specifications or management practices in the permit. Minor modifications shall include, but are not limited to, the following:

1. Changing the name of a facility.
2. A modification which involves a change in administrative and operational information and maintenance of operational records.
3. A modification which involves a change in the sequence of operation.
4. A modification which involves the relocation of access roads.
5. A modification which adds scales.
6. A modification which adds or deletes on-site structures.
7. A modification which involves the addition of or a change to a groundwater or surface water monitoring system.
8. A modification which involves the addition of or a change to a landfill gas monitoring system.
9. A modification which involves the addition or deletion of a permit-by-Rule facility.

10. A modification which involves the deletion of any solid waste handling facility.
11. A modification which involves the deletion of permitted capacity acreage.
12. A modification which involves the addition of or a change to an erosion and sedimentation control system.
13. A modification which involves the addition of or a change to a closure or post-closure plan.
14. A modification which involves the addition of or a change to a method of leachate handling and/or treatment.
15. A modification which involves the addition of or a change to a quality assurance plan.
16. A modification which involves the change of any compliance schedule which is part of the permit.
17. A modification which involves the addition of a corrective action plan.
18. A modification which involves a change in ownership, or in the case of a corporation of over five (5) percent of the stock in a corporation holding a permit, but does not involve the transfer of the permit.
19. A modification which involves the addition of acreage for the purpose of installing monitoring systems or installing structures for mitigating environmental impacts, where the original permitted acreage provides insufficient area to complete required improvements. This modification request must be accompanied by a site assessment report as required by paragraph (4) of Rule 391- 3-4-.05.
20. A modification which involves the addition of or change in a ~~clay~~ soil or synthetic liner and leachate collection system to a ~~landfill~~ waste unit holding a valid solid waste handling permit, if it does not require other significant site redesign.
21. A modification which involves the removal or recovery of CCR from a CCR unit for the purpose of beneficial use.

(c) All modifications of solid waste handling permits which are major modifications shall be subject to the following requirements:

1. Submission of a completed application for a permit modification.
2. Submission of supporting documents which accompany the application for a permit modification which describe the exact change to be made to the permit conditions and supporting documents referenced by the permit and which explain why the change is needed.
3. Submission of a revised design for the requested change.
4. Submission of written verification by the applicant, as required by subparagraph (1)(a) of Rule 391-3- 4-.05(1) (a), that the facility, as proposed to be modified, conforms to all local zoning/land use ordinances, if any.
5. Except for Private Industry Solid Waste Disposal Facilities, after July 1, 1992, submission of written verification by the applicant that the facility, as proposed to be modified, is consistent with the local or regional solid waste management plans and that the host jurisdiction and the jurisdictions generating solid waste destined to the facility can demonstrate that they are actively involved in and have a strategy for meeting the State-wide goal of waste reduction by July 1, 1996. The verification shall consist of letters from the host jurisdiction and generating jurisdictions verifying consistency with the approved local solid waste plan.
6. Except for Private Industry Solid Waste Disposal Facilities, ~~S~~submission of written verification that a public hearing was held by the governing authority of the county or

municipality in which the solid waste facility requesting the modification is located, not less than two weeks prior to granting approval of the modification. Submission of written verification that notice of such hearing was posted at the site of such facility and advertised in a newspaper of general circulation serving the county or counties in which the facility is located at least thirty (30) days prior to such hearing. A typed transcript of the hearing must be provided to the Division.

7. Any application for a solid waste disposal facility vertical expansion shall meet the criteria as established in O.C.G.A. 12-8- 24(e)(3). Any operation of a vertical expansion shall be in accordance with conditions set forth in the modified permit. Conditions to be included in any such modified permit shall, at a minimum, include the following:

(i) A minimum 100 foot buffer shall be provided between the property line and the waste disposal boundary established by the vertical expansion.

(ii) Site survey control shall be provided to ensure compliance with the approved permit modification.

(iii) Erosion and sedimentation control devices shall be installed, rehabilitated, and maintained as appropriate to control all surface runoff and sediments from disturbed areas.

(iv) All areas exposed for more than three (3) months shall be vegetated.

(v) Closure plans, post-closure plan, and appropriate financial responsibility shall be maintained and updated as provided for in the approved permit modification.

(vi) All other conditions of the existing permit not in conflict with conditions (i) through (v) above.

8. With the exception of major modifications granted under subparagraph (c)7. of this Rule, all major modifications shall meet the siting and design standards applicable to new permit applications in effect on the date the modification is approved.

(d) All modifications of solid waste handling permits which are minor modifications shall be subject to the following requirements:

1. Submission of a written request by the permit holder requests a minor modification.

2. Submission of supporting documents which accompany the written modification request which describe the exact change to be made to the permit conditions and supporting documents referenced by the permit and which explain why the change is needed.

3. If applicable, submission of a revised design for the requested change.

4. For a modification involving a change in ownership covered in subparagraph (4)

(b)18. above, documentation must be provided to insure compliance with subparagraph (8)(a) below.

5. Requests for minor modifications shall be deemed approved by the Division 45 days after receipt of a complete request for modification unless, prior to that date, the Division notifies the permit holder that the request for modification is denied or is incomplete, provided however, that the requests for the following minor modifications shall be approved only upon written notification from the Division: a surface or groundwater monitoring plan; leachate collection, handling or treatment system; liner systems; methane gas monitoring, collection, or treatment systems; closure or post-closure plans; or a change involving the addition of permitted acreage to allow for the installation and/or operation of environmental monitoring systems. Where a minor modification is deemed approved after 45 days without comment from the Division, the permit holder is not relieved of compliance with any applicable performance and/or design standard as

provided for in these Rules or the Act.

(5) Transfer of Permits: permits are not transferable from one site or facility to another. Permits are transferable from one person to another provided a new permit application is completed by the proposed permittee, and the proposed permittee agrees to abide by all the permit conditions or outstanding orders in effect at the time of the requested transfer. Prior to the transfer of the permit, the new permittee must demonstrate compliance with Rule 391-13-4-.13. Until such time as this is demonstrated, the original permittee shall be fully responsible for financial responsibility for the facility. Unless notified otherwise by the Director, within 45 days of receipt by the Division of a properly completed request for transfer of the permit, the permit transfer shall stand approved.

(6) Applications for permits and major permit modifications under O.C.G.A. 12- 8-24 shall be on forms as may be prescribed and furnished from time to time by the Division and shall be accompanied by all pertinent information as the Division may require.

(7) Material submitted shall be complete and accurate.

(8) Application for a permit or for the transfer of a permit shall contain, but shall not be limited, to the following:

(a) A sworn statement that the applicant and owner or operator, if different than applicant, for a permit or, in the case of a corporation, partnership, or association, an officer, Director, manager, or shareholder of five percent or more of stock or financial interest in said corporation, partnership, or association:

1. Has not intentionally misrepresented or concealed any material fact in the application submitted to the Director;

2. Is not attempting to obtain the permit by misrepresentation or concealment;

3. Has not been finally convicted in the State of Georgia or any federal court of any felony involving moral turpitude within three years immediately preceding the application for a permit;

4. Has not been convicted of any violations of any environmental laws punishable as a felony in any state or federal court within five years preceding the application for a permit;

5. Has not knowingly, willfully, and consistently violated the prohibitions specified in O.C.G.A. 12-8-30.7; and

6. Has not been adjudicated in contempt of any court order enforcing any federal environmental laws or any environmental laws of the State of Georgia within five years preceding the application for a permit.

(b) For a permit application, a statement that the applicant either owns the property on which the facility is to be located or had the permission of the owner to use the property for solid waste handling.

(c) For a permit application, in the case of a regional landfill or a landfill serving more than one county, a list of the areas to be served.

(d) For a permit application, written verification of zoning compliance as required by Rule 391-3- 4-.05 paragraph (1)(a).

(e) For a permit application, a site assessment as required by Rule 391- 3-4-.05, except CCR units which must meet criteria in 391-3-4-.10.

(9) Applications for permits will be reviewed together with such other information as may be necessary to ascertain the effect of such solid waste handling upon air, water, and land resources and human health. Conditions under which the handling will be

permitted will be specified in the permit issued.

(10) Except for Private Industry Solid Waste Disposal Facilities, after July 1, 1992, each applicant for a permit shall provide verification that the facility is consistent with the local or regional solid waste management plans that the host jurisdiction generating solid waste destined to the facility can demonstrate that they are actively involved in and have a strategy for meeting the State-wide goal of waste reduction by July 1, 1996. The verification shall consist of letters from the host jurisdiction and generating jurisdictions verifying consistency with the approved local solid waste plans.

(11) Changes to Permit Status. The Director may approve a request to modify an existing solid waste handling permit to reflect the change of a facility's operational status. Such changes can include operating, closure, and post-closure.

Authority: O.C.G.A. §. 12-8-20 et seq., as amended.

### **391-3-4-.03 Public Participation. Amended.**

(1) Any city, county, group of counties, or authority beginning a process to select a site for a municipal solid waste disposal facility shall first call a public meeting as described herein.

(a) Notice such meeting shall be published at least once per week for two weeks immediately preceding the public meeting in a newspaper of general circulation serving such municipality or county.

(b) Where such proposed facility will serve a regional solid waste management authority established pursuant to O.C.G.A. 12- 8-53, the notice procedure outlined in subparagraph (a) above shall be followed in each jurisdiction participating in such authority.

(c) The purpose of the public meeting shall be to discuss the waste management needs of the local government or region and to describe the siting process to be followed.

(2) The governing authority of any county or municipality taking action resulting in a municipal solid waste disposal facility siting decision shall notify the public as follows:

(a) Cause to be published in a newspaper of general circulation serving such city or county at least once per week for two weeks immediately preceding the date of such meeting, notice of the meeting at which the siting decision is to be made.

(b) Such notices shall state the time, place, and purpose of the meeting.

(c) The meeting shall be conducted by the governing authority taking the action.

(3) Upon submission of an application to the Division for any municipal solid waste disposal facility for which a permit (other than a permit-by-Rule) is required, the applicant, within fifteen (15) days of the submission of said application, shall take the following actions:

(a) Publish public notice of the application in a newspaper of general circulation serving the host county if the proposed facility or expanded facility is to serve no more than one county;

(b) Publish public notice of the application in a newspaper of general circulation serving each affected if the proposed facility or expanded facility is to serve more than one county;

(c) Provide written notice of the permit application to the governing body of each

affected county in subparagraph (a) or (b) above; to the governing body of each local government within subparagraph (a) or (b) above; and to the regional development center;

(d) Request that the public notice outlined herein to be displayed prominently in the courthouse of each county notified in (c) above.

(e) Upon notification by the Division that a proposed facility is suitable for the intended purpose, the host local government shall initiate a local notification and negotiation process as required in O.C.G.A. 12- 8-32.

(4) The governing authority of the county or municipality ~~with~~ will hold a public hearing not less than two weeks prior to the issuance of any permit, except for a private industry disposal facility, and notice of such hearing shall be posted at the proposed site and advertised in a newspaper of general circulation serving the county or counties in which the proposed activity will be conducted, at least thirty (30) days prior to such hearing. A typed copy of the hearing transcript shall be submitted to the Division.

(5) Whenever the Director issues, denies, revokes, suspends, or transfers, a permit or approves a major modification of a permit for a municipal solid waste disposal facility, he shall notify the legal organ and the chief elected official of the host local government in which the facility is located or is proposed to be located.

Authority: O.C.G.A. §. 12-8-20 et seq., as amended.

#### **391-3-4-.05 Criteria for Siting. Amended.**

(1) The following criteria must be met for a site proposed as a solid waste handling facility:

(a) Zoning. The site must conform to all local zoning/land use ordinances. Written verification must be submitted to the Division by the applicant demonstrating that the proposed site complies with local zoning and land use ordinances, if any. This verification shall include a letter from the local governmental authority stating that the proposed site complies with local zoning or land use ordinances, if any. This verification shall be provided at the time of submission of a permit application and reaffirmed by the governmental authority prior to permit issuance.

(b) Disposal Facility Siting Decision. Whenever any county, municipality group of counties, or authority begins a process to select a site for a municipal solid waste disposal facility, documentation shall be submitted which demonstrates compliance with O.C.G.A.12-8- 26(a), and whenever the governing authority of any county or municipality takes action resulting in a publicly- or privately-owned municipal solid waste disposal facility siting decision, documentation shall be submitted which demonstrates compliance with O.C.G.A. 12-8-26(b). (c) Airport Safety:

1. New MSWLF units or lateral expansions of existing units shall not be located within 10,000 feet (3,048 meters) of any public-use or private-use airport runway end used by turbojet aircraft or within 5,000 feet (1,524 meters) of any public-use or private-use airport runway end used by only piston-type aircraft.

2. Owners or operators of existing MSWLF units, that are located within 10,000 feet (3,048 meters) of any public- use or private-use airport runway end used by turbojet aircraft or within 5,000 feet (1,524 meters) of any public- use or private-use airport runway end used by only piston-type aircraft must demonstrate that the units are

designed and operated so that the MSWLF units do not pose a bird hazard to aircraft.

3. Owners or operators proposing to site new MSWLF units and lateral expansions within a five-mile radius of any public-use or private-use airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the Federal Aviation Administration (FAA).

4. The owner or operator must place the demonstration in paragraph 2. of this section in the operating record and notify the Director that it has been placed in the operating record not later than October 1, 1993.

5. For purposes of this section:

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

b. "Private-use airport" means an airport that is not open to the public and which may not be used without prior permission of the airport owner and which has restrictions other than the physical capacities of ~~available~~ available facilities and such airport is shown on the Sectional Aeronautical Charts published by the U.S. Department of Commerce for Atlanta , Jacksonville , or New Orleans, which charts are dated at least one year prior to the submission of a MSWLF permit or major permit modification application.

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

(d) Floodplains. A solid waste handling facility located in the 100-year floodplain shall not restrict the flow of the 100- year flood, reduce the temporary water storage capacity of the floodplain, or result in a washout of solid waste so as to pose a hazard to human health and the environment. The owner or operator must place a demonstration of compliance in the operating record and notify the Director that it has been placed in the operating record.

1. For purposes of this section:

a. "Floodplains" means the low land and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100- year flood.

b. "100-year flood" means a flood that has a 1-percent or greater chance of recurring in any given year or a flood of a magnitude equalled or exceeded once in 100 years on the average over a significantly long period.

c. "Washout" means the carrying away of solid waste by waters of the base flood.

(e) Wetlands. A solid waste handling facility shall not be located in wetlands, as defined by the U.S. Corps. of Engineers, unless evidence is provided to the Director, by the applicant, that use of such wetlands has been permitted or otherwise authorized under all other applicable state and federal laws and rules. The owner or operator must place a demonstration of compliance in the operating record and notify the Directory that it has been placed in the operating record.

(f) Fault Areas.

1. New landfill units and lateral expansions of existing landfills shall not be located within 200 feet (60 meters) of a fault that has had displacement in Holocene time unless the owner or operator demonstrates to the Director that an alternative setback distance of less than 200 feet (60 meters) will prevent damage to the structural integrity of the landfill unit and will be protective of human health and the environment.

2. For the purposes of this section.

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

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

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

(g) Seismic Impact Zones.

1. New landfill units and lateral expansions shall not be located in seismic impact zones, unless the owner or operator demonstrates to the Director that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the operating record and notify the Director that it has been placed in the operating record.

2. For the purposes of this section:

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

b. Maximum horizontal acceleration in lithified earth material means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment.

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

(h) Unstable areas.

1. Owners or operators of new landfill units, existing landfill units, and lateral expansions located in an unstable area must demonstrate that engineering measures have been incorporated into the landfill unit's design to ensure that the integrity of the structural components of the landfill unit will not be disrupted. The owner or operator must place the demonstration in the operating record and notify the Director that it has been placed in the operating record. The owner or operator must consider the following factors, at a minimum, when determining whether an area is unstable:

a. On-site or local soil conditions that may result in significant differential settling;

b. On-site or local geologic or geomorphologic features; and

c. On-site or local human-made features or events (both surface and subsurface).

2. For the purposes of this section:

a. "Unstable area" means a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of the landfill structural components responsible for preventing releases from a landfill. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains.

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

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

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

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

(i) Closure of existing municipal solid waste landfill units:

1. Existing MSWLF units that cannot make the demonstration specified in section (c), pertaining to airports, section (d), pertaining to floodplains, or section (h), pertaining to unstable areas, must close by October 9, 1996 in accordance with Rule 391-3- 4-.11 and conduct post-closure care activities in accordance with Rule 391-3- 4-.12.

2. The deadline for closure required by subparagraph 1. of this paragraph may be extended up to two years if the owner or operator demonstrates to the Director that:

a. There is no available alternative disposal capacity; and

b. There is no immediate threat to human health and the environment.

(j) Significant Groundwater Recharge Areas. A new municipal solid waste landfill or lateral expansion of an existing municipal solid waste landfill shall not have any part of such site located within two miles of any area that has been designated by the Director as a significant groundwater recharge area unless such municipal solid waste landfill will have a liner and leachate collection system. In the case of a regional landfill which accepts solid waste generated outside the counties or special districts constituting the region or a municipal solid waste landfill which accepts solid waste generated outside the county in which the landfill is located, no part of such site shall be within any area that has been designated as a significant groundwater recharge area.

(k) Hydrological Assessment. A hydrological site investigation shall be conducted with the following factors, as a minimum, evaluated:

1. Distance to nearest point of public or private drinking water supply: all public water supply wells or surface water intakes within two miles and private (domestic) water supply wells within one-half mile of a landfill must be identified;

2. Depth to the upper most aquifer: for landfills, the thickness and nature of the unsaturated zone and its ability for natural contamination control must be evaluated;

3. Uppermost aquifer gradient: for landfills, the direction and rate of flow of groundwater shall be determined in order to properly evaluate the potential for contamination at a specific site. Measurements of water levels in site exploratory borings and the preparation of water table maps are required. Borings to water are required to estimate the configuration and gradient of the uppermost aquifer;

4. Topographic setting: features which shall be provided include, but are not limited to, all upstream and downstream drainage areas affecting or affected by the proposed site,

floodplains, gullies, karst conditions, wetlands, unstable soils and percent slope;

5. Geologic setting: for landfills, the depth to bedrock, the type of bedrock and the amount of fracturing and jointing in the bedrock shall be determined. In limestone or dolostone regions, karst terrain shall not be used for waste disposal. This consideration does not preclude the siting of landfills in limestone terrains, but rather is intended to prevent landfills from being sited in or adjacent to sink-holes, provided, however, that the demonstration required by ~~section~~ subparagraph (h) has been made.

6. Hydraulic conductivity: evaluation of landfill sites shall take into consideration the hydraulic conductivity of the surface material in which the wastes are to be buried, as well as the hydraulic conductivity of the subsurface materials underlying the fill;

7. Sorption and attenuation capacity: for landfills, the sorptive characteristics of an earth material and its ability to absorb contaminants shall be determined; and

8. Distance to surface water: municipal solid waste landfills shall not be situated within two miles upgradient of any surface water intake for a public drinking water source unless engineering modifications such as liners and leachate collection systems and ground-water monitoring systems are provided.

(1) New MSWLF units shall not be located within two miles of a federally restricted ~~military~~ military air space which is used for a bombing range.

(2) Construction/Demolition waste landfills must comply with the siting criteria specified in "Criteria for Performing Site Acceptability Studies for Solid Waste Landfills in Georgia", Circular 14, Appendix B.

(3) Industrial waste landfills permitted to receive only a single type industrial waste (monofil) or receive only a single industry's waste, must comply with the siting criteria specified in "Criteria for Performing Site Acceptability Studies for Solid Waste Landfills in Georgia", Circular 14, Appendix A. ~~Commercial~~ Commercial industrial waste landfills must meet the same siting criteria as municipal solid waste landfills.

(4) A site assessment report addressing the criteria listed above shall be prepared by a geologist registered in Georgia or a geotechnical engineer registered in Georgia and submitted to the Division for review at the time of submitting a permit application. The site assessment report shall be prepared in accordance with Circular 14, 1991, (amended 1997) as published by the Georgia Geologic Survey, Georgia Environmental Protection Division.

(5) Monitoring wells and borings shall be constructed by a driller having a valid and current bond with the Water Well Standards Advisory Council.

(6) CCR units must meet the siting criteria in 391-3-4-.10.

Authority: O.C.G.A. §. 12-8-20 et seq., as amended.

### **391-3-4-.07 Landfill Design and Operations. Amended.**

(1) All landfills must be designed by a professional engineer registered to practice in Georgia and designed in accordance with the following criteria:

(a) Site limitations: the landfill must be designed in such a manner as to comply with the specific site limitations issued by the Division as a part of a site approval.

(b) Buffers: facilities which have submitted a permit application to the Division prior to July 1, 1991 must provide a minimum 100 foot buffer between the property line and the

waste disposal boundary. All other facilities must provide a minimum 200 foot buffer between the waste disposal boundary and the property line and a minimum 500 foot buffer between the waste disposal boundary and any occupied dwelling and the dwelling's operational private, domestic water supply well in existence of the date of permit application. The 500-foot buffer may be reduced if the current owner of the dwelling provides a written waiver consenting to the waste disposal boundary being closer than 500 feet. The waste disposal boundary is defined as the limit of all waste disposal areas, appurtenances, and ancillary activities (including but not limited to internal access roads and drainage control devices). No land disturbing activities are to take place in these buffers, except for construction of groundwater monitoring wells and access roads for direct ingress or egress, unless otherwise specified in a facility design and operation plan or corrective action plan approved by the Division.

(c) Site survey control shall be provided to ensure the operation will be on permitted lands. Survey control will be accomplished through use of permanent, accessible benchmarks, survey control stakes, and/or boundary markers which designate and/or delineate all permitted areas. Survey control shall be as indicated on the design and operational plan. Where necessary for construction or operational purposes, vertical as well as horizontal survey control will be established and maintained to delineate fill boundaries, buffers, and property boundaries.

(d) Liners and Leachate Collection Systems: new MSWLF units and lateral expansions shall be constructed with liners and leachate collection systems. The liner and leachate collection system must ensure that the concentration values listed in Table 1 will not be exceeded in the uppermost aquifer at the relevant point of compliance. The liner and leachate collection system must be designed and installed under the supervision of a professional engineer registered to practice in Georgia who shall certify the installation.

**TABLE 1****Chemical****MCL (g/l)**

Arsenic	0.05
Barium	1.0
Benzene	0.005
Cadmium	.01
Carbon tetrachloride	0.005
Chromium (hexavalent)	0.05
2, 4 - Dichlorophenoxy acetic acid	0.1
1, 4 - Dichlorobenzene	0.075
1, 2 - Dichloroethane	0.005
1, 1 - Dichloroethylene	0.007
Endrin	0.0002
Fluoride	4
Lindane	0.004
Lead	0.05
Mercury	0.002
Methoxychlor	0.1

Nitrate	10
Selenium	0.01
Silver	0.05
Toxaphene	0.005
1, 1, 1-Trichloromethane	0.2
Trichloroethylene	0.005
2, 4, 5- Trichlorophenoxy acetic acid	0.01
Vinyl Chloride	0.002

1. If the MSWLF is located in an area of higher pollution susceptibility, as defined by Hydrologic Atlas #20, A Pollution Susceptibility Map of Georgia, or in a significant ground water recharge area as designated by Hydrologic Atlas #18, the liner and leachate collection system must, at a minimum, be designed with:

a. a composite liner, as defined in paragraph c. of this section and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner.

b. at least a five foot separation between the synthetic liner and the seasonal high ground water elevation.

c. For purposes of this section, "composite liner" means a system consisting of two components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than  $1 \times 10^{-7}$  cm/sec. FML components consisting of High Density Polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.

2. The relevant point of compliance shall be no more than 150 meters from the waste management unit boundary and shall be located on land owned by the owner of the MSWLF unit. In determining the relevant point of compliance, the Division shall consider at least the following factors:

a. The hydrogeologic characteristics of the facility and surrounding land;

b. The volume and physical and chemical characteristics of the leachate;

c. The quantity, quality, and direction, of flow of ground water;

d. The proximity and withdrawal rate of the ground-water users;

e. The availability of alternative drinking water supplies;

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

g. Public health, safety, and welfare effects; and

h. Practicable capability of the owner or operator.

3. For MSWLF units not located in significant ground water recharge areas or areas of higher pollution susceptibility, liners and leachate collection systems may meet a design standard other than that specified in subparagraph (1)(d) 1. of this Rule, so long as such design ensures that the concentration values listed in Table 1 of this Rule will not be

exceeded in the uppermost aquifer at the relevant point of compliance. The factors listed in subparagraph 2. above for determining the relevant point of compliance, shall also be used in determining the suitability of the liner and leachate collection system design.

(e) Erosion and Sedimentation Control: all surface runoff from disturbed areas must be controlled by the use of appropriate erosion and sedimentation control measures or devices. Sediment basins must be designed to handle both the hydraulic loading for the 25 year, 24-hour storm and the sediment loading from the drainage basin for the life of the site. Runoff from the facility must be designed for flow through permanent sediment control impoundments which are designed to assure discharges meeting the requirements of O.C.G.A. 12-7-6(18).

(f) Vegetation: the plan must call for the vegetation of any disturbed area that will remain exposed for more than three (3) months. Vegetation of final cover must take place within two (2) weeks after final cover placement.

(g) Sequence of Filling: the plan must define a sequence of filling showing a detailed progression of filling the entire site that minimizes any problems with drainage and all weather access roads to the working face.

(h) Limited Access: a gate or other barrier shall be maintained at potential vehicular access points to block unauthorized access to the site when an operator is not on duty. A fence or other suitable barrier must be provided around the site, including impoundments, leachate collection and treatment systems and gas venting and processing facilities, sufficient to prevent unauthorized access.

(i) Final Grading: the grade of final slopes shall be designed to:

1. insure permanent slope stability;
2. control erosion due to rapid water velocity and other factors;
3. allow compaction, seeding, and vegetation of cover material placed on the slopes;
4. minimize percolation of precipitation into final cover and provide diversion of surface runoff from disposal area; and
5. meet the final closure requirements of Rule 391-3-4-.11.
6. the grade of the final surface of the facility may not be less than 3 percent nor greater than 33 percent.

(j) Access Roads: access roads shall be designed to provide for the orderly egress and ingress of vehicular traffic when the facility is in operation, including during inclement weather.

(k) Fire Protection: the disposal site must be designed to prevent and minimize the potential for fire or explosion. A minimum supply of one day of cover material must be maintained within 200 feet of the working face for fire fighting purpose, unless other acceptable means have been provided and approved by the Director.

(l) Ground water and Surface water Monitoring Plan: the design must provide for a groundwater monitoring plan in accordance with the requirements for GroundWater Monitoring and Corrective Action as provided in Rule 391-3-4-.14. A surface water monitoring plan which will determine the impact of the facility on all adjacent surface waters must also be included.

(m) Closure Criteria: the design must provide for proper closure in accordance with Rule 391-3-4-.11.

(n) Post-Closure Care: the design must provide for Post-closure care in accordance with

Rule 391-3-4-.12.

(o) Financial Responsibility: the design must provide for financial responsibility in accordance with Rule 391-3-4-.13.

(2) Construction Certification: upon receipt of a final and effective solid waste handling permit, construction may commence in accordance with the approved design and operational plan and permit conditions. Prior to receipt of solid waste, the Division must be provided with written certification by a professional engineer licensed to practice in Georgia, that the facility has been constructed in accordance with the approved permit. Unless notified otherwise by the Division, within 15 days of receipt by the Division of the written certification, the facility owner or operator may commence disposal of solid waste. This process shall be repeated for each subsequent major construction phase, including but not limited to, new cells or trenches, additional monitoring wells, sediment ponds, leachate treatment systems, modifications adding a new solid waste handling process, and application of final cover.

(3) Any person engaged in the operation of landfills shall comply with the following performance requirements:

(a) Air Criteria.

1. Owners or operators of all MSWLFs must ensure that the units not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the U.S. Environmental Protection Agency pursuant to Section 110 of the Clean Air Act, as amended.

2. Open burning of solid waste, except for the infrequent burning of agricultural wastes, silvicultural wastes, landclearing debris, diseased trees, or debris from emergency cleanup operations, is prohibited at all MSWLF units.

(b) Unloading: solid waste unloading shall be restricted to the working face of the operation in such manner that waste may be easily incorporated into the landfill with available equipment. (c) Procedures for excluding receipt of prohibited wastes:

1. Not later than October 1, 1993, owners or operators of all landfills must implement a program at the facility for detecting and preventing the disposal of regulated quantities of hazardous wastes as defined in the Rules for Hazardous Waste Management, Chapter 391-3-4-11, polychlorinated biphenyls (PCB) wastes as defined in 40 CFR, Part 761, and other wastes prohibited by Rule 391-3-4-.04, or the facility's permit. This program must include, at a minimum:

a. random inspections of incoming loads unless the owner or operator takes other steps to ensure that incoming loads do not contain prohibited wastes:

b. records of any inspections:

c. training of facility personnel to recognize prohibited wastes; and

d. notification of the Director if a prohibited waste is discovered at the facility.

2. The procedures must be made a part of the operating record.

(d) Spreading and Compaction: solid waste shall be spread in uniform layers and compacted to its smallest practical volume before covering with earth.

(e) Daily Cover:

1. Except as provided in paragraph 2. of this section, the owner or operator of all MSWLF units must cover disposed solid waste with six inches of earthen material at the end of each operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging.

2. Alternative materials (such as foams or tarps) of an alternative thickness (other than at least six inches of earthen material) may be approved by the Director if the owner or operator demonstrates that the alternative material and thickness control disease vectors, fires, odors, blowing litter, and scavenging without presenting a threat to human health and the environment.

(f) Disease Vector Control.

1. Owners or operators of all MSWLF units must prevent or control on-site populations of disease vectors using techniques appropriate for the protection of human health and environment.

2. For purposes of this Rule, "disease vectors" means any rodents, flies, mosquitoes, or other animals, including insects, capable of transmitting disease to humans.

(g) Intermediate Cover: a uniform compacted layer of clean earth cover not less than one (1) foot in depth shall be placed over each portion of any intermediate lift following completion of that lift.

(h) Explosive Gases Control.

1. Owners or operators of all MSWLF units must ensure that:

a. The concentration of methane gas generated by the facility structures (excluding gas control or recovery system components); and

b. The concentration of methane gas does not exceed the lower explosive limit for methane at the facility property boundary.

2. Owners or operators of all MSWLF units must implement a routine methane monitoring program to ensure that the standards of this section are met.

a. The type and frequency of monitoring must be determined based on the following factors: (i) Soil conditions:

(ii) The hydrogeologic conditions surrounding the facility;

(iii) The hydraulic conditions surrounding the facility;

(iv) The location of facility structures and property boundaries. b. The minimum frequency of monitoring must be quarterly.

3. If methane gas levels exceeding the limits specified in this section are detected, the owner or operator must:

a. Immediately take all necessary steps to ensure protection of human health and notify the Director;

b. Within seven days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and

c. Within 60 days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the Director that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy.

4. For purposes of this section, lower explosive limit means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25°C and atmospheric pressure.

(i) Run-on/Run-off Control.

1. Owners or operators of all MSWLF units must design, construct, and maintain:

a. A run-on control system to prevent flow onto the active portion of the landfill during the peak discharge from a 25-year storm;

b. A run-off control system from the active portion of the landfill to collect and control at

least the water volume resulting from a 24-hour, 25-year storm.

2. Run-off from the active portion of the landfill unit must be handled in accordance with section (g) of this Rule.

(j) Surface water requirements; MSWLF units shall not:

1. Cause a discharge of pollutants into waters of the state or the United States, including wetlands, that violates any requirements of the Clean Water Act, including, but not limited to, the National Pollutant Discharge Elimination system (NPDES) requirements pursuant to section 402:

2. Cause the discharge of a nonpoint source of pollution to waters of the state or the United States, including wetlands, that violates any requirement of an area-wide or State-wide water quality management plan that has been approved under section 208 or 319 of the Clean Water Act, as amended.

(k) Continuity of Operation: all-weather access roads shall be provided to the working face of the disposal operation and provisions shall be made for prompt equipment repair or replacement when needed.

(1) Environmental Protection: the landfill shall be operated in such manner as to prevent air, land, or water pollution, and public health hazards.

(m) Prohibited Waste: no liquids, except as allowed in subparagraph (9) of Rule 391-3-4-.04(9), lead acid batteries, radioactive waste, or regulated quantities of hazardous waste may be accepted. The operator must have a plan for excluding these wastes.

(n) Supervision: the disposal facility shall be under the supervision of an operator who is properly trained in the operation of landfills and the implementation of Design and Operational Plans and who, if the facility is a municipal solid waste disposal facility, is certified in accordance with O.C.G.A. 12-8-24.1 and these Rules.

(o) Limited Access: access to landfills shall be limited to authorized entrances which shall be closed when the site is not in operation. Owners and operators of all landfills must control public access and prevent unauthorized vehicular traffic and illegal dumping of wastes by using artificial barriers, natural barriers, or both, as appropriate to protect human health and the environment.

(p) Litter Control: scattering of wastes by wind shall be controlled by fencing or other barriers and the entire site shall be inspected daily and all litter removed.

(q) Fire Protection: suitable measures to control fires that may start shall be provided. Stockpiled soil is considered to be the most satisfactory fire fighting material.

(r) Erosion and Sedimentation Control: all erosion and sedimentation control measures or facilities, whether temporary or permanent, shall be continuously maintained by the operator so as to be effective. Runoff from the facility must be directed to permanent sediment control impoundments which are designed to assure discharges meeting the requirements of O.C.G.A.12-7-6(18). Erosion and sedimentation control measures and facilities will be employed prior to and concurrent with clearing, grading, overburden removal, access or other land disturbing activities for preparation of the site for landfilling. Immediate measures must be implemented to establish vegetation on disturbed exposed soil which will not be a part of the waste disposal area or which will remain exposed for more than three (3) months.

(s) Information Posted: signs shall be posted at the entrance to landfills indicating the days and hours of operation.

(t) Prohibited Acts: the landfill shall be operated and maintained to prevent open

burning, scavenging, and the open dumping of wastes.

(u) Recordkeeping Requirements.

1. Not later than October 1, 1993, the owner or operator of a MSWLF unit must record and retain near the facility in an operating record or in an alternative location approved by the Director the following information as it becomes available:

a. Any location restriction demonstration required under Rule 391-3-4-.05;

b. Inspection records, training procedures, and notification procedures required in ~~section~~ subparagraph (c) of this Rule;

c. Gas monitoring results from monitoring and any remediation plans required by paragraph (h) of this section;

d. Any MSWLF unit design documentation for placement of leachate or gas condensate in a MSWLF unit as required under paragraph (9) of Rule 391-3-4-.04;

e. Any demonstration, certification, finding, monitoring, testing, or analytical data required by Rule 391-3-4-.14;

f. Closure and post-closure care plans and any monitoring, testing, or analytical data as required by Rule 391-3-4-.11 and Rule 391-3-4-.12; and

g. Any cost estimates and financial assurance documentation required by Rule 391-3-4-.13.

2. The owner/operator must notify the Director when the documents from paragraph 1. of this section have been placed or added to the operating record, and all information contained in the operating record must be furnished on request to the Director or be made available at all reasonable times for inspection by the Director.

3. The Director can set alternative schedules for recordkeeping and notification requirements as specified in paragraphs 1. and 2. of this section, except for the notification requirements in Rule 391-3-4-.05(1) (c), Airport Safety, and Rule 391-3-4-.14 (30) (a) 3, Assessment Monitoring.

(v) Ground and Surface Water Monitoring: all water monitoring points shall be sampled in accordance with the approved plans or with any directive issues by the Division. Analytical results must be submitted to the Division in accordance with the approved time schedules. It shall be the responsibility of the facility owner or operator to promptly report any exceedance of established standards. All monitoring reports must be accompanied by a statement certifying, for those constituents which have established standards, that established standards have been complied with or certifying noncompliance.

(w) Survey Control: survey control shall be provided by the owner and/or operator as indicated on the approved design and operational plan. Site survey control shall be provided to ensure the operation will be on permitted lands. Survey control will be accomplished through use of permanent, accessible benchmarks, survey control stakes, and/or boundary markers which designate and/or delineate all permitted areas. Where necessary for construction or operational purposes, vertical as well as horizontal survey control will be established and maintained to delineate fill boundaries, buffers, structural designs, and property boundaries.

(x) Additional Stipulations: notwithstanding the above, additional stipulations for owning or operating a landfill may be imposed by the Director as deemed necessary to carry out the purposes of O.C.G.A. 12-8-20, *et seq.*

(4) Other Disposal Operations.

(a) Industrial Waste Disposal Facilities: industrial waste disposal facilities permitted to

receive only a single type industrial waste (monofil) or receive only a single industry's waste may be given a variance by the Director from installing liners and leachate collection systems, applying daily cover, installing ground water and surface water monitoring systems and monitoring for methane gas if the applicant can demonstrate to the satisfaction of the Director that the waste to be disposed of would not cause odors or be attractive to disease vectors or birds or generate methane gas. Unless a variance is granted, the applicant must demonstrate compliance with all applicable provisions of this Rule. Disposal facilities accepting wastes from more than one industrial source, unless the facility is a monofil, must meet all standards applicable to municipal solid waste landfills in Chapter 391-3-4. CCR Units are exempt from the requirements of this Rule and must meet requirements in Rule 391-3-4-.10.

(b) Construction/Demolition Facilities: disposal facilities permitted to receive only construction and demolition wastes, unless such waste includes household waste, may be given a variance by the Director from installing liners and leachate collection systems and applying daily cover if the applicant can demonstrate to the satisfaction of the Director that the waste to be disposed of would not cause odors or be attractive to disease vectors or birds. Unless a variance is granted, the applicant must demonstrate compliance with all applicable provisions of this Rule. All other provisions of Chapter 391-3-4 applicable to municipal solid waste landfills must be met.

(c) Inert Waste Landfill Facilities: disposal facilities are permitted to receive only waste that will not or is not likely to produce leachate of environmental concern. Only earth and earth-like products, concrete, cured asphalt, rock, bricks, yard trimmings, and land clearing debris such as stumps, limbs and leaves, are acceptable for disposal in an inert waste landfill. Inert waste landfill facilities must be designed by a professional engineer registered to practice in Georgia to comply with the following standards:

1. Buffers: No portion of waste disposal area shall be located within one hundred (100) linear feet of any property line or enclosed structure.
2. Survey Control: site survey control shall be provided to ensure the operation will be on permitted lands. Survey control will be accomplished through use of permanent, accessible benchmarks, survey control stakes, and/or boundary markers which designate and/or delineate all permitted areas. Survey control shall be as indicated on the design and operational plan. Where necessary for construction or operational purposes, vertical as well as horizontal survey control will be established and maintained to delineate fill boundaries, buffers, and property boundaries.
3. Siting: waste shall not be located in wetlands or floodplains, and waste shall not be placed within five feet of the permanent water table. A demonstration must be included in the design and operational plan on how these requirements will be met.
4. Explosive Gases Control: the plan must implement a routine methane monitoring program to ensure that the concentration of methane gas generated by the facility does not exceed 25 percent of the lower explosive limit for methane for on-site enclosed structures and does not exceed the lower explosive limit for methane at the facility property boundary. The type of monitoring must be determined based on 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. The minimum frequency of monitoring must be quarterly. If methane gas levels exceeding the limits specified in this section are detected, the

owner or operator must: immediately take all necessary steps to ensure protection of human health and notify the Director; within seven days of detection, place in the operating record the methane gas levels detected and a description of the steps taken to protect human health; and within 60 days of detection, implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, and notify the Director that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy.

If a facility can demonstrate that no organic component of the inert waste stream has been accepted or will be accepted in the future, a variance from the explosive gases control requirements may be requested for review with the application for inert waste landfill permit request.

5. Sequence of Filling: the plan must define a sequence of filling showing a detailed progression of filling the entire site that minimizes any problems with drainage and all weather access roads to the working face.

6. Spreading/Compaction/Monthly Cover: materials placed in inert waste landfills shall be spread in layers and compacted to the least practical volume; and, a uniform compacted layer of clean earth cover no less than one (1) foot in depth shall be placed over all exposed inert waste material at least monthly.

7. Erosion and Sedimentation Control: all surface runoff from disturbed areas must be controlled by use of appropriate erosion and sedimentation control measures or devices. Best management practices (BMPs) from the Manual for Erosion and Sediment Control in Georgia should be utilized.

8. Vegetation: the plan must call for the vegetation of any disturbed area that will remain exposed for more than three (3) months. Vegetation of final cover must take place within two (2) weeks after final cover placement.

9. Fire Protection: suitable means shall be provided to prevent and control fires. Stockpiled soil is considered to be the most satisfactory fire fighting material. A minimum of one month of cover material must be maintained within 200 feet of the working face for fire fighting purpose, unless other acceptable means have been provided and approved by the Director.

10. Limited Access: access to inert waste landfills shall be limited to authorized entrances which shall be closed when the site is not in operation.

11. Final Grading: the inert waste landfill site shall be graded and drained to minimize runoff onto the landfill surface, to prevent erosion and to drain water from the surface of the landfill. The grade of the final surface of the facility may not be less than 3 percent nor greater than 33 percent.

12. Final Cover: a uniform compacted layer of final cover not less than two (2) feet in depth and a vegetative cover shall be placed over the final lift not later than one month following final placement of inert waste within that lift.

13. Final Closure: notice of final closure must be provided to the Director within 30 days of receiving the final load of waste. Any site not receiving waste for in excess of 180 days shall be deemed abandoned and in violation of these Rules unless properly closed. Notice of closure must include the date of final waste receipt and an accurate legal description of the boundaries of the landfill.

14. Deed Notice: all deeds for real property which have been used for landfilling shall include notice of the landfill operations, the date the landfill operation commenced and

terminated, an accurate legal description of the actual location of the landfill, and a description of the type of solid wastes which have been deposited in the landfill. Concurrent with the submission of notice of final closure to the Director, the owner or operator must submit to the Director confirmation that the information required in this section has been noticed on the property deed.

15. Reporting: all wastes received at the landfill must be measured and reported as required by Rule 391-3-4-.17.

16. Post-Closure Care: the design must provide for post-closure care for a minimum of thirty (30) years. If a demonstration can be made that the site is no longer producing methane, the post closure care period may be reduced, but in no circumstance shall it be reduced to less than 5 years.

17. Financial Responsibility: the design must provide for financial responsibility in accordance with Rule 391-3-4-.13.

18. Other Laws: compliance with all other applicable federal, state, and local laws, rules, and ordinances, including local zoning, land use ordinances, and any applicable federal wetlands permits, must be demonstrated in the application for solid waste handling.

(d) Construction and operation of a solid waste handling facility for which specific rules have not been developed is prohibited unless same are consistent with the policies and intent of O.C.G.A. 12-8-20, *et. seq.*, and are permitted by the Director.

(5) CCR Management Plan. Owners or operators of MSWLS and Commercial Industrial Landfills must incorporate a CCR management plan into the facility's Design and Operational Plan before the initial receipt of CCR. MSWLS and Commercial Industrial Landfills that accepted CCR before the effective date of the Rule and will continue to accept CCR after the effective date must incorporate a CCR management plan into the facility's Design and Operational Plan by minor modification within 180 days from the effective date of the Rule. The owner or operator shall notify the local governing authorities of any city and county in which the landfill is located upon the submittal of the CCR Management Plan by EPD.

Authority: O.C.G.A. §. 12-8-20 et seq., as amended.

### **391-3-4.10 Repealed. Coal Combustion Residuals.**

#### (1) Applicability.

##### (a) This Rule applies to the following:

1. Owners and operators of new and existing landfills and surface impoundments, including any lateral expansions of such units that dispose or otherwise engage in solid waste management of CCR generated from the combustion of coal at electric utilities and independent power producers. Unless otherwise provided in this Rule, these requirements also apply to disposal units located off-site of the electric utility or independent power producer.

##### 2. All CCR units.

3. Any practice that does not meet the definition of a beneficial use of CCR.

(b) This Rule does not apply to the following:

1. Wastes, including fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated at facilities that are not part of an electric utility or independent power producer, such as manufacturing facilities, universities, and hospitals.

2. Fly ash, bottom ash, boiler slag, and flue gas desulfurization materials, generated primarily from the combustion of fuels (including other fossil fuels) other than coal, for the purpose of generating electricity unless the fuel burned consists of more than fifty percent (50%) coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal.

3. CCR placement at active or abandoned underground or surface coal mines.

4. Municipal Solid Waste Landfills and Commercial Industrial Landfills that receive CCR.

(c) Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments 40 CFR 257.60 through 257.107, effective on October 19, 2015 are hereby incorporated and adopted by reference with the following exception:

1. 40 CFR 257.104 Paragraph (a)(3) is excluded.

(d) Any reference to 40 C.F.R. Parts in any provisions adopted by reference shall be construed to refer to the provisions contained in the following sections of these Rules:

<u>Federal Regulation Reference</u>	<u>Georgia Rule Reference</u>
<u>40 C.F.R. Part 257.53</u>	<u>391-3-4-.10(2)</u>
<u>40 C.F.R. Parts 257.60 – 257.64</u>	<u>391-3-4-.10(3)</u>
<u>40 C.F.R. Parts 257.70 – 257.74</u>	<u>391-3-4-.10(4)</u>
<u>40 C.F.R. Parts 257.80 – 257.84</u>	<u>391-3-4-.10(5)</u>
<u>40 C.F.R. Parts 257.90 – 257.98</u>	<u>391-3-4-.10(6)</u>
<u>40 C.F.R. Parts 257.100 – 257.104</u>	<u>391-3-4-.10(7)</u>
<u>40 C.F.R. Parts 257.105 - 107</u>	<u>391-3-4-.10(8)</u>

(2) Definitions.

(a) Definitions in 40 CFR 257.53 are incorporated by reference into this section and are applicable to CCR units with the following additions and revision:

1. "Dewatered Surface Impoundment" means a CCR surface impoundment that no longer receives CCR on or after October 19, 2015 and does not contain liquids on or after October 19, 2015.

2. "NPDES-CCR Surface Impoundment" means a CCR surface impoundment that no longer receives CCR on or after October 19, 2015 which still contains both CCR and liquids and is located at an electric utility or independent power producer that has ceased producing electricity prior to October 19, 2015.

3. "Inactive CCR Landfill" means a CCR landfill that no longer receives CCR and other wastes on or after October 19, 2015.

4. The following text shall be substituted for the fourth condition in the definition of Beneficial use of CCR "(4) For unencapsulated use of CCR, the user must demonstrate to the Division and provide documentation to the Division that environmental releases to groundwater, surface water, soil, and air are comparable to or lower than those from analogous products made without CCR, or that environmental releases to groundwater, surface water, soil, and air will be at or below relevant regulatory and health-based benchmarks for human and ecological receptors during use."

(3) Location Restrictions.

(a) New CCR landfills, existing and new CCR surface impoundments, and all lateral expansions of CCR units must meet the location restrictions in 40 CFR 257.60, 40 CFR 257.61, 40 CFR 257.62, and 40 CFR 257.63.

(b) Existing or new CCR landfills, existing or new CCR surface impoundments, or lateral expansions of a CCR unit must meet the location restrictions in 40 CFR 257.64.

(c) For new and lateral expansions of CCR units, the hydrogeological evaluation for a specific site must be performed by a qualified groundwater scientist.

(d) For new and lateral expansions of CCR units, when the geological and hydrogeological data so indicate, the Division may specify greater separation distances to protect groundwater.

(e) Buffers: New CCR units and lateral expansions of CCR units must provide a 200-foot undisturbed buffer between the waste disposal boundary and the boundary of the permitted facility and a minimum 500-foot buffer between the waste disposal boundary and any occupied dwelling and the dwelling's operational private, domestic water supply well in existence on the date of the permit application. The 500-foot buffer may be reduced if the current owner of the dwelling provides a written waiver consenting to the waste disposal boundary being closer than 500 feet. No disposal or storage practices for waste shall take place in the buffer zones.

(4) Design Criteria.

(a) New CCR landfills and lateral expansions of CCR landfills shall be designed in accordance with 40 CFR 257.70.

(b) Existing CCR surface impoundments shall comply with liner design criteria in 40 CFR 257.71 and the structural integrity criteria in 40 CFR 247.73.

(c) New CCR surface impoundments and lateral expansions of CCR surface impoundments shall be designed and comply with requirements in 40 CFR 257.72 and 40 CFR 257.74.

(5) Operating Criteria.

(a) CCR landfills shall be operated in accordance with the criteria in 40 CFR 257.80, 40 CFR 257.81, and 40 CFR 257.84.

(b) CCR surface impoundments shall be operated in accordance with the criteria in 40 CFR 257.80, 40 CFR 257.82, and 40 CFR 257.83.

(c) The operation and use of the CCR unit shall be as stipulated in the solid waste handling permit.

(6) Groundwater Monitoring and Corrective Action.

(a) CCR units are subject to the groundwater monitoring and corrective action requirements in 40 CFR 257.90, 40 CFR 257.91, 40 CFR 257.93, 40 CFR 257.94, 40 CFR 257.95, 40 CFR 257.96, 40 CFR 257.97, and 40 CFR 257.98.

(b) When referenced in this Rule, Appendix III and Appendix IV constituents shall refer to those constituents as listed in Appendix III and IV of 40 CFR Part 257, Subpart D, 80 FR 21468, (Apr. 17, 2015), which are hereby incorporated by reference.

(c) The owner or operator of a CCR unit must submit a semi-annual report to the Division to coincide with the semi-annual sampling event. A qualified groundwater scientist must certify the report.

(d) The Division must provide concurrence with the following actions in order for them to be complete:

1. Groundwater monitoring system design
2. Groundwater sampling and analysis plan
3. Groundwater monitoring well installation

4. Alternate source demonstration

5. Selection of remedy

6. Completion of remedy

(e). The Director may require the analysis of additional parameters based on waste descriptions.

(f) An owner or operator of a CCR unit shall continue to monitor for Appendix I or II constituents if these constituents have previously been detected at statistically significant levels above background concentrations.

(g) Monitoring wells require replacement after two dry sampling events, unless an alternate schedule has been approved by the Division. A minor modification shall be submitted in accordance with subparagraph (4)(b)7 of Rule 391-3-4.02 prior to the installation or decommissioning of monitoring wells. Well installation must be directed by a qualified groundwater scientist.

(7) Closure and Post-Closure Care.

(a) Inactive surface impoundments are subject to the requirements in 40 CFR 257.100.

1. The following additional requirements apply to inactive surface impoundments that complete closure requirements in 40 CFR 257.100(b)(1) through (b)(4) no later than April 17, 2018:

(i) Permitting requirements in Rule 391-3-4-.10(9)

(ii) Groundwater monitoring and corrective action requirements in Rule 391-3-4-.10(6)

2. CCR surface impoundments that complete closure through removal of CCR and meet all of the requirements of 40 CFR 257.100 (b)(5) no later than April 17, 2018 are subject only to the requirements in subparagraph (9)(c)6(v)(I) of Rule 391-3-4-.10.

(b) Closure or retrofit of existing, new, and lateral expansions of CCR units shall be conducted in accordance with 40 CFR 257.101, 40 CFR 257.102, and 40 CFR 257.103.

(c) The owner or operator must close the CCR unit in accordance with the written closure plan.

(d) A notice of intent to close must be provided to the Director after receipt of the final load of waste.

(e) Upon completion of closure activities, a professional engineer registered in Georgia shall prepare and submit a closure report to the Director. The closure report must be completed on forms provided by the Division. If the Director concurs with the closure report, closure will be deemed complete and the facility may begin the post-closure care period.

(f) Concurrent with the submission of this closure report to the Director, the owner or operator must submit confirmation to the Director that a notation on the property deed has been recorded. This recording must in perpetuity notify any potential purchaser of the property that the land has been used as a CCR unit and that its use is restricted under the post closure care requirements of this Rule.

(g) Post-Closure care for existing, new, and lateral expansions of CCR units shall be conducted in accordance with 40 CFR 257.104 with the following exception and additions:

1. An owner or operator of an inactive surface impoundment that elects to close a CCR unit pursuant to the requirements under 40 CFR 257.100(b) is subject to the post-closure care criteria in 40 CFR 257.104.

2. CCR units must comply with the conditions of the solid waste handling permit.

3. The release of CCR units from post-closure care must be approved by the Division.

(8) Recordkeeping, Notification, and Posting of Information to the Internet.

(a) The requirements of 40 CFR 257.105, 40 CFR 257.106, and 40 CFR 257.107 are incorporated by reference with the following addition:

1. Electronic mail sent to a designated EPD recipient is an authorized form of notification when approved by EPD.

(9) Permits.

(a) CCR Permit Applications: After the effective date of this Rule, owners and operators of all CCR units are required to submit to the director a permit application that meets the requirements of this Rule. Separate permits are required for each CCR unit.

1. Owners and operators of new CCR units are required to submit to the director a complete permit application prior to the initial receipt of CCR.

2. Owners and operators of all CCR units shall submit a complete permit application no later than two years from the effective date of the Rule.

3. Owners and operators of CCR units with existing solid waste handling permits on the effective date of the Rule must submit an application for Major Modification.

(b) All CCR unit permit applications must include the following:

1. A completed form designated by EPD.
2. Written verification that the site conforms to all local zoning or land use ordinances.
3. Property boundary survey and legal description.
4. Financial assurance mechanism meeting the criteria in Rule 391-3-4-.13.
5. A qualified professional engineer's certification that all application requirements have been met.

(c) Additional permit application requirements for CCR Units by Facility Type:

1. New CCR landfills or lateral expansion of CCR landfills

(i) Technical data and report to comply with location restrictions in 40 CFR 257.60, 40 CFR 257.61, 40 CFR 257.62, 40 CFR 257.63, and 40 CFR 257.64.

(ii) Siting report that meets the criteria specified in "Criteria for Performing Site Acceptability Studies for Solid Waste Landfills in Georgia", Circular 14, Appendix A. The report shall be prepared by a qualified groundwater scientist.

(iii) Plan and profile sheets of the disposal area. The plan and profile sheets shall include topographical maps at contour intervals of not more than five feet for the existing ground surface elevations, initial disposal area elevations, final disposal area elevations, and buffers.

(iv) Design of a liner and leachate collection system as required by 40 CFR 257.70.

(v) Quality assurance/quality control (QA/QC) plan for the construction of the liner system, leachate collection system, and the final cover system.

(vi) An operation plan that includes at a minimum:

(I) A fugitive dust plan in compliance with 40 CFR 257.80.

(II) A run-on and run-off control plan in compliance with 40 CFR 257.81.

(III) Inspection requirements in compliance with 40 CFR 257.84.

(IV) Identification of any uniquely associated wastes as listed in 40 CFR 261.4(b)(4), the estimated quantities generated by the facility, and a description of how these wastes will be managed.

(V) Procedures for compliance with recordkeeping, notification, and posting of information to the internet as required by 40 CFR 257.105, 40 CFR 257.106, and 40 CFR 257.107.

(VI) Procedures for updating all plans and assessments periodically as required by 40 CFR Part 257.

(vii) A groundwater monitoring plan in accordance with Rule 391-3-4-.10(6).

(viii) A closure and post-closure plan in accordance with Rule 391-3-4.10(7).

(ix) Any additional information that may be required by the Division.

2. New Surface Impoundments or lateral expansions of surface impoundments

(i) Technical data and report to comply with location restrictions in 40 CFR 257.60, 40 CFR 257.61, 40 CFR 257.62, 40 CFR 257. 63, and 40 CFR 257.64.

(ii) Siting report that meets the criteria specified in “Criteria for Performing Site Acceptability Studies for Solid Waste Landfills in Georgia”, Circular 14, Appendix A. The report shall be prepared by a qualified groundwater scientist.

(iii) Technical report for the hazardous potential classifications as outlined in 40 CFR 257.74 and the emergency action plan if required by 40 CFR 257.74.

(iv) For a new CCR surface impoundment that has a height of five feet or more and a storage volume of 20 acre-feet or more, or a surface impoundment with a height of 20 feet or more, the application shall include the following:

(I) Design and construction plan requirements in 40 CFR 257.74.

(II) Structural stability assessment as required by 40 CFR 257.74.

(III) Safety factor assessment as required by 40 CFR 257.74.

(v) Design of a liner system as required by 40 CFR 257.72.

(vi) Quality assurance/quality control (QA/QC) plan for the construction of the liner system, leachate collection system, and the final cover system.

(vii) An operation plan that includes at a minimum:

(I) A fugitive dust plan in compliance with 40 CFR 257.80.

(II) An inflow design flood control system in compliance with 40 CFR 257.82.

(III) Inspection requirements in compliance with 40 CFR 257.83.

(IV) Identification of any uniquely associated wastes as listed in 40 CFR 261.4(b)(4), the estimated quantities generated by the facility, and a description of how these wastes will be managed.

(V) Procedures for compliance with recordkeeping, notification, and posting of information to the internet as required by 40 CFR 257.105, 40 CFR 257.106, and 40 CFR 257.107.

(VI) Procedures for updating all plans and assessments periodically as required by 40 CFR Part 257.

(viii) A groundwater monitoring plan in accordance with Rule 391-3-4-.10(6).

(ix) A closure and post-closure plan in accordance with Rule 391-3-4-.10(7).

(x) Any additional information that may be required by the Division.

### 3. Existing CCR landfills

(i) Location restriction demonstration requirements in 40 CFR 257.64.

(ii) Description of how the CCR landfill's operating criteria requirements in 40 CFR 257.80, 40 CFR 257.81, and 40 CFR 257.84 are met.

(iii) Groundwater monitoring plan in accordance with 391-3-4-.10(6). Explanation of how groundwater monitoring and corrective action criteria requirements in 40 CFR 257.90, 40 CFR 257.91, 40 CFR 257.93, 40 CFR 257.94, 40 CFR 257.95, 40 CFR 257.96, 40 CFR 257.97, and 40 CFR 257.98 are met.

(iv) Explanation of how closure and post-closure care requirements in 40 CFR 257.101, 40 CFR.102, 40 CFR 257.103, and 40 CFR 257.104 will be met.

(v) Website address for information required to be posted by 40 CFR 257.105, 40 CFR 257.106, and 40 CFR 257.107.

4. Inactive CCR landfills must meet requirements subparagraphs (9)(c)3.(i) – (iv) of this Rule for an existing CCR landfill.

### 5. Existing Surface Impoundments

(i) Location restriction demonstrations required by 40 CFR 257.60, 40 CFR 257.61, 40 CFR 257.62, 40 CFR 257. 63, and 40 CFR 257.64.

(ii) Description of the CCR surface impoundment's design criteria required by 40 CFR 257.71 and 40 CFR 257.73.

(iii) Description of how the CCR surface impoundment's operating criteria required by 40 CFR 257.80, 40 CFR 257.82, and 40 CFR 257.83 are met.

(iv) Groundwater monitoring plan in accordance with Rule 391-3-4-.10(6). Explanation of how groundwater monitoring and corrective action criteria required by 40 CFR 257.90, 40 CFR 257.91, 40 CFR 257.93, 40 CFR 257.94, 40 CFR 257.95, 40 CFR 257.96, 40 CFR 257.97, and 40 CFR 257.98 are met.

(v) Explanation of how closure and post-closure care requirements found in 40 CFR 257.101, 40 CFR.102, 40 CFR 257.103, and 40 CFR 257.104 will be met.

(vi) Website address for information required to be posted by 40 CFR 257.105, 40 CFR 257.106, and 40 CFR 257.107.

6. Inactive Surface Impoundments. An owner or operator of an inactive surface impoundment shall complete closure of the CCR unit as specified in 40 CFR 257.100 no later than April 17, 2018 or submit a permit application for an existing CCR surface impoundment, including:

(i) Technical data and report showing compliance with 40 CFR 257.100.

(ii) Technical report of geological and hydrogeological units within the disposal site.

(iii) Potentiometric surface map of the water table.

(iv) Siting report which includes identification of wetlands, floodplains, and seismic impact zones.

(v) Written closure plan that includes at a minimum:

(I) Narrative describing how the CCR unit will be closed including the elimination of free liquids and stabilization of remaining waste or by closure through removal of CCR.

(II) Identification of any pipes, utilities, or other penetrations through or beneath the impoundment. The inspection frequency and method of evaluation should be provided.

(III) Final cover analysis.

(vi) Stability analysis that, at a minimum, includes the following:

(I) On-site or local soil conditions that may result in significant differential settling.

(II) On-site or local geologic or geomorphologic features.

(III) On-site or local human-made features or events, both surface and subsurface.

(vii) Groundwater monitoring plan in accordance with Rule 391-3-4-.10(6).

(viii) Closure through removal of CCR is subject only to (v)(I) above and is not subject to the financial assurance requirements of Rule 391-3-4-.13.

#### 7. NPDES – CCR Surface Impoundments

(i) Technical report of geological and hydrogeological units within the disposal site.

(ii) Potentiometric surface map of the water table.

(iii) Siting report which includes identification of wetlands, floodplains, and seismic impact zones.

(iv) Closure plan that includes at a minimum:

(I) Narrative describing how the CCR unit will be closed including the elimination of free liquids and stabilization of remaining waste or by closure through removal of CCR.

(II) Identification of any pipes, utilities, or other penetrations through or beneath the impoundment. The inspection frequency and method of evaluation should be provided.

(III) Final cover analysis.

(v) Stability analysis that at a minimum includes the following:

(I) On-site or local soil conditions that may result in significant differential settling.

(II) On-site or local geologic or geomorphologic features.

(III) On-site or local human-made features or events, both surface and subsurface.

(vi) Groundwater monitoring plan in accordance with Rule 391-3-4-.10(6).

(vii) Closure through removal of CCR is subject only to (iv)(I) above and is not subject to the financial assurance requirements of Rule 391-3-4-.13.

#### 8. Dewatered Surface Impoundments

(i) Demonstration that closure procedures have minimized the threat to human health and the environment.

(ii) Stability analysis.

(iii) Final cover analysis.

(iv) Groundwater monitoring plan in accordance with Rule 391-3-4-.10(6).

(10) Financial Assurance.

(a) All CCR units must meet requirements in Rule 391-3-4-.13.

(11) Variances.

(a) A compliance schedule variance for CCR units not meeting the minimum criteria may be considered upon the following:

1. A demonstration that no alternative units meeting the minimum requirement either on-site or off-site can be used to dispose of the CCR or non-CCR wastewater;

2. A demonstration that the owner or operator is unable to use other public or private alternatives to manage the waste in the non-compliant unit; and

3. The schedule of compliance must specify remedial measures and an enforceable sequence of actions or operations leading to compliance within a reasonable time not to exceed time frames as specified in 40 CFR 257.102.

(b) Other variances may be granted under Rule 391-3-4-10 which are not less stringent than those found in 40 CFR 257.60 through 257.107, effective on October 19, 2015.

Authority: O.C.G.A. §. 12-8-20 et seq., as amended.

**391-3-4-.11 Closure Criteria. Amended.**

(1) 40 CFR Part 258, Subpart F, Section 258.60, as amended, 56 Fed. Reg. 51028-51029 (October 9, 1991) is hereby incorporated by reference, except that it shall be effective upon adoption by the Board and filing with the Secretary of State and except as described below.

(2) This Rule shall be applicable to all solid waste handling facilities.

(3) A copy of the closure plan required by paragraph (1) of this Rule must be submitted as part of the application for a permit, or in the case of existing sites, within 180 days of being directed to do so by the Director, provided, however, that all owners or operators of existing municipal solid waste landfills must submit a plan not later than October 1, 1993.

(4) Notice of final closure must be provided to the Director within 30 days of receiving the final load of waste. Any site not receiving waste for in excess of 180 days, unless otherwise approved by the Division, shall be deemed closed and in violation of these

Rules unless properly closed. Notice of closure must include the date of final waste receipt and an accurate legal description of the boundaries of the landfill.

(5) All deeds for real property which have been used for landfilling shall include notice of the landfill operations, the date the landfill operation commenced and terminated, an accurate legal description of the actual location of the landfill, and a description of the type of solid wastes which have been deposited in the landfill. Concurrent with the submission of notice of final closure to the Director, the owner or operation must submit to the Director confirmation that the information required in this section has been noticed on the property deed.

(6) The owner or operator must close the solid waste disposal facility in accordance with a closure plan approved by the Division. Upon completing all requirements specified to close the facility outlined in the closure plan, the owner or operator must provide the Division with a certification signed by a registered professional engineer, registered in the state of Georgia, to verify that compliance with the closure requirements have been satisfied.

(7) The closure certification as provided in paragraph (6) of this Rule must be completed on forms provided by the Division. If certification is accepted by the Division, the Director will issue the Closure Certificate and establish the beginning of the post-closure care period.

(8) Owners and operators of CCR units are exempt from this Rule and must meet the closure requirements in Rule 391-3-4-.10.

Authority: O.C.G.A. §. 12-8-20 et seq., as amended.

#### **391-3-4-.12 Post-Closure Care. Amended.**

(1) 40 CFR Part 258, Subpart F, Section 258.61, as amended, 56 Fed. Reg. 51028-51029 (October 9, 1991) is hereby incorporated by reference, except that it shall be effective upon adoption by the Board and filing with the Secretary of State and except as described below:

(2) The owner and/or operator of all landfills must conduct post-closure care for at least thirty (30) years after the Director has authorized the Closure Certificate, provided however, that the Director may reduce the post-closure care period to 5 years for those facilities which are not contaminating groundwater and which cease to accept solid waste prior to being classified as an "existing MSWLF or landfill unit", as defined in Rule .01. The Director may extend the post-closure care period where necessary to adequately protect human health and the environment.

(3) The owner and/or operator shall be responsible for conducting all monitoring activities. At any time the monitoring results indicate exceeding of established standards or indicate a threat to human health or the environment, the owner and/or operator shall notify the Division within 5 days of such determination and shall provide a plan for remediation within 30 days of such notice. The plan shall be submitted to the Director for approval. Unless notified otherwise by the Division within 30 days of receipt of a complete plan, the plan shall stand approved. Upon approval, the owner and/or operator shall implement the approved plan.

(4) Post-closure use of property must never be allowed to disturb the integrity of the

final cover, liner(s), or any other components of the containment system, or the function of the monitoring systems, unless the Division determines that the activities are necessary to meet the requirements of this Chapter.

(5) If the owner and/or operator or any subsequent owner or operator of the land upon which a landfill is located wishes to remove wastes and waste residues, the liner, if any, or contaminated soils, the owner or operator must request and receive written approval from the Division.

(6) A copy of the post-closure care plan required under paragraph (1) of this Rule must be submitted as part of the permit application, or in the case of existing sites, within 180 days of being directed to do so by the Director, provided, however, that all owners or operators of existing municipal solid waste landfills must submit an approvable post-closure plan not later than October 1, 1993.

(7) Owners and operators of CCR units are exempt from this Rule and must meet the post-closure requirements in Rule 391-3-4-.10.

Authority: O.C.G.A. §. 12-8-20 et seq., as amended.

#### **391-3-4-.14 Groundwater Monitoring and Corrective Action. Amended.**

(1) Applicability. All permits and modifications of permits for MSWLF units issued after the effective date of this Rule require the installation of a groundwater monitoring system. All existing MSWLF units not now having a groundwater monitoring system, and failing to make the demonstration required in section (2) shall incorporate a groundwater monitoring system into the site design and shall install the system within 270 days of being notified to do so by the Division, provided, however, that such systems must be installed not later than October 1, 1994. Such groundwater monitoring and, if needed, corrective action shall be conducted in accordance with this Rule. Industrial solid waste landfills and construction/demolition waste landfills must also meet the requirements of this Rule unless otherwise exempted by the Division. CCR units must meet requirements in paragraph (6) of Rule 391-3-4-.10.

(2) Groundwater monitoring requirements under paragraphs (8) through (50) of this Rule may be suspended by the Director for a MSWLF unit if the owner or operator can demonstrate that there is no potential for migration of hazardous constituents from that MSWLF unit to the uppermost aquifer during the active life of the unit and the post-closure care period. This demonstration must be certified by a professional geologist registered to practice in Georgia or a professional geotechnical engineer registered to practice in Georgia and the demonstration approved by the Director, and must be based upon:

(a) Site-specific field collected measurements, sampling, and analysis of physical, chemical, and biological processes affecting contaminant fate and transport, and

(b) Contaminant fate and transport predictions that maximize contaminant migration and consider impacts on human health and the environment.

(3) New MSWLF units must be in compliance with the groundwater monitoring requirements specified in this Rule before waste may be placed in the unit.

(4) When referenced in this Rule, Appendix I and Appendix II constituents shall refer to those constituents as listed in Appendix I and II of 40 CFR Part 258, Subpart E, as amended, 56 Fed. Reg. 51032-51039 (October 9, 1991), which are hereby incorporated

by reference.

~~(5) Once established at a MSWLF unit, groundwater monitoring shall be conducted throughout the active life and post-closure care period of that MSWLF unit as specified in Rule 391-3-4-12. When referenced in this Rule, Appendix III and Appendix IV constituents shall refer to those constituents as listed in Appendix III and IV of 40 CFR Part 257, Subpart D, 80 FR21468, (April 17, 2015), which are hereby incorporated by reference.~~

~~(6) A qualified groundwater scientist is a professional geologist or geotechnical engineer registered to practice in Georgia. Once established at a MSWLF unit, groundwater monitoring shall be conducted throughout the active life and post-closure care period of that MSWLF unit as specified in Rule 391-3-4-12.~~

(7) The Director may approve alternative schedules for demonstrating compliance with paragraph (11)(b) pertaining to notification of placement of certification in operating record; paragraph (23)(a) pertaining to notification that statistically significant increase (SSI) notice is in operating record; paragraph (23)(b) and (c), pertaining to an assessment monitoring program; paragraph (25), pertaining to sampling and analyzing Appendix II constituents; paragraph (27)(a) pertaining to placement of notice (Appendix II constituents detected) in record and notification of notice in record; paragraph (27)(b) pertaining to sampling of Appendix I and II to this Rule; paragraph (30) pertaining to notification (and placement of notice in record) of SSI above groundwater protection standard; paragraphs (30)(a) and (34) pertaining to assessment of corrective measures; paragraph (38) pertaining to selection of remedy and notification of placement in paragraph record; paragraph (46)(d) pertaining to notification of placement in record (alternative corrective action measures); and paragraph (49) pertaining to notification of placement in record (certification of remedy completed).

(8) Groundwater Monitoring Systems. A groundwater monitoring system must be installed that consists of a sufficient number of wells, installed at appropriate locations and depths, to yield groundwater samples from the upper most aquifer that:

(a) Represent the quality of background groundwater that has not been affected by leakage from a unit. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

1. Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; or
2. Sampling at other wells will provide an indication of background groundwater quality that is as representative or more representative than that provided by the upgradient wells; and

(b) Represent the quality of groundwater passing the relevant point of compliance specified by the Director under Rule 391-3-4-.07. The downgradient monitoring system must be installed at the relevant point of compliance specified by the Director under this Rule. When physical obstacles preclude installation of groundwater monitoring wells at the relevant point of compliance at existing units, the downgradient monitoring system may be installed at the closest practicable distance hydraulically downgradient from the relevant point of compliance specified by the Director under Rule 391-3-4-.07 that ensures detection of groundwater contamination in the uppermost aquifer.

(9) The Director may approve a multi-unit groundwater monitoring system instead of separate groundwater monitoring systems for each MSWLF unit when the facility has several units, provided the multi-unit groundwater monitoring system meets the

requirement of paragraph (8) of this Rule and will be as protective of human health and the environment as individual monitoring systems for each MSWLF unit, based on the following factors:

- (a) Number, spacing, and orientation of their MSWLF units;
- (b) Subsurface and Surface Hydrogeologic setting;
- (c) Site history;
- (d) Engineering design of the MSWLF units, and
- (e) Type of waste accepted at the MSWLF units.

(10) Monitoring wells must be cased in manner that maintains the integrity of the monitoring well borehole and prevents interaquifer migration of fluids. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples. The annular space (i.e., the space between the borehole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the groundwater.

(a) The owner or operator must notify the Director that the design, installation, development and decommission of any monitoring wells, piezometers and other measurement, sampling, and analytical devices documentation has been placed in the operating record; and

(b) The monitoring wells, piezometers, and other measurement, sampling, and analytical devices must be operated and maintained so that they perform to design specifications throughout the life of the monitoring program. Monitoring wells and piezometers shall be constructed by drillers having a valid and current bond with the Water Wells Standards Advisory Council. Monitoring wells require replacement after two dry sampling events, unless an alternate schedule has been approved by the Division.

(11) The number, spacing, and depths of monitoring systems shall be:

(a) Determined based upon site-specific technical information that must include through thorough characterization of :

1. Aquifer thickness, groundwater flow rate, groundwater flow direction including seasonal and temporal fluctuations in groundwater flow; and
2. Saturated and unsaturated geologic units and fill materials over lying the upper most aquifer, materials comprising the uppermost aquifer, and materials comprising the confining unit defining the lower boundary of the upper most aquifer; including, but not limited to: thickness, stratigraphy, lithology, hydraulic conductivities, porosities and effective porosities.

(b) Certified by a ~~professional geologist, a professional geotechnical engineer registered to practice in Georgia~~ qualified groundwater scientist. Within 14 days of this certification, the owner or operator must notify the Director that the certification has been placed in the operating record.

(12) Groundwater Sampling and Analysis Requirements. The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells installed in compliance with paragraph (8) of this Rule. The owner or operator must notify the Director that the sampling and analysis program documentation has been placed in the operating record and the program must include procedures and techniques for:

- (a) Sample collection;

- (b) Sample preservation and shipment;
- (c) Analytical procedures;
- (d) Chain of custody control; and
- (e) Quality assurance and quality control.

(13) The groundwater monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents and other monitoring parameters in groundwater samples. Groundwater samples are not normally field-filtered prior to laboratory analysis. If samples are filtered, then both filtered and unfiltered samples shall be collected and submitted to the laboratory for analysis.

(14) The sampling procedures and frequency must be protective of human health and the environment.

(15) Groundwater elevations must be measured in each well immediately prior to purging, each time groundwater is sampled. The owner or operator must determine the rate and direction of groundwater flow each time groundwater is sampled. Groundwater elevations in wells which monitor the same waste management area must be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determinations of groundwater flow rate and direction.

(16) The owner or operator must establish background groundwater quality in a hydraulically upgradient or background well(s) for each of the monitoring parameters or constituents required in the particular groundwater monitoring program that applies to the MSWLF unit, as determined under paragraph (21) or (24) of this Rule. Background groundwater quality may be established at wells not located hydraulically upgradient from the MSWLF unit if it meets the requirements of paragraph (8)(a) of this Rule.

(17) The number of samples collected to establish groundwater quality data must be consistent with the appropriate statistical procedures determined pursuant to paragraph (18) of this Rule. The sampling procedures shall be those specified in paragraph (22) for detection monitoring, paragraphs (24) and (27) for assessment monitoring, and paragraph (35) for corrective action.

(18) The owner or operator must specify in the operating record one of the following statistical methods to be used in evaluating groundwater monitoring data for each hazardous constituent. The statistical test chosen shall be conducted separately for each hazardous constituent in each well.

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

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

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

(d) A control chart approach that gives control limits for each constituent.

~~(e) Another statistical test method that meets the performance standards of paragraph (19) of this Rule. The owner or operator must place a justification for this alternative in the operating record and notify the Director of the use of this alternative test. The justification must demonstrate that the alternative method meets the performance standards of paragraph (19) of this Rule. Another statistical method that meets the requirements of Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance (EPA-530-R-09-007 March 2009).~~

(19) Any statistical method chosen under paragraph (18) of this Rule shall comply with the following performance standards, as appropriate:

(a) The statistical method used evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(b) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experiment wise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

(c) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be protective of human health and the environment. The parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(d) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be protective of human health and the environment. These parameters shall be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(e) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantitation limit (pql) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

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

(20) The owner or operator must determine whether or not there is a statistically significant increase over background values for each parameter or constituent required in the particular groundwater monitoring program that applies to the MSWLF unit, as determined in paragraphs (21) or (24) of this Rule.

(a) In determining whether a statistically significant increase has occurred, the owner or

operator must compare the groundwater quality of each parameter or constituent at each monitoring well designated pursuant to subparagraph (8)(b) of this Rule to the background value of that constituent, according to the statistical procedures and performance standards specified under paragraphs (18) and (19) of this Rule.

(b) Within a reasonable period of time after completing sampling and analysis, the owner or operator must determine whether there has been a statistically significant increase over background at each monitoring well.

(21) Detection Monitoring. Detection monitoring is required at MSWLF units at all groundwater monitoring wells defined in subparagraphs (8)(a) and (b) of this Rule. At a minimum, a detection monitoring program must include the monitoring for the constituents listed in Appendix I of this Rule.

(a) The Director may delete any of the Appendix I monitoring parameters for a MSWLF unit if it can be shown that the removed constituents are not reasonably expected to be contained in or delivered from the waste contained in the unit.

(b) The Director may establish an alternative list of inorganic indicator for a MSWLF unit, in lieu of some or all of the heavy metals (constituents 1-15 in Appendix I to this Rule), if the alternative parameters provide a reliable indication of inorganic releases from the MSWLF unit to the groundwater. In determining alternative parameters, the Director shall consider the following factors:

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

(c) After the effective date of the Rule, owners and operators of MSWLFs and Commercial Industrial Landfills must add Appendix III to their detection monitoring parameters before the initial receipt of CCR. MSWLFs and Commercial Industrial Landfills that accepted CCR before the effective date of the Rule must incorporate the Appendix III constituents into their monitoring plan by minor modification within 180 days from the effective date of the Rule.

(d) The Director will not delete parameters or establish alternate parameter lists discussed under subparagraphs (21)(a) and (b) for those facilities accepting CCR wastes.

(e) The Director may require additional parameters based on waste descriptions.

(22) The monitoring frequency for all constituents listed in Appendix I to this Rule, or in the alternative list approved in accordance with subparagraph (21)(b) of this Rule, shall be at least semiannual during the active life of the facility (including closure) and the post-closure care period. A minimum of four independent samples from each well (background and downgradient) must be collected and analyzed for the Appendix I constituents, or the alternative list approved in accordance with subparagraph (21)(b) of this Rule, during the first semiannual sampling event. At least one sample from each well (background and downgradient) must be collected and analyzed during subsequent semiannual sampling events. The Director may specify an appropriate alternative frequency for repeated sampling and analysis for Appendix I constituents, or the

alternative list approved in accordance with subparagraph (21)( b) of this Rule, during the active life (including closure) and the post-closure care period. The alternative frequency during the active life (including closure) shall be no less than annual. The alternative frequency shall be based on consideration of the following factors:

- (a) Lithology of the aquifer and unsaturated zone;
- (b) Hydraulic conductivity of the aquifer and unsaturated zone;
- (c) Groundwater flow rates;
- (d) Minimum distance between upgradient edge of the MSWLF unit and downgradient monitoring well screen (minimum distance of travel); and
- (e) Resource value of the aquifer.

(23) If the owner or operator determines, pursuant to paragraph (18) of this Rule, that there is statistically significant increase over background for one or more of the constituents listed in Appendix I to this Rule, or in the alternative list approved in accordance with subparagraph (21)( b) of this Rule, at any monitoring well at the boundary specified under subparagraph (8)(b) of this Rule, the owner or operator:

- (a) Must, within 14 days of this finding, place a notice in the operating record indicating which constituents have shown statistically significant changes from background levels, and notify the Director that this notice was placed in the operating record; and
- (b) Must establish an assessment monitoring program meeting the requirements of paragraphs (20) through (33) of this Rule within 90 days except as provided for in subparagraph (23)(c) of this Rule.

(c) The owner/operator may demonstrate that a source other than a MSWLF unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration must be certified by a qualified groundwater scientist or approved by the Director and be placed in the operating record. If a successful demonstration is made and documented, the owner or operator may continue detection monitoring as specified in paragraphs (22) and (23) of this Rule. If, after 90 days, a successful demonstration is not made, the owner or operator must initiate an assessment monitoring program as required in paragraphs (24) through (33) of this Rule.

(24) Assessment Monitoring Program. Assessment monitoring is required whenever a statistically significant increase over background has been detected for one or more of the constituents listed in Appendix I or in the alternative list approved in accordance with subparagraph (21)(b) of this Rule.

(25) Within 90 days of triggering an assessment monitoring program, and annually thereafter, the owner or operator must sample and analyze the groundwater for all constituents identified in Appendix II of this Rule. A minimum of one sample from each downgradient well must be collected and analyzed during each sampling event. For any constituent detected in the downgradient wells as the result of the complete Appendix II analysis, a minimum of four independent samples from each well (background and downgradient) must be collected and analyzed to establish background for the new constituents. The Director may specify an appropriate subset of wells to be sampled and analyzed for Appendix II constituents during assessment monitoring. The Director may delete any of the Appendix II monitoring parameters for a MSWLF unit if it can be shown that the removed constituents are not reasonably expected to be in or derived from the waste contained in the unit. Owners and operators of MSWLs and Commercial

Industrial Landfills that will accept CCR after the effective date of the Rule must include Appendix IV in the assessment monitoring parameters before the initial receipt of CCR. MSWLFs and Commercial Industrial Landfills that accepted CCR before the effective date of the Rule and with known releases must incorporate Appendix IV constituents into their monitoring plans by minor modification within 180 days from the effective date of the Rule.

(26) The Director may specify an appropriate alternate frequency *f* or repeated sampling and analysis for the full set of Appendix II constituents required by paragraph (25) of this Rule, during the active life (including closure) and post-closure care of the unit considering the following factors:

(a) Lithology of the aquifer and unsaturated zone;

(b) Hydraulic conductivity of the aquifer and unsaturated zone; (c) Groundwater flow rates;

(d) Minimum distance between upgradient edge of the MSWLF unit and downgradient monitoring well screen (minimum distance of travel);

(e) Resource value of the aquifer; and

(f) Nature (fate and transport) of any constituents detected in the response to this Rule.

(27) After obtaining the results from the initial or subsequent sampling events required in paragraph (25) of this Rule, the owner or operator must:

(a) Within 14 days, place a notice in the operating record identifying the Appendix II constituents that have been detected and notify the Director that this notice has been placed in the operating record;

(b) Within 90 days, and on at least a semiannual basis thereafter, resample all wells specified by paragraph (8) of this Rule, conduct analyses for all constituents in Appendix I to this Rule or in the alternative list approved in accordance with subparagraph (21)(b) of this Rule and for those constituents in Appendix II to this Rule that are detected in response to paragraph (25) of this Rule, and record their concentrations in the facility operating record. At least one sample from each well (background and downgradient) must be collected and analyzed during these sampling events. The Director may specify an alternative monitoring frequency during the active life (including closure) and the post-closure care period for the constituents referred to in this paragraph. The alternative frequency for Appendix I constituents, or the alternative list approved in accordance with subparagraph (21)(b) of this Rule during the active life (including closure) shall be no less than annual. The alternative frequency shall be based on consideration of the factors specified in paragraph (26) of this Rule;

(c) Establish background concentrations for any constituents detected pursuant to paragraph (25) or subparagraph (27)(b) of this Rule; and

(d) Establish groundwater protection standards for all constituents detected pursuant to paragraph (25) or (27) of this Rule. The groundwater protection standards shall be established in accordance with paragraph (31) or (32) of this Rule.

(28) If the concentrations of all Appendix II constituents are shown to be at or below background values, using the statistical procedures in paragraph (18) of this Rule, for two consecutive sampling events, the owner or operator must notify the Director of this finding and may return to detection monitoring.

(29) If the concentrations of any Appendix II constituents are above background values, but all concentrations are below the groundwater protection standard established under paragraphs (31) or (32) of this Rule, using the statistical procedures in paragraph (18)

of this Rule , the owner or operator must continue assessment monitoring in accordance with this section.

(30) If one or more Appendix II constituents are detected at statistically significant levels above the groundwater protection standard established under paragraph (31) or (32) of this Rule in any event, the owner or operator must, within 14 days of this finding, place a notice in the operating record identifying the Appendix II constituents have exceeded the groundwater protection standard and notify the Director and all appropriate local government officials that the notice has been placed in the operating record. The owner or operator also:

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

(b) If the point of compliance is not at the facility boundary, the owner/operator must install at least one additional monitoring well at the facility boundary in the direction of contaminant migration and sample this well in accordance with subparagraph (27)(b) of this Rule.

(c) Must notify all persons who own the land or reside on the land that directly overlies any part of the plume of contamination if contaminants have migrated off-site if indicated by sampling of wells in accordance with subparagraph (30)(a) of this Rule; and (d) Must initiate an assessment of corrective measures as required by paragraphs (34) through (37) of this Rule within 90 days; or

(e) May demonstrate that a source other than a MSWLF unit caused the contamination, or that the SSI resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. A report documenting this demonstration must be certified by a qualified groundwater scientist or approved by the Director and placed in the operating record. If a successful demonstration is made the owner or operator must continue monitoring in accordance with the assessment monitoring program pursuant to paragraphs (24) through (33) of this Rule and may return to detection monitoring if the Appendix II constituents are at or below background as specified in paragraph (28) of this Rule. Until a successful demonstration is made, the owner or operator must comply with subparagraph (30)(a) and (e), including initiating an assessment of corrective measures. (31) The owner or operator must establish a groundwater protection standard for each Appendix II constituent detected in the groundwater. The groundwater protection standard shall be:

(a) For constituents for which a maximum contaminant level (MCL) has been promulgated under section 1412 of the Safe Drinking Water Act (codified) under 40 CFR part 141, the MCL for that constituent;

(b) For constituents for which MCLs have not been promulgated, the background concentration for the constituent established from wells in accordance with subparagraph (8)(a) of this Rule; or

(c) For constituents for which the background level is higher than the MCL identified under subparagraph (31)(a) of this Rule or health based levels identified under subparagraph (32)(a) of this Rule, the background concentration.

(32) The Director may establish an alternative groundwater protection standard for constituents for which MCLs have not been established. These groundwater protection standards shall be appropriate health based levels that satisfy the following criteria:

(a) The level is derived in a manner consistent with applicable state and federal guidelines for assessing the health risks of environmental pollutants (51 Fed. Reg.

33992, 34006, 34014, 34028; September 24, 1986).

(b) The level is based on scientifically valid studies conducted in accordance with the Toxic Substances Control Act Good Laboratory Practice Standards (40 CFR part 792) or equivalent;

(c) For carcinogens, the level represents a concentration associated with an excess lifetime cancer risk level (due to continuous lifetime exposure) within the  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$  range; and

(d) For systemic toxicants, the level represents a concentration to which the human population (including sensitive subgroups) could be exposed to on a daily basis that is likely to be without appreciable risk of deleterious effects during a lifetime. For purposes of this paragraph, systemic toxicants include toxic chemicals that cause effects other than cancer or mutation.

(33) In establishing groundwater protection standards under paragraph (32) of this Rule, the Director may consider the following:

(a) Multiple contaminants in the groundwater;

(b) Exposure threats to sensitive environmental receptors; and

(c) Other site-specific exposure or potential exposure to groundwater.

(34) Assessment of Corrective Measures. Within 90 days of finding that any of the constituents listed in Appendix II have been detected at a statistically significant level exceeding the groundwater protection standards defined in paragraph (31) or (32) of this Rule, the owner or operator must initiate an assessment of corrective measures. Such an assessment must be completed within a reasonable period of time.

(35) The owner or operator must continue to monitor in accordance with the assessment monitoring program as specified in paragraphs (24) through (33) of this Rule.

(36) The assessment shall include an analysis of the effectiveness of potential corrective measures in meeting all of the requirements and objectives of the remedy as described in paragraphs (38) through (43) of this Rule addressing at least the following:

(a) The performance, reliability, ease of implementation, and potential impacts of appropriate potential remedies, including safety impacts, cross media impacts, and control of exposure to any residual contamination;

(b) The time required to begin and complete the remedy;

(c) The cost of remedy implementation; and

(d) Other environmental or public health requirements that may substantially affect implementation of the remedy(s).

(e) Local, state or federal permit requirements.

(37) The owner or operator must discuss the results of the corrective measures assessment, prior to the selection of remedy, in a public meeting with interested and affected parties.

(38) Selection of Remedy. Based on the results of the corrective measures assessment conducted under paragraphs (34) through (37) of this Rule, the owner or operator must select a remedy that, at a minimum, meets the standards listed in paragraph (39) of this Rule. The owner or operator must notify the Director, within 14 days of selecting a remedy, that a report describing the selected remedy has been placed in the operating record and how it meets the standards in paragraph (39) of this Rule.

(39) Remedies must:

(a) Be protective of human health and the environment;

(b) Attain the groundwater protection standard as specified pursuant to paragraph (31) or (32) of this Rule.

(c) Control the source(s) of releases so as to reduce or eliminate, to the maximum extent practicable, further releases of Appendix II constituents into the environment that may pose a threat to human health or the environment; and

(d) Comply with standards for management of wastes as specified in paragraph (47) of this Rule.

(40) In selecting a remedy that meets the standards of paragraph (31) of this Rule, the owner or operator shall consider the following evaluation factors:

(a) The long- and short-term effectiveness and protectiveness of the potential remedy(s), along with the degree of certainty that the remedy will prove successful based on consideration of the following:

1. Magnitude of reduction of existing risks;
2. Magnitude of residual risks in terms of likelihood of further releases due to waste remaining following implementation of a remedy;
3. The type and degree of long-term management required, including monitoring, operation, and maintenance;
4. Short-term risks that might be posed to the community, workers, or the environment during implementation of such a remedy, including potential threats to human health and the environment associated with excavation, transportation, and redisposal or containment;
5. Time until full protection is achieved;
6. Potential for exposure of humans and environmental receptors to remaining wastes, considering the potential threat to human health and the environment associated with excavation, transportation, redisposal, or containment;
7. Long-term reliability of the engineering and institutional controls; and
8. Potential need for replacement of the remedy.

(b) The effectiveness of the remedy in controlling the source to reduce further releases based on consideration of the following factors;

1. The extent to which containment practices will reduce further releases;
2. The extent to which treatment technologies may be used.

(c) The ease or difficulty of implementing a potential remedy(s) based on consideration of the following types of factors:

1. Degree of difficulty associated with construction the technology;
2. Expected operational reliability of the technologies;
3. Need to coordinate with and obtain necessary approvals and permits from other agencies;
4. Availability of necessary equipment and specialists; and
5. Available capacity and location of needed treatment, storage, and disposal services.

(d) Practicable capability of the owner or operator, including a consideration of the technical and economic capability.

(e) The degree to which community concerns are addressed by a potential remedy(s).

(41) The owner or operator shall specify as part of the selected remedy a schedule(s) for initiating and completing remedial activities. Such a schedule must require the initiation of remedial activities within a reasonable period of time taking into consideration the factors set forth in subparagraphs (41)(a) through(h) of this Rule. The owner or operator must consider the following factors is in determining the schedule or

remedial activities.

- (a) Extent and nature of contamination;
- (b) Practical capabilities of remedial technologies in achieving compliance with groundwater protection standards established in paragraph (31) or (32) of this Rule and other objectives of the remedy;
- (c) Availability of treatment or disposal capacity for wastes managed during implementation of the remedy;
- (d) Desirability of utilizing technologies that are not currently available, but which may offer significant advantages over already available technologies in terms of effectiveness, reliability, safety, or ability to achieve remedial objectives.
- (e) Potential risks to human health and the environment from exposure to contamination prior to completion of the remedy;
- (f) Resource value of the aquifer including:
  - 1. Current and future uses;
  - 2. Proximity and withdrawal rate of users;
  - 3. Groundwater quantity and quality;
  - 4. The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;
  - 5. The hydrologic characteristic of the facility and surrounding land;
  - 6. Groundwater removal and treatment costs; and
  - 7. The cost and availability of alternative water supplies.
- (g) Practicable capability of the owner or operator.
- (h) Other relevant factors.

(42) The Director may determine that remediation of a release of an Appendix II constituent from a MSWLF unit is not necessary if the owner or operator demonstrates to the satisfaction of the Director that:

(a) The groundwater is additionally contaminated by substances that have originated from a source other than a MSWLF unit and those substances are present in concentrations such that cleanup of the release from the MSWLF unit would provide no significant reduction in risk to actual or potential receptors; or

(b) The constituent(s) is present in groundwater that:

- 1. Is not currently or reasonably expected to be a source of drinking water; and
  - 2. Is not hydraulically connected with waters to which the hazardous constituents are migrating or are likely to migrate in a concentration(s) that would exceed the groundwater protection standards established under paragraph (31) or (32) of this Rule;
- or

(c) Remediation of the release(s) is technically impracticable; or

(d) Remediation results in unacceptable cross-media impacts.

(43) A determination by the Director pursuant to paragraph (42) of this Rule shall not affect the authority of the state to require the owner or operator to undertake source control measures or other measures that may be necessary to eliminate or minimize further releases to the groundwater, to prevent exposure to the groundwater, or to remediate the groundwater to concentrations that are technically practicable and significantly reduce threats to human or the environment.

(44) Implementation of the Corrective Action Program. Based on the schedule established under paragraph (41) of this Rule for initiation and completion of remedial activities, the owner or operator must:

(a) Establish and implement a corrective action groundwater monitoring program that;

1. At a minimum, meets the requirements of an assessment monitoring program under paragraphs (24) through (33) of this Rule;

2. Indicates the effectiveness of the corrective action remedy; and

3. Demonstrates compliance with groundwater protection standard pursuant to paragraph (48) of this Rule.

(b) Implement the corrective action remedy selected under paragraphs (38) through (43) of this Rule; and

(c) Take any interim measures necessary to ensure the protection of human health and the environment. Interim measures should, to the greatest extent practicable, be consistent with the objectives of and contribute to the performance of any remedy that may be required pursuant to paragraphs (28) through (43) of this Rule. The following factors must be considered by an owner or operator in determining whether interim measures are necessary.

1. Time required to develop and implement a final remedy;

2. Actual or potential exposure of nearby populations or environmental receptors to hazardous constituents;

3. Actual or potential contamination of drinking water supplies or sensitive ecosystems;

4. Further degradation of the groundwater that may occur if remedial action is not initiated expeditiously;

5. Weather conditions that may cause hazardous constituents to migrate or be released;

6. Risks of fire or explosion, or potential for exposure to hazardous constituents as a result of an accident or failure of a container or handling system; and

7. Other situations that may pose threats to human health and the environment.

(45) An owner or operator may determine, based on information developed after implementation of the remedy has begun or other information, that compliance with requirements paragraph (31) of this Rule are not being achieved through the remedy selected. In such cases, the owner or operator must implement other methods or techniques that could practicably achieve compliance with the requirements, unless the owner or operator makes the determination under paragraph (46) of this Rule.

(46) If the owner or operator determines that compliance with requirements under paragraph (31) of this Rule cannot be practically achieved with any currently available methods, the owner or operator must:

- (a) Obtain certification of a qualified groundwater scientist or approval by the Director that compliance with requirements under paragraph (31) of this Rule cannot be practically achieved with any currently available methods;

- (b) Implement alternate measures to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and

- (c) Implement alternate measures for control of the sources of contamination, or for removal or decontamination of equipment, units, devices, or structures that are:

1. Technically practicable; and

2. Consistent with the overall objective of the remedy.

- (d) Notify the Director within 14 days that a report justifying the alternative measures prior to implementing the alternative measures has been placed in the operating record.

(47) All solid wastes that are managed pursuant to a remedy required in paragraphs (38) through (43) of this Rule, or an interim measure required in paragraph (44)(c) of this Rule, shall be managed in a manner:

(a) That is protective of human health and the environment; and  
(b) That complies with applicable state Solid and Hazardous Waste Management Rules and federal Solid and Hazardous Waste Management Rules.

(48) Remedies selected pursuant to paragraphs (38) through (43) of this Rule shall be considered complete when:

(a) The owner or operator complies with the groundwater protection standards established under paragraph (31) or (32) of this Rule at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under paragraph (8) of this Rule.

(b) Compliance with the groundwater protection standards established in paragraph (30) or (31) of this Rule has been achieved by demonstrating that concentrations of Appendix II constituents have not exceeded the groundwater protection standard(s) for a period of three consecutive years using the statistical procedures and performance standards in paragraphs (18) and (19) of this Rule. The Director may specify an alternative length of time during which the owner or operator must demonstrate that concentrations of Appendix II constituents have not exceeded the groundwater protection standard(s) taking into consideration:

1. Extent and concentration of the release(s);
2. Behavior characteristics of the hazardous constituents in the groundwater;
3. Accuracy of monitoring or modeling techniques, including any seasonal, meteorological, or other environmental variabilities that may affect the accuracy; and
4. Characteristics of the groundwater.

(c) All actions required to complete the remedy have been satisfied.

(49) Upon completion of the remedy, the owner or operator must notify the Director within 14 days that a certification that the remedy has been completed in compliance with the requirements of paragraph (48) of this Rule has been placed in the operating record. The certification must be signed by the owner or operator and by a professional geologist, geotechnical or professional engineer registered to practice in Georgia and approved by the Director.

(50) When upon completion of the certification, the owner or operator determines that the corrective action remedy has been completed in accordance with the requirements in paragraph (48) of this Rule, the owner or operator shall be released from the requirements for financial assurance for corrective action under Rule 391-3-4-13.

Authority: O.C.G.A. §. 12-8-20 et seq., as amended.

### **391-3-4-17 Measuring and Reporting Requirements. Amended.**

(1) Reporting the quantities of solid waste managed:

(a) Persons holding a municipal solid waste disposal permit, including permits-by-rule, shall report to the Director the total amount, in tons, of solid waste disposed of quarterly. Reports shall be filed by the 30th day after the beginning of each calendar quarter, covering the reporting period for the preceding quarter.

(b) The reports shall contain, at a minimum, which cities and counties are served by the disposal facility and the total number of tons of solid waste received from each jurisdiction served during the reporting period. The required data shall be submitted on

such forms as may be prescribed by the Director.

(2) Measurement Methods:

(a) Where disposal facilities do not have scales at the disposal facility, or through contractual or other arrangements, do not weigh all municipal solid waste destined for the facility, the owner and/or operator shall require each type of commercial vehicle utilizing the facility to be weighed with such frequency that an accurate conversion from cubic yards to tons can be made for each commercial vehicle type not weighed.

(b) Where such systems of estimating the weight are utilized, the owner or operator must prepare and submit to the Director for approval, a description of such systems for all existing sites. New disposal facilities must include this information as part of the permit application.

(3) Reporting remaining capacity of the site.

(a) On July 1 of each year, persons holding a municipal solid waste landfill permit shall report to the Director the remaining capacity of the facility.

(b) The remaining capacity shall be determined in cubic yards and the determinations shall be certified by the professional engineer, registered in the State of Georgia.

(c) The rate of filling shall be determined and provided along with an estimated completion date for the facility.

(4) Waste Disposal Surcharge.

(a) After July 1, 1992, owners or operators of any solid waste disposal facility, other than an inert waste landfill as defined in these Rules or a private industry solid waste disposal facility, shall assess and collect, on behalf of the division from each disposer of waste, a surcharge of ~~\$0.50~~ per ton on solid waste disposed as required by O.C.G.A. § 12-8-39. Surcharges assessed and collected on behalf of the division shall be paid to the division on July 1, 1993, for the period July 1, 1992, through December 31, 1992. All subsequent payments shall be due on the first day of July of each year for the preceding calendar year.

(b) The surcharge required by subparagraph (4)(a) of this Rule, shall be calculated based on the reports required by paragraph (1) of this Rule and in accordance with actual weights received or other approved methods provided for in paragraph (2) of this Rule.

(c) Notice of State Surcharge: The Division shall prepare at least two press releases, for statewide distribution, during the period July 1, 1992, to June 30, 1993, advertising the \$0.50 per ton surcharge. Such press releases shall at minimum explain:

1. the statutory requirement for such a surcharge;
2. the intended purpose of the surcharge;
3. how the surcharge is to be collected; and
4. how and whom to contact for further information.

(d) The Division will also provide to the Association County Commissioners of Georgia, the Georgia Municipal Association, the National Solid Waste Management Association, the Regional Development Centers, the Solid Waste Association of North America, and other interested organizations or persons, articles and materials as those organizations may choose to use in making available to their members information on the surcharge.

(5) For operating CCR units, the total volume of the CCR waste disposed in a CCR unit and the CCR removed, recovered, or diverted for beneficial use shall be reported to the Division on July 1 of each year after the issuance of a solid waste handling permit. The required data shall be submitted on such forms as may be prescribed by the Director.

(6) The owner or operator of a municipal solid waste landfill shall notify the local governing authorities of any city and county in which such landfill is located of any release from the site of such landfill of a contaminant which is likely to pose a danger to human health. In addition, such owner or operator shall cause notice of such release to be published in the legal organ of the county in which such landfill is located. Compliance with the requirements of this Rule shall occur within 14 days of confirmation of such release by the Division.

Authority: O.C.G.A. §. 12-8-20 et seq., as amended.