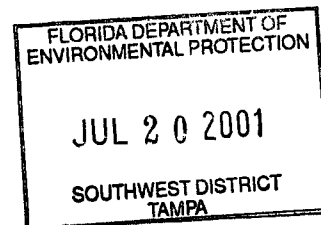


**CITRUS COUNTY
CLASS I LANDFILL
OPERATION PERMIT RENEWAL
RESPONSE TO FDEP RAI**



Prepared for:

CITRUS COUNTY BOARD OF COUNTY COMMISSIONERS
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Prepared by:

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July 2001

A circular professional engineer seal for David A. Keough, State of Florida, No. 33164. The seal is partially obscured by a handwritten signature and the number "728-9".
David A. Keough 728-9
David A. Keough, P.E.
P.E. #33164

**CITRUS COUNTY CLASS I LANDFILL
OPERATION PERMIT RENEWAL
RESPONSE TO FDEP RAI**

Permit No.: SO09-274381

DEP ID No: 4009C00086

Response to the Florida Department of Environmental Protection

Request for Additional Information

July 2001

The following information is provided in response to the Florida Department of Environmental Protection (DEP) May 24, 2001, request for additional information prepared by Kim Ford, P.E. Information is provided in the order requested in the referenced correspondence. In each case the DEP request is repeated with the response immediately following.

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PART 1

RESPONSES TO KIM FORD'S COMMENTS

Comment 1: Proof of publication of notice of application pursuant to Rule 62-110.106, see attached notice.

Response 1: Proof of publication of notice of application is provided as Attachment 1.1.

Comment 2: 62-701.300. An explanation to confirm that each of the prohibitions will not be violated.

Response 2: The following response addresses each of the prohibitions listed in Rule 62-701.300, FAC in relation to the operations of the Citrus County Central Landfill (landfill).

62-701.300 (1)(a): The landfill as a permitted Solid Waste Facility will follow applicable rules and regulations as promulgated in the Florida Administrative Code, including the prohibitions as listed in Rule 62-701.300, FAC. The permit number for past operations of the facility is SO09-274381, and the pending permit for future operations is 21375-003-SO.

62-701.300 (1)(b): The landfill is operated such that air quality standards and water quality standards will not be violated. The landfill operations permit renewal application included a water quality, gas, and leachate monitoring plan (revised version attached to this letter as Attachment 2). The gas monitoring plan is described in Section 9 of the revised Operations Plan.

62-701.300(2)(a): The geotechnical and hydrogeological investigations, which were conducted prior to construction of the landfill and submitted as part of the construction permit, demonstrate that the geologic formations and other subsurface features will provide adequate support for the landfill.

62-701.300(2)(b): The well inventory included in the hydrogeological investigation, which was conducted prior to construction of the landfill and submitted as part of the facility construction permit, shows that no shallow water supply wells exist within 500 feet of the landfill prior to permitting.

62-701.300(2)(c): The landfill is not a dewatered pit. Groundwater level is below the bottom of the landfill. The landfill is constructed with a liner and leachate collection system that ensures no discharge of waste or leachate to groundwater or surface water.

62-701.300(2)(d): The landfill is not located in a flood zone as indicated in the Federal Insurance Rating Map prepared by the Federal Emergency Management Agency (FEMA) included in the Permit Application and Engineering Report submitted in 1995.

62-701.300(2)(e) and (f): The landfill is not located in or near any natural or artificial body of water including groundwater as demonstrated in the site location map previously submitted as part of this operations permit renewal application. The surface water management permit application, which was prepared prior to construction of the landfill, also demonstrates that the landfill is not located within 200 feet of a body of water or jurisdictional wetland.

62-701.300(2)(g): The landfill is located entirely within County owned property and is not on any public highways, roads, or alleys.

62-701.300(2)(h): The landfill is not located within 1,000 feet of an existing or approved potable water well serving a community water supply as defined in Rule 62-550.200(12) FAC. This is demonstrated in the well inventory included in the revised Groundwater and Leachate Monitoring Plan Review.

62-701.300(3): Burning of solid waste is not part of the landfill operations as demonstrated in the revised Operations Plan.

62-701.300(4): No hazardous waste shall be disposed of in the landfill as demonstrated in the revised Operations Plan.

62-701.300(5): No liquids containing polychlorinated biphenyl (PCB) or non-liquid PCBs in the form of contaminated soil, rags, or other debris will be knowingly disposed of in the landfill as demonstrated in the revised Operations Plan.

62-701.300(6): No untreated biomedical waste will be knowingly deposited in the landfill as demonstrated in the revised Operations Plan.

62-701.300(7): The landfill is not located within 3,000 feet of any Class I surface water bodies.

62-701.300(8): No lead-acid batteries, used oil, yard trash, white goods, or whole waste tires will be knowingly disposed of in the landfill as demonstrated in the revised Operations Plan.

62-701.300(9): The landfill is not a waste-to-energy facility.

62-701.300(10): No noncontainerized liquid waste or containerized liquid waste except household waste will be disposed of in the landfill as demonstrated in the revised Operations Plan. Empty containers to be disposed of in the landfill will have either one end removed or cut open or have a series of punctures around the bottom to ensure the container is empty and free of residue. Containers will be compacted to the smallest practical volume prior to disposal.

62-701.300(11): No used oil mixed with other solid waste will be disposed of in the landfill.

62-701.300(12): Yard trash will be 100 feet from off-site potable water wells, 50 feet from water bodies, and 200 feet from wells serving community water supplies as demonstrated in the revised Operations Plan.

62-701.300(13): No solid waste will be treated or stored in tanks at the landfill.

62-701.300(14): No solid waste will be stored indoors.

62-701.300(15): No solid waste will be stored in an enclosed or covered vehicle at the landfill.

62-701.300(16): All appropriate prohibitions will be applied to the landfill operations as demonstrated in the revised Operations Plan.

Comment 3: 62-701.320(7)(e)1. Complete comprehensive updated Operations Plan with all revisions and necessary attachments. Clarification is needed to identify which appendices are to be supplemented with new pages, replaced, or deleted.

Response 3: A complete comprehensive Operations Plan has been developed and is included as a separate document with this response package. For your convenience, the relocation of appendix information has been provided in the following table.

Relocation of 1996 Operations Plan Appendix Information	
1996 Operations Plan	2001 Operations Plan
Appendix A: Operator Training Forms	Forms omitted; Verbiage included in Section 1.0.
Appendix B: Phase 1 and 1A Filling Plans	Included as Appendix A – See Response 4 for correlation with current filling sequence.
Appendix C: Load Checking Program	Verbiage included in Section 6.1; Load Checking Inspection Form included in Appendix B.
Appendix D: Unauthorized Waste Training	Certificates omitted; Verbiage incorporated into training plan in Section 1.0.
Appendix E: Maintenance Summary Form	Included as Appendix C; Described in Section 8.2
Appendix F: Agreements for Off-site Leachate Treatment and Discharge	Not included – On file in the landfill office; Referenced in Section 8.4.

Relocation of 1996 Operations Plan Appendix Information	
1996 Operations Plan	2001 Operations Plan
Appendix G: Gas Monitoring Program	Included in Section 9.0, Table 9.1 omitted and will be submitted separately.
Appendix H: Location of Leachate/ Contaminated Stormwater Piping	Drawing incorporated as Figure 8-1 in Operations Plan; See Section 8.2 and response #9 of RAI Response 7/01 for description.
Appendix I: Land Lease	Not included – On file in the landfill office.
Appendix J: Cleaning of Leachate Lines	Not included – On file in the landfill office and see response #9 of RAI Response 7/01 for description.
Appendix K: Temporary Conceptual Transfer Station	See Section 2.2.
Appendix L: Citizen's Drop Off Area	On file in landfill office; Also see Section 2.3.
Appendix M: Access Road	See Figure 2-1 and Section 12.0.
Appendix N: Household Hazardous Waste Operations Plan	On file in the landfill office; Also see Section 2.3.
Appendix O: Leachate Treatment Plant and Tank Operations Manual	On file in the landfill office; Also see Section 8.5 On-Site Treatment.

Comment 4: 62-701.330(4)(d). Topographic map (current – less than 6 months old) with 5-foot contour intervals and topographic plans with cross sections of lifts for 5 years of disposal.

Response 4: A current topographic map (dated December 2000) and site plan are presented in the revised Operations Plan as Figure 2-1. A site plan of the active landfill area is presented in the Operations Plan as Figure 2-2 of the revised Operations Plan. One set of full-size site plans has been included with this response package. Filling sequence site plans and cross sections are provided as Appendix A of the revised Operations Plan. A cross section showing the proposed filling sequence for the entire life of the landfill is provided as Attachment 1.4.

Based on the waste density of 1,300 pounds per cubic yard and the recycling percentage currently being achieved at the landfill, Phase 1A is projected to reach capacity in approximately three years. A Construction Permit Application for the expansion of Citrus County Central Landfill will be submitted prior to the completion of Phase 1A. The following table correlates the projected waste volumes with the filling sequence plans provided in Appendix A of the Operations Plan. The filling sequence plans were previously submitted in the Citrus County Central Landfill Phase 1 and 1A Expansion Operations Plan (1996). Additional filling sequence plans have not been created for the 2001 Operations Plan.

Time Interval	Volume (cy)	Volume Remaining (cy)	Figure Number
95-'96	99,728	858,205	1 and 2, 3, and 4
96-'97	60,005	758,477	5 and 6
97-'98	89,731	668,746	7 and 8, 9 and 10 B1,B2,B3
98-'99	115,431	643,046	B4 and B B5 and B7
99-'00	124,312	544,434	B4 and B6 B5 and B7 B8 and B9
00-'01	124,988	419,445	B10 and B11 B12 nd B13
01-'02	127,426	292,019	B14 and B15
02-'03	129,864	162,156	B16 and B17
03-'04	132,301	29,854	B18 and B19
04-'05	134,739	0	B20, B21, B22

Comment 5 (1): 62-701.500(1). Reference to 62-703 is not applicable. A training plan is needed to demonstrate compliance with the training requirements will be maintained.

Response 5(1): The training plan is outlined in Section 1.0, Training and Certification of Operators, of the revised Operations Plan. Course descriptions are attached to this letter as Attachment 1.5.

Comment 5(2): 62-701.500(1). Revision to the Operations Plan is needed to indicate that a trained spotter will be located at the working face. How will loads be adequately evaluated if the equipment operator is the spotter?

Response 5(2): Please refer to Sections 1.0 and 2.3 of the revised Operations Plan. The Operations Plan has been revised to include spotter at the working face procedures.

The equipment operator will be effective as a spotter because he/she will dismount the equipment when waste is being deposited. This is the most effective and safest way of operating because the spotter will not be in danger from the equipment because it will not be in operation while the spotter is observing the waste being deposited.

Comment 6(1): 62-701.500(2)(f). Reference to "filling of Phase 1A" is unclear. Plans and cross-sections are needed to show the distinction between phases for filling the entire lined disposal area to designed dimensions.

Response 6(1): Please see the Response 4. A cross section of the proposed filling sequence is provided as Attachment 1.4. Proposed filling sequences for Phase 1 and Phase 1A are included in the Operations Plan as Appendix A, Phase 1 and 1A Filling Filling Plans. Please note that Figure B1 illustrates the initial filling of Phase 1A.

Comment 6(2): 62-701.500(2)(f). The description of unwrapping the geotextile overlying the leachate pipes is unclear. How will the system be protected and clogging of the system be prevented? Why doesn't this description include placement of the required 2 feet of protective soil layer?

Response 6(2): The issue of unwrapping the geotextile was relevant during the construction phase of the Phase 1A bottom liner system. Since the system has been constructed and previously certified by FDEP and has been working well, references to this issue have been omitted in the revised Operations Plan. A statement regarding the placement of the required 2 feet of protective soil layer has been added to Section 2.7.1 of the revised Operations Plan as follows:

The liner will be covered with two (2) feet of protective soil prior to the placement of waste.

Comment 7: 62-701.500(6)(b). What procedures will be provided for on-site isolation of hazardous wastes found during random load checking?

Response 7: The following statements will be added to Section 6.2 of the revised Operations Plan:

No hazardous wastes will be accepted at the landfill for disposal. Hazardous waste identified during the load checking program will temporarily be stored in the household hazardous waste collection and storage facility, and all handling procedures must follow the Household Hazardous Waste Operations Plan that is on file in the landfill office.

Please note the household hazardous waste collection and storage facility is located at the southwest corner of the landfill and is identified in Figure 2-1 in the Operations Plan.

Comment 8: 62-701.500(7). A description of the operations for protection of the new sideslope liner for Phase 1.

Response 8: The following statement regarding initial protective cover is included in Section 7.2 of the revised Operations Plan:

Prior to placing waste on the landfill side slopes and interior of the northern berm, a minimum of two feet of protective soil material will be placed on the liner.

Comment 9: 62-701.500(8)(b). An assessment of the condition of the leachate collection system to demonstrate adequate performance. Documents related to the most recent cleaning and inspection such as letter reports that may contain conclusions or recommendations regarding system performance are requested.

Response 9: The leachate collection system was cleaned in February 2001 by Florida Jetclean, Inc. A copy of the inspection summary is provided as Attachment 1.9. JEA has reviewed the inspection videos and reports and concluded that the system is in good working condition.

Comment 10: 62-701.500(8)(d). A description of the on-site leachate treatment and disposal.

Response 10: A description of the leachate treatment and disposal practices at the landfill has been added to Section 8.5 of the revised Operations Plan. The Leachate System Operation and Maintenance Manuals are filed in the landfill office.

Comment 11: 62-701.500(8)(g). Method of comparing precipitation with leachate generation. Why was the amount of effluent disposal twice the amount of leachate generated for the month of February 2001?

Response 11: The method of comparing precipitation with leachate generation is described in Section 8.7 and 8.8 of the revised Operations Plan. The amount of leachate effluent was greater than the leachate generated during February 2001 because the leachate storage tanks were drained in February 2001 to conduct routine maintenance.

Comment 12: 62-701.500(12). A description of the design and location of each access road.

Response 12: The access roads are shown in Figure 2-1 in the Operations Plan. A description of the access roads has been added to Section 12.0 of the revised Operations Plan:

There are currently two access roads used to reach the working face of the landfill, one reaching the working face from the south and one from the north. Both access roads are maintained and are used based on the more convenient and/or expedient location for depositing waste in the landfill.

Comment 13: 62-701.500(13)(d). Most recent estimate of remaining life and capacity in cubic yards. The estimate shall be based on a summary of the current and proposed design heights, lengths and widths of the entire lined disposal area.

Response 13: The reference in the permit application Part K, Landfill Operation Requirements, Number 13 (d) has been changed to "submitted, Op.Plan 2001," which references Table 2-2 in the Operations Plan. The pages of the application that have

been revised are provided as Attachment 1.13. Please refer to Response 4 for a correlation of projected waste volumes with filling sequences.

Comment 14: 62-701.510. Groundwater monitoring plan and required supporting information in response to Mr. John Morris' May 24, 2001 memorandum (attached). You may call Mr. Morris at (813) 744-6100, extension 336 to discuss this item.

Response 14: The responses to Mr. Morris' requests are included in this response package as Part 2.

Comment 15: 62-701.600(3). Closure will not be authorized by the operation permit and requires a closure permit.

Response 15: Item is noted.

Comment 16: 62-701.630. Cost estimates for closure and long-term care and proof of financial assurance. A response to Ms. Susan Pelz's May 24, 2001 letter (attached) is required. You may call Ms. Pelz at (813) 744-6100, extension 386.

Response 16: The responses to Ms. Pelz's requests are included in this response package as Part 3.

Comment 17: 62-709.320. A copy of the approval of the yard waste processing facility from the Department's Solid Waste Section in Tallahassee.

Response 17: The application for registration of a Yard Trash Processing Facility and the Annual Report for a Yard Trash Processing Facility were sent to FDEP in Tallahassee under separate cover April 24, 2001. The Yard Trash Processing Facility Registration is attached to this letter as Attachment 1.17.

PART 2

RESPONSES TO JOHN MORRIS'S COMMENTS

PART L – WATER QUALITY AND LEACHATE MONITORING (RULE 62-701.510, FAC)

*Comment 1: L.1.c.(4) – Location Information for Each Monitoring Well
L.1.c.(5) – Well Spacing...
L.1.c.(6) – Well Screen Locations Properly Selected
L.1.c.(7) – Procedures for Properly Abandoning Monitoring Wells
L.1.d.(1) – Location and Justification...
L.1.d.(2) – Each Monitoring Location...
L.1.f.(4) – Compliance Well Sampling...
L.1.f.(5) – Surface Water Sampling
L.1.g – Describe Procedures for...
L.1.h.(1) – Semi-annual Report Requirements
L.1.h.(20) – Bi-annual Report Requirements*

Each of these application form items reference the document entitled Citrus County Central Landfill, Phase 1 and 1A Expansion, Operations Plan, prepared by CH2M HILL, dated October 1996. Section 2.i of the 1996 Operations Plan in turn refers to the document entitled Groundwater Monitoring Plan, 80-acre Landfill Expansion, Citrus County Central Landfill, prepared by Hydro Q, dated April 1995. It appears that the application form items should reference the new operations plan included as Attachment 1 to the renewal application. Please modify Section 2.9 of the 2001 Operations Plan to reference the Hydro Q document.

Response 1: The application form items have been revised to reference the revised Groundwater and Leachate Monitoring Plan Review (GLMPR 2001) and the 1995 Groundwater Monitoring Plan (GWMP 1995). Section 2.9 of the 2001 Operations Plan has also been revised to reference the 1995 Hydro Q document.

Comment 2: L.1.e. – Leachate Sampling Locations Proposed – Please revise Section 2.2 of the Groundwater and Leachate Monitoring Plan (Attachment 2 to the renewal application) to describe the collection point for leachate effluent samples. Please provide a site map that includes the leachate influent and leachate effluent sampling locations and the monitor well locations for use as a permit attachment.

Response 2: Section 2.2 of the revised Groundwater and Leachate Monitoring Plan Review (GLMPR) has been revised to include more detailed descriptions of the leachate influent and effluent sampling locations. Figure 1 of the revised GLMPR has also been revised to include the leachate influent and leachate effluent sampling locations and the monitor well locations for use as a permit attachment.

Comment 3: L.1.f.(1) – Background Ground Water...; L.1.f.(3) – Detection Well Semi-annual... - The background and detection monitor wells listed by the two reference documents (1996 Operations Plan and 2001 Groundwater and Leachate Monitoring Plan Review) are not consistent. It appears that the application form should reference Section 3.2 of Attachment 2 to the renewal application. Please review and revise as appropriate.

Response 3: The application form has been revised to reference Section 3.1 of the revised GLMPR. Section 3.1 of the revised GLMPR has also been revised as discussed in our June 13, 2001 meeting. The revisions to Section 3.1 include keeping monitoring well MW-1R as a designated "Background" well and changing the designation of wells MW-4 and MW-5 to "piezometers."

GROUNDWATER AND LEACHATE MONITORING PLAN REVIEW FOR CITRUS COUNTY
CLASS I CENTRAL LANDFILL, PREPARED BY JEA, APRIL 2000 (Rule 62-701.510(9)(b),
FAC)

Comment 4: The copy of Attachment 2 to the renewal application (Groundwater and Leachate Monitoring Plan Review for Citrus County Class I Central Landfill, prepared by JEA, April 2001) was not signed and sealed by a P.E. or P.G. Please indicate if the P.E. seal provided for the renewal application cover sheet was intended to include Attachment 2 to meet the requirements of Rule 62-701.510(9)(b), FAC, or provide a separate signed and sealed certification page for Attachment 2.

Response 4: The revised GLMPR includes a separate certification page signed and sealed by a Professional Geologist.

Section 1.1 – Site Information

Comment 5: Please revise Table 1 to include the following elevations: top of well, top of screen, bottom of screen, maximum and minimum groundwater elevations recorded during the period of record. Please also include in Table 1 a description of the lithology encountered in the screened interval at each monitor well.

Response 5: Table 1 has been revised to include the elevations of the top and bottom of the well screen, the minimum and maximum groundwater elevations, and the screened interval lithologies where available.

Section 2.1.1 – Ground Water Quality

Comment 6: The benzene concentration presented in Appendix C appear to include some inconsistencies with the results of the semi-annual sampling events reported by Citrus County. Please review the results for: MW-2 during 98S2 (BDL vs. 2 µg/L); MW-7 during 99S1 (BDL vs. no data) and during 99S2 (3 µg/L vs. BDL); and MW-AA during 00S1 (1.2 µg/L vs. BDL). Please review the benzene analyses and revises the discussion of benzene occurrence as appropriate.

Response 6: The Department is correct. The 98S2 benzene concentration for MW-2 was below the laboratory detection limit. The 99S1 and 99S2 benzene values for MW-7 were BDL and 3.0 ug/L, respectively. The 00S1 benzene concentration for MW-AA was 1.2 ug/L. The summary table and bar graph provided in Appendix C and the benzene discussion in Section 2.1.1 have been revised to reflect these values.

Comment 7: It is indicated that concentrations reported for iron in the downgradient wells were generally consistent with the background wells. The iron concentrations presented in Appendix C indicate iron concentrations in the background wells (MW-2, MW-3 and MW-7) range from less than 40 to 660 µg/L, and the iron concentrations in the detection wells (MW-8, MW-8, MW-AA, MW-C, MW-D and MW-E) range from less than 40 to 14,000 µg/L. Please review the discussion of iron occurrence and revise as appropriate.

Response 7: The discussion of iron occurrence in Section 2.1.1 of the revised GLMPR has been revised.

Comment 8: The nitrate concentration presented in Appendix C for well MW-2 during 98S2 (BDL vs. mg/L) appears to be inconsistent with the results of the semi-annual sampling events reported by Citrus County. Please review the summary table and bar graph and revise as appropriate.

Response 8: The Department is correct. The 98S2 nitrate concentration for MW-2 was reported as Below the Laboratory Detection Limit in the semiannual report. The summary table and bar graph presented in Appendix C has been revised to reflect the accurate value.

Section 2.1.2 – Groundwater Flow

Comment 9: It is indicated that the hydraulic gradient was calculated on the basis on the ground water elevation change between wells MW-2 and MW-D. The revised ground water contour map prepared for August 2000 (Appendix D) appears to indicate ground water does not flow from MW-2 toward MW-D, but appears to indicate ground water flow from MW-2 and MW-D toward MW-1R. Average hydraulic gradients were calculated from the groundwater contour maps provided in Appendix D for: January 1997 @ 0.0016 ft/ft; July 1997 @ 0.0011 to 0.0016 ft/ft; August 2000 @ 0.0022 to 0.0027 ft/ft. Please provide a range of hydraulic gradient values that represent seasonal fluctuation. Please provide ground water velocity calculations that reflect the revised hydraulic gradient values.

Response 9: Section 2.1.2 of the revised GLMPR has been revised to include groundwater flow velocity calculations that reflect the revised hydraulic gradient values.

Section 2.2 – Leachate

Comment 10: Please indicate if the parameters listed in Specific Condition No. 33.a. of operating permit No. SO09-274381 that are sampled at daily, weekly, and quarterly frequencies are intended to be used for regulatory or process control purposes.

Response 10: The parameters listed in Specific Condition No. 33a of operating permit No. SO09-274381 that are sampled at daily, weekly, and quarterly frequencies are intended to be used for process control purposes. Section 2.2 of the revised GLMPR has been revised to reflect this comment.

Comment 11: The statement that total trihalomethanes, (THMs) in the leachate effluent have ranged from BDL to 360 µg/L appears to omit the concentration of 730 µg/L reported during 00Q4. The statement that THMs are typically reported at concentrations less than 100 µg/L in the leachate effluent appears to be inconsistent with the results of the quarterly sampling events reported by Citrus County since 99Q3. Please review the discussion of THMs occurrence and revise as appropriate.

Response 11: The discussion of THM occurrence in Section 2.2 of the revised GLMPR has been revised.

Section 3.1 – Groundwater

Comment 12: It is indicated that wells located along the western landfill boundary include well MW-B. Please delete this location from the list of wells that are located along the western boundary.

Response 12: Section 3.1 of the revised GLMPR has been revised to exclude well MW-B from the list of wells located along the western landfill boundary.

Comment 13: Please revise this section to indicate the lithology that is monitored by the screened intervals of the individual wells to be consistent with the revision to Table 1 that is requested in Comment No. 5, above.

Response 13: Section 3.1 of the revised GLMPR has been revised to include a discussion of the lithology that is monitored by the screened intervals of the individual wells where available.

Section 3.2 – Leachate

Comment 14: Please note the pending revision to Rule 62-701.510(6)(c), FAC requires annual sampling of leachate (effluent) for the parameters listed in Rule 62-701.510(8)(c) and (8)(d), FAC. It is the Department's intention to revise the required leachate (influent) sampling to an annual frequency assuming that the renewal permit will be issued after the effective date of the pending solid waste rule.

Response 14: Comment is acknowledged. Leachate (influent) will be sampled annually for the parameters listed in Rule 62-701.510(8)(c) and (8)(d), FAC. Section 3.2 of the revised GLMPR has been revised to reflect the change.

Comment 15: It does not appear that the request to eliminate the quarterly sampling the THMs from leachate effluent is supported by the information presented in Section 2.2. Please revise this section as appropriate to be consistent with the response to Comment No. 11, above.

Response 15: Sections 2.2 and 3.2 of the revised GLMPR have been revised with respect to THM monitoring.

PART 3

RESPONSES TO SUSAN PELZ'S COMMENTS

CLOSING:

Comment 1: Cover material (synthetics). Top Soil Cover, Drainage Layer. Please verify the acreage included for closing. Please verify the quantity of topsoil. Please verify the quantity as-received or as-placed?

Response 1: The quantities listed are based on the Phase1 and 1A final cover design described in the Citrus County Central Landfill Phase 1A Expansion Permit Application and Engineering Report prepared by CH2M Hill dated December 29, 1995. The quantities presented are based on the previously submitted and approved financial assurance cost estimates for the 18.3-acre existing landfill. The synthetic material quantity is as-placed. The Top Soil Cover and Drainage Layers are also listed as-placed. The financial assurance cost estimate form provided as Attachment 3.1 has been revised accordingly.

Comment 2: Revegetation. Please verify the quantities of sodding and hydroseeding.

Response 2: The quantity for sodding has been changed to cover the entire area. Phase 1 and 1A final cover design described in the Citrus County Central Landfill Phase 1A Expansion Permit Application and Engineering Report prepared by CH2M Hill dated December 29, 1995. No hydroseeding or mulch will be installed. The financial assurance cost estimate form provided as Attachment 3.1 has been revised accordingly.

Comment 3: Landscape Irrigation. Due to the continuing drought conditions, it has come the Department's attention that watering of newly placed vegetation (sod or seeding) may require substantial resources to ensure that the vegetative cover becomes adequately established. Therefore, please provide revised cost estimates which include a cost for this activity. In the event that an adequate onsite well is available, the cost (material and labor) may only include pumping, hoses, sprinklers required to irrigate the closed facility, or alternatively, may only include rental of a water truck for a specified period of time, or other suitable methods of irrigation.

Response 3: The financial assurance cost estimate form has been revised to include the following costs:

Water truck rental: 2,000-gallon water truck rental at \$2,850 per month including tax and sprayer, operator costs at \$3,200 per month, fuel costs of \$2,000 per month, for a total of \$8,050 per month for one month.

Comment 4: Waste tire facility, \$8,000. Please provide a detailed estimate which describes the activities and quantities included in this cost.

Response 4: The cost for disposing of waste tires included in the site-specific costs include the removal of tires by Wheelabrator for Ridge Energy Power Plant, which is

an alternative fuel plant that burns the tires for energy. The cost of removing the tires is approximately \$80 per ton, and the cost was estimated for 100 tons of tires, which is the approximate quantity of tires allowed to be stored on site at one time.

LONG-TERM CARE:

Comment 5: Maintenance/Operation of Leachate Collection. Please explain the basis for the on-site pretreatment maintenance cost. The total leachate generated in 2000 was 2,301,214 gallons. However, the pretreatment system maintenance is based on 600,000 gallons per year. Although the Department recognizes that the leachate generation after closing will decrease with time, the initial leachate generation is expected to be much the same as the currently operating facility. Please provide a revised cost as appropriate.

Response 5: A revised cost estimate for the pretreatment of leachate has been included in the financial assurance cost estimate form provided as Attachment 3.1. The revised cost estimate is based on the following assumptions:

- Leachate generation in the active portion of the landfill will decrease linearly over time.
- The quantity of leachate generated in the active portion of the landfill the year prior to closing will be approximately equal to the measured quantity of leachate generated in 2000 (1,860,000 gallons).
- It will take three years after closure for the leachate generated in the active portion of the landfill to reach a steady state.
- The quantity of leachate generated in the active portion of the landfill three years after closure may be calculated using the HELP Model (28,000 gallons).
- The quantity of leachate generated in the closed portion of the landfill will remain constant and can be approximated by the quantity generated in 2000 (440,000 gallons).

The leachate generation analysis is provided in Attachment 3.5a. The quantity of leachate used in the financial assurance cost estimate form provided as Attachment 3.1 is for the entire site the year after closure. The quantity used is 1,390,000 gallons. This value was determined by adding the calculated quantity of leachate generated in the Phase 1 and 1A portion of the landfill with the measured value of the leachate generated in the previously closed portion of the landfill. The quantity of leachate generated the year after closure in the Phase 1 and 1A portion of the landfill was determined by plotting the known quantities of leachate versus the time relative to closure, and drawing a line between the two points. From this line, the quantity of leachate generated the year after closure was determined. The measured quantity of leachate generated in 2000 was plotted the year before closure and the quantity of leachate in the closed Phase 1 and 1A, as calculated using the HELP Model, was plotted three years after closure.

The results of the HELP Model are provided as Attachment 3.5b. The HELP Model was used to estimate average leachate generation for one year for closed Phase 1 and 1A portion of the landfill. The result of 28,000 gallons of leachate generated in one year was determined by taking the peak daily value of leachate collected in the composite drainage net (CDN) layer of the Leachate Collection System (LCS) and the Leachate Detection System (LDS) of the bottom liner and multiplying by 365 days to obtain the peak leachate generation for one year. The annual peak daily values are an average of those determined over a five-year period.

Comment 6: Landscape Maintenance. Please verify the number of acres included in each mowing event (3 events/year).

Response 6: The mowing costs include approximately 45 acres of the closed landfill site and approximately 10 acres of active landfill site. These bid prices and quantities were provided by J&J Tractor.

ATTACHMENT 1.1
PROOF OF PUBLICATION

Proof of Publication

from the

CITRUS COUNTY CHRONICLE

Crystal River, Citrus County, Florida

PUBLISHED DAILY

STATE OF FLORIDA

COUNTY OF CITRUS

Before the undersigned authority personally appeared

Felicia Satchell

Of the Citrus County Chronicle, a newspaper published daily at Crystal River, in Citrus County, Florida, that the attached copy of advertisement being a public notice in the matter of the

Citrus County Division of Solid Waste Notice of Application Display Advertisement

Court, was published in said newspaper in the issues of June 17, 2001

Deponent further says that the Citrus County Chronicle is a Newspaper published at Crystal River in said Citrus County, Florida, and that the said newspaper has heretofore been continuously published in Citrus County, Florida, each week and has been entered as second class mail matter at the post office in Inverness in said Citrus County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and Deponent further says that he/she has neither paid nor promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

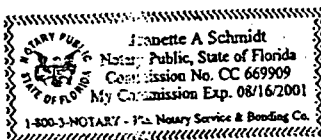
Felicia Satchell
The foregoing instrument was acknowledged before me

This 17th day of June, 2001

By: Felicia Satchell

is personally known to me and who did take an oath.

Janette A. Schmidt
Notary Public



317-0617 SUCRN

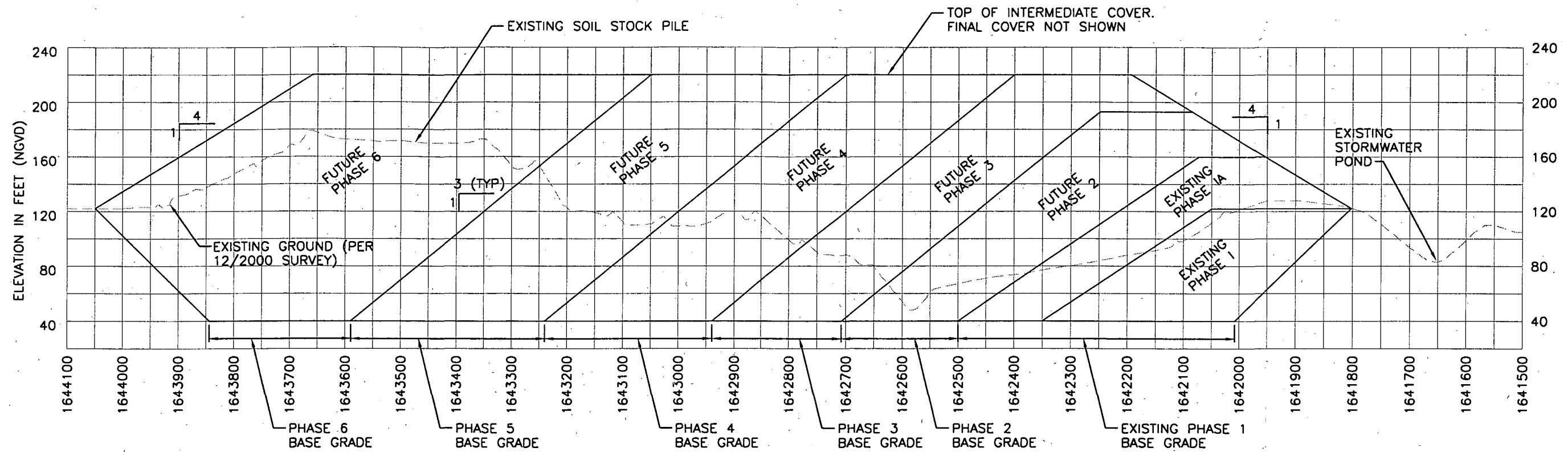
State of Florida Department of Environmental Protection Notice of Application

The Department announces receipt of an application for permit renewal from the Citrus County for Operation of the existing Citrus County Central Landfill, located on the south side of S.R. 44, 3 miles east of Lecanto, Citrus County, Florida.

This application is being processed and is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the Department of Environmental Protection, southwest District Office, 3804 Coconut Palm Drive, Tampa, Florida 33619-1352.

ATTACHMENT 1.4

PROPOSED FILLING SEQUENCE CROSS-SECTION



SCALE:
HOR: 1" = 200'
VER: 1" = 80' NGVD

ATTACHMENT 1.5

**OPERATOR AND SPOTTER TRAINING
COURSE DESCRIPTIONS**

November 2000 - August 2001

Solid Waste Landfill Series



UF/TREEO has been providing quality solid waste training to all levels of personnel since 1989. Our solid waste courses are taught by highly qualified professionals in the field and you receive comprehensive courses materials.

You learn meaningful procedures and techniques that you can immediately implement at your job, as well as concepts and skills that should be beneficial to you as you progress in your career.

As public awareness of solid waste environmental issues expands dramatically from year to year, UF/TREEO responds to these growing concerns by developing training courses representing all aspects of the solid waste environmental field.

Approvals

For Landfill Operators and C&D Operators, all courses are approved by the Florida Solid Waste Management Training Committee (SWMTC) to assist you in satisfying the 15-hour continuing education requirement under 62-701 F.A.C. for maintaining landfill operator certification in Florida.

Continuing Education

Courses can be retaken for continuing education credit if you have not already taken the course within your current 3-year period.

NEW! SWANA CEUs

Many UF/TREEO Center solid waste courses have been approved by the Solid Waste Association of North America (SWANA) for continuing education units.

Times

Courses begin at 8:00 a.m. and adjourn at 5:00 p.m. unless otherwise noted in the course description. On-site registration and check-in begin 15 minutes prior to the start of the course.

Information

For additional information and course agendas, contact Dawn Jenkins at 352/392-9570 ext. 127 or email to djenkin@treeo.doce.ufl.edu.

Registration

To register for a course, contact Janet Touchton by phone at 352/392-9570 ext. 112, by fax at 352/392-6910, or email to jtoucht@treeo.doce.ufl.edu.

Register for these courses online at
www.treeo.ufl.edu

INITIAL TRAINING

Construction and Demolition Debris Landfills: A Short Course for Operators

Jan. 24-26, 2001 in Gainesville, FL • #010295
 8:00 a.m. - 5:00 p.m. (Jan. 24-25), 8:00 a.m. - 12:00 noon (Jan. 26)

Cost: \$325 • SWMTC hours: 20 • SWANA CEUs: 13.5

Continuing Education

The SWMTC has approved this course as a continuing education course for those who did not take it as their initial training course.

Manager of Landfill Operations (MOLO)

February 6-9, 2001 in Gainesville, FL • #010299
 7:30 a.m.-5:30 p.m. (Days 1-3), 7:30 a.m.-12:00 noon (Day 4)

SWMTC hours: 30

Cost - Please contact Dawn Jenkins at 352/392-9570 ext. 127 or djenkin@treeo.doce.ufl.edu for more information regarding costs.

Certificate and Accreditation

The Solid Waste Management Training Committee (SWMTC) has approved the SWANA MOLO Course for Landfill Operator Initial Training. Operators who complete this course and pass the exam will be considered as having met the initial training requirements in rule 62-701. A certificate of attendance will be issued to students who attend and complete the course.

Continuing Education

The SWMTC has approved this course as a continuing education course for those who did not take it as their initial training course.

CONTINUING EDUCATION

Asbestos Awareness Course for Landfill Operators

January 9, 2001 in Gainesville, FL • #010297
 12:00 noon - 4:00 p.m.

Cost: \$155 • SWMTC hours: 4 • SWANA CEUs: 2.5

On-Site training available from UF/TREEO.

Groundwater Issues for Landfill Operators

March 21, 2001 in Daytona Beach, FL • #010298
 8:30 a.m. - 4:00 p.m.

Cost: \$195 • SWMTC hours: 6 • SWANA CEUs: 4

Hazardous Materials in Construction and Demolition Waste

December 5, 2000 in Gainesville, FL • #010299
 8:00 a.m. - 12:00 noon

Cost: \$155 • SWMTC hours: 4

Health and Safety Training for Landfill Operations

March 20, 2001 in Daytona Beach, FL • #010104
7:30 a.m. - 12:30 p.m.
Cost: \$175 • SWMTC hours: 5 • SWANA CEUs: 3.5
On-Site training available from UFTREED.

Landfill Gas and Leachate Systems

November 8, 2000 in Tampa, FL • #010098
8:00 a.m. - 5:00 p.m.
Cost: \$195 • SWMTC hours: 8 • SWANA CEUs: 5.5

NEW! Management of Leachate, Gas, Stormwater and Odor at Class I, II, and III Landfills

May 2, 2001 in Gainesville, FL • #010401
8:00 a.m. - 5:00 p.m.
Cost: \$225 • SWMTC hours: 8 • SWANA CEUs: 5

Waste Screening and Operation Orientation for Transfer Station Personnel

March 22, 2001 in Daytona Beach, FL • #010378
8:30 a.m. - 5:30 p.m.
Cost: \$225 • SWMTC hours: 8 • SWANA CEUs: 5

Online Training Available!

NEW! Two-hour Landfill Spotter Refresher Training (Computer Course)

December 5, 2000 in Gainesville, FL • #010398
1:00 p.m. - 5:00 p.m. in computer lab
Cost: \$195 • SWMTC hours: 2 • SWANA CEUs: 1

Take this course online, anytime. Contact Dawn Jenkins for more information at djenkin@treeo.doce.ufl.edu.

OTHER COURSES OF INTEREST

Hazardous Waste Regulations for Generators

February 27, 2001 in Shallmar, FL • #010201
August 21, 2001 in Gainesville, FL • #020066
8:00 a.m. - 5:00 p.m.
Cost: \$295 • SWMTC: 4 hrs • SWANA CEUs: 3

Health and Safety Training for Hazardous Materials Activities: Eight-Hour OSHA Refresher

February 28, 2001 in Shallmar, FL • #010202
August 22, 2001 in Gainesville, FL • #020067
8:00 a.m. - 5:00 p.m.
Cost: \$295 • SWMTC: 4 hrs • SWANA CEUs: 4.5

Hazardous Materials Chemistry for the Non-Chemist

April 9, 2001 in Gainesville, FL • #010206
Cost: \$295 • SWMTC hours: 7 hrs • SWANA CEUs: 4.5

Permit Required Confined Space Training

June 28, 2001 in Gainesville, FL • #010207
Cost: \$295 • SWMTC Hours: 7 hrs • SWANA CEUs: 5
On-Site training available from UFTREED.

Excavation and Trenching: Competent Person Training

June 29, 2001 • #010208 in Gainesville, FL
Cost: \$295 • SWMTC hours: 8 hrs • SWANA CEUs: 4.5

SPOTTER TRAINING

The following courses are approved as initial training courses for spotters:

Eight-hour Spotter Training for Construction and Demolition Sites

August 22, 2001 in Gainesville, FL • #020113
8:00 a.m. - 5:00 p.m.
Cost: \$225 • SWMTC hours: 8 • SWANA CEUs: 5

Spotting at Construction and Demolition Sites, Landfills and Transfer Stations

Jan. 10, 2001 in Gainesville, FL • #010296
8:00 a.m. - 5:00 p.m.
Cost: \$195 • SWMTC hours: 8 • SWANA CEUs: 5

Waste Screening and Identification for Landfill Operators and Spotters

Nov. 9, 2000 in Tampa, FL • #010099 • Cost: \$195
May 3, 2001 in Gainesville, FL • #010402 • Cost: \$225
8:30 a.m. - 5:30 p.m.
SWMTC hours: 8 • SWANA CEUs: 5

Spotters are required to complete eight hours of initial training and eight hours of approved continuing training every three years.

INSTRUCTORS AND SPEAKERS

Larry Bäck, University of Florida TREEO Center
John Banks, SCS Engineers
Sam Barker, S. Barker & Associates, Inc.
Allan Biddlecomb, Jones, Edmunds & Associates, Inc.
Jeff Bower, Jones, Edmunds & Associates, Inc.
Bruce Clark, ERM
Raymond Dever, P.E. SCS Engineers
Mark Hammond, Palm Beach County SWA
Tim Hunt, Timothy Hunt, Jr. & Associates
John Lable, Florida DEP
Laxsammee Levin, Florida DEP
Paul Luth, Consulting and Training Env. Services
Chris Kohl, Chris Kohl Training and Consulting Services
Lenny Marlon, Osceola County Solid Waste
Chris McGuire, Florida DEP
Chris Roeder, Florida DEP
Thomas Roberts, Roberts and Associates, Inc.
Larry Rulz, SCS Engineers
Fred Sebesta, HDR Engineering, Inc.
Brian Storey, Jones, Edmunds & Associates, Inc.
Timothy Townsend, Ph.D., University of Florida, College of Engineering
James Thomson, Charlotte County Dept. of Environmental Services

For additional information, contact Dawn Jenkins at 352/392-9570 ext. 127 or djenkin@treeo.doce.ufl.edu.

To register, contact Janet Touchton at 352/392-9570 ext. 112 or jtoucht@treeo.doce.ufl.edu.

General Information

Hotel Accommodations

Participants are responsible for arranging their accommodations and travel. Special rates are available at the hotels listed. To receive the special rate, reservations must be made at least four weeks prior to the course (unless otherwise specified), and you must identify yourself as a participant of one of these UF/TREEO courses.

Daytona Beach

Location and Accommodations: Daytona Beach Hilton Oceanfront Resort, 2637 South Atlantic Ave., Daytona Beach, FL 32118, 904/767-7350; \$89 single/double.

Gainesville

Location: University of Florida TREEO Center, 3900 SW 63 Blvd., Gainesville, FL 32608-3848, 352/392-9570.

Accommodations: Cabot Lodge, 3726 SW 40 Blvd (I-75 and SR 24, exit 75), Gainesville, FL 32608, 352/375-2400, 1-800-843-8735, \$55 single, \$62 double.

Hampton Inn, 4225 SW 40TH Blvd (I-75 and SR 24, exit 75), Gainesville, FL 32608, 352/371-4171, \$62 single/double.

Shalimar/Ft. Walton Beach

Location: University of Florida Graduate Engineering and Research Center, 1350 Poquito Rd., Shalimar, FL 32579, 850/833-9355.

Accommodations: Best Western-Beachfront, 380 Santa Rosa Blvd. (US 98-Ft. Walton Beach), FL 32548, 1-877-243-9444, \$59 single or \$69 gulf view.

Tampa

Holiday Inn - Busch Gardens, 2701 East Fowler Avenue, Tampa, FL 33612, 813/971-4710, 1-800-206-2747, \$86 single/double.

Check-In

On-site registration and check-in begin 15 minutes prior to the start of the course.

To Register

Online: Visit www.treeo.ufl.edu and click on "Registration."

By Phone: Call 352/392-9570 ext. 112 (Visa or Mastercard only).

By Fax: Send completed registration form with credit card and social security numbers to 352/392-6910, 24 hours.

By Mail: Return registration form with payment by check, Visa or Mastercard.

By P.O.: Government agencies only.

ALL REMITTANCES SHOULD BE MADE PAYABLE TO THE UNIVERSITY OF FLORIDA.

Cancellation Policy

If you cannot attend, written notification must be received at least two working days prior to the course. You may either transfer to another course, send a substitute or receive a refund. If a course is cancelled, UF/TREEO is not responsible for non-refundable travel fares or lodging deposits.

Certificate and Accreditation

A certificate of attendance and continuing education units (CEUs) are issued to those who attend and complete each course. Please refer to the individual course descriptions for CEU amounts.

Services for Persons with Disabilities

Individuals with disabilities who require special accommodations should contact Dawn Jenkins at 352/392-9570 ext. 127 or djenkin@treeo.doce.ufl.edu at least seven days prior to the course so that proper consideration can be given to the request.

The University of Florida is an Equal Opportunity/Affirmative Action educational institution.

Cost of brochure covered by participants' fees.

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Online registration for these courses is available at www.treeo.ufl.edu

You may fax your completed registration form with credit card and SSNs to Janet Touchton at 352/392-6910

SOLID WASTE LANDFILL SERIES

REGISTRATION FORM 01-08

Course _____ Course # _____ Date _____ Fee _____

Course _____ Course # _____ Date _____ Fee _____

NAME: _____ SSN*: _____

POSITION: _____ COMPANY: _____

MAILING ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

BUSINESS PHONE: _____ FAX: _____ E-MAIL: _____

* Social Security Number needed for registration

Completed registration form and payment are needed to process your registration. Make payment in U.S. currency to UNIVERSITY OF FLORIDA. Mail registration form and payment to:

UNIVERSITY OF FLORIDA
TREEO CENTER
3900 SW 63RD BLVD.
GAINESVILLE, FL 32608-3848

Register one person per form. Photocopy if more forms are needed.

FEE (Check appropriate boxes):

☐ Check Enclosed in the amount of \$ _____
☐ Please charge ☐ VISA ☐ Mastercard

Card #: _____

Expiration Date: _____

Please print name exactly as it appears on the card:



**UNIVERSITY OF
FLORIDA**
TREEO CENTER
presents

Manager of Landfill Operations (MOLO)

Presented in cooperation with the Florida Sunshine
Chapter of SWANA and SWANA International.

September 11-14, 2001 in Cocoa Beach, Florida

(Registration deadline: Two weeks prior to course start)

Hours: 30

This advanced four-day course is approved as an initial training course for Landfill Operators. In Manager of Landfill Operations (MOLO) you learn about current landfill design and operating practices and requirements, including site selection, waste screening, gas and leachate issues, training, and an overview of state and federal regulations. Plus, MOLO offers a field exercise to give you the opportunity to review the classroom concepts and see how they can be applied on the job. There is also a final written exam with multiple choice, true/false and problem solving questions.

Participants must complete the course and pass the exam with a 70% proficiency to satisfy Florida's DEP training requirements for landfill operators under 62-701 FAC.

This course also satisfies part of Solid Waste Association of North America (SWANA) certification criteria for Certified Landfill Manager, Inspector or Technical Associate. For more information on SWANA certification, you may contact SWANA directly at 301/ 585-2898.

Who Should Attend

Owners and operators of landfills, inspectors, solid waste directors, and personnel managing on-site operations during any part of the day. (You must also have one year of work experience in landfill operations and either a high school diploma or two years work experience at a class I, II, or III landfill.)

FEES	FL Member	FL Non-Member	Out of State Member	Out of State Non-Member
Course w/test	\$485	\$535	\$750	\$1025
Course only	\$435	\$485	\$625	\$775
Test Only	\$125	\$250	\$125	\$250

(The above fees do not include SWANA Membership)

SWANA Recertification Fee	\$100
Membership (Regular: Public)	\$117
Membership (Sustaining: Private)	\$277
Retest	\$125

For more Information: 352/392-9570

About the Course: Dawn Jenkins, ext. 127 or
djenkin@treeo.doce.ufl.edu

For Registration: Janet Touchton, ext. 112 or
jtought@treeo.doce.ufl.edu

www.treeo.ufl.edu

Course Outline

Registration/Check-in begins 15 minutes before the course.

7:30 a.m. - 5:30 p.m. Daily.

8:00 a.m. - 11:30 a.m. on Day Four (Exam)

Day One

Introduction and Pre-Test
Role of Sanitary Landfills in Municipal Solid Waste Management
Basics of Landfill Site Criteria
Complying with Design Requirements
Waste Acceptance and Screening
Leachate Issues and Bioreactor Landfill
Landfill Gas
Homework

Day Two

Operational Techniques
Compliance Inspection
Field Exercise

Day Three

Closure and Long-term Care
Landfill Economics
State/Provincial Regulations
Communications
Safety and Contingency Countermeasures
Review

Day Four

Exam - Written

◆ Certificate and Accreditation

The Solid Waste Management Training Committee (SWMTC) has approved the SWANA MOLO Course for initial training of landfill operators. Operators who complete this course and pass the exam will be considered as having met the initial training requirements in rule 62-701. This course can also be taken as a continuing education course if you have not taken it as your initial training. A certificate of attendance will be issued to students who attend and complete the course.

◆ Continuing Education

The SWMTC has also approved this course as a continuing education course for those who did not take it as their initial training course. SWANA CEUs available.

◆ Failed Certification Candidates

Candidates who fail the written examination may retake the examination without additional instruction. The fee for each re-test is \$125.

Note: The Solid Waste Landfill Operator Short School will no longer be offered. That course has been replaced with this updated MOLO Course.

Location and Accommodations

Participants are responsible for arranging their accommodations and travel. Special rates are available at the hotels listed. To receive the special rate, reservations must be made at least 4 weeks prior to the course and you must identify yourself as a participant of this UF/TREEO Course.

Cocoa Beach

Location and Accommodations: DoubleTree Ocean Front Hotel, 2080 North Atlantic Ave, Cocoa Beach, FL 32931, 407/799-3234, 1-800-552-3224, \$85 single or double.

To Register

Online: Visit www.treeo.ufl.edu and click on "Register"

By Phone: 352/392-9570 ext. 112 (Visa or MasterCard only).

By Fax: Send completed registration form, including credit card and social security numbers, to 352/392-6910, 24 hours.

By Mail: Return registration form with payment by check, Visa or MasterCard to the address listed at the bottom of the form.

Purchase Order: Government agencies may pay with a purchase order.

REGISTRATION WILL BE CONSIDERED COMPLETE ONLY UPON RECEIPT OF BOTH REGISTRATION FORM AND PAYMENT IN U.S. DOLLARS. ALL REMITTANCES SHOULD BE MADE PAYABLE TO THE UNIVERSITY OF FLORIDA.

Services for Persons with Special Needs

Persons with disabilities who require special accommodations should contact Dawn Jenkins at 352/392-9570, ext. 127, at least ten days prior to the course so that proper consideration can be given to the request.

Cancellation Policy

If you cannot attend, written notification must be received at least two working days prior to the course. You may either

transfer to another course (transfer credit good for one year), send a substitute, or receive a refund. In the event that a course is canceled, UF/TREEO is not responsible for non-refundable travel fares or lodging deposits.

OTHER COURSES OF INTEREST

Construction and Demolition Debris

Landfills: A Short Course for Operators

♦ June 27-29, 2001 in Cocoa Beach, FL

Health and Safety Training for Landfill Operations

♦ August 23, 2001 in Gainesville, FL

Waste Screening and Identification for Landfill Operators and Spotters

♦ May 3, 2001 in Gainesville, FL

Eight-hour Spotter Training for Construction and Demolition Sites

♦ August 22, 2001 in Gainesville

Excavation and Trenching: Competent Person Training

♦ June 29, 2001 in Gainesville

Permit Required Confined Space Training

♦ June 28, 2001 in Gainesville

Health and Safety Training for Hazardous Materials Activities: Forty-hour OSHA Course

♦ April 2-6, 2001 in Gainesville

Management of Gas, Leachate, Stormwater and Odor at Class I, II, III Landfills

♦ May 2, 2001 in Gainesville

Two-hour Landfill Spotter Refresher Training

♦ Online, Anytime

The University of Florida is an Equal Opportunity/Affirmative Action educational institution. • Cost of brochure covered by participants' fees. • © 2001 University of Florida TREEO Center

Online registration for this course is available at www.treeo.ufl.edu

You may fax your completed registration form with SSNs and credit card numbers to (352) 392-6910, 24 hours.

Manager of Landfill Operations (MOLO)

REGISTRATION FORM

☐ September 11-14, 2001, Cocoa Beach, FL ♦ Program # - TBA

NAME: _____ SSN*: _____

POSITION: _____ COMPANY: _____

MAILING ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

BUSINESS PHONE: _____ FAX: _____ E-MAIL: _____

* Social Security Number needed for registration

Completed registration form and payment are needed to process your registration. Make payment in U.S. currency to UNIVERSITY OF FLORIDA. Mail registration form and payment to:

UNIVERSITY OF FLORIDA

TREEO CENTER

3900 SW 63rd BLVD.

GAINESVILLE, FL 32608-3848

Register one person per form. Photocopy if more forms are needed.

FEE (Check appropriate boxes):

☐ Gov't. Purchase Order #: _____

☐ Check Enclosed in the amount of \$ _____

☐ Please charge ☐ VISA ☐ Mastercard

Card #: _____

Expiration Date: _____

Please print name exactly as it appears on the card.



Spotter Training

November 2000 - August 2001

Spotting at Construction and Demolition Sites, Landfills and Transfer Stations

January 10, 2001 • Gainesville, FL • Cost: \$195

This one-day course provides an overview of spotter operations at landfills, construction and demolition sites and transfer stations. Topics include: Spotter Responsibility, Communication, Traffic Management, State Regulations, Compliance Inspections, Forms, Random Load Inspections, Classes of Landfills, Prohibited Waste Material, Hazardous Waste Material, Construction and Demolition Debris Facilities, Personal Safety, Personal Hygiene, and Landfill Fires. 8:00 a.m. - 5:00 p.m.

SWMTC hours: 8; SWANA CEUs: 5

Eight-Hour Spotter Training for Construction and Demolition Sites

August 22, 2001 • Gainesville, FL • Cost: \$225

Spotters play a key role in keeping prohibited materials out of landfills. This course addresses landfill regulations that are relevant to the spotter and explains which materials are acceptable in a construction and demolition landfill. There will be a brief discussion of regulations governing construction and demolition sites. Topics include stormwater systems, application and maintenance of cover materials, inspections and litter control. Spanish translated manual available. 8:00 a.m. - 5:00 p.m.

SWMTC hours: 8; SWANA CEUs: 5

Waste Screening and Identification for Landfill Operators and Spotters

November 9, 2000 • Tampa, FL • Cost: \$195

May 4, 2001 • Gainesville, FL • Cost: \$225

Designed to enhance the skills and raise the competency level of landfill operators, this course familiarizes you with federal and state rules governing waste screening and prohibited waste. You learn about common practices in screening waste loads, handling unacceptable waste, identifying waste sources, constructing a screening area, and forming a facility contingency plan to manage unknown and hazardous waste. 8:30 a.m. - 5:30 p.m.

SWMTC hours: 8; SWANA CEUs: 5

Locations and Accommodations

Gainesville. University of Florida TREEO Center, 3900 SW 63 Blvd., Gainesville, FL 32608-3848, 352/392-9570.

Accommodations: Cabot Lodge, 3726 SW 40 Blvd (I-75 and SR 24, exit 75), Gainesville, FL 32608, 352/375-2400, 1-800-843-8735, \$55 single, \$62 double.

Tampa. Holiday Inn - Busch Gardens, 2701 East Fowler Avenue, Tampa, FL 33612, 1-800-206-2747, \$86 single/double.

Information: Course: Dawn Jenkins, 352.392.9570 ext 127 or djenkin@treeo.docc.ufl.edu

Registration: Janet Touchton, 352.392.9570 ext 112 or jtoucht@treeo.docc.ufl.edu

Note: These courses are approved as initial training courses for C&D spotters and as continuing education for all operators.

Online registration for these courses is available at www.treeo.ufl.edu

You may fax your completed registration form with credit card and SSNs to Janet Touchton at 352/392-6910

Please register me for:

REGISTRATION FORM

- ☐ Spotting at Construction & Demolition Sites, Landfills and Transfer Stations • January 10, 2001 • #010296 • \$195
- ☐ Eight Hour Spotter Training for Construction & Demolition Sites • August 22, 2001 • #020113 • \$225
- ☐ Waste Screening and Identification for Landfill Operators and Spotters
- ☐ November 9, 2000 • #010099 • \$195
- ☐ May 3, 2001 • #010402 • \$225

NAME: _____ SSN*: _____

POSITION: _____ COMPANY: _____

MAILING ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

BUSINESS PHONE: _____ FAX: _____ E-MAIL: _____

* Social Security Number needed for registration

Completed registration form and payment are needed to process your registration. Make payment in U.S. currency to UNIVERSITY OF FLORIDA. Mail registration form and payment to:

UNIVERSITY OF FLORIDA
TREEO CENTER
3900 SW 63rd BLVD.
GAINESVILLE, FL 32608-3848

Register one person per form. Photocopy if more forms are needed.

FEE (Check appropriate boxes):

- ☐ Check Enclosed in the amount of \$ _____
- ☐ Please charge ☐ VISA ☐ Mastercard

Card #: _____

Expiration Date: _____

Please print name exactly as it appears on the card:



Solid Waste Landfill Operator Courses Initial Training

Construction and Demolition Debris Landfills

A Short Course for Operators

June 27-29, 2001 in Cocoa Beach, FL ♦ Contact us for course #

Fee: \$325 ♦ 20 hours

The construction and demolition debris landfill operator and spotter training requirements are the following as contained in Rule 62-701.730 F.A.C. All C&D landfill operators shall complete at least 20 hours of initial training and 15 hours of continuing training in courses described in an approved training plan.

This course is approved as an initial training course for Construction and Demolition Landfill Operators and as an continuing education course for Class I,II,III Landfill Operators.

Course Topics

Introduction, Definition of a C&D Landfill
Role of C&D Landfills in SW Management Programs, State Regulations
Siting C&D Facilities, Economics of C&D Sites
Recycling and Waste Diversion
Components of the Groundwater and Surface Water Monitoring Plans
Complying with Financial Responsibility Requirements
Components of a Usable Operating Plan
Training Plan Options, Basic Operating Guidelines
Closure and Long Term Care

* * * * *

Manager of Landfill Operators (MOLO)

September 11-14, 2001 in Cocoa Beach, FL ♦ Contact us for course #

Fees: *Florida Residents (part of the cost of this course is being provided by the Florida Sunshine Chapter of SWANA)*

Florida Residents:

Member - Regular \$695 / Your cost \$485

Non-member - Regular \$855 / Your cost \$535

Non-Florida Residents:

Member \$750, Non-member \$1025.

During this (30 hour) 4-day, advanced course, you learn about the current landfill design and operating practices and requirements, including site selection, wastescreeing, gas and leachate issues, training and overview of state and federal regulations. Plus MOLO offers a field exercise to give you the opportunity to review the classroom concepts and see how they can be applied on the job. There is also a written exam with multiple choice, true/false and problem solving questions.

Participants must complete the course and pass the exam with a 70% proficiency to satisfy Florida Department of Environmental Protection training requirements for landfill operators under 62-701 FAC.

This course is approved as an initial training course for Landfill and C&D operators and as a continuing education course for those who have not taken it as their initial course.

* * * * *

C & D Short School: Registration/check-in begins at 7:45am on the first day. The course begins at 8:00am and adjourns at 5:00pm on the other days. On the last day, the course begins at 8:00am and adjourns at 12 noon.

MOLO: Registration/check-in begins at 7:00 on the first. Class hours are from 7:30 - 5:30 daily. *Note: The exam for the MOLO course starts at 8:00am on the last day.*

Course Locations and Accommodations

You are responsible for arranging your accommodations. Special rates are available at the hotels listed. To receive a special rate, reservations must be made at least four weeks prior to the course date, and you must identify yourself as a participant of this UF/TREEO course.

June – Cocoa Beach Oceanfront Hilton, 1550 North Atlantic Ave, Cocoa Beach, FL 32931, 407/799-0003

\$95 single or double.

September – DoubleTree Ocean Front Hotel, 2080 North Atlantic Ave, Cocoa Beach, FL 32931, 407/799-3234,

1-800-552-3224, \$85 single or double.

General Information

Course: Contact Dawn Jenkins at 352/392-9570, ext. 127 or djenkin@treeo.doce.ufl.edu.

Registration: Contact Janet Touchton, 352/392-9570, ext. 112 or jtouch@treeo.doce.ufl.edu

Confirmation letters will be mailed to all registered participants two weeks prior to the course date.

To Register

By Phone: Call 352/392-9570, ext. 112 (Visa or MasterCard only).

By Fax: Send completed registration form, including credit card number, to 352/392-6910, 24 hours.

By Mail: Return registration form with payment by check, Visa or MasterCard to the address listed at the bottom of the form.

Purchase Order: Government agencies may register with a purchase order.

REGISTRATION WILL BE CONSIDERED COMPLETE ONLY UPON RECEIPT OF BOTH REGISTRATION FORM AND PAYMENT IN US DOLLARS. ALL REMITTANCES SHOULD BE MADE PAYABLE TO THE UNIVERSITY OF FLORIDA.

Services for Persons with Disabilities

Persons with disabilities who require special accommodations should contact Dawn Jenkins at 352/392-9570, ext. 127, at least seven days prior to the course so that proper consideration can be given to the request.

Cancellation Policy

If you cannot attend, written notification must be received at least two working days prior to the course. You may either transfer to another course (transfer credit good for one year), send a substitute, or receive a refund. In the event that a course is canceled, UF/TREEO is not responsible for non-refundable travel fares or lodging deposits.

Certificate and Accreditation

A certificate of attendance and continuing education units (CEUs or hours) will be issued to those who attend and complete either course.

Construction and Demolition Debris Landfills: A Short Course for Operators

REGISTRATION FORM

☐ June 27-29, 2001 in Cocoa Beach, FL • Contact us for program # • \$325

Manager of Landfill Operations

☐ Sept. 11-14, 2001 in Cocoa Beach, FL • Contact us for program # • \$485 SWANA member/Non-member \$535 public

NAME: _____ SSN: _____

COMPANY: _____ POSITION: _____

MAILING ADDRESS: _____
street city state zip

PHONE (____) _____ FAX (____) _____

Email address _____

Fees:

[] Gov't. Purchase Order # _____

[] Check enclosed in the amount of \$ _____

Please charge: [] VISA [] MasterCard Exp date _____

Card #: _____

Print name exactly as on credit card

Make checks payable to: UNIVERSITY OF FLORIDA

Completed registration form and fee are needed to process
Print name exactly as on credit card registration. Mail
registration form and payment to:

UNIVERSITY OF FLORIDA TREEO CENTER
3900 SW 63 BLVD

GAINESVILLE, FL 32608. PHONE: 352/392-9570.

You may FAX completed registration form to: 352/392-6910.



SOLID WASTE LANDFILL OPERATOR TRAINING

NEW!

Two-Hour Landfill Spotter Refresher

Computer Course and On-Line Training

\$195

DECEMBER 5, 2000 GAINESVILLE, FLORIDA 1:00PM - 5:00PM

or

ON-LINE, ANYTIME - FROM YOUR LOCATION

This two hour course provides a refresher of spotter operations at landfills, construction and demolition sites and transfer stations. Topics include: Spotter Responsibility, Communication, Traffic Management, State Regulations, Compliance Inspections, Random Load Inspections, Prohibited Waste Material, Hazardous Waste Material, Personal Safety, Personal Hygiene, and Landfill Fires.

This course is approved as continuing education for all operators and spotters. SWMTC hours: 2

To Register for either course: Register on-line at www.treeo.ufl.edu (click on "Register") or by sending in attached registration form.

On-line, Anytime: When your registration is received, we will email you the web address and password to enter the website for the course work. Once the course work is complete and payment is received, you will be allowed to take the final exam. When you have passed the final exam, then your Certificate of Completion dated on your exam day will be issued.

Course at UF TREEO: If you don't have the use of a computer and would still like to take the course, it will be given in our computer lab from 1-5pm on December 5, 2000. You can work at your own speed as long as you finish by 5:00pm. Help will be available to get you started. *Limited space available, so register soon. [Government Agencies Purchased Orders Accepted.]*

Location and Accommodations

Gainesville

Location: University of Florida TREEO Center, 3900 SW 63 Blvd, Gainesville, FL 32608, 352/392-9570

Accommodations: Cabot Lodge, 3726 SW 40 Blvd (I-75 and SR 24, exit 75), Gainesville, FL 32608

352/375-2400, 1-800-843-8735, \$55 single, \$62 double, www.cabotlodge.com

Information: Course: Dawn Jenkins, 352.392.9570 ext 127 or djenkin@treeo.docc.ufl.edu
Registration: Janet Touchton, 352.392.9570 ext 112 or jtoucht@treeo.docc.ufl.edu

Online registration for this course is available at www.treeo.ufl.edu

You may fax your completed registration form with credit card and SSNs to Janet Touchton at 352/392-6910

Please register me for:

REGISTRATION FORM

- ☐ Two Hour Landfill Spotter Refresher #010398, December 5, 2000 \$195
☐ Two Hour Landfill Spotter Refresher #010400, On-Line, Anytime \$195

NAME: _____ SSN*: _____

POSITION: _____ COMPANY: _____

MAILING ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

BUSINESS PHONE: _____ FAX: _____ E-MAIL: _____

* Social Security Number needed for registration

Completed registration form and payment are needed to process your registration. Make payment in U.S. currency to UNIVERSITY OF FLORIDA. Mail registration form and payment to:

UNIVERSITY OF FLORIDA
TREEO CENTER
3900 SW 63RD BLVD.
GAINESVILLE, FL 32608-3848

Register one person per form. Photocopy if more forms are needed.

FEE (Check appropriate boxes): Government PO# _____

☐ Check Enclosed in the amount of \$ _____

☐ Please charge ☐ VISA ☐ Mastercard

Card #: _____

Expiration Date: _____

Please print name exactly as it appears on the card:



Solid Waste Landfill Operator Courses Initial Training

Construction and Demolition Debris Landfills:

A Short Course for Operators

June 27-29, 2001 in Cocoa Beach, FL ♦ #010603

Fee: \$325 ♦ 20 hours

The construction and demolition debris landfill operator and spotter training requirements are the following as contained in Rule 62-701.730 F.A.C. All C&D landfill operators shall complete at least 20 hours of initial training and 15 hours of continuing training in courses described in an approved training plan.

This course is approved as an initial training course for Construction and Demolition Landfill Operators and as an continuing education course for Class I,II,III Landfill Operators.

Course Topics

Introduction, Definition of a C& D Landfill
Role of C&D Landfills in SW Management
Programs, State Regulations
Siting C&D Facilities, Economics of C&D Sites
Recycling and Waste Diversion
Components of the Groundwater and Surface Water Monitoring Plans
Complying with Financial Responsibility Requirements
Components of a Usable Operating Plan
Training Plan Options, Basic Operating Guidelines
Closure and Long Term Care

* * * * *

Manager of Landfill Operators [MOLO]

September 11-14, 2001 in Cocoa Beach, FL ♦ #020178

Fees: *Florida Residents (part of the cost of this course is being provided by the Florida Sunshine Chapter of SWANA)*

Florida Residents:	Member - Regular \$695 / Your cost \$485
	Non-member - Regular \$855 / Your cost \$535
Non-Florida Residents:	Member \$750, Non-member \$1025.

During this (30 hour) 4-day advanced course, you learn about the current landfill design and operating practices and requirements, including site selection, wastescreeing, gas and leachate issues, training and overview of state and federal regulations. Plus MOLO offers a field exercise to give you the opportunity to review the classroom concepts and see how they can be applied on the job. There is also a written exam with multiple choice, true/false and problem solving questions.

Participants must complete the course and pass the exam with a 70% proficiency to satisfy Florida Department of Environmental Protection training requirements for landfill operators under 62-701 FAC.

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* * * * *

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MOLO: Registration/check-in begins at 7:00 on the first. Class hours are from 7:30 - 5:30 daily. *Note: The exam for the MOLO course starts at 8:00am on the last day.*

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You are responsible for arranging your accommodations. Special rates are available at the hotels listed. To receive a special rate, reservations must be made at least four weeks prior to the course date, and you must identify yourself as a participant of this UF/TREEO course.

June – Cocoa Beach Oceanfront Hilton, 1550 North Atlantic Ave, Cocoa Beach, FL 32931, 407/799-0003

\$95 single or double.

September – DoubleTree Ocean Front Hotel, 2080 North Atlantic Ave, Cocoa Beach, FL 32931, 407/799-3234, 1-800-552-3224, \$85 single or double.

General Information

Course: Contact Dawn Jenkins at 352/392-9570, ext. 127 or djenkin@treeo.doce.ufl.edu.

Registration: Contact Janet Touchton, 352/392-9570, ext. 112 or jtouch@treeo.doce.ufl.edu

Confirmation letters will be mailed to all registered participants two weeks prior to the course date.

To Register

By Phone: Call 352/392-9570, ext. 112 (Visa or MasterCard only).

By Fax: Send completed registration form, including credit card number, to 352/392-6910, 24 hours.

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Purchase Order: Government agencies may register with a purchase order.

REGISTRATION WILL BE CONSIDERED COMPLETE ONLY UPON RECEIPT OF BOTH REGISTRATION FORM AND PAYMENT IN US DOLLARS. ALL REMITTANCES SHOULD BE MADE PAYABLE TO THE UNIVERSITY OF FLORIDA.

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If you cannot attend, written notification must be received at least two working days prior to the course. You may either transfer to another course (transfer credit good for one year), send a substitute, or receive a refund. In the event that a course is canceled, UF/TREEO is not responsible for non-refundable travel fares or lodging deposits.

Certificate and Accreditation

A certificate of attendance and continuing education units (CEUs or hours) will be issued to those who attend and complete either course.

Construction and Demolition Debris Landfills: A Short Course for Operators

REGISTRATION FORM

☐ June 27-29, 2001 in Cocoa Beach, FL • #010603 • \$325

Manager of Landfill Operations

☐ Sept. 11-14, 2001 in Cocoa Beach, FL • #020178 • \$485 SWANA member/Non-member \$535 public

NAME: _____ SSN: _____ - _____ - _____

COMPANY: _____ POSITION: _____

MAILING ADDRESS: _____
street city state zip

PHONE (_____) _____ FAX (_____) _____

Email address _____

Fees:

[] Gov't. Purchase Order # _____

[] Check enclosed in the amount of \$ _____

Please charge: [] VISA [] MasterCard Exp date _____

Card #: _____

Print name exactly as on credit card

Make checks payable to: UNIVERSITY OF FLORIDA

Completed registration form and fee are needed to process
Print name exactly as on credit card registration. Mail
registration form and payment to:

UNIVERSITY OF FLORIDA TREEO CENTER
3900 SW 63 BLVD

GAINESVILLE, FL 32608. PHONE: 352/392-9570.

You may FAX completed registration form to: 352/392-6910.

ATTACHMENT 1.9

LEACHATE SYSTEM INSPECTION SUMMARY

FLORIDA JETCLEAN INC.

HIGH PRESSURE WATER JETTING
VIDEO PIPELINE INSPECTION
NO DIG POINT REPAIRS

37 WINDWARD ISLAND
CLEARWATER, FL 33767-2322
TEL: 800-226-8013 FAX: 727-442-2222

CITRUS COUNTY LANDFILL

February 2001 - Video Log

Tape 1

Active Disposal Area

Clean Out 1 West side - 560' total. 198' submerged until 238'. 256' submerged until 298'. 560' impassable for tractor. Wheels slipping.

Clean Out 1 East side - 573' total. 180' submerged until 242'. 573' impassable for tractor. Wheels slipping.

Clean Out 2 West side - 204' total. Impassable, camera flipped at bend.

Clean Out 2 West side - Revideo. 205'. Impassable, camera flipped at bend.

Clean Out 2 West side - Push rod system, revideo. 316' total. 218' submerged until 316'. Also in reverse.

Clean Out 3 West side - 204' bend, impassable.

Clean Out 3 West side - Revideo, push rod system. 276' total. 45 degree bend at 216' with 6" reducer. 222' submerged until 276'. Impassable.

Clean Out 4 West side - 468' total. Push rod system. 204' submerged until 250'. 350' submerged until 365'.

Clean Out 5 West side - Push rod system. 348' total. 203' submerged until 348'. 348' push rod resistance.

Clean Out 6 West side - 151' total. Push rod system. 151' crushed pipe.

Clean Out 7 West side - Push rod system. 155' total. 155' crushed pipe.

Clean Out 4 or 5 on East side - 407' total. Push rod system. 407' push rod resistance.

Tape 2

Clean Out 8 East side - Push rod system. 454' total. 265' submerged until 454'. 454' push rod resistance.

18" Pump sump 1 - 126'. Impassable fitting on hose. Also in reverse. (tractor system)

18" Pump sump 2 - 15'. Impassable - tractor system.

18" Pump sump 2 - Revideo, push rod. 17', impassable.

18" Pump sump 2 - 179'. Revideo. Tractor system, large 6" wheels.

18" Pump sump 1 - 150'. Revideo. Tractor system, large 6" wheels. Pump hose in line, impassable.

18" Pump sump 3 - 187'. Tractor system, large 6" wheels. Pump hose in line, impassable.

18" Pump sump 4 - 182'. Tractor system, large 6" wheels. Pump hose in line, impassable.

Master lift station Force Main clean out 1 - 420' total. Also in reverse.

Master lift station Forced Main clean out 2 - 71' total. Impassable at bend.

Master lift station Forced Main clean out 3 - 216' total. Submerged, impassable.

Lift station 2 - Video of sump area.

Active Disposal Area – Storm Drain Run Off

Catch basin 1 to catch basin 2 - 180'.

Catch basin 2 to lift station - 50'.

Catch basin 1 video of sump area

Catch basin 2 video of sump area

Tape 3

Seven Acre Site

Lift station 2 - 1.6". Mouth of pipe, possible egg shaped.

Lift station 1 - Video of sump area at 65'.

Lift station 2 - Video of sump area at 65'.

ATTACHMENT 1.13

REVISED PERMIT APPLICATION PAGES

8. Applicant name (operating authority): Citrus County Board of County Commissioners
Mailing address: P.O. Box 340 Lecanto FL 34460
Street or P.O. Box City State Zip
Contact person: Susan Metcalfe, P.G. Telephone: (904) 746-5000
Title: Solid Waste Management Division Director
9. Authorized agent / Consultant: Jones, Edmunds & Associates, Inc.
Mailing address: 730 NE Waldo Road, Building A Gainesville FL 32641
Street or P.O. Box City State Zip
Contact person: David A. Keough, PE Telephone: (352) 377-5821
Title: Project Manager
10. Landowner (if different than applicant): _____
Mailing address: _____
Street or P.O. Box City State Zip
Contact person: _____ Telephone: ()
11. Cities, towns, and areas to be served: Citrus County
12. Population to be served:
Current: 118,085 (2000 Census) Five-year Projection: 130,000 (FY2005)
13. Volume of solid waste to be received: 84,000 (FY2001 estimated) tons/year
14. Date site will be ready to be inspected for completion: 2004
15. Estimated life of facility: approximately 3 years years
16. Estimated costs:
Total Construction: \$ _____ Closing Costs: \$ 2,363,996
17. Anticipated construction starting and completion dates:
From: _____ To: _____

B. DISPOSAL FACILITY GENERAL INFORMATION

1. Provide brief description of disposal facility design and operations planned by this application:

Continued Class I disposal operations in Phase 1 and 1A.

2. Facility site supervisor: David Chamblin

Title: Section Chief

Telephone: (352) 745-5000

3. Disposal area: Total 80* acres; Used 19.1† acres; Available 60.9 acres

4. Weighing scales used: Yes ☒ No ☐

5. Security to prevent unauthorized use: Yes ☒ No ☐

6. Charge for waste received: varies† \$/yds³ \$/ton

7. Surrounding land use, zoning:

Residential ☐

Industrial ☒

Agricultural ☐

None ☐

Commercial ☒

Other ☒ Conservation

8. Types of waste received:

Residential ☒

C & D debris (mixed loads only) ☒

Commercial ☒

Shredded / cut tires ☐

Incinerator / WTE ash ☐

Yard trash ☒

Treated biohazardous ☐

Septic tank ☐

Water treatment sludge ☐

Industrial ☒

Air treatment sludge ☐

Industrial sludge ☐

Agricultural ☐

Domestic sludge ☒

Asbestos ☒

Other ☐

9. Salvaging permitted: Yes ☐ No ☒

10. Attendant: Yes ☒ No ☐ Trained operator: Yes ☒ No ☐

11. Spotters: Yes ☒ No ☐ Number of spotters used: minimum of one

12. Site located in: Floodplain ☐ Wetlands ☐ Other ☒ upland

13. Property recorded as a Disposal Site in County Land Records: Yes ☒ No ☐

14. Days of operation: Monday - Saturday

15. Hours of operation: Monday-Friday: 6:30am-5:00pm; Holidays and Saturdays: 6:30am-3:00pm

16. Days Working Face covered: Monday - Saturday

17. Elevation of water table: 7 Ft. NGVD

* Total Citrus County Central Landfill Site

† Existing Phase 1 and 1A Disposal Area

‡ \$15/ton - yard waste; \$75/ton - tires; \$30/ton - MSW. See attached fee schedule for other items.

D. SOLID WASTE MANAGEMENT FACILITY PERMIT GENERAL REQUIREMENTS (62-701.320, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<u>X</u>				1. Six copies, at minimum, of the completed application form, all supporting data and reports; (62-701.320(5)(a), FAC)
<u>X</u>				2. Engineering and/or professional certification (signature, date and seal) provided on the applications and all engineering plans, reports and supporting information for the application; (62-701.320(6), FAC)
<u>X</u>				3. A letter of transmittal to the Department; (62-701.320(7) (a), FAC)
<u>X</u>				4. A completed application form dated and signed by the applicant; (62-701.320(7)(b), FAC)
<u>X</u>				5. Permit fee specified in Rule 62-4.050, FAC and Rule 62-701.320(5)(c), FAC in check or money order, payable to the Department; (62-701.320(7)(c), FAC)
	<u>App. 1995, D.7, Letter 10/00</u>		<u>X</u>	6. An engineering report addressing the requirements of this rule and with the following format: a cover sheet, text printed on 8 1/2 inch by 11 inch consecutively numbered pages, a table of contents or index, the body of the report and all appendices including an operation plan, contingency plan, illustrative charts and graphs, records or logs of tests and investigations, engineering calculations; (62-701.320(7)(d), FAC)
<u>X</u>	<u>Op. Plan 2001</u>			7. Operation Plan; (62-701.320(7)(e)1, FAC)
	<u>App. 1995, D.9</u>		<u>X</u>	8. Contingency Plan; (62-701.320(7)(e)2, FAC)
				9. Plans or drawings for the solid waste management facilities in appropriate format (including sheet size restrictions, cover sheet, legends, north arrow, horizontal and vertical scales, elevations referenced to NGVD) showing; (62-702.320(7)(f), FAC)
<u>X</u>	<u>App. 2001, Part 1.0</u>			a. A regional map or plan with the project location;
<u>X</u>	<u>App. 2001, Part 1.0</u>			b. A vicinity map or aerial photograph no more than 1 year old;
	<u>App. 1995, D.9</u>		<u>X</u>	c. A site plan showing all property boundaries certified by a registered Florida land surveyor;

E. LANDFILL PERMIT GENERAL REQUIREMENTS (62-701.330, FAC)

S	LOCATION	N/A	N/C	
X	App. 2001, Part 1.0			1. Vicinity map or aerial photograph no more than 1 year old and of appropriate scale showing land use and local zoning within one mile of the landfill and of sufficient scale to show all homes or other structures, water bodies, and roads other significant features of the vicinity. All significant features shall be labeled; (62-701.330(4)(a), FAC)
X	App. 2001, Part 1.0			2. Vicinity map or aerial photograph no more than 1 year old showing all airports that are located within five miles of the proposed landfill; (62-701.330(4)(b), FAC)
	App. 1995, E.3		X	3. Plot plan with a scale not greater than 200 feet to the inch showing; (62-701.330(4)(c), FAC)
	App. 1995, E.3		X	a. Dimensions;
	App. 1995, E.3		X	b. Locations of proposed and existing water quality monitoring wells;
	App. 1995, E.3		X	c. Locations of soil borings;
	App. 1995, E.3		X	d. Proposed plan of trenching or disposal areas;
	App. 1995, E.3		X	e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;
	App. 1995, E.3		X	f. Any previously filled waste disposal areas;
	App. 1995, E.3		X	g. Fencing or other measures to restrict access.
				4. Topographic maps with a scale not greater than 200 feet to the inch with 5-foot contour intervals showing; (62-701.330(4)(d), FAC):
	App. 1995, E.4		X	a. Proposed fill areas;
	App. 1995, E.4		X	b. Borrow areas;
	App. 1995, E.4		X	c. Access roads;
	App. 1995, E.4		X	d. Grades required for proper drainage;
	App. 1995, E.4		X	e. Cross sections of lifts;
	App. 1995, E.4		X	f. Special drainage devices if necessary;
	App. 1995, E.4		X	g. Fencing;
	App. 1995, E.4		X	h. Equipment facilities.

S	LOCATION	N/A	N/C
---	----------	-----	-----

- | | | | | |
|---|---|--|---|--|
| X | Op. Plan 2001, Section 2.0 | | | 5. A report on the landfill describing the following; (62-701.330(4)(e), FAC) |
| X | Op. Plan 2001, Section 2.0 | | | a. The current and projected population and area to be served by the proposed site; |
| | App. 1995, E.5 | | X | b. The anticipated type, annual quantity, and source of solid waste, expressed in tons; |
| | App. 1995, E.5 | | X | c. The anticipated facility life; |
| | App. 1995, E.5 | | X | d. The source and type of cover material used for the landfill. |
| X | RAI Response 2001, Part 3; Attachment 3.1; App. 1995, Part Q5 | | | 6. Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Rule 62-160, FAC; (62-701.330(4)(h), FAC) |
| | | | | 7. Provide a statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill; (62-701.330(4)(i), FAC) |

F. GENERAL CRITERIA FOR LANDFILLS (62-701.340, FAC)

- | | | | | |
|---|---------------------|--|---|---|
| | App. 1995, F.1 | | X | 1. Describe (and show on a Federal Insurance Administration flood map, if available) how the landfill or solid waste disposal unit shall not be located in the 100-year floodplain where it will restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result is a washout of solid waste; (62-701.340(4)(b), FAC) |
| | App. 1995, F.2 | | X | 2. Describe how the minimum horizontal separation between waste deposits in the landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope; (62-701.340(4)(c), FAC) |
| X | App. 2001, Part 1.0 | | | 3. Describe what methods shall be taken to screen the landfill from public view where such screening can practically be provided; (62-701.340(4)(d), FAC) |

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____

(3) Have granular material or synthetic geotextile to prevent clogging;

(4) Have method for testing and cleaning clogged pipes or contingent designs for rerouting leachate around failed areas;

b. Primary LCRS requirements; (62-701.400(4)(b), FAC)

(1) Bottom 12 inches having hydraulic conductivity $\geq 1 \times 10^{-3}$ cm/sec;

(2) Total thickness of 24 inches of material chemically resistant to the waste and leachate;

(3) Bottom slope design to accommodate for predicted settlement;

(4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load and protection of geomembrane liner.

4. Leachate recirculation; (62-701.400(5), FAC)

a. Describe general procedures for recirculating leachate;

b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;

c. Describe procedures for preventing perched water conditions and gas buildup;

d. Describe alternate methods for leachate management when it cannot be recirculated due to weather or runoff conditions, surface seeps, wind-blown spray, or elevated levels of leachate head on the liner;

e. Describe methods of gas management to control odors and migration of methane;

f. If leachate irrigation is proposed, describe treatment methods and standards for leachate treatment prior to irrigation over final cover and provide documentation that irrigation does not contribute significantly to leachate generation.

S	LOCATION	N/A	N/C
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5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6), FAC)

a. Surface impoundment requirements; (62-701.400(6)(b), FAC)

- (1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;
- (2) Designed in segments to allow for inspection and repair as needed without interruption of service;
- (3) General design requirements;
 - (a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;
 - (b) Leak detection and collection system with hydraulic conductivity ≥ 1 cm/sec;
 - (c) Lower geomembrane placed on subbase ≥ 6 inches thick with $k \leq 1 \times 10^{-5}$ cm/sec;
 - (d) Design calculation to predict potential leakage through the upper liner;
 - (e) Daily inspection requirements and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;
- (4) Description of procedures to prevent uplift, if applicable;
- (5) Design calculations to demonstrate minimum two feet of freeboard will be maintained;
- (6) Procedures for controlling vectors and off-site odors.

b. Above-ground leachate storage tanks; (62-701.400(6)(c), FAC)

- (1) Describe tank materials of construction and ensure foundation is sufficient to support tank;
- (2) Describe procedures for cathodic protection if needed for the tank;

_____	_____	X	_____
_____	_____	X	_____
_____	_____	X	_____
_____	_____	X	_____
_____	_____	X	_____
_____	_____	X	_____
_____	_____	X	_____
_____	_____	X	_____
_____	_____	X	_____
_____	LSTCP 1995	_____	X
_____	LSTCP 1995	_____	X

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
	<u>LSTCP 1995</u>		<u>X</u>
	<u>LSTCP 1995</u>		<u>X</u>
	<u>LSTCP 1995</u>		<u>X</u>
	<u>LSTCP 1995</u>		<u>X</u>
<u>X</u>	<u>Op. Plan 2001, Section 8.0</u>		
<u>X</u>	<u>Op. Plan 2001, Section 8.0</u>		
<u>X</u>	<u>Op. Plan 2001, Section 8.0</u>		
<u>X</u>	<u>Op. Plan 2001, Section 8.0</u>		
<u>X</u>	<u>Op. Plan 2001, Section 8.0</u>		
		<u>X</u>	
		<u>X</u>	
		<u>X</u>	
		<u>X</u>	
		<u>X</u>	
		<u>X</u>	
		<u>X</u>	
		<u>X</u>	

- (3) Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored;
- (4) Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction;
- (5) Describe design to remove and dispose of stormwater from the secondary containment system;
- (6) Describe an overfill prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overfilling;
- (7) Inspections, corrective action and reporting requirements;
 - (a) Overfill prevention system weekly;
 - (b) Exposed tank exteriors weekly;
 - (c) Tank interiors when tank is drained or at least every three years;
 - (d) Procedures for immediate corrective action if failures detected;
 - (e) Inspection reports available for department review.

c. Underground leachate storage tanks; (62-701.400(6)(d), FAC)

- (1) Describe materials of construction;
- (2) A-double-walled tank design system to be used with the following requirements;
 - (a) Interstitial space monitoring at least weekly;
 - (b) Corrosion protection provided for primary tank interior and external surface of outer shell;
 - (c) Interior tank coatings compatible with stored leachate;
 - (d) Cathodic protection inspected weekly and repaired as needed;
- (3) Describe an overfill prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overfilling and provide for weekly inspections;
- (4) Inspection reports available for department review.

d. Schedule provided for routine maintenance of LCRS; (62-701.400(6)(e), FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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9. Gas control systems; (62-701.400(10), FAC)

		X	
		X	
		X	
X	Op Plan 2001 Section 9.0		
X	Op Plan 2001 Section 9.0		
X	Op Plan 2001 Section 9.0		
	App. 1995, G.9		X
		X	
		X	
		X	
		X	
		X	
		X	

- Design details for gas control system including collection pipes and vents, and passive venting or vacuum extraction details;
- Documentation that the gas control system will not impact the liner or leachate control system;
- Proposed methods of odor control including flaring designs in accordance with Chapter 62-296, FAC;
- Description of a routine gas monitoring program to ensure gas control system is operating properly including:
 - Location of monitoring points;
 - Requirements for quarterly sampling of all monitoring points;
 - Description of corrective measures to be completed within 60 days of detection of elevated levels of explosive gases;
- Description of condensate collection and disposal methods.

10. Landfill gas recovery facilities; (62-701.400(11), FAC)

- Information required in Rules 62-701.320(7) and 62-701.330(4), FAC supplied;
- Information required in Rule 62-701.600(4), FAC supplied where relevant and practical;
- Estimate of current and expected gas generation rates and description of condensate disposal methods provided;
- Description of procedures for condensate sampling, analyzing and data reporting provided;
- Closure plan provided describing methods to control gas after recovery facility ceases operation;
- Performance bond provided to cover closure costs if not already included in other landfill closure costs.

11. For landfills designed in ground water, provide documentation that the landfill will provide a degree of protection equivalent to landfills designed with bottom liners not in contact with ground water; (62-701.400 (12), FAC)

H. HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS (62-701.410, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
				1. Submit a hydrogeological investigation and site report including at least the following information:
	<u>App. 1995, H.1.a</u>		<u>X</u>	a. Regional and site specific geology and hydrogeology;
	<u>App. 1995, H.1.b</u>		<u>X</u>	b. Direction and rate of ground water and surface water flow including seasonal variations;
	<u>App. 1995, H.1.c</u>		<u>X</u>	c. Background quality of ground water and surface water;
	<u>App. 1995, H.1.d</u>		<u>X</u>	d. Any on-site hydraulic connections between aquifers;
	<u>App. 1995, H.1.e</u>		<u>X</u>	e. Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill;
	<u>App. 1995, H.1.f</u>		<u>X</u>	f. Site topography and soil characteristics;
<u>X</u>	<u>GLMPR 2001, Appendix B</u>			g. Inventory of all public and private water wells within a one-mile radius of the landfill including well top of casing and bottom elevations, name of owner, age and usage of each well, stratigraphic unit screened, well construction technique and static water level;
	<u>App. 1995, H.1.h</u>		<u>X</u>	h. Description of topography, soil types and surface water drainage systems;
<u>X</u>	<u>GLMPR 2001, Appendix B</u>			i. An inventory of all public and private water wells within one mile of the landfill.
<u>X</u>	<u>CAR 4/96</u>			j. Existing contaminated areas on landfill site.
<u>X</u>	<u>GLMPR 2001, App. 1995, H.2</u>			2. Report signed, sealed and dated by PE or P.G.

J. VERTICAL EXPANSION OF LANDFILLS (62-701.430, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
_____	_____	<u>X</u>	_____	1. Describe how the vertical expansion shall not cause or contribute to leachate leakage from the existing landfill or adversely affect the closure design of the existing landfill;
_____	_____	<u>X</u>	_____	2. Describe how the vertical expansion over unlined landfills will meet the requirements of Rule 62-701.400, FAC with the exceptions of Rule 62-701.430(1)(c), FAC;
_____	_____	<u>X</u>	_____	3. Provide foundation and settlement analysis for the vertical expansion;
_____	_____	<u>X</u>	_____	4. Provide total settlement calculations demonstrating that the final elevations of the lining system, that gravity drainage, and that no other component of the design will be adversely affected;
_____	_____	<u>X</u>	_____	5. Minimum stability safety factor of 1.5 for the lining system component interface stability and deep stability;
_____	_____	<u>X</u>	_____	6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;
_____	_____	<u>X</u>	_____	7. Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion.

K. LANDFILL OPERATION REQUIREMENTS (62-701.500, FAC)

<u>X</u>	<u>Op. Plan 2001, Section 1.0</u>	_____	_____	1. Provide documentation that landfill will have at least one trained operator during operation and at least one trained spotter at each working face; (62-701.500(1), FAC)
				2. Provide a landfill operation plan including procedures for: (62-701.500(2), FAC)
<u>X</u>	<u>Op. Plan 2001, Section 2.0</u>	_____	_____	a. Designating responsible operating and maintenance personnel;
<u>X</u>	<u>Op. Plan 2001, Section 2.0</u>	_____	_____	b. Contingency operations for emergencies;
<u>X</u>	<u>Op. Plan 2001, Section 2.0</u>	_____	_____	c. Controlling types of waste received at the landfill;
<u>X</u>	<u>Op. Plan 2001, Section 2.0</u>	_____	_____	d. Weighing incoming waste;
<u>X</u>	<u>Op. Plan 2001</u>	_____	_____	e. Vehicle traffic control and unloading;
<u>X</u>	<u>Op. Plan 2001, Section 2.0</u>	_____	_____	f. Method and sequence of filling waste;
_____	_____	_____	<u>X</u>	g. Waste compaction and application of cover;
_____	_____	_____	<u>X</u>	h. Operations of gas, leachate, and stormwater controls;
_____	_____	_____	<u>X</u>	i. Water quality monitoring.

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<u>X</u>	<u>Op. Plan 2001, Section 3.0</u>	<u> </u>	<u> </u>	3. Provide a description of the landfill operation record to be used at the landfill; details as to location of where various operational records will be kept (i.e. FDEP permit, engineering drawings, water quality records, etc.) (62-701.500(3), FAC)
<u>X</u>	<u>Op. Plan 2001, Section 4.0</u>	<u> </u>	<u> </u>	4. Describe the waste records that will be compiled monthly and provided to the Department quarterly; (62-701.500(4), FAC)
<u>X</u>	<u>Op. Plan 2001, Section 5.0</u>	<u> </u>	<u> </u>	5. Describe methods of access control; (62-701.500(5), FAC)
<u>X</u>	<u>Op. Plan 2001, Section 6.0</u>	<u> </u>	<u> </u>	6. Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized wastes at the landfill; (62-701.500(6), FAC)
				7. Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7), FAC)
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	a. Waste layer thickness and compaction frequencies;
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	b. Special considerations for first layer of waste placed above liner and leachate collection system;
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	c. Slopes of cell working face and side grades above land surface, planned lift depths during operation;
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	d. Maximum width of working face;
				e. Description of type of initial cover to be used at the facility that controls:
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	(1) Disease vector breeding/animal attraction
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	(2) Fires
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	(3) Odors
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	(4) Blowing litter
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	(5) Moisture infiltration
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	f. Procedures for applying initial cover including minimum cover frequencies;
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	g. Procedures for applying intermediate cover;
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	h. Time frames for applying final cover;
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	i. Description of litter policing methods;
<u>X</u>	<u>Op. Plan 2001, Section 7.0</u>	<u> </u>	<u> </u>	j. Erosion control procedures.

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
<u>X</u>	<u>Op. Plan 2001,</u> <u>Section 8.0</u>	<u> </u>	<u> </u>
<u>X</u>	<u>Op. Plan 2001,</u> <u>Section 8.0</u>	<u> </u>	<u> </u>
<u>X</u>	<u>Op. Plan 2001,</u> <u>Section 8.0</u>	<u> </u>	<u> </u>
<u>X</u>	<u>Op. Plan 2001,</u> <u>Section 8.0</u>	<u> </u>	<u> </u>
<u>X</u>	<u>Op. Plan 2001,</u> <u>Section 8.0</u>	<u> </u>	<u> </u>
<u>X</u>	<u>Op. Plan 2001,</u> <u>Section 8.0</u>	<u> </u>	<u> </u>
<u>X</u>	<u>Op. Plan 2001,</u> <u>Section 8.0, RAI</u> <u>Response 2001,</u> <u>Part 1, Response</u> <u>11</u>	<u> </u>	<u> </u>

8. Describe operational procedures for leachate management including; (62-701.500(8), FAC)

- a. Leachate level monitoring, sampling, analysis and data results submitted to the Department;
- b. Operation and maintenance of leachate collection and removal system, and treatment as required;
- c. Procedures for managing leachate if it becomes regulated as a hazardous waste;
- d. Agreements for off-site discharge and treatment of leachate;
- e. Contingency plan for managing leachate during emergencies or equipment problems;
- f. Procedures for recording quantities of leachate generated in gal/day;
- g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates.

S	LOCATION	N/A	N/C	
X	Op. Plan 2001, Section 9.0	_____	_____	9. Describe routine gas monitoring program for the landfill as required by Rule 62-701.400(10), FAC; (62-701.500(9), FAC)
X	Op. Plan 2001, Section 10.0	_____	_____	10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the standards of Chapters 62-3, 62-302 and 62-25, FAC; (62-701.500(10), FAC)
				11. Equipment and operation feature requirements; (62- 701.500(11), FAC)
X	Op. Plan 2001, Section 11.0	_____	_____	a. Sufficient equipment for excavating, spreading, compacting and covering waste;
X	Op. Plan 2001, Section 11.0	_____	_____	b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;
		_____	X	c. Communications equipment;
		_____	X	d. Personnel shelter and sanitary facilities, first aid equipment;
		_____	X	e. Dust control methods;
		_____	X	f. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;
		_____	X	g. Litter control devices;
X	Op. Plan 2001, Section 11.0	_____	_____	h. Signs indicating operating authority, traffic flow, hours of operation, disposal restrictions.
X	Op. Plan 2001, Section 12.0	_____	_____	12. Provide a descriptions of all-weather access road, inside perimeter road and other roads necessary for access which shall be provided at the landfill; (62-701.500(12), FAC)
				13. Additional record keeping and reporting requirements; (62-701.500(13), FAC)
X	Op. Plan 2001, Section 13.0	_____	_____	a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;
X	Op. Plan 2001, Section 13.0	_____	_____	b. Monitoring information, calibration and maintenance records, copies of reports required by permit maintained for at least 10 years;
X	Op. Plan 2001, Section 13.0	_____	_____	c. Background water quality records shall be maintained for the design period of the landfill;
X	Op. Plan 2001, Section 2.0	_____	_____	d. Maintain annual estimates of the remaining life of constructed landfills and of other permitted areas not yet constructed and submit this estimate annually to the Department.

L. WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS (62-701.510, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<u>X</u>	<u>GLMPR 2001</u>	<u> </u>	<u> </u>	1. Water quality and leachate monitoring plan shall be submitted describing the proposed ground water, surface water and leachate monitoring systems and shall meet at least the following requirements;
<u>X</u>	<u>GLMPR 2001</u>	<u> </u>	<u> </u>	a. Based on the information obtained in the hydrogeological investigation and signed, dated and sealed by the P.G. or PE who prepared it; (62-701.510(2)(a), FAC)
<u>X</u>	<u>GLMPR 2001, Section 2.0</u>	<u> </u>	<u> </u>	b. All sampling and analysis performed by organizations having Department approved Comprehensive Quality Assurance Plans; (62 701.510(2)(b), FAC)
				c. Ground water monitoring requirements; (62-701.510(3), FAC)
<u>X</u>	<u>GLMPR 2001, Section 3.0</u>	<u> </u>	<u> </u>	(1) Detection wells located downgradient from and within 50 feet of disposal units;
<u>X</u>	<u>GLMPR 2001, Section 3.0</u>	<u> </u>	<u> </u>	(2) Downgradient compliance wells as required;
<u>X</u>	<u>GLMPR 2001, Section 3.0</u>	<u> </u>	<u> </u>	(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;
<u>X</u>	<u>GLMPR 2001, Section 3.0</u>	<u> </u>	<u> </u>	(4) Location information for each monitoring well;
<u>X</u>	<u>GLMPR 2001, Section 3.0</u>	<u> </u>	<u> </u>	(5) Well spacing no greater than 500 feet apart for downgradient wells and no greater than 1500 feet apart for upgradient wells unless site specific conditions justify alternate well spacings;
<u>X</u>	<u>GLMPR 2001, Section 1.0</u>	<u> </u>	<u> </u>	(6) Well screen locations properly selected;
<u> </u>	<u>GWMP 1995</u>	<u> </u>	<u>X</u>	(7) Procedures for properly abandoning monitoring wells;
<u> </u>	<u> </u>	<u>X</u>	<u> </u>	(8) Detailed description of detection sensors if proposed.

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
	<u>GWMP 1995</u>		<u>X</u>
	<u>GWMP 1995</u>		<u>X</u>
<u>X</u>	<u>GLMPR 2001, Section 2.0</u>		
<u>X</u>	<u>GLMPR 2001, Section 3.0</u>		
<u>X</u>	<u>GLMPR 2001, Section 3.0</u>		
<u>X</u>	<u>GLMPR 2001, Section 3.0</u>		
	<u>GWMP 1995</u>		<u>X</u>
	<u>GWMP 1995</u>		<u>X</u>
	<u>GWMP 1995</u>		<u>X</u>
	<u>GWMP 1995</u>		<u>X</u>
	<u>GWMP 1995</u>		<u>X</u>

- d. Surface water monitoring requirements; (62-701.510(4), FAC)
- (1) Location of and justification for all proposed surface water monitoring points;
 - (2) Each monitoring location to be marked and its position determined by a registered Florida land surveyor;
- e. Leachate sampling locations proposed; (62-701.510(5), FAC)
- f. Routine sampling frequency and requirements; (62-701.510(6), FAC)
- (1) Background ground water and surface water sampling and analysis requirements;
 - (2) Leachate semi-annual and annual sampling and analysis requirements;
 - (3) Detection well semi-annual sampling and analysis requirements;
 - (4) Compliance well sampling and analysis requirements;
 - (5) Surface water sampling and analysis requirements.
- g. Describe procedures for implementing assessment monitoring and corrective action as required; (62-701.510 (7), FAC)
- h. Water quality monitoring report requirements; (62-701.510 (9), FAC)
- (1) Semi-annual report requirements;
 - (2) Bi-annual report requirements signed, dated and sealed by P.G. or PE.

O. CLOSURE PROCEDURES (62-701.610, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<u> </u>	<u> </u>	<u> X </u>	<u> </u>	1. Survey monuments; (62-701.610(2), FAC)
<u> </u>	<u> </u>	<u> X </u>	<u> </u>	2. Final survey report; (62-701.610(3), FAC)
<u> </u>	<u> </u>	<u> X </u>	<u> </u>	3. Certification of closure construction completion; (62-701.610(4), FAC)
<u> </u>	<u> </u>	<u> X </u>	<u> </u>	4. Declaration to the public; (62-701.610(5), FAC)
<u> </u>	<u> </u>	<u> X </u>	<u> </u>	5. Official date of closing; (62-701.610(6), FAC)
<u> </u>	<u> </u>	<u> X </u>	<u> </u>	6. Use of closed landfill areas; (62-701.610(7), FAC)

P. LONG TERM CARE REQUIREMENTS (62-701.620, FAC)

<u> </u>	<u> </u>	<u> X </u>	<u> </u>	1. Right of property access requirements; (62-701.620(4), FAC)
<u> </u>	<u> </u>	<u> X </u>	<u> </u>	2. Successors of interest requirements; (62-701.620(5), FAC)
<u> </u>	<u> </u>	<u> X </u>	<u> </u>	3. Requirements for replacement of monitoring devices; (62-701.620(7), FAC)
<u> </u>	<u> </u>	<u> X </u>	<u> </u>	4. Completion of long term care signed and sealed by professional engineer (62-701.620(8), FAC).

Q. FINANCIAL RESPONSIBILITY REQUIREMENTS (62-701.630, FAC)

<u> X </u>	<u>RAI Reponse</u> <u>2001, Part 3, Att.</u> <u>3.1</u>	<u> </u>	<u> </u>	1. Provide cost estimates for closing, long term care, and corrective action costs estimated by a PE for a third party performing the work, on a per unit basis, with the source of estimates indicated; (62-701.630(3)&(7), FAC).
<u> </u>	<u>App. 1995, Q.2</u>	<u> </u>	<u> X </u>	2. Describe procedures for providing annual cost adjustments to the Department based on inflation and changes in the closing, long-term care, and corrective action plans; (62-701.630(4)&(8), FAC).
<u> </u>	<u>App. 1995, Q.3</u>	<u> </u>	<u> X </u>	3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms; (62-701.630(5),(6),&(9), FAC).

R. CLOSURE OF EXISTING LANDFILLS (62-701.640, FAC)

<u> </u>	<u> </u>	<u> X </u>	<u> </u>	1. Demonstration that facility does not pose a bird hazard to aircraft as specified in Rule 62-701.320(12)(b), FAC.
<u> </u>	<u> </u>	<u> X </u>	<u> </u>	2. Demonstration that facility does not restrict the flow of the 100-year flood, reduce water storage capacity or result in wash-out of solid waste as specified in Rule 62-701.340(4)(b), FAC.

T. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

A. Applicant

The undersigned applicant or authorized representative of Citrus County Board of County Commissioners is aware that statements made in this form and attached information are an application for a Class I, Phase 1A Solid Waste Management Facility Permit from the Florida Department of Environmental Regulation and certifies that the information in this application is true, correct and complete to the best of his knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department. It is understood that the Permit is not transferable, and the Department will be notified prior to the sale or legal transfer of the permitted facility.

Susan J Metcalfe

Signature of Applicant or Agent

Susan J. Metcalfe, Director, Division of Solid Waste Management

Name and Title

Date: July 16 2001

Attach letter of authorization if agent is not a governmental official, owner, or corporate officer.

B. Professional Engineer Registered in Florida or Public Officer as required in Section 403.707 and 403.707(5), Florida Statutes.

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

David A. Keough
Signature

Jones, Edmunds & Associates, Inc.

730 NE Waldo Road, Building A

Mailing Address

David A. Keough, PE, Project Manager

Name and Title (please type)

Gainesville, Florida 32641

City, State, Zip

#33164

Florida Registration Number

352-377-5821

Telephone Number

(Please affix seal)

Date: July 16 2001

ABBREVIATION**REFERENCE**

GWMP 1995

Groundwater Monitoring Plan
30-Acre Landfill Expansion
Citrus County Central Landfill
Hydro Q, April 1995

LSTCP 1995

Construction Plans
Citrus County Central Landfill
Leachate Storage Tank
Berryman & Henigar, Inc., April 1995

App. 1995

Citrus County Central Landfill
Permit Application and Engineering Report
Phase 1A Expansion
CH2M HILL, 1995

CAR 4/96

Citrus County Central Landfill
Contamination Assessment Report
Phase 1A Expansion
CH2M HILL, April 1996

Op. Plan 1996

Citrus County Central Landfill
Operations Plan
Phase 1A Expansion
CH2M HILL, 1996

Letter 10/00

Jones, Edmunds & Associates, Inc. Correspondence
October 10, 2000
Class I Landfill Geomembrane Remediation

App. 2000

Citrus County Central Landfill
Permit Application
Geomembrane Remediation
Jones, Edmunds & Associates, Inc., 2000

CQA 12/00

Citrus County Central Landfill
Construction Quality Assurance Plan
Geomembrane Remediation
Jones, Edmunds & Associates, Inc., 2000

App. 2001

Citrus County Central Landfill
Operation Permit Renewal Application
Jones, Edmunds & Associates, Inc., April 2001

Op. Plan 2001

Citrus County Central Landfill
Operations Plan
Jones, Edmunds & Associates, Inc., July 2001

RAI Response 2001

Citrus County Central Landfill
RAI Response
Jones, Edmunds & Associates, Inc., 2001

GLMPR 2001

Groundwater and Leachate Monitoring Plan Review for Citrus
County Class I Central Landfill
Citrus County, Florida
Jones, Edmunds & Associates, Inc., July 2001

EXHIBIT "B"
PROPOSED FEE SCHEDULE
EFFECTIVE OCTOBER 1, 2001

CHARGED AT LANDFILL:**BAGGED WASTE:**

Residential Solid Waste/Trash	\$0.50 per 30-gallon bag
Maximum charge \$2.50	
Residential Yard Waste	\$1.00 up to 5 Bags

SORTED CLEAN RECYCLABLES:

Aluminum or Steel Cans, Newspaper, Cardboard, Glass Bottles, Plastic #1 or #2 Bottles, Plastic Flower Pots	No Charge
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FLUORESCENT LAMPS & MERCURY-CONTAINING DEVICES:

Residential (up to 10 per month)	No Charge
Businesses (up to 10 per month)	No Charge

ALL COMMERCIAL HAULERS AND LOADS OF LOOSE DEBRIS (NOT BAGGED) WILL BE CHARGED ACCORDING TO THE FOLLOWING RATES, WITH WEIGHTS DETERMINED BY THE LANDFILL SCALES. ALL LOADS WITH GREATER THAN FIVE UNITS ON FLAT FEE WILL BE CHARGE BY SCALE WEIGHT.

SOLID WASTE:

Non-contract haulers	\$60.00 per Ton
Contract haulers and self-haul (Citrus County Waste Only)	\$30.00 per Ton
City trucks/city contract haulers	\$45.00 per Ton
Mixed - city/county routes	Blended Rate

YARDWASTE:

Residential Christmas Trees	\$15.00 per Ton No Charge (Dec. & Jan. only)
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SPECIAL WASTE: (1) Asbestos, Sludge, Oil-Contaminated

Materials by staff pre-approval only (2) Whole Boats or Trailers and items requiring verified burial	\$90.00 per Ton
---	-----------------

CITRUS COUNTY UTILITIES DRIED SLUDGE:

\$41.50 per Ton

SCRAP METAL:

No charge

APPLIANCES:

Refrigerators, Freezers, A/C Units	\$ 7.50 Each
Televisions, Microwaves	\$30.00 per Ton
Other Metal Appliances	No Charge

TIRES:

Passenger Car Tires (up to 5)	\$ 1.00 Each
All Other Tires	\$75.00 per Ton

WASTE RELOCATION CHARGE: (1 HOUR MIN.) \$60.00 per Hour

MERCURY CONTAINING DEVICES:

Straight 4' and 8' Fluorescent Lamps	\$0.80 per Lamp
Compact Fluorescent Lamps	\$1.00 per Lamp
High Intensity Discharge Lamps (HIDs)	\$2.50 per Lamp
Irregularly Shaped Lamps	\$1.00 per Lamp
Other Mercury Containing Devices	\$1.00 Each

**ANNUAL RESIDENTIAL SELF-HAUL ADVANCE DISPOSAL PAYMENT PROGRAM:
SUBJECT TO LIMITATIONS IN PROGRAM DESCRIPTION**

**Bagged Household Garbage
Five 30 Gallon Bags per Week**

**Bagged Household Garbage/Bagged Yard Waste
Five 30 Gallon Bags per Week of Each Material**

Purchase Date:

Oct. 1-Dec. 31	\$40 per Vehicle	\$48 per Vehicle
Jan. 1-Mar. 31	\$30 per Vehicle	\$36 per Vehicle
Apr. 1-June 30	\$20 per Vehicle	\$24 per Vehicle
July 1-Sept. 30	\$10 per Vehicle	\$12 per Vehicle

EXHIBIT "A"**RESIDENTIAL DISPOSAL ASSESSMENT**

\$5.00 per residential dwelling unit

(Each single-family residence, condominium unit, apartment, mobile home or mobile home within a mobile home park shall constitute a residential dwelling unit, but shall not apply to commercial as defined in Section 90-731, Citrus County Code.)

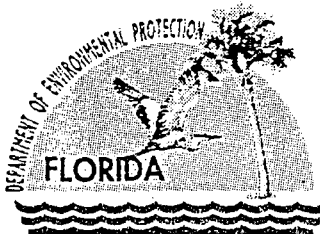
COMMERCIAL DISPOSAL FEE

\$0.31 per cubic yard (Disposal Service Unit Rate)

(Nonresidential or commercial as defined in Sections 90-731 and 90-763, Citrus County Code.)

ATTACHMENT 1.17

**YARD TRASH PROCESSING
FACILITY REGISTRATION**



Jeb Bush
Governor

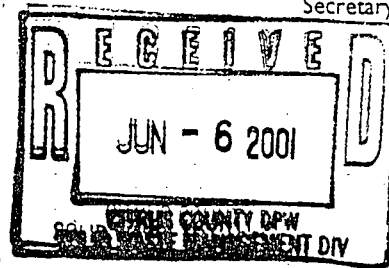
Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

June 1, 2001

Ms. Susan J. Metcalfe, Director
Division of Solid Waste Management
Citrus County
P.O. Box 340
Lecanto, Florida 34460



Dear Ms. Metcalfe:

Your Application for Registration of a Yard Trash Processing Facility for Citrus County Central Landfill is complete. Your facility identification number is 054-01-YT. This registration is valid until May 1, 2002. The receipt number for the registration fee you paid is 351716.

You must comply with the following requirements in order to maintain qualification for the registration program:

1. Monthly records of incoming and outgoing material shall be kept on site or at another location as indicated on the registration form for at least three years.
2. An Annual Report for a Yard Trash Processing Facility, DEP Form 62-709.320 (7)(b), shall be submitted by April 1 of each year.
3. A registration renewal, DEP Form 62-709.320(7)(a), shall be submitted by April 1 of each year to renew this registration.
4. The facility shall be operated in accordance with Rules 62-709.320(3) and (4), Florida Administrative Code. A summary of these requirements is enclosed.

If you need further information, please contact Francine Joyal at the above address, Mail Station 4565, telephone 850/921/9977, or email Francine.Joyal@dep.state.fl.us.

Sincerely,

Francine Joyal
Environmental Specialist

Enclosure

cc: Bob Butera, Southwest District

Requirements for yard trash processing facilities (recycling and transfer stations) that qualifying for the permit exemption in Rule 62-709.320 are:

Rule / Referenced Rule	Provision
62-709.320(3)	Yard trash and processed yard trash at the facility shall:
62-709.320(3) / 62-701.300(1)(b)	Be stored in a manner or location that does not violate air quality or water quality standards.
62-709.320(3)(a)	Be 100 feet beyond any existing or approved off-site potable water well that existed before the facility was registered.
62-709.320(3)(b)	Be 200 feet beyond any existing or approved potable water well serving a community water system as defined in Rule 62-550.200(9), F.A.C., that existed before the facility was registered.
62-709.320(3)(c)	Be 50 feet beyond any natural or artificial body of water, including wetlands within the jurisdiction of the Department. This does not include ponds, ditches or other structures that are part of a permitted stormwater management system, or water bodies contained totally within facility boundaries that do not discharge from the site to surface waters.
62-709.320(3) / 62-701.300(2)(d)	Not be placed in a dewatered pit unless the pit is lined and permanent leachate containment and special design techniques are use to ensure the integrity of the liner.
62-709.320(3) / 62-701.300(2)(e)	Not be placed in an area subject to frequent and periodic flooding unless flood protection measures are in place.
62-709.320(3) / 62-701.300(2)(f)	Not be placed in any natural or artificial body of water, including ground water.
62-709.320(3) / 62-701.300(2)(h)	Not be placed on the right of way of any public highway, road, or alley.
62-709.320(3) / 62-701.300(3)	There shall be no open burning in the recycling area of the facility. Any controlled burning at the facility will comply with Department rules, including for air curtain incinerators.
62-709.320(4)(a)1	Facility has an effective barrier to prevent unauthorized entry and dumping into the facility site.
62-709.320(4)(a)2	Facility has dust control methods.
62-709.320(4)(a)3	Facility has fire protection and control provisions to deal with accidental burning of solid waste, including:
62-709.320(4)(a)3.a	A 20-foot perimeter, all weather access road.
62-709.320(4)(a)3.b	15-foot interior lanes.
62-709.320(4)(a)3.c	All unprocessed or processed yard trash shall be within 50 feet of access by motorized fire fighting equipment.
62-709.320(4)(b)	Facility will be operated in a manner to control disease vectors and objectionable odors.
62-709.320(4)(c)	Yard trash will be processed so that it will pass a 6-inch sieve. Any unprocessed yard trash will be removed from the facility within six months, or within the period required to accumulate 3,000 tons or 12,000 cubic yards which ever is greatest, except unprocessed and segregated logs with a diameter greater than six inches that will be processed within 12 months.
62-709.320(4)(d)	Processed yard trash will be removed or marketed within 18 months. Storage of processed material for a longer period may be allowed where the yard trash processing facility is authorized under another Department solid waste permit.
62-709.320(4)(e)	Only yard trash, bags used to collect yard trash, and clean wood are allowed.
62-709.320(4)(e)	Any material other than yard trash, bags used to collect yard trash, and clean wood will be containerized.
62-709.320(4)(e)	Putrescible material will be removed in 48 hours.
62-709.320(4)(e)	Upon discovery, any treated or untreated biomedical waste, hazardous waste, or liquids or non-liquids (such as contaminated soil, rags, or other debris) containing a polychlorinated biphenyl (PCB) concentration of 50 parts per million or greater will be immediately containerized and removed from the facility.

ATTACHMENT 3.1

FINANCIAL ASSURANCE COST ESTIMATE FORM

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

FINANCIAL ASSURANCE COST ESTIMATES

Date: 7/16/01

Date of FDEP Approval: _____

I. GENERAL INFORMATION:

Facility Name: Citrus County Central Landfill

GMS No.: 4009C00086

Permit No.: SO 09-274381

Expiration Date: October 25, 2001

Address (facility): State Road 44, 3 miles east of
Lecanto, Citrus County, Florida

Address (mailing): P.O. Box 340
Lecanto, FL 34460

Permittee (operating authority): Citrus County Board of County Commissioners

Facility Lat.: 28°51'08" Long. 82°26'38"

Description of Solid Waste Disposal Units included:

Landfill Acreage included in this Estimate: 80 total 20 acres active 60 acres closed

Date Disposal Unit Began Accepting Waste closed - 1975; Phase 1.1A - 1991

Design Life of Disposal Unit 2004

Remaining Volume 313,596 CY Remaining Tonnage 208,000 Tons Remaining Life Approximately 3 Years

Type of Landfill: x Class I Class III

 Exempt; Type of Exemption:

Closure Plan Approved: Yes

II. TYPE OF FINANCIAL DOCUMENT SUBMITTED TO ENSURE FINANCIAL ASSURANCE:

 Trust Fund Agreement

 Performance Bond (only for landfills with an approved closure plan)

 Letter of Credit

 Standby Trust Fund Agreement

 Insurance Certificate

 X Escrow Account

 Financial Guarantee Bond

 Other (Explain) _____

III. ESTIMATED CLOSING COST (Phase 1 and 1A)

For the time period in the landfill operation when the extent and manner of its operation makes closing most expensive.

** Third Party Estimate/Quote MUST BE PROVIDED for EACH item

** Costs must be for a third party providing all materials AND labor.

ALL items must be addressed. Attach a detailed explanation for all items marked NOT APPLICABLE (N/A).

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL **
1. Monitoring Wells Installed prior to closure				
Borehole Excavation	CY			
Backfill	CY			
Gravel Pack	CY			
Casing	LF			
Screen	EA			
Cap	EA			
Subtotal Monitoring Wells				N/A
2. Slope and Fill (Intermediate Cover)				
Excavation (6 in. thick)	CY	N/A		
Placement/Spreading	CY	Included in cost below		
Compaction	SY	Included in cost below		
Protective Fill (20ft) (In-place)	CY	30,331	5.00	\$151,655.00
Subtotal Slope and Fill				151,655
3. Cover Material				
Clay Admixture	CY	N/A		
Synthetic Material (40 mil)	SF	818,928	0.40	\$327,571.20
Comp. Drainage Net	SF	818,928	0.47	\$384,896.16
Subtotal Cover Material				712,467
4. Top Soil Cover and Drainage Layer				
Off-Site Fill (20" in-place)	CY	50,551	6.00	\$303,306.00
Off-Site Topsoil (4" in-place)	CY	10,110	8.00	\$80,880.00
Delivery	CY	included in cost above		
Spreading	CY	included in cost above		
Compaction	CY	included in cost above		
Subtotal Cover				384,186

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL**
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5. Stormwater Control (Existing stormwater pond will be used)

N/A

Ditch Construction	LF			
Berm Construction	CY			
Corrugated Metal Pipe (Letdowns)	LF			
Concrete Reinforced Energy				
Dissipator	EA			
Type C Inlets	EA			
Erosion Control Mating	SY			
Toe Drain	LF			

Subtotal Stormwater Control

N/A

6. Gas Migration Control

Wells	LF	1,140	85.00	\$96,900.00
Pipe and Fittings	LF			
Traps	EA			
Sump	EA			
Flame Assembly	EA	19	3,250.00	\$61,750.00
Mist Eliminator	EA			
Flow Meter	EA			
Blowers	EA			
Monitoring Probes	LF	120	25.00	\$3,000.00
Gas Vent Signs	EA			

Subtotal Gas Migration Control

161,650

7. Revegetation

Sodding	SY	91,000	1.55	\$141,050.00
Soil Preparation/Grading	AC	N/A		
Hydroseeding & Mulch	AC	N/A		
Fertilizer	AC	Included Above		
Seed and Mulch	SY	N/A		

Subtotal Revegetation

\$141,050

8. Landscape Irrigation System N/A

Water Truck Rental	Month	1	8,050	\$8,050.00
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Subtotal Landscape Irrigation

\$8,050

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL**
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9. Security System N/A Already Constructed

Fencing	LF			
Gate(s)	EA			
Sign(s)	EA			
Subtotal Security System				N/A

10. Engineering

Closure Plan Report	LS	1	25,000.00	\$25,000.00
Certified Engineering Drawings (for Construction)	LS	1	75,000.00	\$75,000.00
Closure Permit	LS	1	35,000.00	\$35,000.00
Other (Detail)				
Subtotal Engineering				135,000

11. Benchmark

Benchmark Installation	EA	4	\$550.00	\$2,200.00
Benchmark Survey	LS	1	10,500.00	\$10,500.00
Subtotal Benchmark Installation				12,700

12. Certification of Closure

LS	<u>1</u>	<u>15,000.00</u>	<u>\$15,000.00</u>
Subtotal Certification of Closure			15,000

13. Administrative

P.E. Supervisor	HR	100	103.00	\$10,300.00
On-Site Engineer	HR			
Office Engineer	HR	350	81.00	\$28,350.00
Administrative Assistant	HR	120	47.00	\$5,640.00
Subtotal Administrative				44,290

14. Quality Assurance

P.E. Supervisor	HR	60	103.00	\$6,180.00
On-Site Engineer	HR	N/A		
Office Engineer	HR	120	81.00	\$9,720.00
On-Site Technician	HR	900	58.00	\$52,200.00
Other- (explain)				
QA / QC Testing	LS	1	17,500.00	\$17,500.00
Subtotal Quality Assurance				85,600

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL**
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15. Site Specific Costs (explain)

Limit of Waste Markers	EA			
Safety Compliance	LS			
Environmental Compliance	LS			
Mobilization and General				
Conditions (5%)	LS	1	98,000.00	\$98,000.00
Bonds and Insurance (5%)	LS	1	98,000.00	\$98,000.00
Disposing of Stored Tires	LS	1	8,000.00	\$8,000.00

Subtotal Site Specific Costs 204,000

16. Contingency

15 % of Total Construction Costs

308,347

Current bid data from an exact
duplicate project incorporated in these estimates

TOTAL CLOSING COSTS \$2,363,996

CERTIFICATION BY ENGINEER

This is to certify that the Financial Assurance Cost Estimates pertaining to the engineering features of this solid waste management facility have been examined by me and found to conform to engineering principals applicable to such facilities. In my professional judgment, the Cost Estimates are a true, correct and complete representation of the financial liabilities for closing and long-term care of the facility, and comply with the requirements of Florida Administrative Code (FAC), Rule 62-701.630 and all other Department of Environmental Protection rules, and statutes of the State of Florida. It is understood that the Financial Assurance Cost Estimates shall be revised and submitted to the Department ANNUALLY as required by FAC 62-701.630(4).

Signature

David Keough, P.E.

Name and Title (please type)

PE# 33164

Florida Registration Number (Please affix seal)

730 NE Waldo Road, Building A

Mailing Address

Gainesville, Florida 32641-5699

City, State, Zip Code

(352)377-5821

Telephone Number

Date: 7-18-01

IV. ANNUAL COST FOR LONG TERM CARE

(for 30 yrs, see 62-701.600(1)a.1.)

** Third Party Estimate/Quote MUST BE PROVIDED for EACH item

** Costs must be for a third party providing all materials AND labor.

ALL items MUST be addressed. Attach a detailed explanation for all items marked NOT APPLICABLE (N/A).

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL**
1. Groundwater Monitoring	Sampling	# of Wells	\$/well/event	\$/yr
62-701.510(6),(8)(a)	Frequency			
	Events/Yr			
Monthly				
Quarterly				
Semi-Annual	2	12	426.00	\$10,224.00
Annual				
Subtotal Groundwater Monitoring				\$10,224
2. Gas Monitoring	Sampling	# of Probes	\$/probes/event	\$/yr
62-701.400(10)	Frequency			
	Events/Yr			
Monthly				
Quarterly	4	94	35.00	\$13,160.00
Semi-Annual				
Annual				
Subtotal in Gas Monitoring				\$13,160
3. Leachate Monitoring	Sampling	# of Locations	\$/location/event	\$/yr
62-701.510(5),(6)(b)	Frequency			
62-701.510(8)(c)	Events/Yr			
Weekly	52	1	157.00	\$8,164.00
Quarterly	4	1	61.00	\$244.00
Annual (influent)	1	1	1,410.00	\$1,410.00
Annual (effluent)	1	1	250.00	\$250.00
Annual (sludge)	1	1	666.00	\$666.00
Subtotal Leachate Monitoring				\$10,734

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL**
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4. Surface Water Monitoring

62-701.510(4), (8)(b)

Sampling Frequency Events/Yr	# of Locations	\$/location/event	\$/yr
Monthly			
Quarterly			
Semi-Annual			
Annual			

Subtotal Surface Water

N/A

5. Maintenance of Leachate Collection/Treatment Systems

Collection Pipes	LS	1	10,000.00	\$10,000.00
Sumps, Traps	EA			
Lift Stations	EA	11	1,000.00	\$11,000.00
Tanks	EA	2	3,000.00	\$6,000.00
Impoundments -				
Liner Repair	SF			
Sludge Removal	CY			
Aeration Systems -				
Fine Bubble Aerators	EA	4	1,500.00	\$6,000.00
Spray Aerators	EA			
Off-site Disposal	1000gal			
On-Site Pretreatment				
System Maintenance	1000gal	1,390	41.00	\$56,990.00
Other - Electricity	LS	1	10,000.00	\$10,000.00

Subtotal Leachate Collection

\$99,990

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL**
6. Maintenance of Groundwater Monitoring Wells				
Monitoring Wells	LS	1	2,000.00	\$2,000.00
Gas Monitoring Probes	LS	1	1,000.00	\$1,000.00
Subtotal Groundwater Monitoring Well Maint.				\$3,000
7. Maintenance of Gas Migration System N/A				
Piping, Vents	LF	25	85.00	\$2,125.00
Blowers	EA			
Flaring Units	EA	1	3,344.00	\$3,344.00
Meters, Valves	EA			
Subtotal Gas Migration System Maintenance				\$5,469
8. Landscape Maintenance				
Mowing 3x/yr	LS	1.0	4,200.00	\$4,200.00
Fertilizer	AC			
Irrigation	AC			
Subtotal Landscape Maintenance				\$4,200
9. Benchmark Maintenance				
	EA	1	250.00	\$250.00
Subtotal Benchmark Maintenance				\$250
10. Administrative/Overhead				
P.E. Supervisor	HR	12	101.00	\$1,212.00
On-Site Engineer	HR	160	58.00	\$9,280.00
Office Engineer	HR	40	81.00	\$3,240.00
On-Site Technician	HR			
Administrative Assistant	LS	80	47.00	\$3,760.00
Subtotal Administrative				\$17,492
11. Maintenance of Cover				
Sodding, Soil, Seed, & Mulch	SY	2,000	1.55	\$3,100.00
Regrading (erosion repair)	SY	2,000	1.70	\$3,400.00
Liner Repair - Synthetic	SF	3,000	0.50	\$1,500.00
Clay	CY	N/A		
Subtotal Cover Integrity Maintenance				\$8,000
12. Surface Water Drainage Maintenance				
Ditch Cleaning	LF	3,150	5.00	\$15,750.00
Stormwater Conveyance Maint.	LS	1	1,000.00	\$1,000.00
Miscellaneous Material	LS	1	1,000.00	\$1,000.00
Subtotal Drainage Maintenance				\$17,750

DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL**
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13. Security System Maintenance

Fences, Gates, and Signs

LS 1 1,500.00 \$1,500.00

Subtotal Security System Maintenance \$1,500

14. Remedial Actions

LS % of total 10% \$19,176.90

Subtotal Remedial Actions 19,177

15. Site Specific Costs

Subtotal Site Specific Costs N/A

LONG TERM CARE COSTS (\$/YR) \$210,946

30-YR LONG TERM CARE COSTS (\$) \$6,328,377

** Costs based on Contractor prices obtained through telephone quotes, Means Construction Cost Data and actual bids that have been received on similar projects

CERTIFICATION BY ENGINEER

This is to certify that the Financial Assurance Cost Estimates pertaining to the engineering features of this solid waste management facility have been examined by me and found to conform to engineering principals applicable to such facilities. In my professional judgment, the Cost Estimates are a true, correct and complete representation of the financial liabilities for closing and long-term care of the facility, and comply with the requirements of Florida Administrative Code (FAC), Rule 62-701.630 and all other Department of Environmental Protection rules, and statutes of the State of Florida. It is understood that the Financial Assurance Cost Estimates shall be revised and submitted to the Department ANNUALLY as required by FAC 62-701.630(4).

Signature: David Keough

David Keough, P.E.
Name and Title (please type)

PE# 33464
Florida Registration Number (Please affix seal)

730 NE Waldo Road, Building A
Mailing Address

Gainesville, Florida 32641-5699
City, State, Zip Code

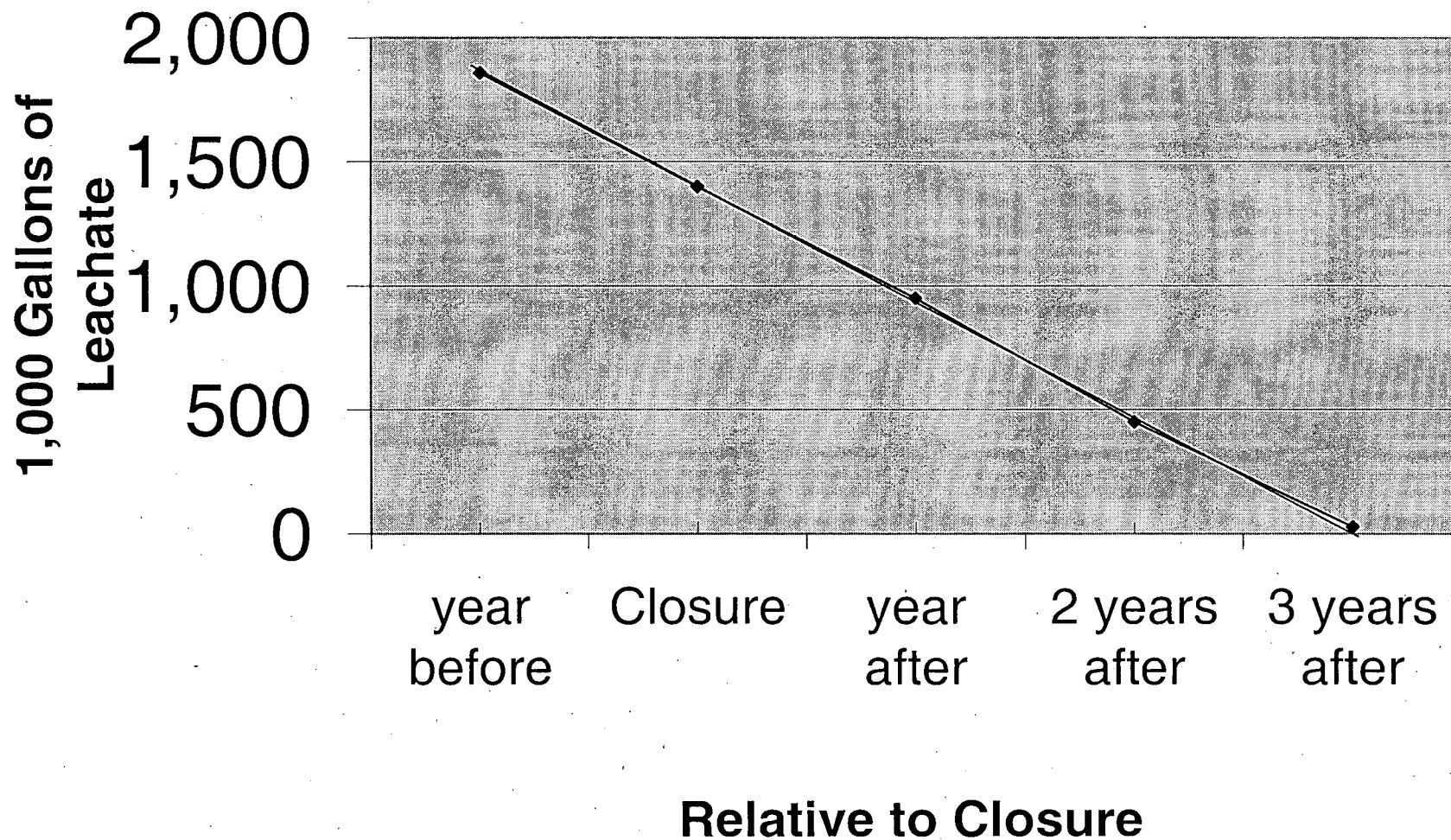
(352)377-5821
Telephone Number

Date: 7-18-01

ATTACHMENT 3.5a

ANALYSIS OF ANNUAL LEACHATE GENERATION

**Analysis of Annual Leachate Generation
Phase 1 and 1A Portion of the Citrus County Central
Landfill**



ATTACHMENT 3.5b

HELP MODEL RESULTS

LAYER 2

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 10

THICKNESS	=	20.00	INCHES
POROSITY	=	0.3980	VOL/VOL
FIELD CAPACITY	=	0.2440	VOL/VOL
WILTING POINT	=	0.1360	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2253	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.119999997000E-03	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.25	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	20.00	PERCENT
DRAINAGE LENGTH	=	675.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	1.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	1.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3	- GOOD

LAYER 5

TYPE 1 - VERTICAL PERCOLATION LAYER

MATERIAL TEXTURE NUMBER 9

THICKNESS	=	18.00	INCHES
POROSITY	=	0.5010	VOL/VOL
FIELD CAPACITY	=	0.2840	VOL/VOL
WILTING POINT	=	0.1350	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2840	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.190000006000E-03	CM/SEC

LAYER 6

TYPE 1 - VERTICAL PERCOLATION LAYER

MATERIAL TEXTURE NUMBER 18

THICKNESS	=	1200.00	INCHES
POROSITY	=	0.6710	VOL/VOL
FIELD CAPACITY	=	0.2920	VOL/VOL
WILTING POINT	=	0.0770	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2920	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000005000E-02	CM/SEC

LAYER 7

TYPE 2 - LATERAL DRAINAGE LAYER

MATERIAL TEXTURE NUMBER 7

THICKNESS	=	24.00	INCHES
POROSITY	=	0.4730	VOL/VOL
FIELD CAPACITY	=	0.2220	VOL/VOL
WILTING POINT	=	0.1040	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2220	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.520000001000E-03	CM/SEC

LAYER 8

TYPE 2 - LATERAL DRAINAGE LAYER

MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.25	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	2.00	PERCENT
DRAINAGE LENGTH	=	400.0	FEET

LAYER 9

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	1.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	1.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3	- GOOD

LAYER 10

TYPE 2 - LATERAL DRAINAGE LAYER
MATERIAL TEXTURE NUMBER 20

THICKNESS	=	0.25	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	10.0000000000	CM/SEC
SLOPE	=	2.00	PERCENT
DRAINAGE LENGTH	=	400.0	FEET

LAYER 11

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	1.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	1.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3	- GOOD

LAYER 12

TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 7

THICKNESS	=	6.00	INCHES
POROSITY	=	0.4730	VOL/VOL
FIELD CAPACITY	=	0.2220	VOL/VOL
WILTING POINT	=	0.1040	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4730	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.520000001000E-03	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
SOIL DATA BASE USING SOIL TEXTURE # 3 WITH A
FAIR STAND OF GRASS, A SURFACE SLOPE OF 2. %
AND A SLOPE LENGTH OF 175. FEET.

SCS RUNOFF CURVE NUMBER	=	58.90	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	18.300	ACRES
EVAPORATIVE ZONE DEPTH	=	22.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	4.192	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	8.992	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	2.580	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	368.365	INCHES
TOTAL INITIAL WATER	=	368.365	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
TAMPA FLORIDA

STATION LATITUDE	=	27.58	DEGREES
MAXIMUM LEAF AREA INDEX	=	3.50	
START OF GROWING SEASON (JULIAN DATE)	=	0	
END OF GROWING SEASON (JULIAN DATE)	=	367	
EVAPORATIVE ZONE DEPTH	=	22.0	INCHES
AVERAGE ANNUAL WIND SPEED	=	8.60	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	74.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	72.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	78.00	%
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	76.00	%

NOTE: PRECIPITATION DATA FOR TAMPA FLORIDA

WAS ENTERED FROM THE DEFAULT DATA FILE.

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR TAMPA FLORIDA

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
59.80	60.80	66.20	71.60	77.10	80.90
82.20	82.20	80.90	74.50	66.70	61.30

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR TAMPA FLORIDA
AND STATION LATITUDE = 27.58 DEGREES

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1974 THROUGH 1978

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	1.46 5.24	2.16 5.54	1.65 5.78	0.98 2.07	3.41 0.76	6.80 2.34
STD. DEVIATIONS	1.35 1.27	1.88 1.10	0.75 3.22	0.53 2.05	3.13 0.89	4.89 1.10
RUNOFF						
TOTALS	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.001 0.000	0.201 0.000
STD. DEVIATIONS	0.000 0.000	0.000 0.000	0.000 0.000	0.000 0.000	0.002 0.000	0.449 0.000
EVAPOTRANSPIRATION						
TOTALS	1.340 5.715	2.192 5.320	2.104 4.782	1.119 2.061	2.615 1.291	4.403 1.157
STD. DEVIATIONS	0.386 0.763	1.249 0.658	1.140 0.802	0.403 1.850	2.087 0.793	2.147 0.367

LATERAL DRAINAGE COLLECTED FROM LAYER 3

TOTALS	0.3851	0.3799	0.0897	0.0000	0.2630	1.1792
	0.2354	0.3424	0.6434	0.3197	0.0015	0.0001

STD. DEVIATIONS	0.8603	0.8462	0.1995	0.0000	0.5878	2.0063
	0.2276	0.7468	1.4128	0.7150	0.0021	0.0001

PERCOLATION/LEAKAGE THROUGH LAYER 4

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 8

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 9

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

LATERAL DRAINAGE COLLECTED FROM LAYER 10

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

PERCOLATION/LEAKAGE THROUGH LAYER 12

TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ON TOP OF LAYER 4

AVERAGES	0.0008	0.0008	0.0002	0.0000	0.0005	0.0118
	0.0005	0.0007	0.0018	0.0006	0.0000	0.0000

STD. DEVIATIONS	0.0017	0.0019	0.0004	0.0000	0.0012	0.0249
	0.0005	0.0015	0.0039	0.0014	0.0000	0.0000

DAILY AVERAGE HEAD ON TOP OF LAYER 9

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

DAILY AVERAGE HEAD ON TOP OF LAYER 11

AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1974 THROUGH 1978

	INCHES	CU. FEET	PERCENT
PRECIPITATION	38.19 (4.980)	2536923.0	100.00
RUNOFF	0.201 (0.4485)	13382.60	0.528
EVAPOTRANSPIRATION	34.099 (5.2001)	2265149.75	89.287
LATERAL DRAINAGE COLLECTED FROM LAYER 3	3.83945 (2.20315)	255050.906	10.05355
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.00018 (0.00012)	11.823	0.00047
AVERAGE HEAD ON TOP OF LAYER 4	0.001 (0.002)		
LATERAL DRAINAGE COLLECTED FROM LAYER 8	0.00003 (0.00005)	1.946	0.00008
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.00015 (0.00009)	9.877	0.00039
AVERAGE HEAD ON TOP OF LAYER 9	0.000 (0.000)		
LATERAL DRAINAGE COLLECTED FROM LAYER 10	0.00015 (0.00009)	9.837	0.00039

PERCOLATION/LEAKAGE THROUGH LAYER 12	0.00000 (0.00000)	0.040	0.00000
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AVERAGE HEAD ON TOP OF LAYER 11	0.000 (0.000)
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CHANGE IN WATER STORAGE	0.050 (1.4863)	3328.34	0.131
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PEAK DAILY VALUES FOR YEARS 1974 THROUGH 1978

	(INCHES)	(CU. FT.)	
PRECIPITATION	5.47	363366.594	
RUNOFF	1.004	66681.2109	
DRAINAGE COLLECTED FROM LAYER 3	2.41723	160574.03100	
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.000180	11.92625	
AVERAGE HEAD ON TOP OF LAYER 4	1.045		
MAXIMUM HEAD ON TOP OF LAYER 4	1.244		
LOCATION OF MAXIMUM HEAD IN LAYER 3 (DISTANCE FROM DRAIN)	0.0 FEET		
DRAINAGE COLLECTED FROM LAYER 8	0.00007	4.37317	12,000 gallons
PERCOLATION/LEAKAGE THROUGH LAYER 9	0.000113	7.52140	
AVERAGE HEAD ON TOP OF LAYER 9	0.000		
MAXIMUM HEAD ON TOP OF LAYER 9	0.000		
LOCATION OF MAXIMUM HEAD IN LAYER 8 (DISTANCE FROM DRAIN)	0.0 FEET		
DRAINAGE COLLECTED FROM LAYER 10	0.00008	5.29120	16,000 gallons
PERCOLATION/LEAKAGE THROUGH LAYER 12	0.000000	0.00302	28,000 gallons
AVERAGE HEAD ON TOP OF LAYER 11	0.000		
MAXIMUM HEAD ON TOP OF LAYER 11	0.010		
LOCATION OF MAXIMUM HEAD IN LAYER 10 (DISTANCE FROM DRAIN)	0.0 FEET		
SNOW WATER	0.00	0.0000	
MAXIMUM VEG. SOIL WATER (VOL/VOL)		0.3510	
MINIMUM VEG. SOIL WATER (VOL/VOL)		0.1173	

*** Maximum heads are computed using McEnroe's equations. ***

Reference: Maximum Saturated Depth over Landfill Liner
by Bruce M. McEnroe, University of Kansas
ASCE Journal of Environmental Engineering

Vol. 119, No. 2, March 1993, pp. 262-270.

FINAL WATER STORAGE AT END OF YEAR 1978

LAYER	(INCHES)	(VOL/VOL)
1	0.5487	0.1372
2	4.3817	0.2191
3	0.0025	0.0100
4	0.0000	0.0000
5	5.1120	0.2840
6	350.4000	0.2920
7	5.3280	0.2220
8	0.0025	0.0100
9	0.0000	0.0000
10	0.0025	0.0100
11	0.0000	0.0000
12	2.8380	0.4730
SNOW WATER	0.000	

