

Permit Renewal Application

for

**Rowland LCID Landfill
and
T&P Facility**

Permit # 92M and 92-004T&P

Raleigh, NC

Owner

ROWLAND LANDFILL INC
2730 ROWLAND RD STE 105
RALEIGH NC 27615-5631

Project Number
0623



September 30, 2010

Revised December 4, 2010

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EXECUTIVE SUMMARY

1) Facility Description

The Rowland Landfill Facility is located north of Raleigh at, 2910 Gresham Lake Road, Raleigh, NC 27613, just off US 1 the junction of US 1 and I-540. The LCID disposal facility has a permitted footprint of approximately 27 acres. A current facility drawing is presented in **Appendix 1**.

Map coordinates for the facility are **latitude 35.88326, longitude -78.58590**. Wake County has assigned the property a PIN number for GIS location of **1727262194** (zoning is IND-1). The facility is largely surrounded by commercial/industrial sites, with some residences toward the north. The facility is not visible from any roads due to topography and natural screening. Topography is typically hilly with a wide floodplain along the creek. Natural ground elevations vary from El. 315 near entrance gate to El. 275 along the floodplain and El. 325 to El.345 near the base of the landfill.

The permitted waste stream for the disposal facility consists entirely of Land Clearing Inert Debris (LCID) generated by local development, while the Treatment and Processing (T&P) facility accepts clean wood waste (mostly tree debris but including pallets, non-painted and non-treated dimension lumber scraps from construction projects). Currently, no yard wastes or “green” vegetation debris is accepted at the T&P facility, except a minor amount of leaves that might come in with tree trimmings. No Construction and Demolition (C&D) or putrescible Municipal Solid Waste (MSW) is accepted. The two permitted waste streams are kept separate within entirely different areas of the site with physical barriers (e.g., topography) and directional signs to keep the waste streams from co-mingling. Facility staff are trained to spot inappropriate wastes within the respective areas and enforce a strict waste acceptance policy. A covered roll-off box will be placed near the tipping area for unacceptable wastes, including MSW, which will be transported to a disposal facility weekly.

Daily intake typically vary from 150 to 200 cubic yards per day. The facility is open 5.5 days per week. Records are kept at the entrance gate on material quantities by truck size and source (there are no scales). Typically, the customer base is well known, which provides the facility a high degree over control of the waste acceptance policy. Most of the waste stream is recycled at the T&P facility into mulch which is shipped to several facilities in area. Currently, there is no distribution of finished products to the general public. The facility is a storm debris repository for the community (i.e., hurricanes Fran and Floyd, various ice storms) and is expected to continue this service.

2) Historical Perspective

The Rowland landfill began in the 1980’s as backfill for a quarry dating to the 1960’s. The landfill was formerly operated under a permit from Wake County and has recently come under regulation by the NC DENR Division of Waste Management (DWM) Solid Waste Section (Permit #92O-LCID). At present, the Section is reviewing the old Wake County permits for consistency with current rules, requiring permit updates as needed. A ground water assessment was performed in the 1990’s under the auspices of the NC DENR DWM Superfund Section.

Correspondence dated between 2001 and 2005 from the Superfund Section indicate the landfill had been assigned “No Further Action” status in the Inactive Hazardous Sites Program and

recommended a discontinuation of monitoring and abandonment of the monitoring wells. Abandonment records were presented to (and acknowledged by) the Superfund Section.

3) Permit Amendments

This document was prepared in response to a requirement by the Solid Waste Section for an updated, comprehensive Operations Plan that outlines all permitted activities including both the LCID disposal and T&P facilities – this revision represents the initial combined Operations Plan, which may require future revision. Users of this document should check the **Revisions** section to make sure their copy is current. This plan focuses on waste acceptance and placement for the disposal operations and for the treatment and processing (grinding and stockpiling), emphasizing procedures and mechanisms to keep the waste streams separate – this will be accomplished via strict attention to the waste acceptance criteria by Operators and tracked via their record keeping.

The Owner intends to grind the LCID wastes on top of the active disposal area in order to promote better compaction, hence reducing voids in the waste and lessening potential fire hazards, as well as optimizing his use of air space. This will be accomplished by moving the facility-owned tub grinder from the T&P area to the top of the disposal area (see **Section 2.5**) on a periodic basis. This procedure will facilitate a smoother waste handling process and provides the Operator better control of waste segregation between the LCID disposal area and the T&P area.

Other new additions to this plan include a **Waste Screening and Inspection Program** (see **Appendix 2**), which augments the **Waste Screening Form** (see **Appendix 2A**) presented in the original Operations Plan, and although unlikely to be needed, a **Hazardous Waste Contingency Plan** (see **Appendix 3**) and a list of **Emergency Responders and Other Useful Contacts** (see **Appendix 4**) is now incorporated into this plan to be consistent with similar facilities. The Owner/Operator reports that loads of C&D wastes are routinely turned away at the gate – normally these loads are directed to other facilities that are authorized to handle C&D wastes. Wake County has a document on their web site to provide contractors and private citizens guidance on disposing of C&D wastes (see **Appendix 5**), which includes a list and location of C&D recycling and disposal facilities in the area, classified by waste type (e.g., vinyl siding, carpet, drywall).

Due to recent concerns over fires in LCID landfills, an upgrade to fire prevention and fire response procedures is contained in the text, and a **Fire Notification Form** (see **Appendix 6**) is included to report any fires within the facility to the Solid Waste Section. Additional plan revisions include maintaining the working face of the disposal area to a maximum size of one acre. Periodic cover shall be applied at least monthly (or when the working face exceeds one acre in size), in accordance with the Solid Waste Rules pertaining to LCID landfills (see **Appendix 7**). Personnel training and regulatory requirements for annual surveys and reporting of data shall be observed. The landfill will implement “incremental closure” procedures, in which outer slopes that are brought to final grade will be closed by placing final cover soil and protective measures, including vegetation and runoff conveyances, in maximum 5-acre increments.

Annual reporting is required for both the LCID disposal facility and the Wood Recycling (T&P) facility. The reports are typically filed electronically over the internet – examples of the report

forms, i.e., the actual forms submitted in June 2008, are presented herein (see **Appendix 8**). The annual report requires a current facility drawing showing the limits of waste placement and the proximity to neighbors. It is recommended additionally that the drawing be based on an actual survey that will show the areas that have achieved final grades and, thus, have been closed, along with access routes. This will be a useful planning tool for evaluating remaining airspace, confirming closure lines and slopes, and for contingency planning (e.g., fire fighting). Current survey maps and aerial photos should be kept in the gate house and made accessible emergency personnel and Solid Waste Section inspectors.

**Rowland LCID Landfill and T&P Facility
OPERATIONS MANUAL**

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The following plan meets the requirements of Solid Waste Rule 15 NCAC 13B .0505 (1) - (12).

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APPENDICES

- 1 Facility Plan Drawing - *Also see rolled plan set approved by Wake County*
- 2 Waste Screening and Inspection Program - *includes Waste Screening Form*
- 3 Hazardous Waste Contingency Plan
- 4 Emergency Responders and Other Useful Contacts
- 5 Construction and Demolition Waste Management Reuse, Recycling and Disposal Guide
- 6 Fire Notification Form
- 7 NC DENR Solid Waste Rules for LCID Facilities
- 8 Past Permits and Approvals
- 9 Recorded Map
- 10 Volume Calculations

**SECTION 1.0
GENERAL FACILITY OPERATIONS**

1.1 OVERVIEW

This Operations Manual was prepared for the Rowland Land Clearing and Inert Debris (LCID) Landfill (Phases 2 – 7). The information contained herein was prepared to provide landfill personnel with a clear understanding of how the Design Engineer assumed that the completed facility would be operated. While deviations from the operation plan outlined here may be acceptable, significant changes should be reviewed and approved by the Design Engineer.

1.2 CONTACT INFORMATION

For fire, medical, or police emergencies dial 911.

All correspondence and questions concerning the operation of the Rowland LCID Landfill and T&P Facility should be directed to the appropriate Staff and Wake County personnel listed below.

1.2.1 Rowland Landfill, Administrative Offices

Ms. Sylvia Rowland, Owner and Operator
2820 Rowland Road
Raleigh, NC 27615
Telephone (919) 876-6722
Fax (919) 876-8755

For After Hours Emergencies:

Phone: (919) 796-4577

1.2.2 North Carolina Division of Waste Management

1646 Mail Service Center
Raleigh, NC 27699-1646
Main Telephone (919) 508-8400

Compliance Branch, Solid Waste Specialist: Jason Watkins
(336) 771-5092

Wake County Department of Environmental Services

P.O. Box 550
Raleigh, NC 27602
Main Telephone (919) 856-7400

Sedimentation and Erosion Control Section: Charles Phillips
(919) 856-7400

1.3 ACCESS CONTROL

Limiting access to the Rowland Landfill is important for the following reasons:

- Prevention of unauthorized and illegal dumping of waste materials,
- Trespassing, and possible injury resulting therefrom, is discouraged,
- The risk of equipment theft or vandalism is greatly reduced.

Access to active areas of the landfill will be controlled by a combination of fences and natural barriers, such as the creeks, and strictly enforced operating hours. A landfill attendant will be on duty at all times when the facility is open for public use to enforce access restrictions.

1.3.1 Physical Restraints – The site will be accessed only via the main entrance along Academy Drive. A gate house is located for waste receiving and customer/visitor check in. The entrance gates will be securely locked during non-operating hours. Otherwise, the site is inaccessible.

1.3.2 Security – Frequent inspections of gates and fences will be performed by landfill personnel. Evidence of trespassing, vandalism, or illegal operation will be reported to the Owner.

1.4 SIGNAGE

A prominent sign containing the information required by DWM will be placed just inside the main gate. This sign will provide information on operating hours, operating procedures, and acceptable wastes. Additional signage will be provided within the landfill complex to distinctly distinguish the roadway to the LCID landfill active disposal area. Service and maintenance roads will be clearly marked and barriers (e.g., traffic cones, barrels, etc.) will be provided as required.

1.5 COMMUNICATIONS

Visual communications will be maintained between the LCID landfill and the landfill gate house. Radios or walk-talkies shall be used for communications between the gate attendant and the working face supervisor. The gate house has telephones in case of emergency and for the conduct of day-to-day business. Emergency telephone numbers are displayed in the scale house.

1.6 SAFETY

All aspects of the Rowland LCID Landfill and Wood Recycling Facility operation were developed with the health and safety of the landfill's operating staff, customers, and neighbors in mind. A superintendent of the landfill operating staff will be designated as Site Safety Officer (SSO) and shall undergo a landfill operator's training course. The SSO, together with the facility's management, will administer a site safety and emergency response program to be consistent with Occupational Safety and Health Administration (OSHA) guidance. Safety equipment to be provided includes equipment rollover protective cabs, seat belts, audible reverse warning devices, hard hats, safety shoes, communications equipment, portable fire extinguishers and first aid kits. Staff will be encouraged to complete the American Red Cross Basic First Aid Course.

1.7 EQUIPMENT REQUIREMENTS

The facility will maintain on-site equipment required to perform the necessary landfill activities. Periodic maintenance of all landfilling equipment, and minor and major repair work will be performed at designated maintenance zones outside of the landfill.

1.8 UTILITIES

Electrical power, water, telephone, and restrooms will be provided at the office and maintenance buildings and in the nearby main office/shop.

1.9 FIRE PREVENTION

Fires in LCID landfills and wood waste stockpiles have become a concern to the Solid Waste Section – not only as health and safety issues for customers, staff and the neighbors, but long-term air and quality issues arise and the effort required to fight a major facility fire is costly and disruptive to operations. The Operator shall be vigilant about preventing fires and keeping access available to fight fires. Material stockpiles shall be separated by a minimum clear distance of 25 feet on all sides to allow equipment access. Stockpiles shall be turned once per quarter to prevent composting and the associated heat build up. Within the landfill, periodic soil cover requirements shall be observed. An ample supply of soil shall be kept on-hand, observing proper measures for erosion control, and access to undeveloped portions of the footprint (additional soil resources) shall be kept free of unnecessary debris. Portable fire extinguishers shall be kept in operating order. The Wake County Fire Marshall’s requirements for fuel storage shall be observed. Equipment shall be kept in good working order and facility roads shall be kept passable. A daily “ride-through” shall be conducted to look for smoke – steam does not necessarily mean a fire is present, but continual steaming should be monitored and vents should be checked periodically for signs of charring or detectable heat.

1.10 RECORD KEEPING PROGRAM

The Landfill staff shall maintain the following records related to the LCID landfill in a permanent operating record at the landfill:

- A Waste inspection records;
- B Daily intake records - including waste type and source;
- C List of generators and haulers that have attempted to dispose of restricted wastes;
- D Employee training procedures and records of training completed;
- E All closure and post-closure information, where applicable, including:
 - 1. Testing;
 - 2. Certification; and
 - 3. Completion records.
- F Cost estimates for financial assurance documentation.

The operating record shall be kept up to date by the Owner or his designee. These records shall be presented upon request to DWM for inspection. A copy of this Operations Manual shall be kept at the gate house and be available all times. ***All staff should be familiar with this manual.***

SECTION 2.0 WASTE HANDLING OPERATIONS

2.1 OVERVIEW

This section describes the waste handling operations for the landfill and the wood recycling facility.

2.2 ACCEPTABLE WASTES

The LCID disposal facility shall only accept the following wastes:

- Land Clearing and Inert Debris Waste (yard waste, stumps, trees, limbs, brush, grass, concrete, brick, concrete block, uncontaminated soils and rock, untreated and unpainted wood, etc.)
- Other Wastes as Approved by the NC DENR Solid Waste Section.

The Wood Recycling (T&P) facility shall only accept the following wastes:

- Naturally occurring tree debris (stumps, trees, limbs, brush) – no grass or yard waste
- Clean wood waste derived from construction only and pallets – no demolition materials, no painted or treated wood, no engineered or laminated wood products

The waste streams for the two facilities must not be co-mingled! Please note that inert debris (brick, block, recycled asphalt, etc.) may be used as “beneficial fill” at the facility for making all-weather road surfaces and as aggregate for storm water runoff measures, subject to particle-size suitability - consult the Project Engineer. Certain “special” wastes (yet to be defined) may also be accepted at this facility with prior approval of the Solid Waste Section – an Operations Plan revision may be warranted. Municipal Solid Waste (MSW) shall be directed to an appropriate facility, e.g., the Wake County landfill, and never buried at this site.

2.3 PROHIBITED WASTES

No municipal solid (MSW), hazardous (as defined by 15A NCAC ISA including hazardous waste from conditionally exempt small quantity generators), or liquid waste will be accepted at this facility. In addition, no polychlorinated biphenyl (PCB) waste will be accepted. The Owner will implement a waste screening program, described in **Section 2.4**, to control these types of waste. Asbestos wastes will not be accepted by the facility. Animal carcasses will not be accepted.

2.4 WASTE SCREENING PROGRAMS

In order to assure that prohibited wastes are not entering the facility, screening programs have been implemented. The incoming wastes receive two inspections – at the entrance gate and at the working face of the disposal area or the raw material stockpile at the T&P area. The following sections are abbreviated from the original Operations Plan and have been supplemented by **Appendices 2 and 3**.

2.4.1 Waste Receiving and Inspection – All vehicles must stop at the entrance gate. The attendant shall question each driver about the nature and source of the incoming materials and record the load. Other visitors are required to check in. The attendant(s) may visually check the load if the vehicle or driver is unfamiliar. Vehicles shall be selected for random screening at a minimum of three times per quarter (i.e. three months). Procedures and forms to be used during the waste screening activities are found in **Appendix 2**. Signs informing users of the acceptable and unacceptable types of waste are posted at the entrance. Vehicles containing non-recyclable LCID wastes are directed to the landfill. Vehicles carrying clean recyclable wood waste are directed to the raw material stockpile in the T&P area. Directional signs are used to guide traffic to the correct unloading area.

Each incoming load shall be unloaded at its designated area (either the disposal area or the raw material stockpile, depending on the material type). The gate attendant shall alert the yard operators via radio with information on the incoming load, e.g., material type, truck description. The yard operator shall be present when each vehicle is unloaded to make sure the material is acceptable, or he shall inspect the load soon after unloading (prior to the vehicle leaving the premises). Each load shall be sifted to make sure nothing unacceptable is buried within the load. If the load is deemed suitable for the designated unloading area, the vehicle shall be cleared to exit with the gate attendant.

If unacceptable materials are found, the driver and/or owner of the vehicle shall be notified and measures shall be taken to correct the problem – the driver may be detained in order to compel him to remove the unacceptable materials. Ideally, unacceptable materials will be detected prior to unloading, or they will be reloaded onto the delivery vehicle and sent away (with directions to an appropriate facility). Any attempts to unload unacceptable materials at the facility, either in the disposal area of the wood recycling area, shall be documented by the operator. Repeat offenders may be banned from using the facility at the discretion of the Owner.

2.4.2 Hazardous Waste Contingency Plan – If hazardous materials are detected, the Hazardous Waste Contingency Plan outlined in **Appendix 3** shall be followed. Hazardous materials might be identified by unusual appearances, colors, odors, fumes, or the materials may be hot or burning. In the event that identifiable hazardous waste or waste of questionable character is detected at either the landfill or the wood recycling facility, protection of personnel shall take precedence. If the materials have not been unloaded, the delivery vehicle shall be isolated and appropriate personnel called in. If the vehicle has been unloaded, the area shall be cleared until appropriate haz-mat personnel arrive. If a “hot load” enters the facility, the vehicle will be directed to an isolated and unloaded immediately, then the vehicle and driver shall be moved to safety and the fire department shall be called. In any event where a hazardous material is detected, the Solid Waste Section shall be notified immediately (see **Section 1.2.2**), and hazardous material responders may need to be contacted. The event shall be documented by landfill staff in the Operational Record. The driver or owner of the vehicle may be held responsible for the cost of the haz-mat response and/or any required clean up.

2.5 WASTE GRINDING

Grinding may occur either on landfill working face or the wood recycling area. Within the landfill, wastes may be ground with a tub grinder to reduce airspace consumption and to lessen the likelihood of a fire. The grinder shall be operated on a 2-foot thick soil pad with perimeter soil berms that will soak up spills or leaking fluids, which shall be removed from the landfill if a spill or leak occurs. The allowed grinder location shall be construed as anywhere in the landfill, with the provision that the

prescribed measures for spill control are observed. Extra care shall be taken when fueling the grinder to avoid spills. The Operator shall exercise proper judgement in enforcing the waste acceptance policy. **CAUTION:** grinding the waste does not remove or disguise improper materials that may be encountered in the waste stream. Solid Waste Section inspectors will be vigilant about examining the ground waste for evidence of unauthorized wastes. The Operator shall be equally vigilant about avoiding the placement of unauthorized waste in the landfill. A portable container for unauthorized wastes shall be kept near the grinder. The grinder will not be kept on the landfill unless it is operating. ***The allowable waste streams between the LCID disposal area and the T&P area are different, thus the operation of these areas shall be kept entirely separate.***

2.6 WASTE DISPOSAL

2.6.1 Access – The location of access roads during waste placement will be determined by operations personnel in order to reflect waste placement strategy.

2.6.2 General Procedures – Waste transportation vehicles will arrive at the working face at random intervals. There may be a number of vehicles unloading waste at the same time, while other vehicles are waiting. In order to maintain control over the unloading of waste, a certain number of vehicles will be allowed on the working face at a time. The actual number will be determined by the “spotter,” i.e., the operator on duty at the working face. This procedure will be used in order to minimize the potential of unloading unacceptable waste and to control disposal activity. Operations at the working face will be conducted in a manner which will encourage the efficient movement of transportation vehicles to and from the working face, and to expedite the unloading of waste.

The use of portable signs with directional arrows and portable traffic barricades along the access route to the working face will facilitate the unloading of wastes at proper locations. The approach to the working face will be maintained such that two or more vehicles may safely unload side by side. A vehicle turn-around area large enough to enable vehicles to arrive and turn around safely with reasonable speed will be provided adjacent to the unloading area. The vehicles will back to a vacant area near the working face to unload.

Waste unloading at the landfill will be controlled by the Operator to prevent unauthorized materials and potentially unsafe conditions. Such control will also be used to confine the working face to a minimum width, yet allow safe and efficient operations. The width and length of the working face will be maintained as small as practical in order to maintain the appearance of the site, control windblown waste, and minimize the amount of cover required each day. Upon completion of the unloading operation, the transportation vehicles will immediately leave the working face area. Personnel will direct traffic as necessary to expedite safe movement of vehicles.

Normally, only one working face will be active on any given day, with all deposited waste in other areas covered by either periodic or final cover, as appropriate. The procedures for placement and compaction of solid waste include: unloading of vehicles, spreading of waste into 2 foot lifts, and compaction on relatively flat slopes (i.e., 5H: IV max.) using a minimum number of three full passes. ***A maximum slope ratio of 3H:1V shall be observed at all times.***

2.6.3 Periodic Cover – At the completion of waste placement on a monthly basis or sooner if the working face exceeds one acre in size, a 6 inch layer of earthen material will be placed over the exposed waste. This periodic cover is intended to control vectors, fire, odors, and blowing debris.

2.7 HEIGHT MONITORING

The landfill staff will monitor landfill top and side slope elevations on a weekly basis. This shall be accomplished by use of a surveyor's level and a grade rod. When such elevations approach the grades shown on the Final Cover Grading Plan, the final top-of-waste grades will be staked by a licensed surveyor to limit over-placement of waste. An annual survey of the landfill shall be performed to confirm that lines and grades are within the specified requirements and to facilitate a volumetric analysis of the airspace.

SECTION 3.0 ENVIRONMENTAL MANAGEMENT

3.1 OVERVIEW

This section reviews the overall environmental management tasks required for the successful operation of the LCID landfill and the Wood Recycling facility.

3.2 EROSION AND SEDIMENTATION CONTROL

Stormwater run-off from the LCID landfill and the Wood Recycling facility is conveyed to the existing sedimentation basin(s) located outside the landfill footprint. The basin(s) should be inspected regularly for sediment build-up or erosion damage. The basin(s) should be cleaned out by excavating when sediments fill the lower half of the basin.

3.3 LANDFILL GAS CONTROL

A separate gas monitoring plan is currently under review by the Division of Waste Management. A copy of the plan will be maintained on site at all times.

3.4 VECTOR CONTROL

Due to the nature of the waste disposed in this landfill, vector control will not be of concern. Note that the use of periodic cover will discourage animals from nesting in the waste.

3.5 ODOR CONTROL

Due to the nature of the waste disposed in this landfill, odor control will not be of concern.

3.6 DUST CONTROL

Dust related to waste hauler traffic on the access roads will be minimized by using a water truck to limit dust on the gravel portion of the road. Dust generated by excavation of cover soil will be limited by watering the cut soil areas. Staff should avoid breathing in dust generated by the operations.

SECTION 4.0 CONTINGENCY PLAN

4.1 SEVERE WEATHER CONDITIONS

Unusual weather conditions can directly affect the operation of the facility. Some of these weather conditions and recommended operational responses are as follows.

4.1.1 Ice Storms – An ice storm can hinder access and prevent safe movement or placement of periodic cover, and, thus, may require closure of the landfill until the ice is removed or has melted.

4.1.2 Heavy Rains – Exposed soil surfaces can create a muddy situation in some portions of the facility during rainy periods. Proper drainage control and use of crushed stone on unpaved roads should provide all-weather access and protect drainage away from critical areas. In areas where the aggregate surface is washed away or otherwise damaged, aggregate should be replaced.

Intense rains can affect newly constructed drainage structures such as swales, diversions, cover soils, and vegetation. After such a rain event, inspection by staff will be initiated and corrective measures taken to repair any damage found before the next rainfall.

4.1.3 Electrical Storms – The open areas of the facility are susceptible to the hazards of an electrical storm. If necessary, facility activities will be temporarily suspended during such an event. To promote the safety of field personnel, refuge will be taken in buildings or in rubber-tire vehicles.

4.1.4 Windy Conditions – Blowing debris can constitute safety hazards and/or environmental concerns. Normally, this authorized waste stream should not be susceptible to light wind, but high winds could blow smaller debris. Daily operations should minimize exposure to prevailing winds – operations should be sheltered by locating activities on the lee-side of slopes and other natural wind barriers. The work area may need to be temporarily shifted to a more sheltered area.

4.1.5 Violent Storms – In the event of a hurricane, tornado, or severe winter storm warning issued by the National Weather Service, facility operations should be temporarily suspended until the warning is lifted. If there is adequate time, soil cover should be placed on exposed waste (in the landfill), and buildings and equipment should be properly secured. If there is eminent danger to staff, personal safety shall take precedence over concerns regarding the waste or equipment.

4.2 FIRE IN THE FACILITY

The waste may compost under normal circumstances and attain high enough temperatures to combust. Telltale early signs of fires in stockpiles or the in-situ waste may be smoke or charring observed at “vents” (cracks in the surface). It is normal to see steam rising from the waste, especially on cold mornings – this does not necessarily indicate a fire, but areas that steam frequently should be watched

closely. In the event of an actual fire, steps should be taken to safeguard site workers and the general public, including notifying the fire department and the Solid Waste Section specialist.

4.2.1 Minor Fires – The possibility of a brush fire or a piece of equipment must be anticipated. A combination of factory installed fire suppression systems and/or portable fire extinguishers shall be operational on all heavy pieces of equipment at all times. Spreading dirt or using water on a small surface fire is effective. For larger or more serious outbreaks, call the local fire department.

4.2.2 Hot Loads – The gate attendant shall prevent vehicles containing waste that is suspected to be hot, e.g., smoldering or smoking. If a "hot" load is detected at the entrance gate, the driver shall be directed to an isolated location away from the public (but accessible to fire fighting equipment), and the driver shall dump the load on the ground and move the truck to a safe location – emphasis shall be placed on the driver and staff's safety first, and then the truck if safe enough to do so. If a hot load is placed on the working face, then the load will be spread as thin as possible and cover soil will be immediately placed on the waste to extinguish the fire.

4.2.3 Major Fires – If the waste catches fire, efforts will be made to extinguish the fire by smothering it with dirt. Stockpiles of dirt should be kept on hand during the operational phases in order to combat a fire. Water is the least desirable means of fighting a large landfill fire, but placing water on a small fire is acceptable. The application of water has not proven to be an effective means of extinguishing deep fires in LCID landfills. It should be realized that water used to fight a fire will become a water quality issue. The most effective means of combating a fire in the waste is to carefully excavate the fire and smother it with dirt. All fires should be reported to the Solid Waste Inspector or Area Specialist (see **Appendix 6**).

Appendix 1

Permit Application

ROWLAND LANDFILL

TREATMENT AND PROCESSING FACILITY

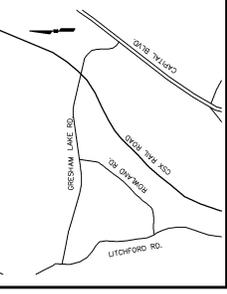
Raleigh, North Carolina



OWNER/DEVELOPER:
 ROWLAND LANDFILL, INC.
 1000 GRESHAM'S LANE
 RALEIGH, NC 27658

ENGINEER:
 John A.K. Tucker, P.E. -
 Professional Engineer
 P.O. Box 237
 Fuquay-Varina, NC 27096
 Office 919-597-0489

VICINITY MAP
 NTS



John A. K. Tucker, P.E.
 Consulting Engineer
 Email: john@jatk.com
 P.O. Box 237 Fuquay-Varina, North Carolina 27096
 919-597-0489

Rowland Landfill, Inc.
 2739 Rowland Rd. Suite 105
 Raleigh, North Carolina 27615

Rowland Landfill
 Permit No. 92M & 92-0047P
Existing Condition

REVISIONS	DATE	DESCRIPTION

GENERAL NOTES:

- Boundary information taken from Mecklenburg County GIS and deed information.
- All site improvements shall be constructed in accordance with Mecklenburg County and State of NC standards.
- Location of existing utilities is approximate. Contractor shall verify location of all existing utilities and shall be responsible for any damage resulting from his actions. Call NC ONE CALL.
- Contractor shall notify Engineer and Owner of conflicts, errors, omissions or discrepancies which Contractor discovers in the drawings.
- Contractor shall at all times maintain adequate safety measures, activities, and barricades for the protection of all persons on or about the site.

ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH DIVISION OF THE NC DEPARTMENT OF LABOR.

Contractor shall be responsible for the design of adequate shoring and bracing in all trenches and excavations that are deeper than 4 feet. The contractor shall be responsible for the design, construction, and maintenance of adequate shoring and bracing, and the protection of all persons and property on or about the site.

- Sheet Index
- Existing Conditions
 - Aerial Photograph
 - Facility Plan
 - Cross Section C-C
 - Cross Section D-D

Appendix 2

WASTE SCREENING AND INSPECTION PROGRAM

1.0 INTRODUCTION

This prohibited waste exclusion program is designed to prevent prohibited wastes from entering the facility and designated landfill. Prohibited wastes include regulated hazardous wastes, regulated PCB wastes, and other wastes prohibited by state or local regulations or permit conditions. *The Facility is NOT permitted to accept asbestos wastes.*

For the purposes of this section, regulated hazardous waste means a solid waste that is a hazardous waste as defined in 40 CFR 261.3, that is not excluded from regulation as a hazardous waste under 40 CFR 261.4 (b) or was not generated by a conditionally exempt generator.

Personnel shall be trained in recognition of hazardous and otherwise prohibited wastes, and procedures for accepting or rejecting wastes shall be implemented.

2.0 PROHIBITED WASTES

This facility is allowed to receive wastes classified as Land Clearing Inert Debris.

The facility shall not accept the following:

- Construction and demolition debris — except clean wood waste*
- Municipal/commercial solid wastes and household waste -
Regulated hazardous wastes
- Special wastes — except as permitted by the Solid Waste Section
- \ - PCB wastes
- Other prohibited wastes

*For recycling into boiler fuel only — not disposal

2.1 REGULATED HAZARDOUS WASTE

Regulated hazardous waste must be disposed of or treated at a permitted hazardous waste disposal/treatment facility. **Any material contaminated by a hazardous waste is also deemed to be a hazardous waste.** RCRA permits are required to store, transport, and treat hazardous waste. The USEPA has given exemptions from storage, transport, and disposal requirements to certain generators based on source and quantities. All hazardous waste generated by households during their normal course of activities is exempt from regulation. Regulated generators must notify the EPA that they generate hazardous waste and receive an identification number from EPA or an authorized state agency.

2.2 PCB WASTES

No PCB wastes shall be accepted at the facility.

2.3 EXAMPLES OF OTHER PROHIBITED WASTES

WASTE	BASIS OF PROHIBITION
Radioactive Wastes	Nuclear Regulatory Commission regulations
Bulk Liquids	RCRA Subtitle D (40 CFR 258.28)
Medical Wastes (infectious)	State Solid Waste Regulations
Whole Tires	State Solid Waste Regulations

3.0 LOAD INSPECTION PROGRAM

The purpose of the load inspection program is to detect prohibited wastes and discourage attempts to handle them at the facility.

3.1 INITIAL PROCEDURES ON THE TIPPING AREA

The initial step in the inspection program is to review incoming loads in the tipping area. The operator will observe incoming loads for any indication of the presence of prohibited wastes. Should the operator encounter suspicious-looking loads, they will summon appropriate personnel for further evaluation of the load. If prohibited wastes are identified during inspection of a load, the prohibited load will be reloaded, rejected and sent back to the generator.

3.2 WASTE SCREENING SCHEDULE AND DOCUMENTATION

A waste screening form follows this text (Appendix 2A); this (or a similar form) shall be used for random load inspections and for documentation of rejected waste loads. The inspections are to be conducted on a random basis, at a minimum of twice per day, including (but not limited to) any suspicious load (e.g., that which might contain prohibited or unauthorized wastes).

3.3 LOAD INSPECTION PROCEDURES

The major elements of load inspections are:

- spread, break up, and visually examine wastes
- flag suspicious wastes
- maintain proper records

The origin of all loads is identified prior to proceeding onto the scales and tipping

floor. All load inspections are performed at the tipping floor. The Facility Manager will train facility operations employees in waste identification procedures.

4.0 PROHIBITED OR UNAUTHORIZED WASTES

4.1 IDENTIFYING PROHIBITED WASTES

- Questioning the driver about the source of the load and the nature of generators.
- Examining product labels, especially warning labels.
- Rejecting bulk liquids in containers and sludges.
- Separating powders, granular material or materials with unusual colors for evaluation and possible rejection.
- Inspecting containers to ensure that they are empty or do not contain prohibited wastes.
- Inspecting for "hot loads" (smoldering or burning materials) emitting fumes or vapors.
- Evaluating the load for odors that are not characteristic of C&D waste.
- Inspectors should never inhale vapors from suspicious materials or containers because this may lead to injury or death.
- Searching for special items that have a high probability of containing prohibited waste:
 - transformers
 - batteries
 - filters
 - compressors (freon)
 - mechanical equipment (capacitors)
 - red bags (medical waste)
 - bags that may contain asbestos (without prior notification to the operator)
 - obvious prohibited wastes such as tires, etc.

4.2 MANAGING PROHIBITED WASTES

The results of the load inspection will identify wastes as:

- Acceptable
- Prohibited

Acceptable waste can be moved from the tipping area to the LCID disposal area or the wood waste raw material stockpile, depending on the material type. Keep in mind that the LCID materials and clean wood wastes for recycling shall always be kept separate. The inspection area should be cleaned to the extent that materials from this inspection do not impact the next load to be inspected.

Prohibited wastes detected during the inspection shall be prevented from being unloaded (if possible) and/or reloaded onto the delivery vehicle (if safe to do so) — in such cases the driver shall be advised of the hazardous waste contingency plan (see below). A contingency plan for removal/clean-up of hazardous, liquid or other unacceptable waste follows.

Refer to the HAZARDOUS WASTE CONTINGENCY PLAN (Appendix 3).

5.0 TRAINING

The management staff, equipment operators, and scale house staff will be trained in the contents of this plan. Training will address the following topics:

- Inspection of tipping area and load inspection procedures.
- Identification of hazardous wastes, PCB wastes and other prohibited wastes.
- Waste handling procedures (acceptable and prohibited wastes).
- Health and safety.
- Record keeping.

6.0 RECORD KEEPING

Records of all incoming waste should be kept by the facility — at a minimum, the date, tonnage, material type and hauler should be recorded.

Random waste screening forms and hazardous waste records, if any, shall be kept in a file at the facility office — i.e., the Operating Record — and these records shall be available for inspection at any time by Solid Waste Section compliance inspectors.

If prohibited wastes are detected requiring notification of haulers and/or regulatory agencies, records of time of notification, the agency and individuals contacted with phone numbers, and the information that was reported.

Records documenting the successful completion of training will be maintained on-site.

WASTE SCREENING FORM

Facility I.D.
Permit No.

Day / Date: _____

Time Weighed in: _____

Truck Owner: _____

Driver Name: _____

Truck Type: _____

Vehicle ID/Tag No: _____

Weight: _____

Tare: _____

Waste Generator / Source: _____

Inspection Location: _____

Reason Load Inspected:	Random Inspection	_____	Staff Initials	_____
	Detained at Scales	_____	Staff Initials	_____
	Detained by Field Staff	_____	Staff Initials	_____

Description of Load: _____

Approved Waste Determination Form Present? (Check one) Yes _____ No _____ N/A _____

Load Accepted (signature) _____ Date _____

Load Not Accepted (signature) _____ Date _____

Reason Load Not Accepted (complete below only if load not accepted) _____

Description of Suspicious Contents:	Color _____	Haz. Waste Markings _____
	Texture _____	Odor/Fumes _____
	Drums Present _____	Other _____
		(describe) _____

Est. Cu. Yds. Present in Load _____

Est. Tons Present in Load _____

Identified Hazardous Materials Present: _____

County Emergency Management Authority Contacted? Yes _____ No _____

Generator Authority Contacted? _____

Hauler Notified (check if waste not accepted)? _____ Phone _____ Time Contacted _____

Final Disposition of Load _____

Signed _____ Date _____
Solid Waste Director

Attach related correspondence to this form. File completed form in Operating Record.

Appendix 3

HAZARDOUS WASTE CONTINGENCY PLAN

1.0 HOT LOADS CONTINGENCY PLAN

In the event of a "hot" load attempting to enter the facility, the scale house staff will turn away all trucks containing waste that is suspected to be hot, unless there is imminent danger to the driver, in which case the situation will be treated as a fire — the vehicle will be isolated away from structures and other traffic and the fire department will be called. The vehicle driver will be instructed unload — if safe to do so — and to move the vehicle to a safe location. Other traffic will be redirected to another portion of the tipping area (away from the fire), or other waste deliveries may be suspended until the fire is out. Facility staff may assist the fire department (at the scene manager's direction) by smothering the fire with dirt from an on-site stockpile. If the fire cannot be controlled, the fire department will be notified and the area cleared of nonessential personnel. Once the fire is out the waste shall be inspected in accordance to the Waste Screening Plan (Appendix 2) and, if the material is deemed acceptable under the waste acceptance criteria, it will be loaded into transport vehicles. If the material is not acceptable, it will be loaded back onto the delivery vehicle and sent to an appropriate landfill.

2.0 HAZARDOUS WASTE EMERGENCIES CONTINGENCY PLAN

In the event that an obvious hazardous waste is detected at the scales or on the tipping pad, appropriate steps shall be implemented to safeguard the staff and public. Hazardous waste identification may be based on (but not limited to) the detection of strong odors, fumes or vapors, unusual colors or appearance (e.g., liquids), smoke, flame, or excess dust. All waste receipts shall be suspended and non-essential personnel cleared from the facility. The fire department will be called immediately in the event a hazardous material is detected. The waste will not be allowed to unload if hazardous waste is detected in advance of unloading.

If unloaded waste is deemed to be hazardous, an attempt will be made to isolate the wastes in a designated area where runoff is controlled, and/or personnel will be cleared from the vicinity of the waste. Staff will act prudently to protect personnel, but no attempt will be made to remove the material until trained emergency personnel (fire department or haz-mat team) arrive. A partial listing of regional **Hazardous Waste Responders** and disposal firms is found in **Appendix 3A**. These firms have the training and equipment to deal with hazardous materials, as needed. The Division of Waste Management's list of "**Useful Agencies and Contacts**" is presented in **Appendix 3B**.

The Operator will notify the Division of Waste Management regional specialist that an attempt was made to dispose of hazardous waste at the facility. If the vehicle attempting disposal of such waste is known, attempts will be made to prevent that vehicle from leaving the site until it is identified (license tag, truck number driver and/or company information) or, if the vehicle leaves the site, immediate notice will be served on the owner of the vehicle that hazardous waste, for which they have responsibility, has been disposed of at the facility. The cost of the removal and

disposing of the hazardous waste may be charged to the owner of the vehicle involved. Any vehicle owner or operator who knowingly dumps hazardous waste in the landfill may be barred from using the facility and/or reported to law enforcement authorities.

3.0 NON-EMERGENCY HAZARDOUS WASTE CONTINGENCY PLAN

Some wastes that are considered as hazardous or otherwise prohibited from the facility — even those that do not constitute an emergency — may require special handling by licensed contractors. Such materials shall be prohibited from being unloaded, if possible, and the driver of the delivery vehicle made aware of options for legal disposal (addressed below). Some hazardous materials may be inadvertently unloaded at the facility and require the services of licensed contractors, who will be sought to dispose of the prohibited materials.

Appendices 3A and 3B, found immediately following this section, provide a list of specialty waste haulers (licensed contractors) and/or disposal sites, furnished on the NC DENR Division of Waste Management web site. These firms may be contacted to dispose of hazardous materials in non-emergency situations. If the materials are not unloaded from the delivery vehicle, the driver will be furnished with the list of Hazardous Waste Responders or "Useful Contacts", and the owner of the vehicle will be responsible for appropriately disposing of the materials — this might involve isolating the vehicle on the premises until a licensed contractor can arrive, in which case steps shall be taken to prevent access by non-authorized personnel.

Should such materials be detected at the facility after unloading, the materials will be located to a holding area away from personnel and away from drainage ways, isolated to prevent contact with water or runoff (e.g., covering with tarps, surrounding the materials with absorbent booms or soil berms, as appropriate), and the appropriate licensed contractor contacted immediately. In either case (still loaded or unloaded), arrangements shall be made for the isolated materials to be removed as soon as possible.

4.0 RECORD KEEPING

State or EPA notification is required whenever a hazardous or PCB waste is detected. Records of these notifications will be kept and will include the date and time of notification, agency and individual contacted with phone numbers, and the information that was reported.

Any hazardous waste found at the facility that requires mitigation under this plan shall be documented by staff using the **Waste Screening Form** provided in **Appendix 2A**. Records of information gathered as part of the waste screening programs will be maintained throughout the operational life of the facility.

SPECIAL NOTE: The Operator of this facility is encouraged to keep a current list of Hazardous Waste Responders handy, as the firms and/or contact numbers may change over time.

Appendix 4

HAZARDOUS WASTE CONTACTS

The following contacts were taken from the NC DENR Division of Waste Management web site in early 2007; the availability and local phone numbers should be verified before a emergency, or modify this list as needed. For more information see <http://www.wastenot.org/hwhome>.

EMERGENCY RESPONSE

Clean Harbours	Reidsville, NC	336-342-6106
GARCO, Inc.	Asheboro, NC	336-683-0911
Safety-Kleen	Reidsville, NC	800-334-5953

TRANSPORTERS

ECOFLO	Greensboro, NC	336-855-7925
GARCO, Inc.	Asheboro, NC	336-683-0911
Zebra Environmental Services	High Point, NC	336-841-5276

DISPOSAL AND LANDFILLS

ECOFLO	Greensboro, NC	336-855-7925
Safety-Kleen	Reidsville, NC	800-334-5953
Zebra Environmental Services	High Point, NC	336-841-5276

USED OIL AND ANTIFREEZE

3RC Resource Recovery	Winston-Salem, NC	336-784-4300
Carolina Environmental Associates	Burlington, NC	336-299-0058
Environmental Recycling Alternatives	High Point, NC	336-869-8785

FLUORESCENT HANDLERS

3RC Resource Recovery	Winston-Salem, NC	336-784-4300
Carolina Environmental Associates	Burlington, NC	336-299-0058
ECOFLO	Greensboro, NC	336-855-7925
GARCO, Inc.	Asheboro, NC	336-683-0911
Safety-Kleen	Reidsville, NC	800-334-5953

PCB DISPOSAL

ECOFLO	Greensboro, NC	336-855-7925
GARCO, Inc.	Asheboro, NC	336-683-0911
Zebra Environmental Services	High Point, NC	336-841-5276

USEFUL AGENCIES and CONTACTS			
<u>Air Permits</u> NC Div. of Air Quality 919-733-3340	Indoor <u>Air Quality</u> , US EPA Info Hotline 1-800-438-4318	<u>Asbestos</u> Environmental Epidemiology Mary Giguere 919-707-5950	<u>Customer Call Center</u> DENR 1-877-623-6748
<u>Drinking Water</u> Environmental Health Jessica Miles 919-715-3232	Safe <u>Drinking Water</u> US EPA 1-800-426-4791	Emergencies 24 hours <u>Emergency Management</u> 919-733-3300 919-733-9070 1-800-858-0368	<u>Energy Division</u> Hotline NC Commerce Dept. 1-800-662-7131
<u>Environmental Education</u> Office of Env. Education 1-800-482-8724	<u>Environmental Education</u> NC Cooperative Ext. Service NCSU 919-515-2770	<u>Federal Register</u> RCRA/Superfund/UST 1-800-424-9346	<u>Fluorescent Lights</u> Green lights Hotline 202-775-6650 EPA Energy Star 1-888-782-7937
<u>Freon</u> US EPA Region 4 Pam McIlvane 404-562-9197	<u>Groundwater</u> Division of Water Quality None Dedicated Soil Disposal Ted Bush 919-733-3221	<u>Hazardous Waste</u> Hazardous Waste Section 919-508-8400	<u>Household Hazardous Waste</u> Solid Waste Section Bill Patrakis 336-771-5091
<u>Lab Certification</u> Water Quality Jim Meyer 919-733-3908 ext. 207	<u>Land Farm</u> Division of Water Quality David Goodrich 919-715-6162	<u>Landfills</u> Solid Waste Section Division of Waste Management 919-508-8400	<u>Lead Abatement</u> Division of Public Health Jeff Dellinger 919-733-0668
<u>Childhood Lead Poisoning</u> Environmental Health Ed Norman 919-715-3293	<u>National Lead Info. Center</u> 1-800-LEAD-FYI 1-800-532-3394	<u>Medical Waste</u> Solid Waste Section Bill Patrakis 919-508-8512	<u>Oil Pollution</u> Aquifer Protection Section Debra Watts 919-715-6699
<u>OSHA-Health Consultations</u> NC Dept of Labor Roedreck Wilce 919-852-4379	<u>OSHA Training & Outreach</u> NC Dept. of Labor Joe Bailey 919-807-2891	<u>Stratosphere Ozone</u> US EPA Information Hot Line 1-800-296-1996	<u>PCBs</u> TSCA, EPA Region 4 Craig Brown 404-562-8980 TSCA Assistance Info. 202-554-1404
<u>Pesticides Disposal Assistance Program</u> NC Dept. of Agriculture Hazardous Waste Royce Batts 919-715-9023	<u>Pesticide Info. Hotline</u> 1-800-858-7378	<u>Petroleum Product</u> Soil Disposal, UST Scott Ryals 919-733-8486	<u>Pollution Prevention & Environmental Assistance</u> 919-715-6500 1-800-763-0136

<u>Public Affairs</u> , DENR Diana Kees Acting Director 919-715-4112	<u>Public Right to Know</u> Employee Right to Know OSHA, Dept. of Labor Anthony Bonapart 919-807-2846	<u>Radiation Materials</u> Radiation Protection Beverly Hall 919-571-4141	<u>Recycling Markets</u> <u>Directory</u> What Can I do with it? 919-715-6500
<u>Toxic Release Reporting</u> Emergency Planning SARA Title III Richard Berman 919-733-1361 1-800-451-1403 (24 hours)	<u>Run Off</u> Water Quality 919-733-5083	<u>Safety Hotline</u> NC Dept. Of Labor 1-800-LABOR-NC 919-807-2796	<u>Septic Tanks</u> , On-site Treatment System Environmental Health Steven Berkowitz 919-733-2895
<u>Sewer Discharges</u> Pre-Treatment Public Owned Treatment (POTW) 919-733-5083	<u>Small Business Ombudsman</u> US EPA 1-800-368-5888	<u>Spill Reporting</u> 1-800-858-0368	<u>State Operator</u> 919-733-1110
<u>Stormwater</u> , Permits Unit Water Quality 919-733-5083 1-800-858-0368	<u>Superfund</u> Federal Sites Dave Lown 919-508-8464 State Inactive Sites Charlotte Jesneck 919-508-8460	<u>Toxicology</u> <u>Env. Epidemiology</u> Occupational Surveillance 919-707-5900	<u>Transport Hazardous Waste</u> Division of Motor Vehicle (NC DOT) Sgt. T.R. Askew 919-715-8683
<u>US DOT</u> Regulations Office of Motor Carriers Chris Hartley 919-856-4378	<u>Underground Storage Tanks</u> Grover Nicholson 919-733-1300	<u>Waste Minimization</u> Pollution Prevention & Environmental Assistance 919-715-6500 1-800-763-0136	<u>Wetlands Info Hotline</u> US EPA 1-800-832-7828
North Carolina Division of Waste Management - 1646 Mail Service Center, Raleigh, NC 27699-1646 - (919) 508-8400			

Appendix 5



Construction and Demolition (C&D) Waste Management

Reuse, Recycle and Disposal Guide

Where to start?

Step 1.

Do I know what's in my dumpster and what's reusable or recyclable? Wood, brick, concrete, metal and cardboard are the most commonly recycled materials from construction debris and make up more than 50% of the total waste stream. For a complete list of locations that accept these and other materials, see inside this brochure.

Step 2.

Eliminate waste before it starts. Paying for delivery of materials and then disposal is costly and inefficient. Can I re-use or recycle any of my construction debris on-site? Scrap lumber or bricks can be re-used on site.

Step 3.

Donate leftover materials to a local reuse center. Habitat for Humanity accepts good used building materials to resell and proceeds go toward building new homes in Wake County. Materials accepted include lumber, windows, doors, cabinets, hardware and other and materials. See back page for more details.

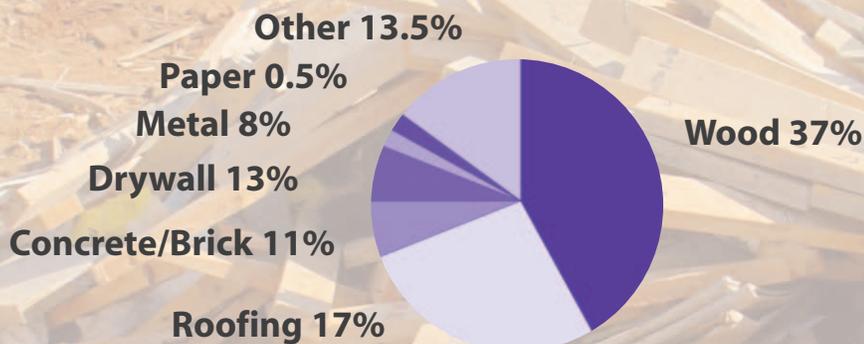
Step 4.

Know where your waste goes and whether it is being landfilled or recycled. In recent years, several recycling facilities have opened and are sorting mixed construction debris before it goes to the landfill. Other facilities take separated materials such as concrete, wood, metal and cardboard at a lower cost. See inside this brochure.

Step 5.

Market your company as an environmental leader. Today's top companies are taking a proactive approach to improving their environmental performance. Advertise achievements and success stories to your market audience.

Typical Construction Dumpster



source: Wake County Waste Characterization Study - 1999

Benefits of Reducing and Recycling C&D Waste

-  Cleaner job sites
-  More efficient operations
-  Good business practice
-  Comply with local ordinances
-  Extended life of local landfills
-  Over 60% of C&D waste is reusable or recyclable
-  Environmental Stewardship
-  Positive public image

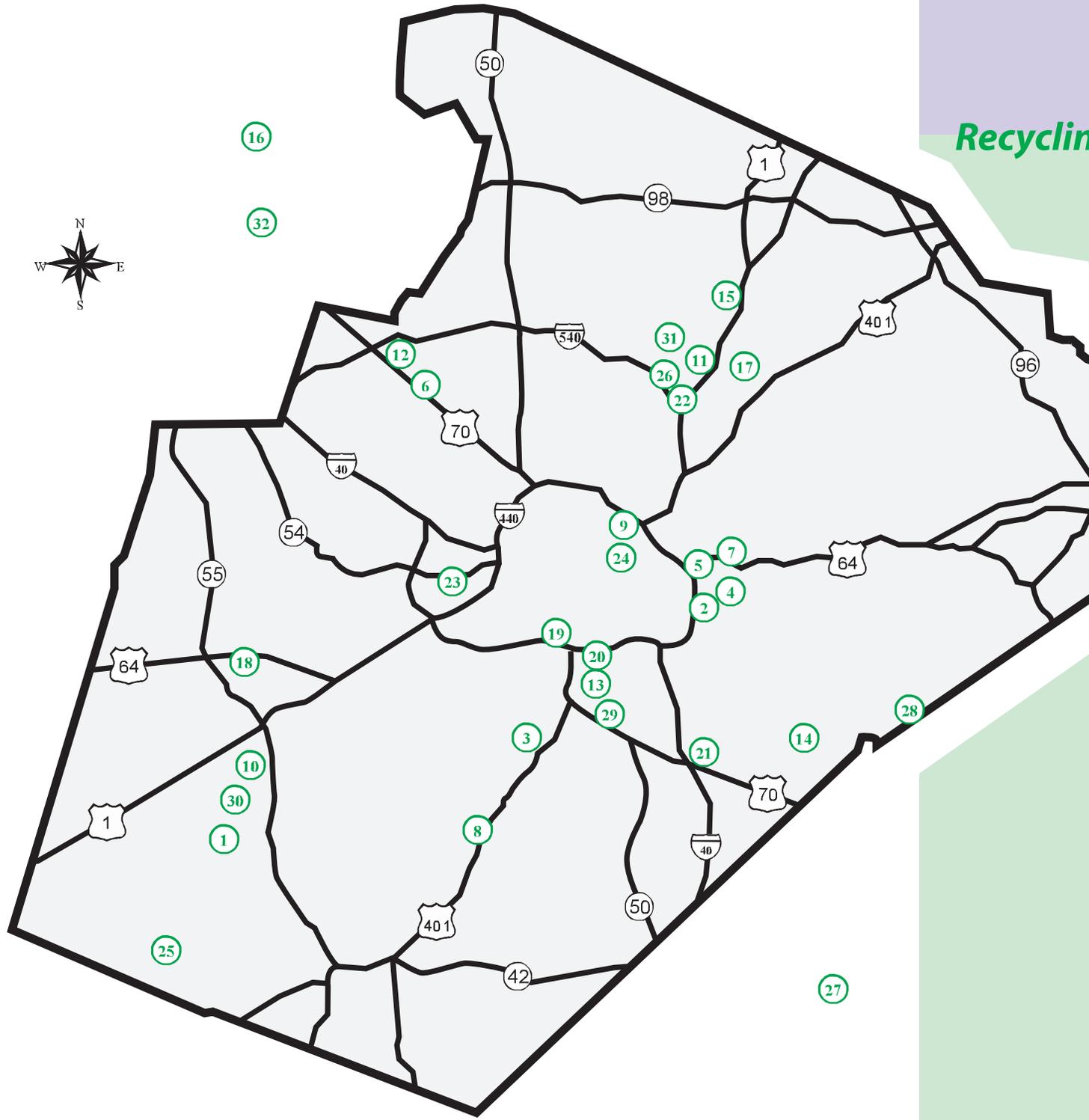
Wake County
Environmental Services
Solid Waste Management Division
PO Box 550
Raleigh, NC 27602
919-856-6186

www.wakegov.com

Wake County Construction Material Recycling and Disposal Sites

Landfill

Recycling



Wake County C&D Facilities

/Transfer Station

1	BFI Holly Springs	4300 Holly Springs Apex Road	919-557-0519
10	Hwy 55 Landfill & Recycling Center	5940 Old Smithfield Road	919-367-2895
13	Material Reclamation Center	421 Raleigh View Road	919-835-2776
14	Materials Recovery	2600 Brown Field Road	919-779-3339
11	MRR-Wake Transfer Station	9220 Durant Road	919-845-8798
17	PCM C&D Transfer Station	5509 Thornton Road	919-362-1701
18	PCM C&D Transfer Station	1502 N. Salem Street	919-362-1701
25	Red Rock Disposal/WI	7130 New Landfill Road	919-557-9583
28	Shotwell C&D Landfill	4724 Smithfield Road	919-217-0045
32	Waste Industries Durham	210 Stone Park Court	919-957-9422

Asphalt

6	Carolina Sunrock	8620 Barefoot Industrial	919-861-1860
8	Gelder and Associates	3901 Gelder Drive	919-772-6895
12	Mangum Asphalt Services	6001 Westgate Road	919-782-1452
15	Nello Teer	10501 Capital Blvd	919-380-8006
16	Nello Teer	1435 Camden Avenue	919-380-8006
21	Rea Construction	1201 E. Garner Road	919-876-4550
22	Rea Construction	3010 Gresham Road	919-876-4550
23	Rea Construction	5801 Chapel Hill Road	919-876-4550
27	S.T. Wooten	12204 Cleveland Road	919-779-9752

Cardboard

2	BFI Recycling	3909 Memo Court	919-231-6647
13	Material Reclamation Center	421 Raleigh View Road	919-835-2776
19	Paper Stock Dealers	666 Maywood Avenue	919-833-9783
18	PCM C&D Transfer Station	1502 N. Salem Street	919-362-1701
24	Recycle America Alliance	1815 Capital Blvd.	919-829-1311
31	Wake County Multi Material (North)	9004 Deponie Drive	919-870-0506
30	Wake County Multi Material (South)	6000 Old Smithfield Road	919-387-0682

Carpet Padding

5	Carolina Carpet Pad	3909 Commerce Park Drive	919-669-0101
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Concrete

6	Carolina Sunrock (Concrete Only)	8620 Barefoot Industrial	919-861-1860
10	Hwy 55 Landfill & Recycle	5940 Old Smithfield Road	919-367-2895
13	Material Reclamation Center	421 Raleigh View Road	919-835-2776
18	PCM C&D Transfer Station	1502 N. Salem Street	919-362-1701
26	Rowland Landfill	3000 Gresham Lake Road	919-876-1877

Drywall

13	Material Reclamation Center	421 Raleigh View Road	919-835-2776
31	Wake County Multi Material (North)	9004 Deponie Drive	919-870-0506

Mixed Construction Debris

13	Material Reclamation Center	421 Raleigh View Road	919-835-2776
18	PCM C&D Transfer Station	1502 N. Salem Street	919-362-1701

Paint

7	EnviroSafe	5115 New Bern Avenue	919-612-5008
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Reusable Building Material

9	Habitat ReUse Center	2400 Alwin Court	919-833-6768
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Scrap Metal

4	C & D Metals	700 Freedom Drive	919-231-1300
20	Raleigh Metals	2310 Garner Road	919-828-5426
29	TT&E Iron & Metal	1529 West Garner Road	919-772-9190
31	Wake County Multi Material (North)	9004 Deponie Drive	919-870-0506
30	Wake County Multi Material (South)	6000 Old Smithfield Road	919-387-0682

Vinyl Siding

4	C&D Metals	700 Freedom Drive	919-231-1300
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Wood/Lumber/Pallets

3	Buffaloe Landfill	5525 Wake Academy Drive	919-772-4166
13	Material Reclamation Center	421 Raleigh View Road	919-835-3655
17	PCM C&D Transfer Station	5509 Thornton Road	919-362-1701
18	PCM C&D Transfer Station	1502 N. Salem Street	919-362-1701
31	Wake County Multi Material (Pallets Only)	9004 Deponie Drive	919-870-0506

Habitat Story

The Habitat ReUse Center is a 42,000 square foot retail warehouse offering building supplies for sale to the general public at greatly reduced prices. Individuals, contractors and suppliers donate the new, gently used and salvaged supplies.

The ReUse Center participates in Habitat for Humanity International's overall environmental goals by diverting usable materials away from the waste stream, while promoting responsible stewardship of natural resources.

Last year, the ReUse Center diverted over 1,000 tons of usable building supplies from local landfills.

Not only does the ReUse Center fulfill its mission of environmental stewardship and allow people of limited means to renovate their living spaces, it also channels all profits into the building of new Habitat homes. Last year proceeds from the ReUse Center funded the building of five new Habitat homes in Wake county.

Types of Materials accepted and sold:

**Lumber, Windows, Doors, Cabinets, Flooring,
Lighting, Hardware, Appliances, Electrical and
Architectural Items**



Habitat ReUse Center
2400 Alwin Court
Raleigh, NC 27604
919-833-6768
Hours: 10am-6pm, Tues - Fri
9am - 5pm, Sat

www.habitatwake.org



Resources

ABC - Association of Builders and Contractors

703-812-2000 www.abc.org

Associated General Contractors of America (AGC)

703-548-3118 www.agc.org

Construction Materials Recycling Association (CMRA)

630-548-0644 www.cdrecycling.org

Habitat for Humanity of Wake County

919-833-6768 www.habitatwake.org

Home Builders Association of Wake County

919-233-2033 www.hbawake.com

National Association of Home Builders

301-249-4000 www.nahb.org

National Association of Demolition Contractors (NADC)

800-541-2412 www.demolitionassociation.com

NC Division of Pollution Prevention and Environmental Assistance

800-763-0136 www.p2pays.org

Triangle J Council of Governments

919-549-0551 www.tjcog.dst.nc.us

US Environmental Protection Agency (EPA)

800-EPA-WISE www.epa.gov

US Green Building Council (USGBC)

202-828-7422 www.usgbc.org

Appendix 6

FIRE OCCURRENCE NOTIFICATION

NC DENR Division of Waste Management Solid Waste Section



The Solid Waste Rules [15A NCAC 13B, Section 1626(5)(d) and Section .0505(10)(c)] require verbal notification within 24 hours and submission of a written notification within 15 days of the occurrence. The completion of this form shall satisfy that requirement. *(If additional space is needed, use back of this form)*

NAME OF FACILITY: _____ PERMIT # _____

DATE AND TIME OF FIRE ____/____/____ @ ____: ____ AM / PM (circle one)

HOW WAS THE FIRE REPORTED AND BY WHOM _____

LIST ACTIONS TAKEN _____

WHAT WAS THE CAUSE OF THE FIRE _____

DESCRIBE AREA, TYPE, AND AMOUNT OF WASTE INVOLVED _____

WHAT COULD HAVE BEEN DONE TO PREVENT THIS FIRE _____

CURRENT STATUS OF FIRE _____

DESCRIBE PLAN OF ACTIONS TO PREVENT FUTURE INCIDENTS: _____

NAME	TITLE	DATE
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THIS SECTION TO BE COMPLETED BY SOLID WASTE SECTION REGIONAL STAFF

DATE RECEIVED _____

List any factors not listed that might have contributed to the fire or that might prevent occurrence of future fires:

FOLLOW-UP REQUIRED:
 NO PHONE CALL SUBMITTAL MEETING RETURN VISIT BY: _____ (DATE)

ACTIONS TAKEN OR REQUIRED:

Appendix 7

15A NCAC 13B .0560 LAND CLEARING AND INERT DEBRIS (LCID) LANDFILLS

Rules .0560 - .0566 of Title 15A Subchapter 13B of the North Carolina Administrative Code (T15A.13B .0560 - .0566); have been adopted covering the siting, design, and permitting of land clearing and inert debris landfills, effective January 4, 1993.

*History Note: Authority G.S. 130A-294;
Eff. January 4, 1993.*

15A NCAC 13B .0561 RESERVED FOR FUTURE CODIFICATION

15A NCAC 13B .0562 BENEFICIAL FILL

A permit is not required for beneficial fill activity that meets all of the following conditions:

- (1) The fill material consists only of inert debris strictly limited to concrete, brick, concrete block, uncontaminated soil, rock, and gravel.
- (2) The fill activity involves no excavation.
- (3) The purpose of the fill activity is to improve land use potential or other approved beneficial reuses.
- (4) The fill activity is not exempt from, and must comply with, all other applicable Federal, State, and Local laws, ordinances, rules, and regulations, including but not limited to zoning restrictions, flood plain restrictions, wetland restrictions, mining regulations, sedimentation and erosion control regulations. Fill activity shall not contravene groundwater standards.

*History Note: Authority G.S. 130A-294;
Eff. January 4, 1993.*

15A NCAC 13B .0563 APPLICABILITY REQ. FOR LAND CLEARING/INERT DEBRIS (LCID) LANDFILLS

Management of land clearing and inert debris shall be in accordance with the State hierarchy for managing solid waste as provided for under G.S. 130A-309.04(a). Disposal in a landfill is considered to be the least desirable method of managing land clearing and inert debris. Where landfilling is necessary, the requirements of this Rule apply.

- (1) An individual permit from the Division of Solid Waste Management is not required for Land Clearing and Inert Debris (LCID) landfills that meet all of the following conditions:
 - (a) The facility is to be operated for the disposal of land clearing waste, inert debris, untreated wood, and yard trash. Operations must be consistent and in compliance with the local government solid waste management plan as approved by the Division of Solid Waste Management.
 - (b) The total disposal area is under two acres in size.
 - (c) The facility and practices comply with the siting criteria under Rule .0564, and operational requirements under Rule .0566.
 - (d) The fill activity is not exempt from, and must comply with all other Federal, State, or Local laws, ordinances, Rules, regulations, or orders, including but not limited to zoning restrictions, flood plain restrictions, wetland restrictions, sedimentation and erosion control requirements, and mining regulations.
- (2) Where an individual permit is not required, the following applies:
 - (a) The owner of the land where the landfill is located must notify the Division on a prescribed form, duly signed, notarized, and recorded as per Sub-item (2)(b) of this Rule. The operator of the landfill, if different from the land owner, shall also sign the notification form.
 - (b) The owner must file the prescribed notification form for recordation in the Register of Deeds' Office. The Register of Deeds shall index the notification in the grantor index under the name of the owner of the land in the county or counties in which the land is located. A copy of the recorded notification, affixed with the Register's seal and the date, book and page number of recording shall be sent to the Division of Solid Waste Management.
 - (c) When the land on which the Land Clearing and Inert Debris Landfill is sold, leased, conveyed, or transferred in any manner, the deed or other instrument of transfer shall contain in the description section in no smaller type than that used in the body of the deed or instrument a statement that the property has been used as a Land Clearing and Inert Debris Landfill and a reference by book and page to the recordation of the notification.
- (3) An individual permit is required, except for landfills subject to Item (5) of this Rule, for the construction and operation of a Land Clearing and Inert Debris (LCID) landfill when:
 - (a) The facility is to be operated for the disposal of land clearing waste, inert debris, untreated wood, and yard trash. Operations must be consistent and in compliance with the local government solid waste management plan as approved by the Division of Solid Waste Management, and
 - (b) The total disposal area is greater than two acres in size.
- (4) Individual permits for land clearing and inert debris landfills shall be issued for not more than five years.
- (5) Landfilling of land clearing and inert debris generated solely from, and within the right of way of, North Carolina Department of Transportation projects shall be subject to the following:
 - (a) Only waste types as described in Sub-item (1)(a) of this Rule may be disposed of within the Department of Transportation right of way.
 - (b) Waste is landfilled within the project right of way from which it was generated.
 - (c) The disposal area shall not exceed two contiguous acres in size.
 - (d) Disposal sites shall comply with the siting requirements of Rule .0564 of this Section except for Item (10).
 - (e) Disposal sites are not subject to the requirements of Item (2) of this Rule and Rule .0204 of this Subchapter.
- (6) Landfills that are currently permitted as demolition landfills are required to comply with the following:

- (a) Only waste types as described in Sub-item (3)(a) of this Rule may be accepted for disposal, as of the effective date of this Rule unless otherwise specified in the existing permit.
- (b) Operations must be in compliance with Rule .0566 of this Section as of the effective date of this Rule.
- (c) Existing demolition landfills must comply with the siting criteria requirements of these Rules as of January 1, 1998 or cease operations and close in accordance with these Rules.

*History Note: Authority G.S. 130A-294; 130A-301;
Eff. January 4, 1993.*

15A NCAC 13B .0564 SITING CRITERIA FOR LAND CLEARING AND INERT DEBRIS (LCID) LANDFILLS

The following siting criteria shall apply for Land Clearing and Inert Debris (LCID) landfills:

- (1) Facilities or practices, shall not be located in the 100-year floodplain.
- (2) Facilities or practices shall not cause or contribute to the taking of any endangered or threatened species of plants, fish, or wildlife.
- (3) Facilities or practices shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species as identified in 50 CFR Part 17 which is hereby incorporated by reference including any subsequent amendments and editions. This material is available for inspection at the Department of Environment, Health, and Natural Resources, Division of Solid Waste Management, 401 Oberlin Road, Raleigh, North Carolina 27605 where copies can be obtained at no cost.
- (4) Facilities or practices shall not damage or destroy an archaeological or historical site.
- (5) Facilities or practices shall not cause an adverse impact on a state park, recreation or scenic area, or any other lands included in the state nature and historic preserve.
- (6) Facilities shall not be located in any wetland as defined in the Clean Water Act, Section 404(b).
- (7) It must be shown that adequate suitable soils are available for cover, either from on or off site.
- (8) Land Clearing and Inert Debris landfills shall meet the following surface and ground water requirements:
 - (a) Facilities or practices shall not cause a discharge of pollutants into waters of the state that is in violation of the requirements of the National Pollutant Discharge Elimination System (NPDES), under Section 402 of the Clean Water Act, as amended.
 - (b) Facilities or practices shall not cause a discharge of dredged materials or fill material into waters of the state that is in violation of the requirements under Section 404 of the Clean Water Act, as amended.
 - (c) Facilities or practices shall not cause non-point source pollution of waters of the state that violates assigned water quality standards.
 - (d) Waste in landfills with a disposal area greater than two acres shall be placed a minimum of four feet above the seasonal high water table, except where an alternative separation is approved by the Division.
 - (e) Waste in landfills with a disposal area less than two acres shall be placed above the seasonal high water table.
- (9) The facility shall meet the following minimum buffer requirements:
 - (a) 50 feet from the waste boundary to all surface waters of the state as defined in G.S. 143-212.
 - (b) 100 feet from the disposal area to property lines, residential dwellings, commercial or public buildings, and wells.
 - (c) Buffer requirements may be adjusted as necessary to insure adequate protection of public health and the environment.
- (10) The facility shall meet all requirements of any applicable zoning ordinance.

*History Note: Authority G.S. 130A-294;
Eff. January 4, 1993.*

15A NCAC 13B .0565 APPLICATION REQUIREMENTS FOR LAND CLEARING/INERT DEBRIS (LCID) LANDFILLS

Five sets of plans, maps, and reports shall be required with each application. The seal of a professional engineer is required when submitting plans for a Land Clearing and Inert Debris (LCID) landfill.

- (1) The following information is required in order to review and approve the siting of a Land Clearing and Inert Debris (LCID) landfill:
 - (a) An approval letter from the unit of local government having zoning authority over the area where the facility is to be located stating that the site meets all of the requirements of the local zoning ordinance, or that the site is not zoned.
 - (b) Location on a county road map.
 - (c) Information showing that the bottom elevation of the waste shall be four feet above the seasonal high water table. Seasonal high water table elevations shall be obtained from on site test borings, test pits, or from other geological or water table investigations, studies, or reports from the immediate area of the proposed facility.
 - (d) A written report indicating that the facility shall comply with all the requirements set forth under Rule .0564 of this Section.
 - (e) A copy of the deed or other legal description of the site that would be sufficient as a description in an instrument of conveyance, showing property owner's name.
 - (f) Any other information pertinent to the suitability of the proposed facility.
- (2) The following shall be provided on a map or aerial photograph with a scale of at least one inch equals four hundred feet showing the area within one-fourth mile of the site:
 - (a) Entire property or portion thereof owned or leased by the person providing the disposal site.
 - (b) Location of all homes, buildings, public or private utilities, roads, wells, watercourses, water or other impoundments, and any other applicable features or details.
 - (c) 100-year flood plain boundaries, if any.
 - (d) Wetland boundaries, if any.
 - (e) Historical or archaeological sites, if any.
 - (f) Park, scenic, or recreation area boundaries, if any.
- (3) Development and design plans and details, at a scale of at least one inch equals one hundred feet with one inch equals forty feet preferred, and specifications containing the following information shall be submitted with the application for a proposed Land Clearing and Inert Debris (LCID) landfill:
 - (a) Property or site boundary, fully dimensioned with bearings and distances, tied to North Carolina grid coordinates where reasonably feasible.
 - (b) Easements and right-of-ways.
 - (c) Existing pertinent on site and adjacent structures such as houses, buildings, wells, roads and bridges, water and sewer utilities, septic fields, and storm drainage features.
 - (d) Proposed and existing roads, points of ingress and egress along with access control such as gates, fences, or berms.
 - (e) Buffer and set back lines along with the buffered boundary or feature.
 - (f) Springs, streams, creeks, rivers, ponds, and other waters and impoundments.
 - (g) Wetlands, if any.
 - (h) Boundary of the proposed waste area.
 - (i) Existing topography with contours at a minimum of five foot intervals. Where necessary, a smaller interval shall be utilized to clarify existing topographic conditions.
 - (j) Proposed excavation, grading, and final contours at a minimum of five foot intervals. Where necessary, a smaller interval shall be utilized to clarify proposed grading. Excavation, grading, and fill material side slopes shall not exceed three to one (3:1).
 - (k) Where on site borrow for operational and final cover is proposed, indicate the borrow excavation and grading plan with contours at a minimum of five foot intervals. Where necessary, a smaller interval shall be utilized to clarify proposed grading.
 - (l) Proposed surface water control features and devices such as slope drains, storm water pipes, inlets, culverts, and channels.
 - (m) Information showing that the project meets the requirements of 15A NCAC 4, Sedimentation Control Rules.

- (n) Location of test borings or test pits, if used to determine the seasonal high water table elevation, shall be shown on the plans.
- (o) A minimum of two cross-sections, one each along each major axis, per operational area showing:
 - (i) Original elevations.
 - (ii) Proposed excavation.
 - (iii) Proposed final elevations.
- (4) An operational plan addressing the requirements under Rule .0566 of this Section and containing the following information shall be submitted with the application for a proposed Land Clearing and Inert Debris (LCID) landfill:
 - (a) Name, address, and phone number of individual responsible for operation and maintenance of the facility.
 - (b) Projected use of the land after completion.
 - (c) Description of systematic usage of disposal area, operation, orderly development and closure of the landfill.
 - (d) Type, source, and quantity of waste to be accepted.
 - (e) An emergency contingency plan, including fire fighting procedures.

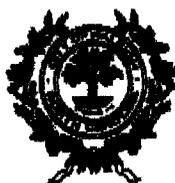
*History Note: Authority G.S. 130A-294;
Eff. January 4, 1993.*

15A NCAC 13B .0566 OPERATIONAL REQ. FOR LAND CLEARING/INERT DEBRIS (LCID) LANDFILLS

Land Clearing and Inert Debris (LCID) landfills shall meet the following operational requirements:

- (1) Operational plans shall be approved and followed as specified for the facility.
- (2) The facility shall only accept those solid wastes which it is permitted to receive.
- (3) Solid waste shall be restricted to the smallest area feasible and compacted as densely as practical into cells.
- (4) Adequate soil cover shall be applied monthly, or when the active area reaches one acre in size, whichever occurs first.
- (5) 120 calendar days after completion of any phase of disposal operations, or upon revocation of a permit, the disposal area shall be covered with a minimum of one foot of suitable soil cover sloped to allow surface water runoff in a controlled manner. The Division may require further action in order to correct any condition which is or may become injurious to the public health, or a nuisance to the community.
- (6) Adequate erosion control measures, structures, or devices shall be utilized to prevent silt from leaving the site and to prevent excessive on site erosion.
- (7) Provisions for a ground cover sufficient to restrain erosion must be accomplished within 30 working days or 120 calendar days upon completion of any phase of landfill development.
- (8) The facility shall be adequately secured by means of gates, chains, berms, fences, etc. to prevent unauthorized access except when an operator is on duty. An attendant shall be on duty at all times while the landfill is open for public use to assure compliance with operational requirements and to prevent acceptance of unauthorized wastes.
- (9) Access roads shall be of all-weather construction and properly maintained.
- (10) Surface water shall be diverted from the working face and shall not be impounded over waste.
- (11) Solid waste shall not be disposed of in water.
- (12) Open burning of solid waste is prohibited.
- (13) The concentration of explosive gases generated by the facility shall not exceed:
 - (a) Twenty-five percent of the lower explosive limit for the gases in facility structures.
 - (b) The lower explosive limit for the gases at the property boundary.
- (14) Leachate shall be properly managed on site through the use of current best management practices.
- (15) Should the Division deem it necessary, ground water or surface water monitoring, or both, may be required as provided for under Rules .0601 and .0602 of this Subchapter.
- (16) A sign shall be posted at the facility entrance showing the contact name and number in case of an emergency and the permit number. The permit number requirement is not applicable for facilities not requiring an individual permit.

*History Note: Authority G.S. 130A-294;
Eff. January 4, 1993.*



City Of Raleigh
North Carolina

August 16, 2000

Bryan Odom
Cavanaugh
1426 Commonwealth Dr., Suite B
Wilmington, NC 28412

Re: Rowland Landfill
Gresham Lake Road
Raleigh, NC

Dear Mr. Odom:

The Rowland Landfill located on Gresham Lake Road is zoned Industrial-1 with a Special Highway Overlay District. This zoning district allows a wide variety of uses including a landfill. The current use of the property as a landfill is consistent with the Industrial zoning.

If I may be of further assistance, please call.

Sincerely,

Larry Strickland
Zoning Inspector Supervisor



COUNTY OF WAKE
RALEIGH, NORTH CAROLINA
COMMUNITY DEVELOPMENT SERVICES
TELEPHONE (919) 755-6838

COPY

March 9, 1988

Mr. Bill Brower
City of Raleigh
Inspections Department
P. O. Box 590
Raleigh, N.C. 27602

RE: Rowland Demolition Landfill Inquiry

Dear Mr. Brower:

Enclosed is a copy of the permit issued by this office to Mr. Rowland for operation of a demolition landscape debris landfill. Regulatory authority over this site has been specifically delegated to the County by the N.C. Solid and Hazardous Waste Branch of the N.C. Department of Health Services. Extra copies of the operations plan may be obtained from Mr. Rowland at 876-1877.

If I may be of further assistance to you, please feel free to contact me at 755-6838.

Sincerely,


Robert E. Tucker, P.E.
Assistant County Engineer

RET/mb

Enclosure



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COUNTY OF WAKE
RALEIGH, NORTH CAROLINA
Community Development Services
Telephone (919) 755 6838

CERTIFIED COPY OF SOLID WASTE MANAGEMENT PERMIT

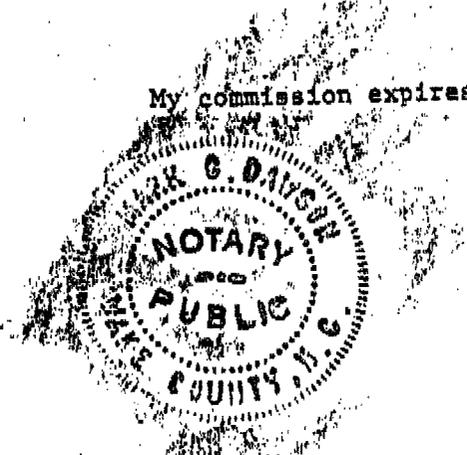
I do hereby certify that the attached Permit is an exact and true copy
of Permit No. 83-001

W. Henry Wells, Jr., Chief Engineer
Engineering Division,
Wake County Community Development Services

Sworn and subscribed before me this 14 day of July, 1983

Notary Public

My commission expires: 2/21/87 Seal



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Permit No. 83-0001

Date Issued 7/14/83

SOLID WASTE MANAGEMENT PERMIT

CONDITIONS:

1. That this permit be recorded in the office of the Register of Deeds of Wake County.
2. That access to the site be barricaded or manned when not in use.
3. That operation be in accordance with 10 N.C.A.C. 10G Section .0507.
4. That materials to be disposed of in the landfill be limited to demolition and land clearing debris (i.e. no paper or other garbage).
5. That there be no discharge of water from the landfill to Perry Creek without an NPDES Permit.

*Bill Rowland
8610 Cold Springs Rd
Raleigh N.C. 27609*

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PERMIT NO. 83-001

DATE ISSUED July 14, 1983

WAKE COUNTY
COMMUNITY DEVELOPMENT SERVICES
ENGINEERING DIVISION
P.O. Box 550 Raleigh 27602

PRESENTED FOR REGISTRATION
AUG 10 11 08 AM '83
R.B. MCKENZIE, JR.
REGISTER OF DEEDS
WAKE COUNTY, N.C.

SOLID WASTE MANAGEMENT
PERMIT

Bill I. Rowland is hereby issued a permit to
operate a Demolition-Landscape Landfill
located S.R. 2013, in accordance
with Article 13B of the General Statutes of North Carolina and all rules promulgated
thereunder. The facility is located on the below described property.

Parcel One

BEGINNING at a point in the center of the right of way of State Road 2013 and being the common corner of Rea Construction Company and Rowland Landfill, Inc; runs thence North 85 degrees 12 minutes East 171.43 feet to a point in the center of the right of way of State Road 2013; thence North 83 degrees 32 minutes East 278.50 feet to a point and being the north-eastern corner of the tract of land as hereinafter described; runs thence along the property line of Rea Construction Company, South 03 degrees 40 minutes West 621.56 feet to a point and being the southeastern corner of the tract of land as hereinafter described; thence North 81 degrees 23 minutes West 524 feet to a point and being the southwestern corner of the tract of land as hereinafter described; thence North 12 degrees 32 minutes East 508.18 feet to the point and place of beginning, containing 6.20 acres more or less, according to a survey prepared by Lovett & Bunn, Inc., Registered Land Surveyor, dated July 24, 1972, entitled "Property of Rowland Landfill, Inc."

(Continued on Back)

W. Henry Walls, Jr.
W. Henry Walls, Jr. Chief Engi
Engineering Division,
Wake County Community Developm
Services

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Parcel Two

BEGINNING at a point in the center line of State Road 2013, said point being witnessed by an iron pin South 12 degrees 32 minutes West 31.5 feet in the southern right of way of said road, said point being a common corner in said road with the Nichols property, runs thence with the center line of said State Road 2013 North 85 degrees 12 minutes East 150 feet to a point, the beginning point of Parcel No. One, described herein; thence South 12 degrees 33 minutes 46 seconds West with the line of said Parcel One 508.28 feet to an iron stake; thence South 81 degrees 28 minutes 56 seconds East 760.58 feet to an iron stake, a common corner with Rea Construction Company; thence with the line of Rea Construction Company South 21 degrees 37 minutes 39 seconds West 755.88 feet to an iron stake; thence continuing with the line of Rea Construction Company South 79 degrees 40 minutes 08 seconds West 227.03 feet to an iron stake; thence North 86 degrees 05 minutes 54 seconds West 376.02 feet to an iron stake; thence continuing North 86 degrees 05 minutes 54 seconds West 150 feet to an iron stake a corner with Bill I. Rowland and wife; thence North 06 degrees 26 minutes 06 seconds East 503.75 feet to an iron stake, a corner with Rowland and Nichols.; thence North 12 degrees 33 minutes 46 seconds East 822.08 feet with the line of Nichols to the point and place of beginning; containing 17.01 acres more or less according to survey prepared by J. Fred Davis, Jr., Inc. dated April 4, 1972.

Appendix 8

Appendix 9

Appendix 10

Rowland Landfill – T&P Facility

Treatment and Processing Analysis

Area = 4.67 ac

Assumptions

1 cy LCID material loose in truck = 0.20 tons

1 cy processed LCID material = 0.33 tons

Incoming Material

200 tons/day x 280 days/yr x 0.20 tons/cy = 11,200 tons

Outgoing Material to Established Customers

144 cy/day x 280 days/yr x 0.33 tons/cy = 13,329 tons

Onsite Stockpiles Available = 12,500 cy = 4,134 tns = 87 days

LCID Analysis

Area = 1.06 ac

Five Year Volume Available = 19,667 cy

Daily Volume for 5 year life = 14 cy/day

Note:

1. Incoming volumes based on information supplied by Owner.
2. Sales Volumes based on records provided by the Owner
3. LCID airspace is available for incidental use for material that has no market.